



# **HPE ProLiant Compute DL340 Gen12 Maintenance and Service Guide**

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# HPE ProLiant Compute DL340 Gen12 Maintenance and Service Guide

## Abstract

This document is for the person who installs, administers, and troubleshoots servers and storage systems. Hewlett Packard Enterprise assumes you are qualified in the servicing of computer equipment, trained in recognizing hazards in products with hazardous energy levels, and are familiar with the weight and stability precautions for rack installations.

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## Customer self repair

Hewlett Packard Enterprise products are designed with many Customer Self Repair (CSR) parts to minimize repair time and allow for greater flexibility in performing defective parts replacement. If during the diagnosis period Hewlett Packard Enterprise (or Hewlett Packard Enterprise service providers or service partners) identifies that the repair can be accomplished by the use of a CSR part, Hewlett Packard Enterprise will ship that part directly to you for replacement. There are two categories of CSR parts:

- **Mandatory**—Parts for which customer self repair is mandatory. If you request Hewlett Packard Enterprise to replace these parts, you will be charged for the travel and labor costs of this service.
- **Optional**—Parts for which customer self repair is optional. These parts are also designed for customer self repair. If, however, you require that Hewlett Packard Enterprise replace them for you, there may or may not be additional charges, depending on the type of warranty service designated for your product.



### NOTE

Some Hewlett Packard Enterprise parts are not designed for customer self repair. In order to satisfy the customer warranty, Hewlett Packard Enterprise requires that an authorized service provider replace the part. These parts are identified as "No" in the Illustrated Parts Catalog.

Based on availability and where geography permits, CSR parts will be shipped for next business day delivery. Same day or four-hour delivery may be offered at an additional charge where geography permits. If assistance is required, you can contact the Hewlett Packard Enterprise Support Center and a technician will help you over the telephone or by electronic means. Hewlett Packard Enterprise specifies in the materials shipped with a replacement CSR part whether a defective part must be returned to Hewlett Packard Enterprise. In cases where it is required to return the defective part to Hewlett Packard Enterprise, you must ship the defective part back to Hewlett Packard Enterprise within a defined period of time, normally five (5) business days. The defective part must be returned with the associated documentation in the provided shipping material. Failure to return the defective part may result in Hewlett Packard Enterprise billing you for the replacement. With a customer self repair, Hewlett Packard Enterprise will pay all shipping and part return costs and determine the courier/carrier to be used.

For more information about the Hewlett Packard Enterprise CSR program, contact your local service provider.

### Parts only warranty service

Your Hewlett Packard Enterprise Limited Warranty may include a parts only warranty service. Under the terms of parts only warranty service, Hewlett Packard Enterprise will provide replacement parts free of charge.

For parts only warranty service, CSR part replacement is mandatory. If you request Hewlett Packard Enterprise to replace these parts, you will be charged for the travel and labor costs of this service.

## Réparation par le client (CSR)

Les produits Hewlett Packard Enterprise comportent de nombreuses pièces CSR (Customer Self Repair = réparation par le client) afin de minimiser les délais de réparation et faciliter le remplacement des pièces défectueuses. Si pendant la période de diagnostic, Hewlett Packard Enterprise (ou ses partenaires ou mainteneurs agréés) détermine que la réparation peut être effectuée à l'aide d'une pièce CSR, Hewlett Packard Enterprise vous l'envoie directement. Il existe deux catégories de pièces CSR :

- **Obligatoire**—Pièces pour lesquelles la réparation par le client est obligatoire. Si vous demandez à Hewlett Packard Enterprise de remplacer ces pièces, les coûts de déplacement et main d'œuvre du service vous seront facturés.
- **Facultatif**—Pièces pour lesquelles la réparation par le client est facultative. Ces pièces sont également conçues pour permettre au client d'effectuer lui-même la réparation. Toutefois, si vous demandez à Hewlett Packard Enterprise de remplacer ces pièces, l'intervention peut ou non vous être facturée, selon le type de garantie applicable à votre produit.

**REMARQUE:** Certaines pièces Hewlett Packard Enterprise ne sont pas conçues pour permettre au client d'effectuer lui-même la réparation. Pour que la garantie puisse s'appliquer, Hewlett Packard Enterprise exige que le remplacement de la pièce soit effectué par un Mainteneur Agréé. Ces pièces sont identifiées par la mention "Non" dans le Catalogue illustré.

Les pièces CSR sont livrées le jour ouvré suivant, dans la limite des stocks disponibles et selon votre situation géographique. Si votre situation géographique le permet et que vous demandez une livraison le jour même ou dans les 4 heures, celle-ci vous sera facturée. Pour toute assistance, appelez le Centre d'assistance Hewlett Packard Enterprise pour qu'un technicien vous aide au téléphone. Dans les documents envoyés avec la pièce de rechange CSR, Hewlett Packard Enterprise précise s'il est nécessaire de lui retourner la pièce défectueuse. Si c'est le cas, vous devez le faire dans le délai indiqué, généralement cinq (5) jours ouvrés. La pièce et sa documentation doivent être retournées dans l'emballage fourni. Si vous ne retournez pas la pièce défectueuse, Hewlett Packard Enterprise se réserve le droit de vous facturer les coûts de remplacement. Dans le cas d'une pièce CSR, Hewlett Packard Enterprise supporte l'ensemble des frais d'expédition et de retour, et détermine la société de courses ou le transporteur à utiliser.

Pour plus d'informations sur le programme CSR de Hewlett Packard Enterprise, contactez votre Mainteneur Agréé local.

## Service de garantie "pièces seules"

Votre garantie limitée Hewlett Packard Enterprise peut inclure un service de garantie "pièces seules". Dans ce cas, les pièces de rechange fournies par Hewlett Packard Enterprise ne sont pas facturées.

Dans le cadre de ce service, la réparation des pièces CSR par le client est obligatoire. Si vous demandez à Hewlett Packard Enterprise de remplacer ces pièces, les coûts de déplacement et main d'œuvre du service vous seront facturés.

## Riparazione da parte del cliente

Per abbreviare i tempi di riparazione e garantire una maggiore flessibilità nella sostituzione di parti difettose, i prodotti Hewlett Packard Enterprise sono realizzati con numerosi componenti che possono essere riparati direttamente dal cliente (CSR, Customer Self Repair). Se in fase di diagnostica Hewlett Packard Enterprise (o un centro di servizi o di assistenza Hewlett Packard Enterprise) identifica il guasto come riparabile mediante

un ricambio CSR, Hewlett Packard Enterprise lo spedisce direttamente al cliente per la sostituzione. Vi sono due categorie di parti CSR:

- **Obbligatorie**—Parti che devono essere necessariamente riparate dal cliente. Se il cliente ne affida la riparazione ad Hewlett Packard Enterprise, deve sostenere le spese di spedizione e di manodopera per il servizio.
- **Opzionali**—Parti la cui riparazione da parte del cliente è facoltativa. Si tratta comunque di componenti progettati per questo scopo. Se tuttavia il cliente ne richiede la sostituzione ad Hewlett Packard Enterprise, potrebbe dover sostenere spese addizionali a seconda del tipo di garanzia previsto per il prodotto.

**NOTA:** alcuni componenti Hewlett Packard Enterprise non sono progettati per la riparazione da parte del cliente. Per rispettare la garanzia, Hewlett Packard Enterprise richiede che queste parti siano sostituite da un centro di assistenza autorizzato. Tali parti sono identificate da un "No" nel Catalogo illustrato dei componenti.

In base alla disponibilità e alla località geografica, le parti CSR vengono spedite con consegna entro il giorno lavorativo seguente. La consegna nel giorno stesso o entro quattro ore è offerta con un supplemento di costo solo in alcune zone. In caso di necessità si può richiedere l'assistenza telefonica di un addetto del centro di supporto tecnico Hewlett Packard Enterprise. Nel materiale fornito con una parte di ricambio CSR, Hewlett Packard Enterprise specifica se il cliente deve restituire dei componenti. Qualora sia richiesta la resa ad Hewlett Packard Enterprise del componente difettoso, lo si deve spedire ad Hewlett Packard Enterprise entro un determinato periodo di tempo, generalmente cinque (5) giorni lavorativi. Il componente difettoso deve essere restituito con la documentazione associata nell'imballo di spedizione fornito. La mancata restituzione del componente può comportare la fatturazione del ricambio da parte di Hewlett Packard Enterprise. Nel caso di riparazione da parte del cliente, Hewlett Packard Enterprise sostiene tutte le spese di spedizione e resa e sceglie il corriere/vettore da utilizzare.

Per ulteriori informazioni sul programma CSR di Hewlett Packard Enterprise, contattare il centro di assistenza di zona.

### **Servizio di garanzia per i soli componenti**

La garanzia limitata Hewlett Packard Enterprise può includere un servizio di garanzia per i soli componenti. Nei termini di garanzia del servizio per i soli componenti, Hewlett Packard Enterprise fornirà gratuitamente le parti di ricambio.

Per il servizio di garanzia per i soli componenti è obbligatoria la formula CSR che prevede la riparazione da parte del cliente. Se il cliente invece richiede la sostituzione ad Hewlett Packard Enterprise dovrà sostenere le spese di spedizione e di manodopera per il servizio.

### **Customer Self Repair**

Hewlett Packard Enterprise Produkte enthalten viele CSR-Teile (Customer Self Repair), um Reparaturzeiten zu minimieren und höhere Flexibilität beim Austausch defekter Bauteile zu ermöglichen. Wenn Hewlett Packard Enterprise (oder ein Hewlett Packard Enterprise Servicepartner) bei der Diagnose feststellt, dass das Produkt mithilfe eines CSR-Teils repariert werden kann, sendet Ihnen Hewlett Packard Enterprise dieses Bauteil zum Austausch direkt zu. CSR-Teile werden in zwei Kategorien unterteilt:

- **Zwingend**—Teile, für die das Customer Self Repair-Verfahren zwingend vorgegeben ist. Wenn Sie den Austausch dieser Teile von Hewlett Packard Enterprise vornehmen lassen, werden Ihnen die Anfahrt- und Arbeitskosten für diesen Service berechnet.
- **Optional**—Teile, für die das Customer Self Repair-Verfahren optional ist. Diese Teile sind auch für Customer Self Repair ausgelegt. Wenn Sie jedoch den Austausch dieser Teile von Hewlett Packard Enterprise vornehmen lassen möchten, können bei diesem Service je nach den für Ihr Produkt vorgesehenen Garantiebedingungen zusätzliche Kosten anfallen.

**HINWEIS:** Einige Hewlett Packard Enterprise Teile sind nicht für Customer Self Repair ausgelegt. Um den Garantieanspruch des Kunden zu erfüllen, muss das Teil von einem Hewlett Packard Enterprise Servicepartner ersetzt werden. Im illustrierten Teilekatalog sind diese Teile mit „No“ bzw. „Nein“ gekennzeichnet.

CSR-Teile werden abhängig von der Verfügbarkeit und vom Lieferziel am folgenden Geschäftstag geliefert. Für bestimmte Standorte ist eine Lieferung am selben Tag oder innerhalb von vier Stunden gegen einen Aufpreis verfügbar. Wenn Sie Hilfe benötigen, können Sie das Hewlett Packard Enterprise Support Center anrufen und sich von einem Mitarbeiter per Telefon helfen lassen. Den Materialien von Hewlett Packard Enterprise, die mit einem CSR-Ersatzteil geliefert werden, können Sie entnehmen, ob das defekte Teil an Hewlett Packard Enterprise zurückgeschickt werden muss. Wenn es erforderlich ist, das defekte Teil an Hewlett Packard Enterprise zurückzuschicken, müssen Sie dies innerhalb eines vorgegebenen Zeitraums tun, in der Regel innerhalb von fünf (5) Geschäftstagen. Das defekte Teil muss mit der zugehörigen Dokumentation in der Verpackung zurückgeschickt werden, die im Lieferumfang enthalten ist. Wenn Sie das defekte Teil nicht zurückschicken, kann Hewlett Packard Enterprise Ihnen das Ersatzteil in Rechnung stellen. Im Falle von Customer Self Repair kommt Hewlett Packard Enterprise für alle Kosten für die Lieferung und Rücksendung auf und bestimmt den Kurier-/Frachtdienst.

Weitere Informationen über das Hewlett Packard Enterprise Customer Self Repair Programm erhalten Sie von Ihrem Servicepartner vor Ort.

### **Parts-only Warranty Service (Garantieservice ausschließlich für Teile)**

Ihre Hewlett Packard Enterprise Garantie umfasst möglicherweise einen Parts-only Warranty Service (Garantieservice ausschließlich für Teile). Gemäß den Bestimmungen des Parts-only Warranty Service stellt Hewlett Packard Enterprise Ersatzteile kostenlos zur Verfügung.

Für den Parts-only Warranty Service ist das CSR-Verfahren zwingend vorgegeben. Wenn Sie den Austausch dieser Teile von Hewlett Packard Enterprise vornehmen lassen, werden Ihnen die Anfahrt- und Arbeitskosten für diesen Service berechnet.

### **Reparaciones del propio cliente**

Los productos de Hewlett Packard Enterprise incluyen muchos componentes que el propio usuario puede reemplazar (Customer Self Repair, CSR) para minimizar el tiempo de reparación y ofrecer una mayor flexibilidad a la hora de realizar sustituciones de componentes defectuosos. Si, durante la fase de diagnóstico, Hewlett Packard Enterprise (o los proveedores o socios de servicio de Hewlett Packard Enterprise) identifica que una reparación puede llevarse a cabo mediante el uso de un componente CSR, Hewlett Packard Enterprise le enviará dicho componente directamente para que realice su sustitución. Los componentes CSR se clasifican en dos categorías:

- **Obligatorio**—Componentes cuya reparación por parte del usuario es obligatoria. Si solicita a Hewlett Packard Enterprise que realice la sustitución de estos componentes, tendrá que hacerse cargo de los gastos de desplazamiento y de mano de obra de dicho servicio.
- **Opcional**—Componentes cuya reparación por parte del usuario es opcional. Estos componentes también están diseñados para que puedan ser reparados por el usuario. Sin embargo, si precisa que Hewlett Packard Enterprise realice su sustitución, puede o no conllevar costes adicionales, dependiendo del tipo de servicio de garantía correspondiente al producto.

**NOTA:** Algunos componentes de Hewlett Packard Enterprise no están diseñados para que puedan ser reparados por el usuario. Para que el usuario haga valer su garantía, Hewlett Packard Enterprise pone como condición que un proveedor de servicios autorizado realice la sustitución de estos componentes. Dichos componentes se identifican con la palabra "No" en el catálogo ilustrado de componentes.

Según la disponibilidad y la situación geográfica, los componentes CSR se enviarán para que lleguen a su destino al siguiente día laborable. Si la situación geográfica lo permite, se puede solicitar la entrega en el mismo día o en cuatro horas con un coste adicional. Si precisa asistencia técnica, puede llamar al Centro de asistencia técnica de Hewlett Packard Enterprise y recibirá ayuda telefónica por parte de un técnico. Con el envío de materiales para la sustitución de componentes CSR, Hewlett Packard Enterprise especificará si los componentes defectuosos deberán devolverse a Hewlett Packard Enterprise. En aquellos casos en los que sea necesario devolver algún componente a Hewlett Packard Enterprise, deberá hacerlo en el periodo de tiempo especificado, normalmente cinco días laborables. Los componentes defectuosos deberán devolverse con toda la documentación relacionada y con el embalaje de envío. Si no enviara el componente defectuoso requerido, Hewlett Packard Enterprise podrá cobrarle por el de sustitución. En el caso de todas sustituciones que lleve a cabo el cliente, Hewlett Packard Enterprise se hará cargo de todos los gastos de envío y devolución de componentes y escogerá la empresa de transporte que se utilice para dicho servicio.

Para obtener más información acerca del programa de Reparaciones del propio cliente de Hewlett Packard Enterprise, póngase en contacto con su proveedor de servicios local.

### **Servicio de garantía exclusivo de componentes**

La garantía limitada de Hewlett Packard Enterprise puede que incluya un servicio de garantía exclusivo de componentes. Según las condiciones de este servicio exclusivo de componentes, Hewlett Packard Enterprise le facilitará los componentes de repuesto sin cargo adicional alguno.

Para este servicio de garantía exclusivo de componentes, es obligatoria la sustitución de componentes por parte del usuario (CSR). Si solicita a Hewlett Packard Enterprise que realice la sustitución de estos componentes, tendrá que hacerse cargo de los gastos de desplazamiento y de mano de obra de dicho servicio.

### **Customer Self Repair**

Veel onderdelen in Hewlett Packard Enterprise producten zijn door de klant zelf te repareren, waardoor de reparatieduur tot een minimum beperkt kan blijven en de flexibiliteit in het vervangen van defecte onderdelen groter is. Deze onderdelen worden CSR-onderdelen (Customer Self Repair) genoemd. Als Hewlett Packard Enterprise (of een Hewlett Packard Enterprise Service Partner) bij de diagnose vaststelt dat de reparatie kan worden uitgevoerd met een CSR-onderdeel, verzendt Hewlett Packard Enterprise dat onderdeel rechtstreeks naar u, zodat u het defecte onderdeel daarmee kunt vervangen. Er zijn twee categorieën CSR-onderdelen:

- **Verplicht**—Onderdelen waarvoor reparatie door de klant verplicht is. Als u Hewlett Packard Enterprise verzoekt deze onderdelen voor u te vervangen, worden u voor deze service reiskosten en arbeidsloon in rekening gebracht.
- **Optioneel**—Onderdelen waarvoor reparatie door de klant optioneel is. Ook deze onderdelen zijn ontworpen voor reparatie door de klant. Als u echter Hewlett Packard Enterprise verzoekt deze onderdelen voor u te vervangen, kunnen daarvoor extra kosten in rekening worden gebracht, afhankelijk van het type garanteservice voor het product.

**OPMERKING:** Sommige Hewlett Packard Enterprise onderdelen zijn niet ontwikkeld voor reparatie door de klant. In verband met de garantievoorwaarden moet het onderdeel door een geautoriseerde Service Partner worden vervangen. Deze onderdelen worden in de geïllustreerde onderdelencatalogus aangemerkt met "Nee".

Afhankelijk van de leverbaarheid en de locatie worden CSR-onderdelen verzonden voor levering op de eerstvolgende werkdag. Levering op dezelfde dag of binnen vier uur kan tegen meerkosten worden aangeboden, indien dit mogelijk is gezien de locatie. Indien assistentie is gewenst, belt u het Hewlett Packard Enterprise Support Center om via de telefoon ondersteuning van een technicus te ontvangen. Hewlett Packard Enterprise vermeldt in de documentatie bij het vervangende CSR-onderdeel of het defecte onderdeel aan Hewlett Packard Enterprise moet worden geretourneerd. Als het defecte onderdeel aan Hewlett Packard Enterprise moet worden teruggezonden, moet u het defecte onderdeel binnen een bepaalde periode, gewoonlijk vijf (5) werkdagen, retourneren aan Hewlett Packard Enterprise. Het defecte onderdeel moet met de bijbehorende documentatie worden geretourneerd in het meegeleverde verpakkingsmateriaal. Als u het defecte onderdeel niet terugzendt, kan Hewlett Packard Enterprise u voor het vervangende onderdeel kosten in rekening brengen. Bij reparatie door de klant betaalt Hewlett Packard Enterprise alle verzendkosten voor het vervangende en geretourneerde onderdeel en kiest Hewlett Packard Enterprise zelf welke koerier/transportonderneming hiervoor wordt gebruikt.

Neem contact op met een Service Partner voor meer informatie over het Customer Self Repair programma van Hewlett Packard Enterprise.

### **Garanteservice "Parts Only"**

Het is mogelijk dat de Hewlett Packard Enterprise garantie alleen de garanteservice "Parts Only" omvat. Volgens de bepalingen van de Parts Only garanteservice zal Hewlett Packard Enterprise kosteloos vervangende onderdelen ter beschikking stellen.

Voor de Parts Only garanteservice is vervanging door CSR-onderdelen verplicht. Als u Hewlett Packard Enterprise verzoekt deze onderdelen voor u te vervangen, worden u voor deze service reiskosten en arbeidsloon in rekening gebracht

### **Reparo feito pelo cliente**

Os produtos da Hewlett Packard Enterprise são projetados com muitas peças para reparo feito pelo cliente (CSR) de modo a minimizar o tempo de reparo e permitir maior flexibilidade na substituição de peças com defeito. Se, durante o período de diagnóstico, a Hewlett Packard Enterprise (ou fornecedores/parceiros da Hewlett Packard Enterprise) concluir que o reparo pode ser efetuado pelo uso de uma peça CSR, a Hewlett Packard Enterprise enviará a peça diretamente ao cliente. Há duas categorias de peças CSR:

- **Obrigatória**—Peças cujo reparo feito pelo cliente é obrigatório. Se desejar que a Hewlett Packard Enterprise substitua essas peças, serão cobradas as despesas de transporte e mão-de-obra do serviço.

- **Opcional**—Peças cujo reparo feito pelo cliente é opcional. Essas peças também são projetadas para o reparo feito pelo cliente. No entanto, se desejar que a Hewlett Packard Enterprise as substitua, pode haver ou não a cobrança de taxa adicional, dependendo do tipo de serviço de garantia destinado ao produto.

**OBSERVAÇÃO:** Algumas peças da Hewlett Packard Enterprise não são projetadas para o reparo feito pelo cliente. A fim de cumprir a garantia do cliente, a Hewlett Packard Enterprise exige que um técnico autorizado substitua a peça. Essas peças estão identificadas com a marca "No" (Não), no catálogo de peças ilustrado.

Conforme a disponibilidade e o local geográfico, as peças CSR serão enviadas no primeiro dia útil após o pedido. Onde as condições geográficas permitirem, a entrega no mesmo dia ou em quatro horas pode ser feita mediante uma taxa adicional. Se precisar de auxílio, entre em contato com o Centro de suporte técnico da Hewlett Packard Enterprise para que um técnico o ajude por telefone. A Hewlett Packard Enterprise especifica nos materiais fornecidos com a peça CSR de reposição se a peça com defeito deve ser devolvida à Hewlett Packard Enterprise. Nos casos em que isso for necessário, é preciso enviar a peça com defeito à Hewlett Packard Enterprise, você deverá enviar a peça com defeito de volta para a Hewlett Packard Enterprise dentro do período de tempo definido, normalmente em 5 (cinco) dias úteis. A peça com defeito deve ser enviada com a documentação correspondente no material de transporte fornecido. Caso não o faça, a Hewlett Packard Enterprise poderá cobrar a reposição. Para as peças de reparo feito pelo cliente, a Hewlett Packard Enterprise paga todas as despesas de transporte e de devolução da peça e determina a transportadora/serviço postal a ser utilizado.

Para obter mais informações sobre o programa de reparo feito pelo cliente da Hewlett Packard Enterprise, entre em contato com o fornecedor de serviços local.

### **Serviço de garantia apenas para peças**

A garantia limitada da Hewlett Packard Enterprise pode incluir um serviço de garantia apenas para peças. Segundo os termos do serviço de garantia apenas para peças, a Hewlett Packard Enterprise fornece as peças de reposição sem cobrar nenhuma taxa.

No caso desse serviço, a substituição de peças CSR é obrigatória. Se desejar que a Hewlett Packard Enterprise substitua essas peças, serão cobradas as despesas de transporte e mão-de-obra do serviço.

## カスタマーセルフリペア

修理時間を短縮し、故障部品の交換における高い柔軟性を確保するために、Hewlett Packard Enterprise製品には多数のカスタマーセルフリペア（CSR）部品があります。診断の際に、CSR部品を使用すれば修理ができるとHewlett Packard Enterprise（Hewlett Packard EnterpriseまたはHewlett Packard Enterprise正規保守代理店）が判断した場合、Hewlett Packard Enterpriseはその部品を直接、お客様に発送し、お客様に交換していただきます。CSR部品には以下の2種類があります。

- **必須** - カスタマーセルフリペアが必須の部品。当該部品について、もしもお客様がHewlett Packard Enterpriseに交換作業を依頼される場合には、その修理サービスに関する交通費および人件費がお客様に請求されます。
- **任意** - カスタマーセルフリペアが任意である部品。この部品もカスタマーセルフリペア用です。当該部品について、もしもお客様がHewlett Packard Enterpriseに交換作業を依頼される場合には、お買い上げの製品に適用される保証サービス内容の範囲内においては、別途費用を負担していただくことなく保証サービスを受けることができます。

注：Hewlett Packard Enterprise製品の一部の部品は、カスタマーセルフリペアの対象外です。製品の保証を継続するためには、Hewlett Packard EnterpriseまたはHewlett Packard Enterprise正規保守代理店による交換作業が必須となります。部品カタログには、当該部品がカスタマーセルフリペア除外品である旨が記載されています。

部品供給が可能な場合、地域によっては、CSR部品を翌営業日に届くように発送します。また、地域によっては、追加費用を負担いただくことにより同日または4時間以内に届くように発送することも可能な場合があります。サポートが必要なときは、Hewlett Packard Enterpriseサポートセンターに電話していただければ、技術者が電話でアドバイスします。交換用のCSR部品または同梱物には、故障部品をHewlett Packard Enterpriseに返送する必要があるかどうかが表示されています。故障部品をHewlett Packard Enterpriseに返送する必要がある場合は、指定期限内（通常は5営業日以内）に故障部品をHewlett Packard Enterpriseに返送してください。故障部品を返送する場合は、届いた時の梱包箱に関連書類とともに入れてください。故障部品を返送しない場合、Hewlett Packard Enterpriseから部品費用が請求されます。カスタマーセルフリペアの際には、Hewlett Packard Enterpriseは送料および部品返送料を全額負担し、使用する宅配便会社や運送会社を指定します。

## 部品のみ保証サービス

Hewlett Packard Enterprise保証サービスには、部品のみ保証サービスが適用される場合があります。このサービスでは、交換部品は無償で提供されます。

部品のみ保証サービスにおいては、CSR部品をお客様により交換作業していただくことが必須となります。当該部品について、もしもお客様がHewlett Packard Enterpriseに交換作業を依頼される場合には、その修理サービスに関する交通費および人件費がお客様のご負担となります。

# 客户自行维修

Hewlett Packard Enterprise 产品提供许多客户自行维修 (CSR) 部件，以尽可能缩短维修时间和在更换缺陷部件方面提供更大的灵活性。如果在诊断期间 Hewlett Packard Enterprise (或 Hewlett Packard Enterprise 服务提供商或服务合作伙伴) 确定可以通过使用 CSR 部件完成维修，Hewlett Packard Enterprise 将直接把该部件发送给您进行更换。有两类 CSR 部件：

- **强制性的** — 要求客户必须自行维修的部件。如果您请求 Hewlett Packard Enterprise 更换这些部件，则必须为该服务支付差旅费和人工费用。
- **可选的** — 客户可以选择是否自行维修的部件。这些部件也是为客户自行维修设计的。不过，如果您要求 Hewlett Packard Enterprise 为您更换这些部件，则根据为您的产品指定的保修服务类型，Hewlett Packard Enterprise 可能收取或不再收取任何附加费用。

**注：**某些 Hewlett Packard Enterprise 部件的设计并未考虑客户自行维修。为了满足客户保修的需要，Hewlett Packard Enterprise 要求授权服务提供商更换相关部件。这些部件在部件图解目录中标记为“否”。

CSR 部件将在下一个工作日发运（取决于备货情况和允许的地理范围）。在允许的地理范围内，可在当天或四小时内发运，但要收取额外费用。如果需要帮助，您可以致电 Hewlett Packard Enterprise 技术支持中心，将会有技术人员通过电话为您提供帮助。Hewlett Packard Enterprise 会在随更换的 CSR 部件发运的材料中指明是否必须将有缺陷的部件返还给 Hewlett Packard Enterprise。如果要求您将有缺陷的部件返还给 Hewlett Packard Enterprise，那么您必须在规定的期限内（通常是五 (5) 个工作日）将缺陷部件发给 Hewlett Packard Enterprise。有缺陷的部件必须随所提供的发运材料中的相关文件一起返还。如果未能送还有缺陷的部件，Hewlett Packard Enterprise 可能会要求您支付更换费用。客户自行维修时，Hewlett Packard Enterprise 将承担所有相关运输和部件返回费用，并指定快递商/承运商。

有关 Hewlett Packard Enterprise 客户自行维修计划的详细信息，请与您当地的服务提供商联系。

## 仅部件保修服务

您的 Hewlett Packard Enterprise 有限保修服务可能涉及仅部件保修服务。根据仅部件保修服务条款的规定，Hewlett Packard Enterprise 将免费提供更换的部件。

仅部件保修服务要求进行 CSR 部件更换。如果您请求 Hewlett Packard Enterprise 更换这些部件，则必须为该服务支付差旅费和人工费用。

# 客戶自行維修

Hewlett Packard Enterprise 產品設計了許多「客戶自行維修」(CSR) 的零件以減少維修時間，並且使得更換瑕疵零件時能有更大的彈性。如果在診斷期間，Hewlett Packard Enterprise (或 Hewlett Packard Enterprise 服務供應商或維修夥伴) 辨認出此項維修工作可以藉由使用 CSR 零件來完成，則 Hewlett Packard Enterprise 將直接寄送該零件給您作更換。CSR 零件分為兩種類別：

- **強制的** — 客戶自行維修所使用的零件是強制性的。如果您要求 Hewlett Packard Enterprise 更換這些零件，Hewlett Packard Enterprise 將會向您收取此服務所需的外出費用與勞動成本。
- **選購的** — 客戶自行維修所使用的零件是選購的。這些零件也設計用於客戶自行維修之用。不過，如果您要求 Hewlett Packard Enterprise 為您更換，則可能需要也可能不需要負擔額外的費用，端視針對此產品指定的保固服務類型而定。

**備註：**某些 Hewlett Packard Enterprise 零件沒有消費者可自行維修的設計。為符合客戶保固，Hewlett Packard Enterprise 需要授權的服務供應商更換零件。這些零件在圖示的零件目錄中，被標示為「否」。

基於材料取得及環境允許的情況下，CSR 零件將於下一個工作日以快遞寄送。在環境的允許下當天或四小時內送達，則可能需要額外的費用。若您需要協助，可致電 Hewlett Packard Enterprise 支援中心，會有一位技術人員透過電話來協助您。不論損壞的零件是否必須退回，Hewlett Packard Enterprise 皆會在與 CSR 替換零件一起運送的材料中註明。若要將損壞的零件退回 Hewlett Packard Enterprise，您必須在指定的一段時間內 (通常為五 (5) 個工作天)，將損壞的零件寄回 Hewlett Packard Enterprise。損壞的零件必須與寄送資料中隨附的相關技術文件一併退還。如果無法退還損壞的零件，Hewlett Packard Enterprise 可能要向您收取替換費用。針對客戶自行維修情形，Hewlett Packard Enterprise 將負責所有運費及零件退還費用，並指定使用何家快遞/貨運公司。

如需 Hewlett Packard Enterprise 的 CSR 方案詳細資訊，請連絡您當地的服務供應商。

## 僅限零件的保固服務

您的「Hewlett Packard Enterprise 有限保固」可能包含僅限零件的保固服務。在僅限零件的保固服務情況下，Hewlett Packard Enterprise 將免費提供替換零件。

針對僅限零件的保固服務，CSR 零件替換是強制性的。如果您要求 Hewlett Packard Enterprise 更換這些零件，Hewlett Packard Enterprise 將會向您收取此服務所需的外出費用與勞動成本。

## 고객 셀프 수리

Hewlett Packard Enterprise 제품은 수리 시간을 최소화하고 결함이 있는 부품 교체 시 더욱 용동성을 발휘할 수 있도록 하기 위해 고객 셀프 수리(CSR) 부품을 다량 사용하여 설계되었습니다. 진단 기간 동안 Hewlett Packard Enterprise(또는 Hewlett Packard Enterprise 서비스 공급업체 또는 서비스 협력업체)에서 CSR 부품을 사용하여 수리가 가능하다고 판단되면 Hewlett Packard Enterprise는 해당 부품을 바로 사용자에게 보내어 사용자가 교체할 수 있도록 합니다. CSR 부품에는 두 가지 종류가 있습니다.

- 필수 - 고객 셀프 수리가 의무 사항인 필수 부품. 사용자가 Hewlett Packard Enterprise에 이 부품의 교체를 요청할 경우 이 서비스에 대한 출장비 및 작업비가 청구됩니다.
- 선택 사항 - 고객 셀프 수리가 선택 사항인 부품. 이 부품들도 고객 셀프 수리가 가능하도록 설계되었습니다. 하지만 사용자가 Hewlett Packard Enterprise에 이 부품의 교체를 요청할 경우 사용자가 구입한 제품에 해당하는 보증 서비스 유형에 따라 추가 비용 없이 교체가 가능할 수 있습니다.

참고: 일부 Hewlett Packard Enterprise 제품은 고객 셀프 수리가 불가능하도록 설계되었습니다. Hewlett Packard Enterprise는 만족스러운 고객 보증을 위해 공인 서비스 제공업체를 통해 부품을 교체하도록 하고 있습니다. 이러한 부품들은 Illustrated Parts Catalog에 "No"라고 표시되어 있습니다.

CSR 부품은 재고 상태와 지리적 조건이 허용하는 경우 다음 영업일 납품이 가능하도록 배송이 이루어집니다. 지리적 조건이 허용하는 경우 추가 비용이 청구되는 조건으로 당일 또는 4시간 배송이 가능할 수도 있습니다. 도움이 필요하시면 Hewlett Packard Enterprise Support Center로 전화하십시오. 전문 기술자가 전화로 도움을 줄 것입니다. Hewlett Packard Enterprise는 결함이 발생한 부품을 Hewlett Packard Enterprise로 반환해야 하는지 여부를 CSR 교체 부품과 함께 배송된 자료에 지정합니다. 결함이 발생한 부품을 Hewlett Packard Enterprise로 반환해야 하는 경우에는 지정된 기간 내(통상 영업일 기준 5일)에 Hewlett Packard Enterprise로 반환해야 합니다. 이때 결함이 발생한 부품은 제공된 포장 재료에 넣어 관련 설명서와 함께 반환해야 합니다. 결함이 발생한 부품을 반환하지 않는 경우 Hewlett Packard Enterprise가 교체 부품에 대해 비용을 청구할 수 있습니다. 고객 셀프 수리의 경우, Hewlett Packard Enterprise는 모든 운송 및 부품 반환 비용을 부담하며 이용할 운송업체 및 택배 서비스를 결정합니다.

Hewlett Packard Enterprise CSR 프로그램에 대한 자세한 내용은 가까운 서비스 제공업체에 문의하십시오.

## 부품 제공 보증 서비스

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## Illustrated parts catalog

Provides spare part numbers for serviceable hardware components and their corresponding customer self repair (CSR) information.

### Subtopics

[Mechanical components](#)

[System components](#)

[Server options](#)

## Mechanical components

Hewlett Packard Enterprise continually improves and changes product parts. For complete and current supported spare parts information, see the Hewlett Packard Enterprise PartSurfer website:

<https://www.hpe.com/info/partssurfer>

[https://sketchfab.com/models/d68d03cf578d468da9f7f980718d5750/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/d68d03cf578d468da9f7f980718d5750/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

Item	Description
1	<a href="#">Front OCP NIC carrier and bracket spare part</a>
2	<a href="#">Left chassis ear spare part</a>
3	<a href="#">Energy pack holder spare part</a>
4	<a href="#">Air baffle spare part</a>
5	<a href="#">Access panel spare part</a>
6	<a href="#">Power supply bay blank spare part</a>
7	<a href="#">60-mm M-CRPS filler spare parts</a>
8	<a href="#">Right chassis ear spare part</a>
9	<a href="#">Fan cable holder spare part*</a>
10	<a href="#">ix port cable bracket spare part*</a>
11	<a href="#">HPE NS204i-u Boot Device V2 bracket spare part*</a>
12	<a href="#">ix port blank spare part*</a>
13	<a href="#">Cable management arm spare part*</a>
14	<a href="#">Rack rail spare part*</a>
15	<a href="#">E3.S drive filler spare part*</a>
16	<a href="#">Drive blank spare parts*</a>
17	<a href="#">GPU cage bezel spare part*</a>
18	<a href="#">DIMM guard spare part*</a>
19	<a href="#">Front bezel spare part*</a>

\* Not shown

### Subtopics

[Front OCP NIC carrier and bracket spare part](#)

- Chassis ear spare parts**
- Energy pack holder spare part**
- Air baffle spare part**
- Access panel spare part**
- DIMM guard spare part**
- Power supply bay bracket and side filler spare parts**
- Miscellaneous blank spare parts**
- Fan cable holder spare part**
- Cable management arm spare parts**
- Rack rail spare parts**
- E3.S drive filler spare part**
- GPU cage bezel spare part**
- Front bezel spare part**

## Front OCP NIC carrier and bracket spare part

Customer self repair: **Optional**

**Replacement procedure:** Removing and replacing the front OCP NIC carrier and bracket

Description	Spare part number
Front OCP NIC carrier and bracket spare kit includes:	P79872-001
<ul style="list-style-type: none"> <li>• OCP NIC carrier</li> <li>• OCP NIC bracket</li> </ul>	

## Chassis ear spare parts

Customer self repair: **Mandatory**

**Replacement procedures:**

- Removing and replacing the left chassis ear
- Removing and replacing the right chassis ear

Description	Spare part number
Left chassis ear	P58207-001
Right chassis ear	P74406-001

## Energy pack holder spare part

Customer self repair: **Mandatory**

**Replacement procedure:** Removing and replacing the energy pack holder

Description	Spare part number
Energy pack holder	P74403-001

## Air baffle spare part

Customer self repair: **Mandatory**

**Replacement procedure:** Removing and replacing the air baffle

Description	Spare part number
Air baffle	P74369-001

## Access panel spare part

Customer self repair: **Mandatory**

**Replacement procedure:** Removing and replacing the access panel

Description	Spare part number
Access panel	P74404-001

## DIMM guard spare part

Customer self repair: **Mandatory**

**Replacement procedure:** [Removing and replacing a DIMM guard](#)

Description	Spare PN
Left DIMM guard	P80153-001
Right DIMM guard	P80154-001

## Power supply bay bracket and side filler spare parts

Customer self repair: **Mandatory**

**Replacement procedures:**

- [Removing and replacing the power supply bay bracket](#)
- [Removing and replacing the serial port cable bracket](#)
- [Removing and replacing the power supply bay filler](#)

Description	Spare part number
60-mm M-CRPS power supply bay bracket and side filler spare kit includes: <ul style="list-style-type: none"><li>• Power supply bay 2 bracket</li><li>• ix port cable bracket</li><li>• Power supply bay 1 side filler</li><li>• Power supply bay 2 side filler</li></ul>	P75501-001
73.5-mm M-CRPS power supply bay bracket and side filler spare kit includes: <ul style="list-style-type: none"><li>• ix port cable bracket</li><li>• Power supply bays 1 and 2 brackets</li></ul>	P84196-001

## Miscellaneous blank spare parts

Customer self repair: **Mandatory**

### Replacement procedures:

- Removing and replacing the ix port blank
- Removing and replacing a power supply blank
- Removing and replacing the LFF drive blank
- Removing and replacing the standard heatsink blank

Description	Spare part number
ix port blank	P74407-001
Power supply bay blank	P74013-001
LFF drive blank	827363-001
Standard heatsink blank	P74018-001

## Fan cable holder spare part

Customer self repair: **Mandatory**

**Replacement procedure:** Removing and replacing the fan cable holder

Description	Spare part number
Fan cable holder	P74377-001

## Cable management arm spare parts

Customer self repair: **Mandatory**

**Replacement procedure:** Removing and replacing the cable management arm

Description	Spare part number
Friction rack rail cable management arms	P74371-001
	P24100-001
Ball-bearing rack rail cable management arm	P74438-001

## Rack rail spare parts

Customer self repair: **Mandatory**

**Replacement procedure:** [Rack rail replacement](#)

Description	Spare part number
Friction rack rail #2	P59490-001
Ball-bearing rack rail #6	P74437-001

## E3.S drive filler spare part

Customer self repair: **Mandatory**

**Replacement procedure:** [Removing and replacing the E3.S drive filler](#)

Description	Spare part number
E3.S drive filler	P74372-001

## GPU cage bezel spare part

Customer self repair: **Mandatory**

**Replacement procedure:** [Removing and replacing a GPU cage bezel](#)

Description	Spare part number
GPU cage bezel	P79916-001

## Front bezel spare part

Customer self repair: **Mandatory**

**Replacement procedure:** [Removing and replacing the front bezel](#)

Description	Spare part number
Front bezel	P58208-001

## System components

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[https://sketchfab.com/models/fb537fb5b2174629ba1a8259c18cbf7e/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/fb537fb5b2174629ba1a8259c18cbf7e/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

Item	Description
1	<a href="#">Fan spare parts</a>
2	<a href="#">Power distribution board spare part</a>
3	<a href="#">Standard heatsink spare part</a>
4	<a href="#">Processor spare parts</a>
5	<a href="#">Power supply spare parts</a>
6	<a href="#">System battery spare part</a>
7	<a href="#">DIMM spare parts</a>
8	<a href="#">Base riser board spare part</a>

Item	Description
9	<a href="#">DC-SCM spare part</a>
10	<a href="#">System board spare part</a>
11	<a href="#">Fan cable spare part*</a>
12	<a href="#">High performance heatsink spare part*</a>
13	<a href="#">DLC solution spare parts</a>

\* Not shown

## Subtopics

[Fan spare parts](#)

[Power distribution board spare part](#)

[Heatsink spare parts](#)

[Processor spare parts](#)

[Power supply spare parts](#)

[System battery spare part](#)

[DIMM spare parts](#)

[Datacenter Secure Control Module spare part](#)

[Base riser spare part](#)

[System board spare part](#)

[Fan cable spare part](#)

[Direct liquid cooling solution spare parts](#)

## Fan spare parts

Customer self repair: **Mandatory**

**Replacement procedure:** [Removing and replacing a fan](#)

Description	Spare part number
Standard fan	P59812-001
High performance fan	P52434-001

## Power distribution board spare part

Customer self repair: **Mandatory**

**Replacement procedure:** [Removing and replacing the power distribution board](#)

Description	Spare PN
Power distribution board	P73860-001

## Heatsink spare parts

Customer self repair: **Optional**

**Replacement procedure:** [Heatsink replacement](#)

Description	Spare part number
Standard heatsink	P49956-001
High performance heatsink	P75726-001

## Processor spare parts

Customer self repair: **Optional**

**Replacement procedure:** [Processor replacement](#)

Description	Spare part number
<b>Intel Xeon 6500 Series Processors with Performance Cores (P-cores)</b>	—
Intel Xeon 6505P, 2.20 GHz, 12C, 150 W	P80285-001
Intel Xeon 6507P, 3.50 GHz, 8C, 150 W	P80286-001
Intel Xeon 6511P, 2.30 GHz, 16C, 150 W	P80287-001
Intel Xeon 6515P, 2.30 GHz, 16C, 150 W	P80288-001
Intel Xeon 6517P, 3.20 GHz, 16C, 190 W	P80289-001

<b>Description</b>	<b>Spare part number</b>
Intel Xeon 6520P, 2.40 GHz, 24C, 210 W	P80278-001
Intel Xeon 6521P, 2.60 GHz, 24C, 225 W	P80279-001
Intel Xeon 6527P, 3.00 GHz, 24C, 255 W	P80280-001
Intel Xeon 6530P, 2.30 GHz, 32C, 225 W	P80281-001
<b>Intel Xeon 6700 Series Processors with Efficient Cores (E-cores)</b>	—
Intel Xeon 6710E, 2.40 GHz, 64C, 205 W	P72411-001
Intel Xeon 6731E, 2.20 GHz, 96C, 250 W	P72412-001
Intel Xeon 6740E, 2.40 GHz, 96C, 250 W	P72413-001
Intel Xeon 6746E, 2.00 GHz, 112C, 250 W	P72414-001
Intel Xeon 6756E, 1.80 GHz, 128C, 225 W	P72415-001
Intel Xeon 6766E, 1.90 GHz, 144C, 250 W	P72416-001
Intel Xeon 6780E, 2.20 GHz, 144C, 330W	P72417-001
<b>Intel Xeon 6700 Series Processors with Performance Cores (P-cores)</b>	—
Intel Xeon 6725P, 3.70 GHz, 16C, 235 W	P87398-001
Intel Xeon 6730P, 2.50 GHz, 32C, 250 W	P78738-001
Intel Xeon 6731P, 2.50 GHz, 32C, 245 W	P80282-001
Intel Xeon 6732P, 3.80 GHz, 32C, 350 W	P82217-001
Intel Xeon 6736P, 2.00 GHz, 36C, 205 W	P80283-001
Intel Xeon 6737P, 2.90 GHz, 32C, 270 W	P80284-001
Intel Xeon 6740P, 2.10 GHz, 48C, 270 W	P78691-001
Intel Xeon 6741P, 2.50 GHz, 48C, 300 W	P78692-001
Intel Xeon 6745P, 3.10 GHz, 32C, 300 W	P82218-001
Intel Xeon 6747P, 2.70 GHz, 48C, 330 W	P78693-001
Intel Xeon 6760P, 2.20 GHz, 64C, 330 W	P78694-001
Intel Xeon 6761P, 2.50 GHz, 64C, 350 W	P78695-001
Intel Xeon 6767P, 2.40 GHz, 64C, 350 W	P78696-001
Intel Xeon 6781P, 2.00 GHz, 80C, 350 W	P78697-001
Intel Xeon 6787P, 2.00 GHz, 86C, 350 W	P78698-001

## Power supply spare parts

Customer self repair: **Mandatory**

**Replacement procedure:** Removing and replacing an AC power supply

Description	Spare part number
HPE 800 W M-CRPS <sup>1</sup> Platinum Hot-plug Power Supply (94% efficiency)	P77518-001
HPE 1000 W M-CRPS Titanium Hot-plug Power Supply (96% efficiency)	P68455-001
HPE 1500 W M-CRPS Titanium Hot-plug Power Supply (96% efficiency)	P68456-001
HPE 2400 W M-CRPS Titanium Hot-plug Power Supply (96% efficiency)	P68454-001
HPE 3200 W M-CRPS Titanium Hot-plug Power Supply (96% efficiency)	P68453-001

<sup>1</sup> Modular hardware system common redundant power supply

Customer self repair: **Optional**

**Replacement procedure:** Removing and replacing a DC power supply

Description	Spare part number
HPE 1300 W M-CRPS -48 VDC Hot-plug Power Supply	P84329-001
HPE 2200 W M-CRPS -48 VDC Hot-plug Power Supply	P77519-001

## System battery spare part

Customer self repair: **Mandatory**

**Replacement procedure:** Removing and replacing the system battery

Description	Spare part number
3.0-V lithium battery coin (CR2032)	319603-001

## DIMM spare parts

Customer self repair: **Mandatory**

**Replacement procedure:** Removing and replacing a DIMM

Description	Spare part number
16 GB, single-rank x8 PC5-6400B-R	P71254-001
32 GB, dual-rank x8 PC5-6400B-R	P71255-001
64 GB, dual-rank x4 PC5-6400B-R	P71256-001
96 GB, dual-rank x4 PC5-6400B-R	P71257-001
128 GB, dual-rank x4 PC5-6400B-R	P71258-001
256 GB, quad-rank x4 PC5-6400B-R 3DS	P75947-001

## Datacenter Secure Control Module spare part

Customer self repair: **Optional**

**Replacement procedure:** DC-SCM replacement

After installing the new DC-SCM, bind it with the system board (HPM) using the iLO login credentials on the toe tag that ships with the DC-SCM spare. The binding process creates a trust relationship between the HPM and the DC-SCM.

Description	Spare part number
HPE ProLiant Compute iLO 7 DC-SCM	P79809-002

## Base riser spare part

Customer self repair: **Mandatory**

**Replacement procedure:** Removing and replacing the base riser

Description and cable part number	Spare part number
PCIe x16 base riser	P74260-001

## System board spare part

Customer self repair: **Optional**

**Replacement procedure:** [System board replacement](#)

This server is a [Datacenter Secure Control Module \(DC-MHS\)](#)-based product.

After installing the new system board, bind it with the DC-SCM. The binding process creates a trust relationship between the HPM and the DC-SCM. This relationship enables the system to detect any unauthorized HPM replacement.

When binding a new system board with an existing DC-SCM, the customer iLO login credentials are required.

Description	Spare PN
System board (HPM)	P79880-001

## Fan cable spare part

Customer self repair: **Mandatory**

Cable description and part number	Spare part number
Fan cable: P71914-001	P74015-001

## Direct liquid cooling solution spare parts

Customer self repair: **Optional**

**Replacement procedures:** [DLC module replacement](#)

Description	Spare part number
DLC module	P89378-001

Customer self repair: **Mandatory**

**Replacement procedures:** Removing and replacing the DLC extension hoses

Description	Spare part number
DLC extension hose set: Non-GPU-optimized configuration	P63154-001
DLC extension hose set: GPU-optimized configuration	P63156-001

## Server options

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Item	Description
1	<a href="#">Systems Insight Display spare part</a>
2	<a href="#">Front OCP NIC</a>
3	<a href="#">Front boot device cage assembly spare part</a>
4	Drives  For more information on the removal and replacement procedures, see <a href="#">Removing and replacing a hot-plug LFF / SFF / E3.S drive</a> .
5	<a href="#">Energy pack spare parts</a>
6	<a href="#">Chassis intrusion switch spare part</a>
7	<a href="#">Drive backplane spare parts</a>
8	<a href="#">Captive riser board spare part</a>
9	<a href="#">Front OCP NIC-related spare parts*</a>
10	<a href="#">Serial port cable spare parts*</a>
11	<a href="#">Storage controller spare parts*</a>
12	<a href="#">Drive cable spare parts*</a>

Item	Description
13	<a href="#">Riser cable spare parts*</a>
14	<a href="#">Rear OCP B enablement cable spare part*</a>
15	<a href="#">Media device cable spare parts*</a>
16	<a href="#">GPU auxiliary power cable spare parts*</a>
17	GPU*  For more information on the removal and replacement procedures, see <a href="#">GPU replacement</a> .

\* Not shown

### Subtopics

[Systems Insight Display spare part](#)

[HPE NS204i-u Boot Device V2 spare parts](#)

[Energy pack spare parts](#)

[Chassis intrusion detection switch spare part](#)

[Drive backplane spare parts](#)

[Captive riser board spare part](#)

[Front OCP NIC-related spare parts](#)

[Serial port dongle/ix port cable spare part](#)

[Storage controller spare parts](#)

[Drive cable spare parts](#)

[Riser cable spare parts](#)

[Rear OCP enablement cable spare parts](#)

[Media device cable spare parts](#)

[GPU auxiliary power cable spare parts](#)

## Systems Insight Display spare part

Customer self repair: **Mandatory**

**Replacement procedure:** [Removing and replacing the Systems Insight Display](#)

Description	Spare part number
Systems Insight Display module	P79917-001

# HPE NS204i-u Boot Device V2 spare parts

**Replacement procedure:** [HPE NS204i-u Boot Device V2 replacement](#)



## IMPORTANT

For successful RAID 1 configuration, verify that the boot device SSDs have the same model number and firmware version:

- In the iLO web interface, see the **Storage** page.
- In UEFI System Utilities, see **System Configuration > HPE NS204i Boot Controller > Physical Device Information**.

Configurations with SSDs from different manufacturers are not supported.

Customer self repair: **Optional**

Description and cable part number	Spare part number
Boot device V2 cage	P78425-001
Front boot device SlimSAS cable: P74730-001	P76890-001
Front boot device power cable: P74729-001	P76889-001
Rear boot device SlimSAS cable: P72024-001	P74017-001
Rear boot device power cable: P63720-001	P74037-001

Customer self repair: **Mandatory**

Description and cable part number	Spare part number
M.2 SSD carrier	P59777-001
480 GB NVMe RI M.2 SV 2280 SSD	P69616-001
480 GB NVMe RI M.2 2280 V2 MV SSD	P80342-001
960 GB NVMe RI M.2 2280 V2 MV SSD	P80343-001
960 GB NVMe RI M.2 2280 MV SED SSD	P80345-001

## Energy pack spare parts

Customer self repair: **Mandatory**

**Replacement procedure:** [Removing and replacing the energy pack](#)

Description	Spare part number
HPE 96 W Smart Storage Battery with 145 mm (5.7 in) cable	878643-001
HPE 12 W Smart Hybrid Capacitor with 145 mm (5.7 in) cable	P07473-001
HPE 16 W Smart Hybrid Capacitor with 145 mm (5.7 in) cable	P66825-001

## Chassis intrusion detection switch spare part

Customer self repair: **Mandatory**

**Replacement procedure:** [Removing and replacing the chassis intrusion detection switch](#)

Cable description and part number	Spare part number
Chassis intrusion detection switch: P54901-001	P60394-001

## Drive backplane spare parts

Customer self repair: **Mandatory**

**Replacement procedures:**

- [Removing and replacing a 4 LFF drive backplane](#)
- [Removing and replacing the 8 SFF drive backplane](#)
- [Removing and replacing the 2 SFF side-by-side drive backplane](#)
- [Removing and replacing the 2 SFF stacked drive backplane](#)
- [Removing and replacing a 4 E3.S drive backplane](#)

Description	Spare part number
<b>LFF drive backplane spare part</b>	—
4 LFF 12G x1 U.2 SAS / SATA UBM2 LP	P40451-001
4 LFF 12G x1 U.2 SAS / SATA UBM6 LP	P62075-001
<b>SFF drive backplane spare parts</b>	—
2 SFF 24G x4 U.3 NVMe / SAS / SATA UBM4 BC <sup>1</sup> / <sub>—</sub>	P39782-001
2 SFF 24G x4 U.3 NVMe / SAS / SATA UBM6 BC <sup>1</sup> / <sub>—</sub>	P62069-001
2 SFF 24G x4 U.3 NVMe / SAS / SATA UBM3 BC <sup>2</sup> / <sub>—</sub>	P39306-001
2 SFF 24G x4 U.3 NVMe / SAS / SATA UBM6 BC <sup>2</sup> / <sub>—</sub>	P62071-001
8 SFF 16G x4 U.2 NVMe / SAS / SATA UBM4 BC	P39785-001
8 SFF 24G x1 U.3 NVMe / SAS / SATA UBM3 BC	P39781-001
8 SFF 24G x1 U.3 NVMe / SAS / SATA UBM6 BC	P39781-001
8 SFF 24G x4 U.3 NVMe / SAS / SATA UBM3 BC	P39780-001
8 SFF 24G x4 U.3 NVMe / SAS / SATA UBM6 BC	P39780-001
<b>E3.S drive backplane spare parts</b>	—
4 E3.S 32G x4 NVMe UBM10 EC	P73067-001

<sup>1</sup>/<sub>—</sub> This backplane is spared for the 2 SFF stacked drives.

<sup>2</sup>/<sub>—</sub> This backplane is spared for the 2 SFF side-by-side drives.

## Captive riser board spare part

Customer self repair: **Mandatory**

### Replacement procedure:

- [Removing and replacing the two-slot captive riser from the GPU cage](#)
- [Removing and replacing the two-slot PCIe x16 captive riser from the PCIe riser cage](#)

Description	Spare part number
PCIe x16 captive riser board	P76299-001

## Front OCP NIC-related spare parts

Customer self repair: **Mandatory**

### Replacement procedures:

- [Removing and replacing the OCP NIC interposer](#)
- [Removing and replacing the PHY board](#)

Description	Spare part number
PHY board	P76348-001
Bay 11 Slot 20 OCP A NIC interposer	P76350-001
Bay 9 Slot 21 OCP B NIC interposer	P76350-002

Customer self repair: **Optional**

### Replacement procedures:

- [Removing and replacing the front OCP NIC cable](#)
- [Removing and replacing the OCP NIC interposer](#)

Cable description and part number	Spare part number
Primary front OCP NIC cable: P71941-001	P75056-001
Secondary front OCP NIC cable: P71944-001	P77868-001
OCP NIC interposer cable: P73927-001	P75434-001

## Serial port dongle/ix port cable spare part

Customer self repair: **Mandatory**

**Replacement procedure:** [Removing and replacing the serial port](#)

Cable description and part number	Spare part number
ix port cable (620 mm): P73744-001	P74373-001
Serial port dongle (160 mm): P71826-001	P74016-001

## Storage controller spare parts

Customer self repair: **Optional**

### Replacement procedures:

- [Removing and replacing a type-o storage controller](#)
- [Removing and replacing a type-p storage controller](#)

Description	Spare part number
<b>HPE Gen11 type-o controllers</b>	—
HPE MR216i-o Gen11 controller	P47954-001
HPE MR408i-o Gen11 controller	P58543-001
HPE MR416i-o Gen11 controller	P47952-001
<b>HPE Gen11 type-p controllers</b>	—
HPE MR216i-p Gen11 controller	P47953-001
HPE MR408i-p Gen11 controller	P74945-001
HPE MR416i-p Gen11 controller	P47951-001
<b>HPE type-p controller</b>	—
HPE MR932i-p controller	P75933-001

## Drive cable spare parts

Customer self repair: **Optional**

Cable description and part number	Spare part number
<b>LFF drive cable to the type-p 2-port tri-mode controller cable spare parts</b>	—
Boxes 1 and 2 to the slot 3 port 1: P58063-001	P60390-001
Box 3 to the slot 3 port 2: P54931-001	P58518-001
<b>2 SFF drive direct attach cable spare parts</b>	—

<b>Cable description and part number</b>	<b>Spare part number</b>
2 SFF stacked drive box 1: P75367-001	P76901-001
2 SFF side-by-side drive box 1:	
<b>8 SFF x1 drive to the type-p 2-port tri-mode controller cable spare part</b>	—
Box 3: P58018-001	P61305-001
<b>8 SFF x4 drive direct attach cable spare parts: Secondary riser blank configuration</b>	—
Box 3 ports 1 and 2: P74804-001	P77853-001
Box 3 ports 3 and 4: P74815-001	P77852-001
<b>8 SFF x4 drive direct attach cable spare parts: Secondary riser cage configuration</b>	—
Box 3 ports 1 and 2: P74807-001	P75057-001
Box 3 ports 3 and 4: P75257-001	P77856-001
<b>16 SFF x1 drive to the slot 20 OCP A type-o 2-port controller cable spare parts</b>	—
Box 2: P58148-001	P61325-001
Box 3: P58014-001	P61308-001
<b>16 SFF x1 drive direct attach cable spare parts</b>	—
Box 1 ports 1 and 2: P71880-001	P74020-001
Box 1 ports 3 and 4: P71881-001	P74038-001
Box 2: P76442-001	P77864-001
Box 3 ports 1 and 2: P75257-001	P77856-001
Box 3 ports 3 and 4: P74815-001	P77852-001
<b>24 SFF x1 drive to type-p 2-port tri-mode controller cable spare parts</b>	—
Box 1 to the slot 6: P58020-001	P61304-001
Box 2 to the slot 3 port 1:	
Box 3 to the slot 3 port 2: P58018-001	P61305-001
<b>24 SFF x1 drive to type-p 4-port tri-mode controller cable spare parts</b>	—
Boxes 1 and 2: P79151-001	P84598-001
Box 3: P81063-001	P82049-001
<b>24 SFF x2 drive direct attach cable spare parts</b>	—
Box 1: P75563-001	P77391-001
Box 2: P74816-001	P77858-001
Box 3: P74814-001	P77859-001
<b>24 SFF x2 drive to type-p 2-port tri-mode controller cable spare parts</b>	—
Box 1 to the slot 5: P76440-001	P77863-001

Cable description and part number	Spare part number
Box 2 to the slot 6:	
Box 3 to the slot 3:	
<b>24 SFF x4 drive direct attach cable spare parts</b>	—
Box 1 ports 1 and 2: P74807-001	P75057-001
Box 1 ports 3 and 4: P71881-001	P74038-001
Box 2: P76442-001	P77864-001
Box 3 ports 1 and 2: P75257-001	P77856-001
Box 3 ports 3 and 4: P74815-001	P77852-001
<b>8 E3.S drive direct attach cable spare parts: UMB configuration</b>	—
Box 3 bays 1 to 4: P75317-001	P76969-001
Box 3 bays 5 to 8: P75246-001	P77860-001
<b>8 E3.S drive direct attach cable spare parts: Front OCP NIC configuration</b>	—
Box 3 bays 1 to 4: P75580-001	P77883-001
Box 3 bays 5 to 8: P75246-001	P77860-001
<b>16 E3.S drive direct attach cable spare parts: Secondary riser blank configuration</b>	—
Box 1 bays 1 to 4: P75580-001	P77883-001
Box 1 bays 5 to 8: P75317-001	
Box 3 bays 1 to 4:	
Box 3 bays 5 to 8: P75246-001	P77860-001
<b>16 E3.S drive direct attach cable spare parts: Rich I/O configuration</b>	—
Box 1 bays 1 to 4: P75576-001	P77143-001
Box 1 bays 5 to 8: P75317-001	P76969-001
Box 3 bays 1 to 4:	
Box 3 bays 5 to 8: P75246-001	P77860-001
<b>16 E3.S drive to type-p 4-port tri-mode controller cable spare parts</b>	—
Boxes 1 and 3: P75569-001	P84600-001
<b>24 E3.S drive direct attach cable spare parts: Rich I/O configuration</b>	—
Box 1 bays 1 to 4: P75576-001	P77143-001
Box 1 bays 5 to 8: P75317-001	P76969-001
Box 3 bays 1 to 4:	
Box 2 bays 1 to 8: P75504-001	P77881-001
Box 3 bays 5 to 8: P75246-001	P77860-001
<b>24 E3.S drive to type-p 4-port tri-mode controller cable spare parts</b>	—

<b>Cable description and part number</b>	<b>Spare part number</b>
Boxes 1 and 3: P75569-001	P84600-001
Box 2: P75570-001	P84599-001
<b>36 E3.S drive direct attach cable spare parts: Rich I/O configuration</b>	—
Box 1 bays 1 to 4: P75908-001	P76906-001
Box 2 bays 1 to 12:	
Box 1 bays 5 to 12: P75369-001	P76903-001
Box 3 bays 9 to 12:	
Box 3 bays 1 to 8: P75258-001	P77861-001
<b>36 E3.S drive to type-p 4-port tri-mode controller cable spare parts</b>	—
Boxes 1, 2, and 3: P75275-001	P77865-001
<b>GPU-optimized configuration 8 SFF drive direct attach cable spare parts: Secondary riser blank configuration</b>	—
8 SFF drive ports 1 and 2: P74804-001	P77853-001
8 SFF drive ports 3 and 4: P74807-001	P75057-001
4 E3.S drive: P75580-001	P77883-001
12 E3.S drive bays 1 to 4:	
12 E3.S drive bays 5 to 12: P75576-001	P77143-001
<b>GPU-optimized configuration 8 SFF drive cable spare parts: Secondary riser cage configuration</b>	—
Direct attach: P74807-001	P75057-001
Slot 6: P69542-001	P71170-001
<b>2 SFF side-by-side + 8 LFF drive cable spare parts</b>	—
2 SFF side-by-side drive box 1 direct attach: P75367-001	P76901-001
8 LFF drive cable box 2 to slot 3 port 1: P58063-001	P60390-001
8 LFF drive cable box 3 to slot 3 port 2: P54931-001	P58518-001
<b>2 SFF stacked + 8 E3.S drive cable spare parts</b>	—
2 SFF stacked drive direct attach cable: P75367-001	P76901-001
8 E3.S drive box 3 bays 1 to 4 direct attach: P75317-001	P76969-001
8 E3.S drive box 3 bays 5 to 8 direct attach: P75246-001	P77860-001
<b>8 SFF + 8 E3.S drive cable spare parts</b>	—
8 E3.S x4 drive box 3 bays 1 to 4 direct attach: P75576-001	P77143-001
8 E3.S x4 drive box 3 bays 5 to 8 direct attach: P75317-001	P76969-001
8 SFF drive box 1 to the slot 6 port 1: P58018-001	P61305-001

Cable description and part number	Spare part number
<b>Drive power cable spare parts</b>	—
LFF drive boxes 1 and 2: P75251-001	P77855-001
LFF drive box 3: P75250-001	P77854-001
2 SFF side-by-side drive: P77049-001	P77862-001
2 SFF stacked drive: P75252-001	P77857-001
SFF x2 drive box 3: P74814-001	P77859-001
SFF x4 drive boxes 1 and 2: P71879-001	P74019-001
SFF x4 drive box 3: P75248-001	P77848-001
E3.S drive boxes 1 and 2: P75249-001	P77849-001
E3.S drive box 3: P75247-001	P77847-001
<b>Drive power cable spare parts: GPU-optimized configuration</b>	—
SFF drive: P80888-001	P81166-001
E3.S drive: P80887-001	P81165-001
Storage controller backup power cable: 877850-001	878646-001

## Riser cable spare parts

Customer self repair: **Optional**

Cable description and part number	Spare part number
<b>Front PCIe captive riser</b>	—
GPU cage 1 slot 10 PCIe captive riser signal cable: P71888-001	P77866-001
GPU cage 1 slot 12 PCIe captive riser signal cable: P73415-001	P77886-001
GPU cage 2 slot 15 PCIe captive riser signal cable: P71884-001	P76031-001
GPU cage 2 slot 17 PCIe captive riser signal cable: P71891-001	P77867-001
GPU cage 1 PCIe captive riser power cable: P75253-001	P77843-001
GPU cage 2 PCIe captive riser power cable: P75254-001	P77844-001

Cable description and part number	Spare part number
<b>Rear PCIe captive riser</b>	—
PCIe captive riser signal cable: P71882-001	P76025-001
Slots 4 and 5 PCIe captive riser power cable: P7525 9-001	P77851-001
Slots 2 and 3 PCIe captive riser power cable: P7525 5-001	P77850-001

## Rear OCP enablement cable spare parts

Customer self repair: **Optional**

Cable description and part number	Spare part number
Secondary riser blank configuration: P73494-001	P74375-001
Secondary riser cage configuration:	P75506-001
	P75507-001
Rich I/O configurations: P75591-001	P77884-001
	P77885-001
	P77882-001

## Media device cable spare parts

Customer self repair: **Optional**

Cable description and part number	Spare part number
LFF universal media bay DisplayPort cable: P75279 -001	P76897-001
SFF universal media bay DisplayPort and USB 2.0 ports cable: P75280-001	P76898-001
Optical drive cable: P73776-002	P76888-001

# GPU auxiliary power cable spare parts

Customer self repair: **Optional**

<b>Cable description and part number</b>	<b>Spare part number</b>
GPU auxiliary power cable: P75612-001	P77845-001
GPU auxiliary power cable with split GPU sideband cable: P75256-001	P77846-001

## Removal and replacement procedures

This chapter provides detailed instructions on how to remove and replace component spare parts.

### Subtopics

**Safety considerations**

**Preparation procedures**

**Removing and replacing the front bezel**

**Chassis ears replacement**

**Removing and replacing the Systems Insight Display**

**Removing and replacing a hot-plug LFF / SFF / E3.S drive**

**Removing and replacing the LFF drive blank**

**Removing and replacing the access panel**

**Removing and replacing the cable management arm**

**Power supply replacement**

**Removing and replacing a power supply blank**

**Rack rail replacement**

**Front OCP NIC kit replacement**

**Drive backplane replacement**

**Optical drive replacement**

**Removing and replacing a fan**

**Removing and replacing the fan cable holder**

**Removing and replacing the air baffle**

**Removing and replacing the standard heatsink blank**

**Removing and replacing a DIMM**

**Removing and replacing a DIMM guard**

**Removing and replacing the chassis intrusion detection switch**

**Removing and replacing the energy pack**

**Removing and replacing the energy pack holder**

**HPE NS204i-u Boot Device V2 replacement**

**Removing and replacing the power supply bay bracket**

**Removing and replacing the power supply bay filler**

**Removing and replacing the ix port blank**

**Removing and replacing the serial port**

**Removing and replacing the serial port cable bracket**

**GPU replacement**

**Networking adapter replacement**

**Storage controller replacement**

**Riser board replacement**

**DC-SCM replacement**

**Heatsink replacement**

**Processor replacement**

**Direct liquid cooling module replacement**

**Removing and replacing the power distribution board**

**System board replacement**

**System battery replacement**

## Safety considerations

Before performing service procedures, review all the safety information.

### Subtopics

**Electrostatic discharge**

**Symbols on equipment**

**Rack warnings and cautions**

**Server warnings and cautions**

## Electrostatic discharge

Be aware of the precautions you must follow when setting up the system or handling components. A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of the system or component.

To prevent electrostatic damage:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.

- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly. Use one or more of the following methods when handling or installing electrostatic-sensitive parts:
  - Use a wrist strap connected by a ground cord to a grounded workstation or computer chassis. Wrist straps are flexible straps with a minimum of 1 megohm  $\pm 10$  percent resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.
  - Use heel straps, toe straps, or boot straps at standing workstations. Wear the straps on both feet when standing on conductive floors or dissipating floor mats.
  - Use conductive field service tools.
  - Use a portable field service kit with a folding static-dissipating work mat.

If you do not have any of the suggested equipment for proper grounding, have an authorized reseller install the part.

For more information on static electricity or assistance with product installation, contact an authorized reseller.

## Symbols on equipment

The following symbols may be placed on equipment to indicate the presence of potentially hazardous conditions:



This symbol in conjunction with any of the following symbols indicates the presence of a potential hazard. The potential for injury exists if warnings are not observed. Consult your documentation for specific details.

該符號與以下任意符號組合使用，指示存在潛在的危險。如果不遵守警告，可能會造成人身傷害。詳細信息請參閱相關文檔。



This symbol indicates the presence of hazardous energy circuits or electric shock hazards. Refer all servicing to qualified personnel.



**WARNING**

To reduce the risk of injury from electric shock hazards, do not open this enclosure. Refer all maintenance, upgrades, and servicing to qualified personnel.

此符號表明存在危險電路或觸電的危險。所有維修工作應由具有相關資格的人員來完成。

警告：為了減少觸電造成人身傷害的危險，請不要打開此外殼。所有維護、升級和維修工作都應由具有相關資格的人員來完成。



This symbol indicates the presence of electric shock hazards. The area contains no user or field-serviceable parts. Do not open for any reason.



**WARNING**

To reduce risk of injury from electric shock hazards, do not open this enclosure.

此符號表明存在觸電的危險。在這一區域內沒有用戶可以現場維修的部件。一定不要打開。警告：為了減少觸電造成人身傷害的危險，請不要打開此外殼。



This symbol on an RJ-45 receptacle indicates a Network Interface Connection.



**WARNING**

To reduce risk of electric shock, fire, or damage to the equipment, do not plug telephone or telecommunications connectors into this receptacle.

RJ-45 插孔上的該符號指示網絡接口連接。

警告：為了減少觸電、火災或設備損壞的危險，不要將電話或電信連接設備插入此插孔。



This symbol indicates the presence of a hot surface or hot component. If this surface is contacted, the potential for injury exists.



**WARNING**

To reduce the risk of injury from a hot component, allow the surface to cool before touching.

此符號表明表面或組件過熱。如果觸摸此表面，可能會造成人身傷害。警告：為了減少因組件過熱而造成人身傷害的危險，應等到表面降溫後再觸摸。



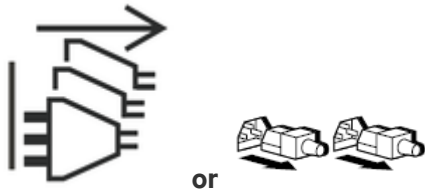
This symbol indicates the presence of a moving fan blade. If the spinning blades are contacted, the potential for injury exists.



**WARNING**

Hazardous moving parts. Keep away from moving fan blades. To reduce the risk of injury from a hot component, allow the surface to cool before touching.

此符號表明存在運動風扇葉片的危險。如果觸摸旋轉葉片，可能會造成人身傷害。警告：危險的運動部件。請遠離運動風扇刀片。為減少被高溫組件燙傷的危險，應在表面冷卻之後再接觸。



These symbols on power supplies or systems indicate that the equipment is supplied by multiple sources of power.



**WARNING**

To reduce the risk of injury from electric shock, remove all power cords to completely disconnect power from the system.

電源或系統上的這些符號表明設備由多個電源供電。  
警告：為了減少觸電造成人身傷害的危險，應拔下所有電源線插頭，完全斷開系統的電源。



Weight in kg.

Weight in lb.

This symbol indicates that the component exceeds the recommended weight for one individual to handle safely.



**WARNING**

To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manual material handling.

此符號表明組件的重量超出了建議值，一個人無法安全取放。  
警告：為了減少人身傷害或設備損壞的危險，應遵守當地有關人工取放物品的職業保健與安全規定及準則。



A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

手指或其它導體所釋放的靜電可能損壞主板或其它對靜電敏感的設備。為防止發生損壞，請遵守防靜電預防措施。



These symbols appearing together indicate that the product may have high touch current and that a reliable earth ground must be in place before connecting the equipment.



**WARNING**

Risk of electric shock due to high touch current. Connect to earth before connecting to supply.



This symbol indicates the presence of a laser device in the product that may exceed Class 1 limits. Refer to the product documentation for more information.

此符號表明在可能會超出 1 類限制的產品中存在激光設備。有關詳細信息，請參閱產品文檔。



This symbol indicates the presence of moving parts inside the product that may present a pinch point if improperly contacted.



**WARNING**

Hazardous moving parts. Do not insert any tools or any part of your body into the product while it is operating or in any openings.



This symbol indicates the presence of coin cell battery.



**WARNING**

- **INGESTION HAZARD:** This product contains a button cell or coin battery.
- **DEATH** or serious injury can occur if ingested.
- A swallowed button cell or coin battery can cause Internal Chemical Burns in as little as 2 hours.
- **KEEP** new and used batteries **OUT OF REACH** of **CHILDREN**.
- Seek immediate medical attention if a battery is suspected to be swallowed or inserted inside any part of the body.

## Rack warnings and cautions



### WARNING

When all components are removed, the server weighs 17.40 kg (38.36 lb). When all components are installed, the server can weigh up to 36.30 kg (80.03 lb).

Before configuring your rack solution, be sure to check the rack manufacturer weight limits and specifications. Failure to do so can result in physical injury or damage to the equipment and the facility.



### WARNING

The server is heavy. To reduce the risk of personal injury or damage to the equipment, do the following:

- Observe local occupational health and safety requirements and guidelines for manual material handling.
- Get help to lift and stabilize the product during installation or removal, especially when the product is not fastened to the rails. The server weighs more than 17.40 kg (38.36 lb), so at least two people must lift the server into the rack together. An additional person may be required to help align the server if the server is installed higher than chest level.
- Use caution when installing the server in or removing the server from the rack.
- Adequately stabilize the rack before extending a component outside the rack. Extend only one component at a time. A rack may become unstable if more than one component is extended.
- Do not stack anything on top of rail-mounted component or use it as a work surface when extended from the rack.



### WARNING

To reduce the risk of personal injury or damage to the equipment, be sure that:

- The rack has anti-tip measures in place. Such measures include floor-bolting, anti-tip feet, ballast, or a combination as specified by the rack manufacturer and applicable codes.
- The leveling jacks (feet) are extended to the floor.
- The full weight of the rack rests on the leveling jacks (feet).



## Server warnings and cautions



### WARNING

To reduce the risk of personal injury, electric shock, or damage to the equipment, disconnect the power cord to remove power from the server. Pressing the Power On/Standby button does not shut off system power completely. Portions of the power supply and some internal circuitry remain active until AC power is removed.



### WARNING

To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.



### WARNING

To reduce the risk of fire or burns after removing the energy pack:

- Do not disassemble, crush, or puncture the energy pack.
- Do not short external contacts.
- Do not dispose of the energy pack in fire or water.
- Do not expose the energy pack to low air pressure as it might lead to explosion or leakage of flammable liquid or gas.
- Do not expose the energy pack to temperatures higher than 60°C (140°F).

After power is disconnected, battery voltage might still be present for 1s to 160s.



### CAUTION

Protect the server from power fluctuations and temporary interruptions with a regulating UPS. This device protects the hardware from damage caused by power surges and voltage spikes and keeps the server in operation during a power failure.



### CAUTION

To prevent damage to electrical components, properly ground the server before beginning any installation, removal, or replacement procedure. Improper grounding can cause electrostatic discharge.



### CAUTION

To avoid data loss, Hewlett Packard Enterprise recommends that you back up

# Preparation procedures

## Prerequisites

Before powering down the server for an upgrade, maintenance, or service procedure, perform a backup of critical server data.

## About this task

To access components and perform certain upgrade, maintenance, or service procedure, you must perform one or more of the procedures described in this section.

## Subtopics

**Server data backup**

**Power down the server**

**Disconnect the DLC extension hose**

**Remove the front bezel**

**Open the cable management arm**

**Extend the server out of the rack**

**Remove the server from the rack**

**Remove the access panel**

**Remove the air baffle**

**Remove the fan cage**

**Remove the midwall bracket**

**Remove the LFF drive backplane bracket**

**Remove the middle cover**

**Remove the riser cage**

**Remove the secondary riser cage blank**

**Remove the rear boot device holder**

**Connect the DLC extension hose**

**Power up the server**

## Server data backup

To avoid data loss, make sure to back up all server data before installing or removing a hardware option, performing a server maintenance, or a troubleshooting procedure.

Server data in this context refers to information that may be required to return the system to a normal operating environment after completing a hardware maintenance or troubleshooting procedure. This information may include:

- User data files
- User account names and passwords
- Application settings and passwords
- Component drivers and firmware
- TPM recovery key/password
- BIOS configuration settings—Use the backup and restore function in UEFI System Utilities. For more information, see the UEFI user guide (<https://www.hpe.com/support/hpeuefisystemutilities-quicklinks>).
  - Custom default system settings
  - Security passwords including those required for power-on and BIOS admin access, persistent memory, and Server Configuration Lock (for HPE Trusted Supply Chain servers)
  - Server serial number and the product ID
- iLO-related data—Use the iLO backup and restore function. For more information, see the iLO user guide (<https://www.hpe.com/support/hpeilodocs-quicklinks>).
  - iLO license
  - Customer iLO user name, password, and DNS name
  - iLO configuration settings

## Power down the server

Before powering down the server for any upgrade or maintenance procedures, perform a backup of critical server data and programs.



### IMPORTANT

When the server is in standby mode, auxiliary power is still being provided to the system.

To power down the server, use one of the following methods:

- Press and release the Power On/Standby button.  
This method activates a controlled shutdown of applications and the OS before the server enters standby mode. It can also activate a shutdown behavior governed by an OS configuration or policy.

- Press and hold the Power On/Standby button for more than 4 seconds to force the server to enter standby mode.  
This method forces the server to enter standby mode without properly exiting applications and the OS. If an application stops responding, you can use this method to force a shutdown.
- Use a virtual power button selection through iLO 7.  
This method initiates a controlled remote shutdown of applications and the OS before the server enters standby mode.

Before proceeding, verify that the server is in standby mode by observing that the system power LED is amber.

## Disconnect the DLC extension hose

### Prerequisites

- Review the [Direct liquid cooling module components](#).

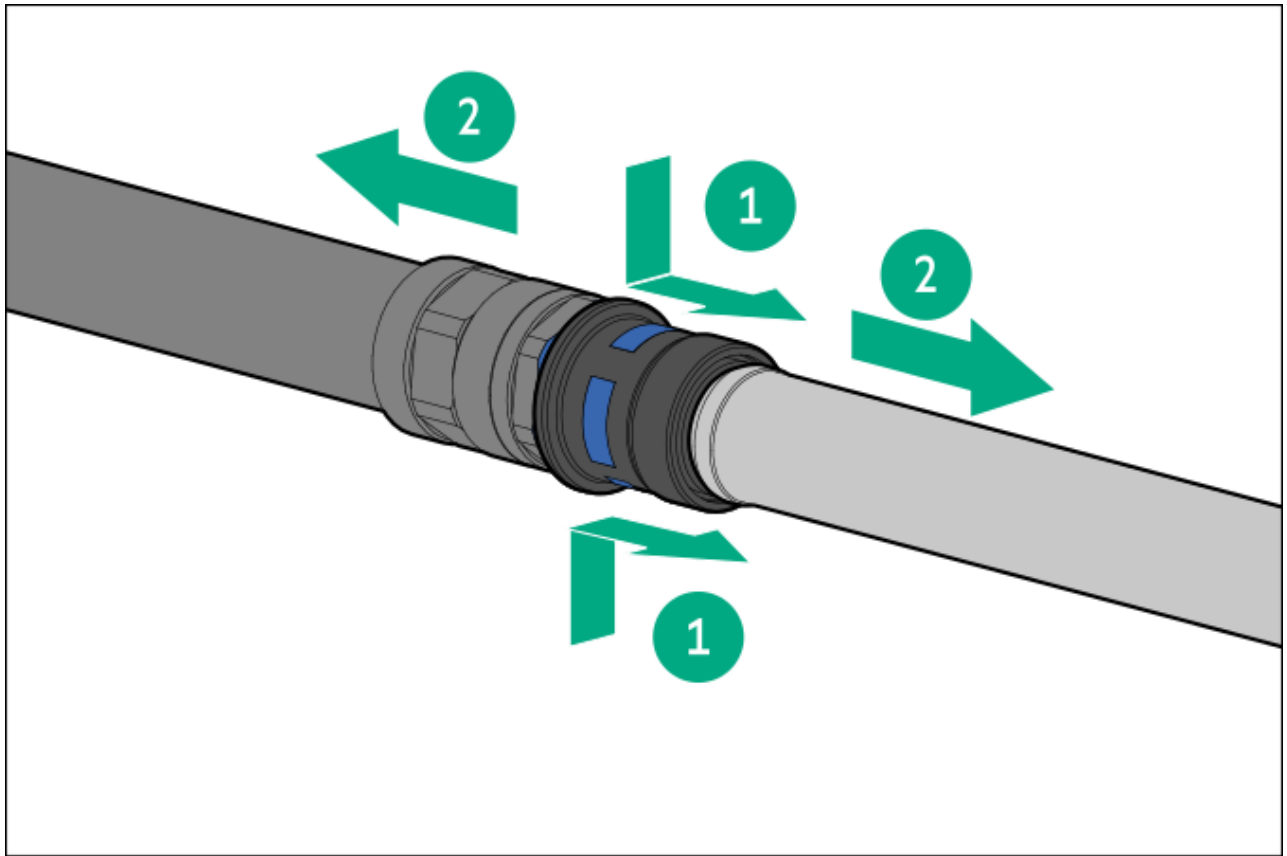
Before you perform this procedure, make sure that you have a small hand towel or container to catch any coolant from the DLC system.

### About this task

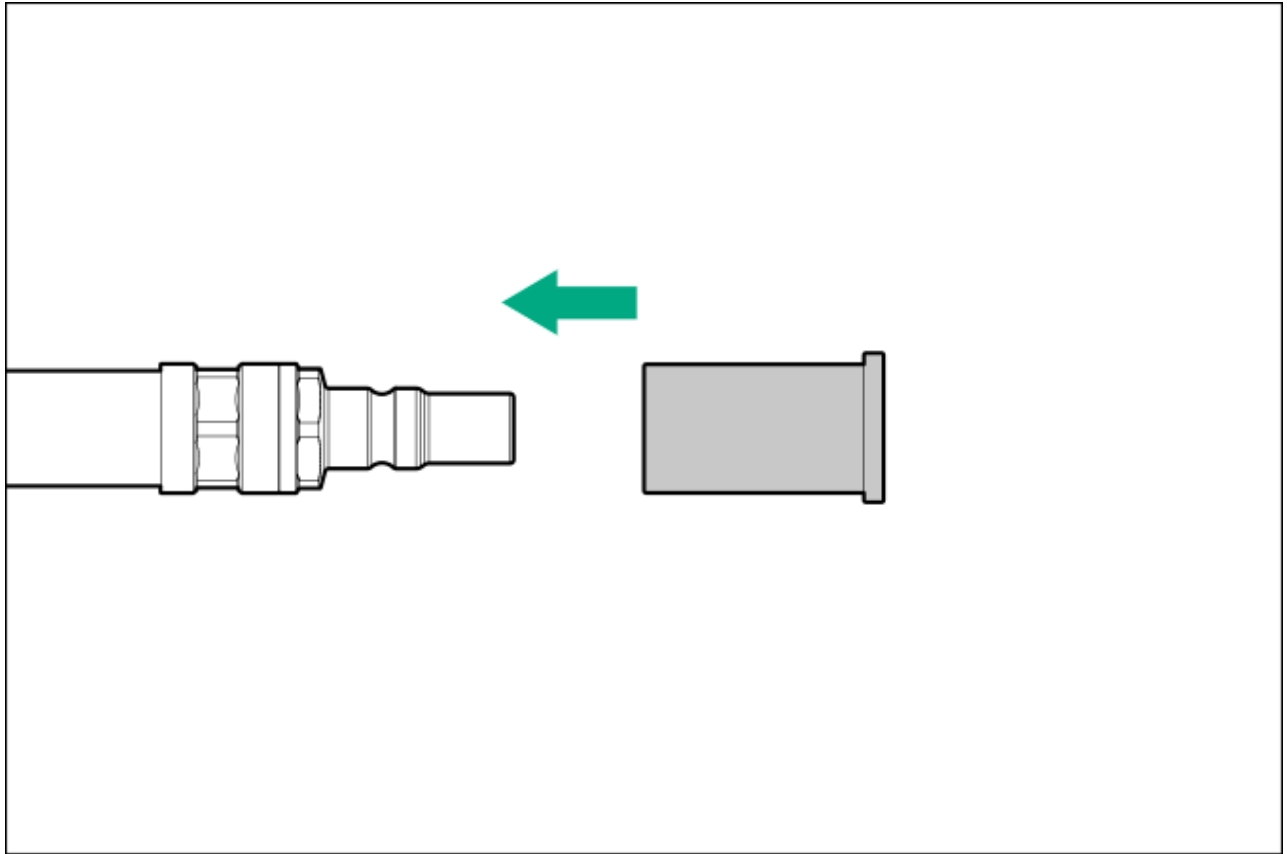
For more information, see the HPE Cray XD Direct Liquid Cooling System Site Preparation, User, and Maintenance Guide at <https://www.hpe.com/info/xdDLCguide>.

### Procedure

1. [Power down the server](#).
2. [Locate the DLC module](#) from the rear of the server.
3. Position some towels or a container under the extension hoses to catch any spilled coolant.
4. Press and pull the extension hose quick socket connector to disengage it from the DLC module coolant hose.



5. Install the coolant quick connector caps.



## Remove the front bezel

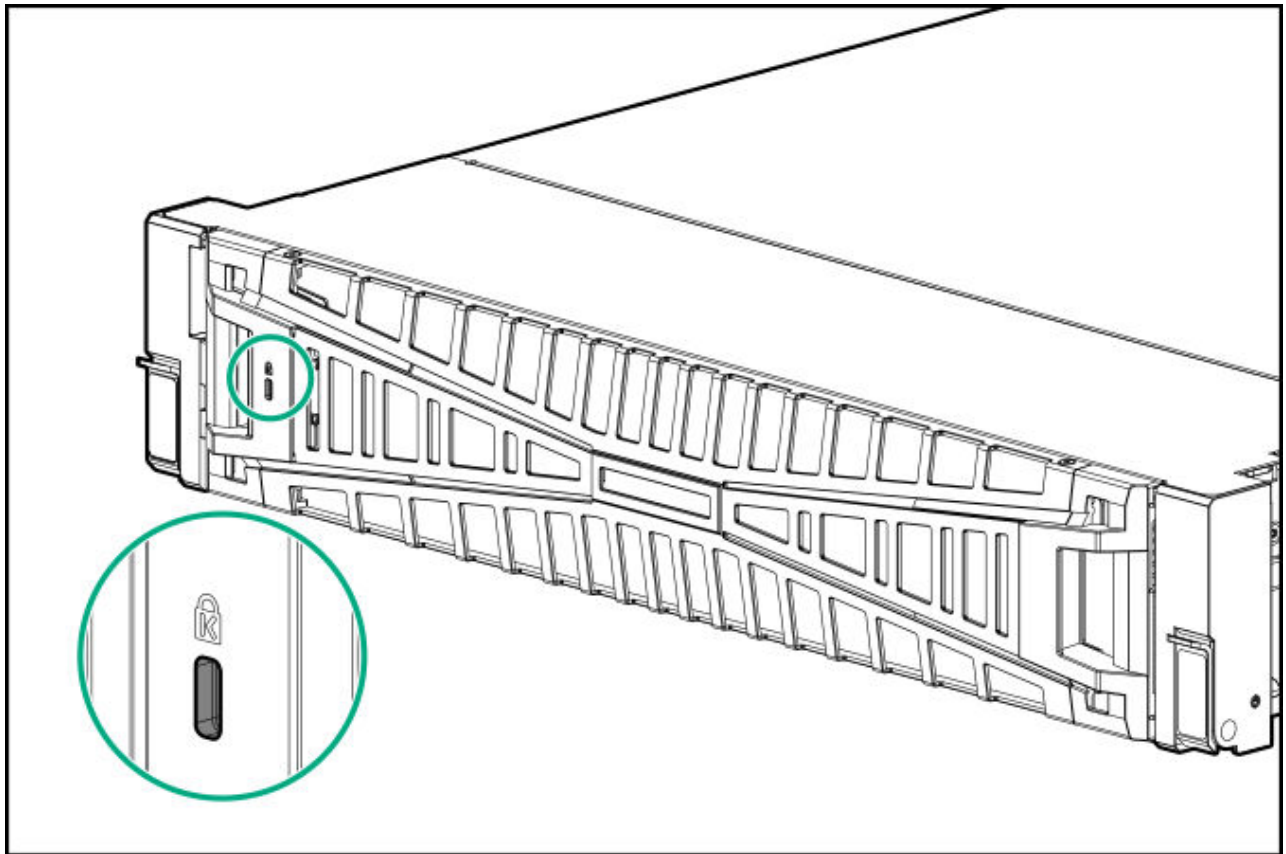
### About this task

If you are using the iLO virtual power button to power the server on/off, you do not need to remove the front bezel. Remove the front bezel only if you need to access the front panel components.

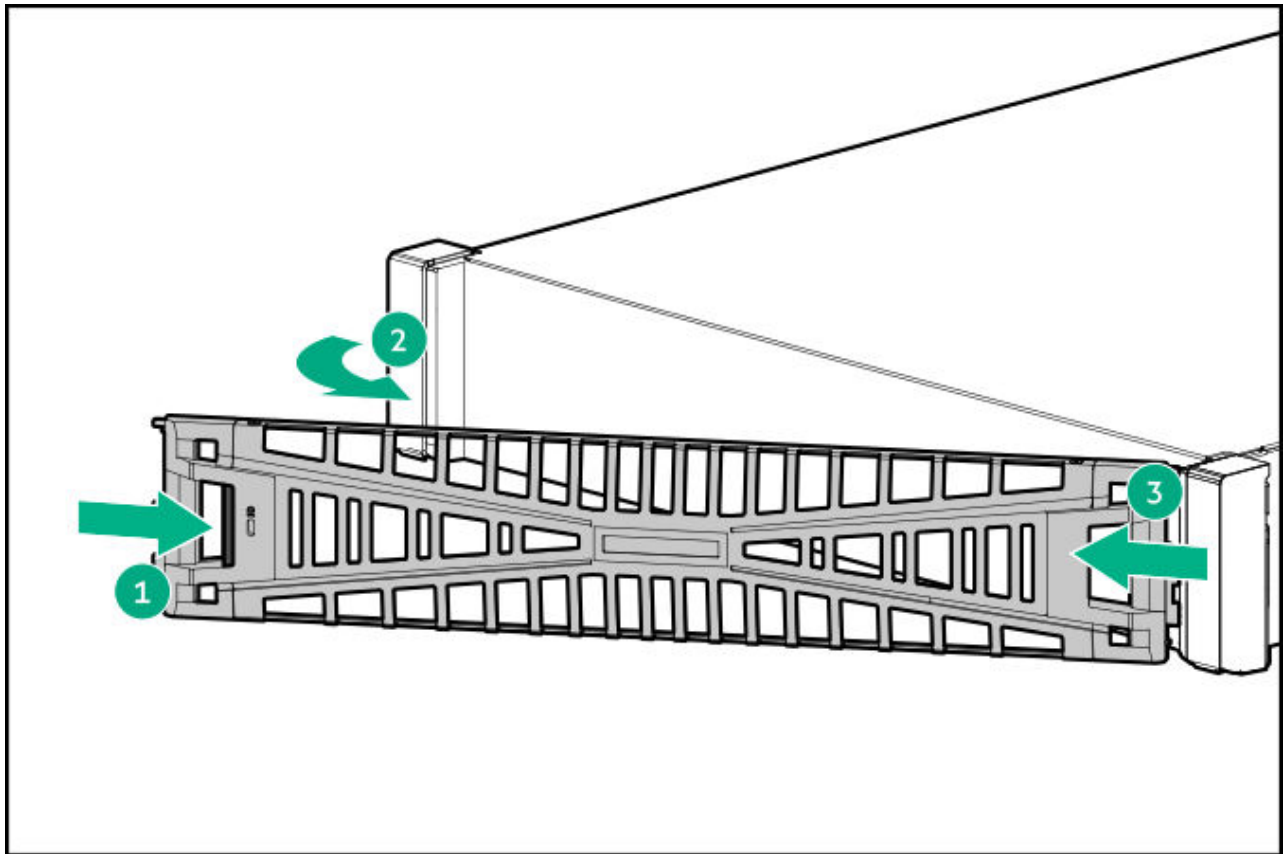
### Procedure

1. If installed, remove the Kensington security lock.

For more information, see the lock documentation.



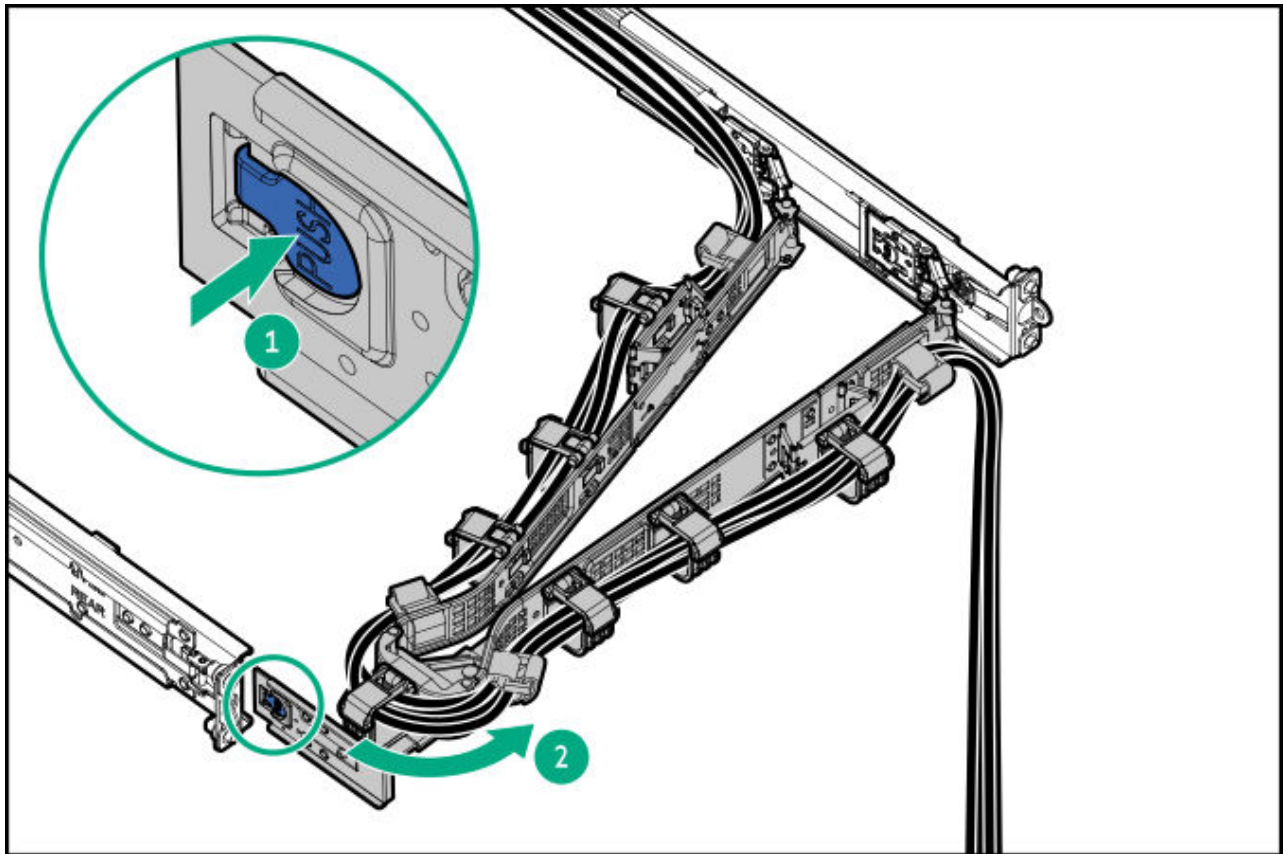
2. Press the bezel release latch, and then pivot the bezel open.
3. Release the right side of the bezel from the front panel.



## Open the cable management arm

### Procedure

1. Press and hold the blue **PUSH** button on the retention bracket.
2. Swing the arm away from the rear panel.



## Extend the server out of the rack

### Prerequisites

- Before you perform this procedure, review the [Rack warnings and cautions](#).
- T-25 Torx screwdriver—This tool is required if the shipping screws located inside the chassis ears are secured.

### About this task



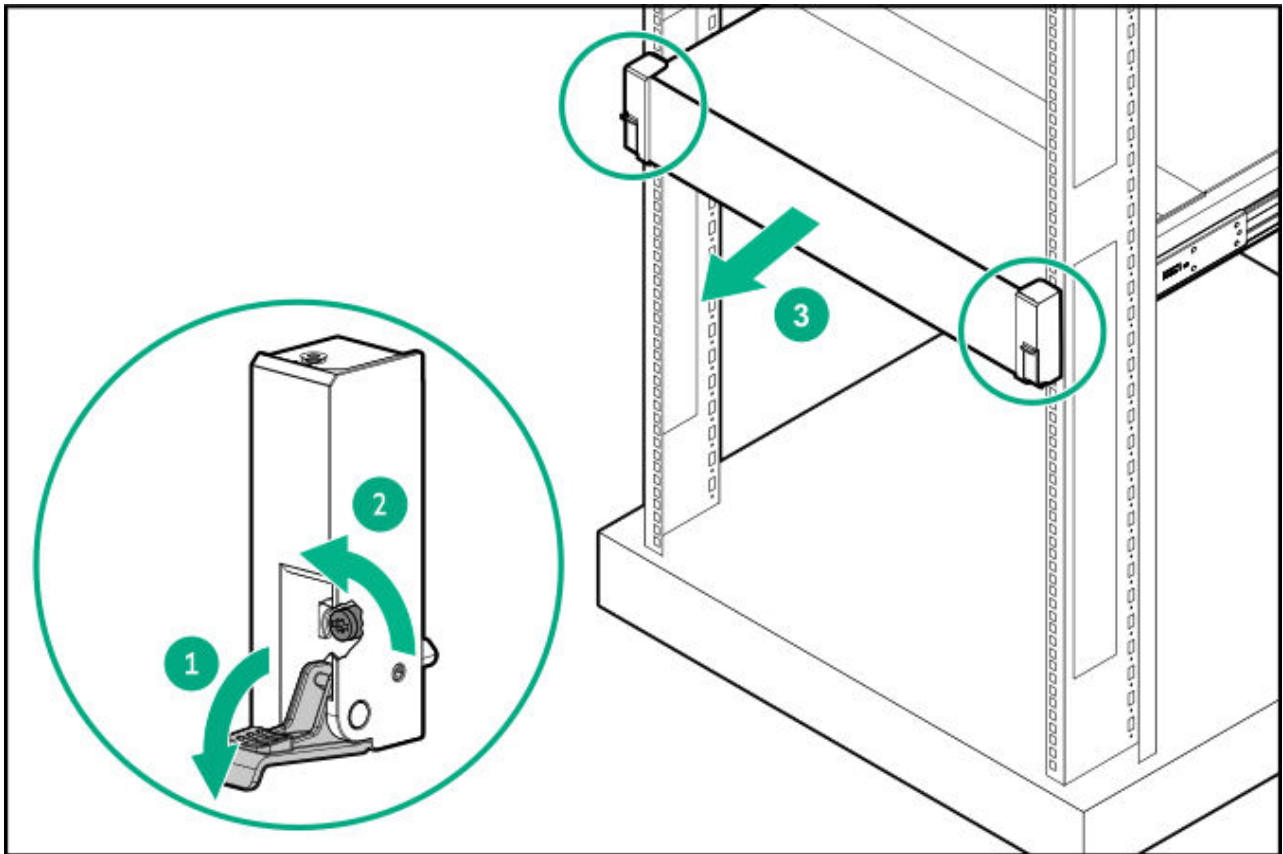
#### **WARNING**

To reduce the risk of personal injury, be careful when pressing the server rail-release latches. The inner rails could pinch your fingers.

### Procedure

1. [Power down the server](#).

2. If installed, disconnect the DLC extension hoses from the DLC module.
3. If needed, loosen the shipping screws, and then use the chassis ear latches to slide the server out of the rack until the rail-release latches are engaged.



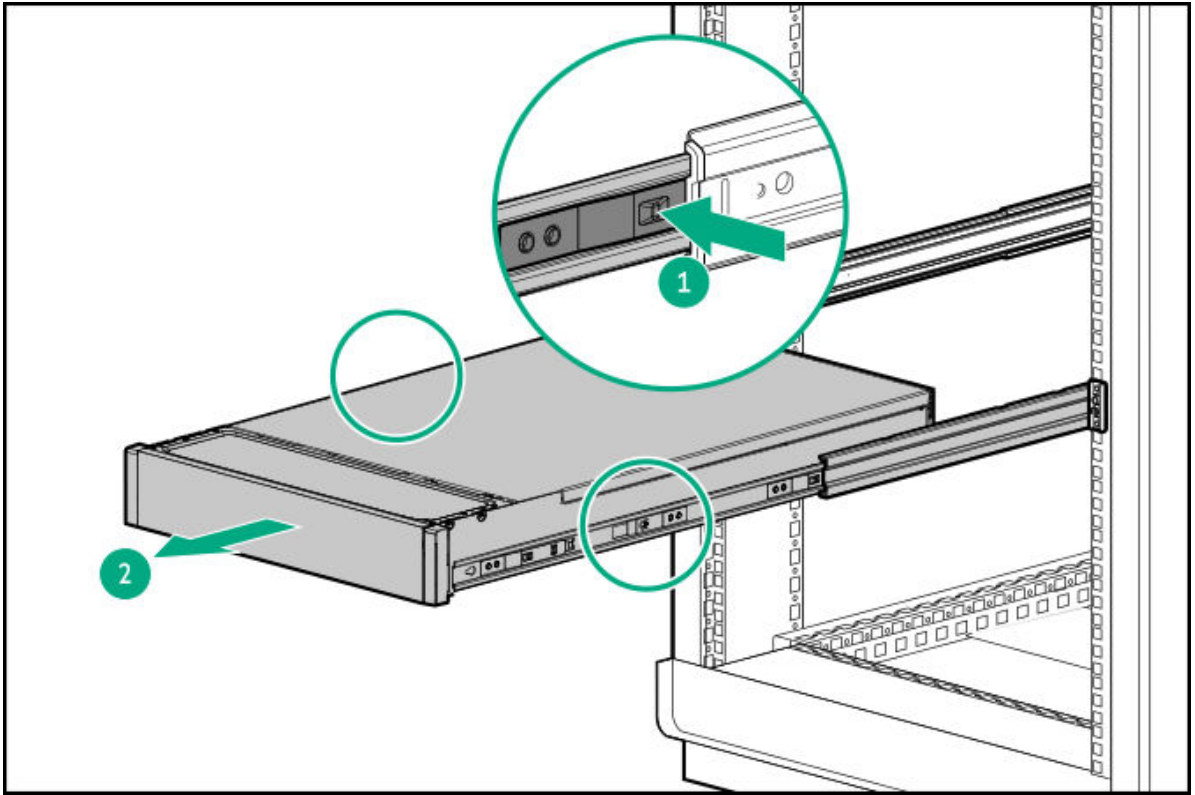
4. Extend the server from the rack:



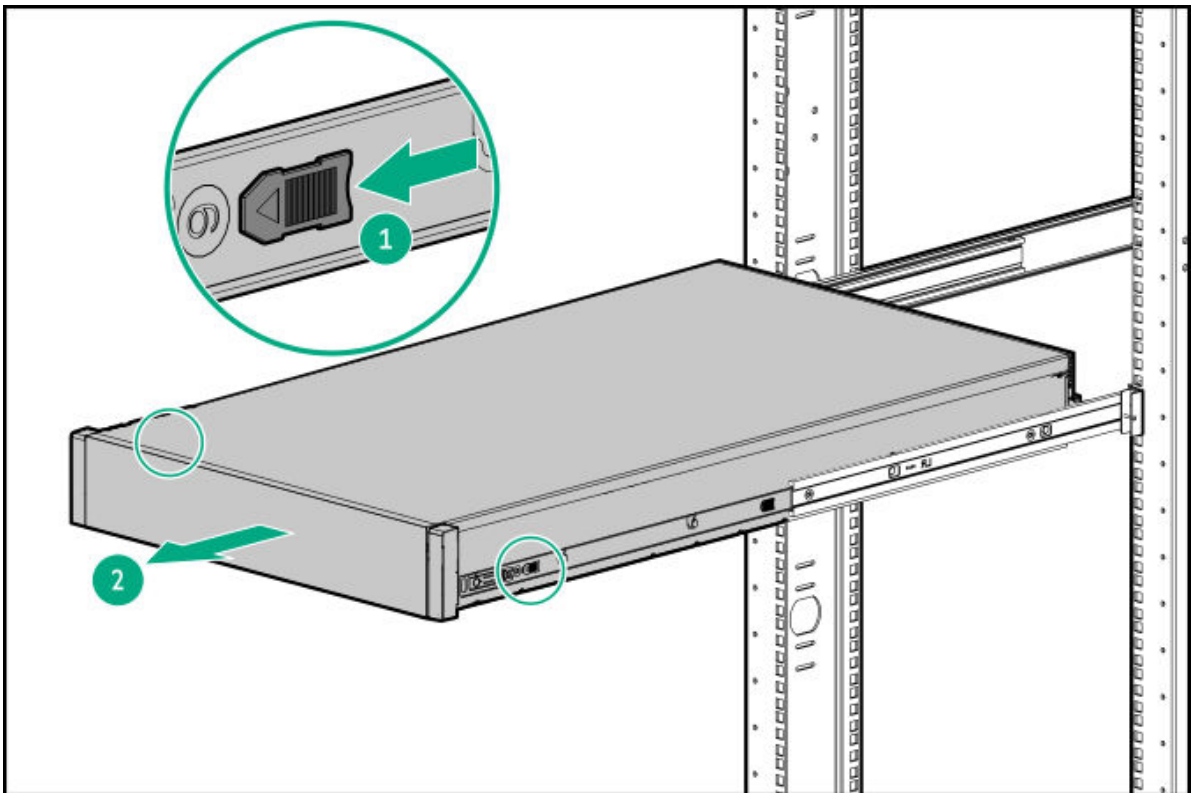
**WARNING**

To reduce the risk of personal injury, be careful when pressing the server rail-release latches. The inner rails could pinch your fingers.

- a. Press and hold the rail-release latches.
- b. Slide the server out of the rack until it is fully extended.
  - Friction rack rail



- Ball-bearing rack rail



# Remove the server from the rack

## Prerequisites

- Get help to lift and stabilize the server during removal from the rack. **If the server is installed higher than chest level, additional two people might be required to help remove the server:** One person to support the server weight, and the other two to slide the server out of the rack.
- Before you perform this procedure, review the:
  - [Rack warnings and cautions](#)
  - [Server warnings and cautions](#)
- A fully populated server is heavy. Hewlett Packard Enterprise recommends removing the external server components before removing the server from the rack.
- Before you perform this procedure, make sure that you have a T-25 Torx screwdriver available.

## About this task

[https://sketchfab.com/models/2c19c0bf754041f6adc5beef8e87b43d/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/2c19c0bf754041f6adc5beef8e87b43d/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

## Procedure

1. [Power down the server.](#)
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. If installed, [disconnect the DLC extension hoses from the DLC module.](#)
4. Disconnect all peripheral cables from the server.
5. Extend the server from the rack:

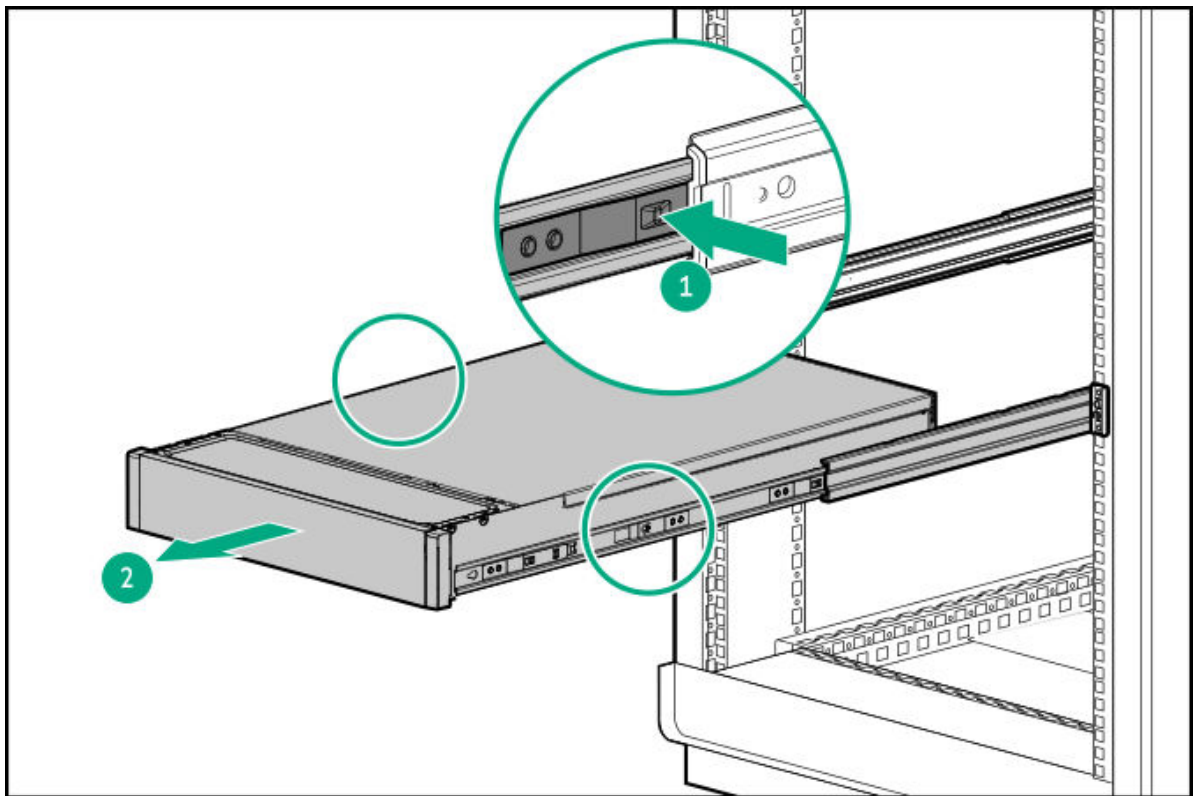


### **WARNING**

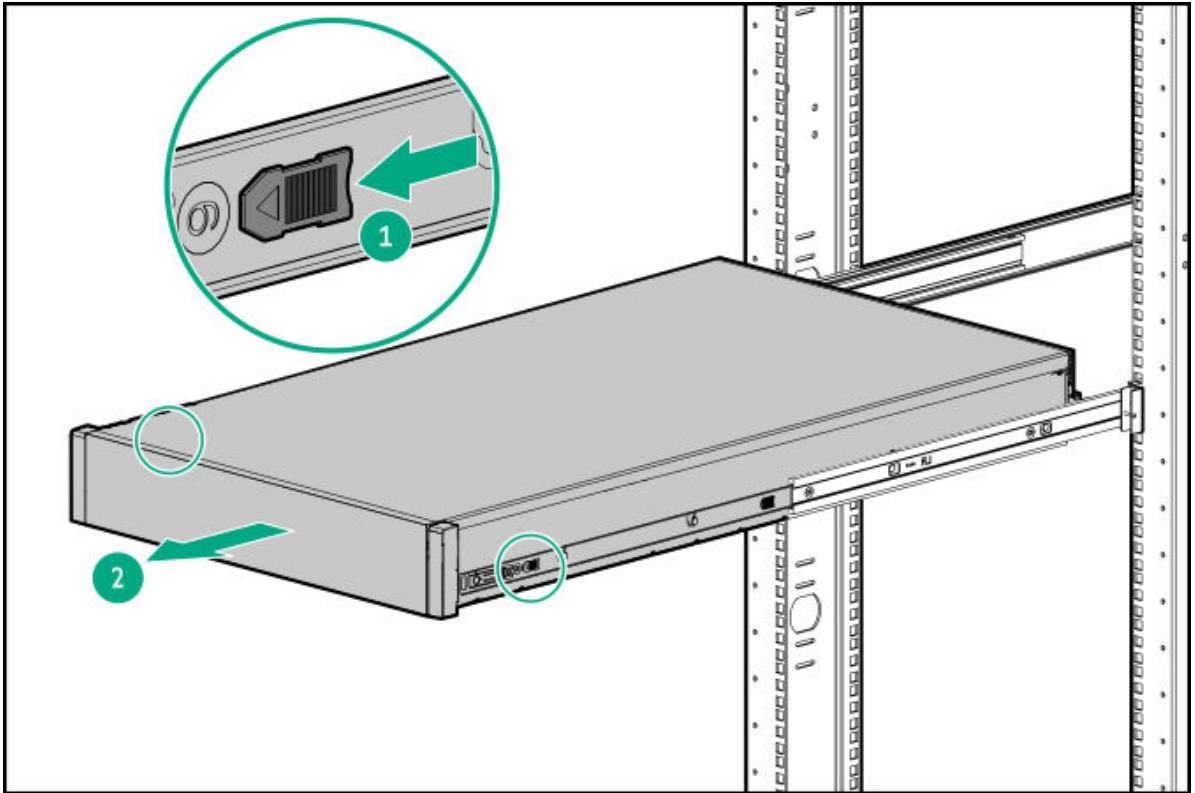
To reduce the risk of personal injury, be careful when pressing the server rail-release latches. The inner rails could pinch your fingers.

- a. Press and hold the rail-release latches.
- b. Slide the server out of the rack until it is fully extended.

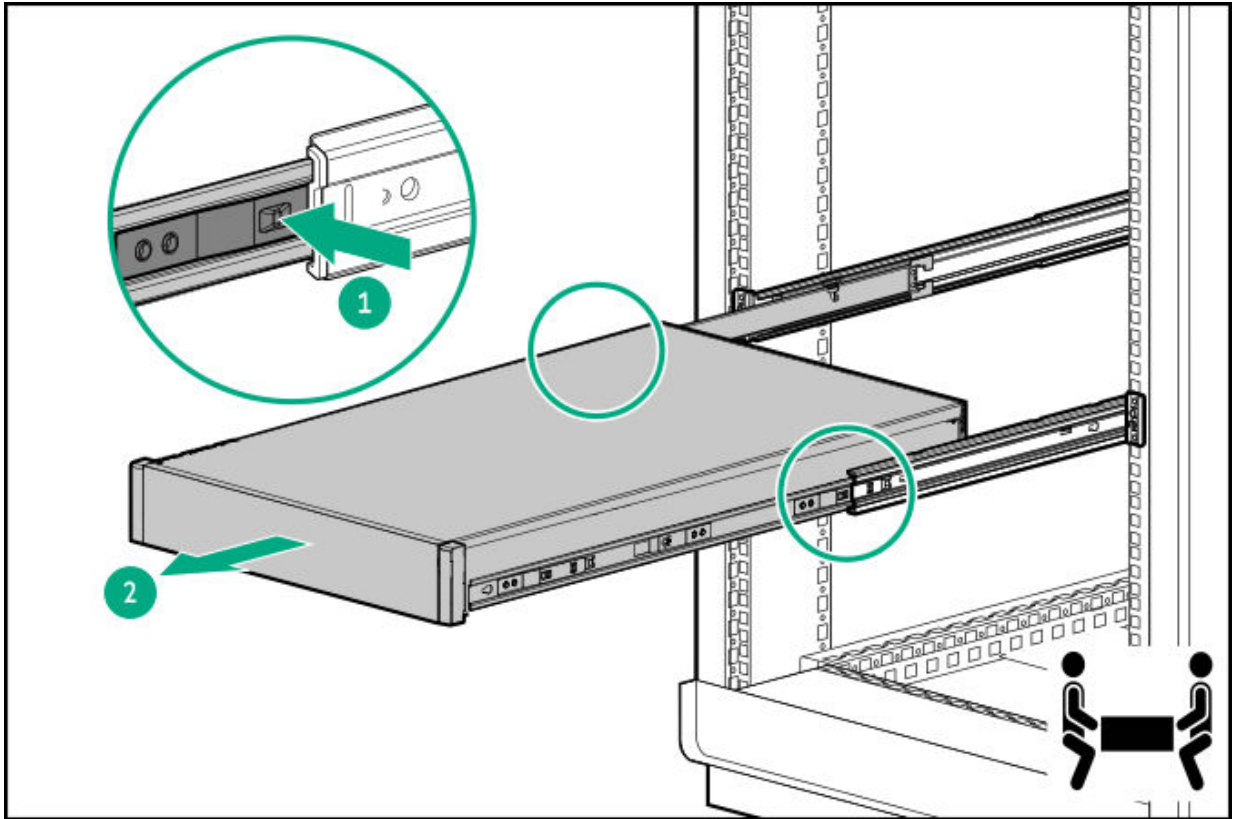
- Friction rack rail



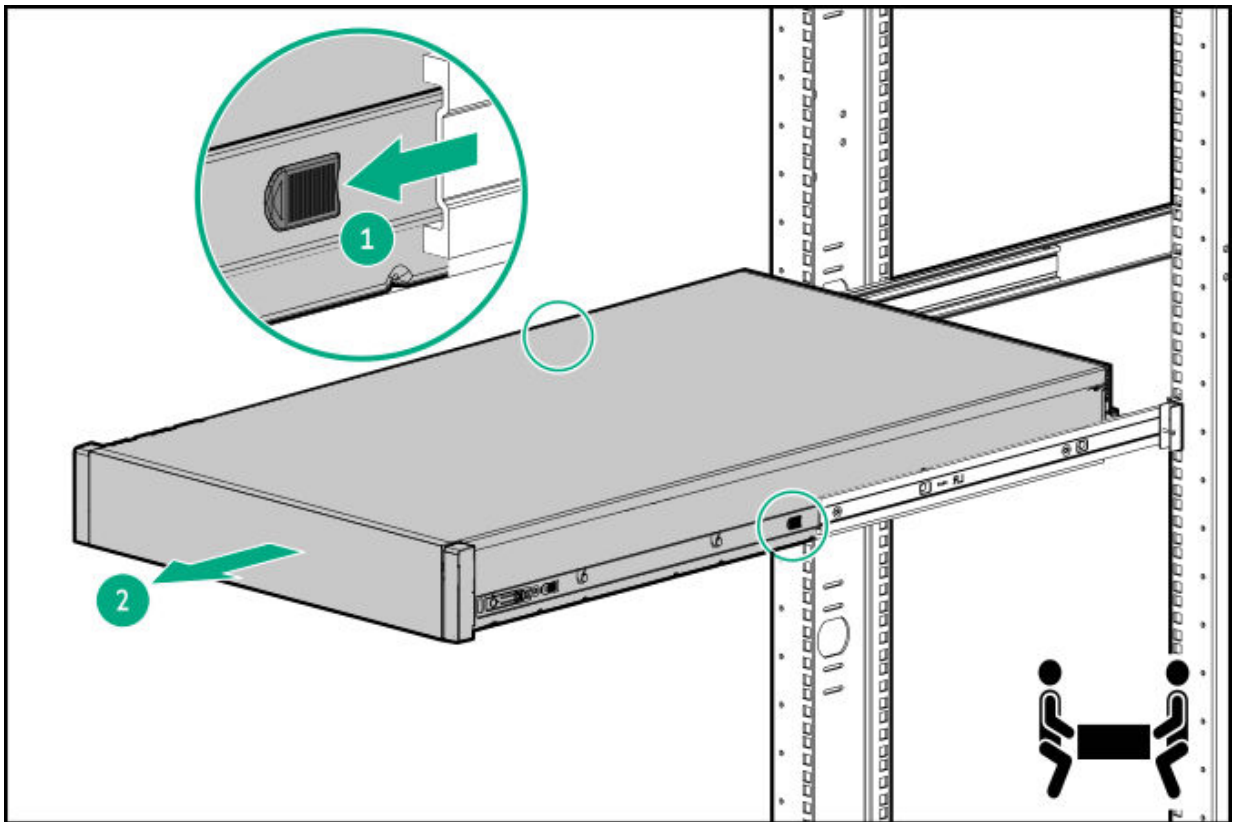
- Ball-bearing rack rail



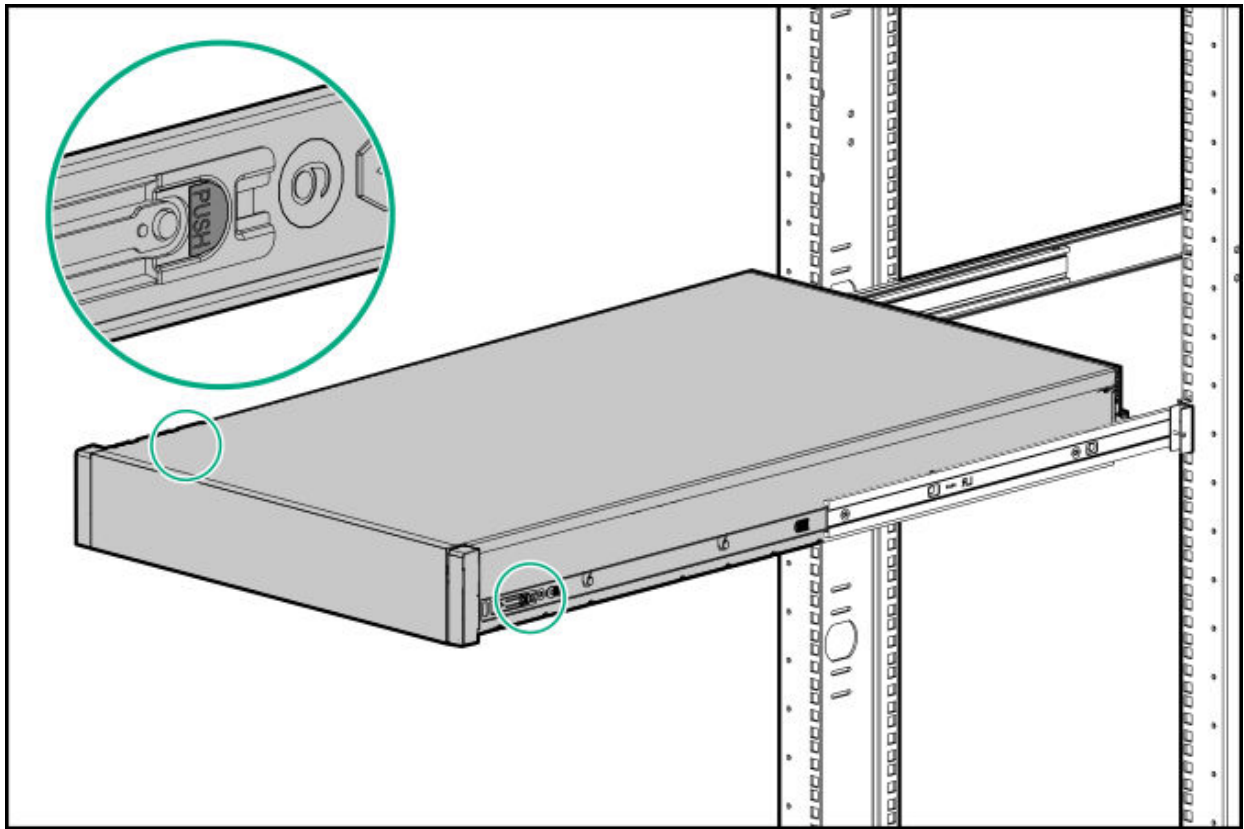
6. To remove the server from the friction / ball-bearing rack rail:
  - a. Press and hold the rear-end server-release latches.
  - b. Slide the server completely out of the rack.
    - Friction rack rail



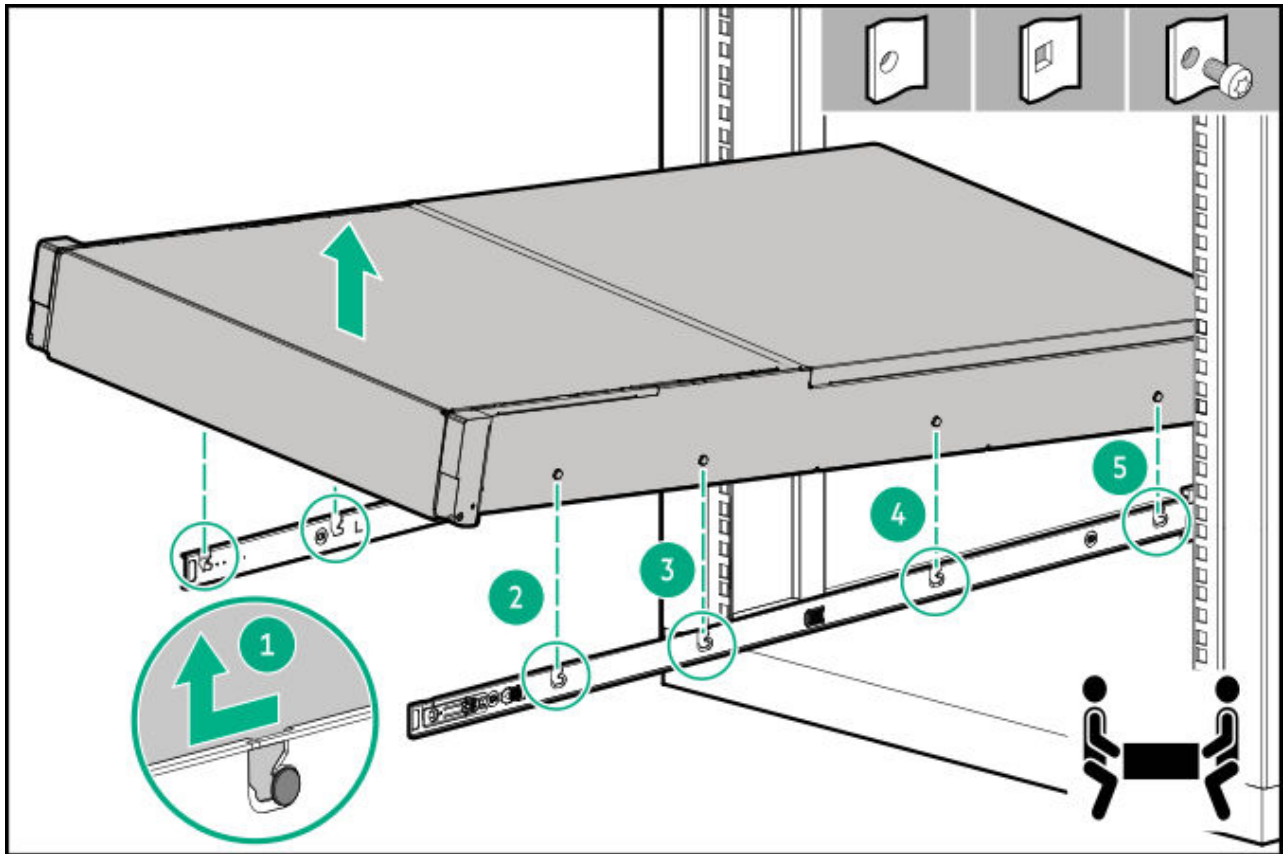
- Ball-bearing rack rail



7. To remove the server from the ball-bearing rack rail:
  - a. Press and hold the server-release latches.



- b. Slide the server to disengage from the notches on the sliding rails.
  - c. Lift the server from the rack rail.



8. Place the server on a flat, level work surface.

## Remove the access panel

### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

## About this task



### WARNING

To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.



### CAUTION

To prevent damage to electrical components, properly ground the server before beginning any installation, removal, or replacement procedure. Improper grounding can cause electrostatic discharge.



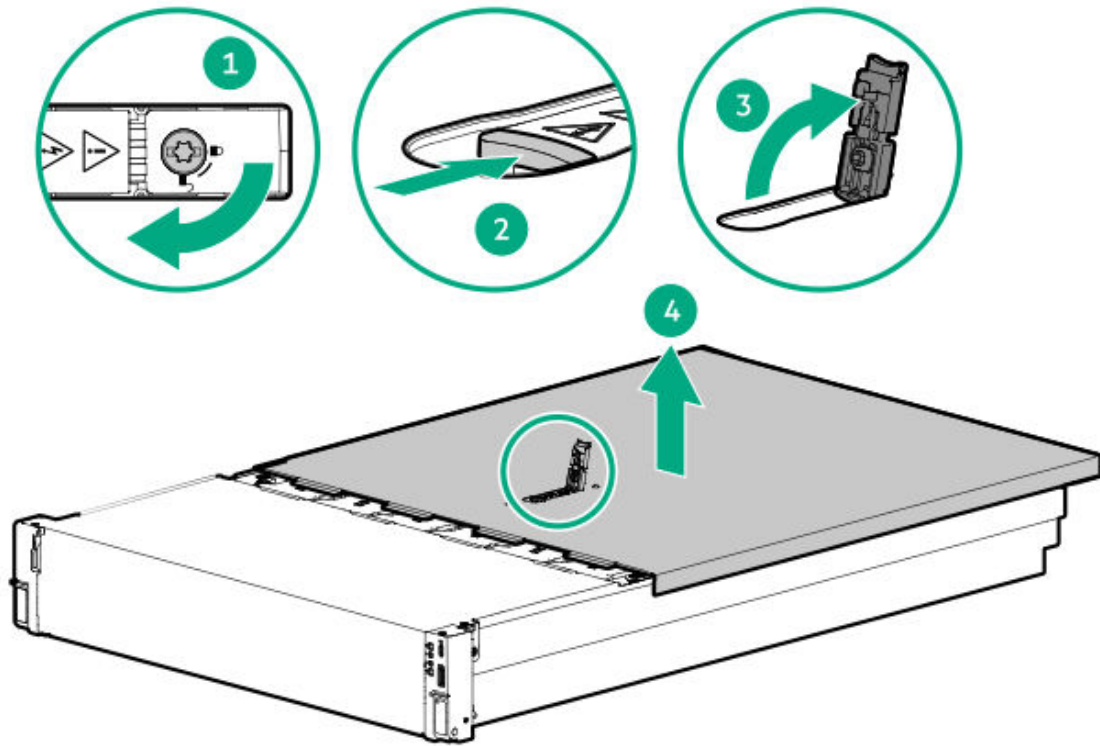
### CAUTION

To maintain proper system cooling, do not operate the server for long period with the access panel open or removed. Operating the server in this manner results in an improper system airflow. For internal hot-plug component procedures, complete the procedure within 60 seconds. Failure to do so can cause the system temperature to increase and trip the safety threshold. When this happens:

- The health LED flashes amber.
- The operating system gracefully shuts down.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel:
  - a. If necessary, unlock the access panel latch.
  - b. To disengage the access panel from the chassis, press the release button and pull up the latch.
  - c. Lift the access panel.



## Remove the air baffle

### About this task

[https://sketchfab.com/models/418fc3a8f6564e4b843617bec977fa32/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/418fc3a8f6564e4b843617bec977fa32/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)



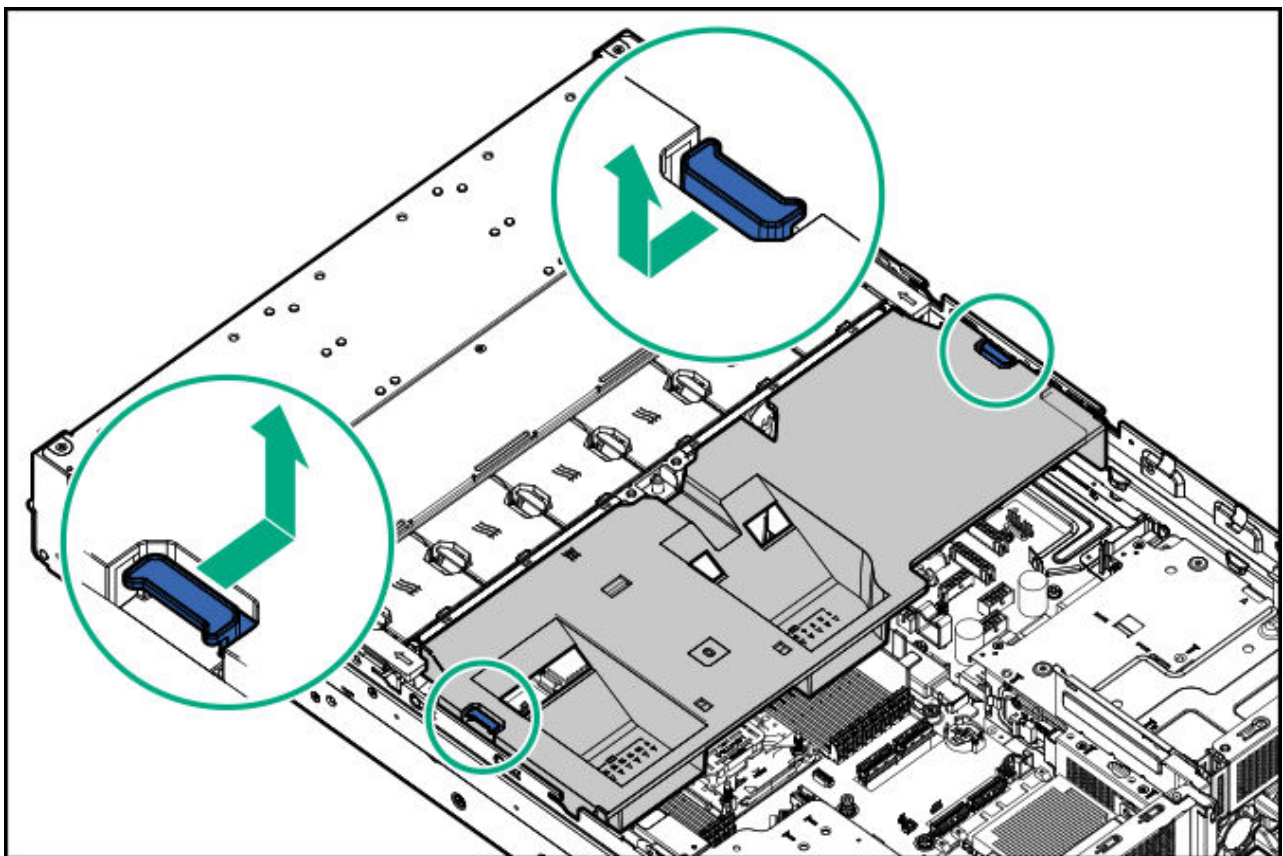
### CAUTION

For proper cooling, do not operate the server without the access panel, baffles, expansion slot covers, or blanks installed. If the server supports hot-plug components, minimize the amount of time the access panel is open.

### Procedure

1. Power down the server.
2. Remove all power:

- a. Disconnect each power cord from the power source.
- b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Press and hold the latches, and then lift the air baffle.

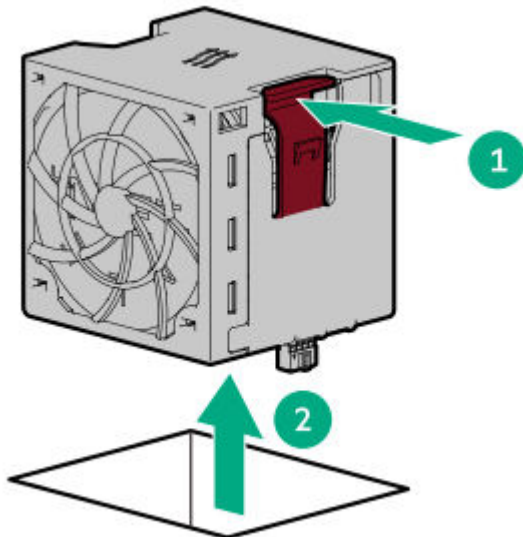


## Remove the fan cage

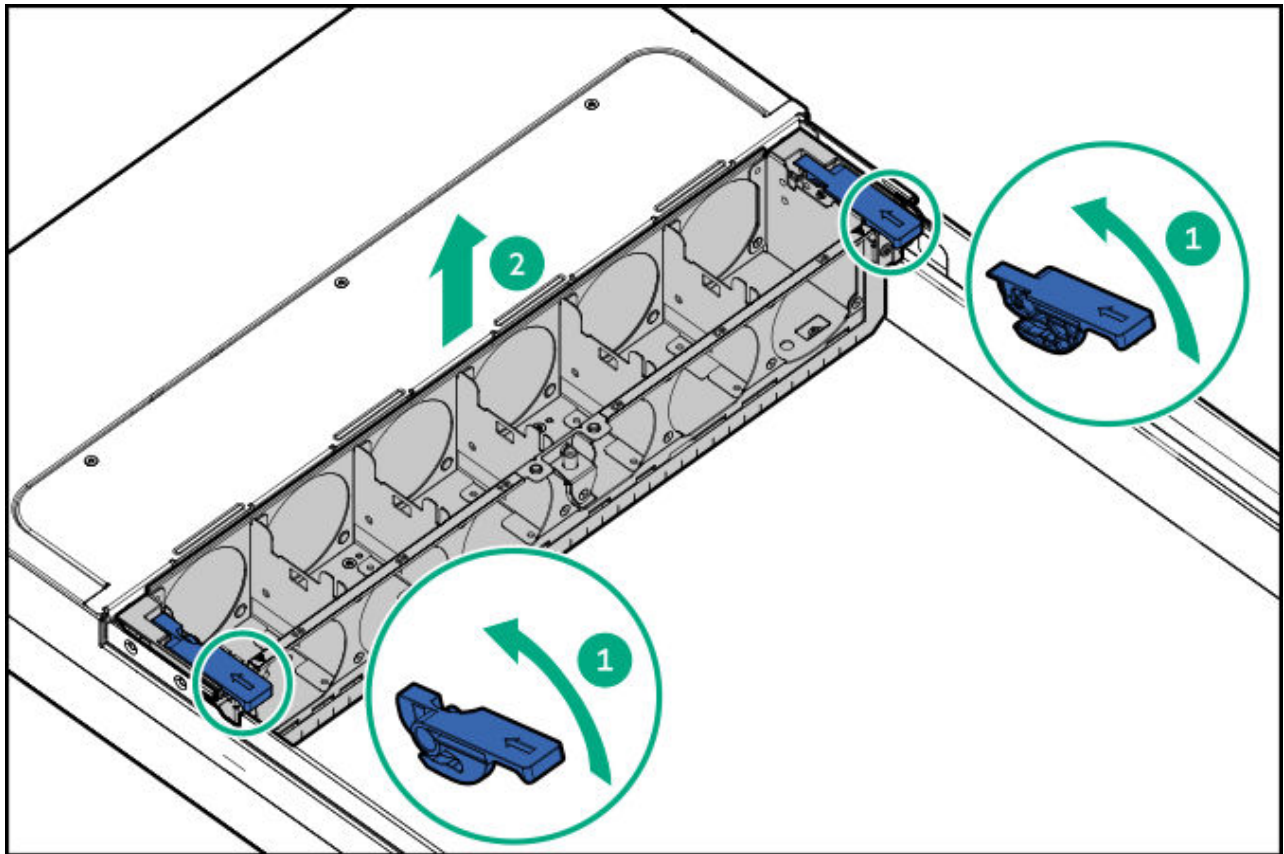
### Procedure

1. Power down the server.

2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Remove all fans.



8. Open the fan cage latches, and then lift the fan cage from the server.



## Remove the midwall bracket

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.

- Remove the server from the rack.

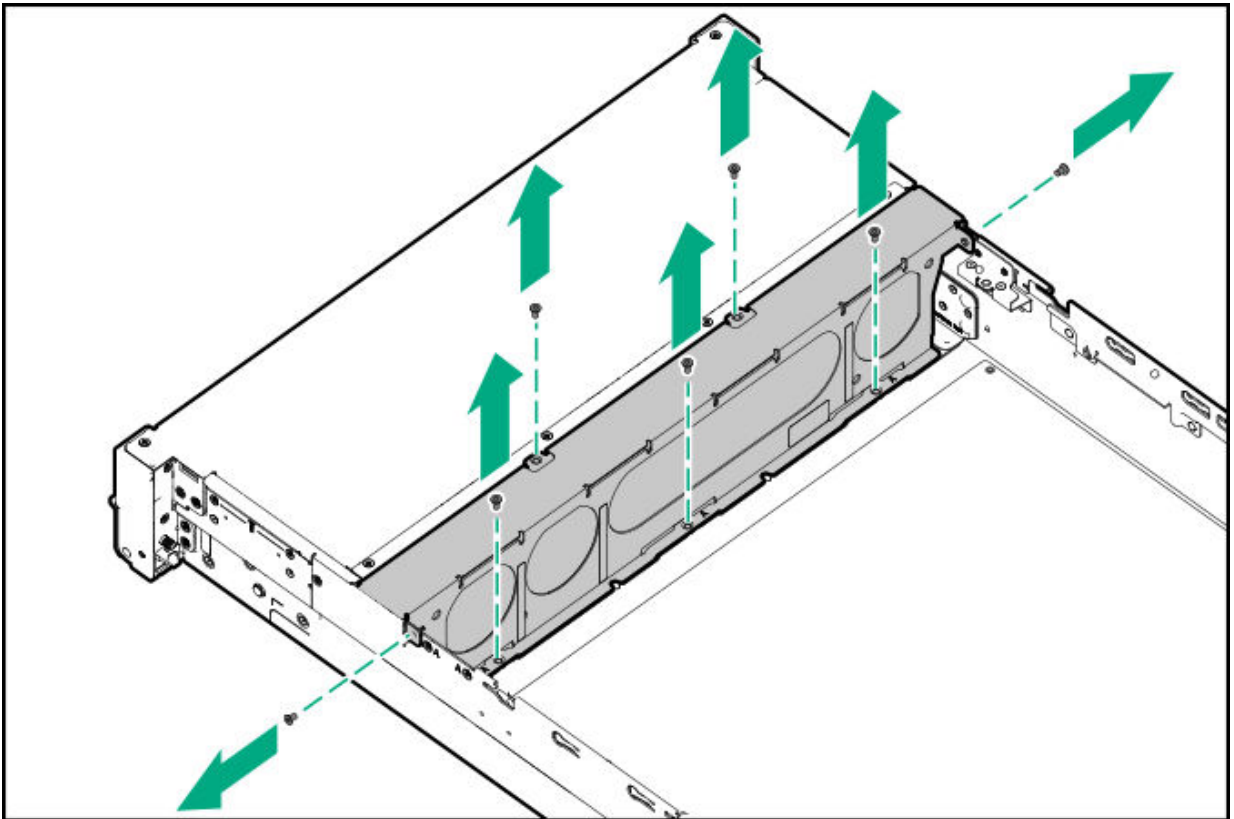
5. Remove the access panel.

6. Remove the air baffle.

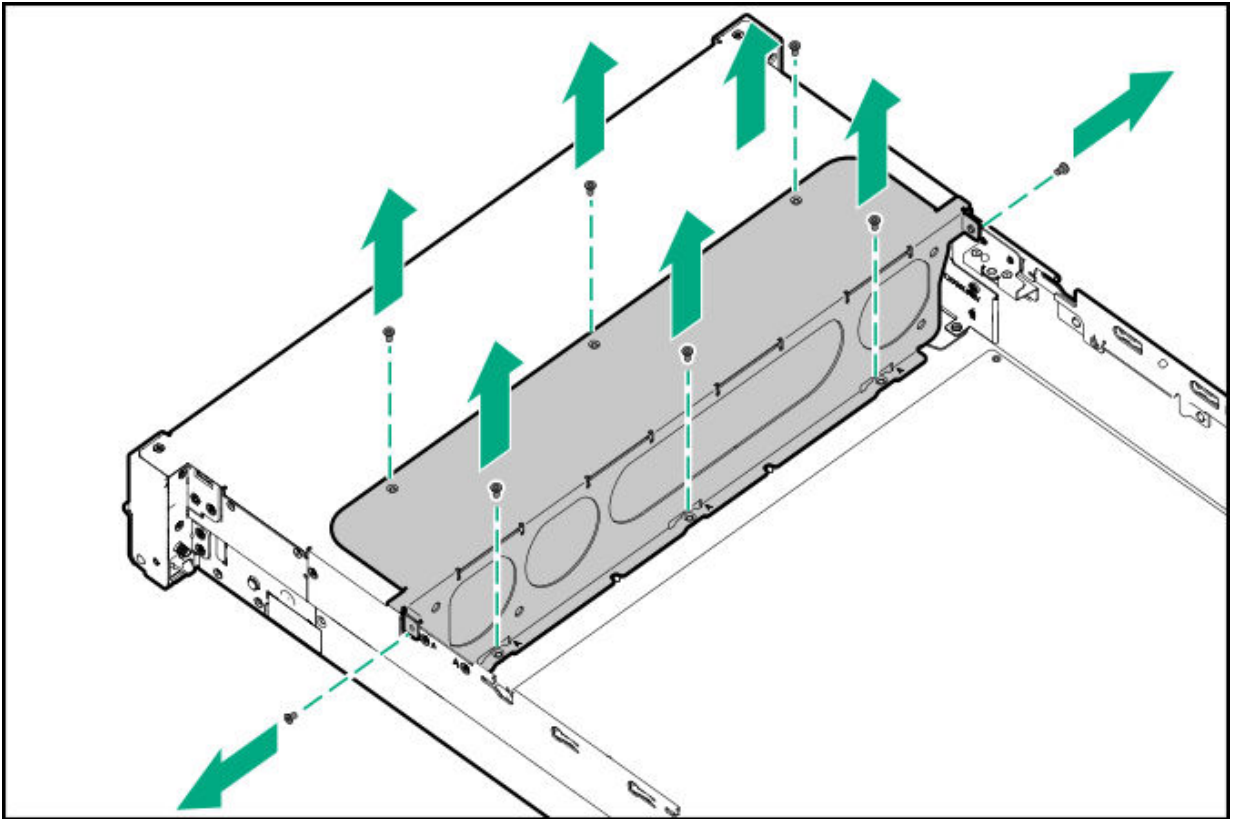
7. Remove the fan cage.

8. Remove the midwall bracket screws.

- LFF chassis

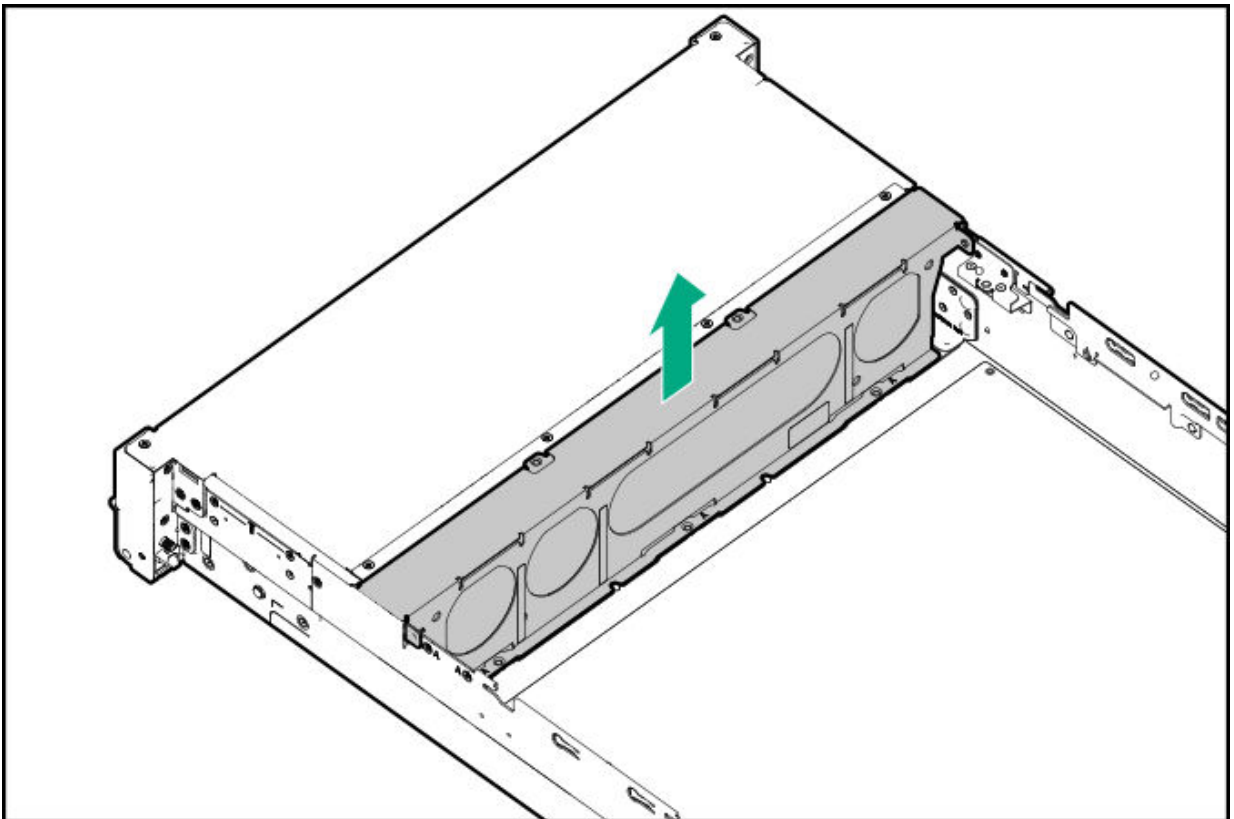


- SFF chassis

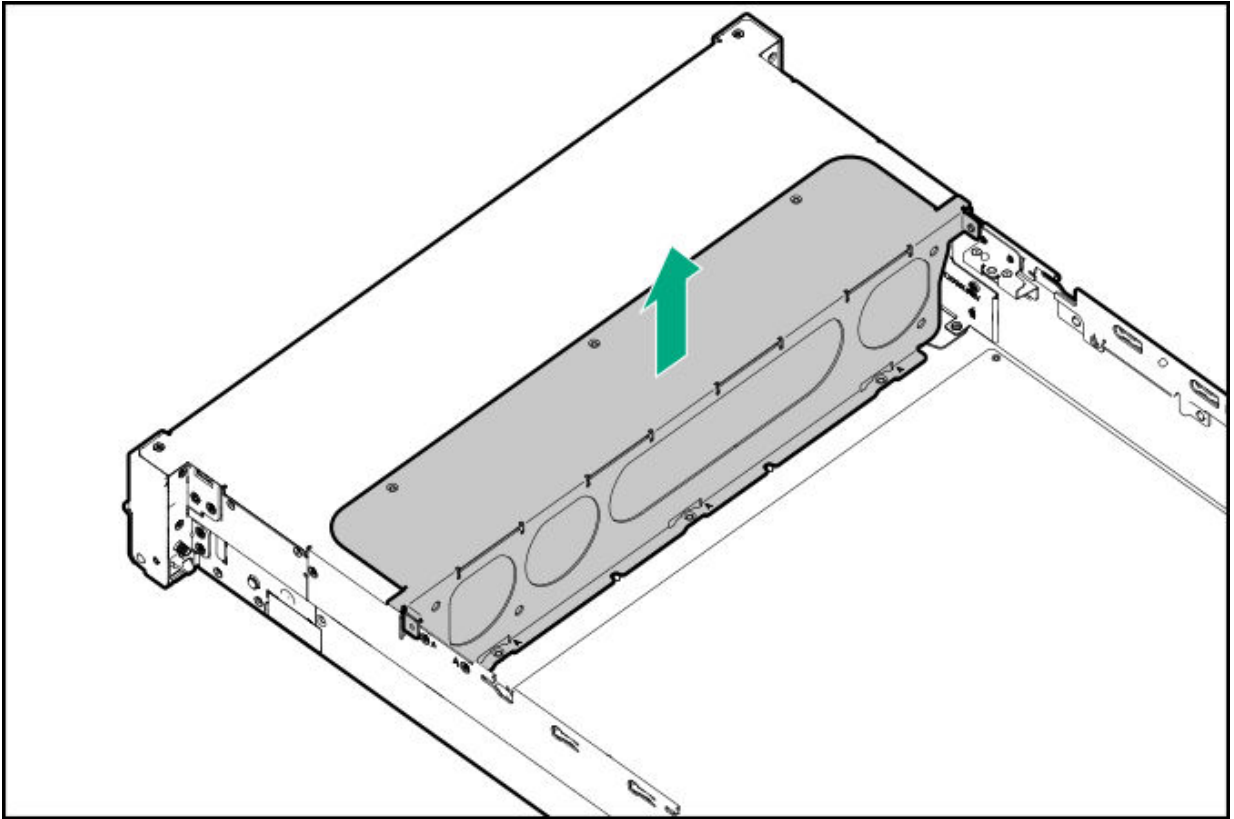


9. Lift the midwall bracket away from the chassis.

- LFF chassis



- SFF chassis



## Remove the LFF drive backplane bracket

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### About this task

The drive backplane bracket is only present in LFF drive configurations.

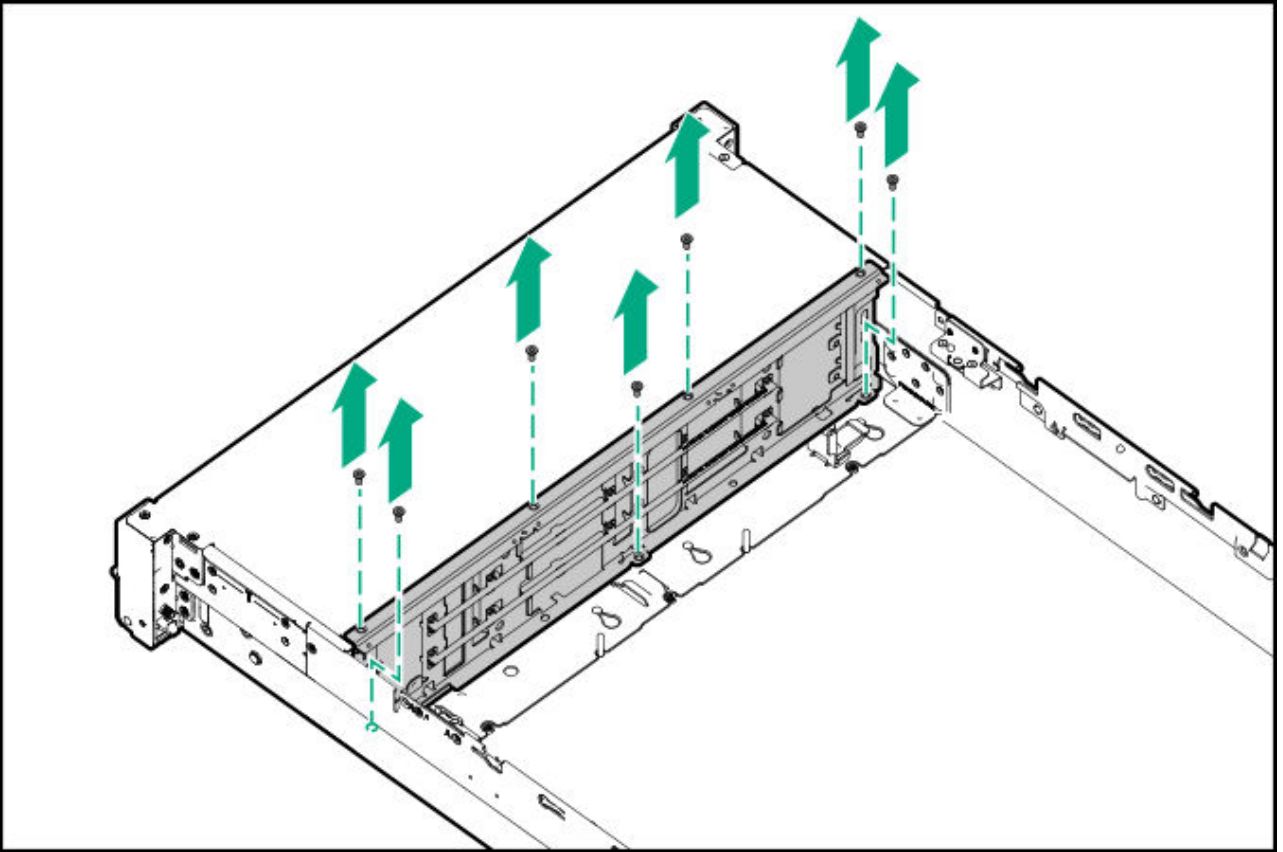


#### CAUTION

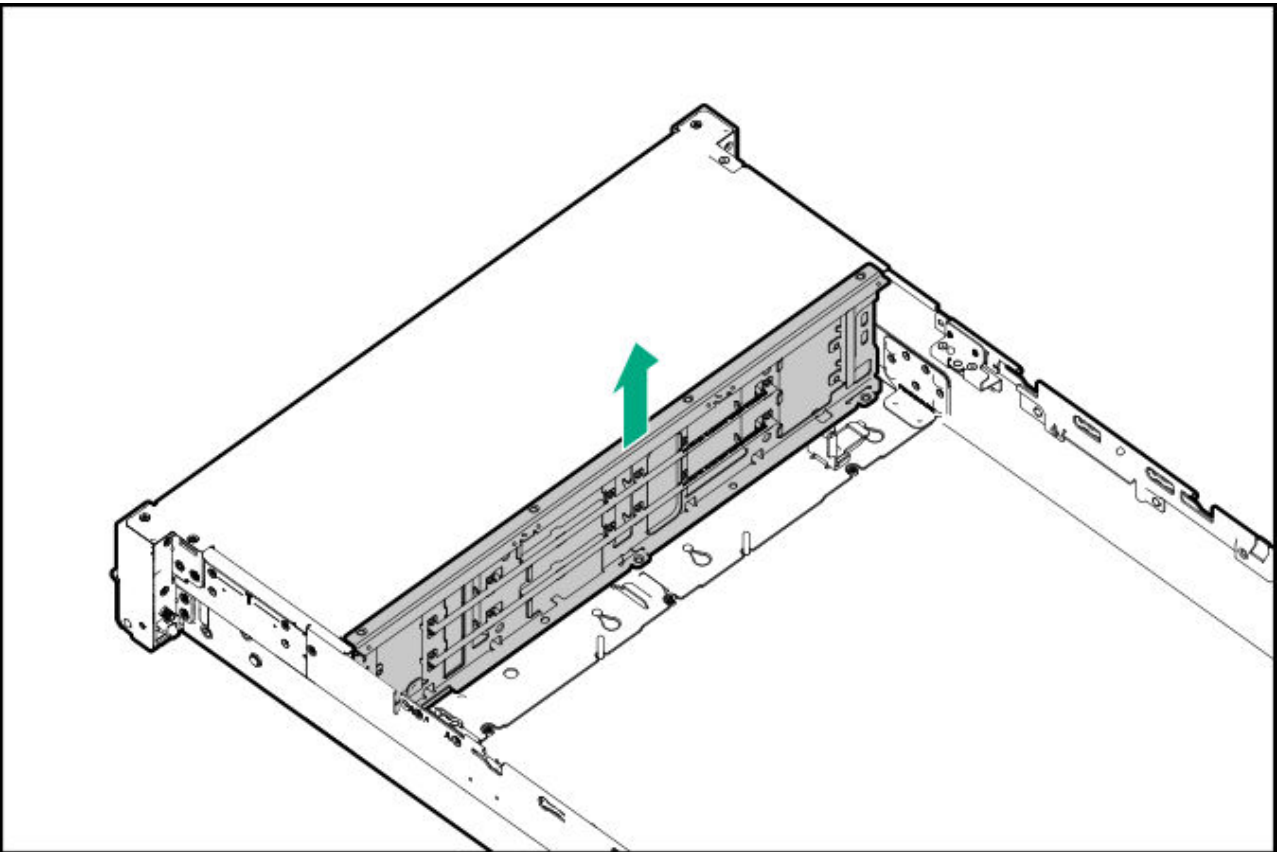
To prevent damage to electrical components, properly ground the server before beginning any installation, removal, or replacement procedure. Improper grounding can cause electrostatic discharge.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Remove the fan cage.
8. Remove the midwall bracket.
9. Disconnect all cables from the drive backplanes.
10. Remove the drive backplane bracket screws.



.1. Remove the drive backplane bracket from the server.



# Remove the middle cover

## About this task



### CAUTION

To prevent damage to electrical components, properly ground the server before beginning any installation, removal, or replacement procedure. Improper grounding can cause electrostatic discharge.

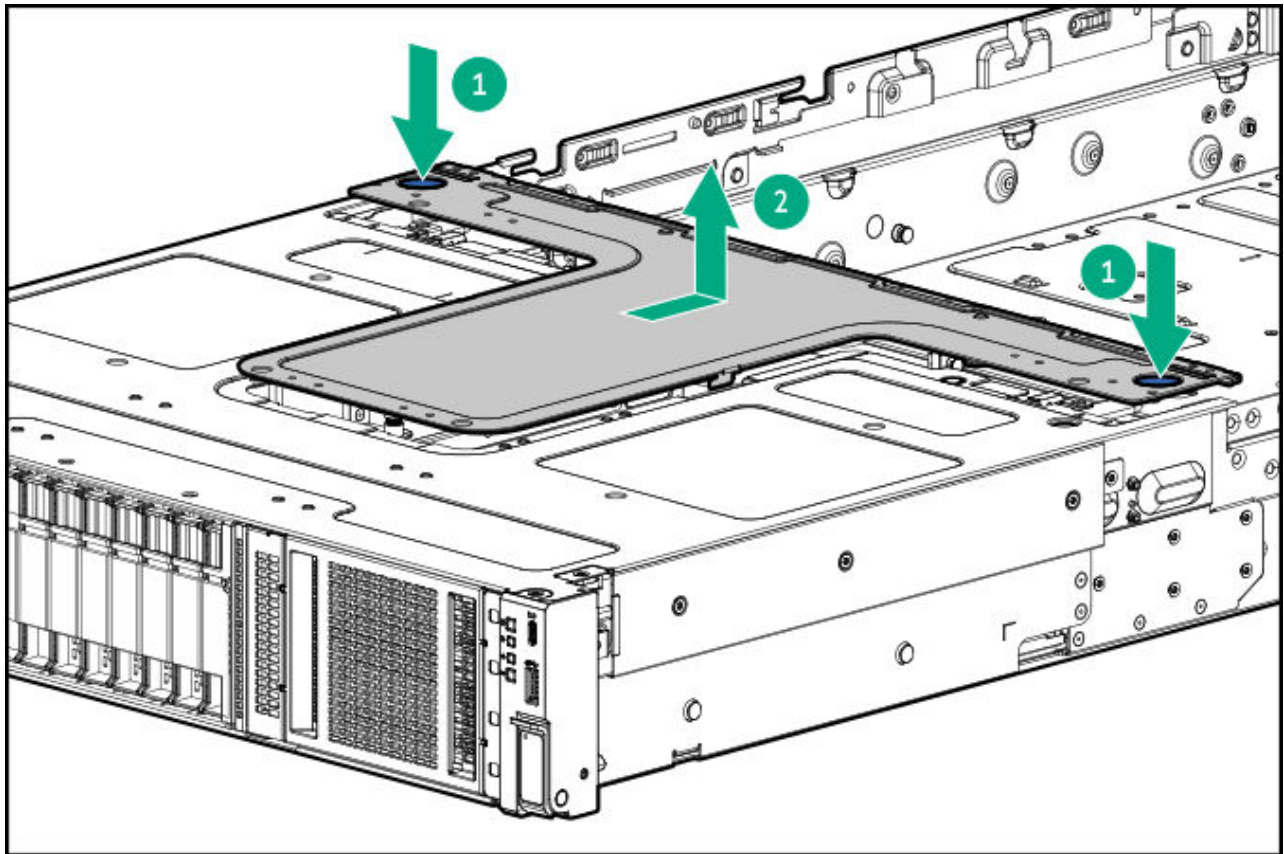


### CAUTION

For proper cooling, do not operate the server without the access panel, baffles, expansion slot covers, or blanks installed.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Remove the fan cage.
8. Remove the middle cover.



## Remove the riser cage

### About this task

[https://sketchfab.com/models/1657ac68f7044eca94f1b1b5837f95b6/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/1657ac68f7044eca94f1b1b5837f95b6/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)



#### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

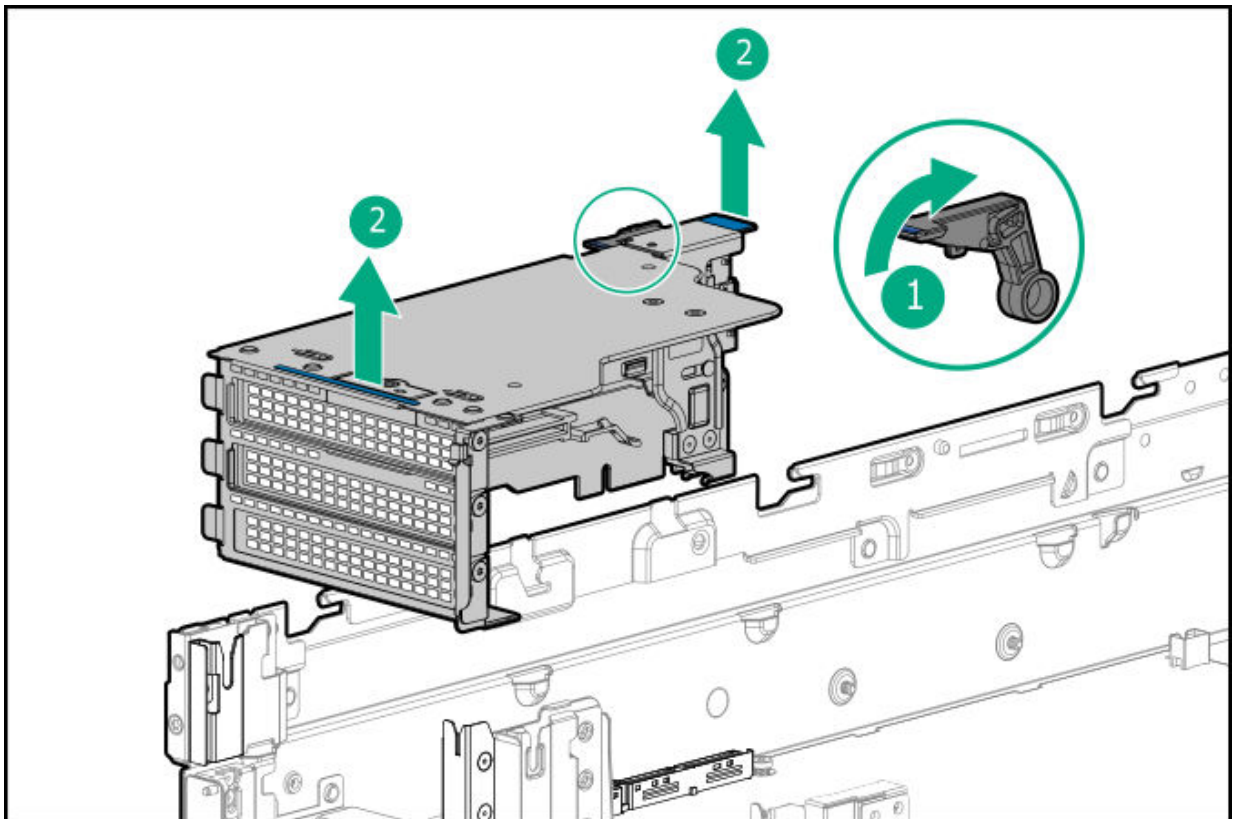


#### CAUTION

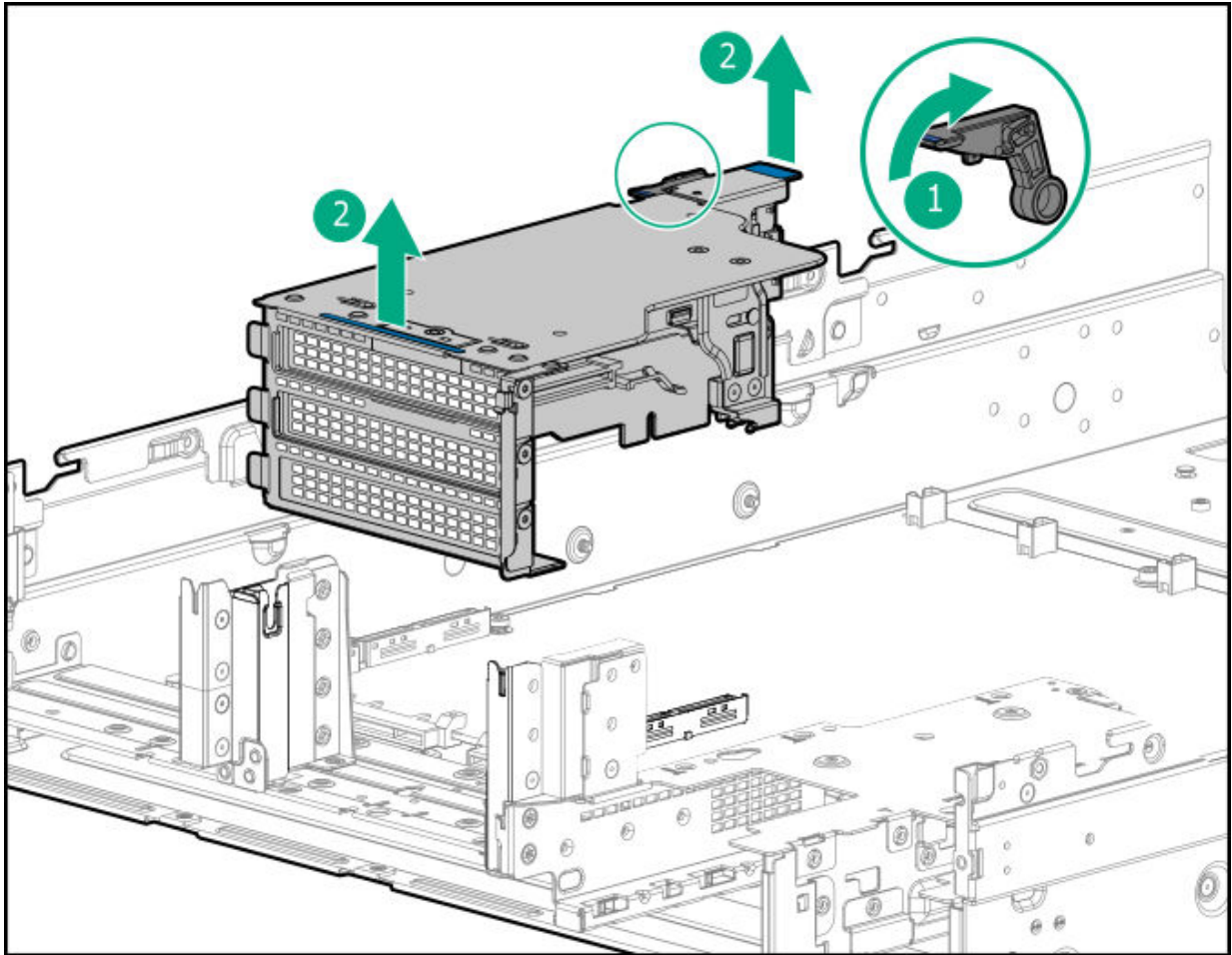
To prevent improper cooling and thermal damage, do not operate the server unless either riser blank or riser cage is installed.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. If an expansion card with internal cables is installed on the riser, disconnect the cables from the card.
8. Open the latch, and then lift the riser cage.
  - Primary riser cage



- Secondary riser cage



## Remove the secondary riser cage blank

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### About this task



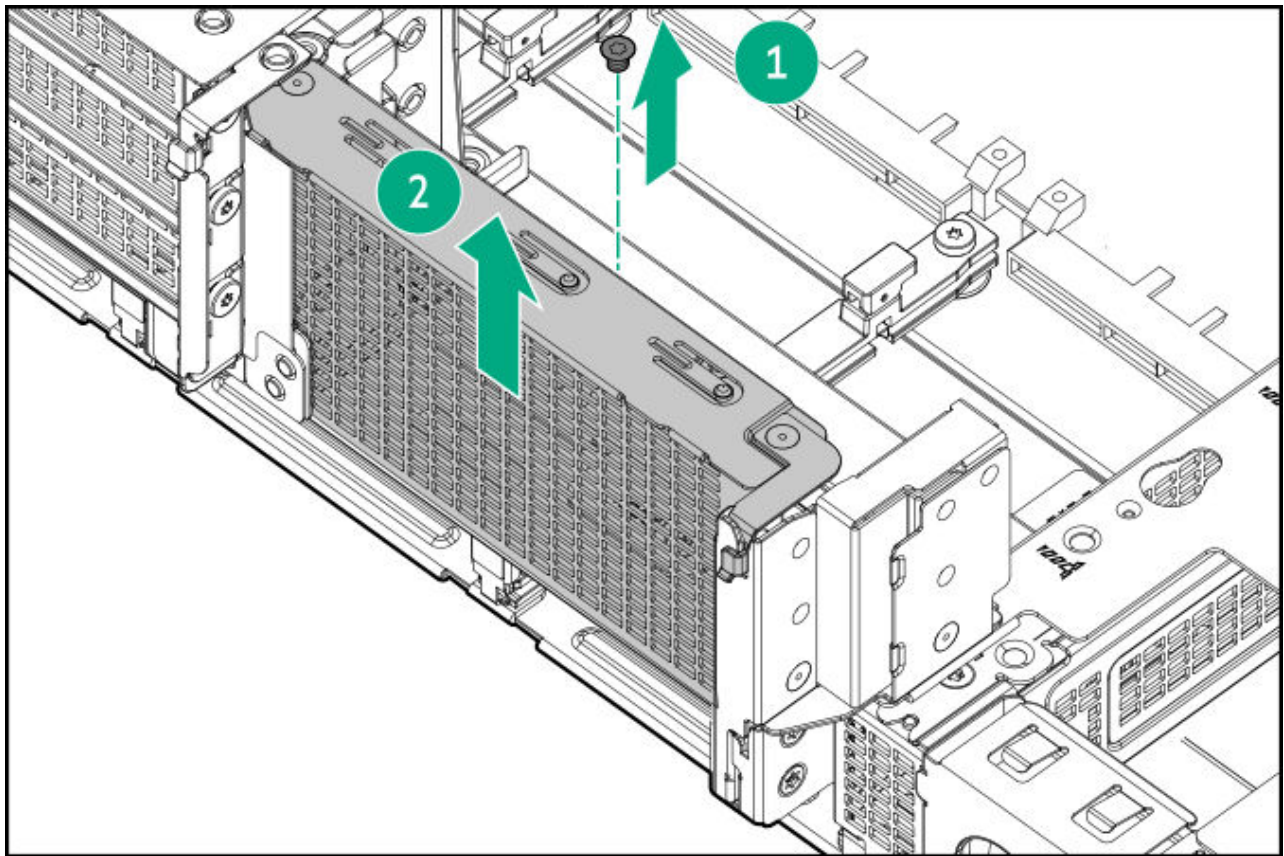
#### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless either riser blank or riser cage is installed.

### Procedure

1. [Power down the server.](#)

2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the secondary riser cage blank.



# Remove the rear boot device holder

## Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

## About this task

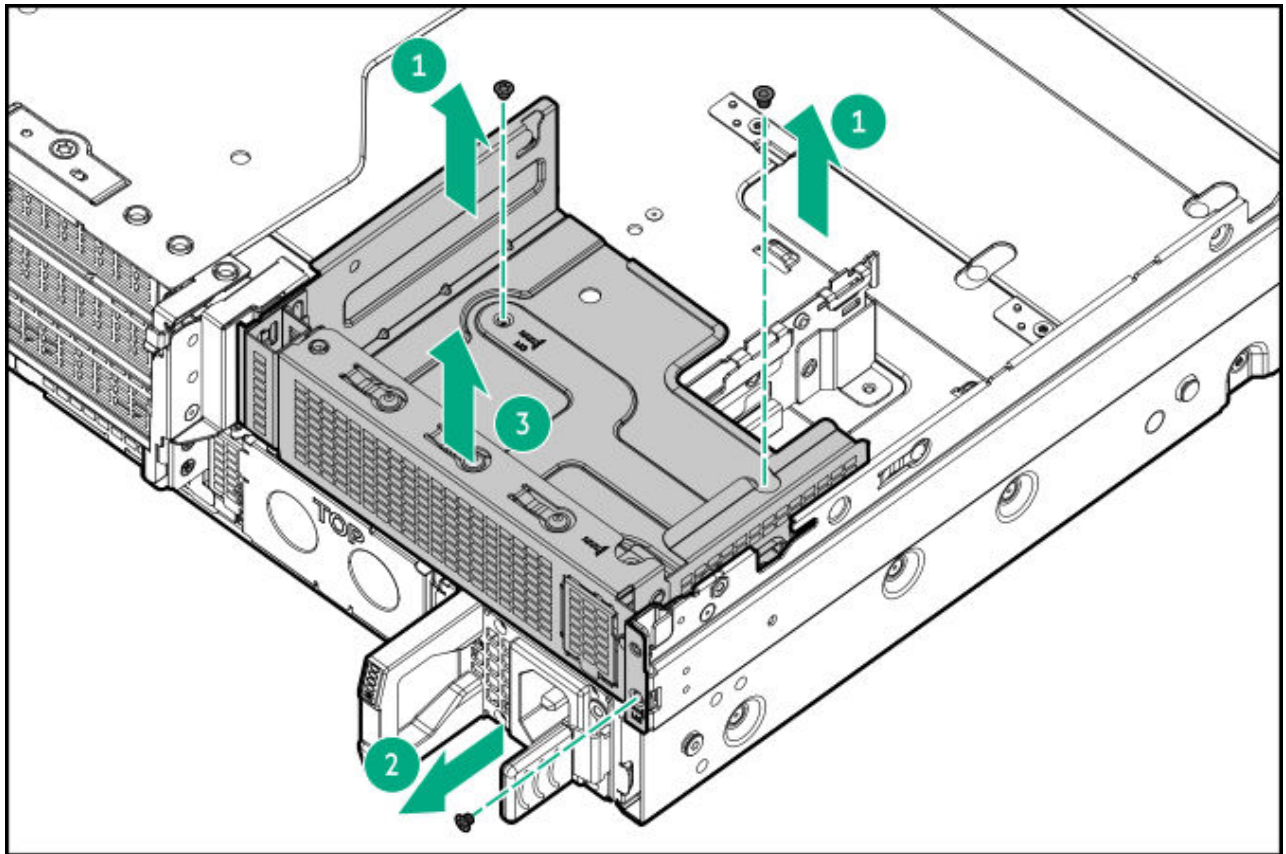


### WARNING

To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the rear boot device holder.



## Connect the DLC extension hose

### Prerequisites

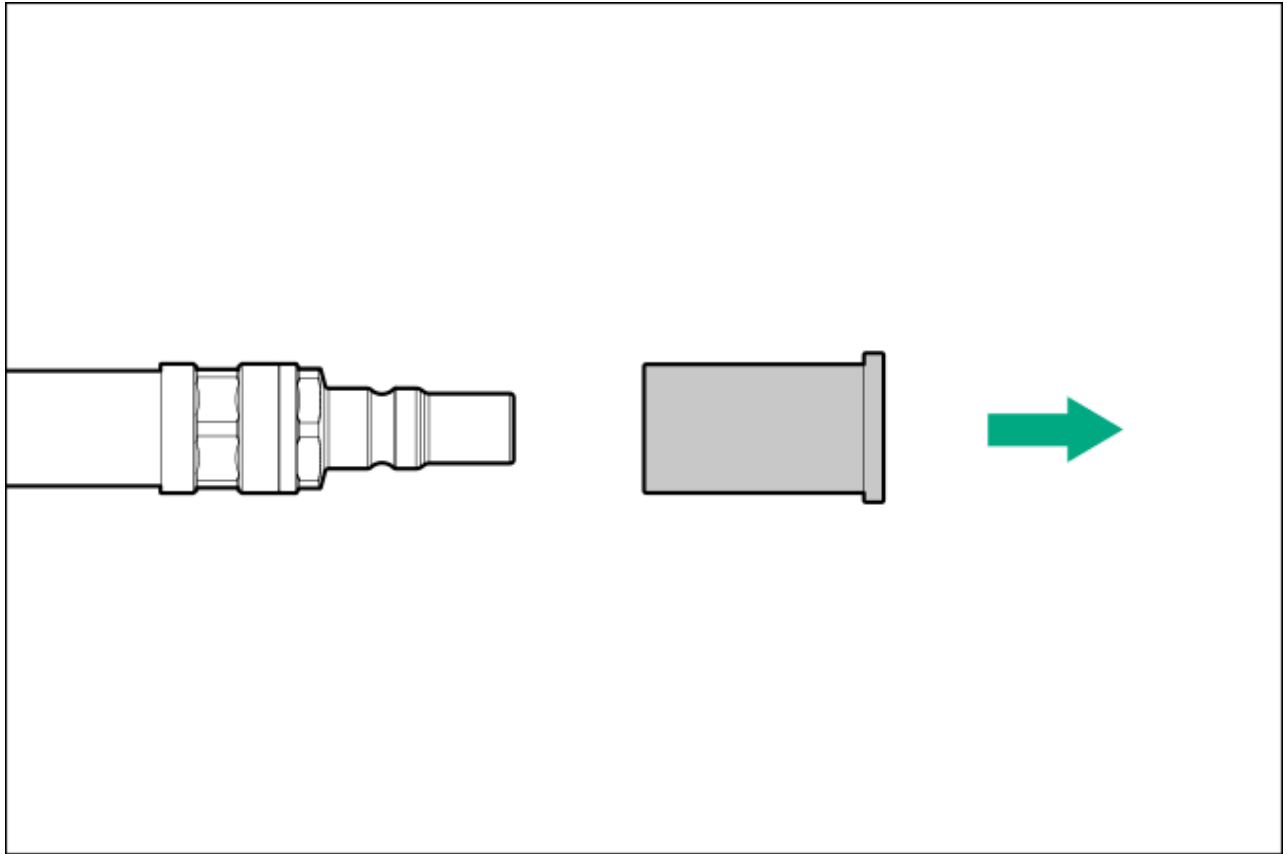
- Review the [Direct liquid cooling module components](#).
- Make sure that the DLC extension hose set (P62038-B21/P62046-B21) is installed on the manifold rack.

### About this task

For more information, see the HPE Cray XD Direct Liquid Cooling System Site Preparation, User, and Maintenance Guide at <https://www.hpe.com/info/xdDLCguide>.

### Procedure

1. [Locate the DLC module](#) from the rear of the server.
2. Remove the coolant quick connector caps.



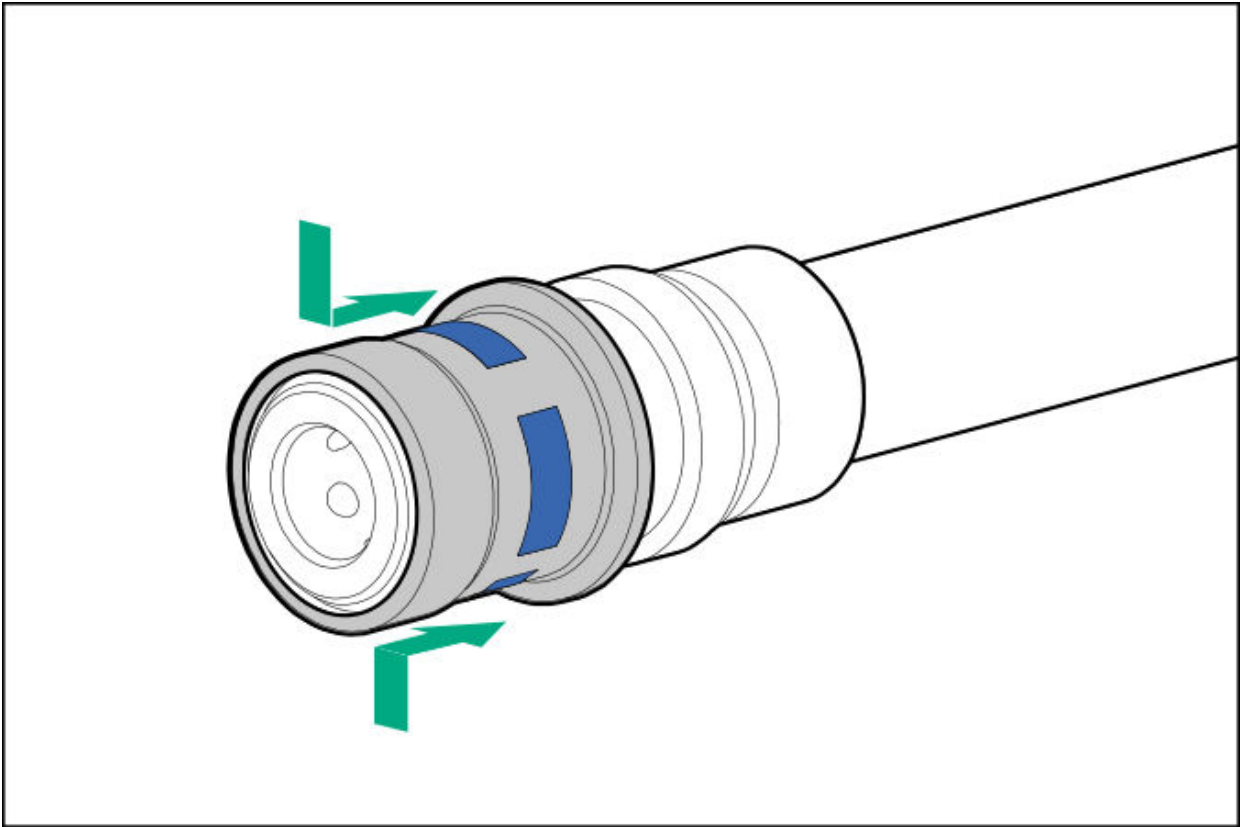
3. Connect the DLC module from the DLC manifold to the server:



**WARNING**

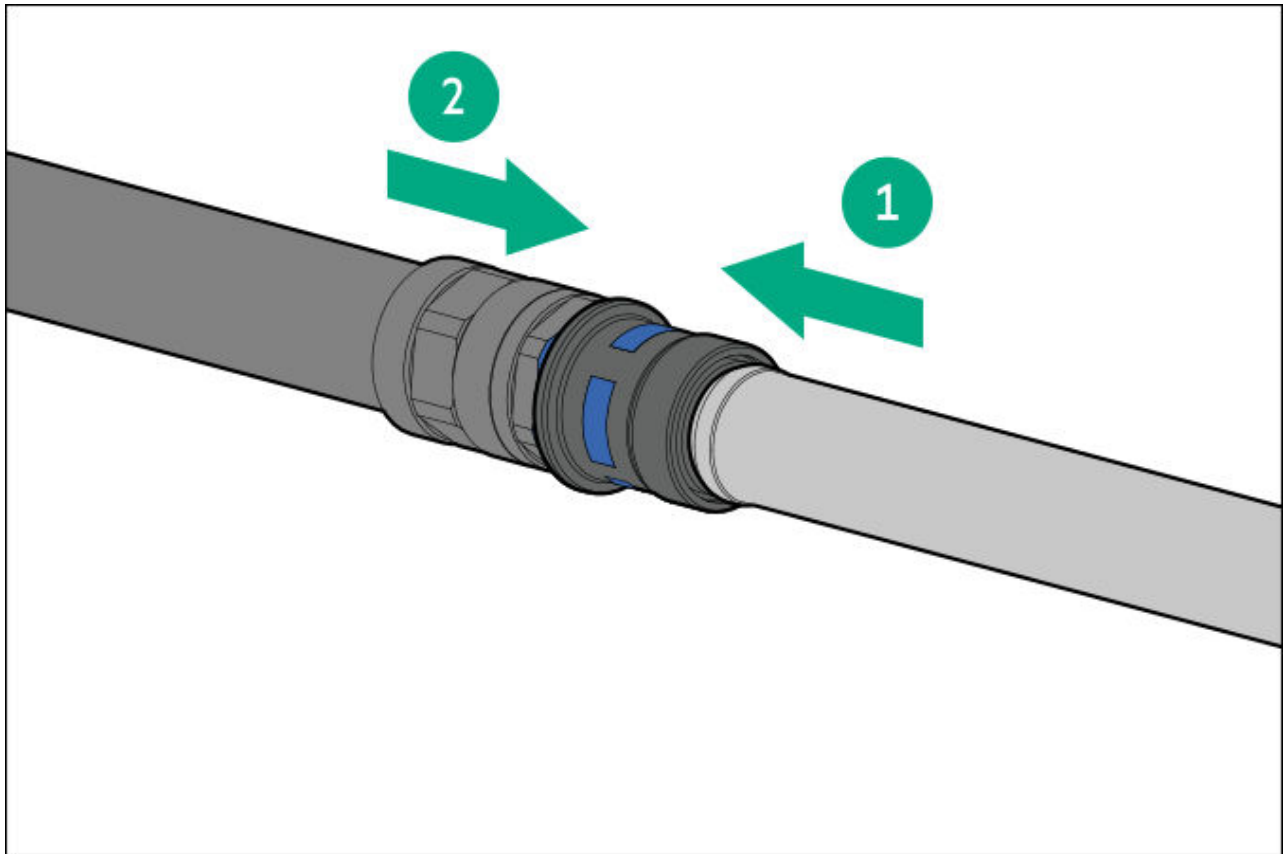
To prevent improper system cooling, connect each same-colored pair of coolant quick connectors and extension hoses.

- a. Align the DLC extension hose quick socket connector to the DLC module coolant hose quick plug connector.
- b. Press and pull the DLC extension hose quick socket connector.



- c. Connect the DLC module coolant hose plug connector to the extension hose quick socket connector, and then release the quick socket connector.

A click sound indicates that the quick connectors are properly engaged.



## Power up the server

### Procedure

- Press the Power On/Standby button.
- Use the virtual power button through iLO 7.

## Removing and replacing the front bezel

### About this task

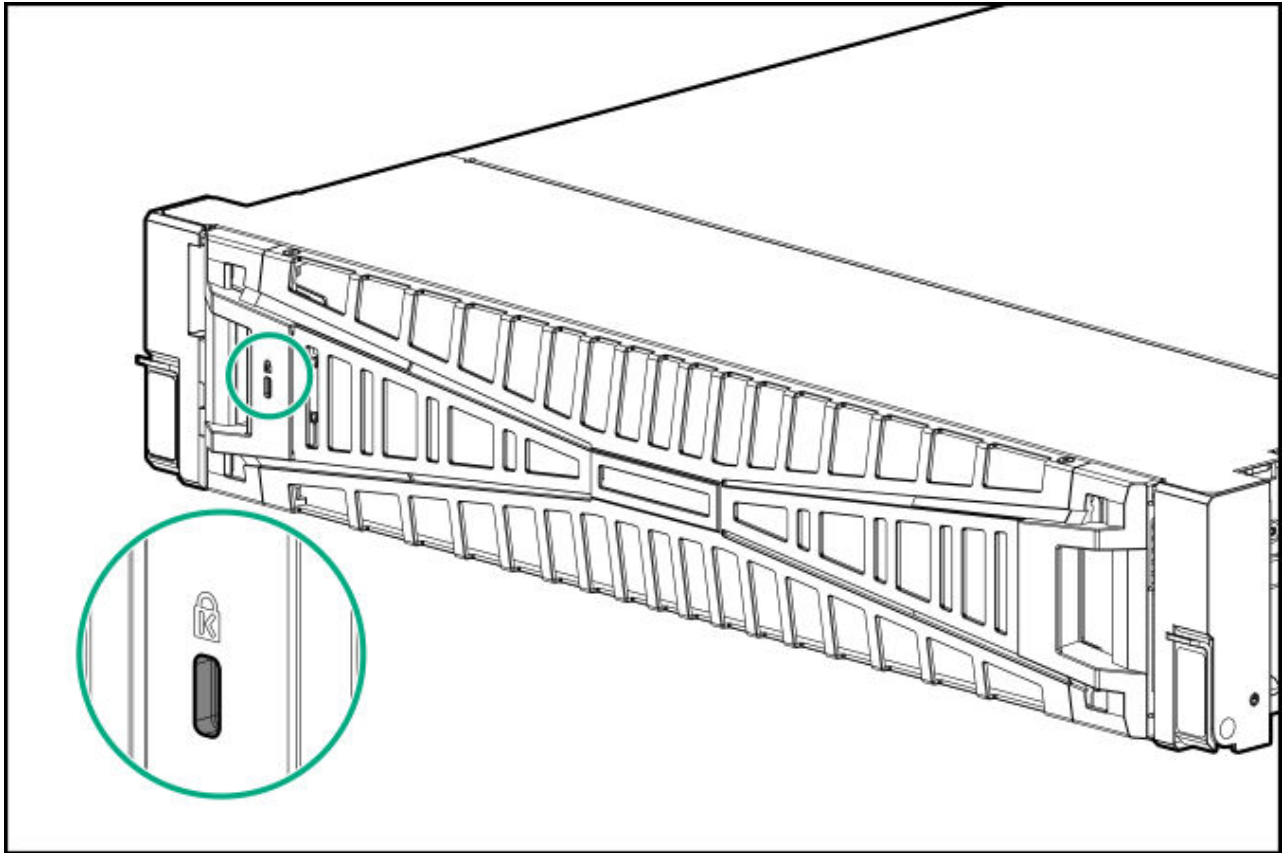
[https://sketchfab.com/models/fc1aefda737a47b090432b522bfbd247/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/fc1aefda737a47b090432b522bfbd247/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

If you are using the iLO virtual power button to power the server on/off, you do not need to remove the front bezel. Remove the front bezel only if you need to access the front panel components.

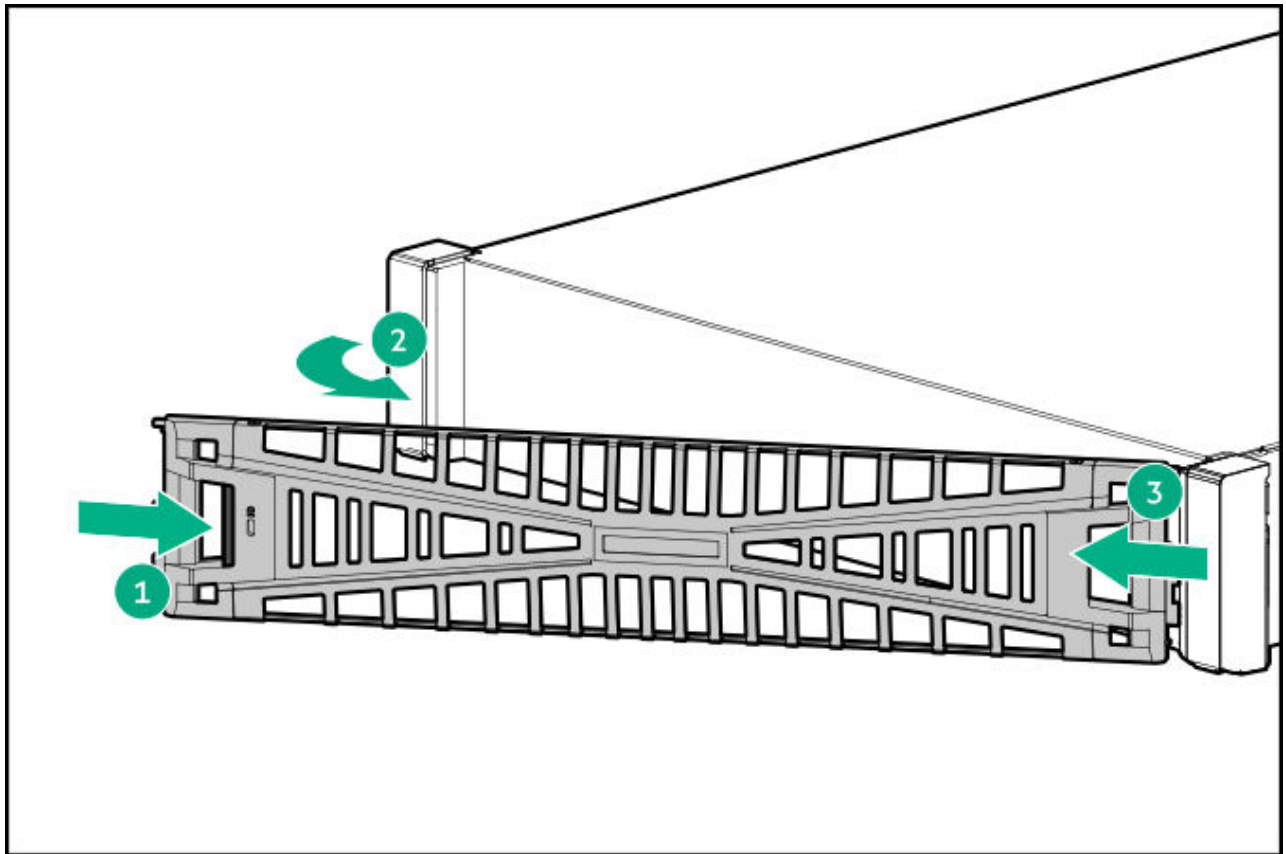
### Procedure

1. If installed, remove the Kensington security lock.

For more information, see the lock documentation.



2. Press the bezel release latch, and then pivot the bezel open.
3. Release the right side of the bezel from the front panel.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Chassis ears replacement

### Subtopics

[Removing and replacing the left chassis ear](#)

[Removing and replacing the right chassis ear](#)

## Removing and replacing the left chassis ear

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

## About this task

[https://sketchfab.com/models/3a300584001140e3a6cfe4a7c9cc0ce8/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/3a300584001140e3a6cfe4a7c9cc0ce8/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)



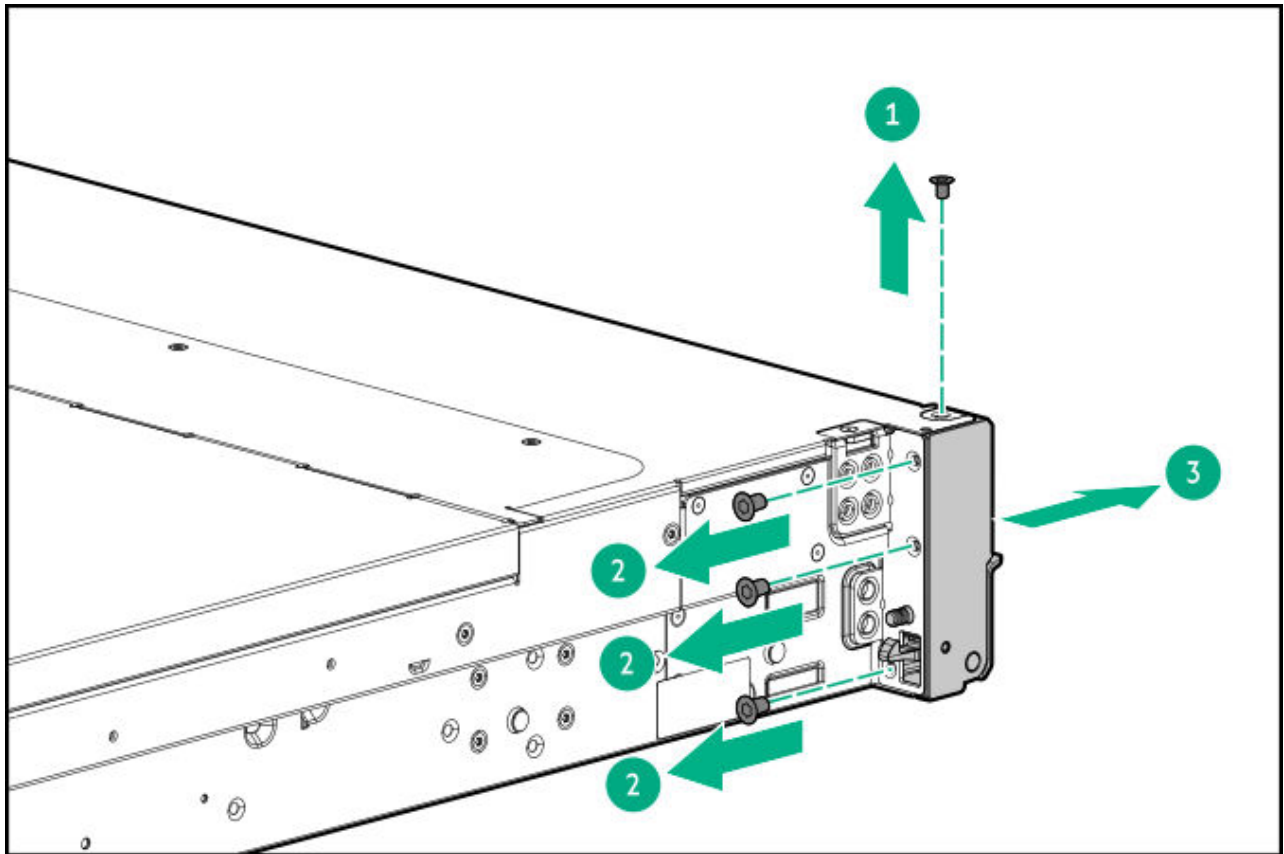
### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

## Procedure

1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the screws, and then detach the chassis ear.

Retain the screws. These screws will be used to install the new spare chassis ear.



### Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the right chassis ear

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### About this task

<https://sketchfab.com/models/e7eccc15a5134a58a8bf49679a4ab2e1/embed?>



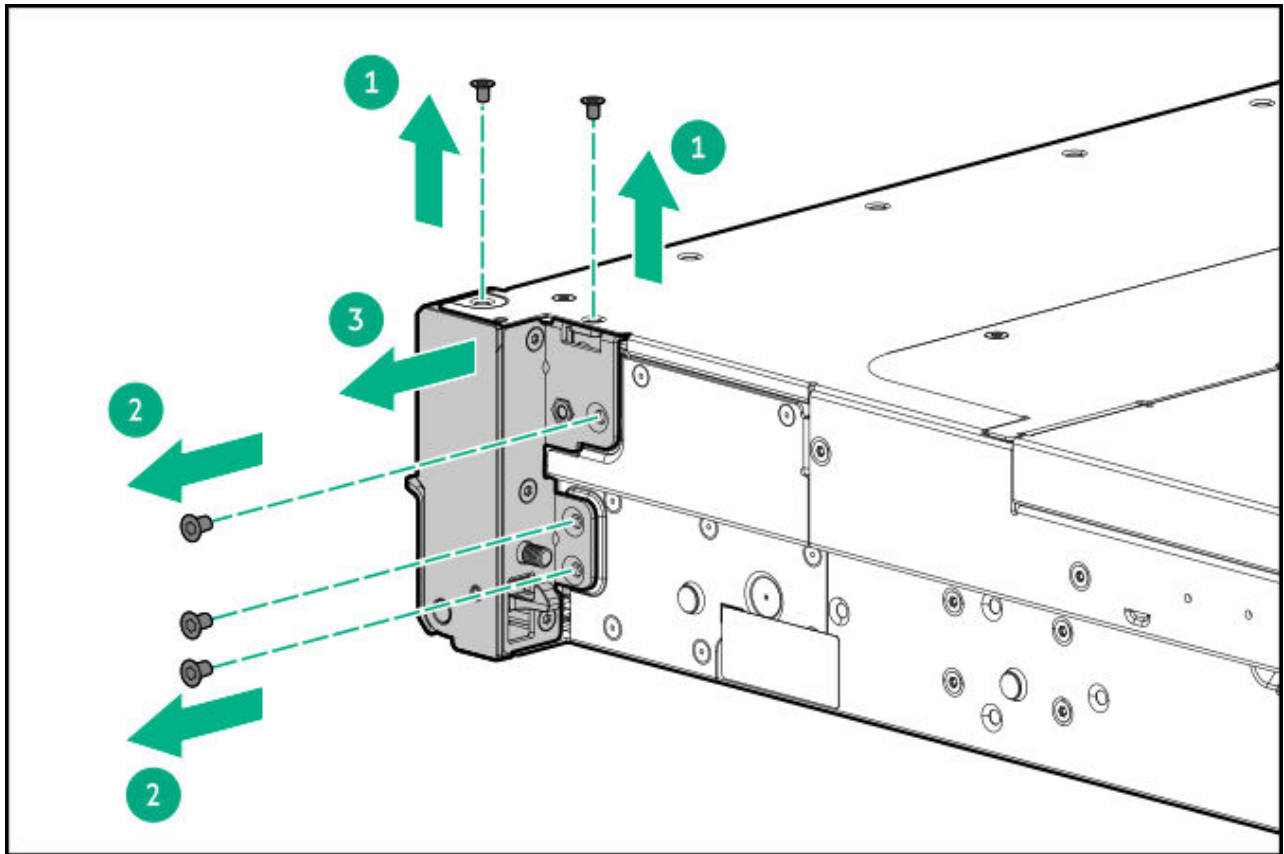
### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

## Procedure

1. If installed, [remove the front bezel](#).
2. [Power down the server](#).
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - [Extend the server out of the rack](#).
  - [Remove the server from the rack](#).
6. [Remove the access panel](#).
7. [Remove the air baffle](#).
8. [Remove the fan cage](#).
9. Do one of the following:
  - In the SFF / E3.S drive configuration, [remove the midwall bracket](#).
  - In the GPU-optimized configuration, [remove the middle cover](#).
10. If a storage type-p controller or GPU is installed, [remove the primary riser cage](#).
11. [Disconnect the front I/O cable from the system board](#).
12. Remove the screws, and then detach the chassis ear.

Retain the screws. These screws will be used to install the new spare chassis ear.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the Systems Insight Display

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

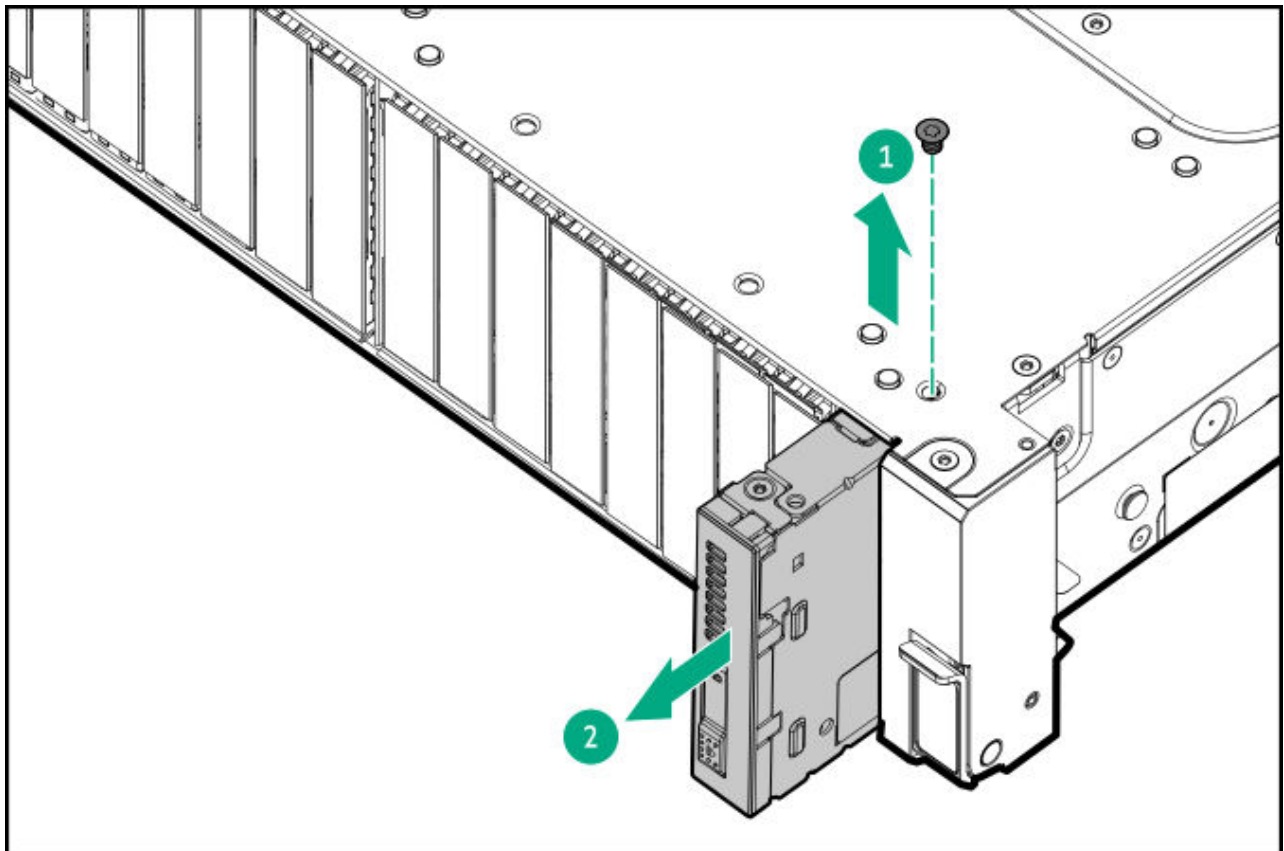
### About this task

[https://sketchfab.com/models/a203218dd3124381bdfb2f9eaa5ac05f/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/a203218dd3124381bdfb2f9eaa5ac05f/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

### Procedure

1. If installed, remove the front bezel.

2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fan cage.
9. Remove the midwall bracket.
- .0. Disconnect the SID cable from the system board.
- .1. Remove the SID.



## Results

To replace the component, reverse the removal procedure.

## Removing and replacing a hot-plug LFF / SFF / E3.S drive

### About this task

- LFF drive

[https://sketchfab.com/models/fe114b46b4e54307bbb7c8e512bdcdbd0/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/fe114b46b4e54307bbb7c8e512bdcdbd0/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

- SFF drive

[https://sketchfab.com/models/1458622c15fa44c7bb9e74e10c02994d/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_animations=0&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/1458622c15fa44c7bb9e74e10c02994d/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_animations=0&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

- E3.S drive

[https://sketchfab.com/models/ad1a6368534a4773a4891013bd6838aa/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_animations=0&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/ad1a6368534a4773a4891013bd6838aa/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_animations=0&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)



#### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

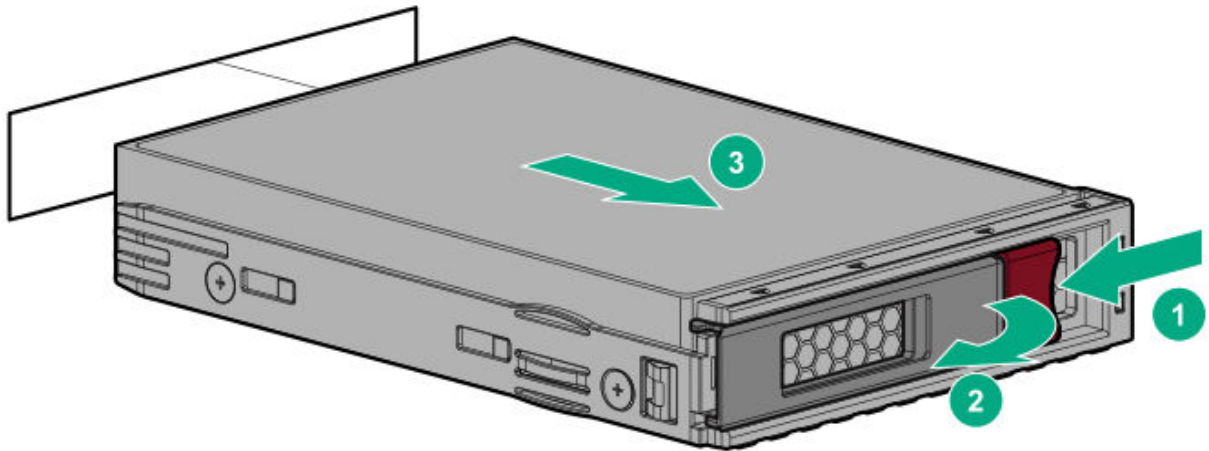


#### CAUTION

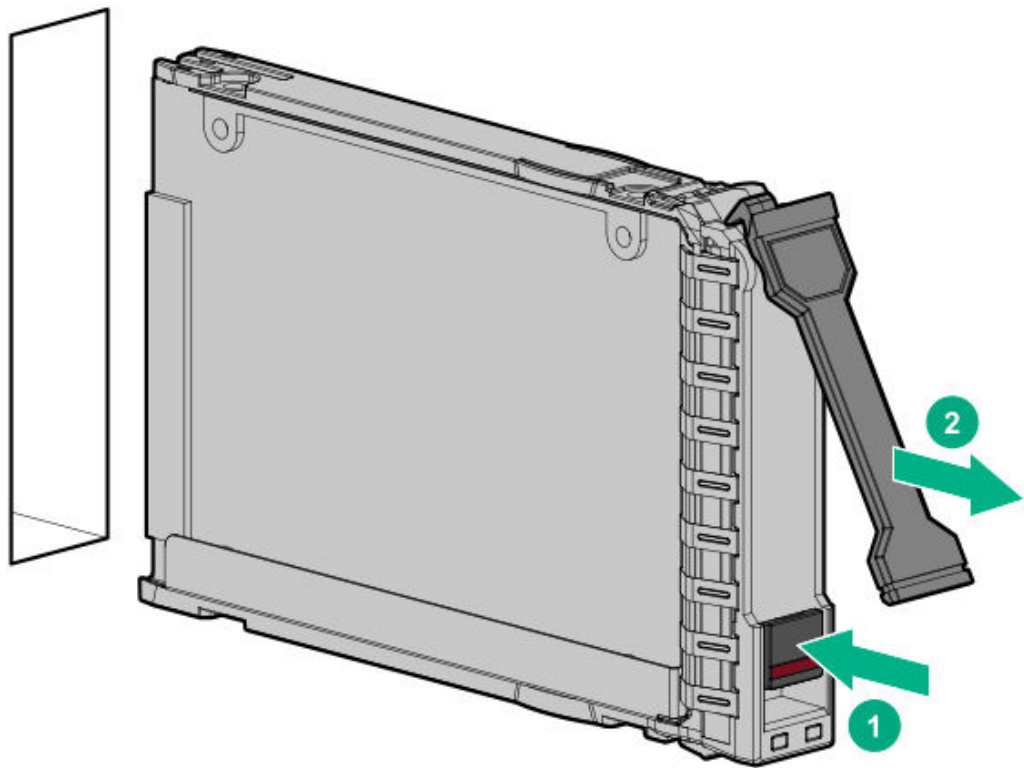
To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

## Procedure

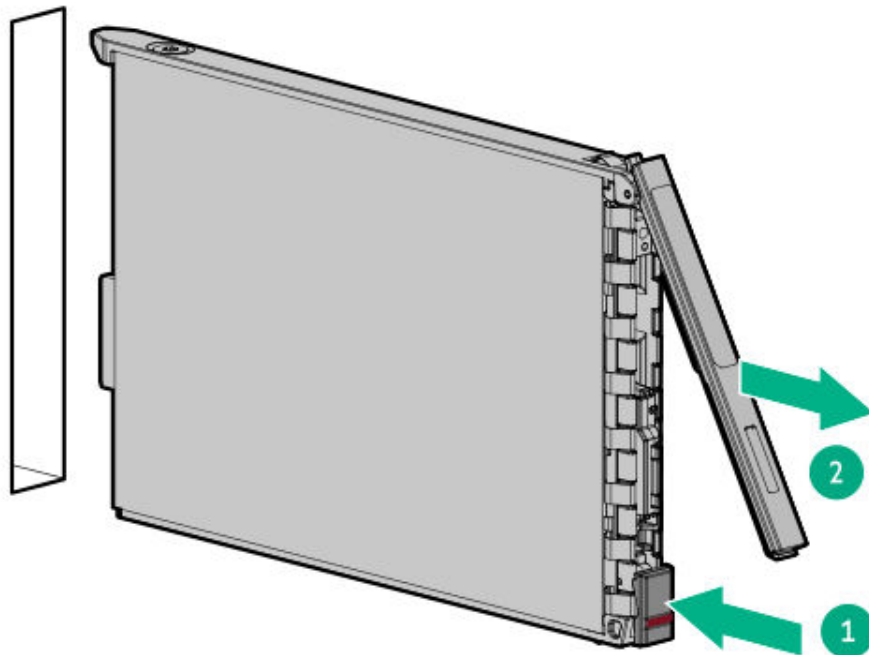
1. Back up all server data.
2. If installed, remove the front bezel.
3. Observe the drive LED status and determine if the drive can be removed.
  - LFF / SFF drive
  - E3.S drive
4. Remove the drive.
  - LFF drive



- SFF drive



- E3.S drive



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

# Removing and replacing the LFF drive blank

## About this task

[https://sketchfab.com/models/ebfa72a6e53c4241b82df150ca59c962/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/ebfa72a6e53c4241b82df150ca59c962/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

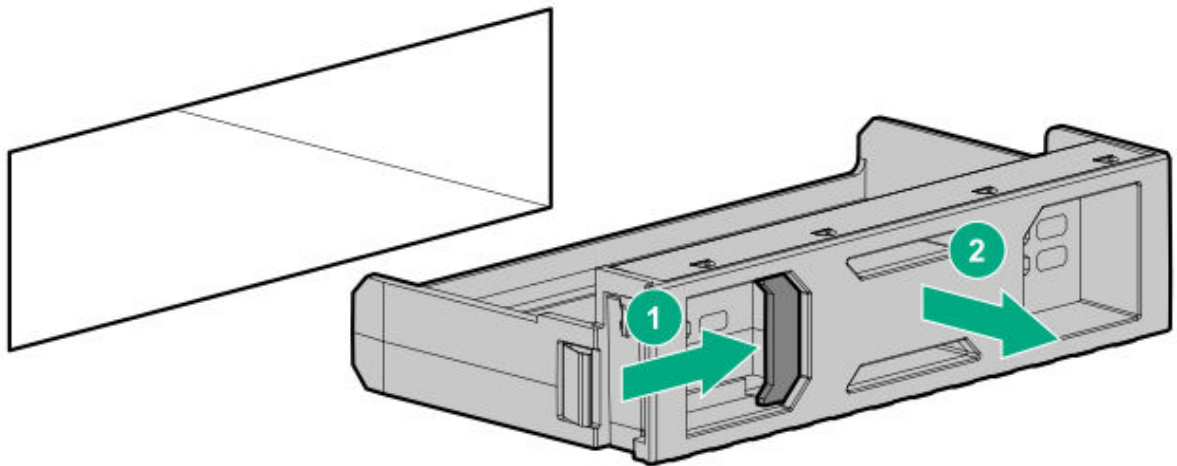


### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

## Procedure

1. If installed, remove the front bezel.
2. Remove the drive blank.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

# Removing and replacing the access panel

## Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

## About this task



### WARNING

To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.



### CAUTION

To prevent damage to electrical components, properly ground the server before beginning any installation, removal, or replacement procedure. Improper grounding can cause electrostatic discharge.



### CAUTION

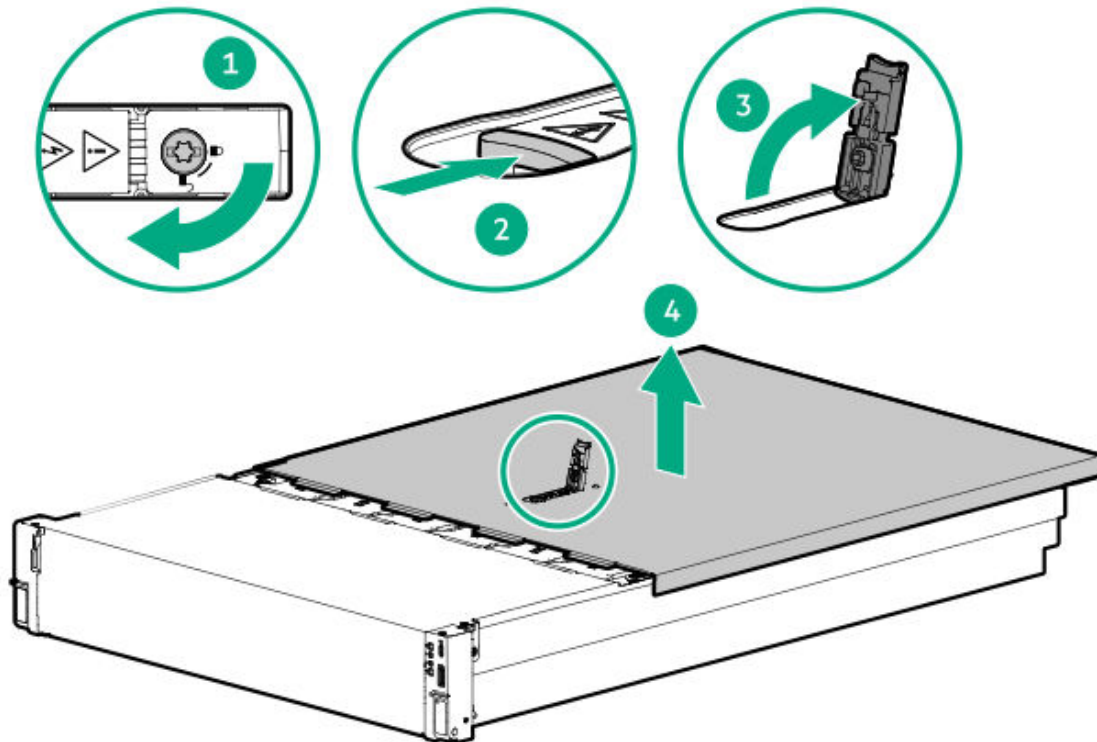
To maintain proper system cooling, do not operate the server for long period with the access panel open or removed. Operating the server in this manner results in an improper system airflow. For internal hot-plug component procedures, complete the procedure within 60 seconds. Failure to do so can cause the system temperature to increase and trip the safety threshold. When this happens:

- The health LED flashes amber.
- The operating system gracefully shuts down.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.

5. Remove the access panel:
  - a. If necessary, unlock the access panel latch.
  - b. To disengage the access panel from the chassis, press the release button and pull up the latch.
  - c. Lift the access panel.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the cable management arm

### About this task

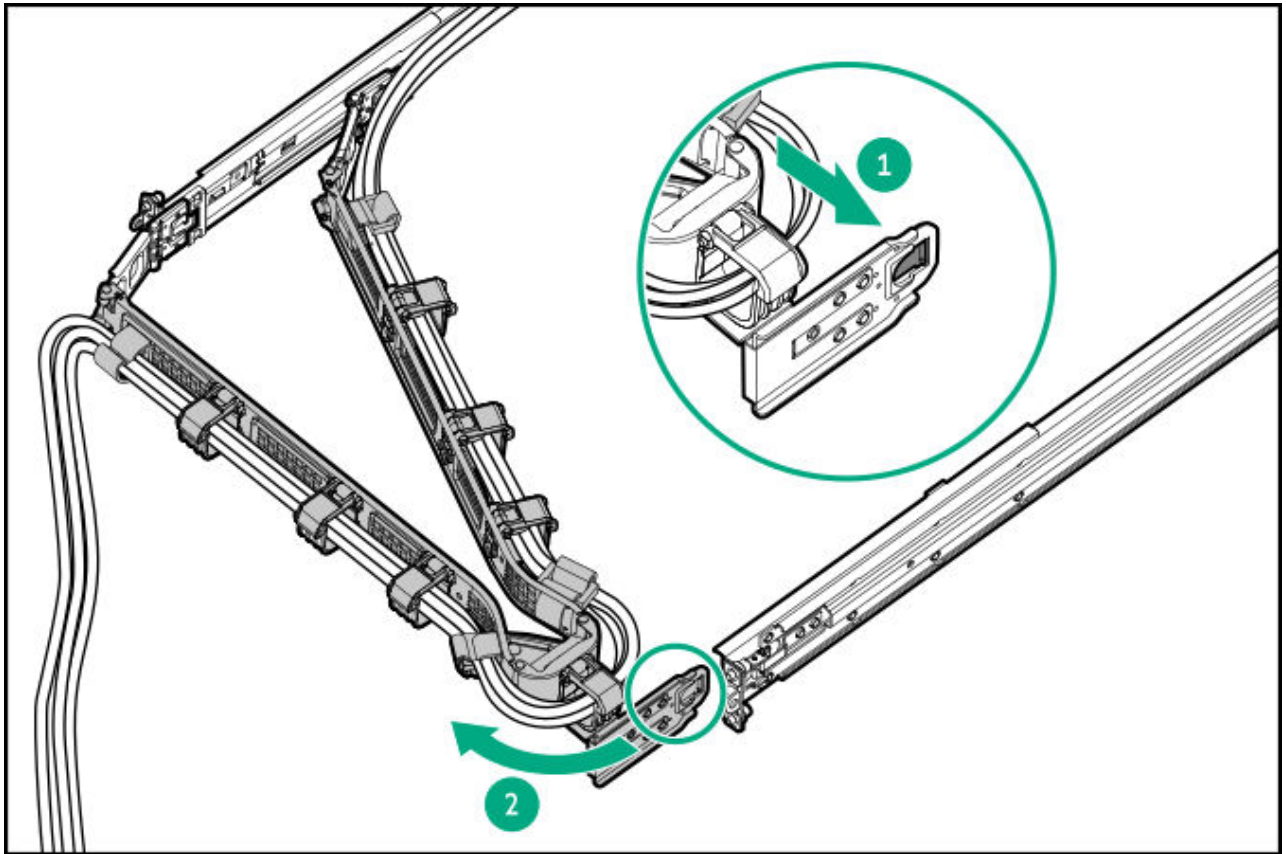


#### CAUTION

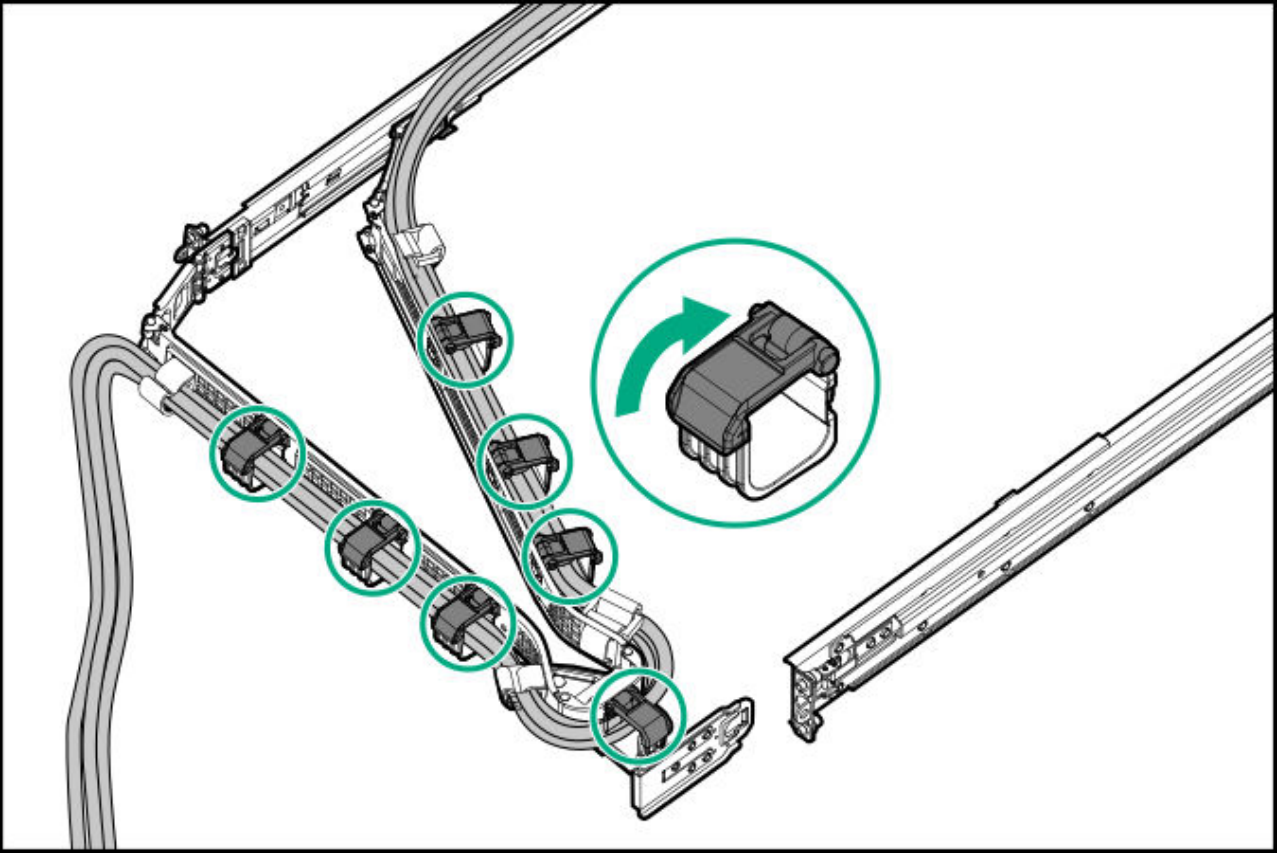
Support the CMA during the removal and replacement procedures. Do not allow the CMA to hang by its own weight during the procedure.

## Procedure

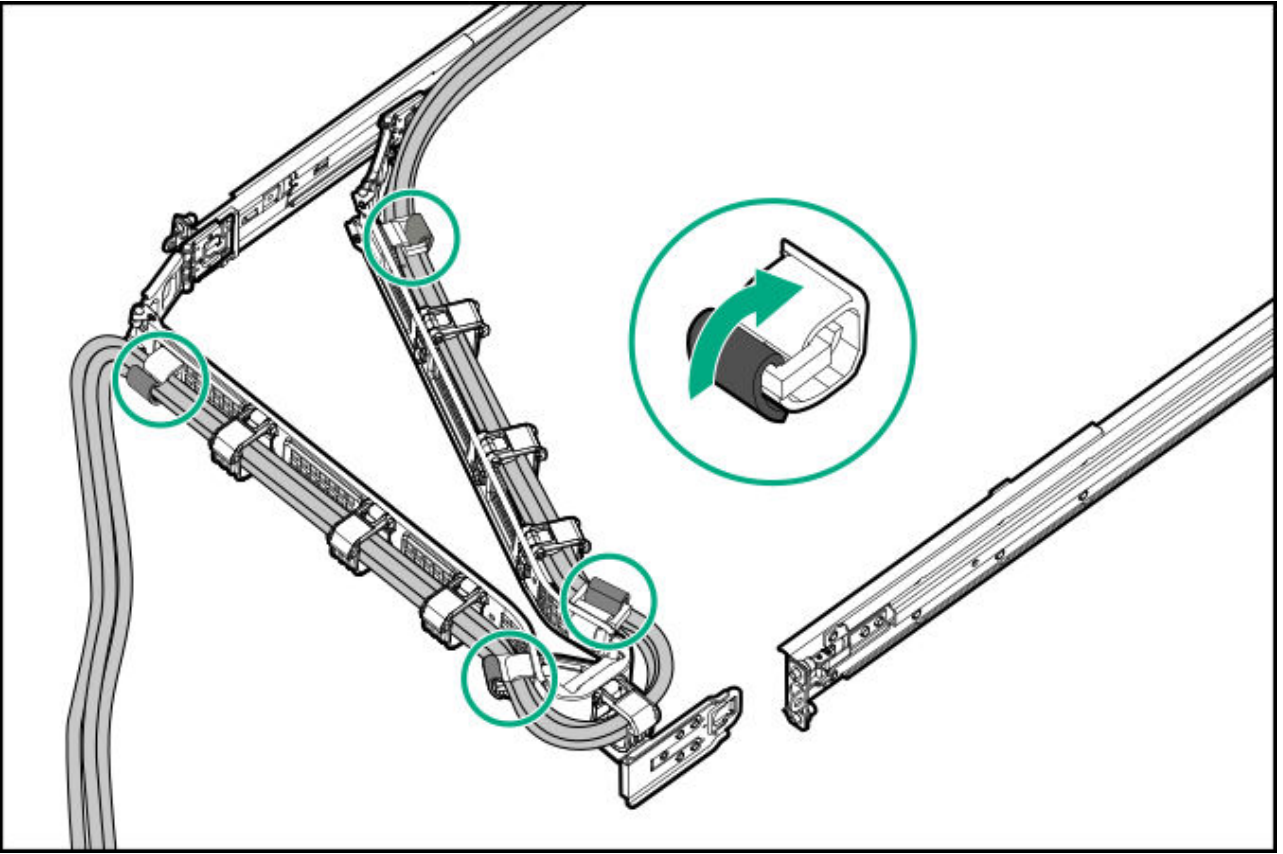
1. Press and hold the release latch, and then remove the retention bracket from the mounting rail.



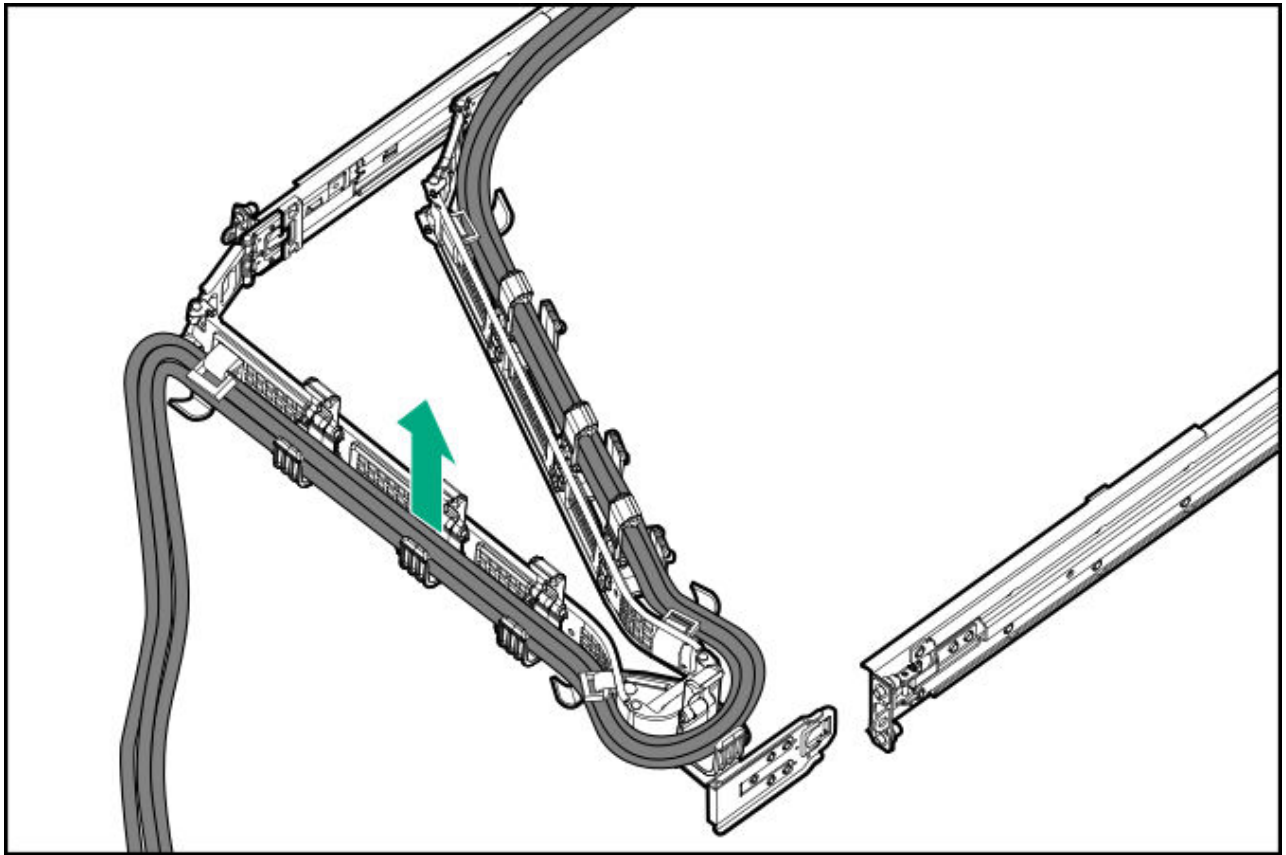
2. Open the cable clamps.



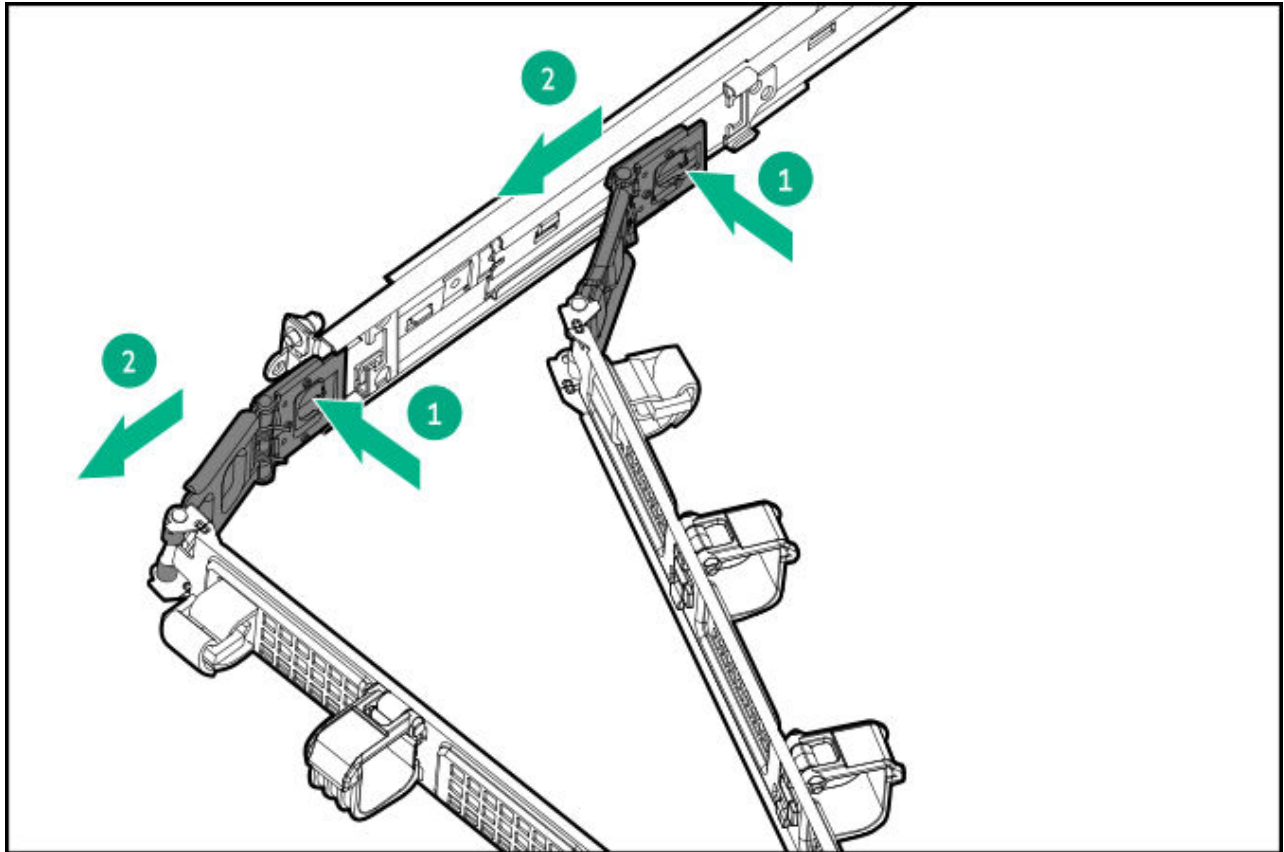
3. (Optional) If your CMA has cable straps, unwrap the straps.



4. Remove the peripheral cables and power cords from the CMA.



5. Press and hold the release latches, and then remove the outer tab and inner tab from the rails.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Power supply replacement

Depending on the configuration and the regional location where the server was purchased, the server can be configured with one of the supported [power supplies](#).

### Subtopics

**[Power supply warnings and cautions](#)**

**[DC power supply warnings and cautions](#)**

**[DC power supply wire colors](#)**

**[Removing and replacing an AC power supply](#)**

**[Removing and replacing a DC power supply](#)**

## Power supply warnings and cautions



### WARNING

To reduce the risk of electric shock or damage to the equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
- Unplug the power cord from the power supply to disconnect power to the equipment.
- Do not route the power cord where it can be walked on or pinched by items placed against it. Pay particular attention to the plug, electrical outlet, and the point where the cord extends from the server.



### WARNING

To reduce the risk of injury from electric shock hazards, do not open power supplies. Refer all maintenance, upgrades, and servicing to qualified personnel.



### CAUTION

Mixing different types of power supplies in the same server might:

- Limit or disable some power supply features including support for power redundancy.
- Cause the system to become unstable and might shut down.

To ensure access to all available features, all power supplies in the same server should have the same output and efficiency ratings. Verify that all power supplies have the same part number and label color.

## DC power supply warnings and cautions



### WARNING

To reduce the risk of electric shock or energy hazards:

- This equipment must be installed by trained service personnel.
- Connect the equipment to a reliably grounded secondary circuit source. A secondary circuit has no direct connection to a primary circuit and derives its power from a transformer, converter, or equivalent isolation device.
- The branch circuit overcurrent protection must be rated 27 A.



### WARNING

To reduce the risk of electric shock, be sure that the cable grounding kit is properly installed and connected to a suitable protective earth terminal before connecting the power source to the rack.



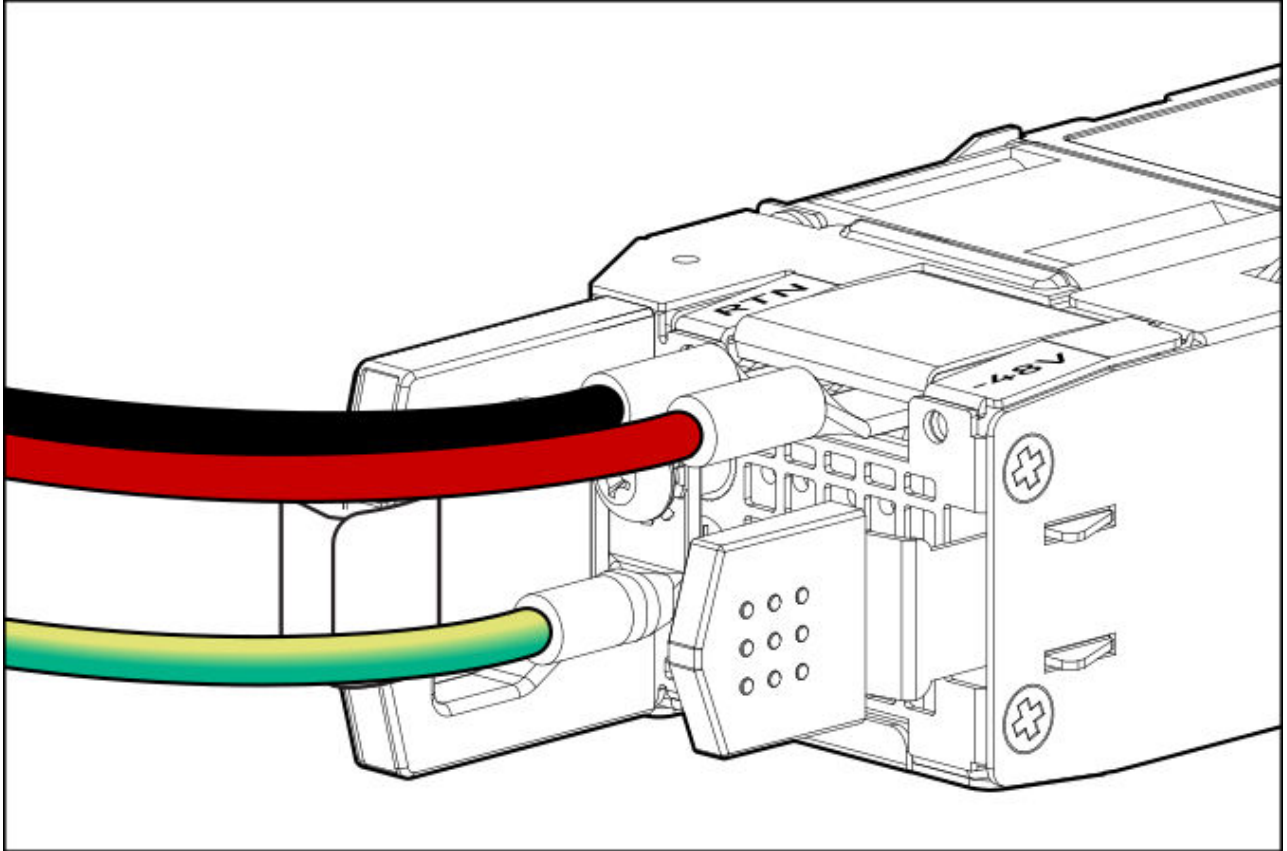
### CAUTION

This equipment is designed to permit the connection of the earthed conductor of the DC supply circuit to the earthing conductor at the equipment. If this connection is made, all the following must be met:

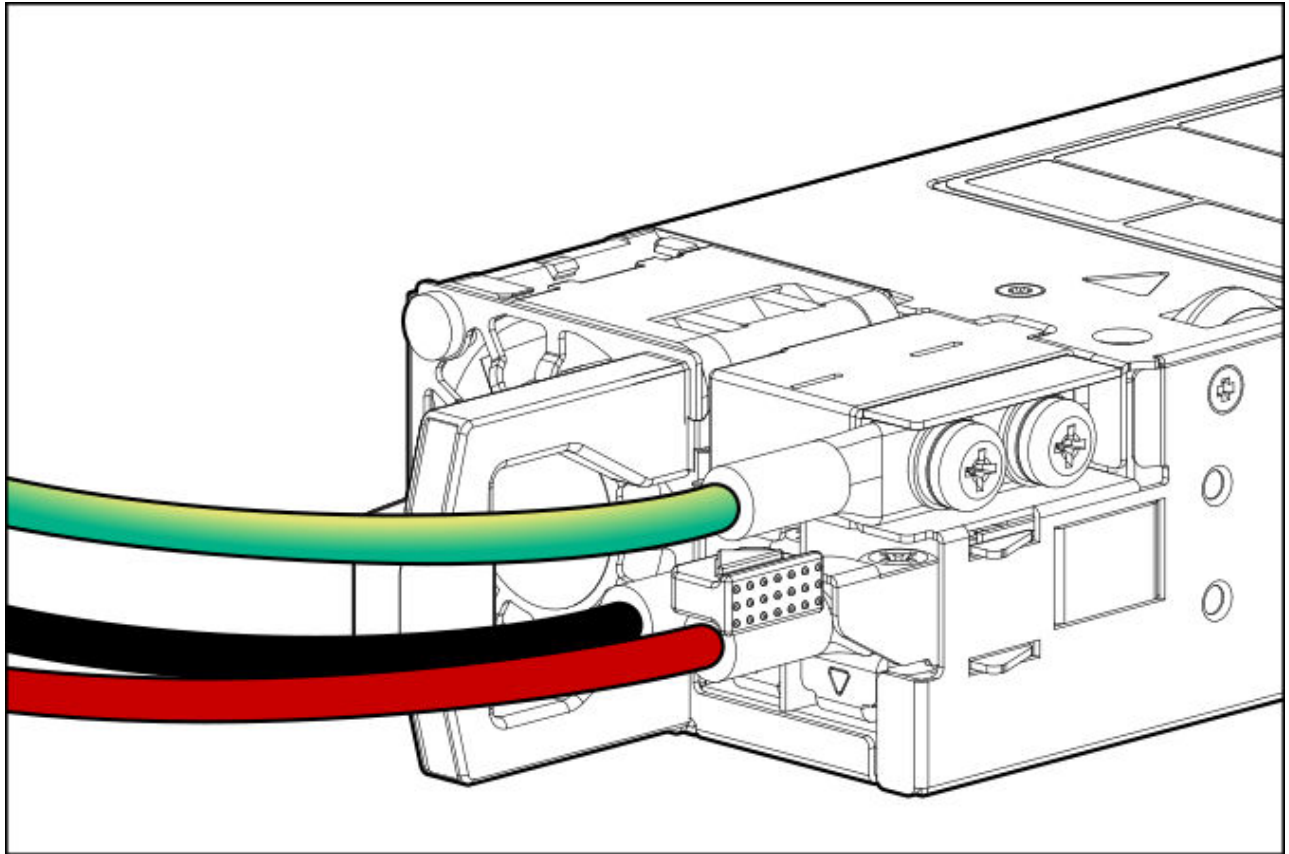
- This equipment must be connected directly to the DC supply system earthing electrode conductor or to a bonding jumper from an earthing terminal bar or bus to which the DC supply system earthing electrode conductor is connected.
- This equipment must be located in the same immediate area (such as adjacent cabinets) as any other equipment that has a connection between the earthed conductor of the same DC supply circuit and the earthing conductor, and also the point of earthing of the DC system. The DC system must be earthed elsewhere.
- The DC supply source is to be located within the same premises as the equipment.
- Switching or disconnecting devices must not be in the earthed circuit conductor between the DC source and the point of connection of the earthing electrode conductor.

## DC power supply wire colors

- 60-mm M-CRPS



- 73.5-mm M-CRPS



Wire color	Description	Wire slot
Red	Line wire	-48V
Black	Return wire	Return
Green + Yellow	Ground wire	Safety ground

## Removing and replacing an AC power supply

### Prerequisites

Before replacing a power supply, review the [Power supply warnings and cautions](#).

### About this task

- 60-mm M-CRPS

<https://sketchfab.com/models/7c58b5f665544c08a8cf5601772c45fa/embed?>

[https://sketchfab.com/models/61d542c7fb504ebe8c57def38423ad69/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/61d542c7fb504ebe8c57def38423ad69/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

- 73.5-mm M-CRPS

[https://sketchfab.com/models/61d542c7fb504ebe8c57def38423ad69/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/61d542c7fb504ebe8c57def38423ad69/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)



#### **WARNING**

To reduce the risk of personal injury from hot surfaces, allow the power supply, power supply blank, or dual slot power supply adapter to cool before touching it.



#### **CAUTION**

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

### **Procedure**

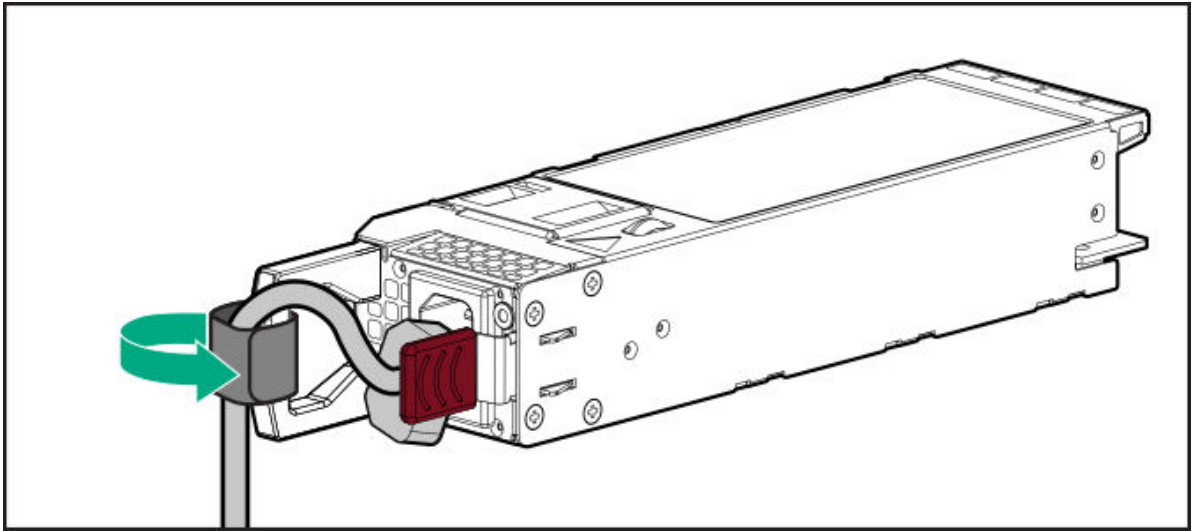
1. Power down the server.
2. Remove a power supply:



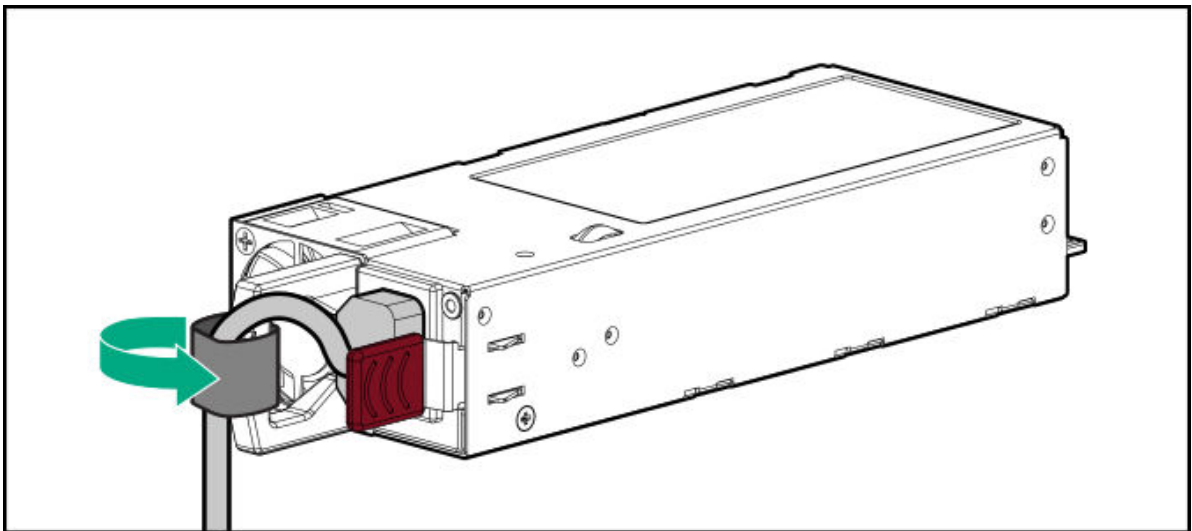
#### **WARNING**

To reduce the risk of personal injury, keep your fingers away from the attached left sliding rail when removing the power supply from the bay 1. The attached left sliding rail could scrape your fingers.

- a. Release the power cord from the strain relief strap, and then disconnect the power cord from the power supply.
  - 60-mm M-CRPS

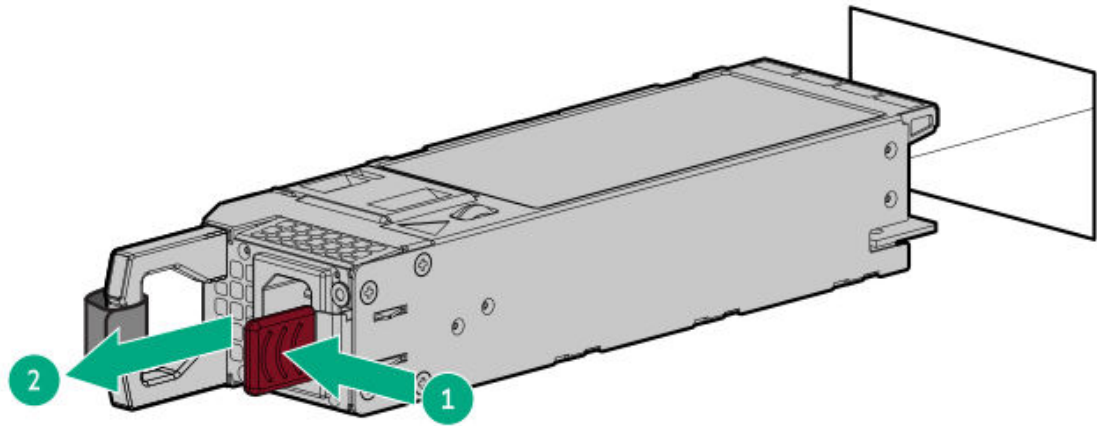


- 73.5-mm M-CRPS

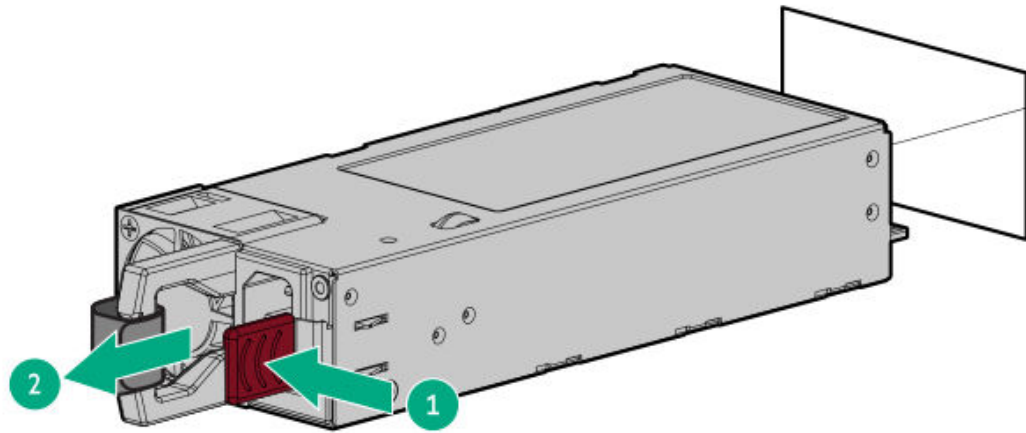


b. Press and hold the release latch, and then remove the power supply.

- 60-mm M-CRPS



- 73.5-mm M-CRPS



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing a DC power supply

### Prerequisites

- Before replacing a power supply, review the following:
  - [Power supply warnings and cautions](#)

- [DC power supply warnings and cautions](#)
- [DC power supply wire colors](#)
- Before you perform this procedure, make sure that you have a Phillips No. 2 screwdriver available.

### About this task



#### WARNING

To reduce the risk of personal injury from hot surfaces, allow the power supply, power supply blank, or dual slot power supply adapter to cool before touching it.



#### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

### Procedure

1. [Power down the server.](#)
2. Switch off the DC power source connected to the power supply.

Make sure that the power supply LED is off.

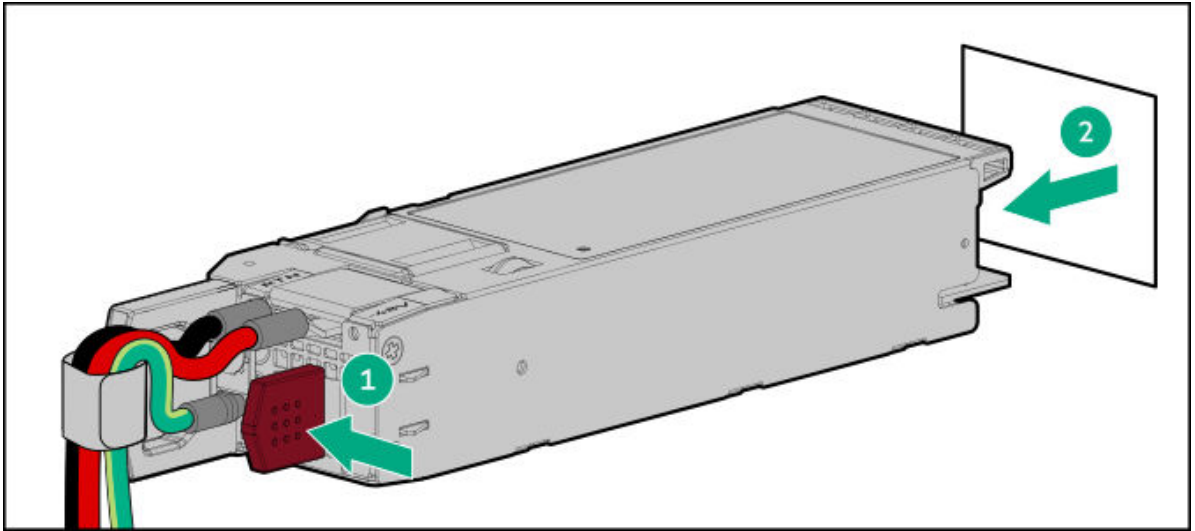
3. Remove the power supply:



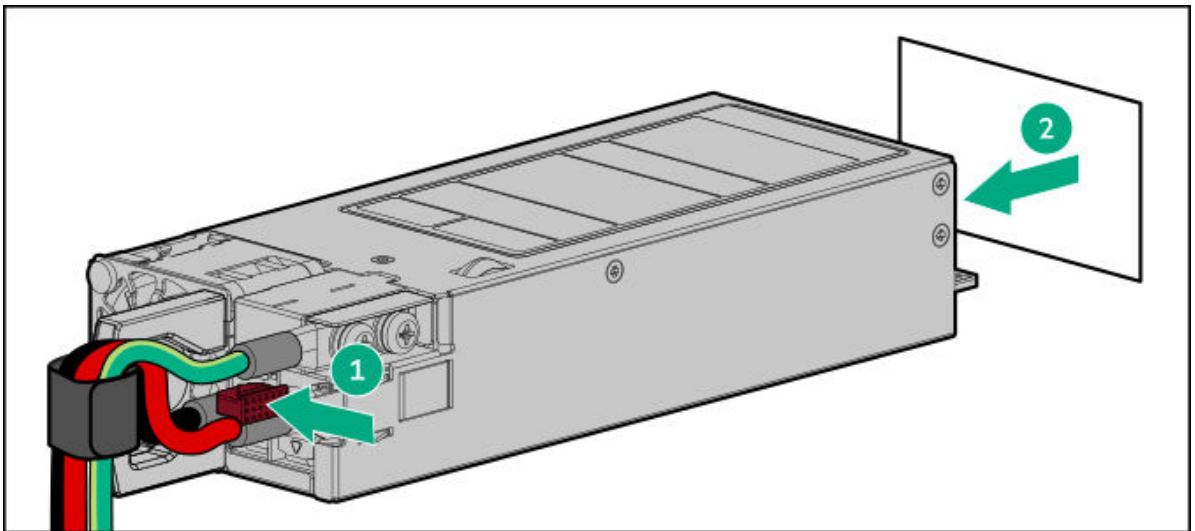
#### WARNING

To reduce the risk of personal injury, keep your fingers away from the attached left sliding rail when removing the power supply from the bay 1. The attached left sliding rail could scrape your fingers.

- a. Press and hold the release latch, and then remove the power supply.
  - 60-mm power supply

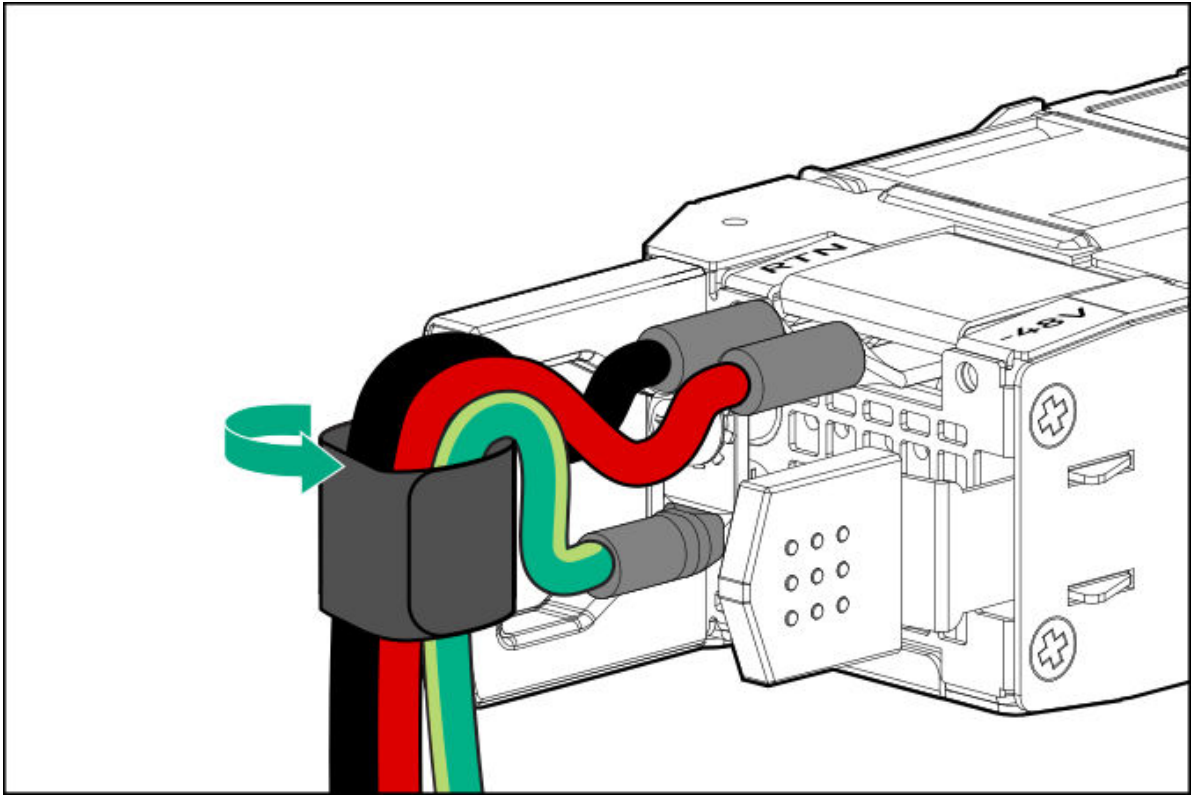


- 73.5-mm power supply

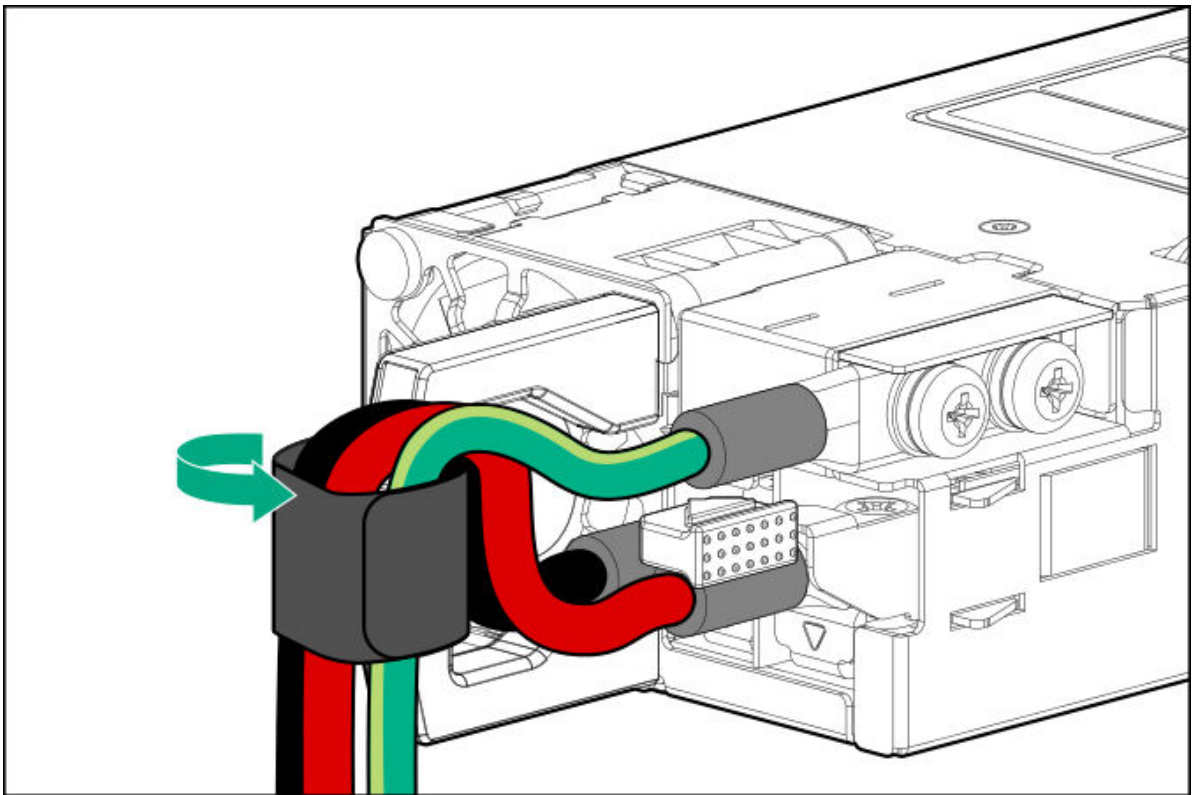


b. Release the ground, positive return, and negative input wires from the strain relief strap.

- 60-mm power supply

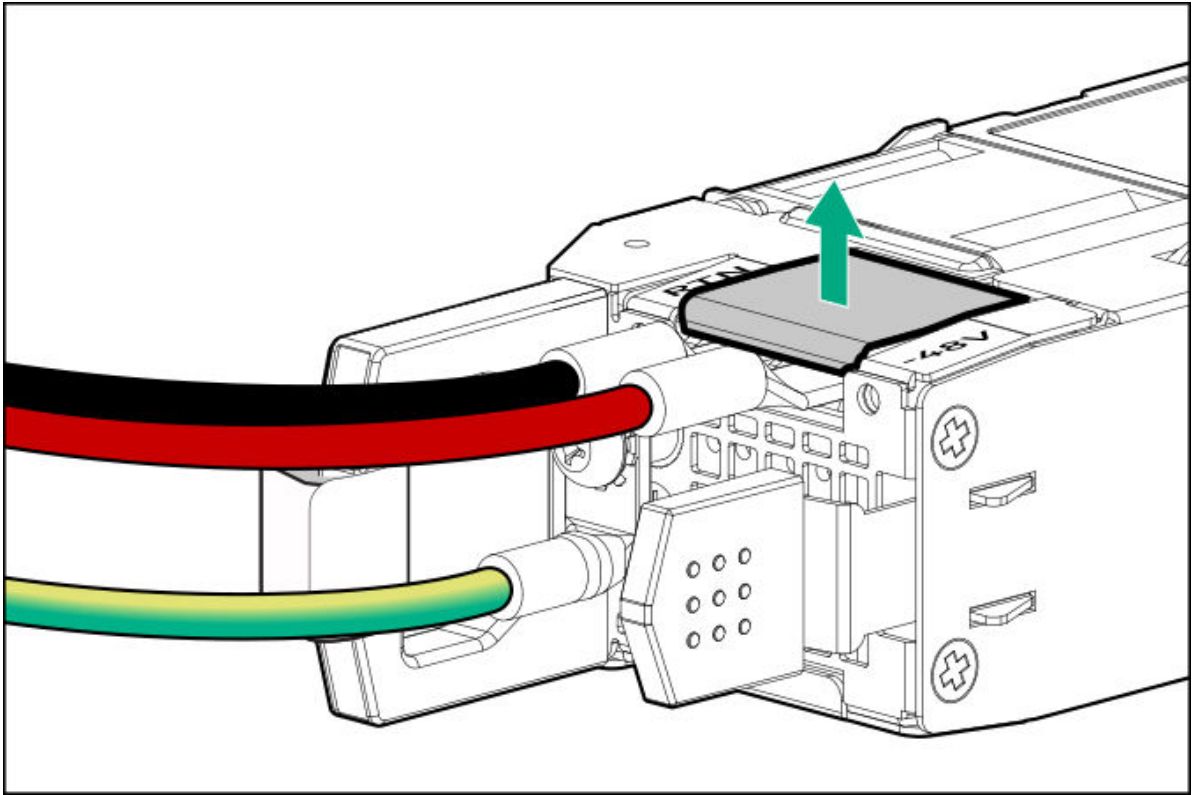


- 73.5-mm power supply

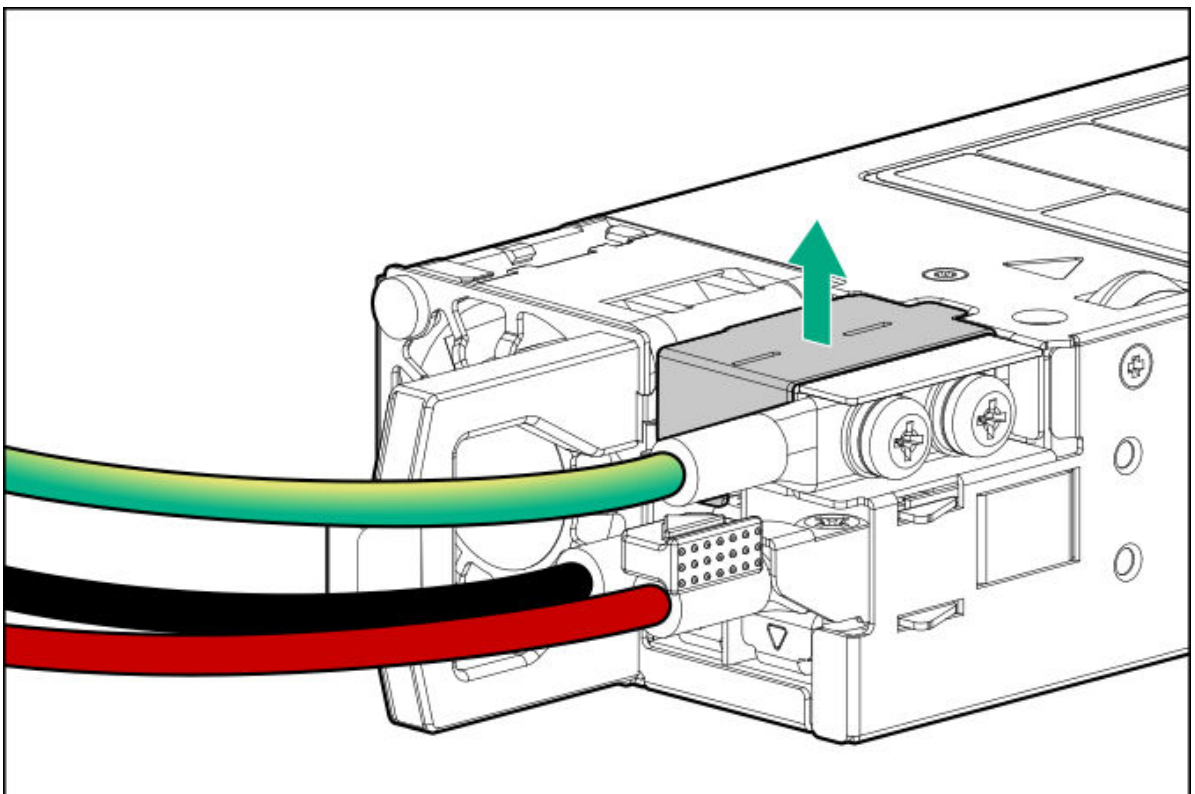


c. Remove the protective cover from the power supply.

- 60-mm power supply

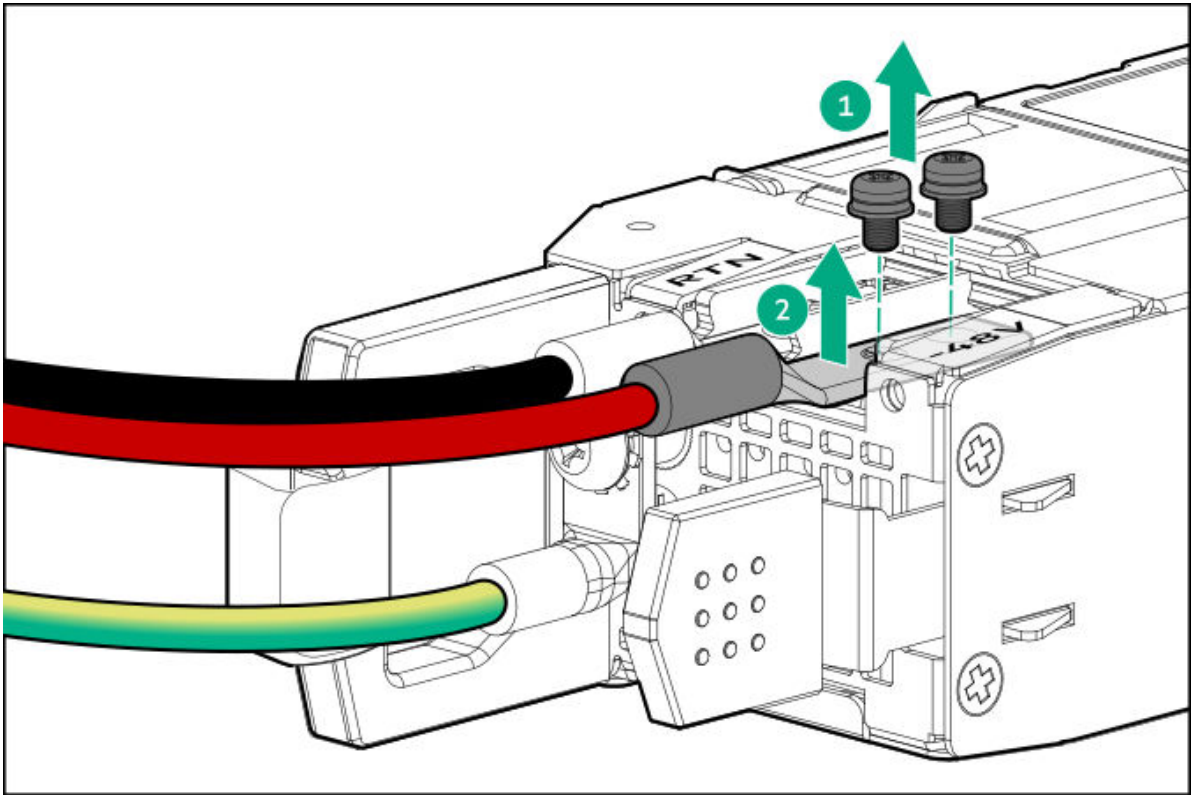


- 73.5-mm power supply

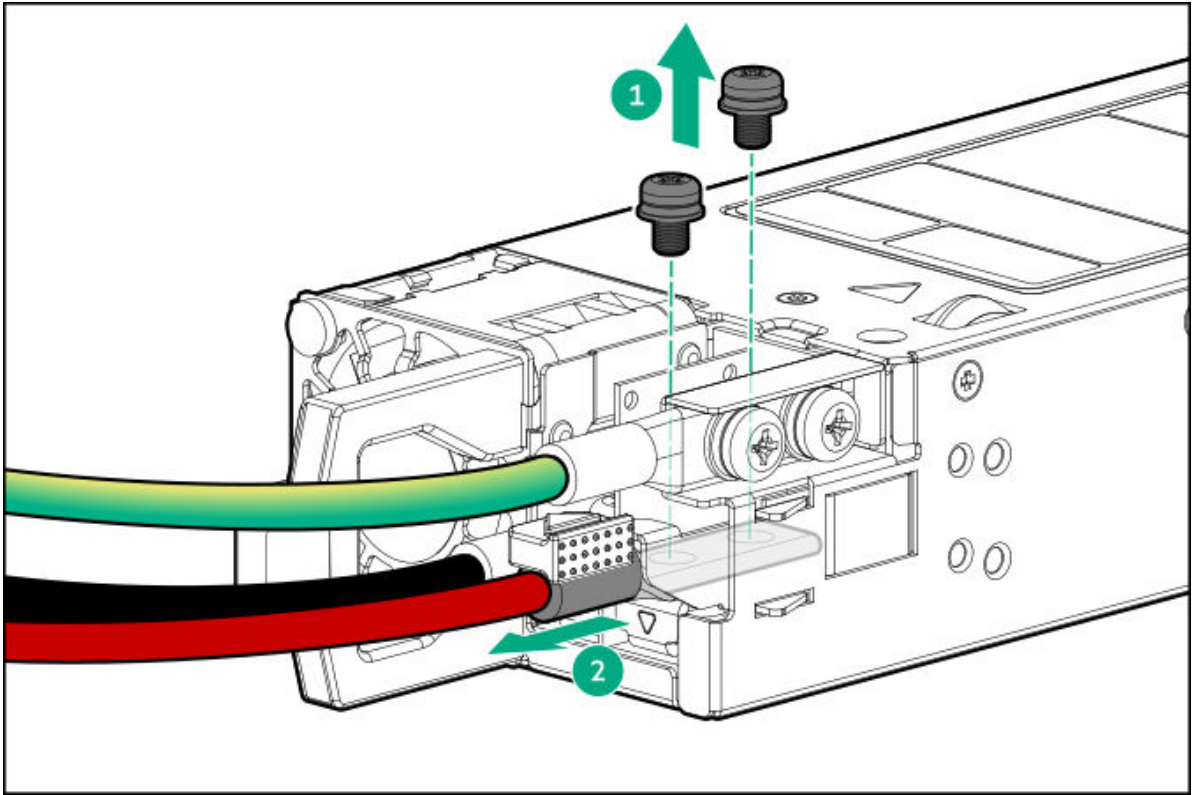


d. Remove the line wire (red) from the -48V slot on the power supply.

- 60-mm power supply

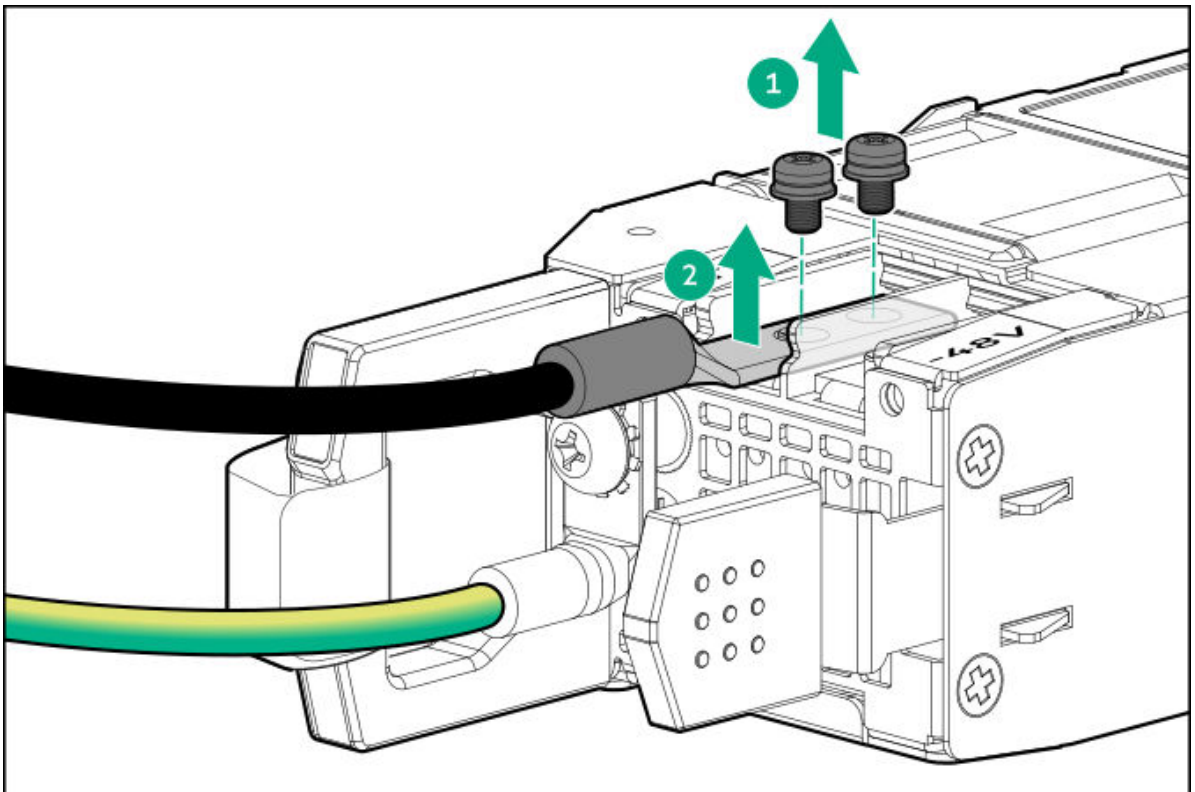


- 73.5-mm power supply

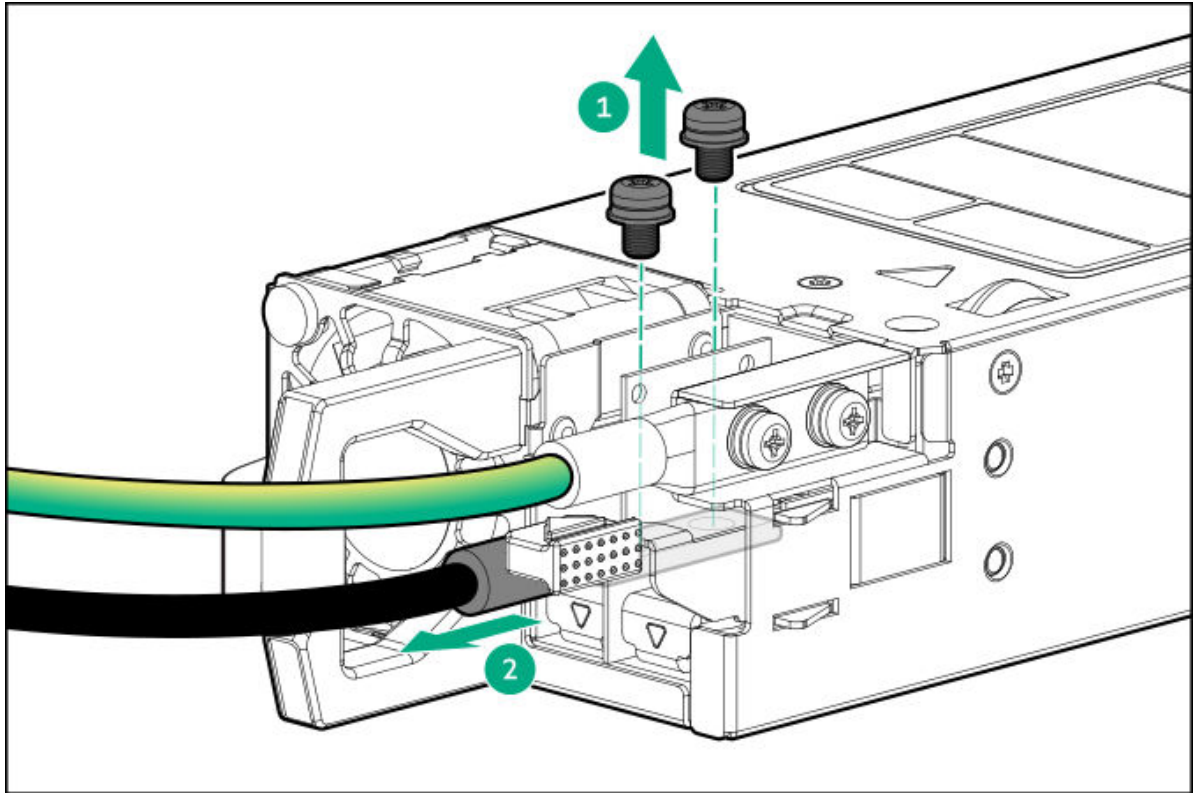


e. Remove the return wire (black) from the RTN slot on the power supply.

- 60-mm power supply

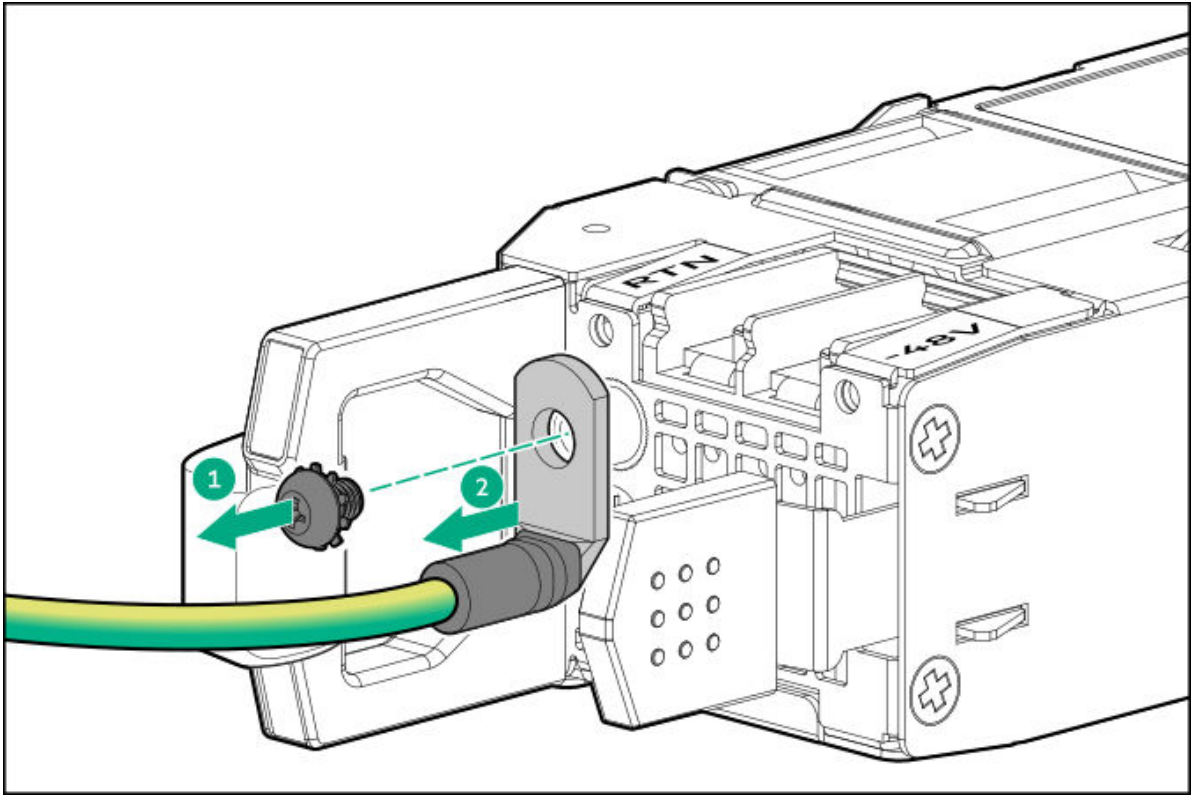


- 73.5-mm power supply

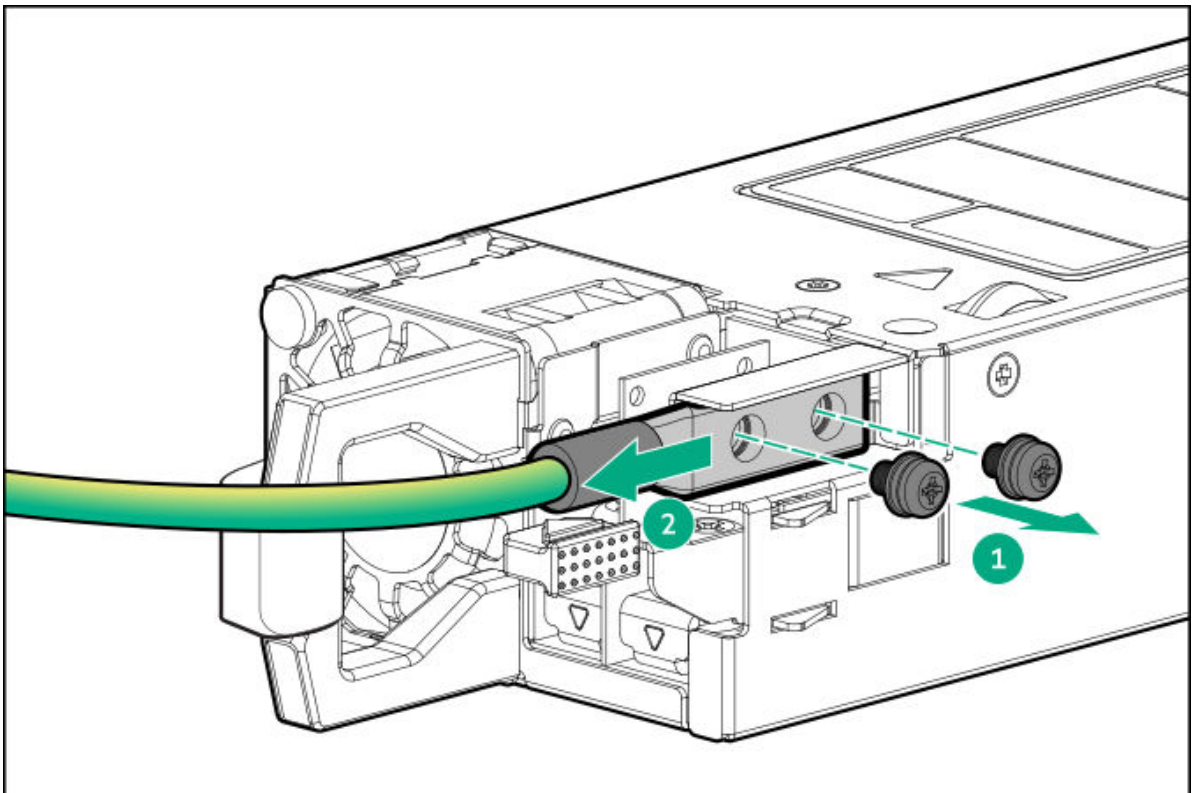


f. Remove the ground wire (green and yellow) from the power supply.

- 60-mm power supply



- 73.5-mm power supply



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

# Removing and replacing a power supply blank

## About this task



### WARNING

To reduce the risk of personal injury from hot surfaces, allow the power supply, power supply blank, or dual slot power supply adapter to cool before touching it.

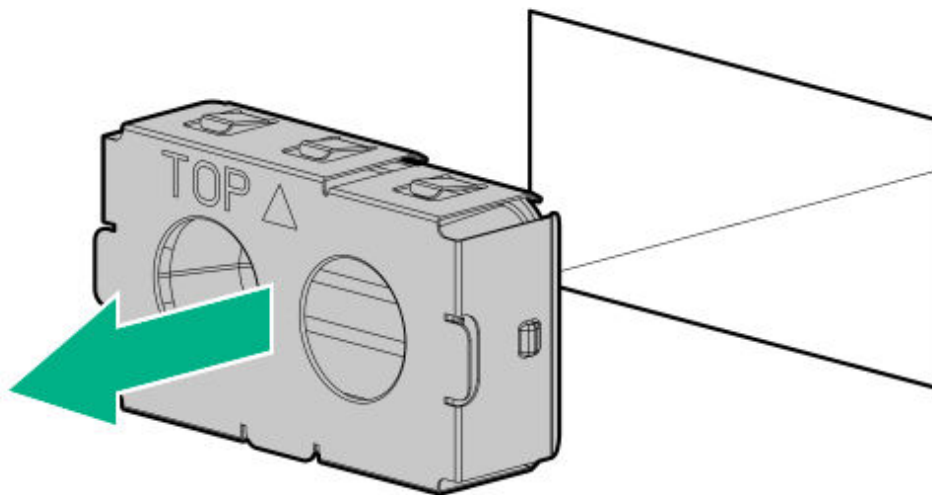


### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

## Procedure

Remove the power supply blank from the bay.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

# Rack rail replacement

## Subtopics

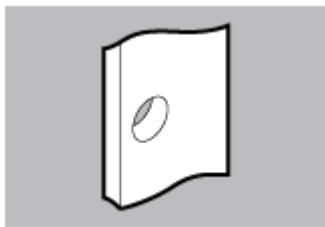
[Rack mounting interfaces](#)

[Removing and replacing the friction rack rails](#)

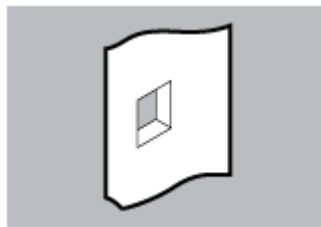
[Removing and replacing the ball-bearing rack rails](#)

## Rack mounting interfaces

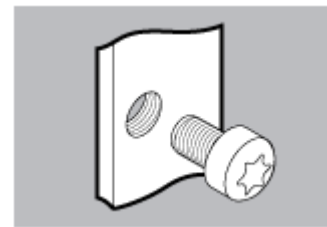
The rack rails can be installed in a rack that has the following mounting interfaces:



Round-hole



Square-hole



Threaded round-hole

The illustrations used in this procedure show an icon on the upper right corner of the image. This icon indicates the type of mounting interface for which the action illustrated in the image is valid.

## Removing and replacing the friction rack rails

### Prerequisites

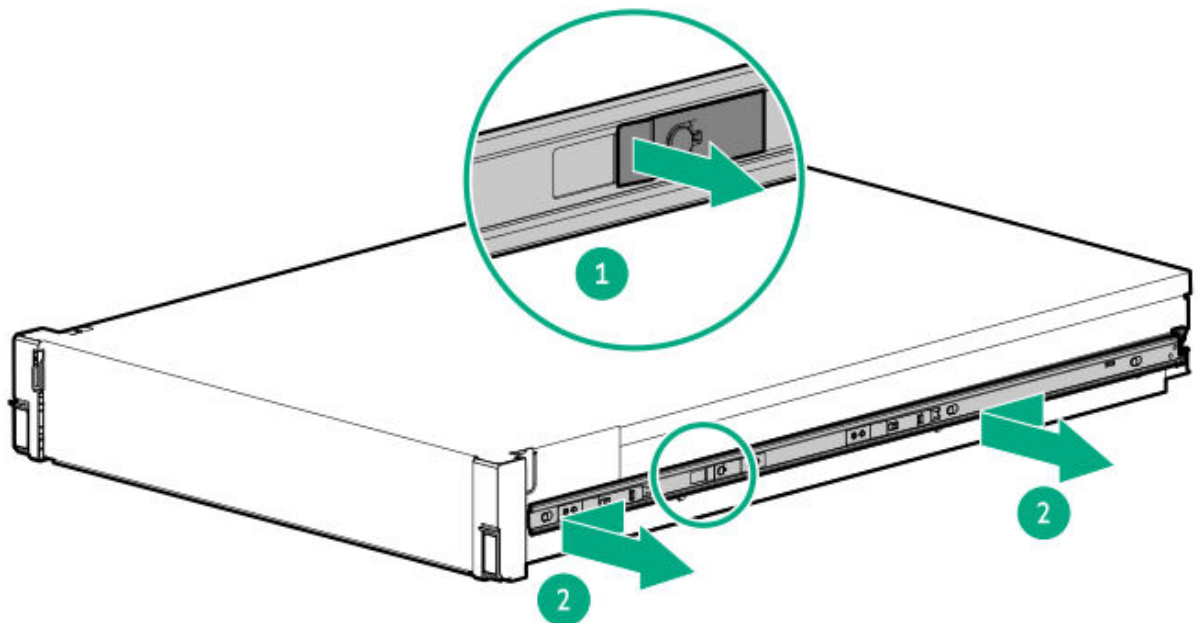
- Review the [rack mounting interfaces](#).
- If you are replacing the rack mounting rails from a threaded-hole rack, make sure that you have a T-25 Torx screwdriver available.

### About this task

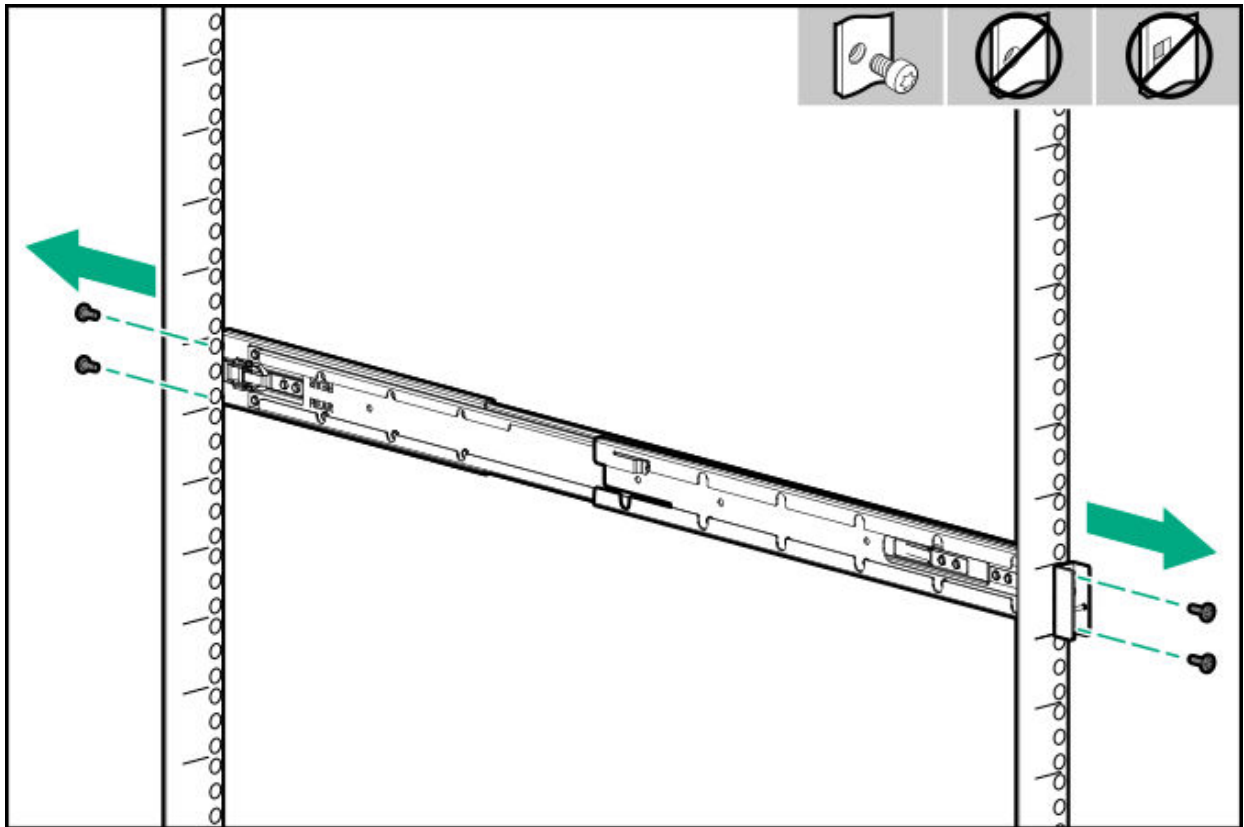
[https://sketchfab.com/models/7b55f5599368447a82781f373bcacc3d/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/7b55f5599368447a82781f373bcacc3d/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

## Procedure

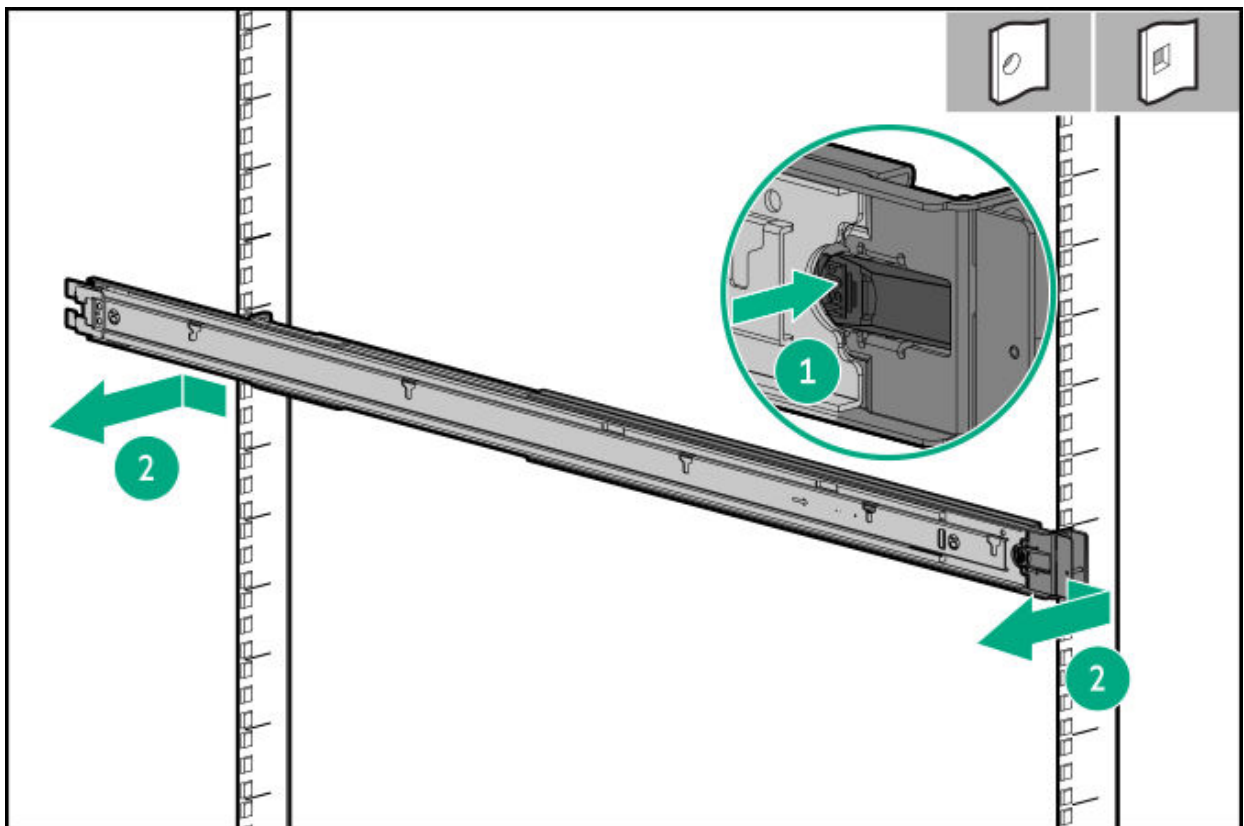
1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. If installed, remove the cable management arm.
7. To remove the sliding rails, do the following:
  - a. Pull and hold the release latch.
  - b. Slide the rail towards the front panel and pull it from the server.



- c. Repeat steps a and b to remove the other sliding rail.
8. To remove the rack mounting rails, do the following:
    - a. In a threaded-hole rack, remove the rail screws.



b. Press and hold the release latch, and then disengage the rail pins from the rack columns.



- c. Repeat steps a and b to remove the other rack rail.

## Results

The removal procedure is complete. To replace the component, reverse this procedure.

# Removing and replacing the ball-bearing rack rails

## Prerequisites

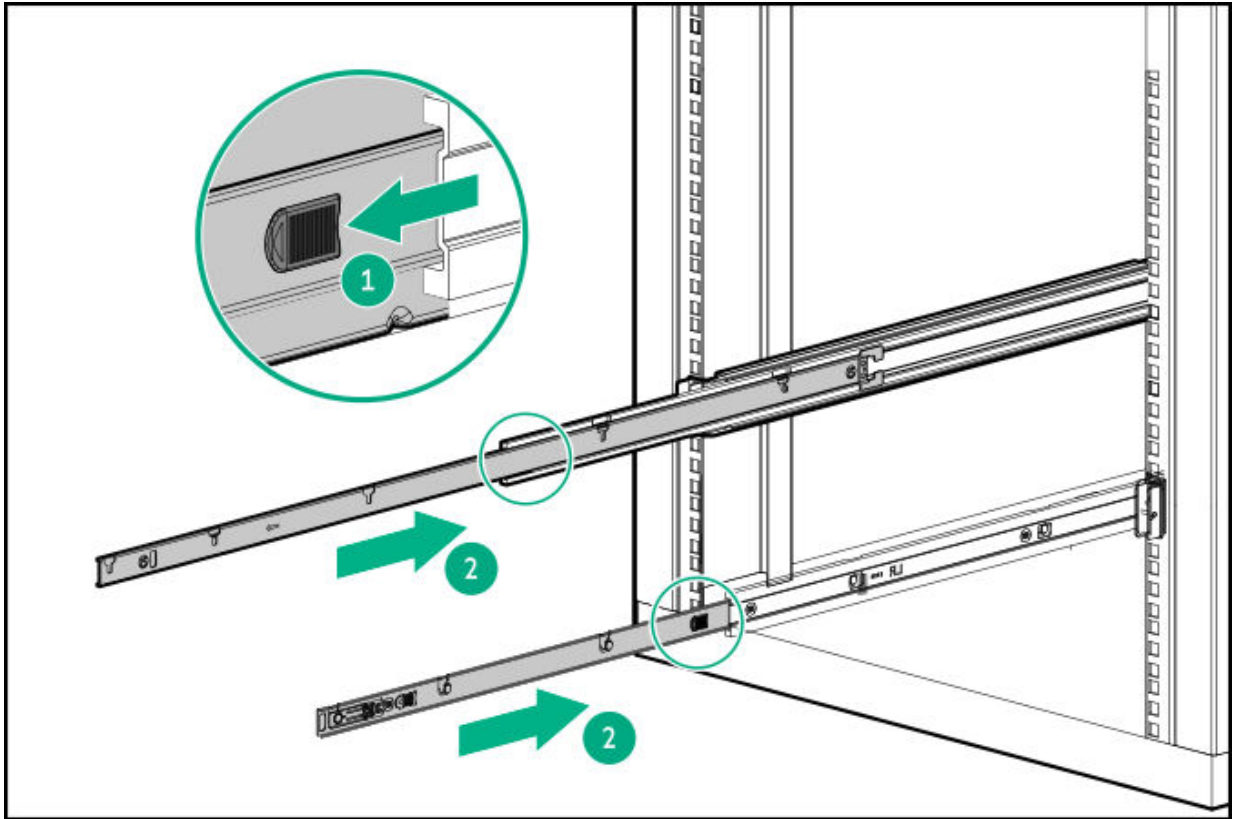
- Review the [rack mounting interfaces](#).
- If you are replacing the rack mounting rails from a threaded-hole rack, make sure that you have a T-25 Torx screwdriver available.

## About this task

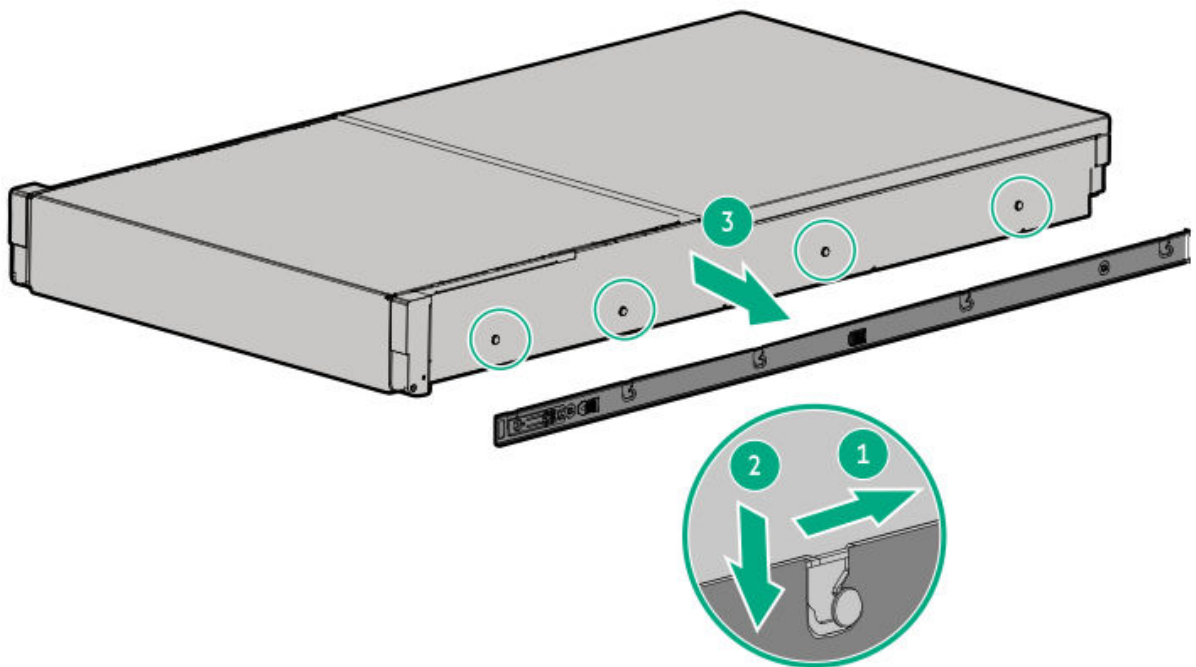
[https://sketchfab.com/models/7b55f5599368447a82781f373bcacc3d/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/7b55f5599368447a82781f373bcacc3d/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

## Procedure

1. [Power down the server](#).
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. [Remove the server from the rack](#).
5. Place the server on a flat, level work surface.
6. If installed, [remove the cable management arm](#).
7. Do one of the following:
  - If the server is lifted up and removed from the sliding rails, press and hold the rail-release latches, and then push the sliding rails back to rack.

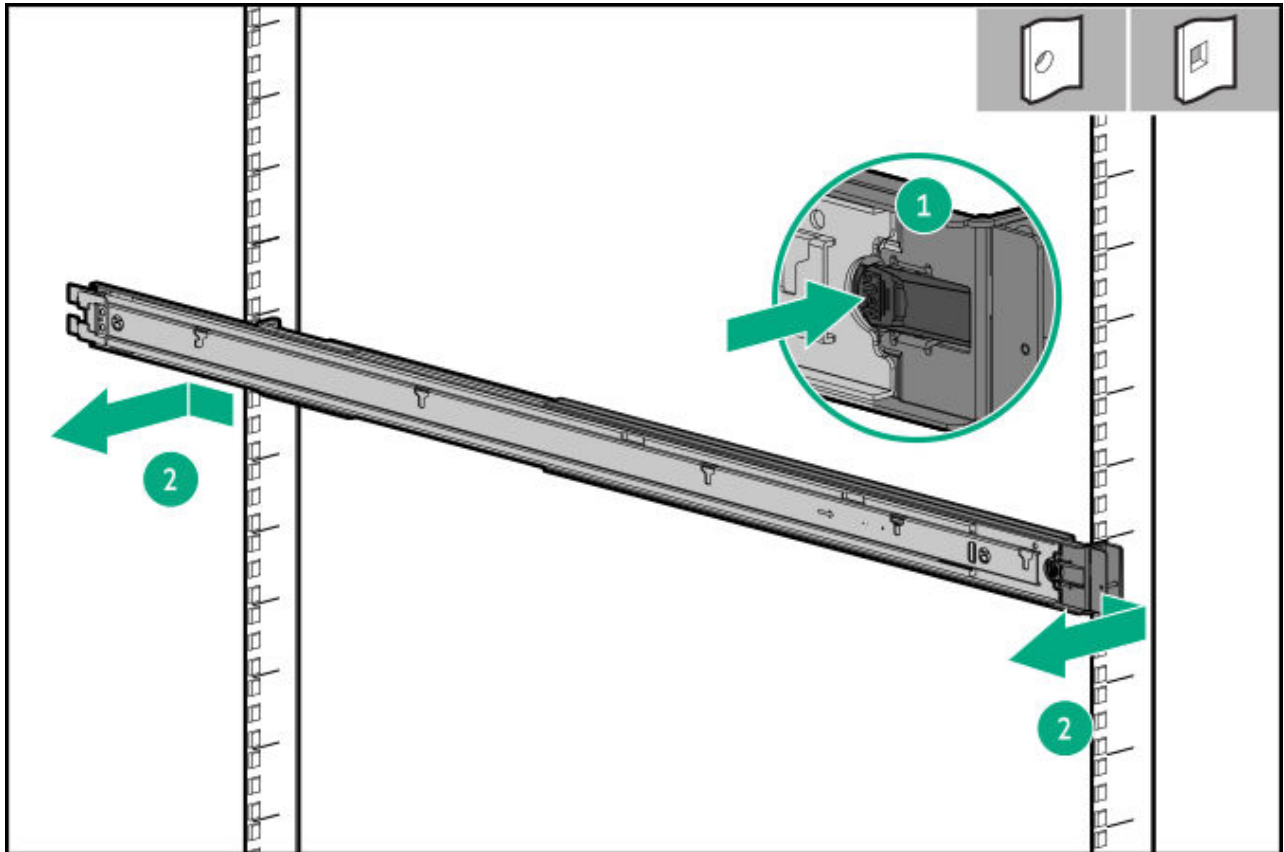


- If the server is slid out from the rack, detach the spools from the J-slots and remove the sliding rails from the chassis.

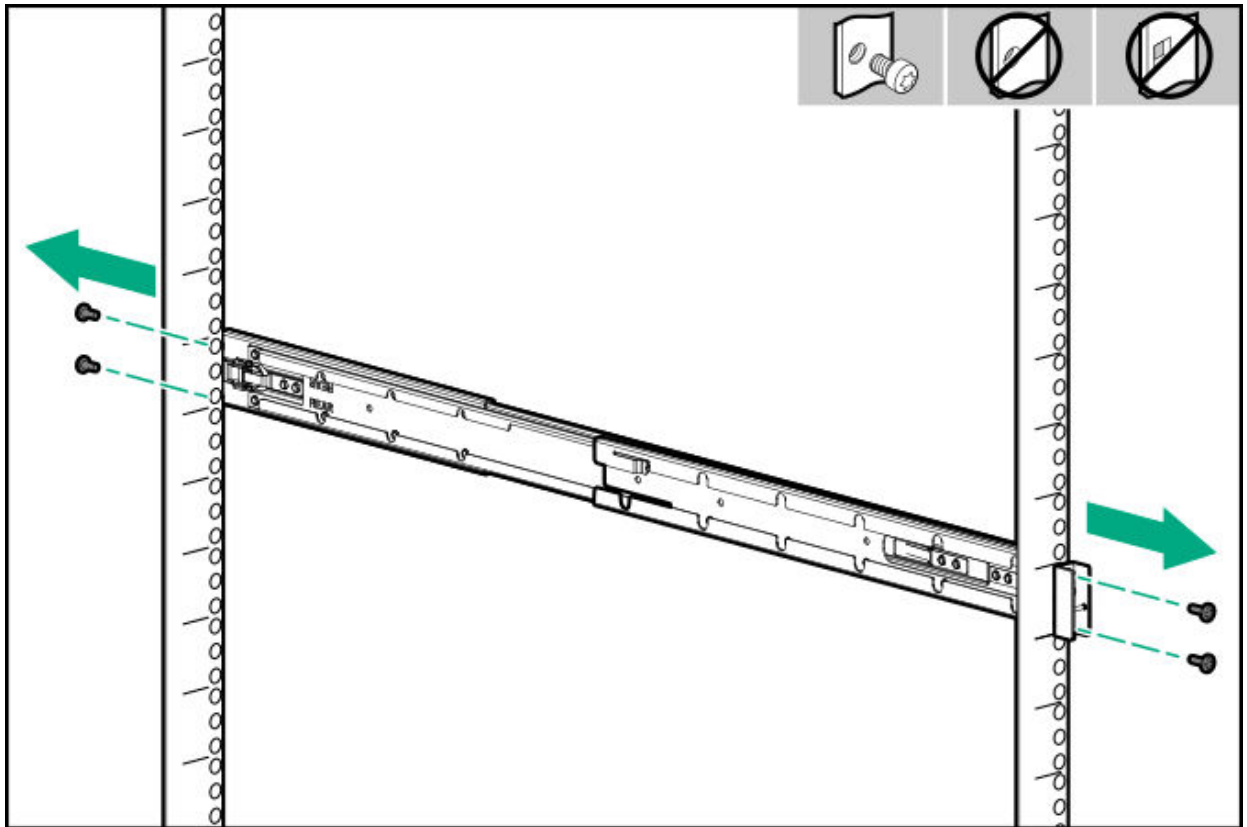


8. To remove the mounting rails from a round-hole or square-hole rack, press the release latch, and then disengage the rail pins from the rack columns.
  - a. Press the release latch.
  - b. Disengage the rail pins from the rack columns.

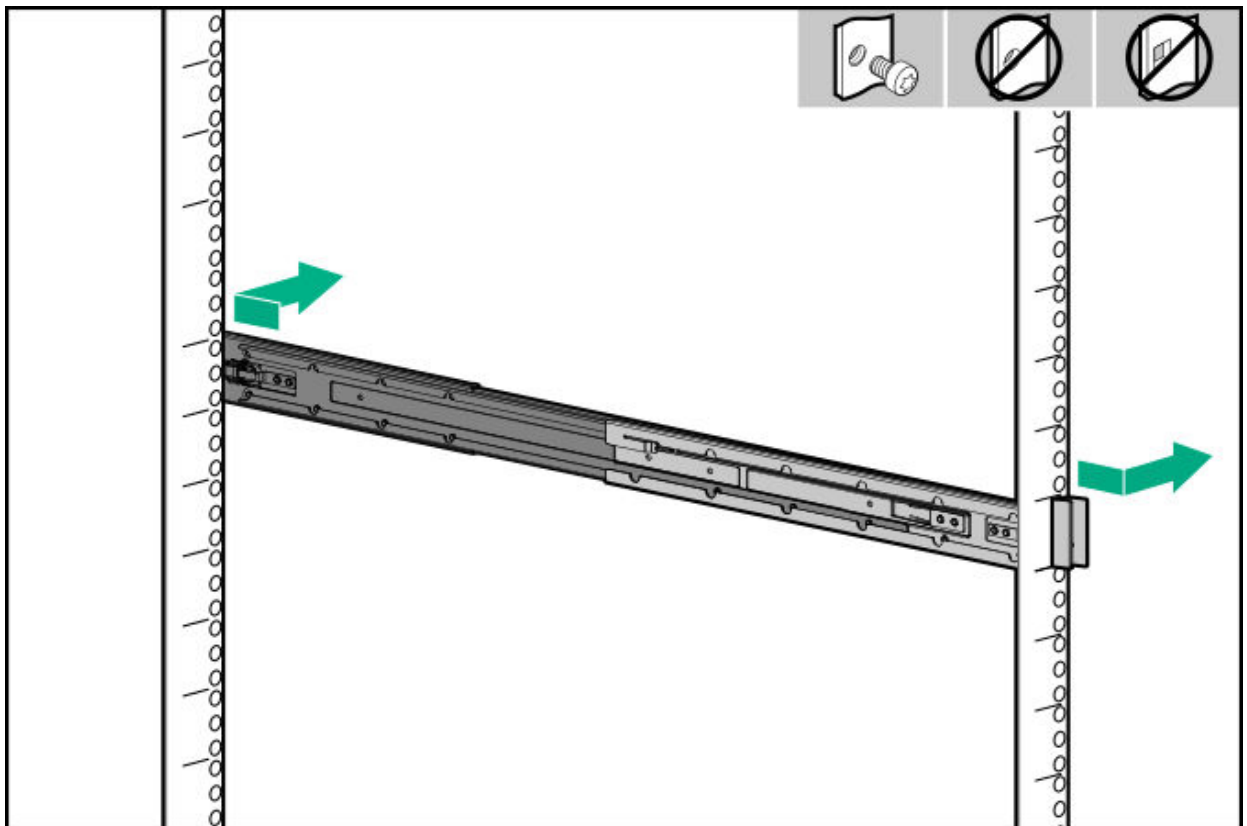
Repeat steps a and b to remove the other rack rail.



9. To remove the mounting rails from a threaded round-hole rack, do the following:
  - a. Remove the rail screws.



b. Disengage the rail pins from the rack columns.



- c. Repeat steps a and b to remove the other rack rail.

## Results

The removal procedure is complete. To replace the component, reverse this procedure.

# Front OCP NIC kit replacement

## Subtopics

[Removing and replacing a front OCP NIC](#)

[Removing and replacing the front OCP NIC carrier and bracket](#)

[Removing and replacing the front OCP NIC cable](#)

[Removing and replacing the OCP NIC interposer](#)

[Removing and replacing the PHY board](#)

[Removing and replacing the E3.S drive filler](#)

# Removing and replacing a front OCP NIC

## Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

## About this task

[https://sketchfab.com/models/0eaf67ab7e3843938deb05417072c30f/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/0eaf67ab7e3843938deb05417072c30f/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)



### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

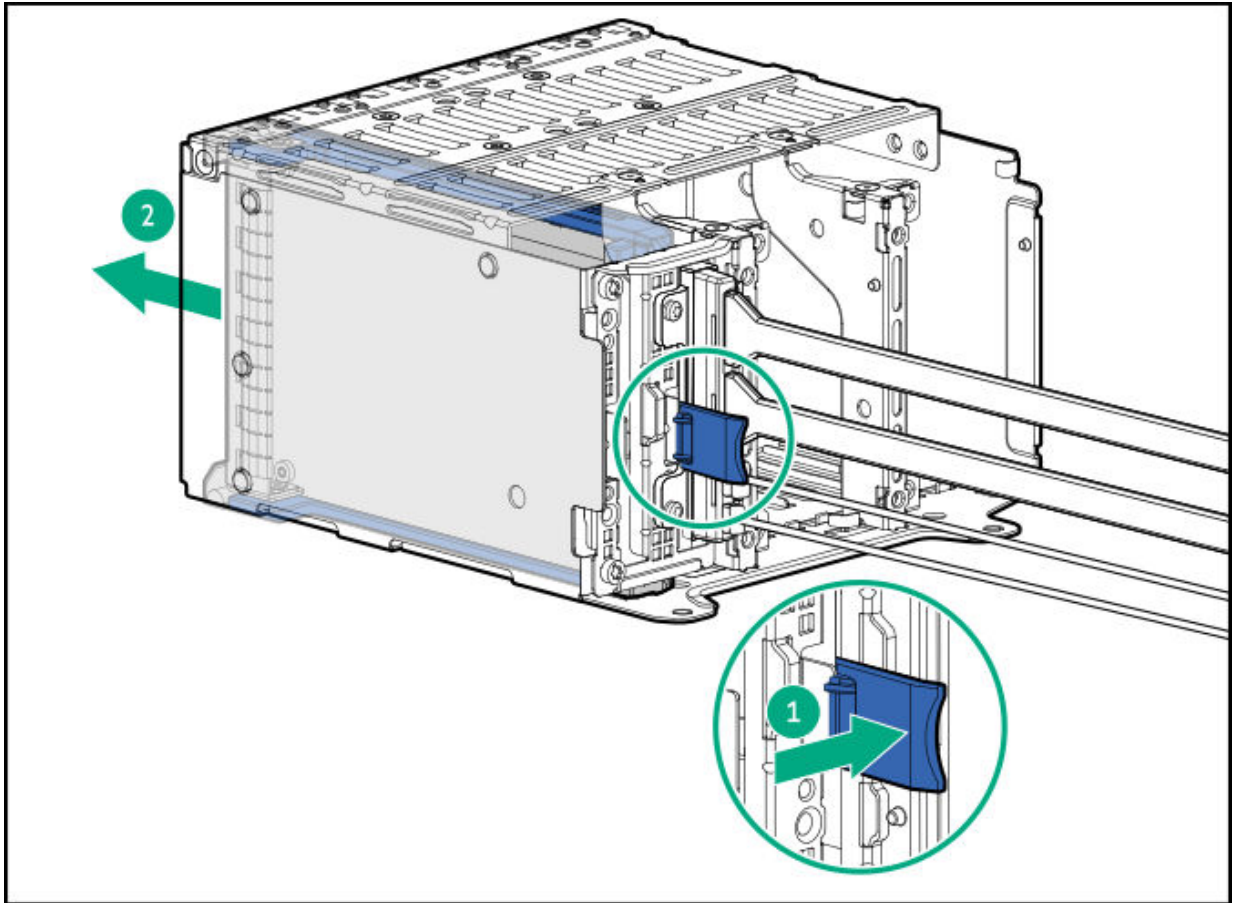


### CAUTION

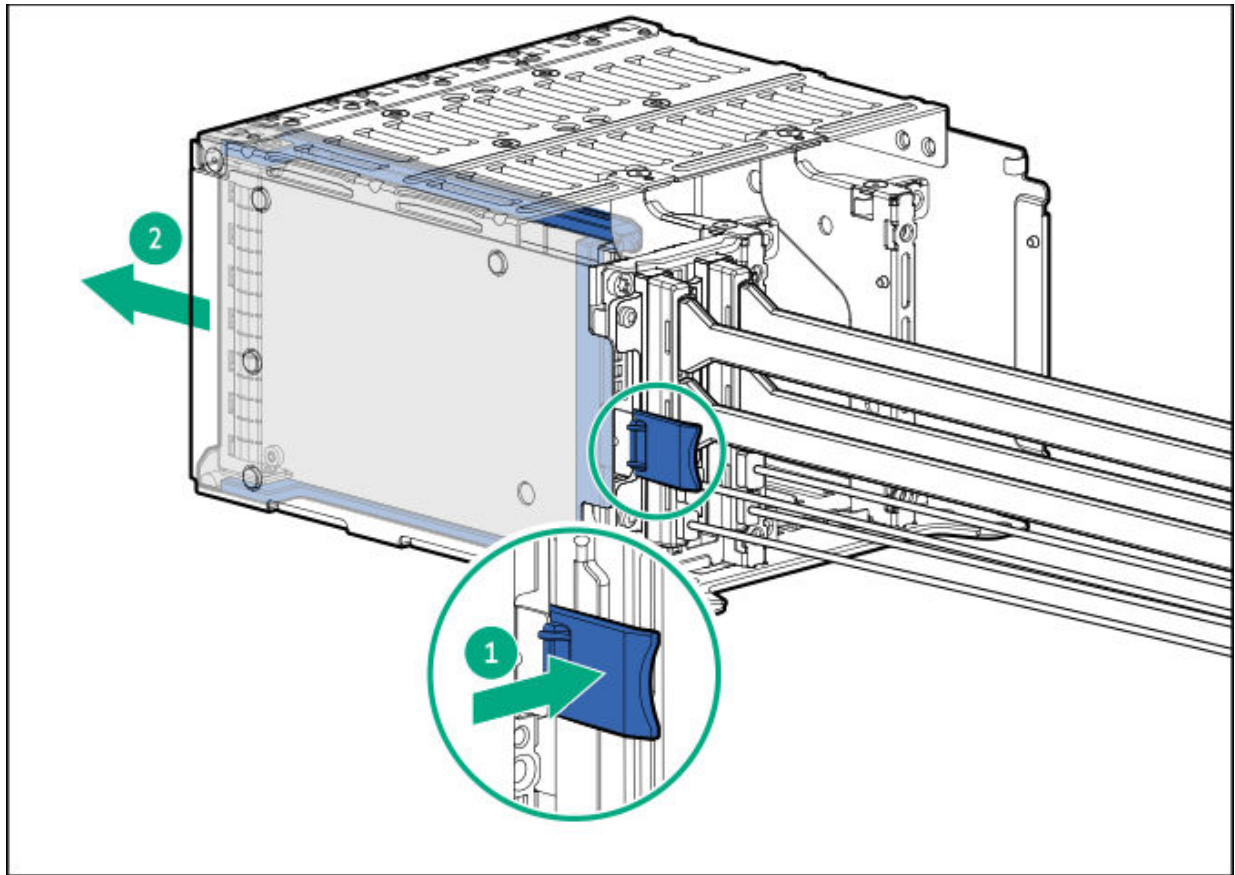
To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

## Procedure

1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fan cage.
9. Do one of the following:
  - In the SFF / E3.S drive configuration, remove the midwall bracket.
  - In the GPU-optimized configuration, remove the middle cover.
10. Press and hold the release latch, and then slide the OCP NIC out of the multipurpose cage.
  - Primary front OCP NIC



- Secondary front OCP NIC



### Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the front OCP NIC carrier and bracket

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

## About this task



### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

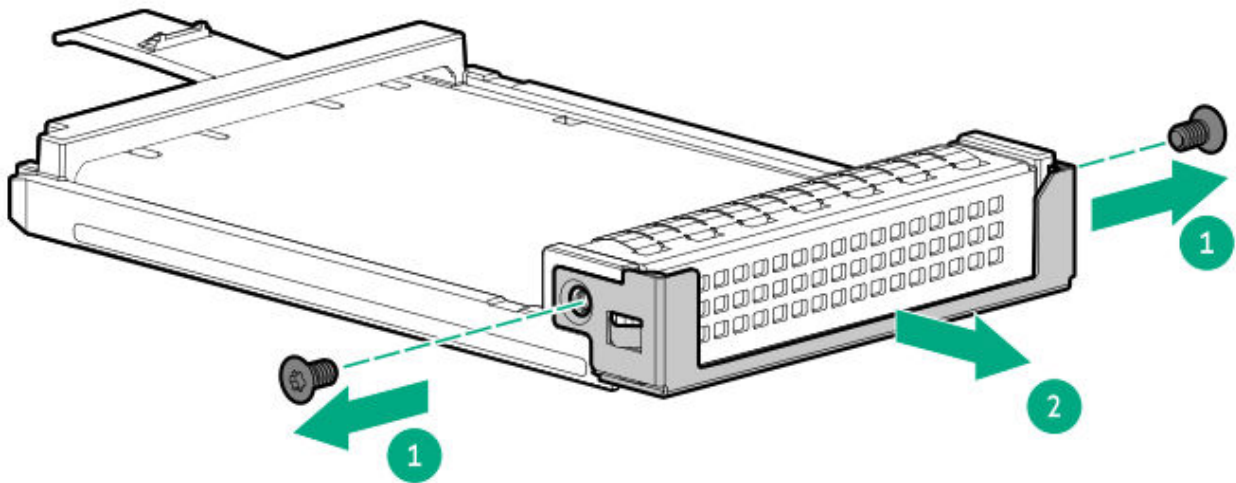


### CAUTION

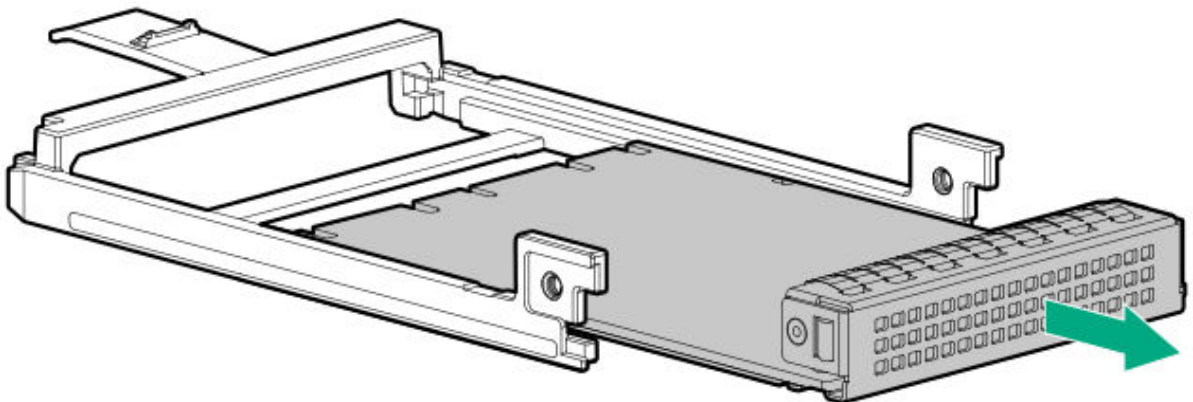
To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

## Procedure

1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fan cage.
9. Do one of the following:
  - In the SFF / E3.S drive configuration, remove the midwall bracket.
  - In the GPU-optimized configuration, remove the middle cover.
- .0. Remove the front OCP NIC.
- .1. Remove the OCP NIC bracket.



.2. Slide the OCP NIC out of the OCP NIC carrier.



### Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the front OCP NIC cable

### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

## About this task

[https://sketchfab.com/models/9be03af9f9914333b5b575dca149205f/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/9be03af9f9914333b5b575dca149205f/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)



### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.



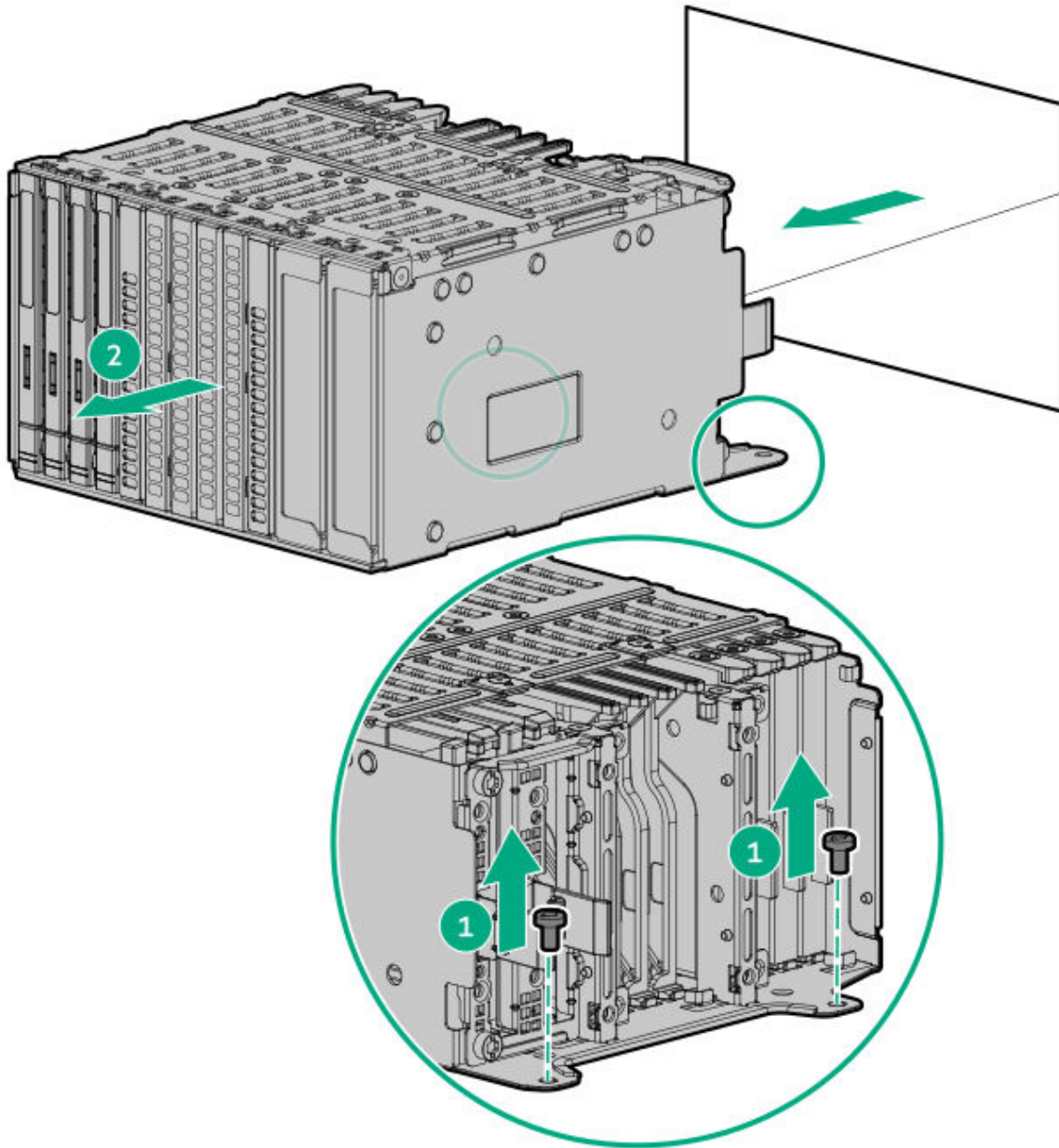
### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

## Procedure

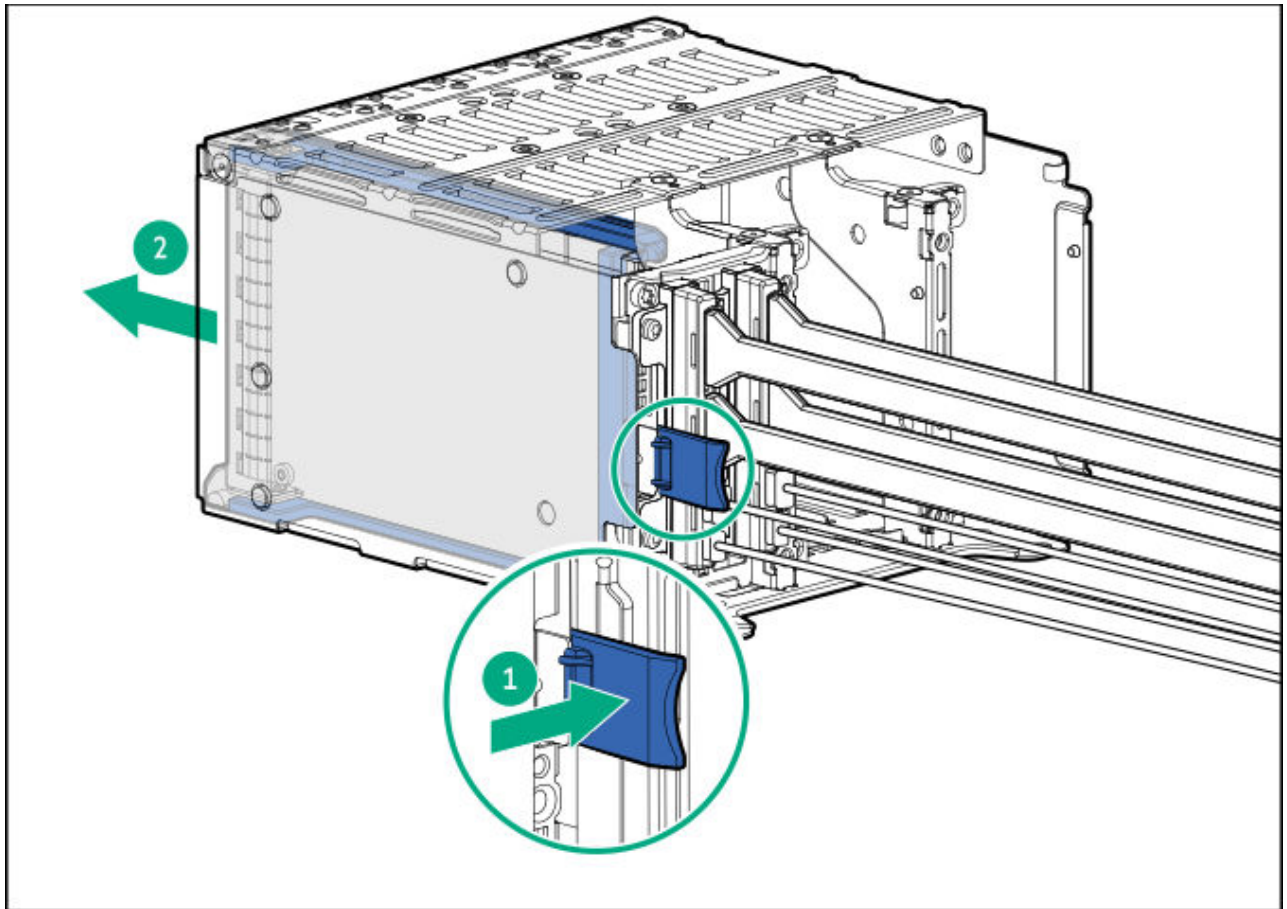
1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fan cage.
9. Do one of the following:
  - In the SFF / E3.S drive configuration, remove the midwall bracket.
  - In the GPU-optimized configuration, remove the middle cover.
10. Disconnect the front OCP cable from the system board and the interposer.

.1. Remove the multipurpose cage from the drive box 2.

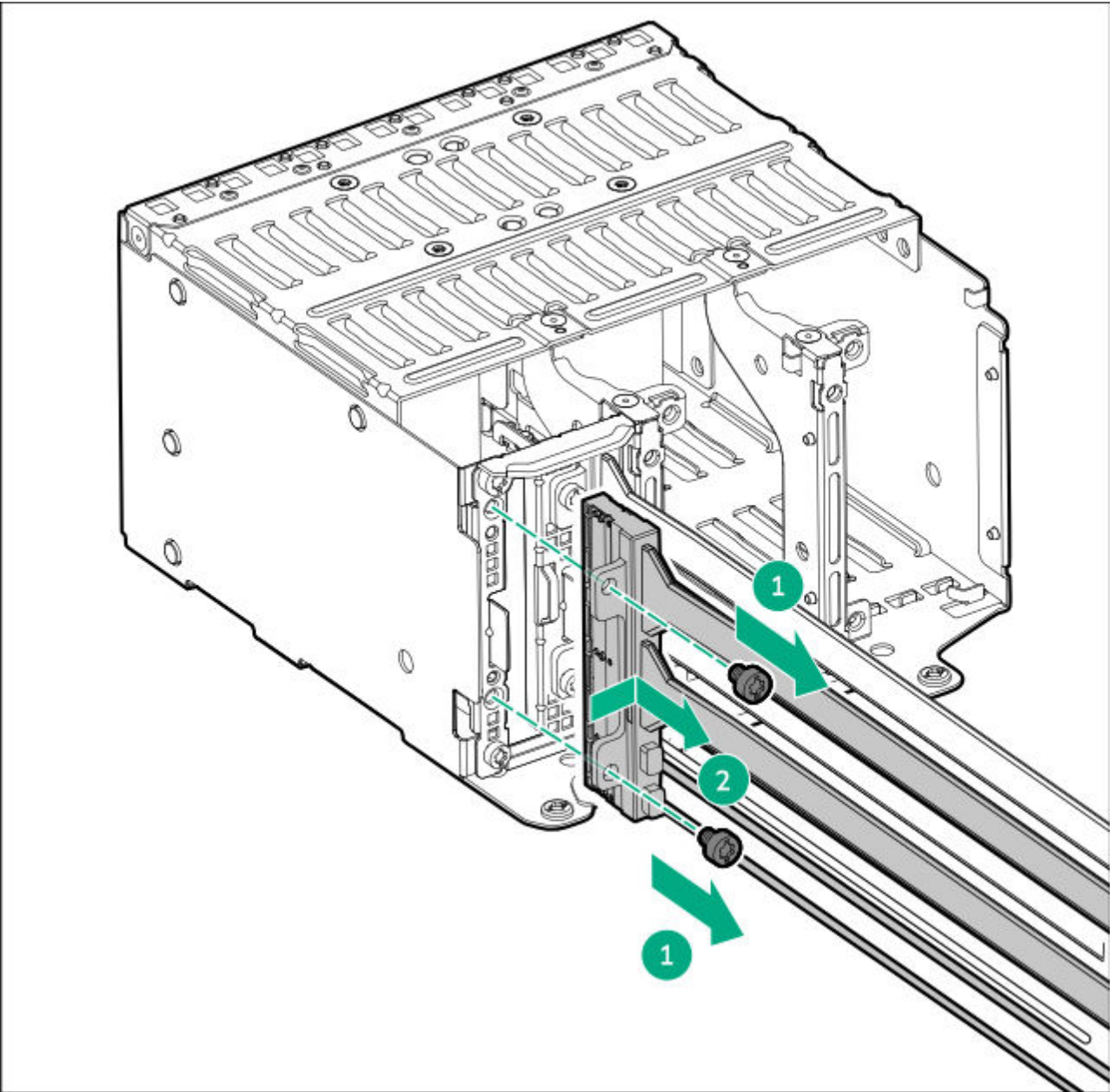


### Remove the secondary front OCP cable

.2. Press and hold the release latch, and then slide the secondary front OCP NIC out of the multipurpose cage.

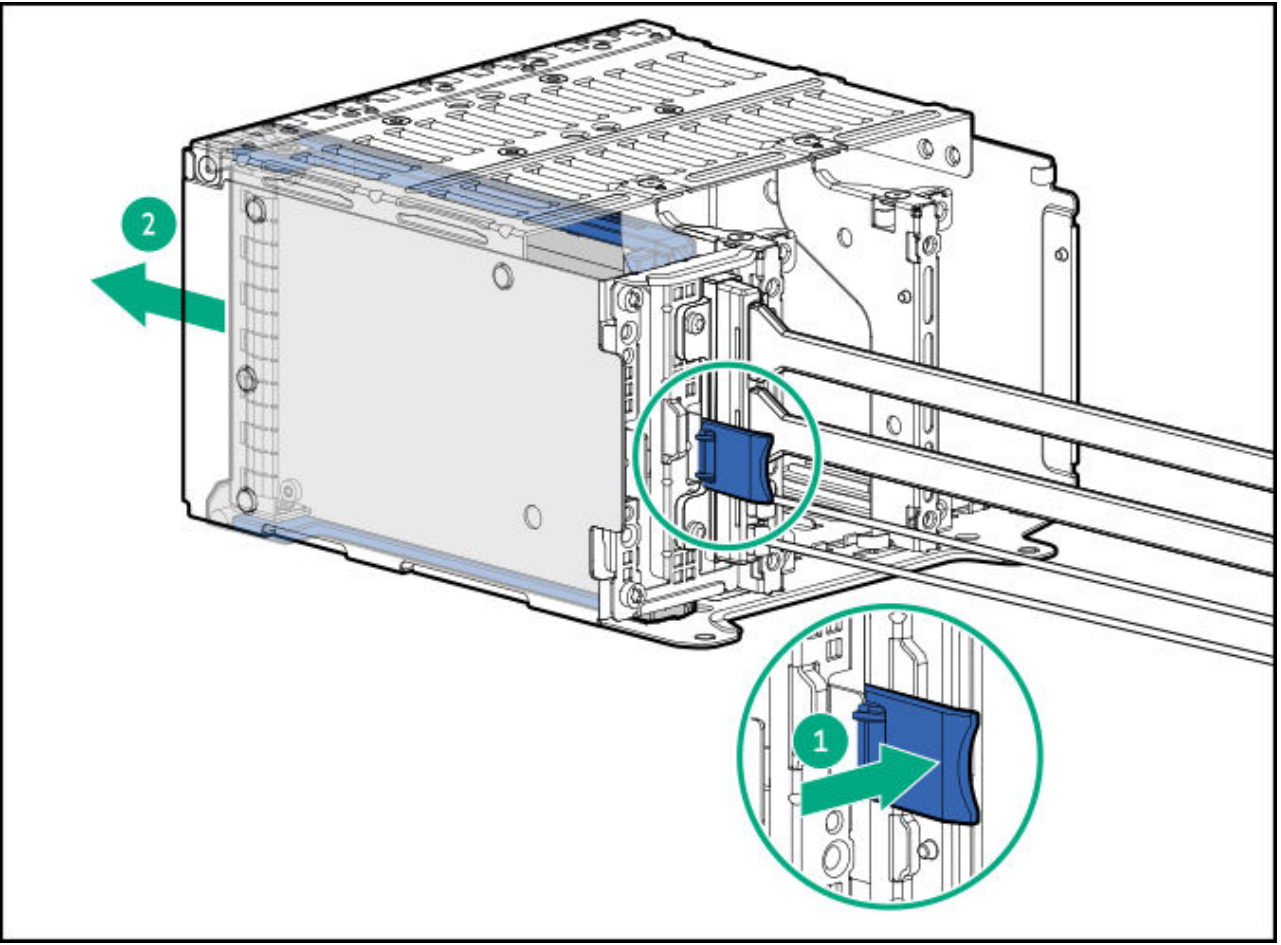


.3. Remove the secondary front OCP cable.

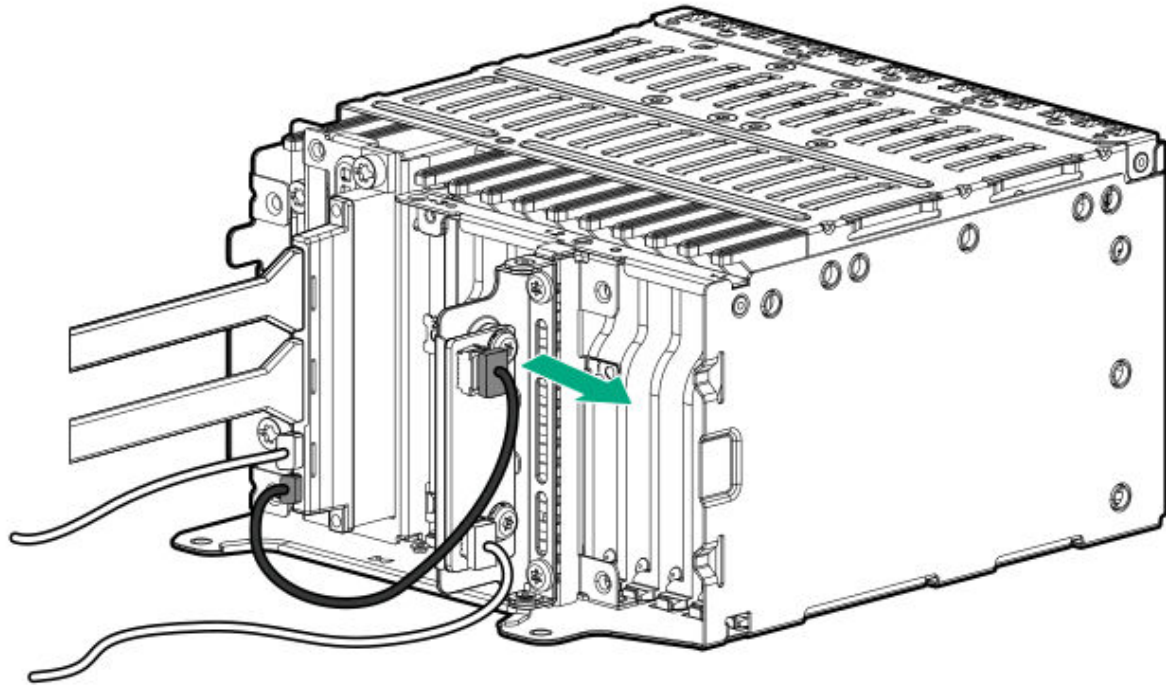


**Remove the primary front OCP cable**

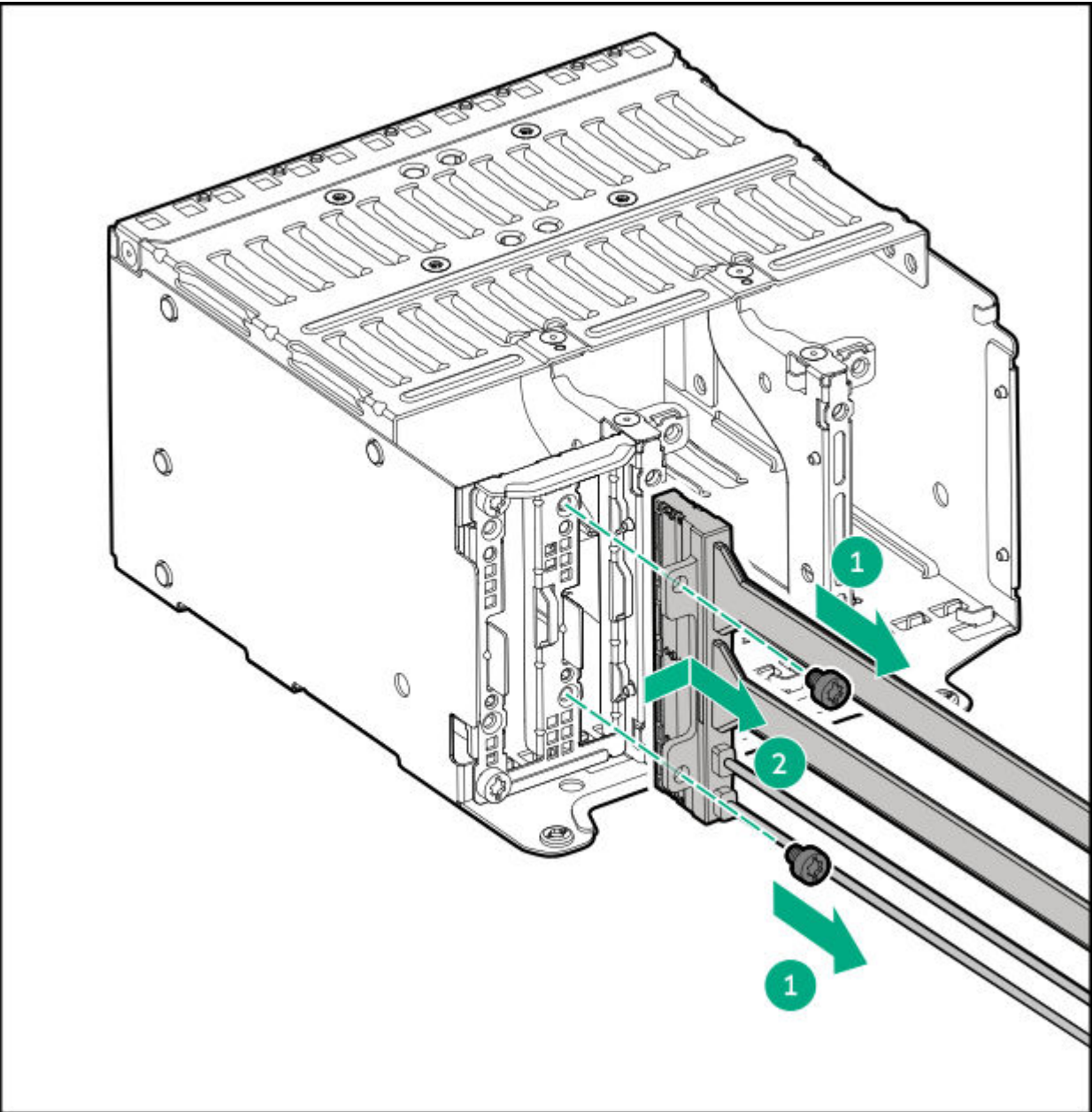
.4. Press and hold the release latch, and then slide the primary front OCP NIC from the multipurpose cage.



.5. Disconnect the front OCP NIC cable from the PHY board.



.6. Remove the primary front OCP cable.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

# Removing and replacing the OCP NIC interposer

## About this task



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.



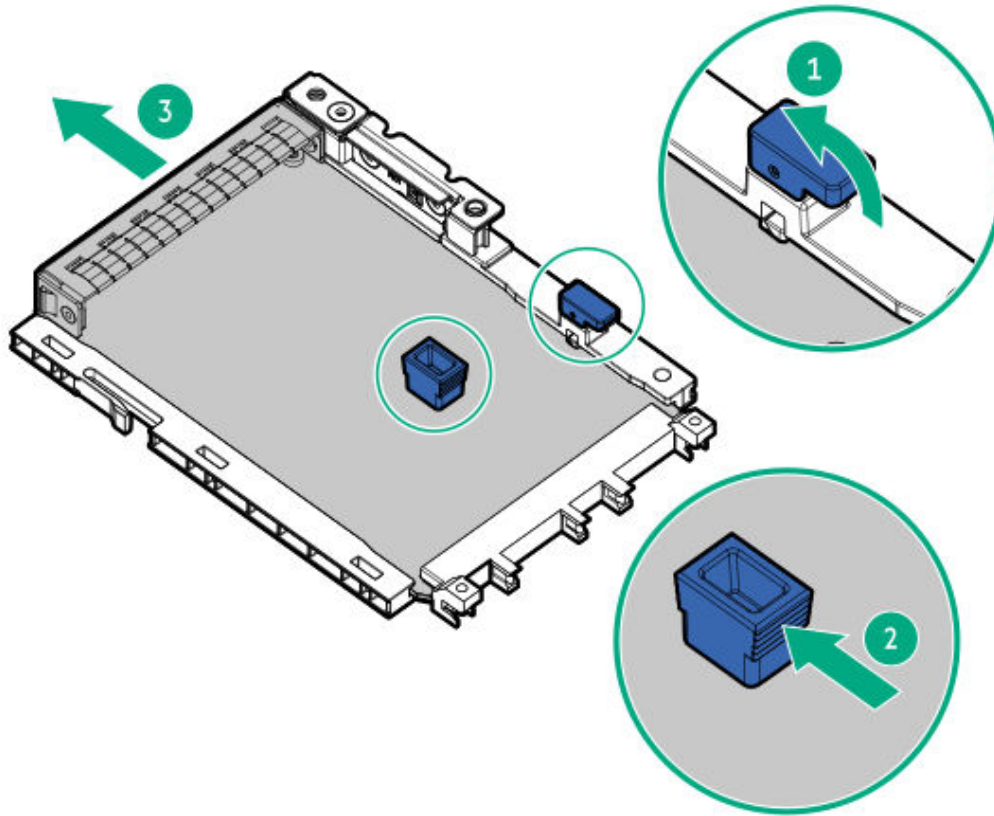
### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all OCP slots have either an OCP option or a slot blank installed.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. If installed, remove the secondary riser cage.
7. Disconnect the front OCP NIC cable from the OCP NIC interposer.
8. Remove the OCP NIC interposer:

- a. Pivot the locking pin to the open (vertical) position.
- b. Push the blue touch point to disengage the interposer from the slot.
- c. Remove the interposer from the slot.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the PHY board

### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

### About this task

<https://sketchfab.com/models/fa1a2be8831f431997af905a3f588af4/embed?>



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

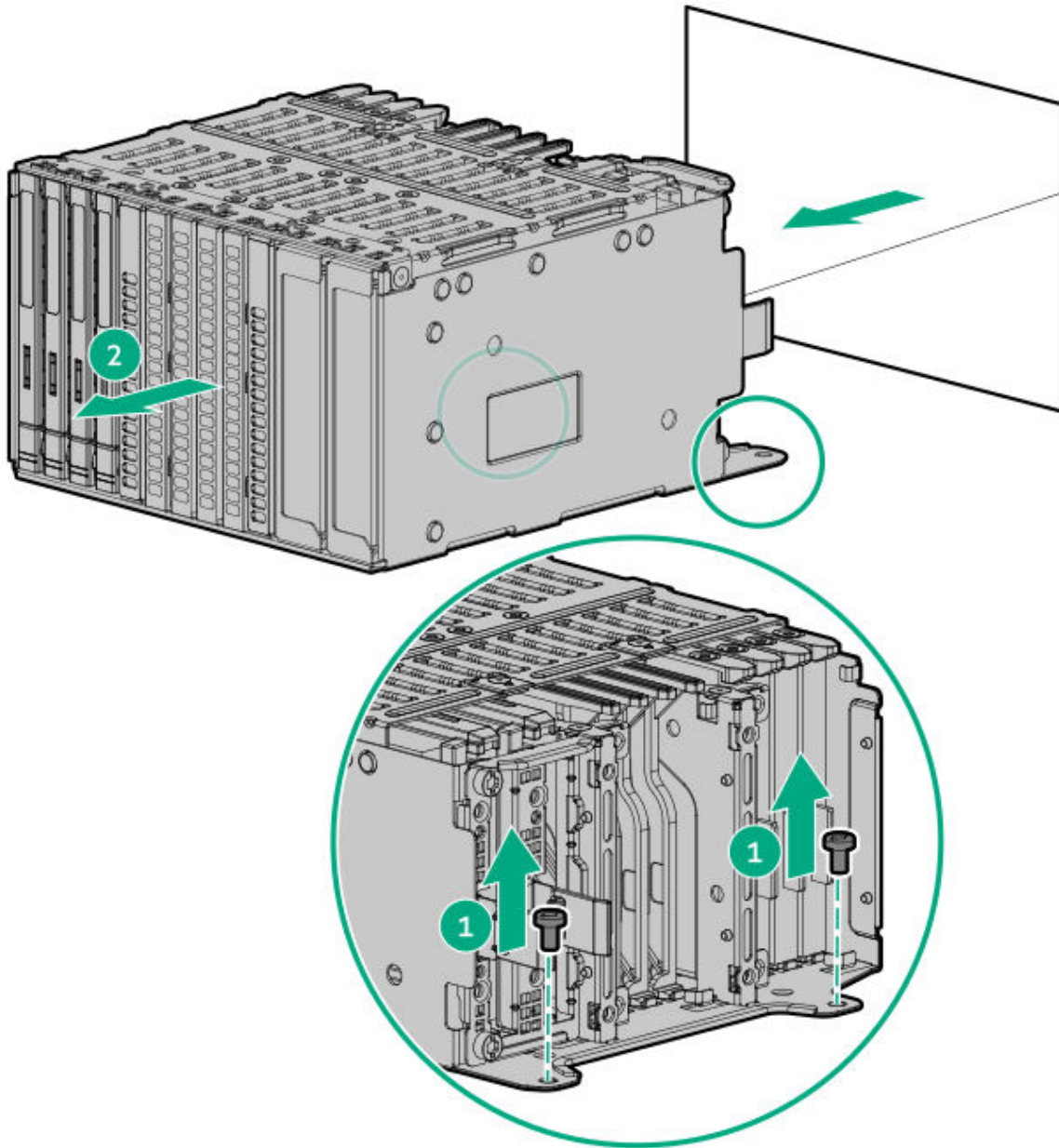
When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

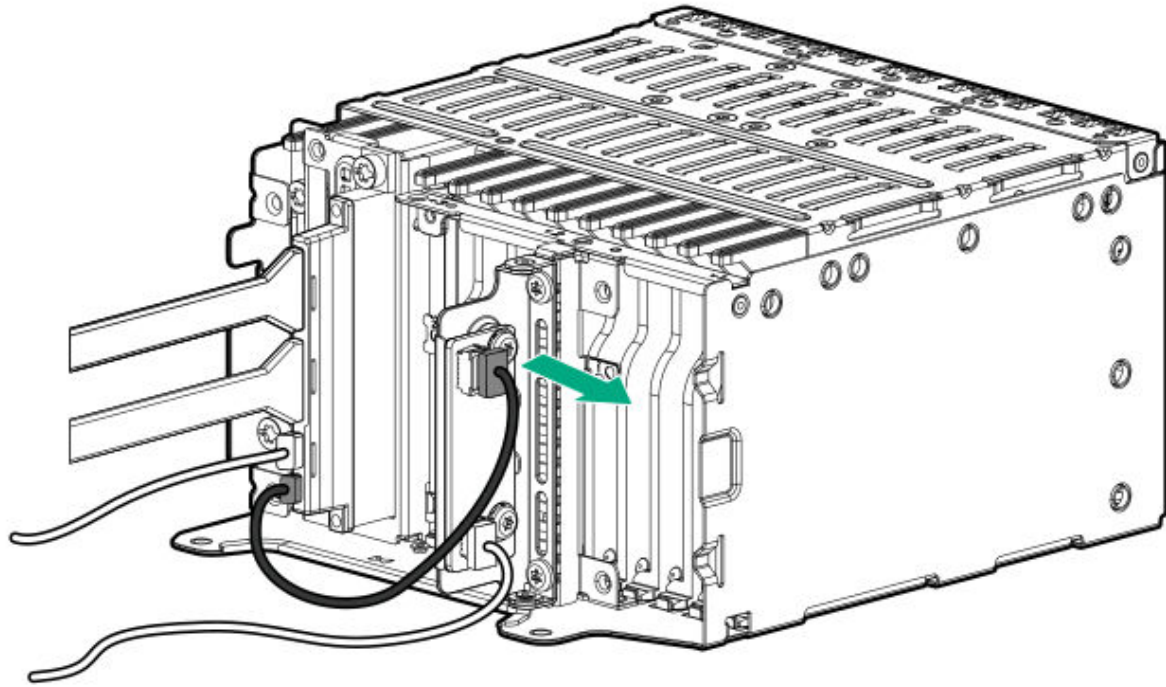
### Procedure

1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fan cage.
9. Do one of the following:
  - In the SFF / E3.S drive configuration, remove the midwall bracket.
  - In the GPU-optimized configuration, remove the middle cover.
10. Disconnect the OCP cable from the system board and the interposer.

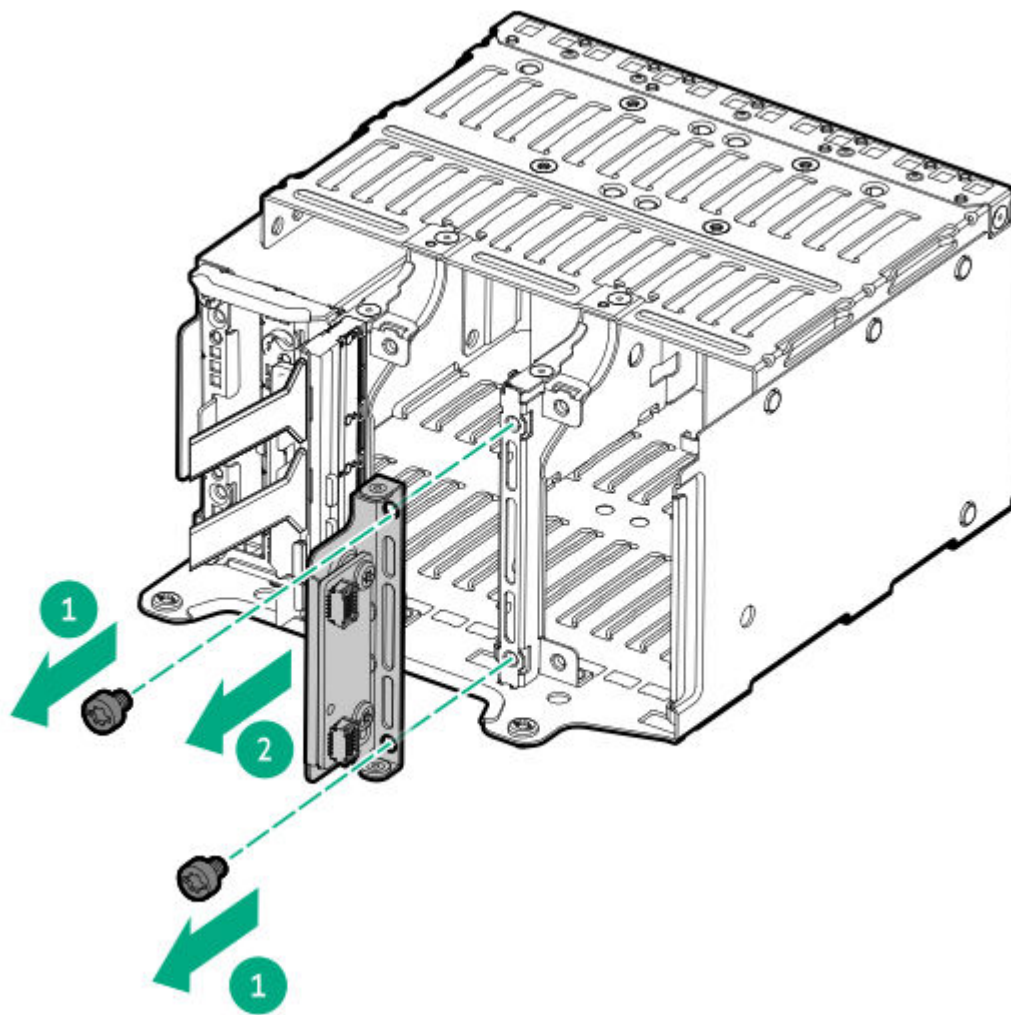
.1. Remove the multipurpose cage from the drive box 2.



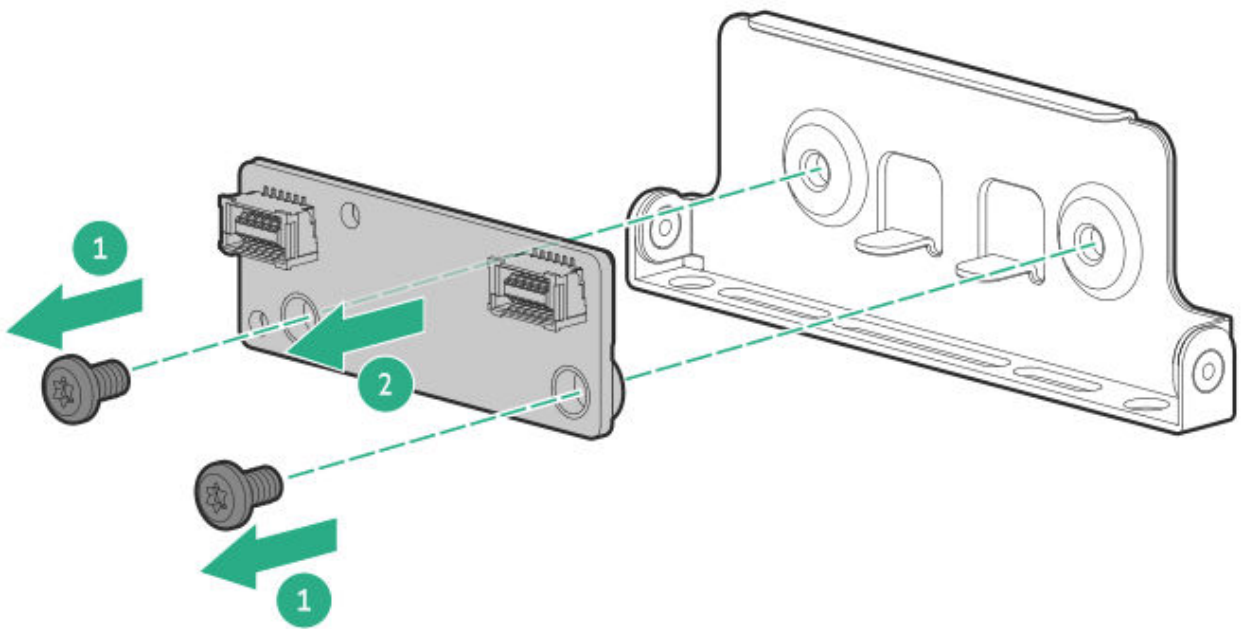
.2. Disconnect the front OCP NIC cable from the PHY board.



.3. Remove the PHY board bracket from the multipurpose cage.



4. Remove the PHY board from the PHY board bracket.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the E3.S drive filler

### Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-15 Torx screwdriver
- Spudger or any small prying tool

### About this task

<https://sketchfab.com/models/f85db1136c564944a4d3f3b8d615082e/embed?>



#### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

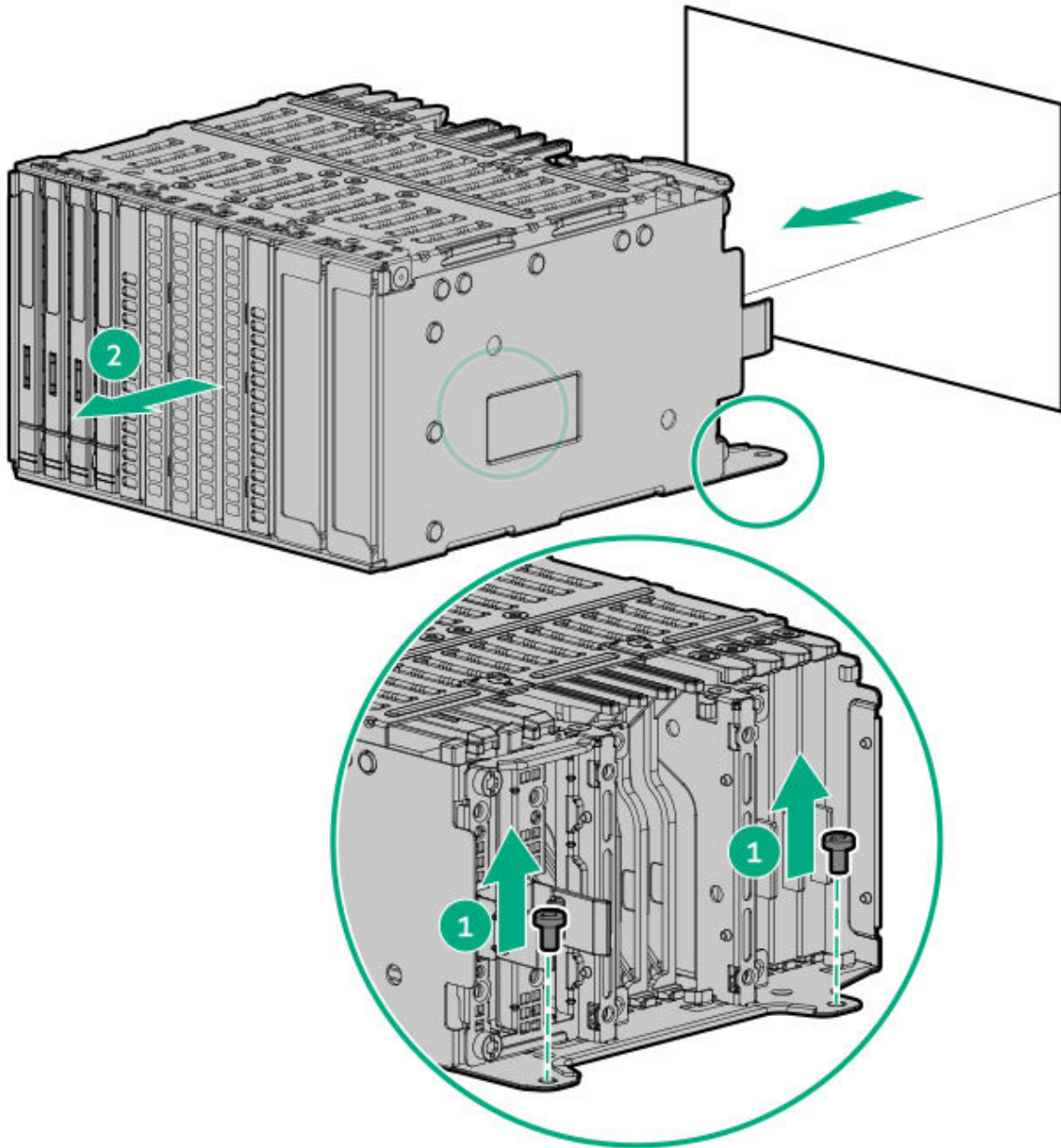


#### CAUTION

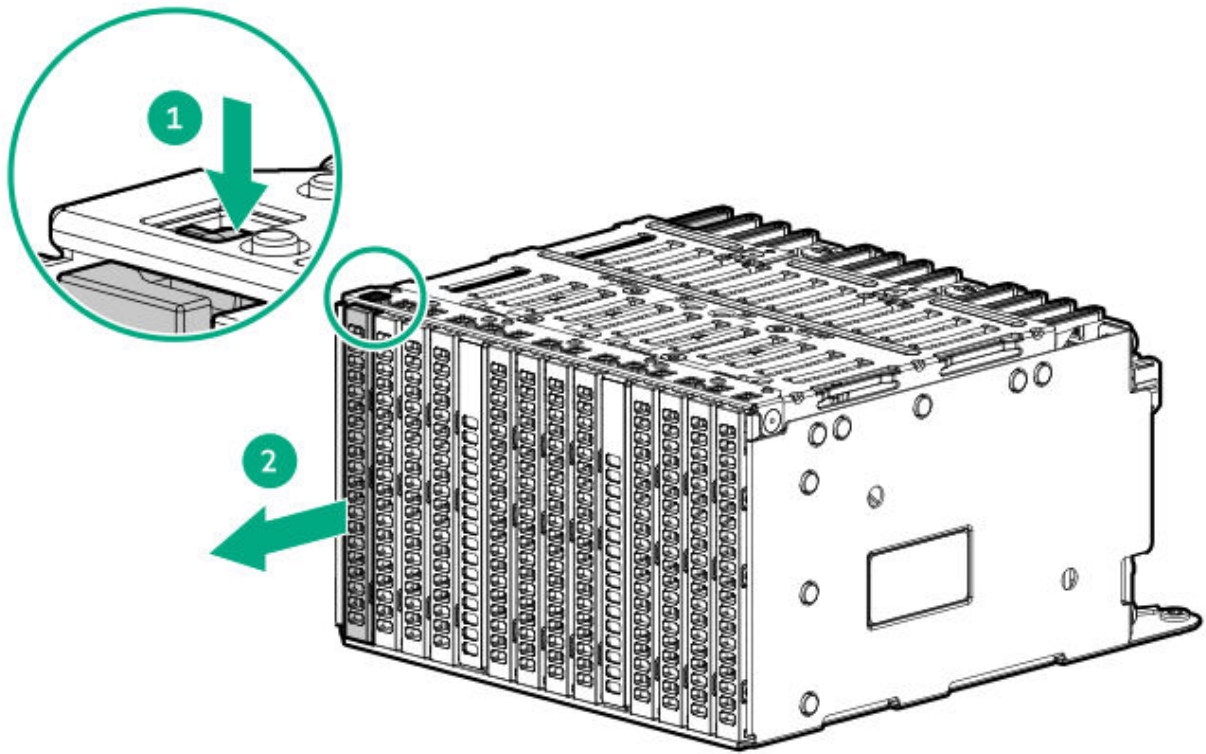
To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

### Procedure

1. If installed, [remove the front bezel](#).
2. [Power down the server](#).
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - [Extend the server out of the rack](#).
  - [Remove the server from the rack](#).
6. [Remove the access panel](#).
7. [Remove the air baffle](#).
8. [Remove the fan cage](#).
9. Do one of the following:
  - In the SFF / E3.S drive configuration, [remove the midwall bracket](#).
  - In the GPU-optimized configuration, [remove the middle cover](#).
10. [Disconnect the OCP cable from the system board and the interposer](#).
11. Remove the multipurpose cage from the drive box 2.



.2. Use a plastic spudger to press the release latch, and then remove the E3.S drive filler.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Drive backplane replacement

### Subtopics

**[Removing and replacing a 4 LFF drive backplane](#)**

**[Removing and replacing the 8 SFF drive backplane](#)**

**[Removing and replacing the 2 SFF side-by-side drive backplane](#)**

**[Removing and replacing the 2 SFF stacked drive backplane](#)**

**[Removing and replacing a 4 E3.S drive backplane](#)**

# Removing and replacing a 4 LFF drive backplane

## Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

## About this task



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

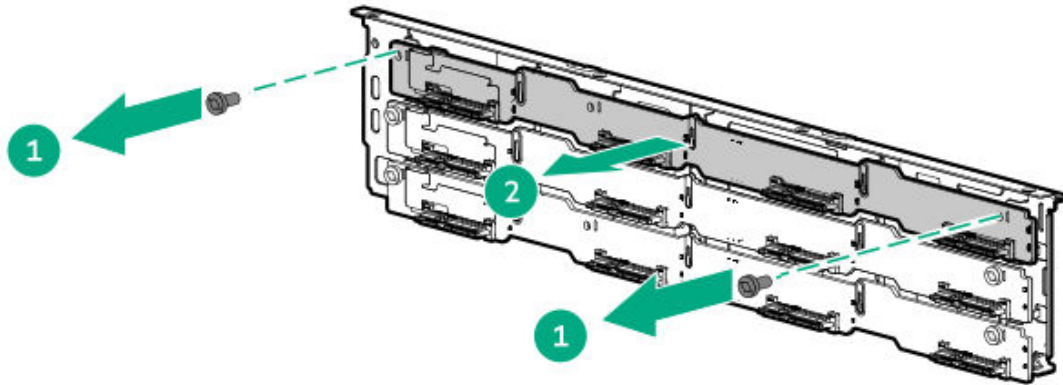
## Procedure

1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fan cage.
9. Remove the midwall bracket.

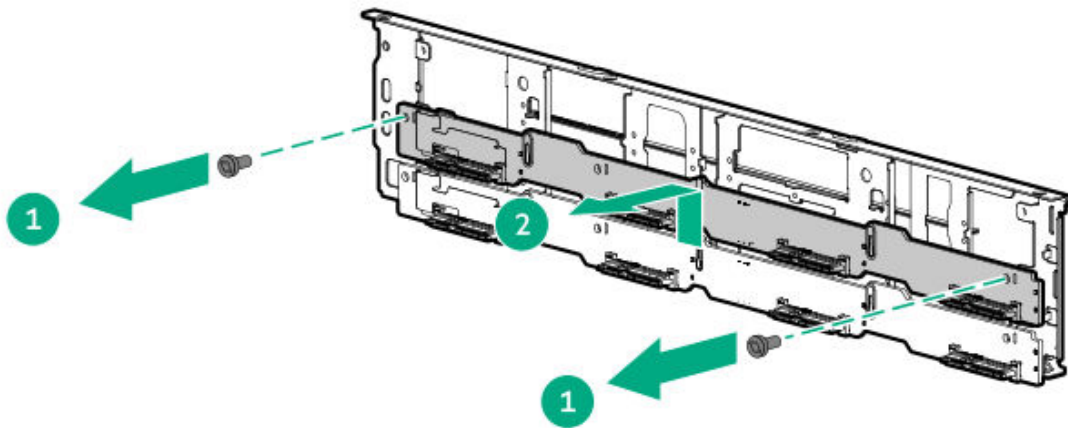
- .0. If installed, remove all LFF drives.
- .1. Disconnect all cables from the LFF drive backplane.
- .2. Remove the LFF drive backplane bracket.
- .3. Remove the drive backplane from the drive backplane bracket.

Retain the screws. These screws will be used to secure the new spare backplane.

- Box 1



- Box 2 or 3



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

# Removing and replacing the 8 SFF drive backplane

## Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

## About this task

[https://sketchfab.com/models/d574b9173fdb4c8f8e4d5d5ea518e59c/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/d574b9173fdb4c8f8e4d5d5ea518e59c/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

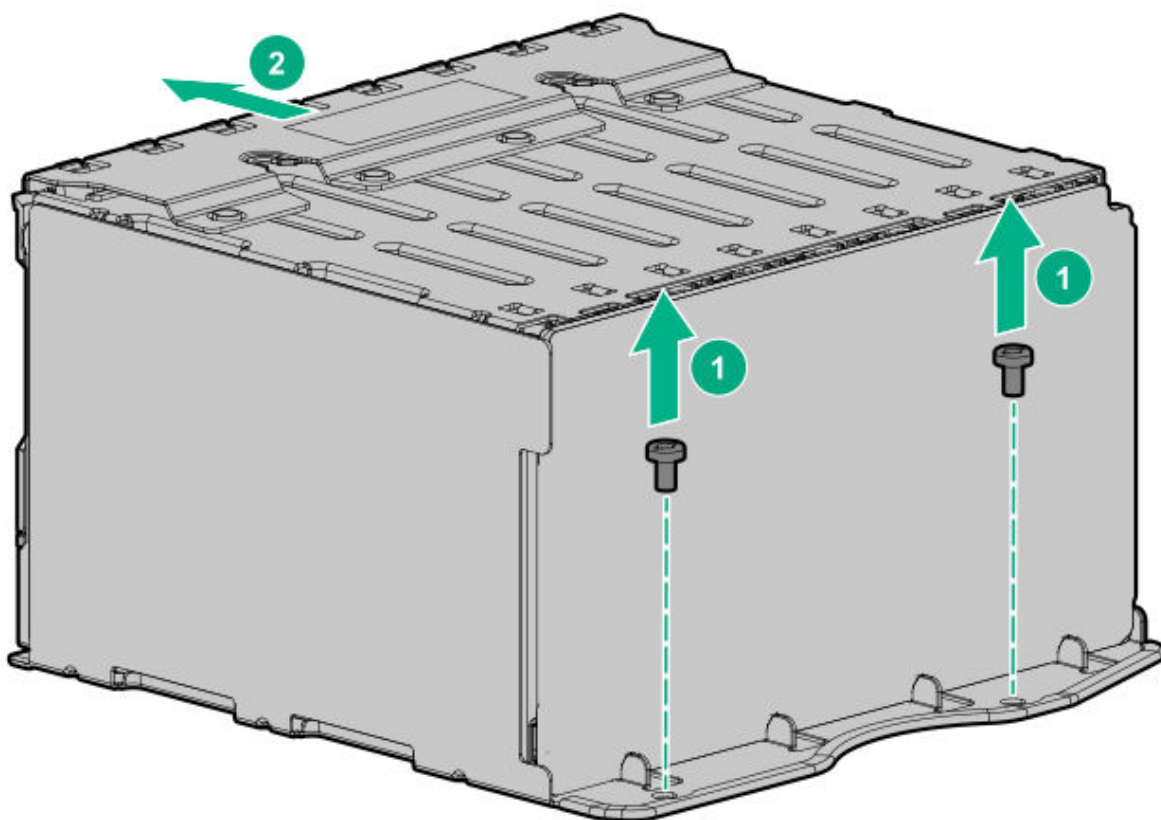
When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

## Procedure

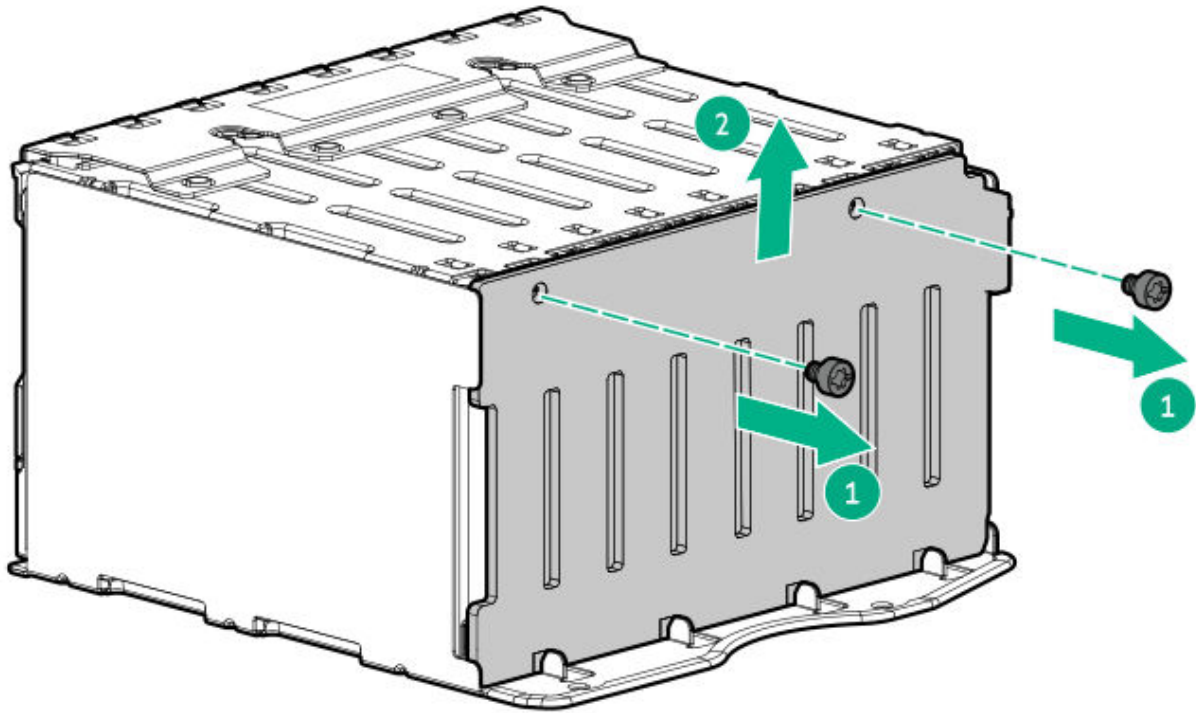
1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.

6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fan cage.
9. Do one of the following:
  - In the SFF / E3.S drive configuration, remove the midwall bracket.
  - In the GPU-optimized configuration, remove the middle cover.
- .0. If installed, remove all SFF drives.
- .1. Disconnect all cables from the SFF drive backplane.
- .2. Remove the screws, and then remove the SFF drive cage.



- .3. Remove the screws, and then remove the drive backplane.

Retain the screws. These screws will be used to secure the new spare backplane.



### Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the 2 SFF side-by-side drive backplane

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

## About this task



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

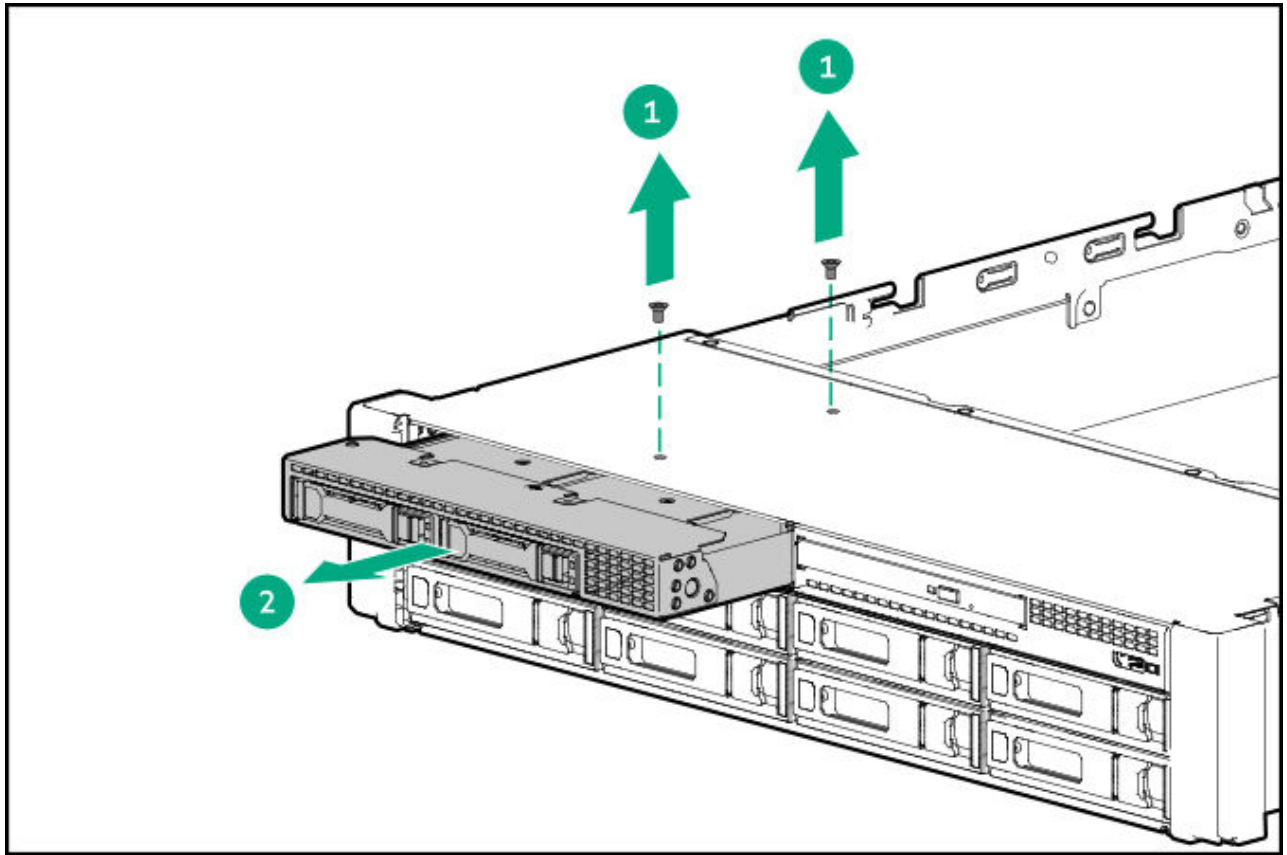
When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

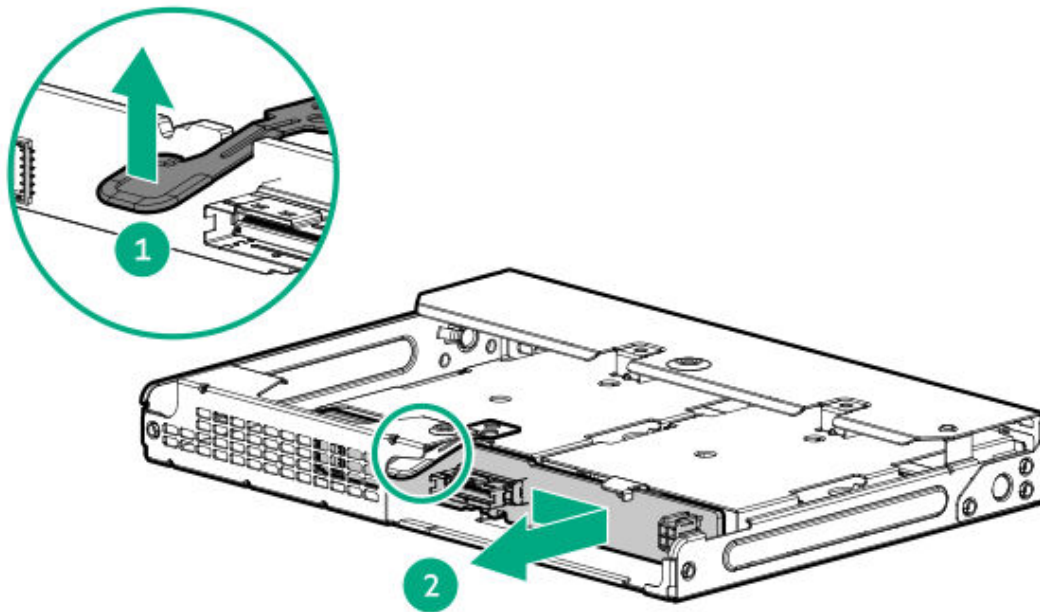
## Procedure

1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fan cage.
9. Remove the midwall bracket.
0. Remove the LFF drive backplane bracket.
- .1. Disconnect all cables from the 2 SFF side-by-side drive backplane.
- .2. Remove the front 2 SFF side-by-side drive cage:

- a. Remove the drive cage screws.
- b. Remove the front 2 SFF side-by-side drive cage from the server.



- .3. If installed, remove all SFF drives.
- .4. Remove the 2 SFF side-by-side drive backplane:
  - a. Lift the backplane latch.
  - b. Remove the backplane from the drive cage.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the 2 SFF stacked drive backplane

### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

### About this task

<https://sketchfab.com/models/15156a9f9e65492f9becee2e1a692f3d/embed?>



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

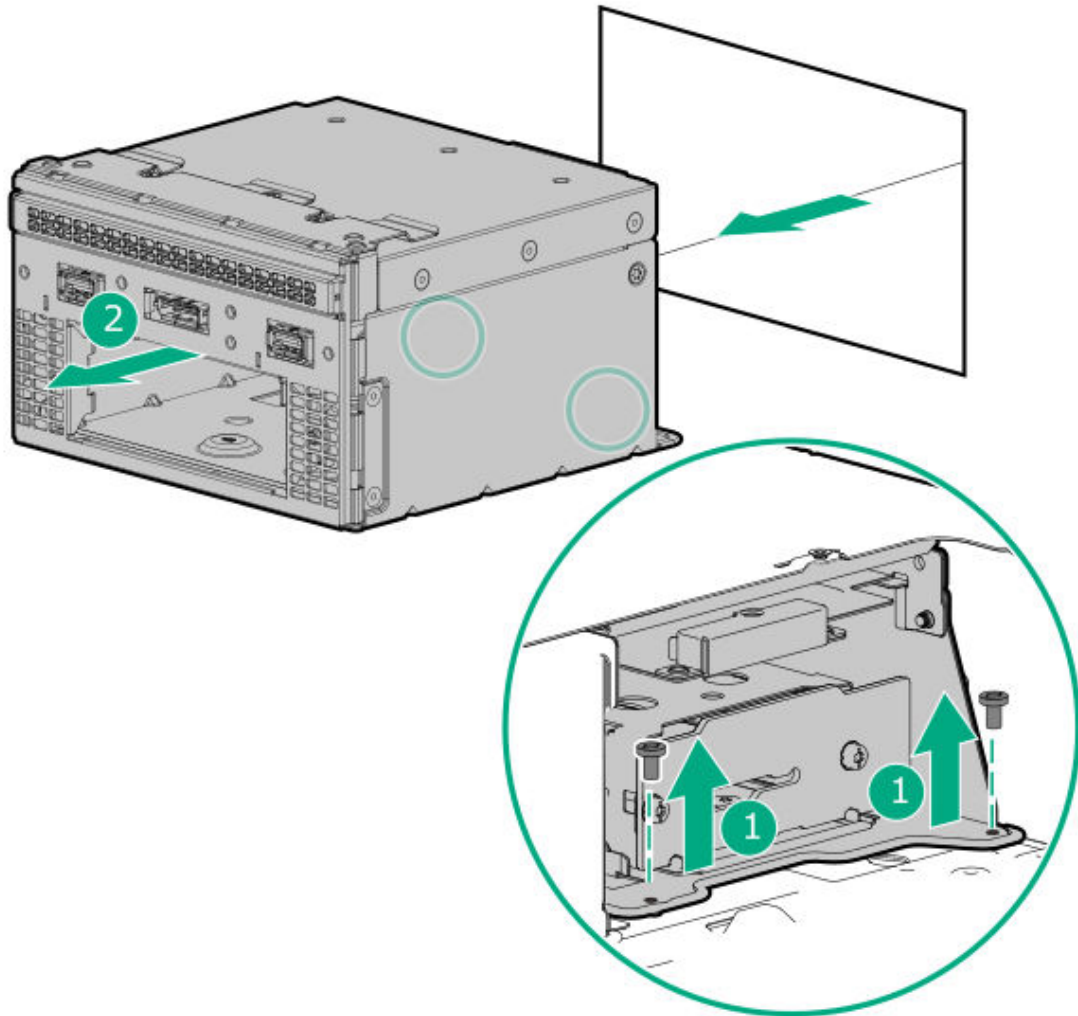
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

### Procedure

1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fan cage.
9. Remove the midwall bracket.
0. If installed, remove all SFF drives from the stacked drive cage.
1. If installed, disconnect the following cables from the system board:
  - Optical drive cable

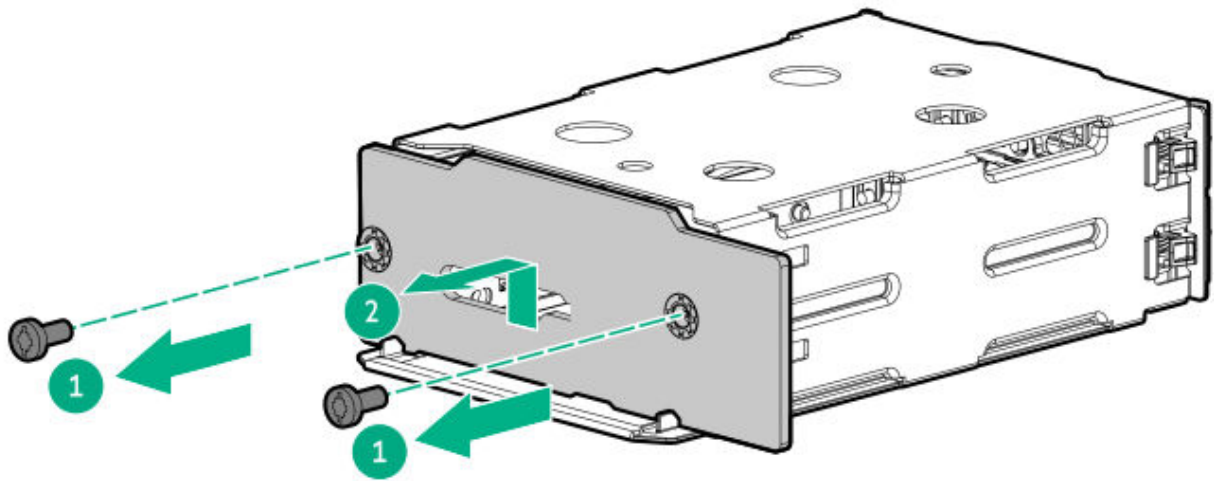
- Universal media bay cables

- .2. Disconnect all cables from the 2 SFF stacked drive backplane.
- .3. Remove the universal media bay cage.



- .4. Remove the 2 SFF stacked drive backplane.

Retain the screws. These screws will be used to secure the new spare backplane.



### Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing a 4 E3.S drive backplane

### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

### About this task

<https://sketchfab.com/models/ae656de47b54446ada4178cc352f88b/embed?>



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

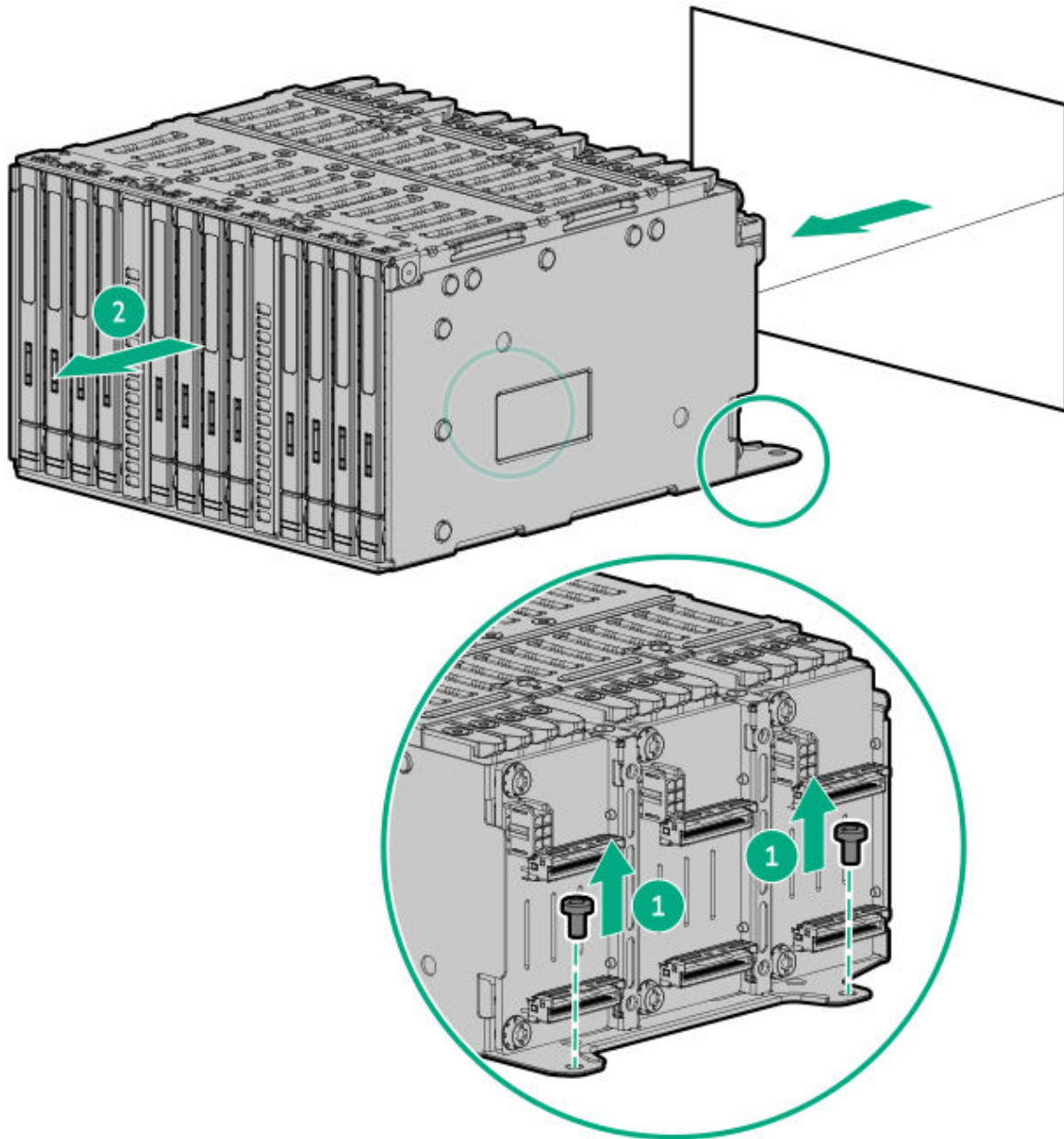
When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

### Procedure

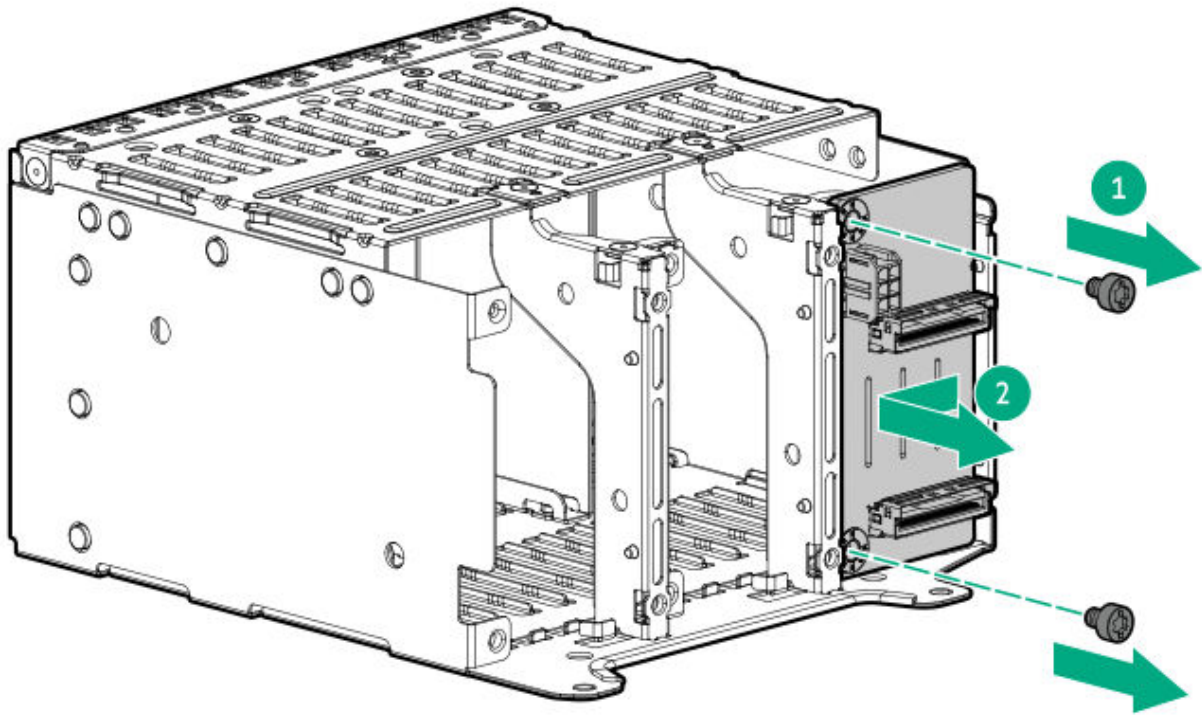
1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fan cage.
9. Do one of the following:
  - In the SFF / E3.S drive configuration, remove the midwall bracket.
  - In the GPU-optimized configuration, remove the middle cover.
10. If installed, remove all E3.S drives.

- .1. Disconnect all cables from the E3.S drive backplane.
- .2. Remove the screws, and then remove the multipurpose cage.



- .3. Remove the screws, and then remove the E3.S drive backplane.

Retain the screws. These screws will be used to secure the new spare backplane.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

# Optical drive replacement

## Subtopics

[Removing and replacing an optical drive from the LFF chassis](#)

[Removing and replacing the optical drive from the SFF chassis](#)

## Removing and replacing an optical drive from the LFF chassis

### Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-10 Torx screwdriver

- Phillips No. 1 screwdriver

## About this task



### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.



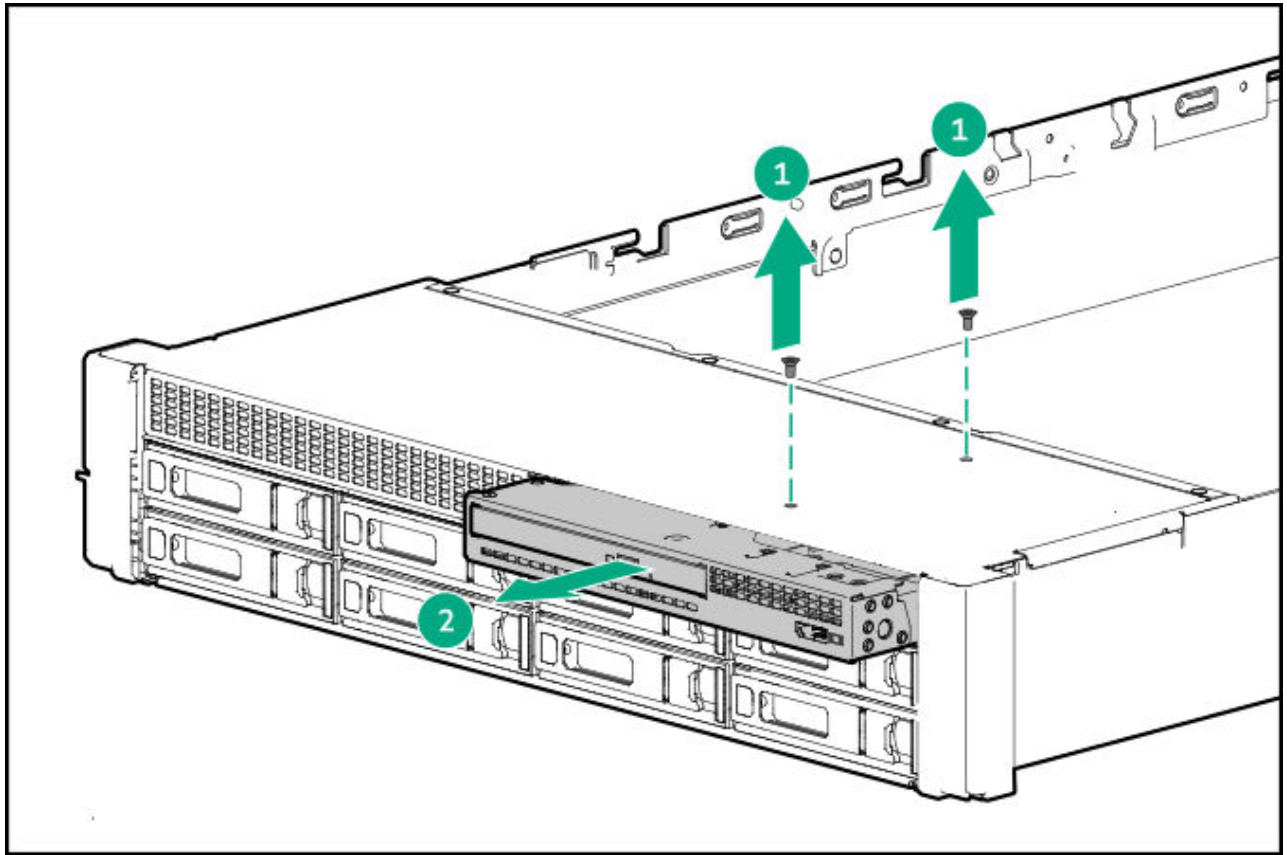
### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

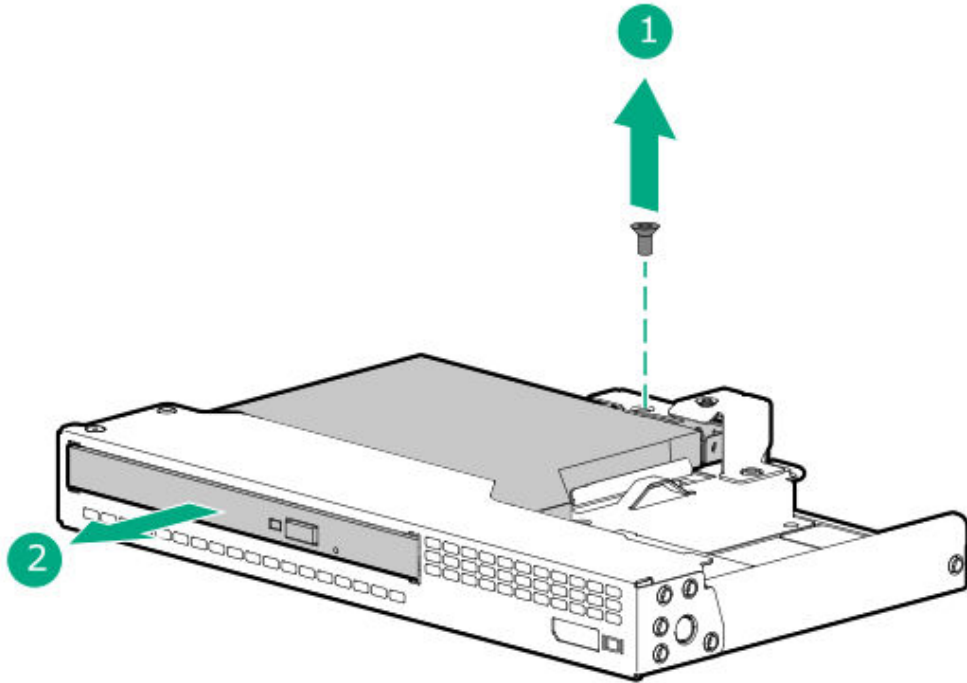
## Procedure

1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fan cage.
9. Remove the midwall bracket.
0. Remove the LFF drive backplane bracket.
- .1. Do the following:
  - Disconnect the cable from the optical drive.
  - Disconnect the universal media bay cable from the system board.
- .2. Remove the universal media bay:

- a. Remove the universal media bay screws.
- b. Remove the universal media bay from the server.

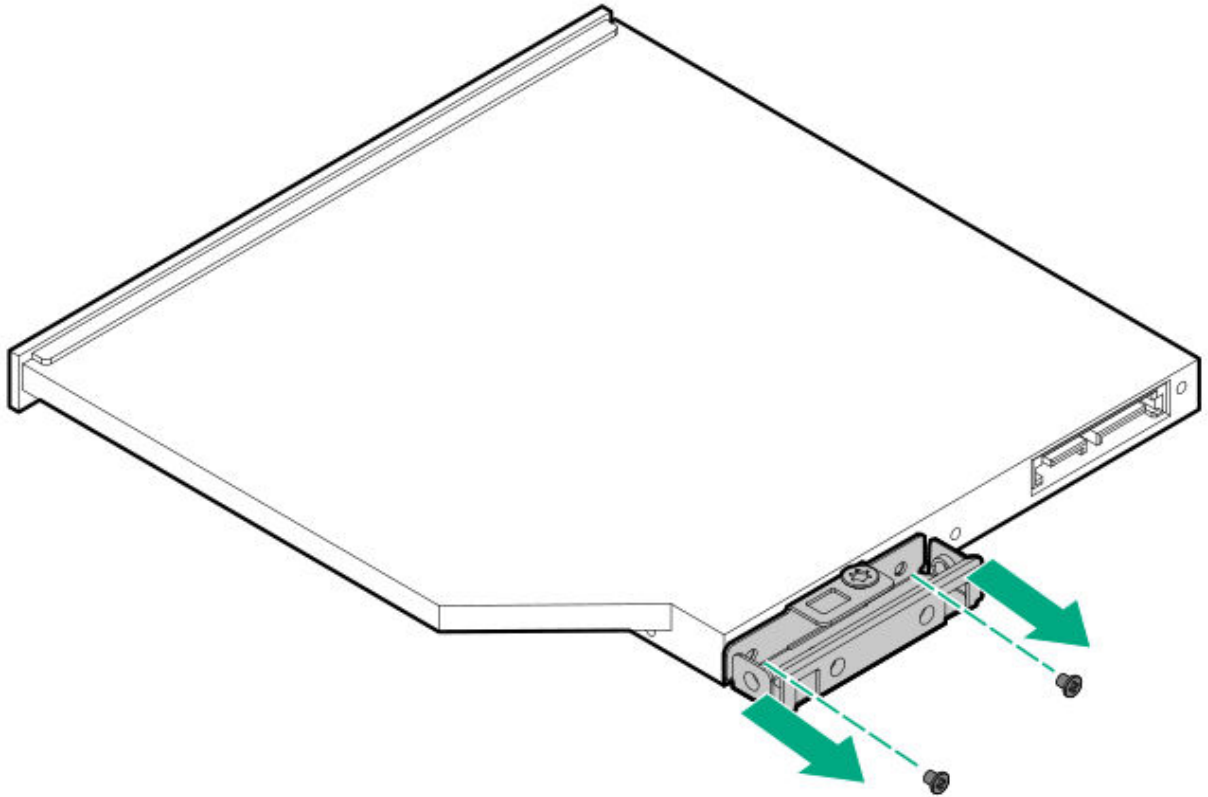


- .3. Remove the screw, and then remove the optical drive from the universal media bay.



4. Remove the optical drive bracket.

Retain the screws and bracket. These screws will be used to secure the bracket on the new optical drive spare.



### Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the optical drive from the SFF chassis

### Prerequisites

Before you perform this procedure, make sure that you have a Phillips No. 1 screwdriver available.

## About this task



### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

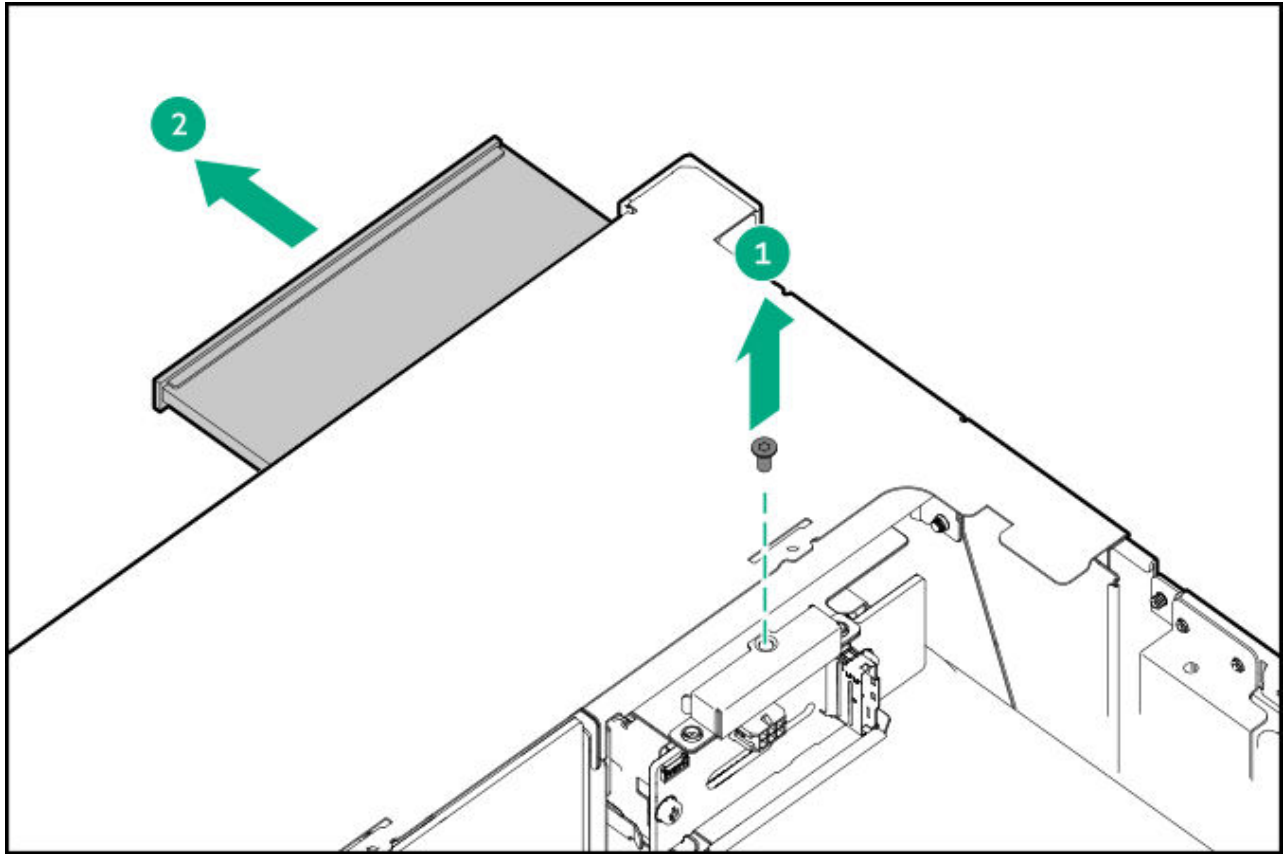


### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

## Procedure

1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fan cage.
9. Remove the midwall bracket.
0. Disconnect the cable from the optical drive.
- .1. Remove the screw, and then remove the optical drive from the universal media bay.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing a fan

### Prerequisites

Review the [Fan and heatsink requirements](#).

### About this task

[https://sketchfab.com/models/27948ae8ac08440b8e86e9f8e786de80/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_animations=0&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/27948ae8ac08440b8e86e9f8e786de80/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_animations=0&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

Mixed standard and high performance fan is not supported in the server.



#### CAUTION

To maintain proper system cooling, do not operate the server for long period with the access panel open or removed. Operating the server in this manner results in an improper system airflow. For internal hot-plug component procedures, complete the procedure within 60 seconds. Failure to do so can cause the system temperature to increase and trip the safety threshold. When this happens:

- The health LED flashes amber.
- The operating system gracefully shuts down.



#### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

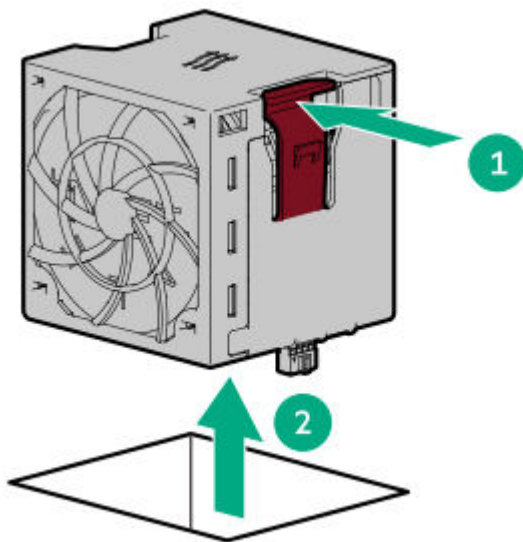


#### IMPORTANT

The fan setup can either be standard, single-rotor fans or high performance, dual-rotor fans. Do not mix fan types in the same server.

### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Press and hold the latch, and then lift the fan from the fan cage.



### Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the fan cable holder

### Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-15 Torx screwdriver
- Spudger or any small prying tool

### About this task

<https://sketchfab.com/models/b57a03b648b14308a70698bda98ce397/embed?>



### CAUTION

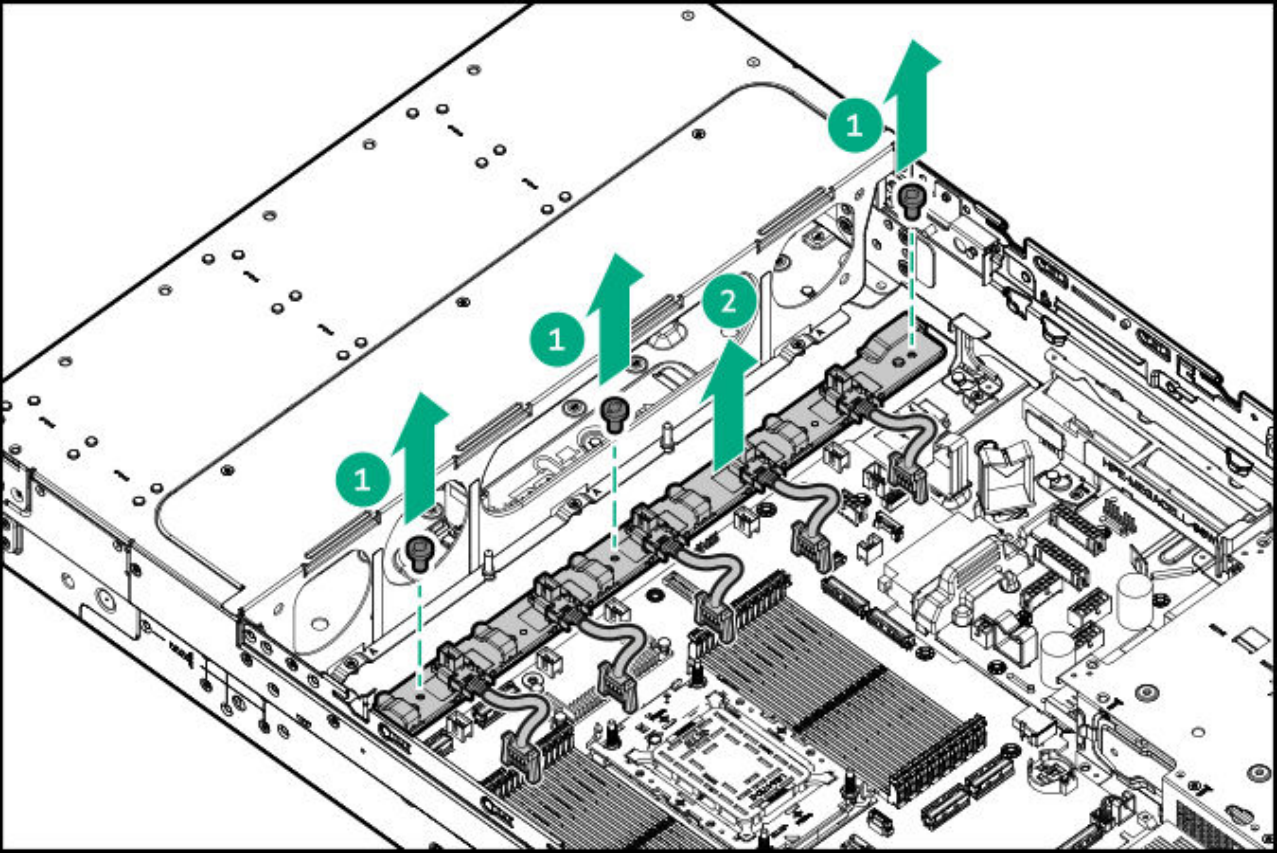
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

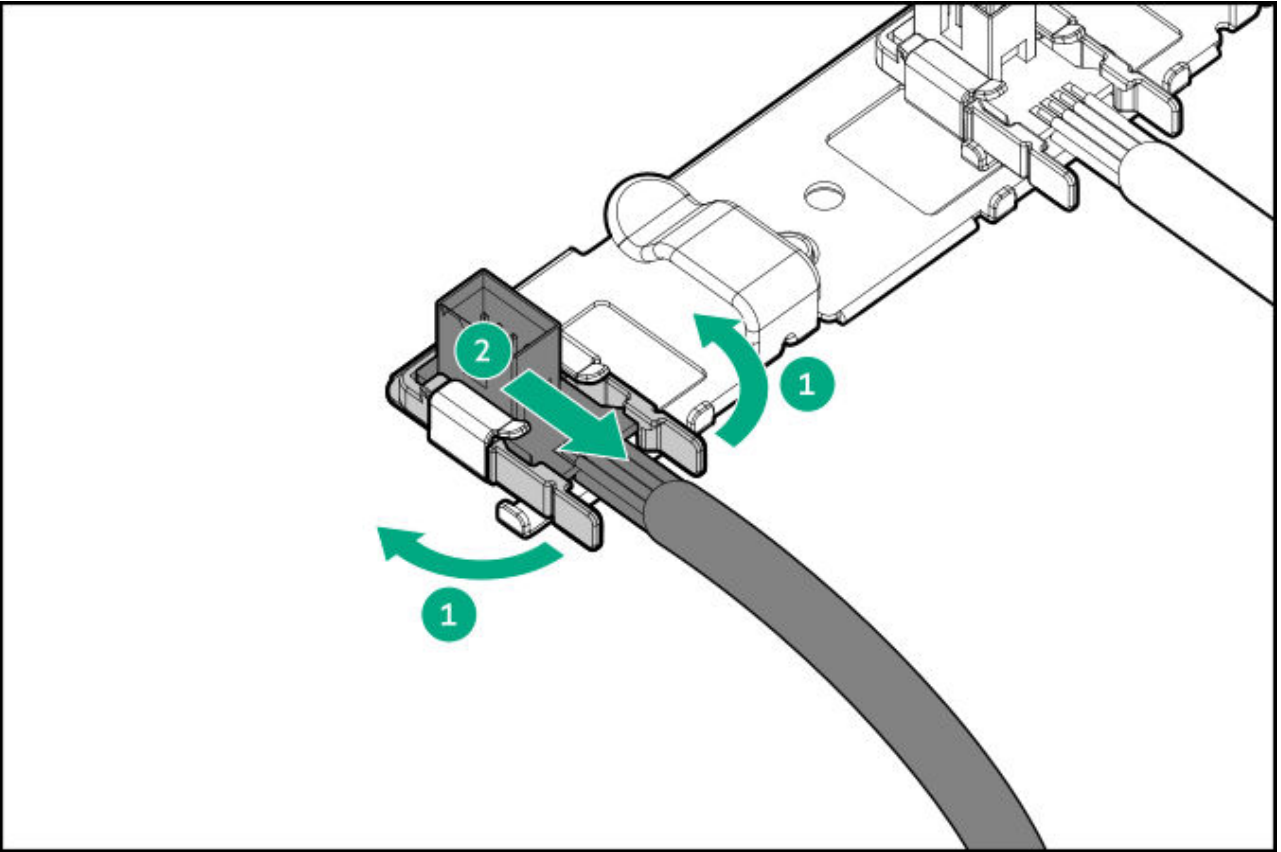
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

### Procedure

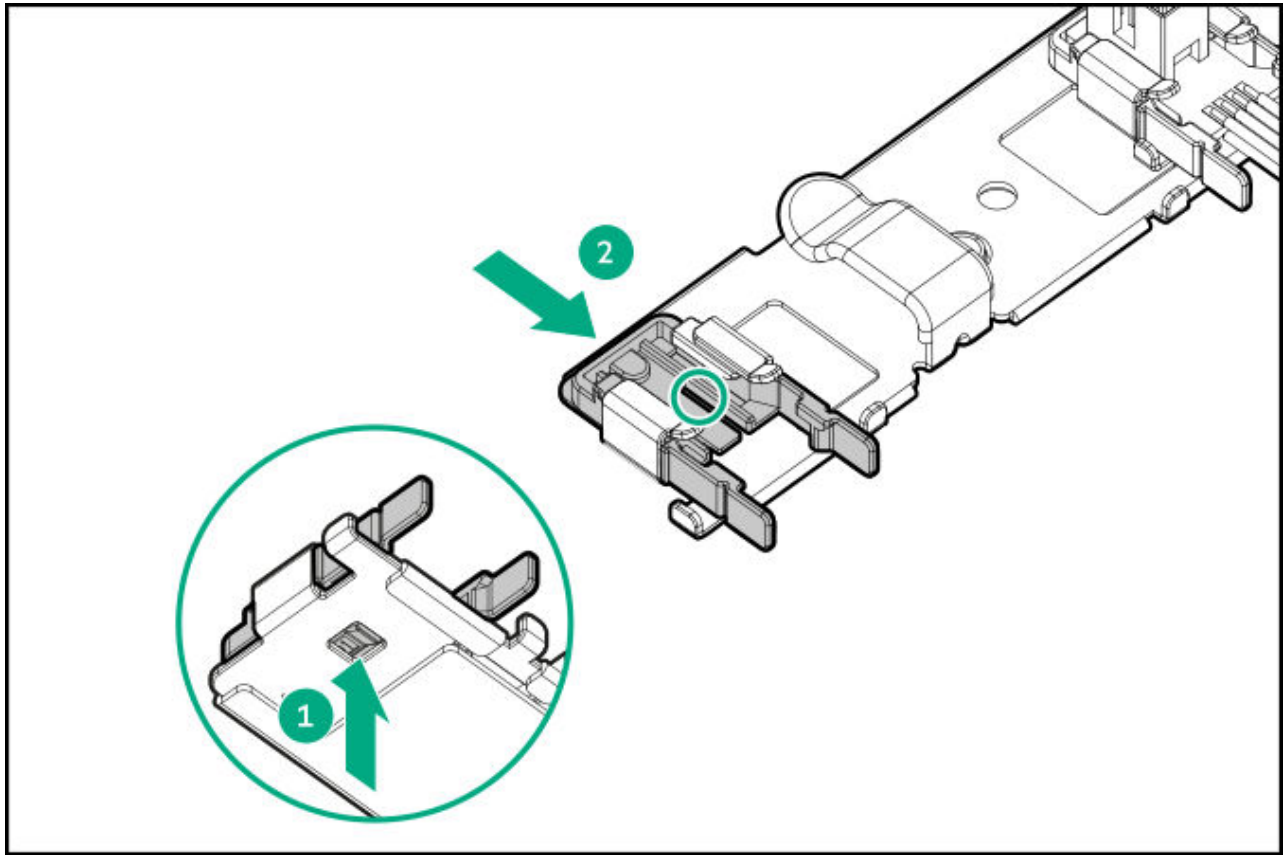
1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Remove the fan cage.
8. Disconnect all fan cables from the system board.
9. Release fan cables from the hooks on the bracket.
10. Remove the screws, and then lift the fan cable holder bracket.



.1. Press and hold to open the release latches, and then remove the cable from the holder.



- .2. Take the small prying tool to press the latch, and then remove the fan cable holder from the bracket.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the air baffle

### About this task

<https://sketchfab.com/models/418fc3a8f6564e4b843617bec977fa32/embed?>

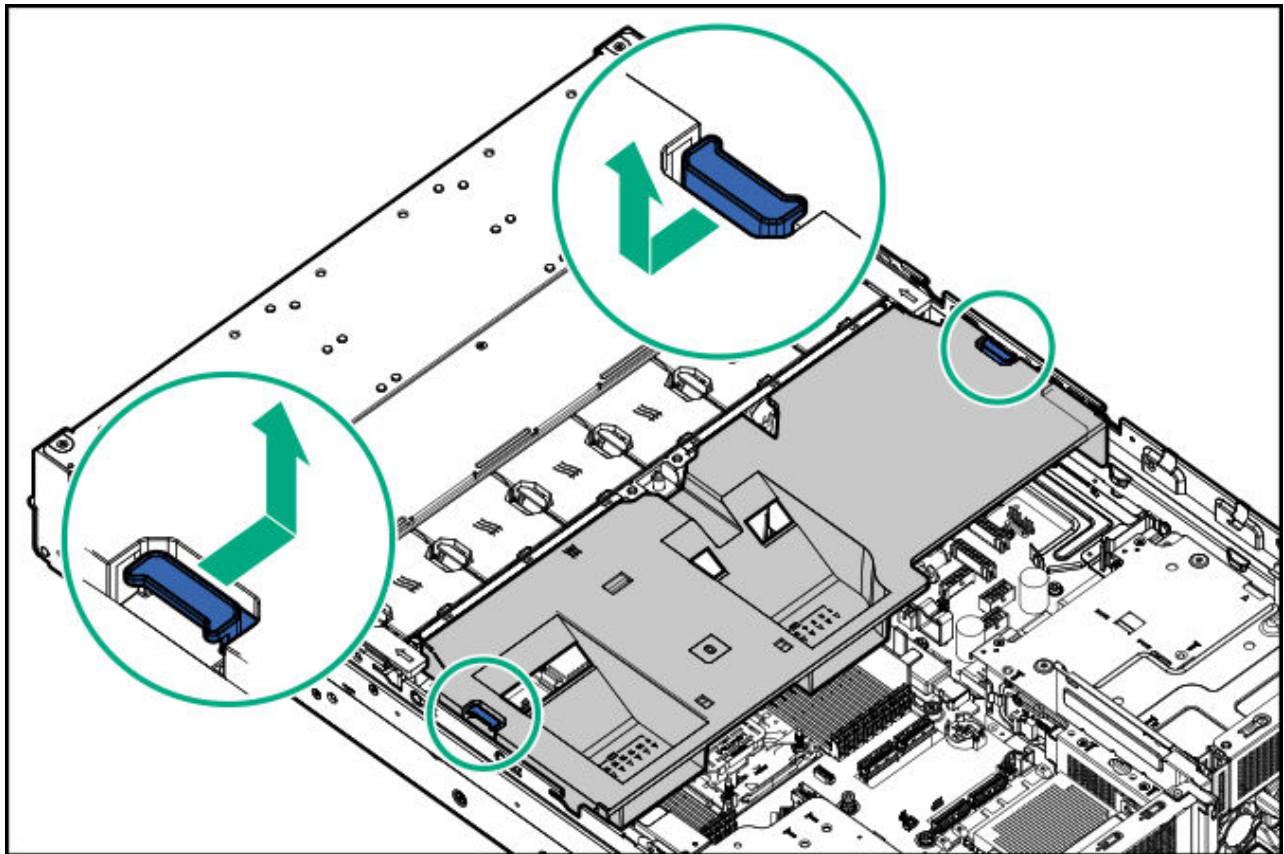


### CAUTION

For proper cooling, do not operate the server without the access panel, baffles, expansion slot covers, or blanks installed. If the server supports hot-plug components, minimize the amount of time the access panel is open.

### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Press and hold the latches, and then lift the air baffle.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the standard heatsink blank

### About this task

[https://sketchfab.com/models/78743c9278514bdeb1a23cce083274f4/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/78743c9278514bdeb1a23cce083274f4/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

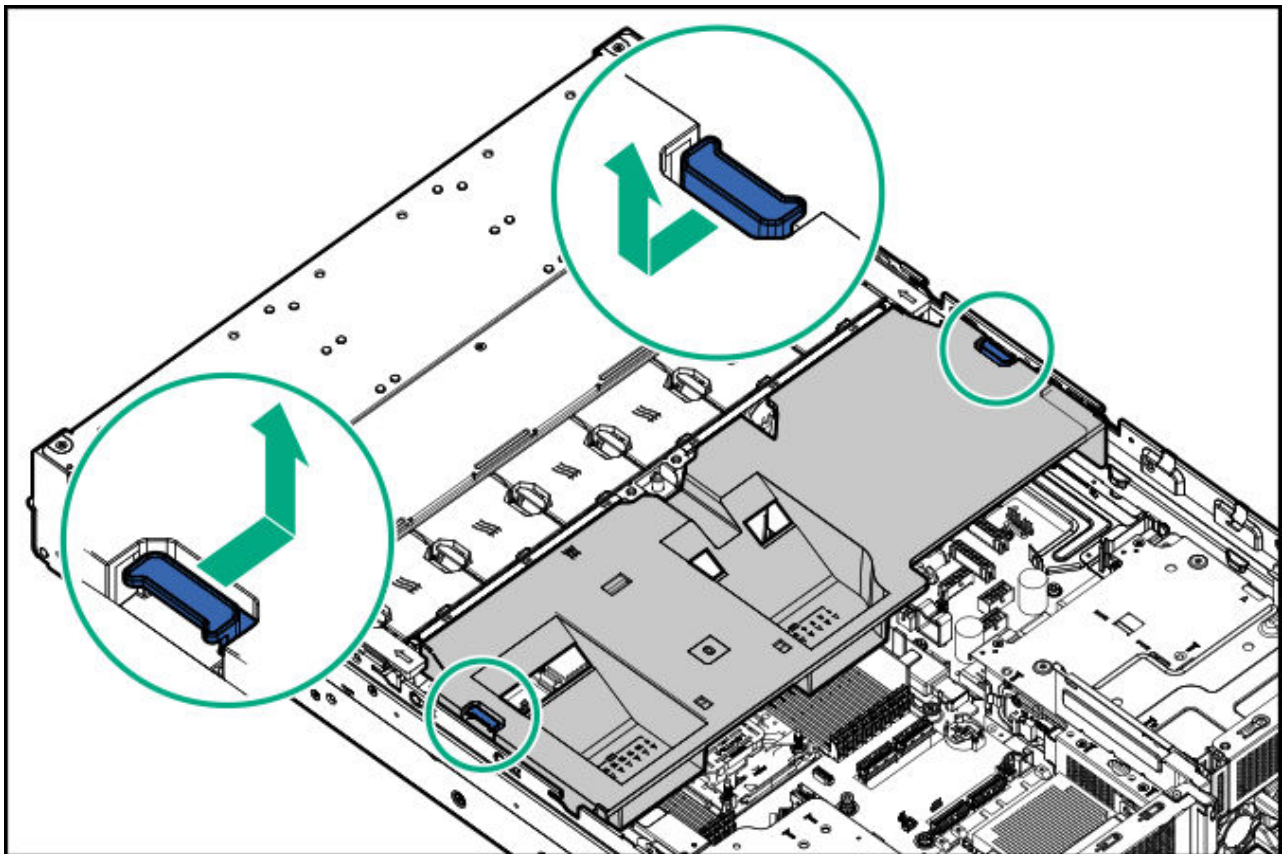


### CAUTION

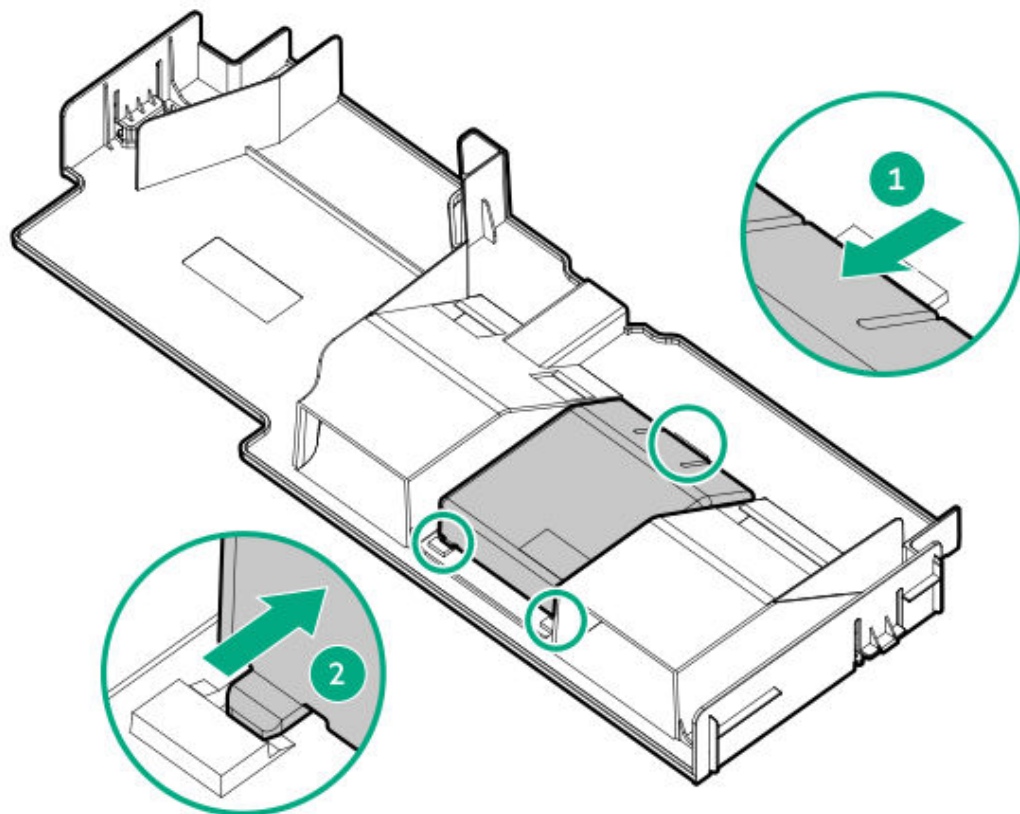
For proper cooling, do not operate the server without the access panel, baffles, expansion slot covers, or blanks installed. If the server supports hot-plug components, minimize the amount of time the access panel is open.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Press and hold the latches, and then lift the air baffle.



7. Remove the standard heatsink blank from the air baffle.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing a DIMM

### About this task

<https://sketchfab.com/models/ec39e4183f8f410e93c8c34a1611b560/embed?>



### CAUTION

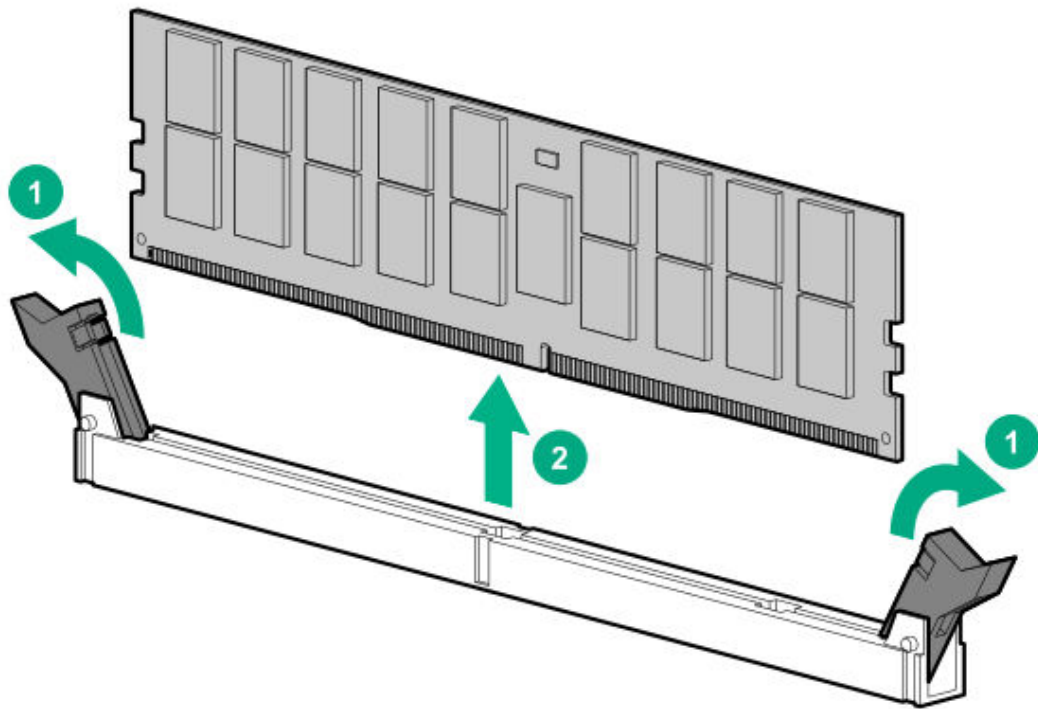
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

### Procedure

1. Back up all server data.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Open the DIMM slot latches, and then remove the DIMM.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing a DIMM guard

### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

### About this task



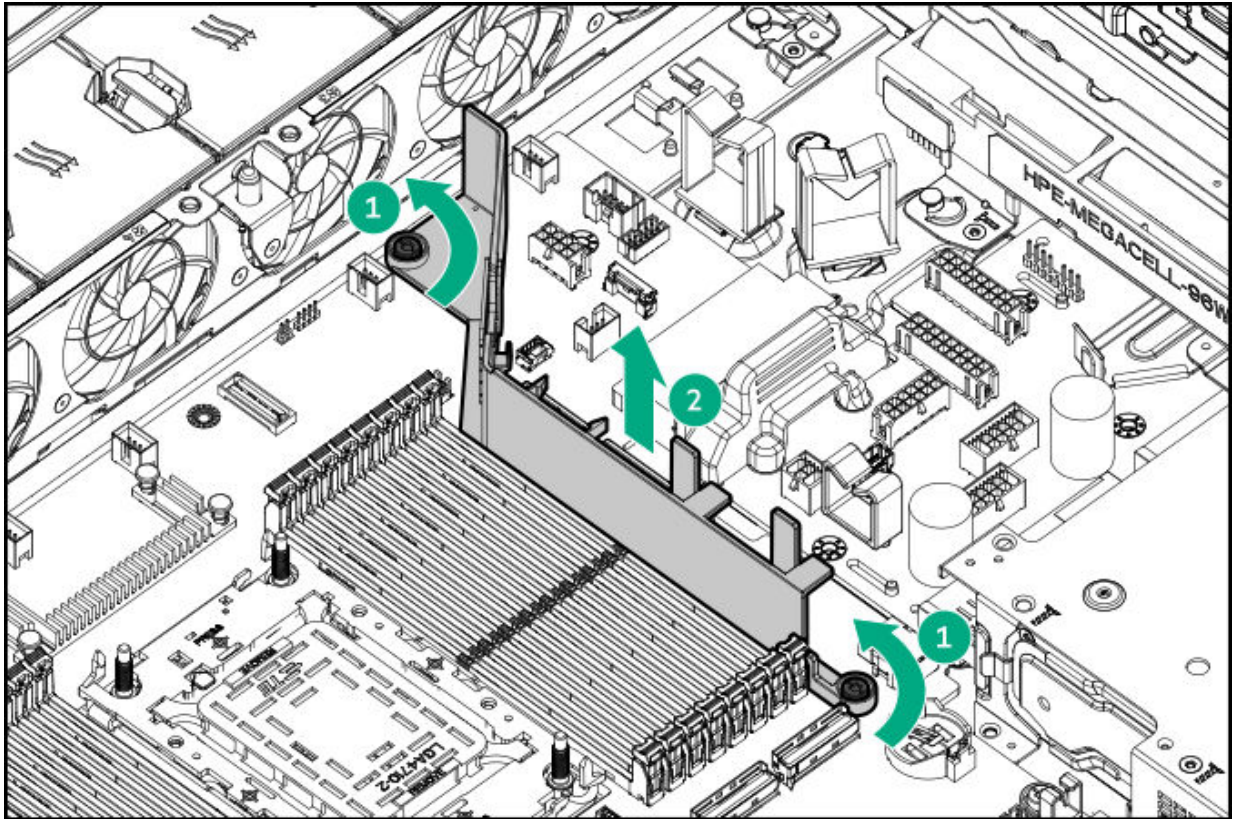
#### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

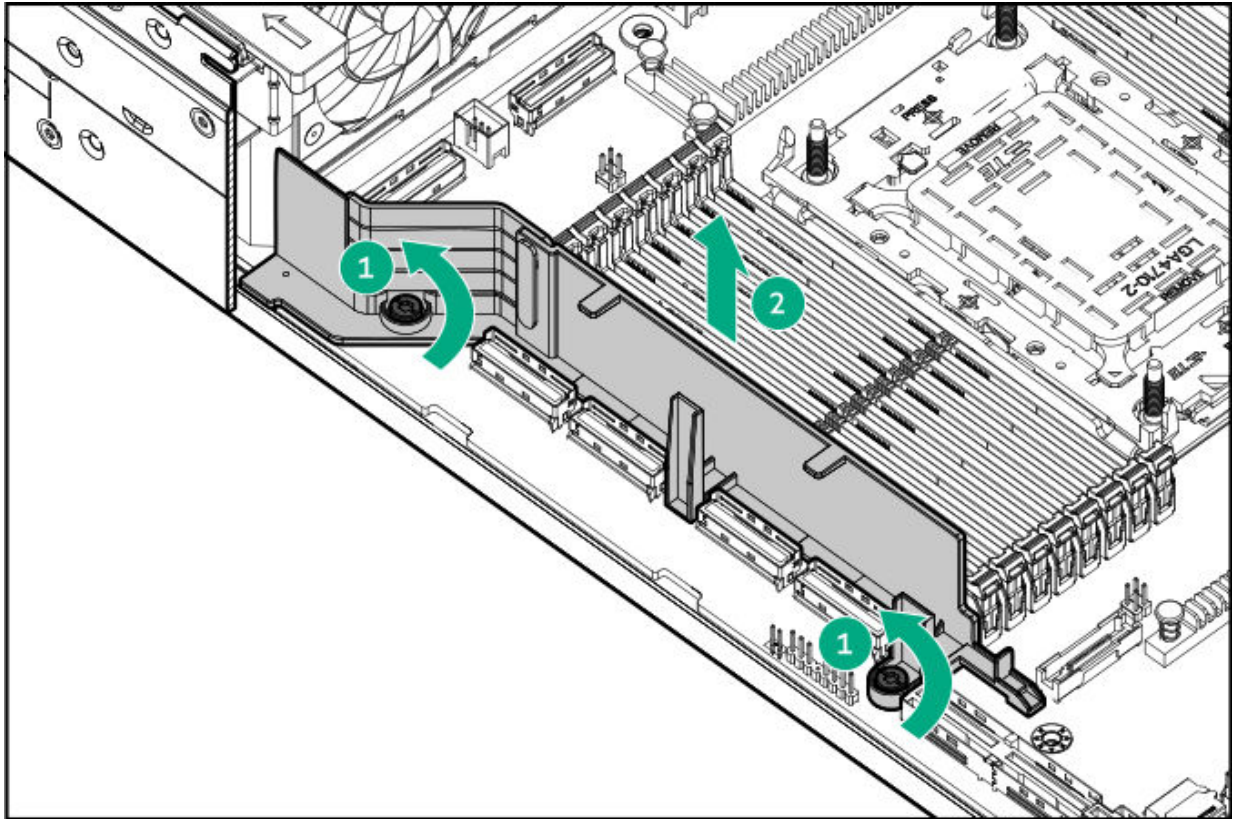
### Procedure

1. Power down the server.
2. Remove all power:

- a. Disconnect each power cord from the power source.
- b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Release the cables from the DIMM guards, and then remove the DIMM guards.
  - Left DIMM guard



- Right DIMM guard



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the chassis intrusion detection switch

### About this task

[https://sketchfab.com/models/cf521e2b2eb0486c9ae306d1afe57889/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/cf521e2b2eb0486c9ae306d1afe57889/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

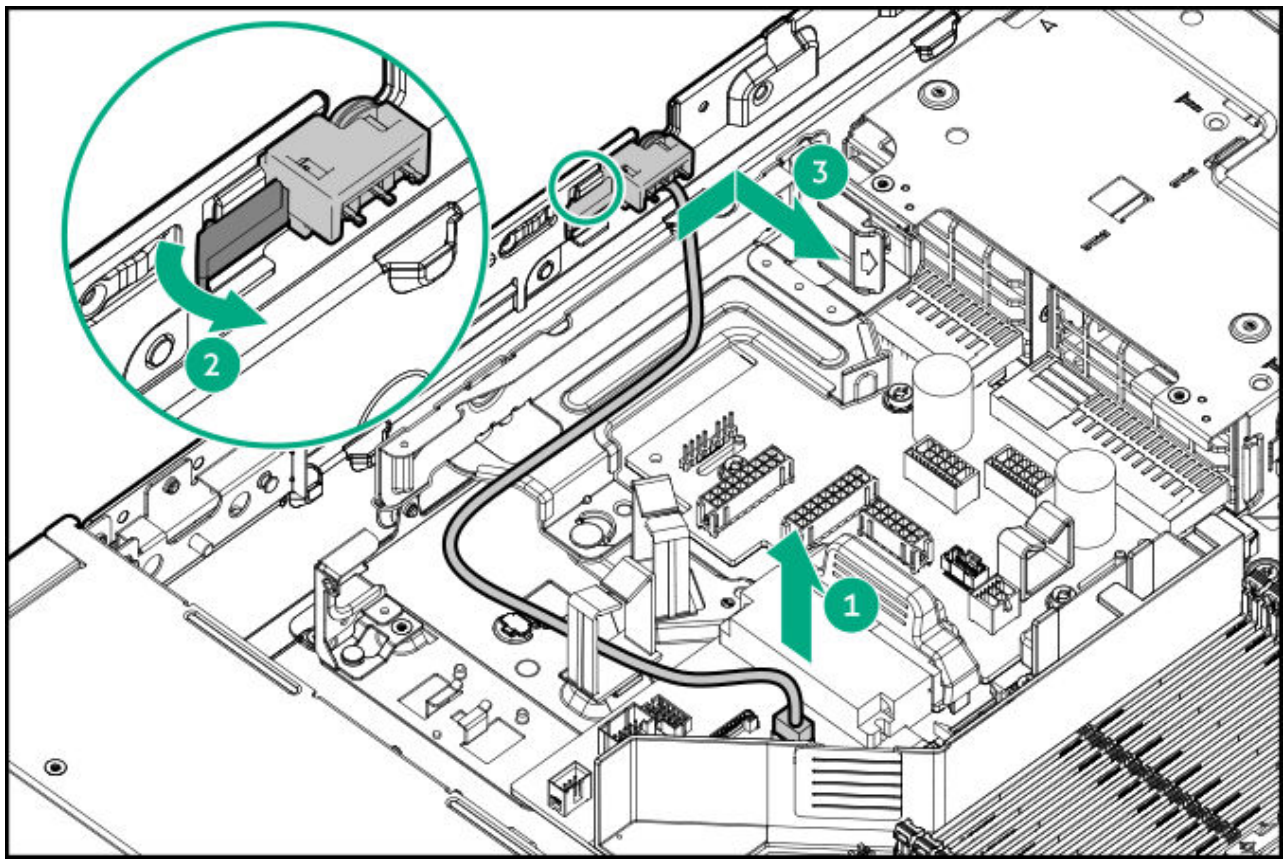


### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Disconnect the switch cable and release it from the cable clamp.
8. Carefully retracting the snap-in latch, and then pull out the tab from the chassis slot.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

# Removing and replacing the energy pack

## Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

## About this task

[https://sketchfab.com/models/9d9b75de62cd44168495eb48c8bc0a9b/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/9d9b75de62cd44168495eb48c8bc0a9b/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

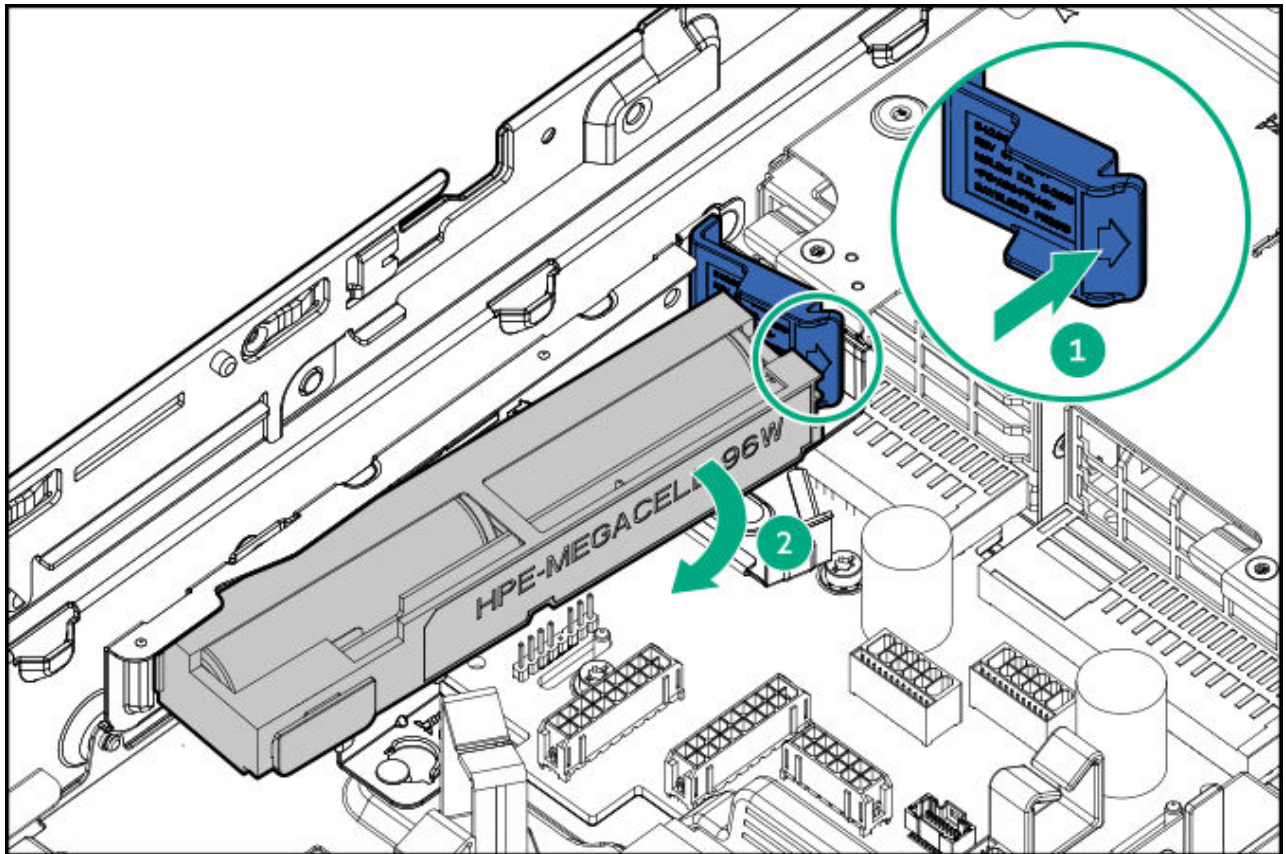


### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Disconnect the energy pack cable from the system board.
8. Remove the energy pack.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the energy pack holder

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### About this task

<https://sketchfab.com/models/e587f6d0814d43588d2fc3de7b34c0bc/embed?>

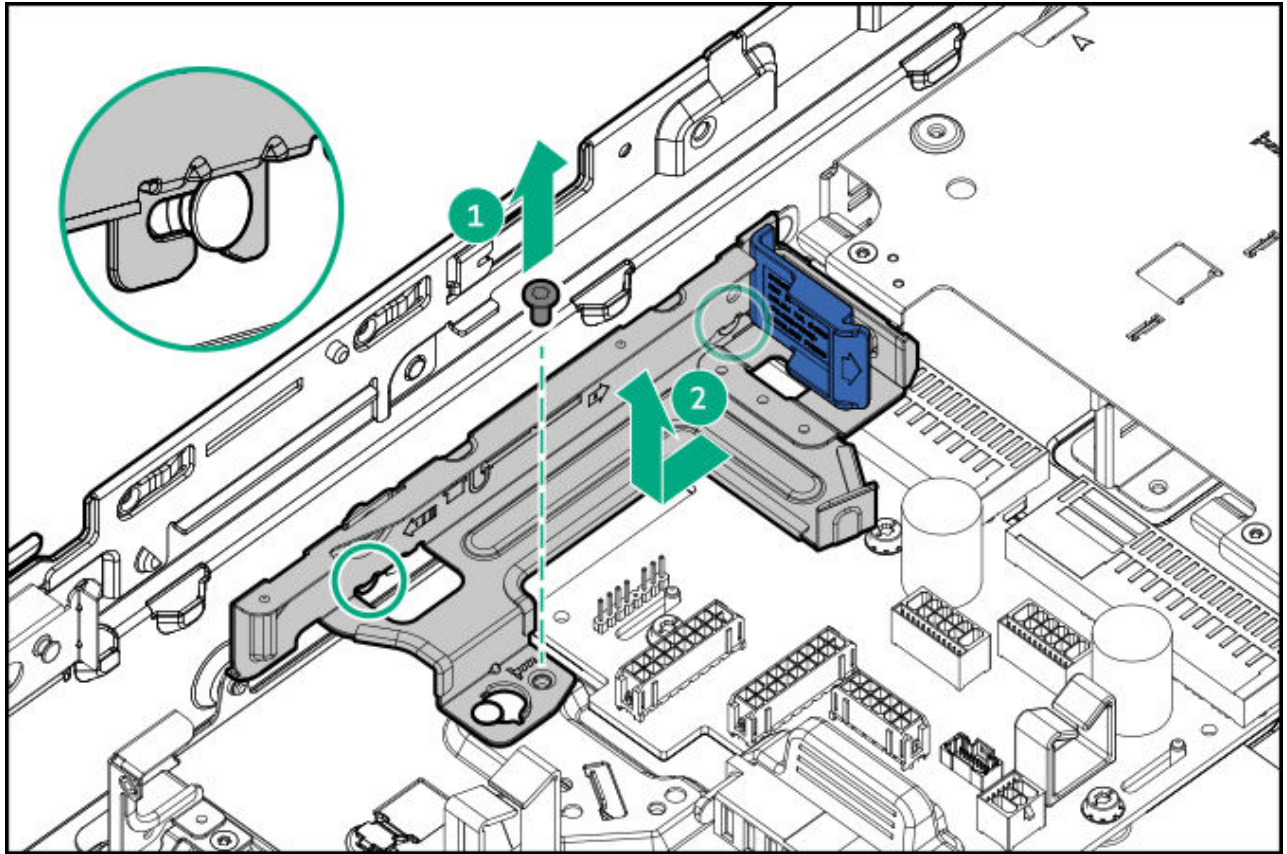


### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

### Procedure

1. [Power down the server](#).
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - [Extend the server out of the rack](#).
  - [Remove the server from the rack](#).
5. [Remove the access panel](#).
6. [Remove the air baffle](#).
7. If installed, [remove the energy pack](#).
8. Remove the energy pack holder.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## HPE NS204i-u Boot Device V2 replacement

### Subtopics

**Removing and replacing a boot device drive**

**Removing and replacing the boot device from the front panel**

**Removing and replacing the boot device from the rear panel**

**Removing and replacing the boot device carrier**

# Removing and replacing a boot device drive

## Prerequisites

- Identify the failed drive, do one of the following:
  - Locate the boot device drive with a flashing amber or blue Online/Activity LED.
  - iLO web interface: **Storage** page
  - UEFI System Utilities: **System Utilities** > **Embedded Applications** > **Integrated Management Log** > **View IML**
- Before you perform this procedure, make sure that you have a Phillips No. 1 screwdriver available.

## About this task

[https://sketchfab.com/models/bbb61184a86a4ca792b988e9caae5278/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/bbb61184a86a4ca792b988e9caae5278/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.



### IMPORTANT

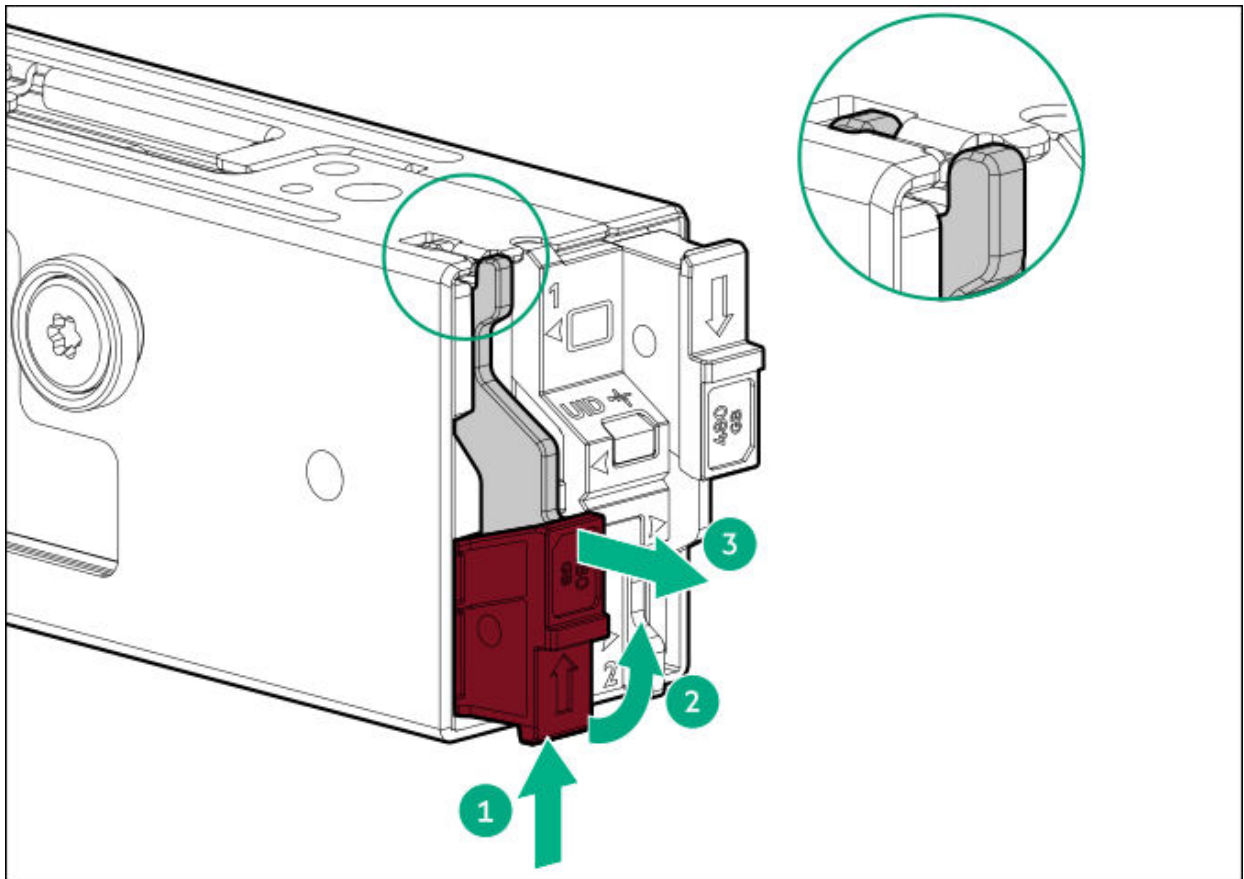
For successful RAID 1 configuration, verify that the boot device SSDs have the same model number and firmware version:

- In the iLO web interface, see the **Storage** page.
- In UEFI System Utilities, see **System Configuration** > **HPE NS204i Boot Controller** > **Physical Device Information**.

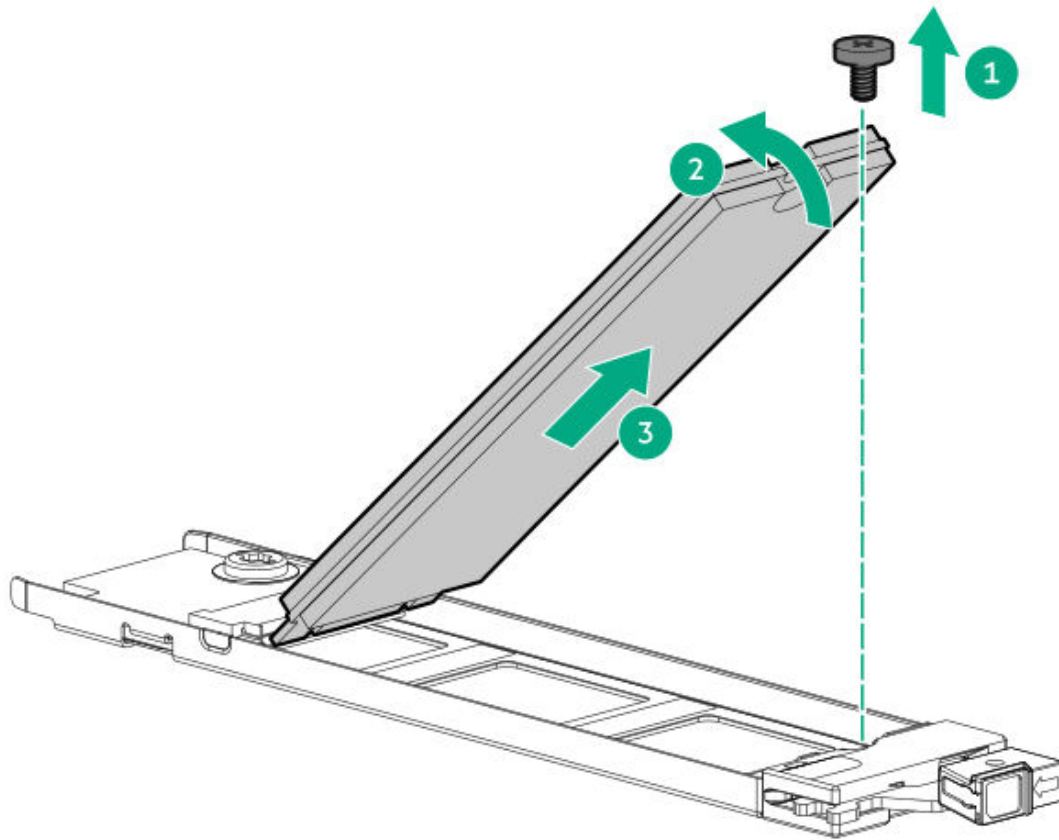
Configurations with SSDs from different manufacturers are not supported.

## Procedure

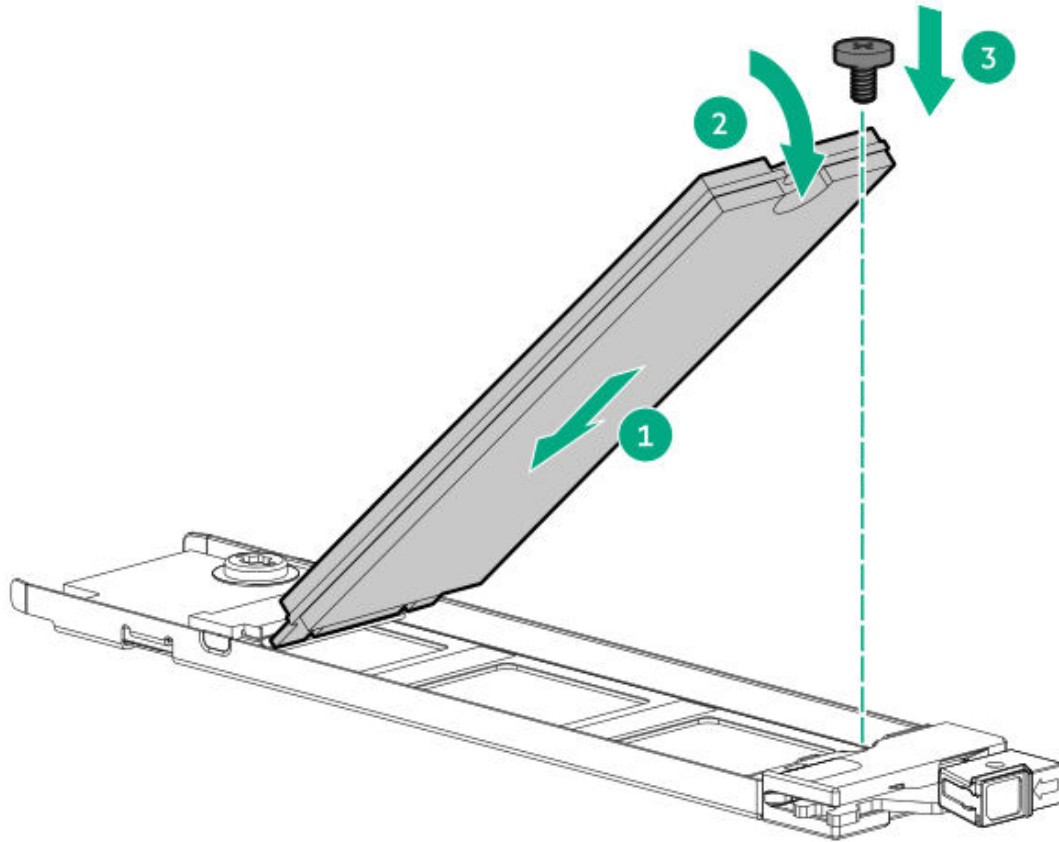
1. Back up all server data.
2. Remove the failed drive and replace it with a new drive:
  - a. Press and hold the carrier latch.
  - b. Pivot the latch to open.
  - c. Slide the carrier out from the boot device cage.



- d. Remove the SSD mounting screw.
- e. Tilt the SSD at a 45° angle, and then remove the failed SSD from the M.2 slot.

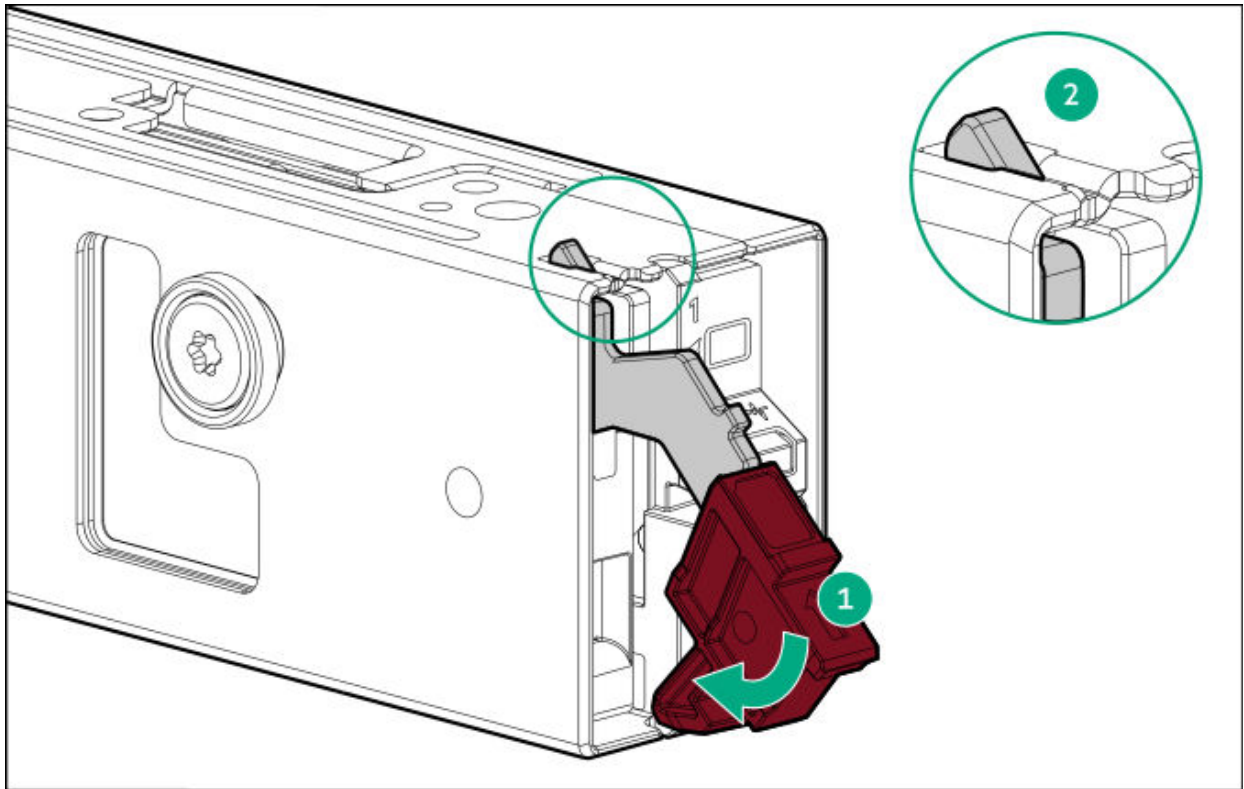


- f. Insert the new SSD into the M.2 slot at a 45° angle.
- g. Carefully press the SSD down to the horizontal position.
- h. Install the SSD mounting screw.



- i. If closed, pivot the carrier latch to open.
- j. Slide the carrier with the new SSD into the boot device cage.
- k. Pivot the latch to close.

Make sure that the carrier latch is locked on the boot device cage.



The boot device automatically rebuilds the RAID 1 volume.

3. If the newly installed SSD has a different model number as the SSD on the other drive carrier, replace the other SSD with one that is of the same model number as the new SSD.

Once both SSDs are installed, the boot device automatically rebuilds the RAID 1 volume.

4. To monitor the drive rebuild status, see any of the following:

- [Boot device Online/Activity LED](#)
- iLO web interface: **Storage** page
- UEFI System Utilities:
  - **System Utilities > System Configuration > Virtual Device Information > NS Volume > Virtual Device Detail Information**
  - **System Utilities > Embedded Applications > Integrated Management Log > View IML**

# Removing and replacing the boot device from the front panel

## Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

## About this task

[https://sketchfab.com/models/7c799a9eccdb44808c219efa72b84ea6/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/7c799a9eccdb44808c219efa72b84ea6/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)



### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).



### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.



### IMPORTANT

For successful RAID 1 configuration, verify that the boot device SSDs have the same model number and firmware version:

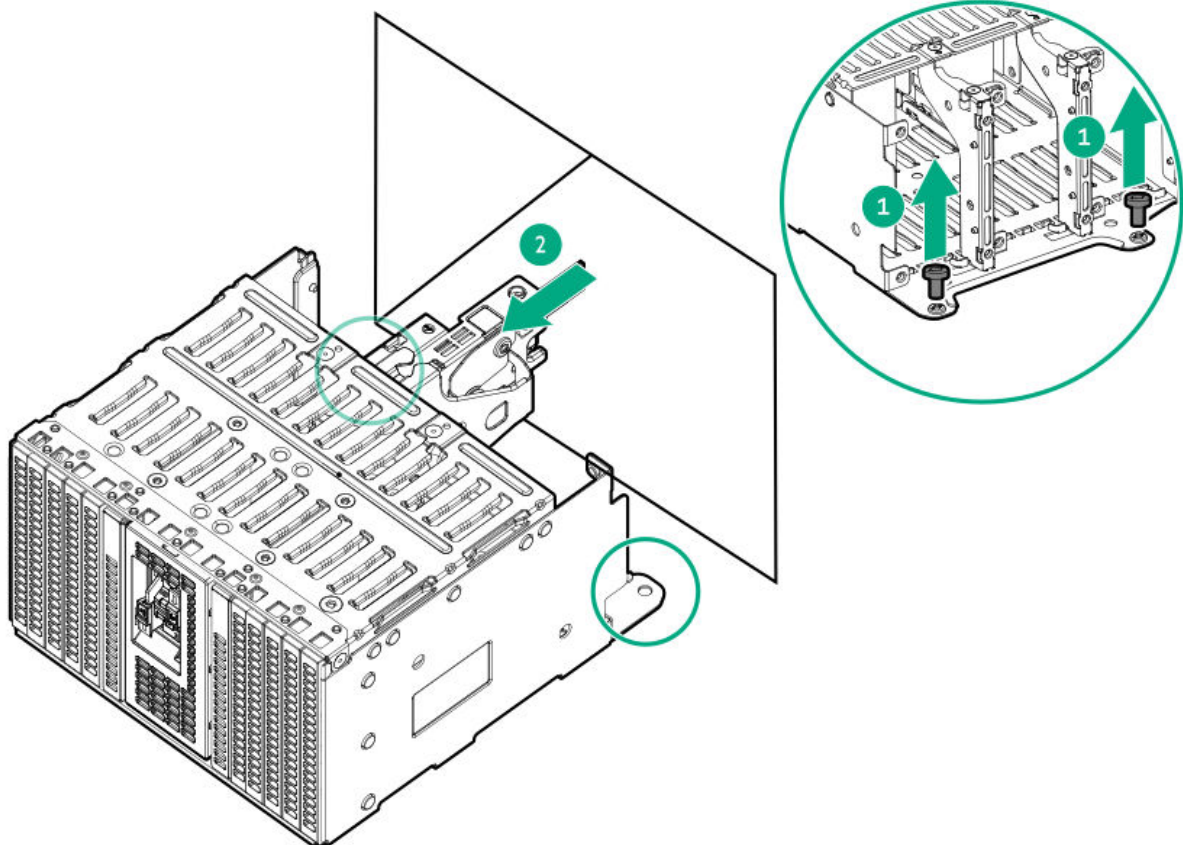
- In the iLO web interface, see the **Storage** page.
- In UEFI System Utilities, see **System Configuration > HPE NS204i Boot Controller > Physical Device Information**.

Configurations with SSDs from different manufacturers are not supported.

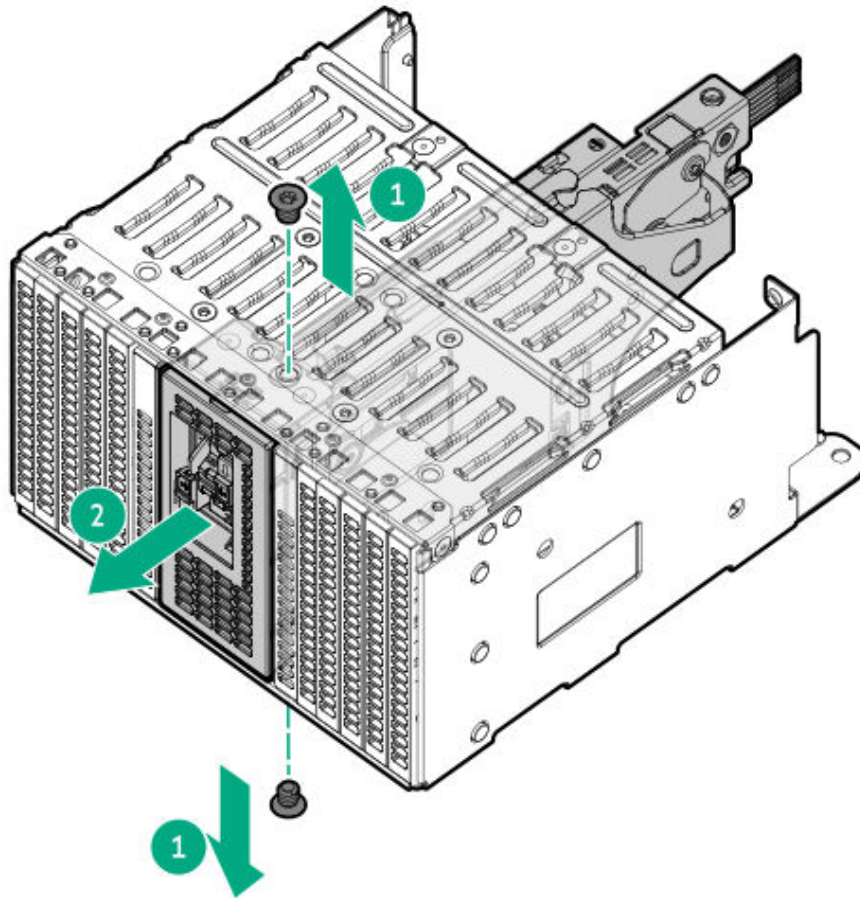
## Procedure

1. If installed, [remove the front bezel](#).
2. [Power down the server](#).
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.

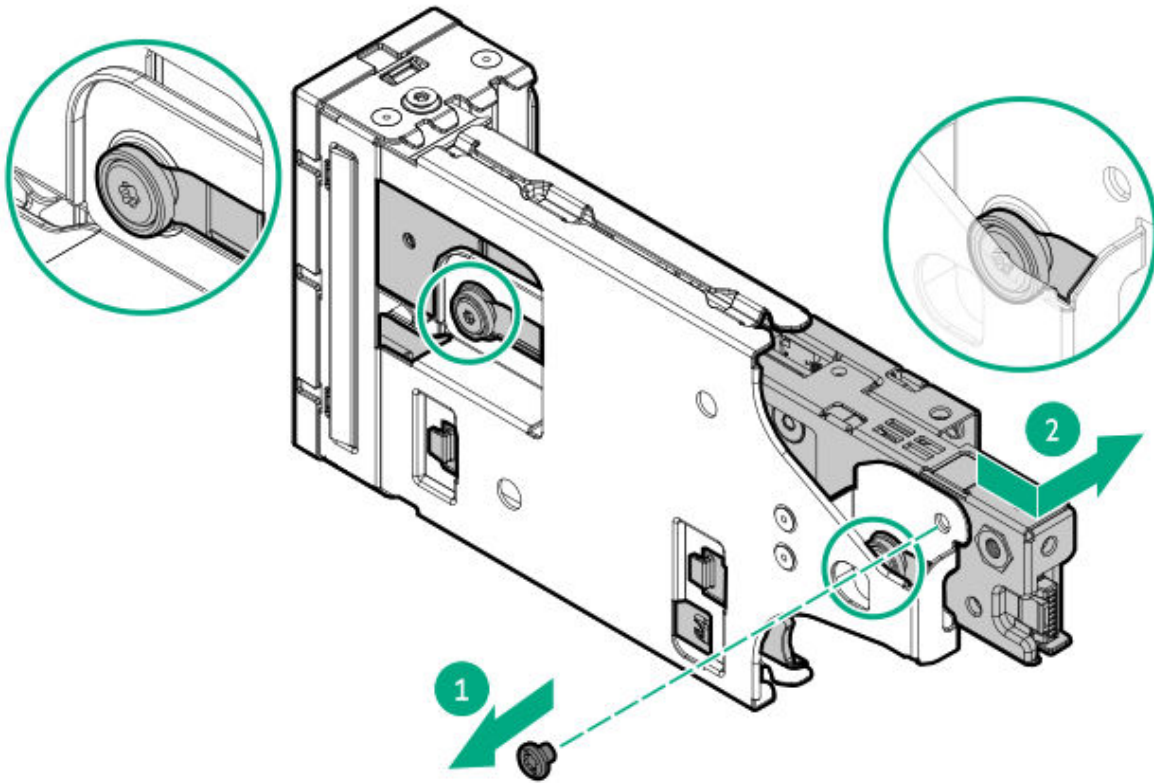
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fan cage.
9. Do one of the following:
  - In the SFF / E3.S drive configuration, remove the midwall bracket.
  - In the GPU-optimized configuration, remove the middle cover.
- .0. Disconnect the boot device power and signal cables.
- .1. Remove the multipurpose cage.



- .2. Remove the boot device bracket from the multipurpose cage.

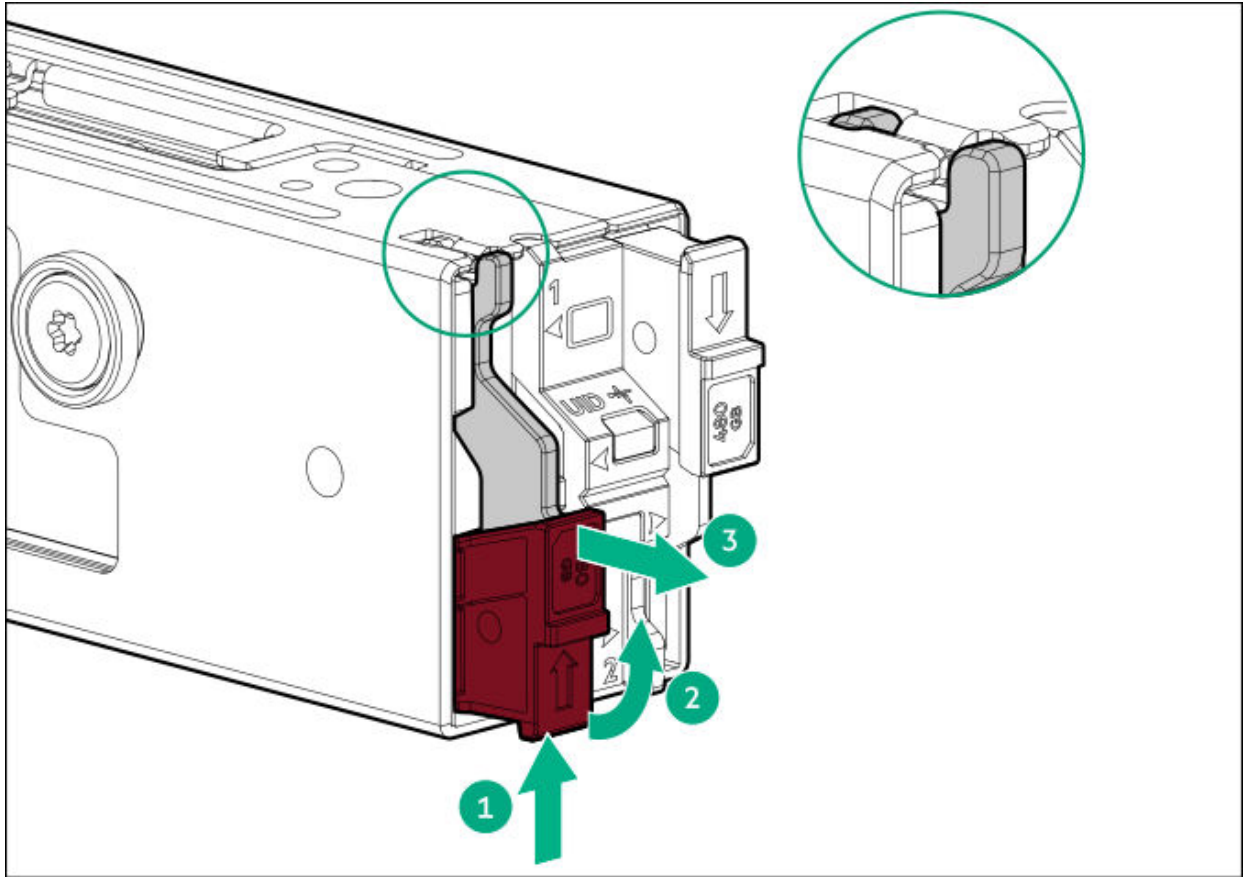


.3. Remove the boot device cage from the bracket.



4. Remove the boot device carrier:

- a. Press and hold the carrier latch.
- b. Pivot the latch to open.
- c. Slide the carrier out from the boot device cage.



### Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the boot device from the rear panel

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### About this task

<https://sketchfab.com/models/dba2d602d24a44eba66fd6f73382daa5/embed?>



#### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).



#### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.



#### IMPORTANT

For successful RAID 1 configuration, verify that the boot device SSDs have the same model number and firmware version:

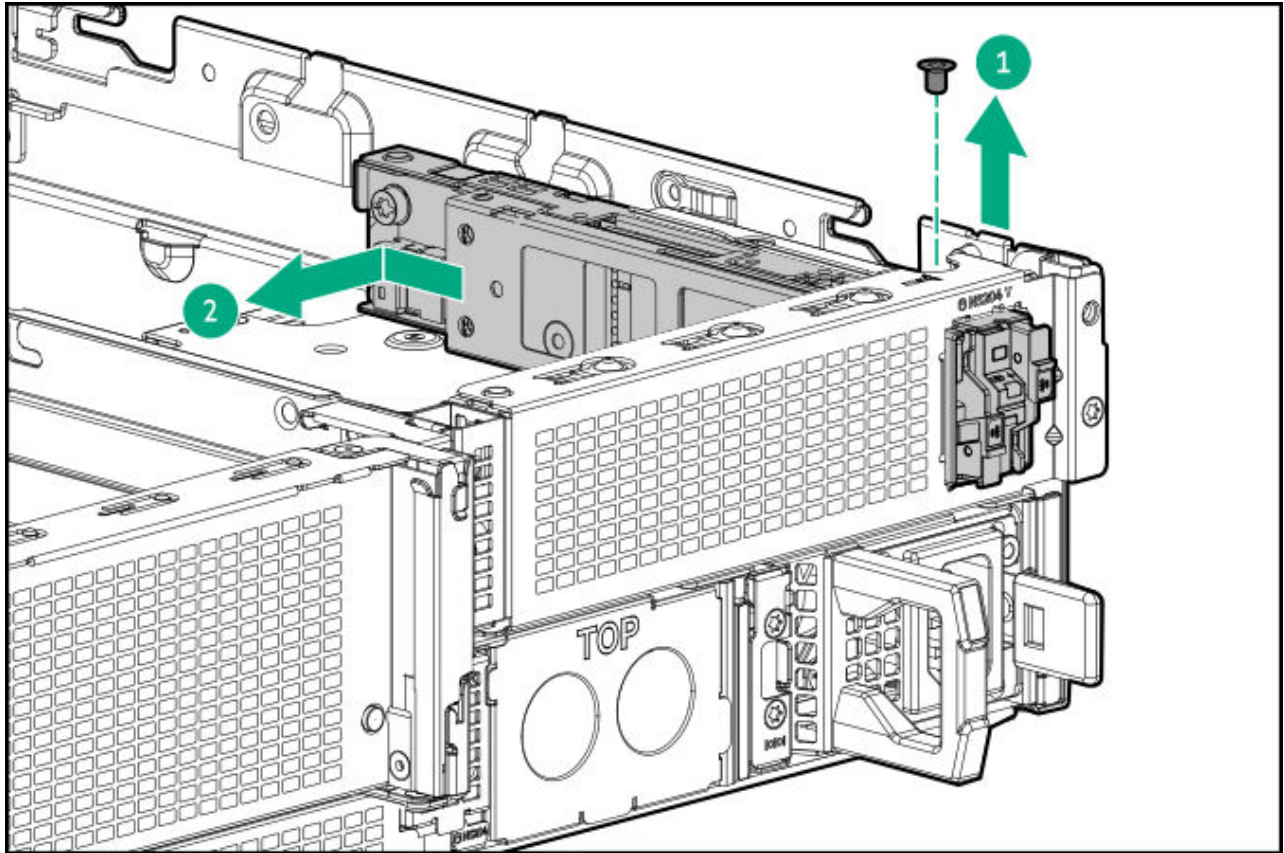
- In the iLO web interface, see the **Storage** page.
- In UEFI System Utilities, see **System Configuration > HPE NS204i Boot Controller > Physical Device Information**.

Configurations with SSDs from different manufacturers are not supported.

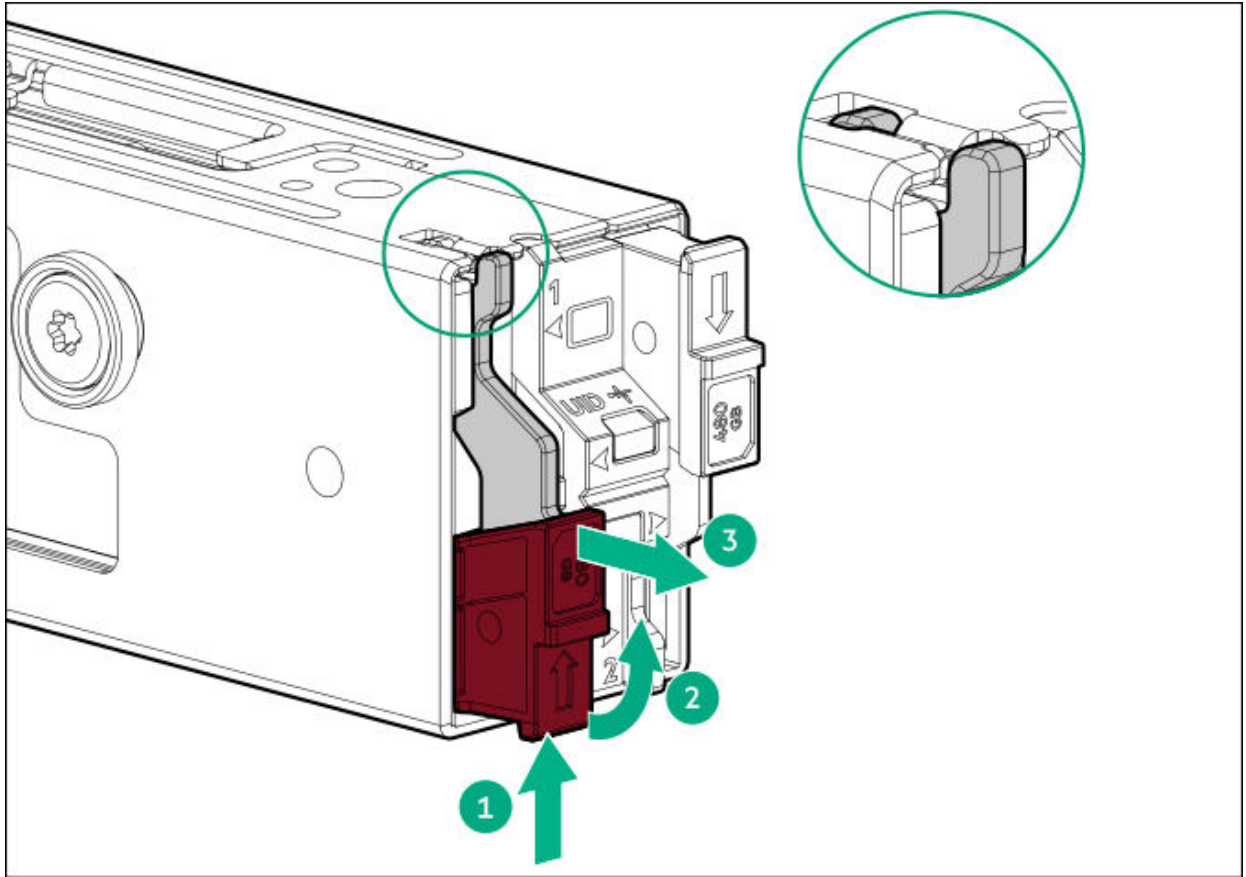
### Procedure

1. [Power down the server](#).
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - [Extend the server out of the rack](#).
  - [Remove the server from the rack](#).
5. [Remove the access panel](#).
6. [Remove the air baffle](#).
7. [Disconnect the boot device power and signal cables](#).
8. Remove the boot device cage.

Retain the screw. The screw will be used to secure the new spare cage.



9. Remove the boot device carrier:
  - a. Press and hold the carrier latch.
  - b. Pivot the latch to open.
  - c. Slide the carrier out from the boot device cage.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the boot device carrier

### Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-10 Torx screwdriver
- Phillips No. 1 screwdriver

### About this task

<https://sketchfab.com/models/bbb61184a86a4ca792b988e9caae5278/embed?>



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe [antistatic precautions](#).
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.



### IMPORTANT

For successful RAID 1 configuration, verify that the boot device SSDs have the same model number and firmware version:

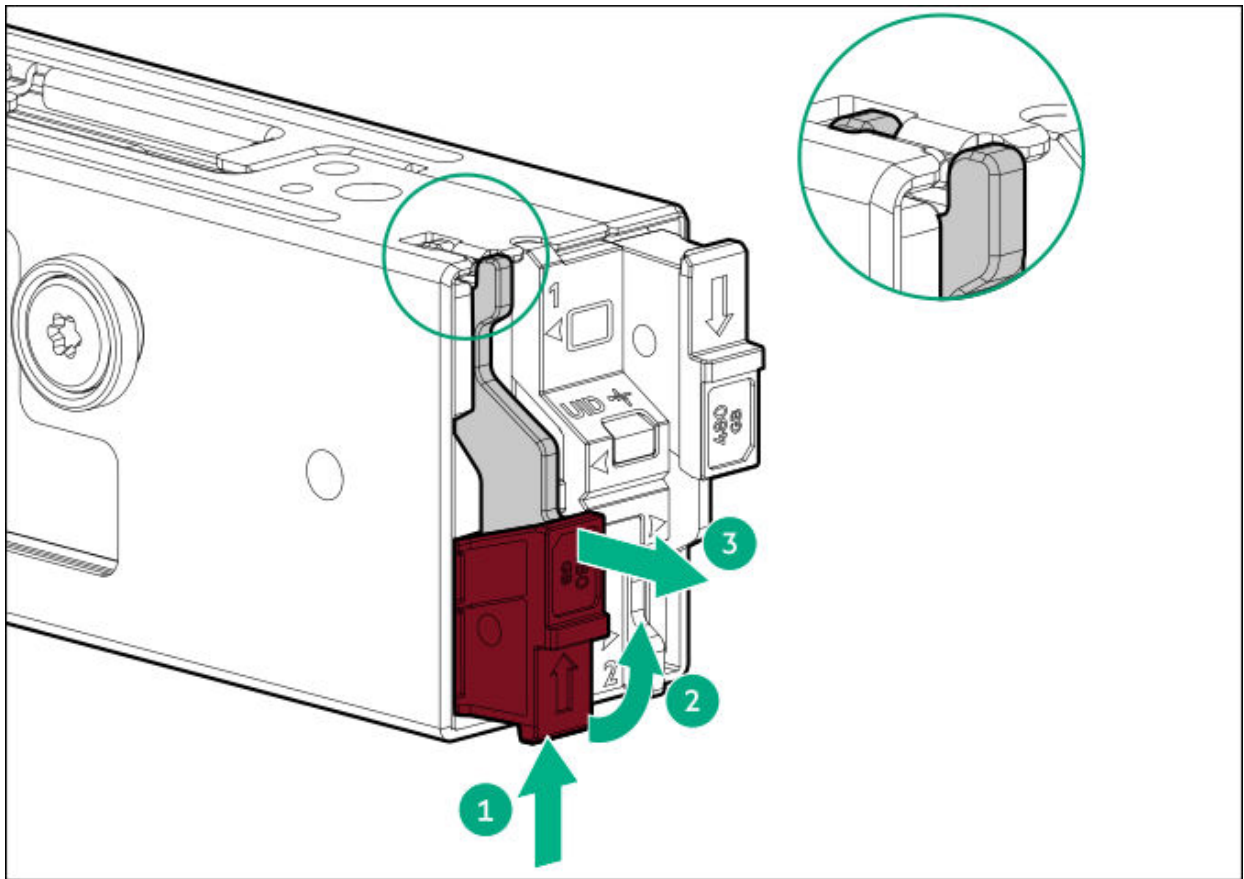
- In the iLO web interface, see the **Storage** page.
- In UEFI System Utilities, see **System Configuration > HPE NS204i Boot Controller > Physical Device Information**.

Configurations with SSDs from different manufacturers are not supported.

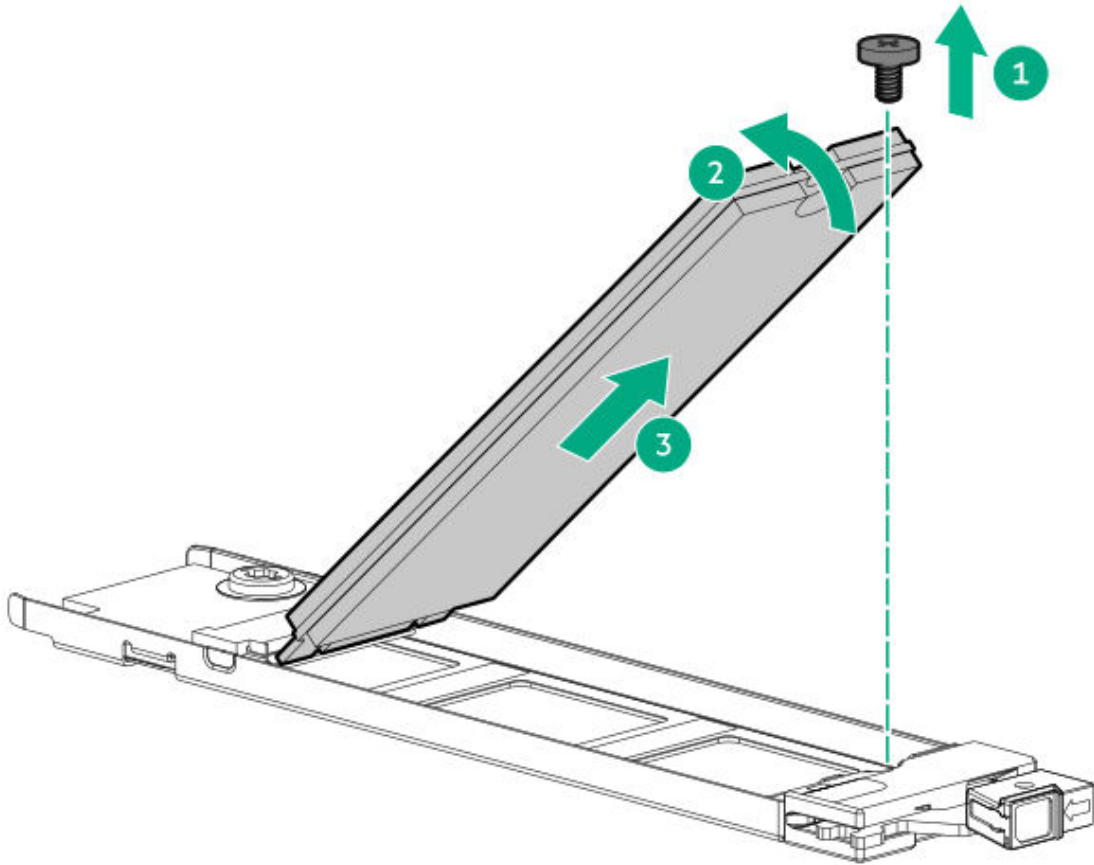
## Procedure

1. [Power down the server](#).
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - [Extend the server out of the rack](#).
  - [Remove the server from the rack](#).
5. [Remove the access panel](#).

6. Remove the air baffle.
7. Disconnect the rear boot device power and signal cables.
8. Do one of the following:
  - Removing and replacing the boot device from the front panel
  - Removing and replacing the boot device from the rear panel
9. Remove the boot device carrier:
  - a. Press and hold the carrier latch.
  - b. Pivot the latch to open.
  - c. Slide the carrier out from the boot device cage.



10. If installed, remove the SSD from the boot device carrier:
  - a. Remove the SSD mounting screw.
  - b. Tilt the SSD at a 45° angle, and then carefully remove the SSD from the M.2 slot.Retain the SSD and mounting screw for installation onto the new boot device carrier.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the power supply bay bracket

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

## About this task



### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.



### CAUTION

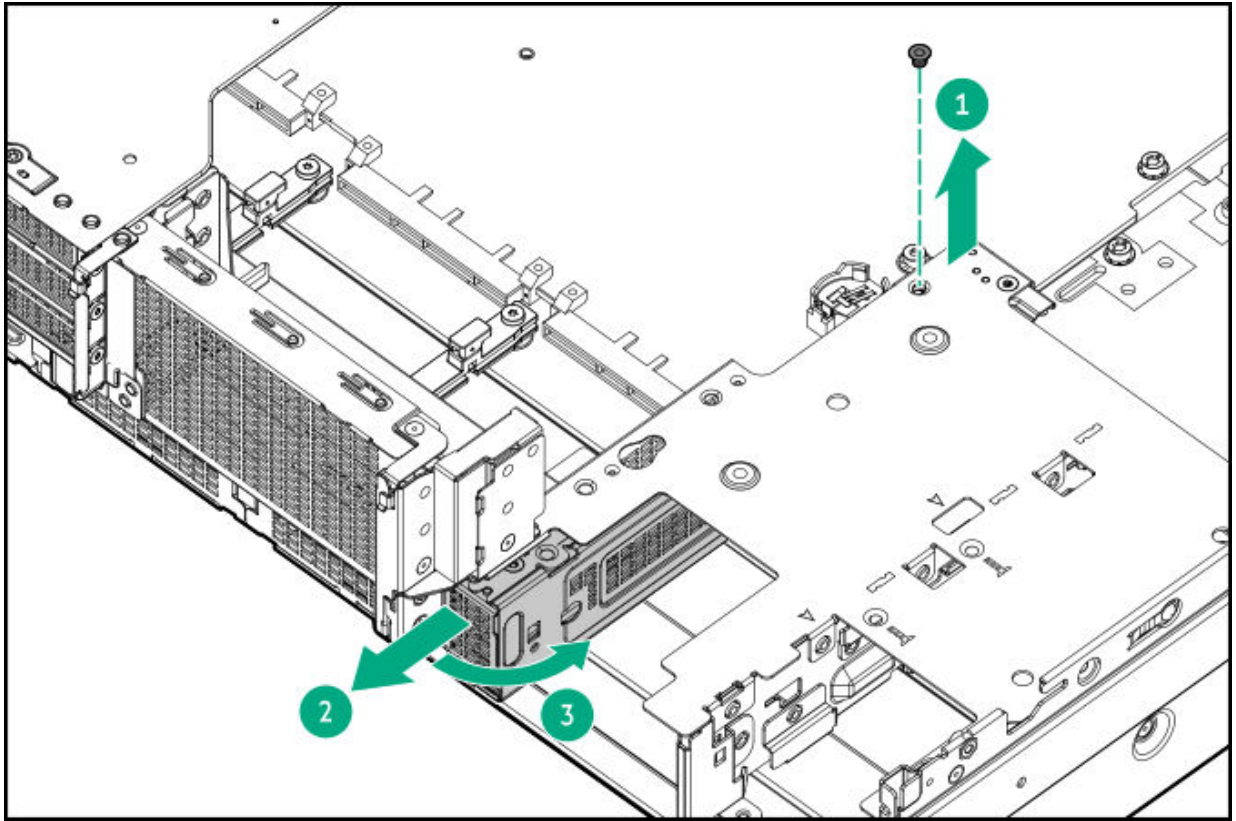
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

## Procedure

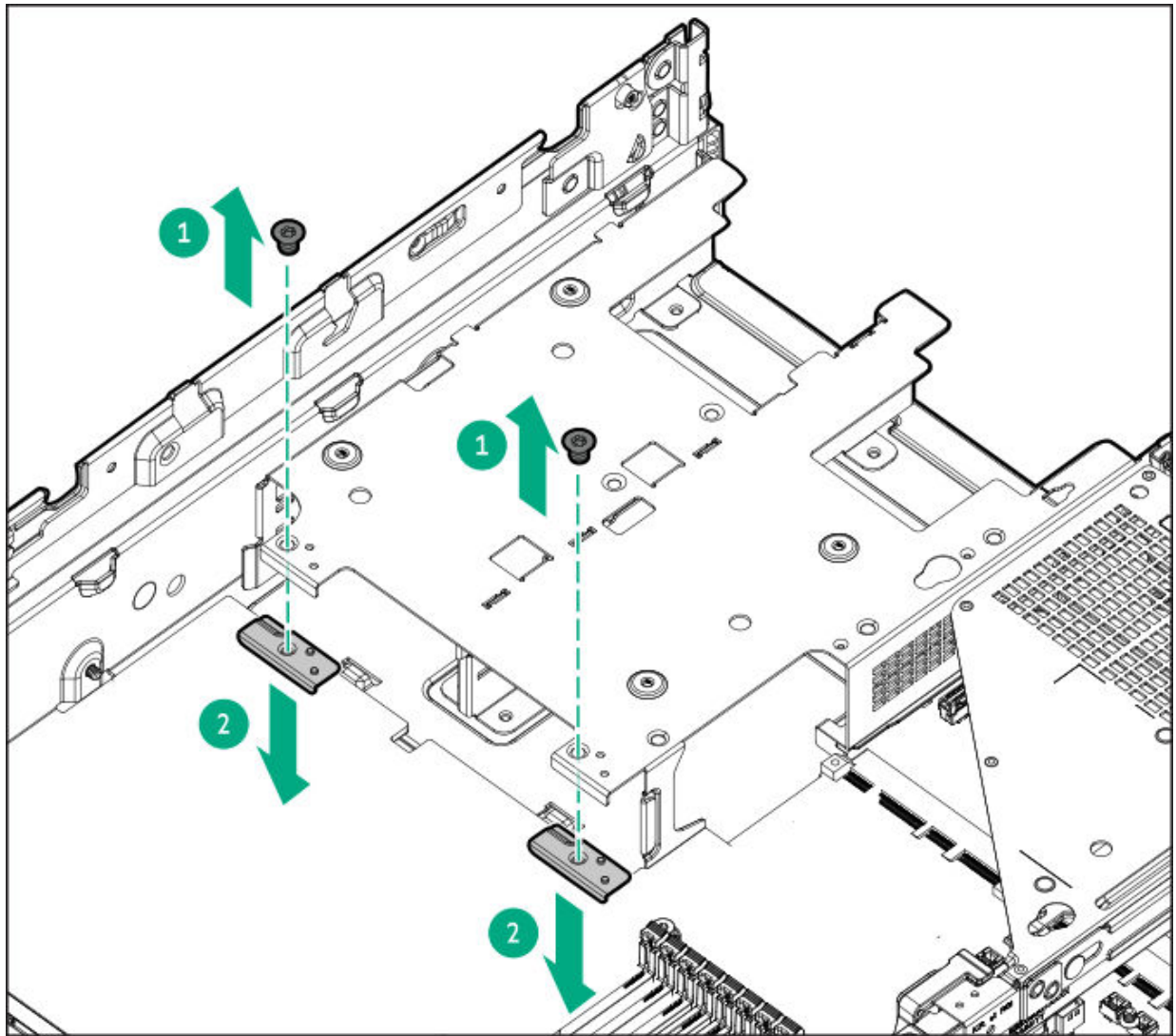
1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Remove the rare boot device holder.
8. Do the following:
  - Remove the power supply bay blank.
  - Remove all power supplies.
9. Remove the bracket from the power supply bay.

Retain the screw. The screw will be used to secure the new spare bracket.

- 60-mm M-CRPS



- 73.5-mm M-CRPS



### Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the power supply bay filler

### Prerequisites

Before you perform this procedure, make sure that you have a small flat-bladed, nonconductive tool available.

## About this task



### WARNING

To reduce the risk of personal injury from hot surfaces, allow the power supply, power supply blank, or dual slot power supply adapter to cool before touching it.

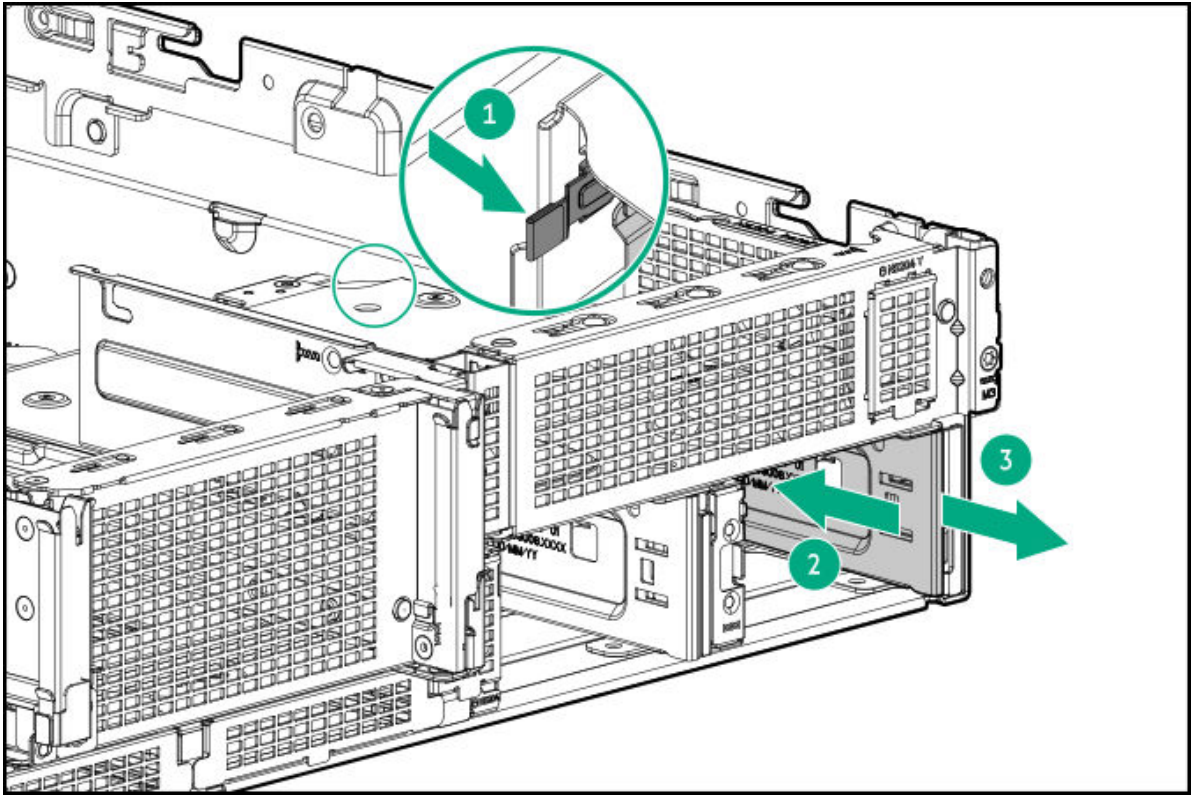


### CAUTION

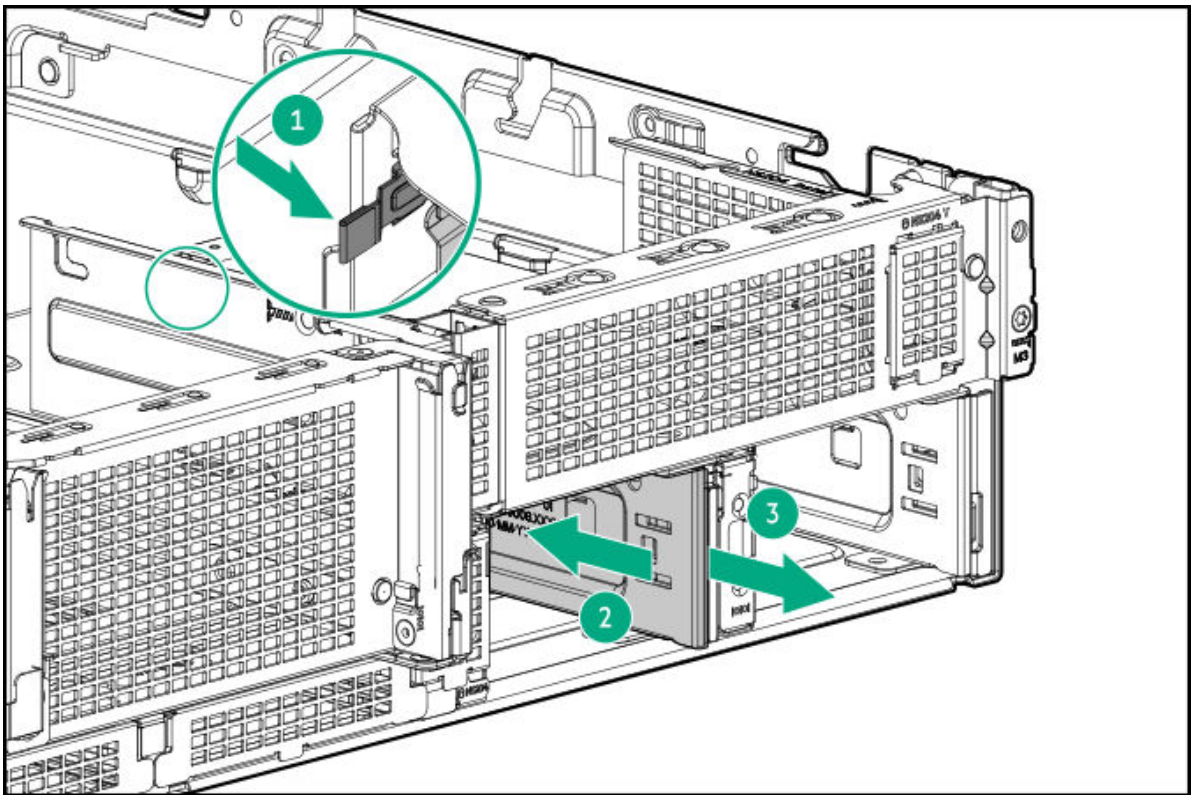
To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Do the following:
  - Remove the power supply bay blank.
  - Remove the power supply.
7. Remove the filler from the power supply bay:
  - a. Take the small flat-bladed, nonconductive tool to press and hold the release latch.
  - b. Slide the filler inward to detach from the chassis.
  - c. Remove the filler from the power supply bay.
    - Power supply bay 1



- Power supply bay 2



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

# Removing and replacing the ix port blank

## Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-10 Torx screwdriver
- Spudger or any small prying tool

## About this task



### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).



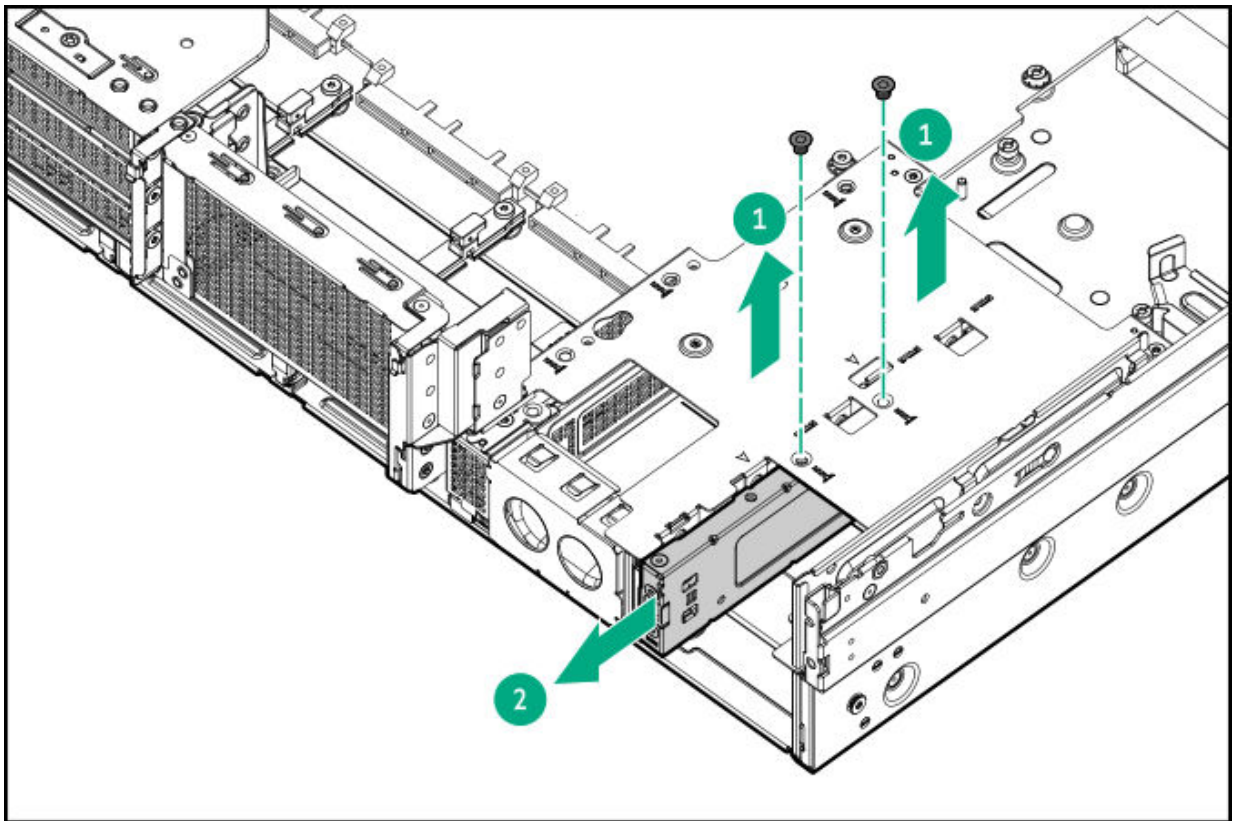
### CAUTION

The port blank provides EMI shielding and helps maintain proper thermal status inside the server. Do not operate the server when a port blank is removed without the corresponding I/O port option installed.

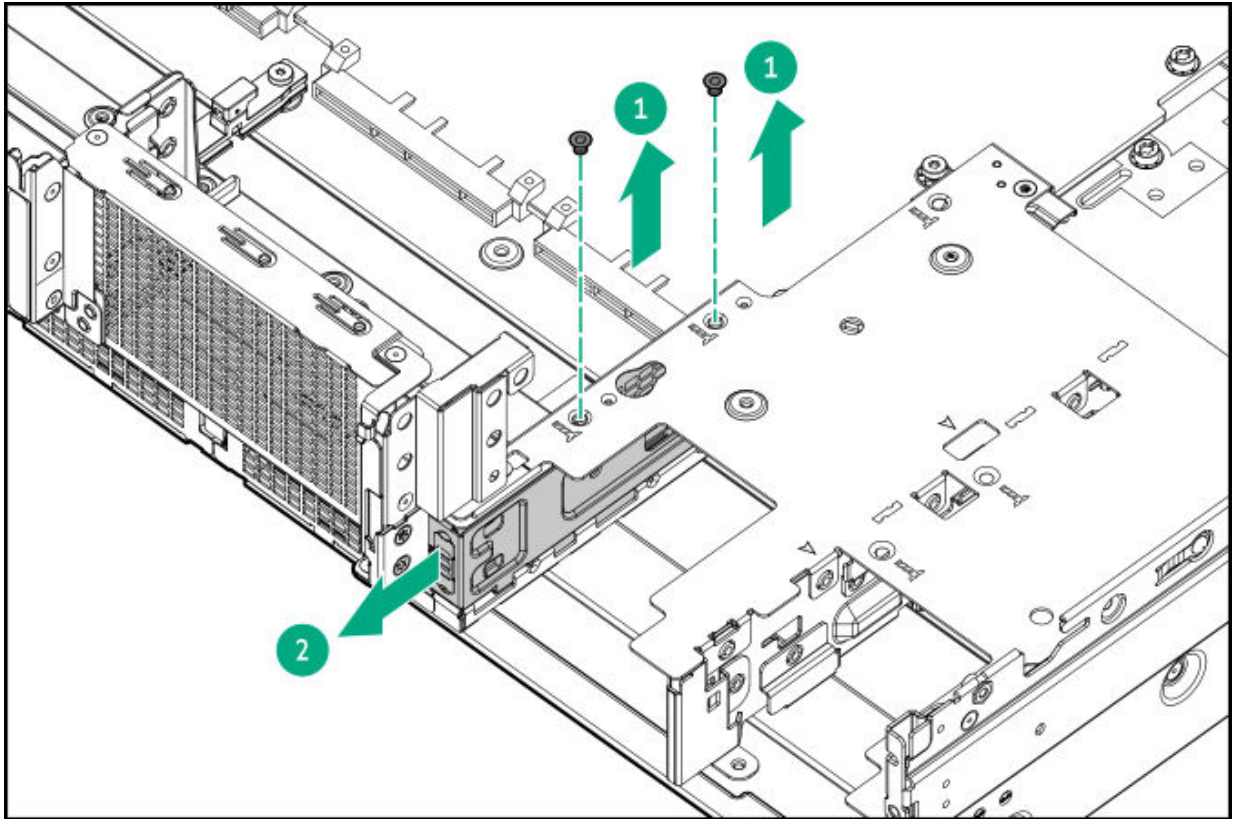
## Procedure

1. [Power down the server](#).
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - [Extend the server out of the rack](#).
  - [Remove the server from the rack](#).
5. [Remove the access panel](#).

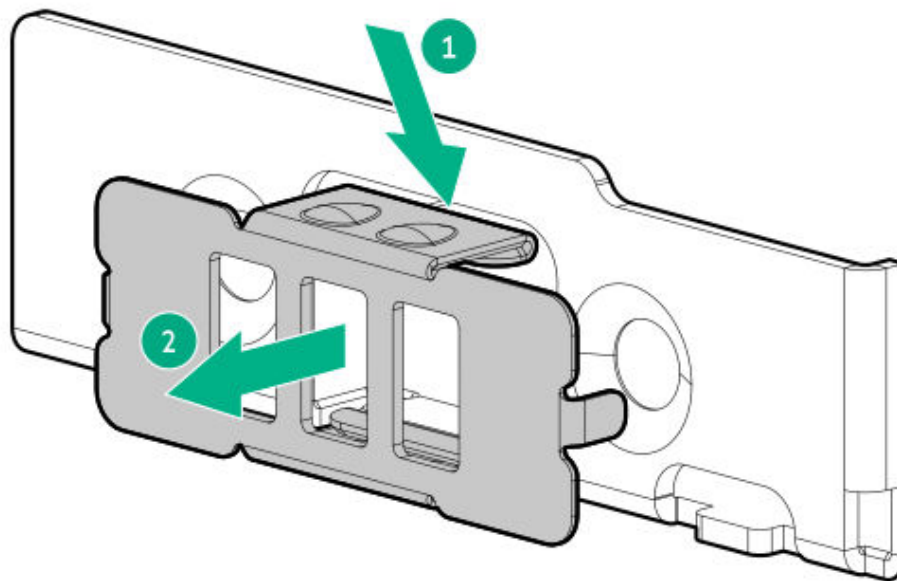
6. Remove the rare boot device holder.
7. Do the following:
  - Remove the power supply blank.
  - Remove the power supply.
8. Remove the ix port cable bracket.
  - 60-mm M-CRPS



- 73.5-mm M-CRPS



9. Remove the ix port blank.



**Results**

The removal procedure is complete. To replace the component, reverse this procedure.

# Removing and replacing the serial port

## Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-10 Torx screwdriver
- Phillips No. 1 screwdriver

## About this task

- 60-mm M-CRPS

[https://sketchfab.com/models/93441dec298c43d98bfd8773f347ef17/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/93441dec298c43d98bfd8773f347ef17/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)

- 73.5-mm M-CRPS

[https://sketchfab.com/models/d22483ac653e49e483d66f657a2ff816/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/d22483ac653e49e483d66f657a2ff816/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)



### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).



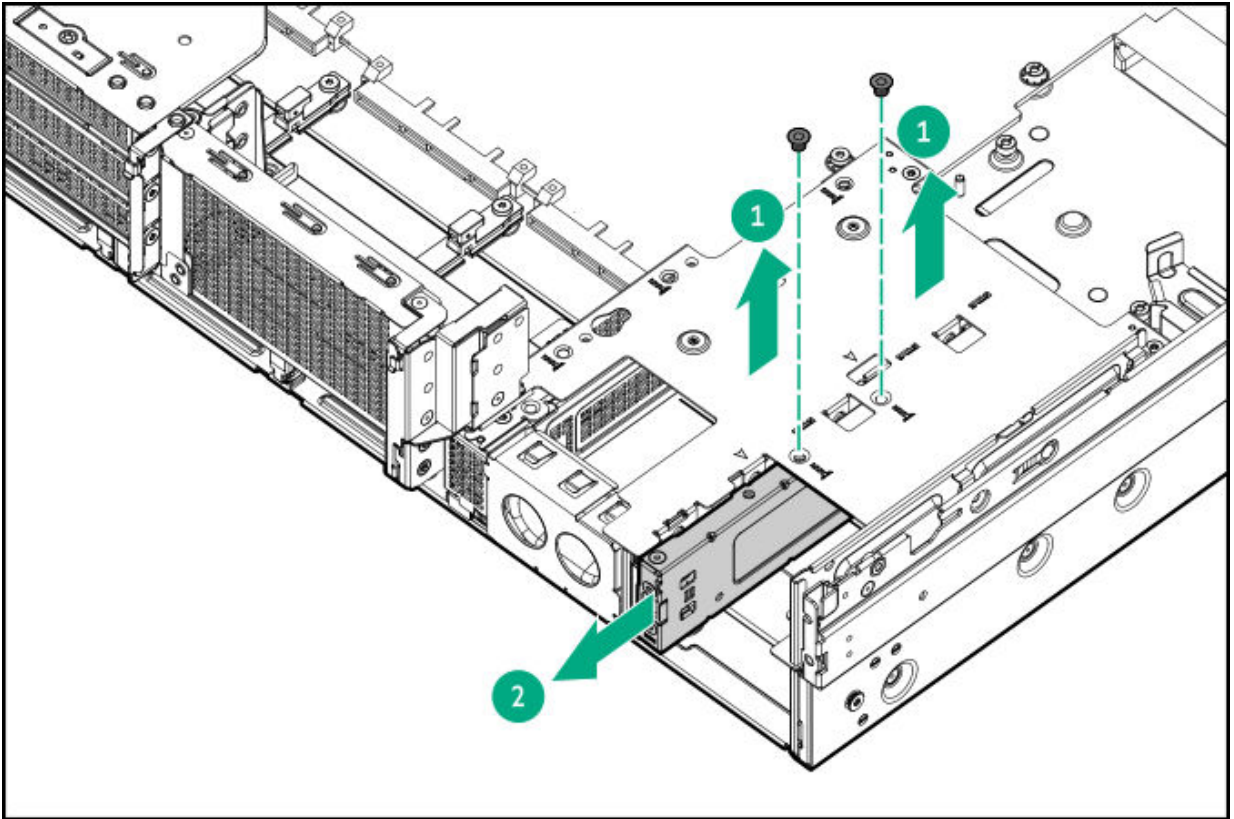
### CAUTION

The port blank provides EMI shielding and helps maintain proper thermal status inside the server. Do not operate the server when a port blank is removed without the corresponding I/O port option installed.

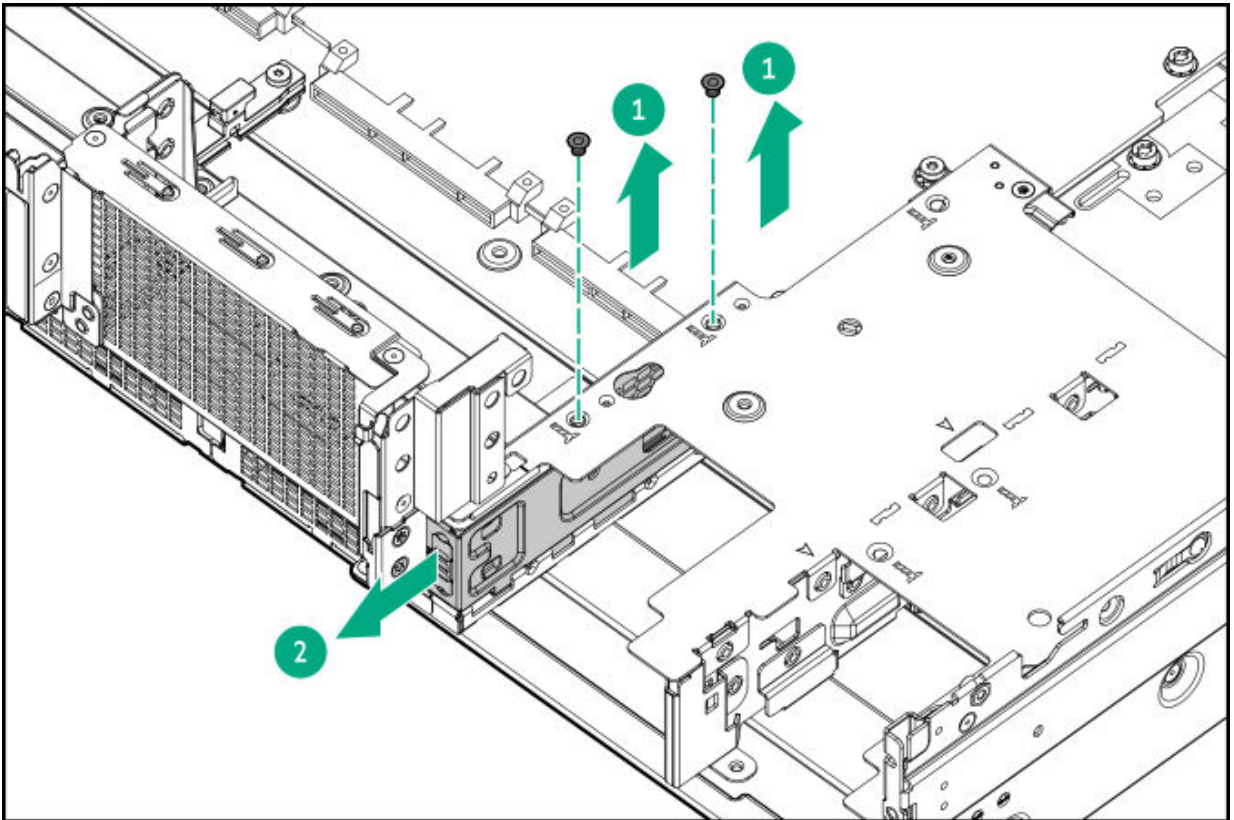
## Procedure

1. [Power down the server](#).
2. Remove all power:
  - a. Disconnect each power cord from the power source.

- b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Remove the rare boot device holder.
8. Do the following:
  - Remove the power supply blank.
  - Remove the power supply.
9. Disconnect the ix port cable:
  - a. Remove the primary riser cage.
  - b. Disconnect the ix port cable and the serial port dongle.
10. Remove the ix port cable bracket.
  - 60-mm M-CRPS

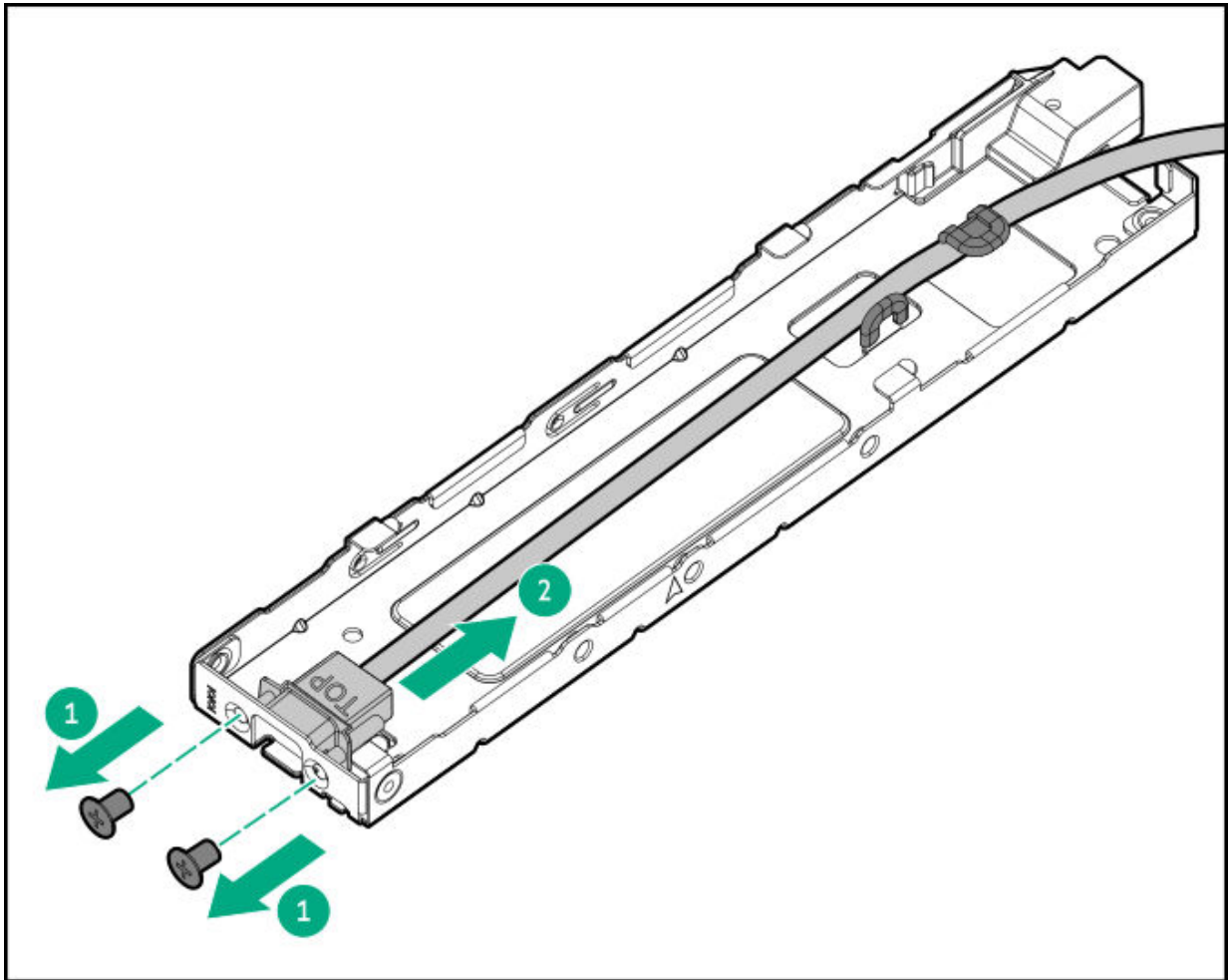


- 73.5-mm M-CRPS

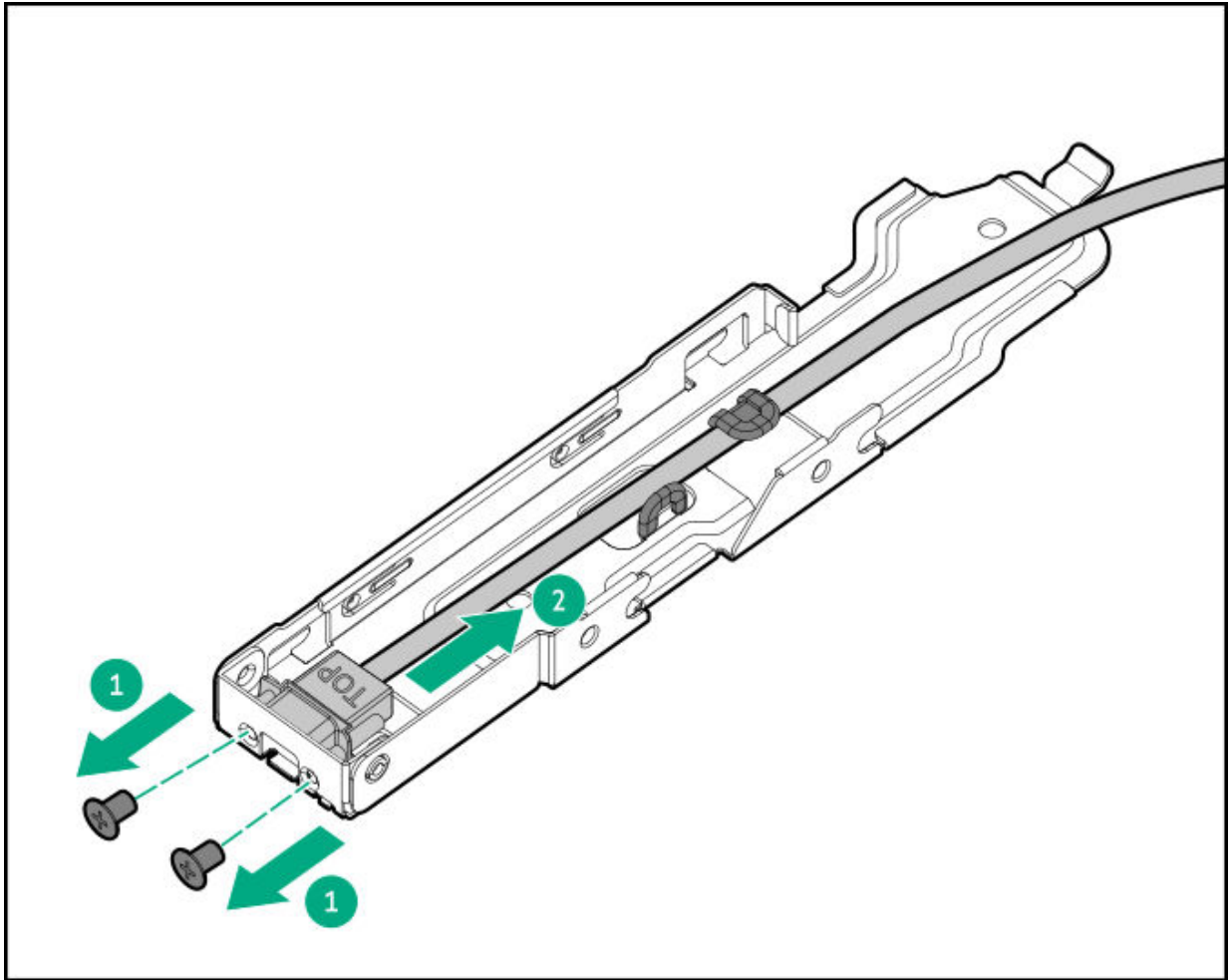


.1. Remove the ix port cable.

- 60-mm M-CRPS



- 73.5-mm M-CRPS



### Results

The removal procedure is complete. To replace the component, reverse this procedure.

Make sure that the ix port cable is secured in the tabs on the bracket after replacement.

## Removing and replacing the serial port cable bracket

### Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-10 Torx screwdriver
- Phillips No. 1 screwdriver

## About this task



### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.



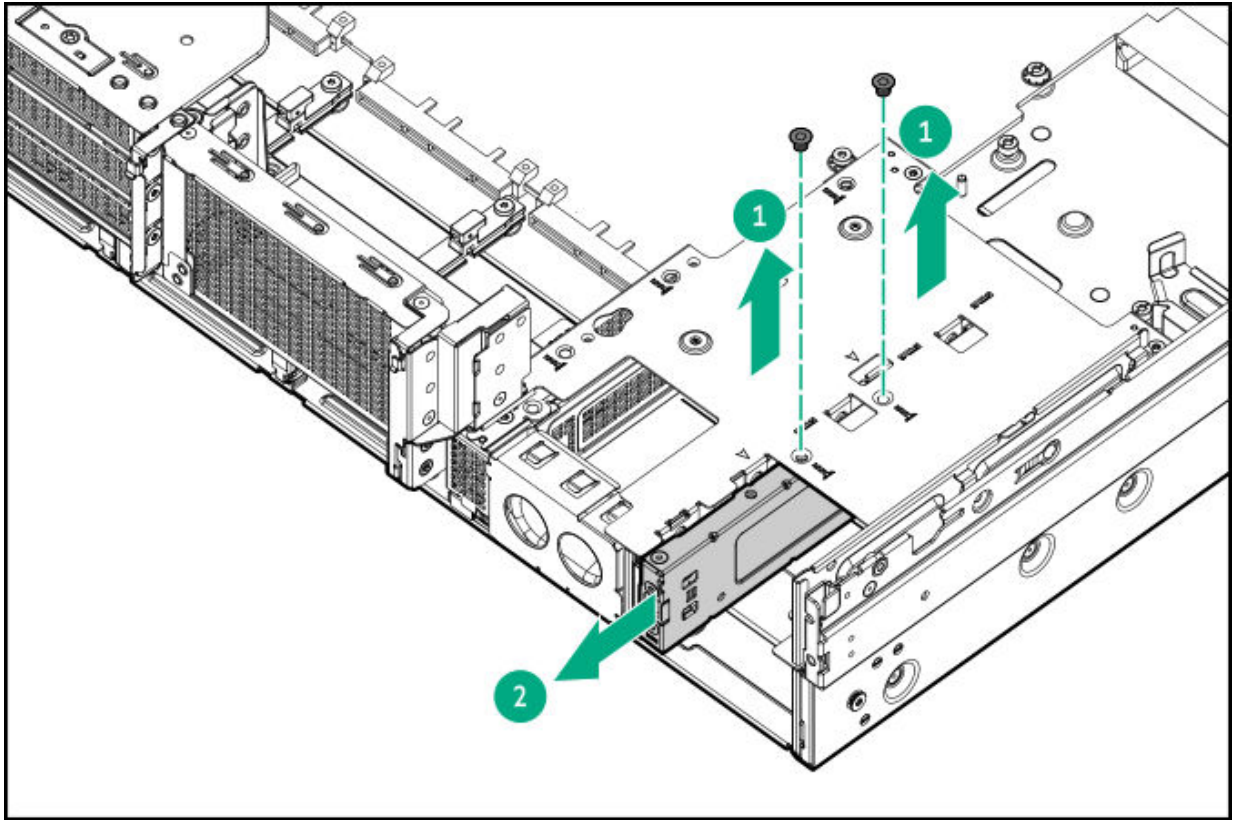
### CAUTION

The port blank provides EMI shielding and helps maintain proper thermal status inside the server. Do not operate the server when a port blank is removed without the corresponding I/O port option installed.

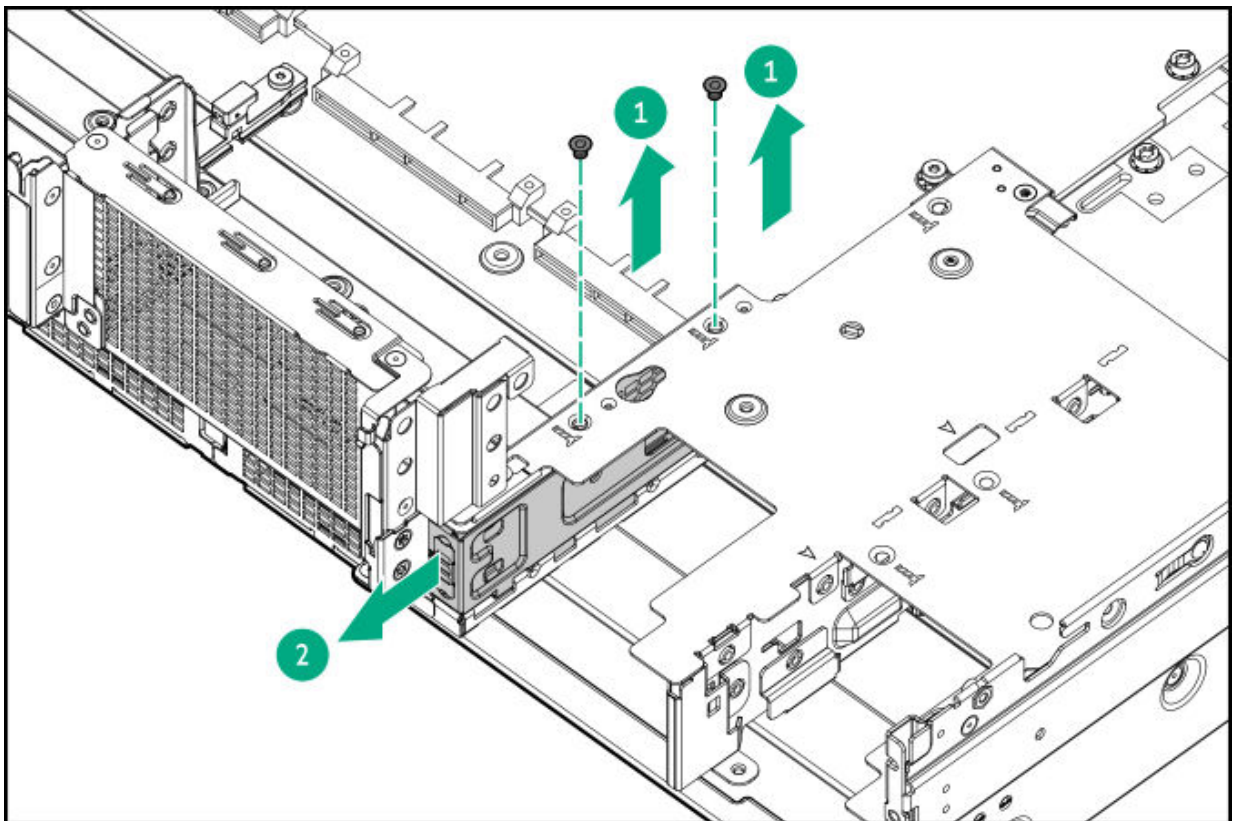
## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Remove the rare boot device holder.
8. Do the following:
  - Remove the power supply blank.
  - Remove the power supply.
9. If the ix port cable is installed, disconnect the ix port cable:
  - a. Remove the primary riser cage.
  - b. Disconnect the ix port cable and the serial port dongle.
10. Remove the ix port cable bracket.

- 60-mm M-CRPS



- 73.5-mm M-CRPS



.1. If installed, remove the ix port cable from the bracket.

## **Results**

The removal procedure is complete. To replace the component, reverse this procedure.

Make sure that the ix port cable is secured in the tabs on the bracket after replacement.

# **GPU replacement**

## **Subtopics**

**Removing and replacing a GPU from a GPU cage**

**Removing and replacing a GPU from a riser cage**

**Removing and replacing a GPU cage bezel**

## **Removing and replacing a GPU from a GPU cage**

### **Prerequisites**

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### **About this task**

<https://sketchfab.com/models/8d65bd57b7704f8a85e9910c82a95eb0/embed?>



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.



### CAUTION

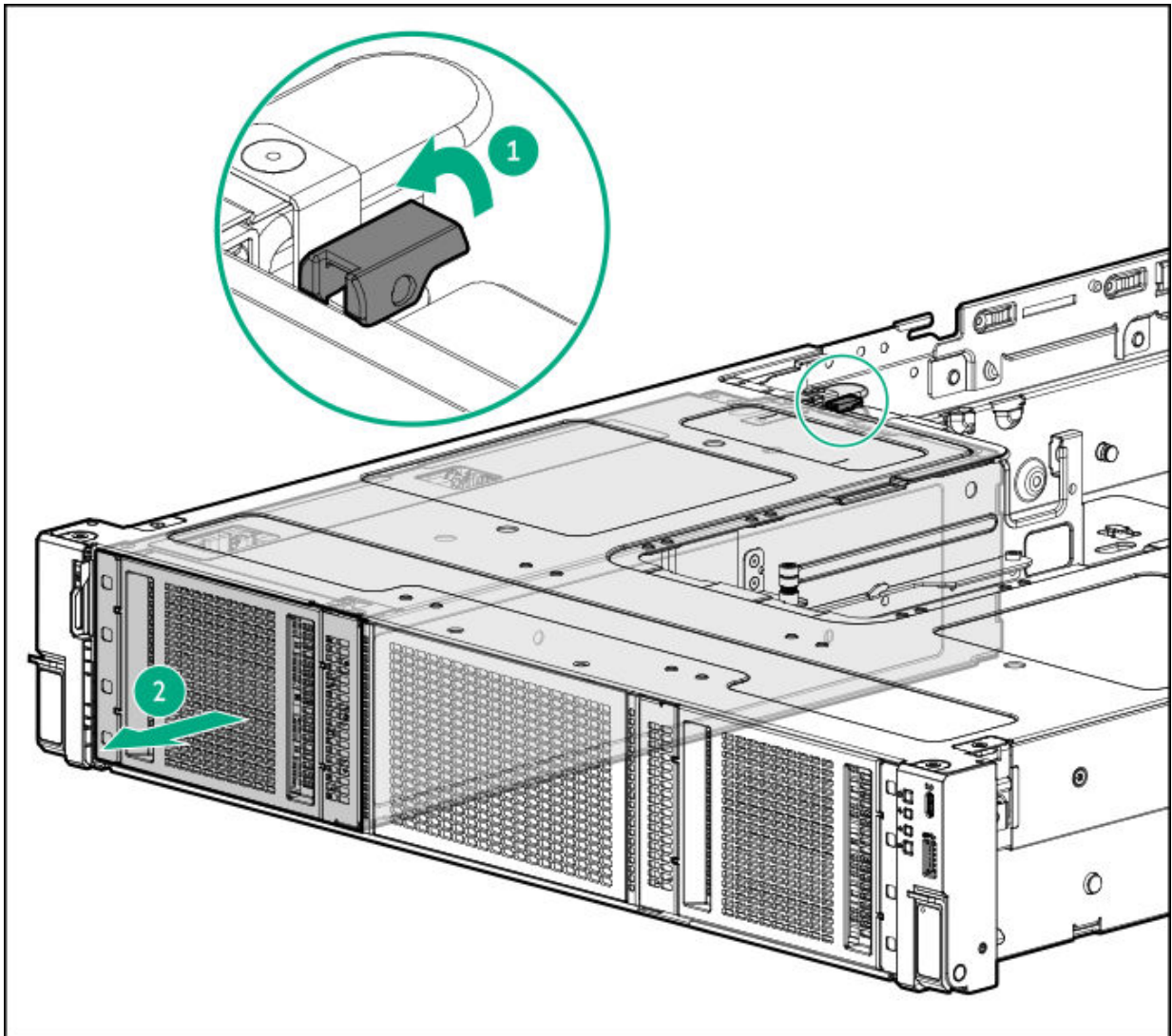
To prevent improper cooling and thermal damage, do not operate the server unless all PCIe slots have either a riser slot blank or an expansion card installed.

## Procedure

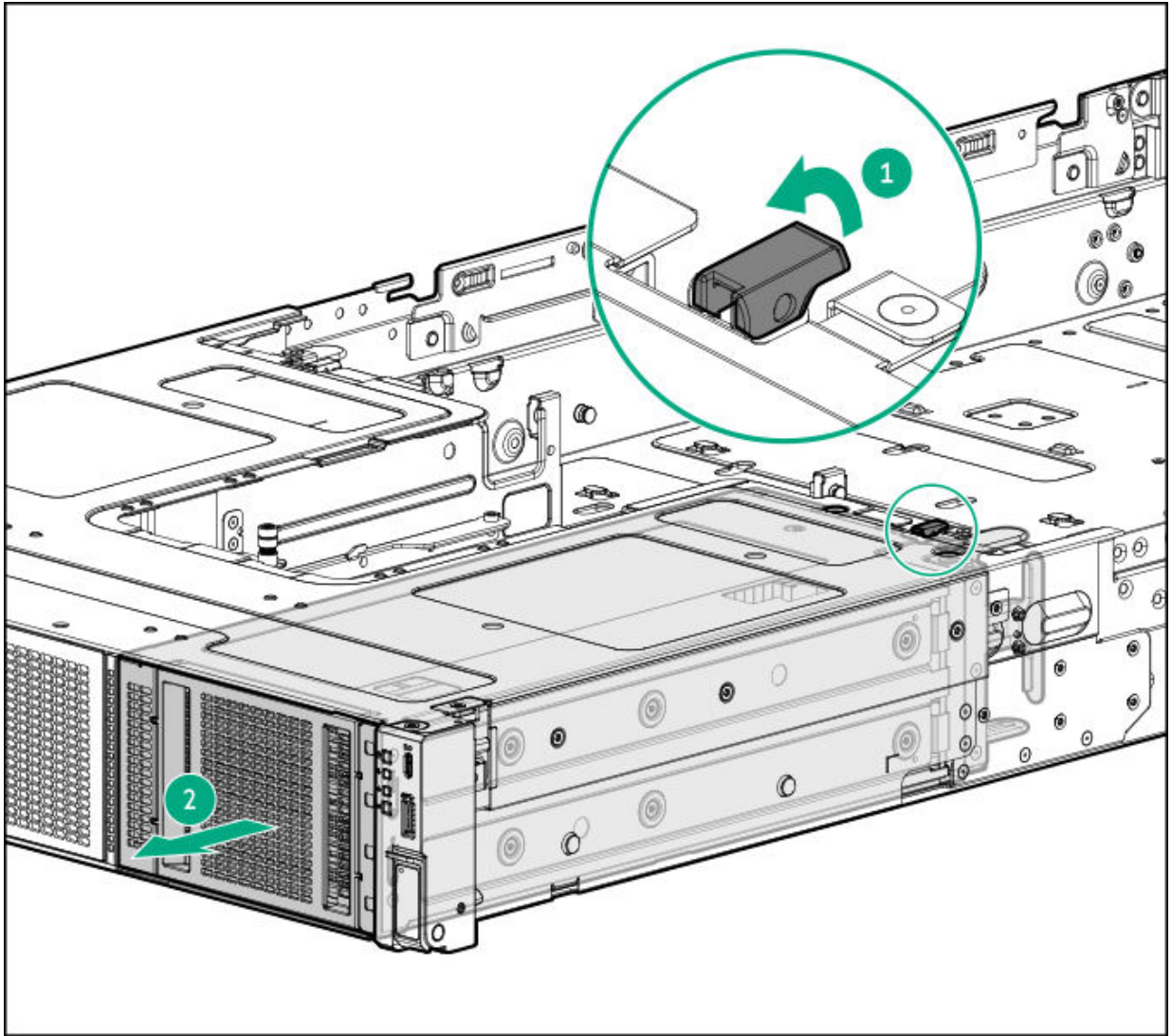
1. If installed, remove the front bezel.
2. If the GPU I/O port cables are connected, disconnect them from the GPUs.
3. Power down the server.
4. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
7. Remove the access panel.
8. Remove the air baffle.
9. Remove the fan cage.

- .0. Remove the middle cover.
- .1. Disconnect the GPU captive riser and power cables from the system board.
- .2. If the double-width GPUs installed, disconnect the GPU auxiliary power cable from the GPU.
- .3. Remove the GPU cage.

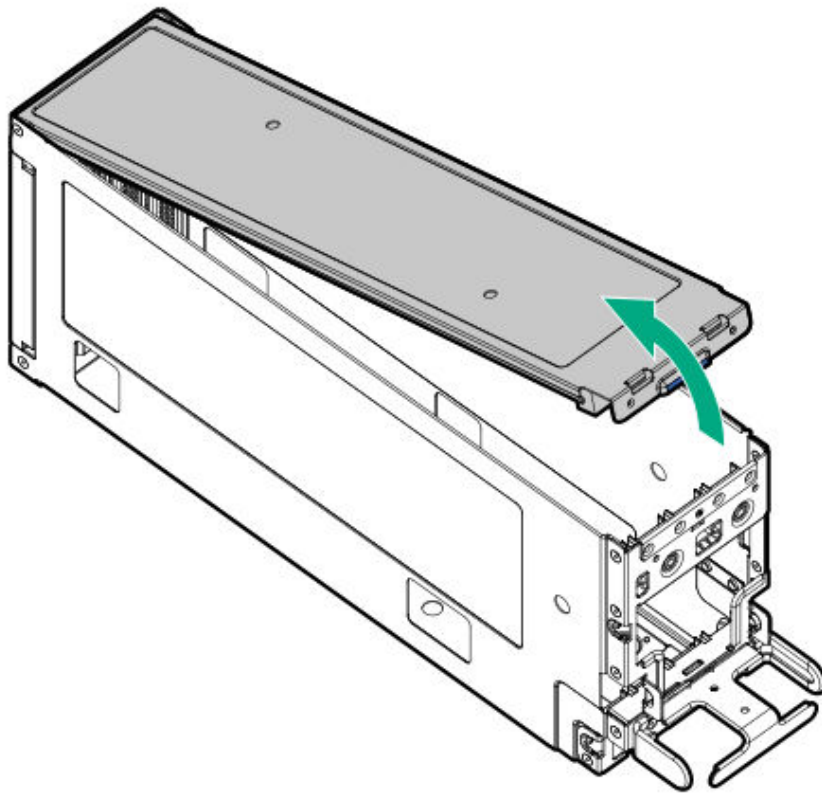
- GPU cage 1



- GPU cage 2



4. Remove the GPU cage cover.



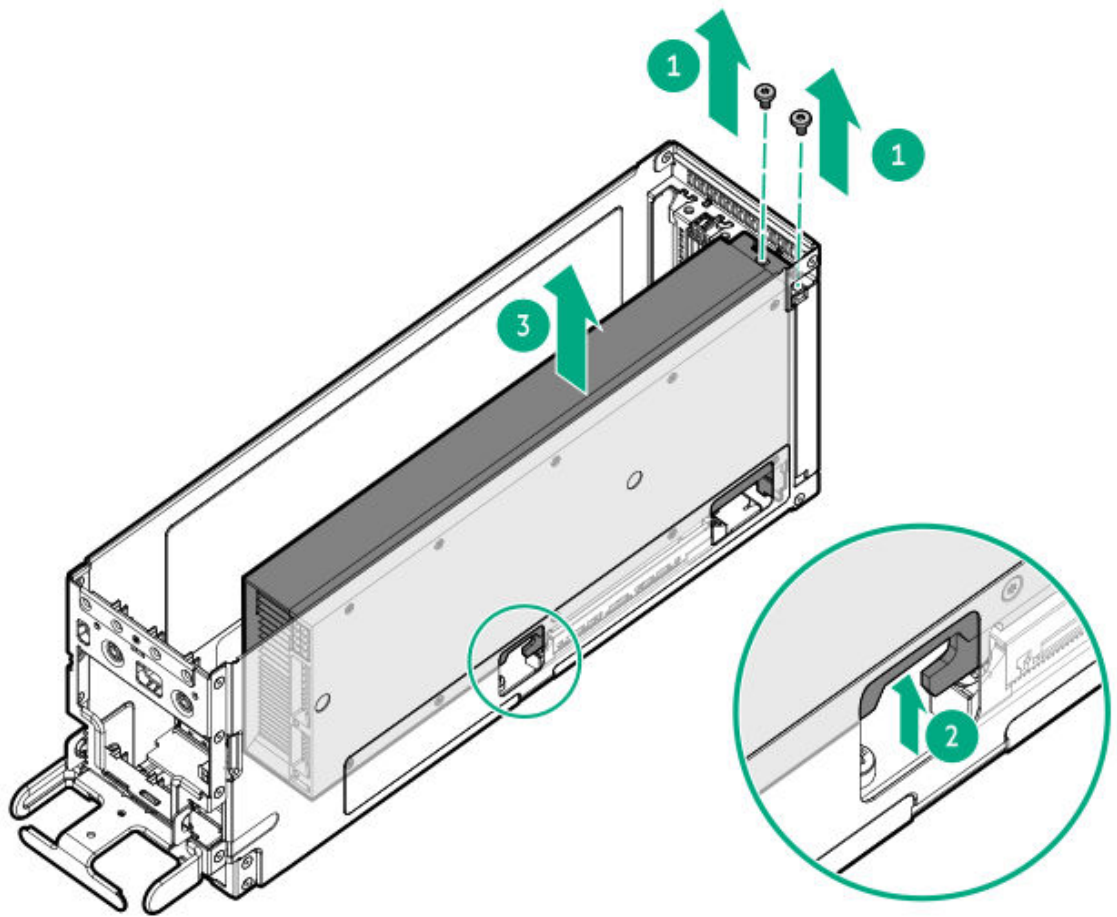
.5. Remove the GPU:

- a. Remove the screws.

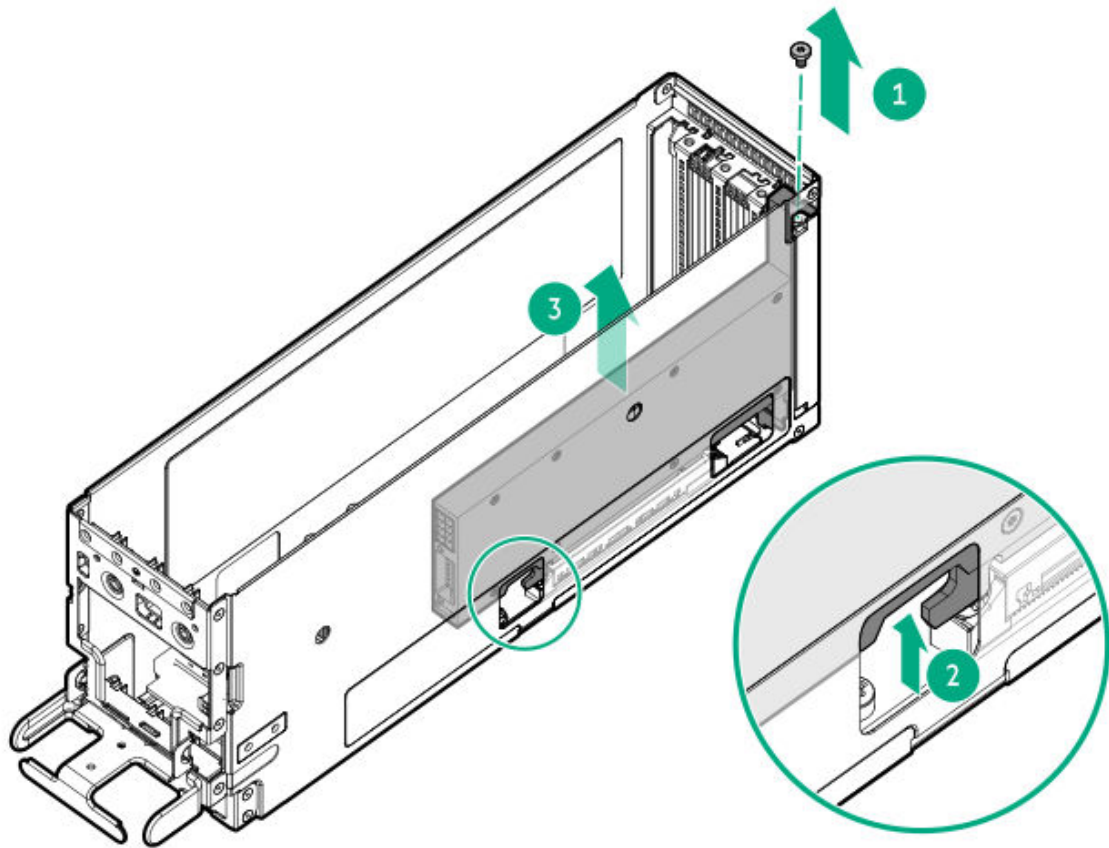
Retain the screws. These screws are used to secure the new GPU.

- b. Press the GPU from the GPU riser cage opening.
- c. Slide the GPU from the GPU riser cage.

- Double-width GPU



- Single-width GPU



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing a GPU from a riser cage

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### About this task

<https://sketchfab.com/models/7774189629984eafb557077d4b9f5ceb/embed?>



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

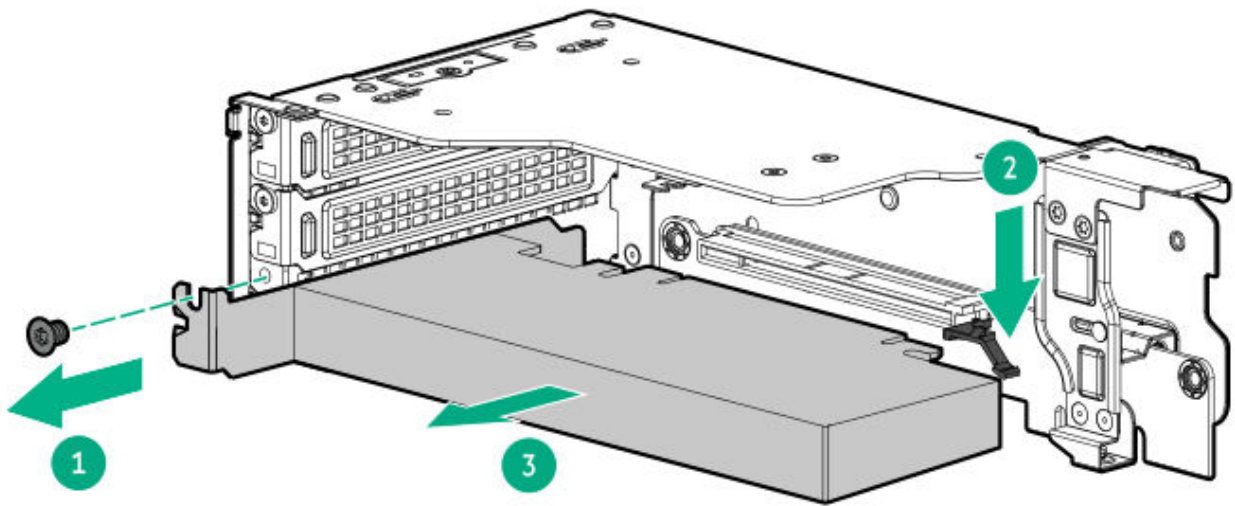


### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all PCIe slots have either a riser slot blank or an expansion card installed.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Remove the riser cage.
8. Remove the screw, press and hold the release latch, and then remove the GPU from the riser.



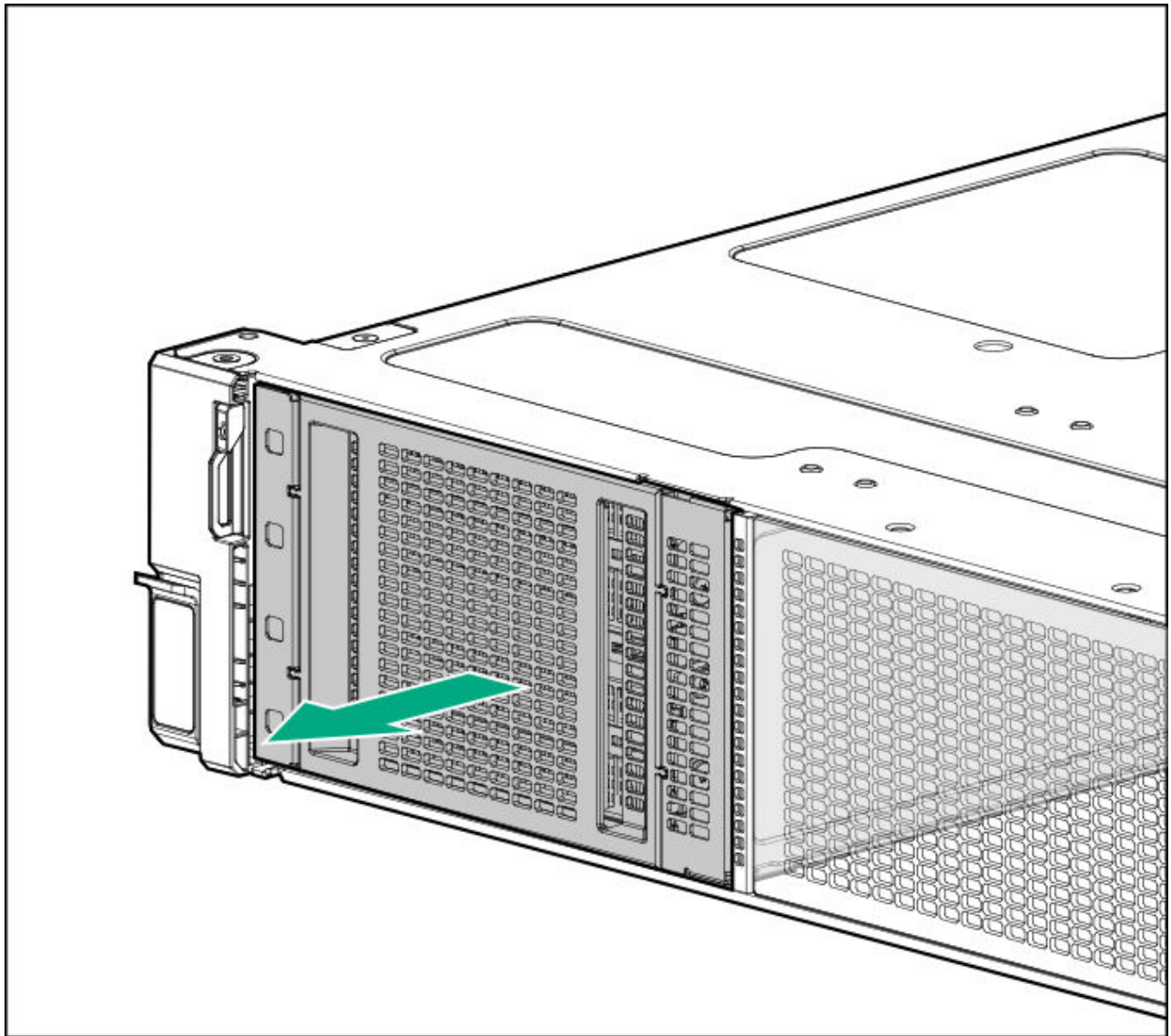
### Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing a GPU cage bezel

### Procedure

1. If installed, remove the front bezel.
2. Remove the GPU cage bezel.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Networking adapter replacement

### Subtopics

[Removing and replacing a rear OCP NIC](#)

[Removing and replacing a PCIe NIC from a GPU cage](#)

[Removing and replacing a PCIe NIC](#)

# Removing and replacing a rear OCP NIC

## About this task

[https://sketchfab.com/models/0eaf67ab7e3843938deb05417072c30f/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/0eaf67ab7e3843938deb05417072c30f/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.



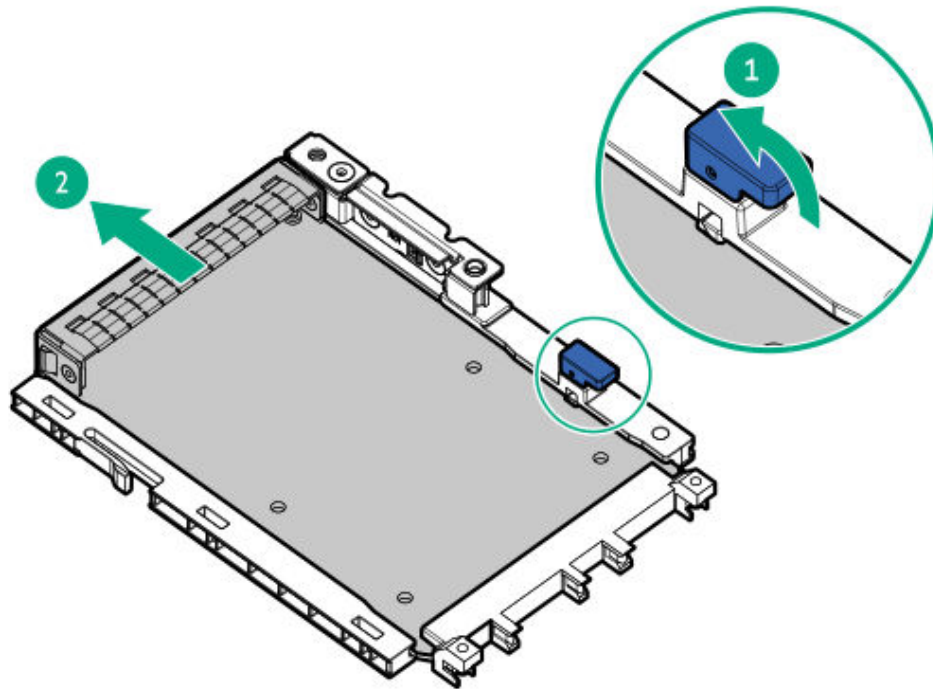
### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all OCP slots have either an OCP option or a slot blank installed.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.

6. If the expansion card is installed, remove the primary riser cage.
7. Remove the OCP NIC:
  - a. Pivot the locking pin to the open (vertical) position.
  - b. Remove the OCP NIC from the slot.



### Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing a PCIe NIC from a GPU cage

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

## About this task



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.



### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all PCIe slots have either a riser slot blank or an expansion card installed.

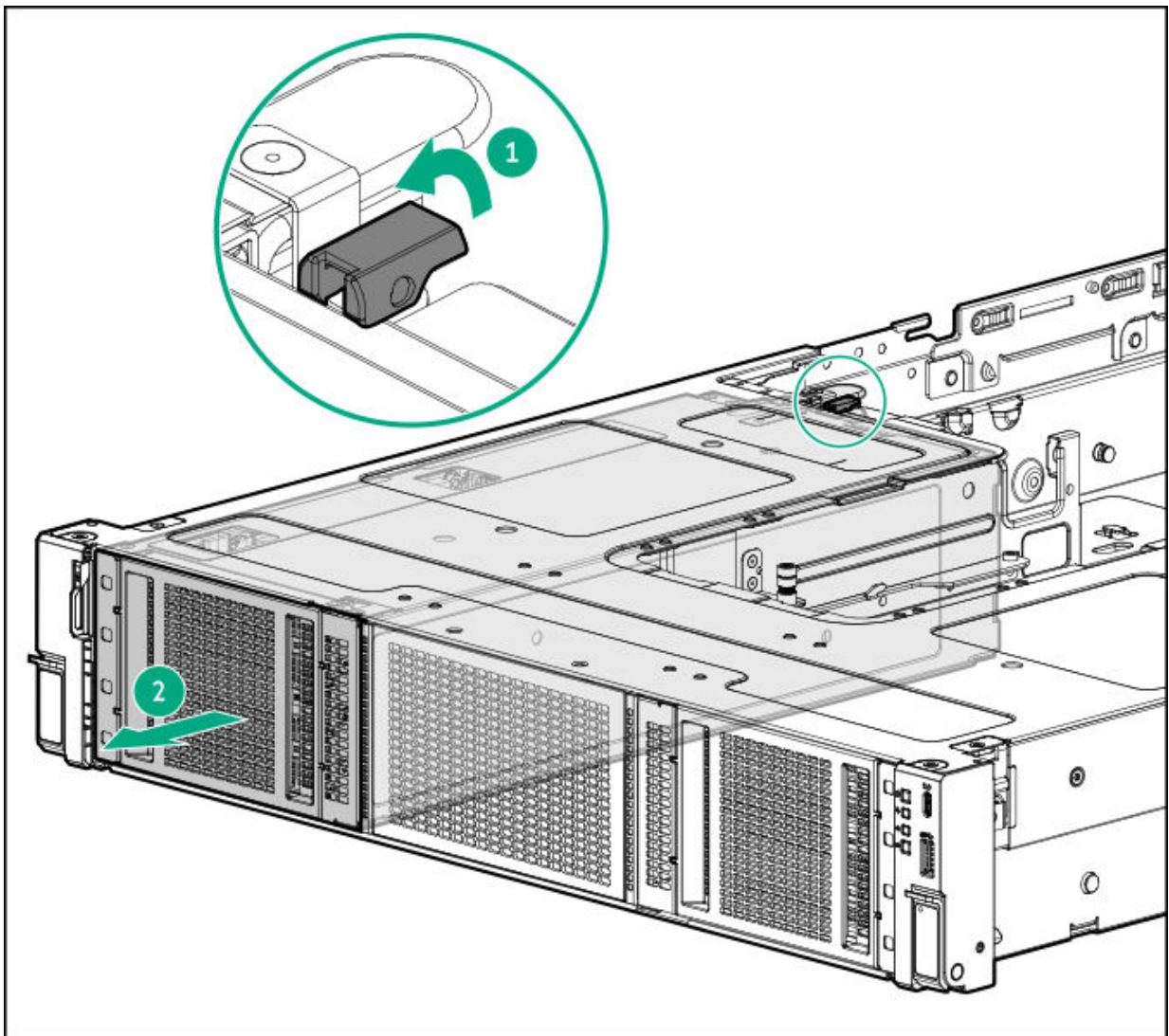
## Procedure

1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fan cage.
9. Remove the middle cover.

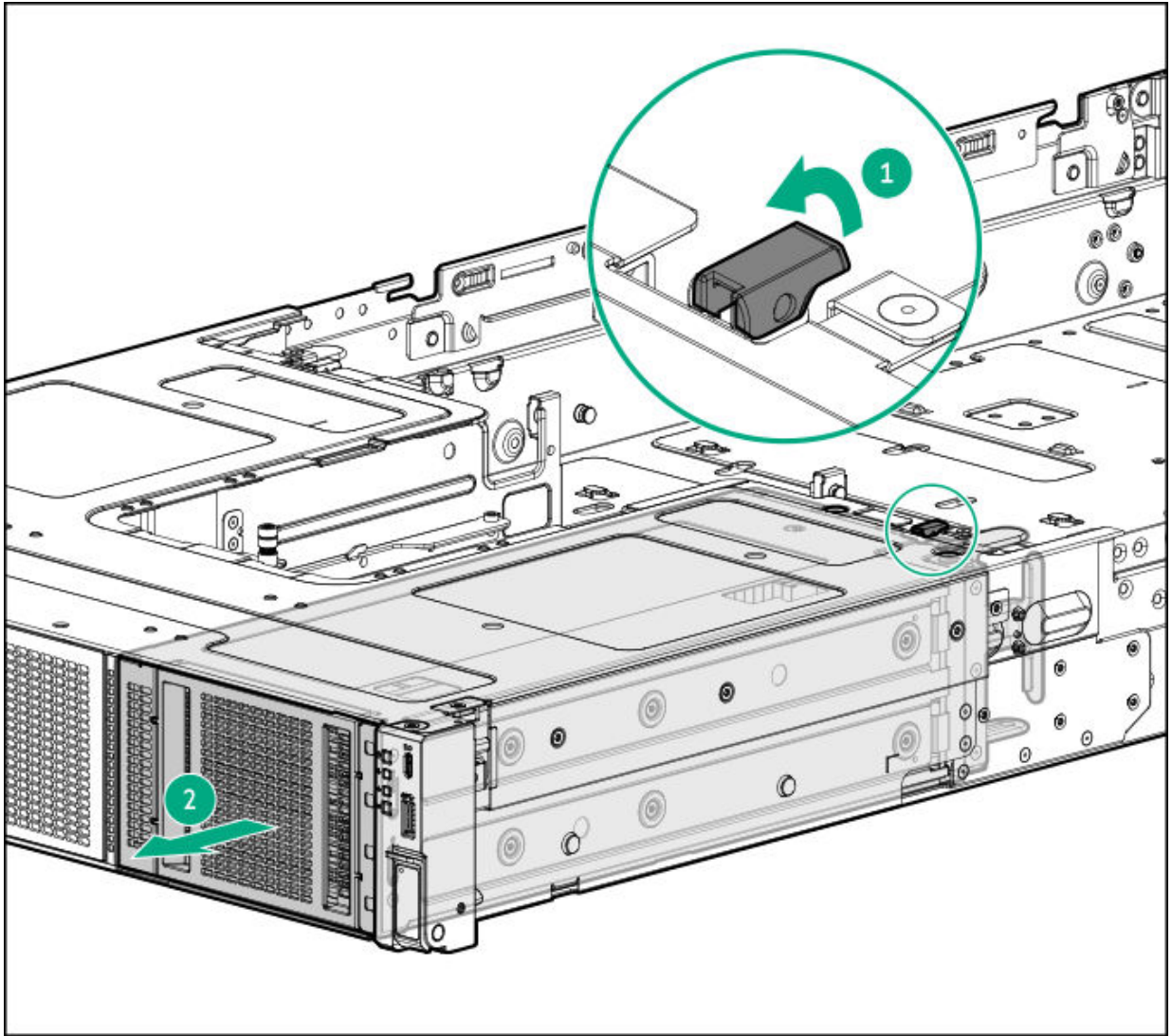
.0. If installed, disconnect internal/external cables from the PCIe NIC.

.1. Remove the GPU cage.

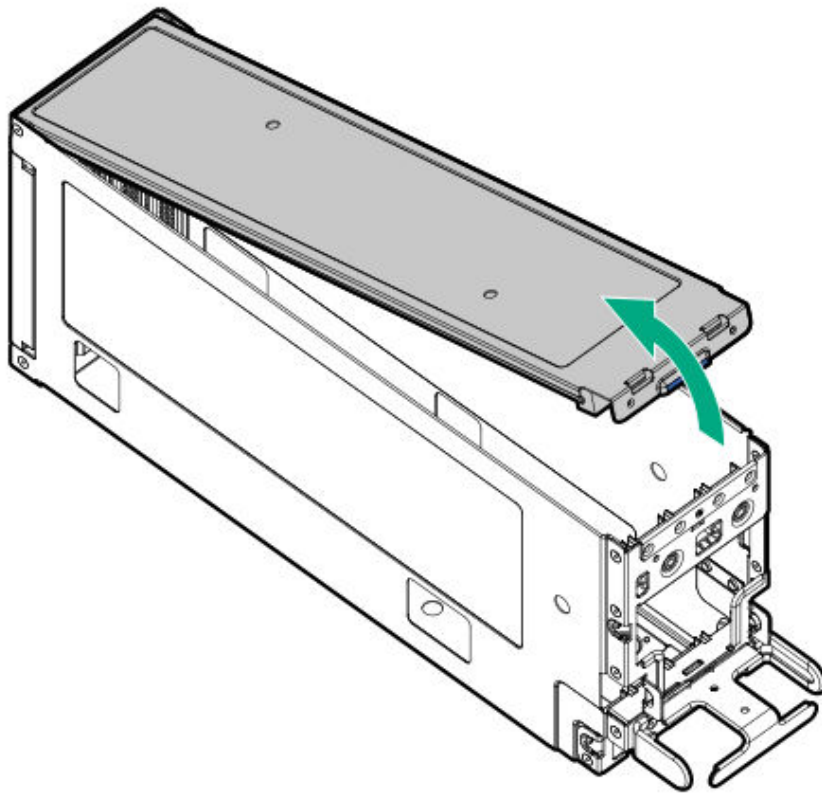
- GPU cage 1



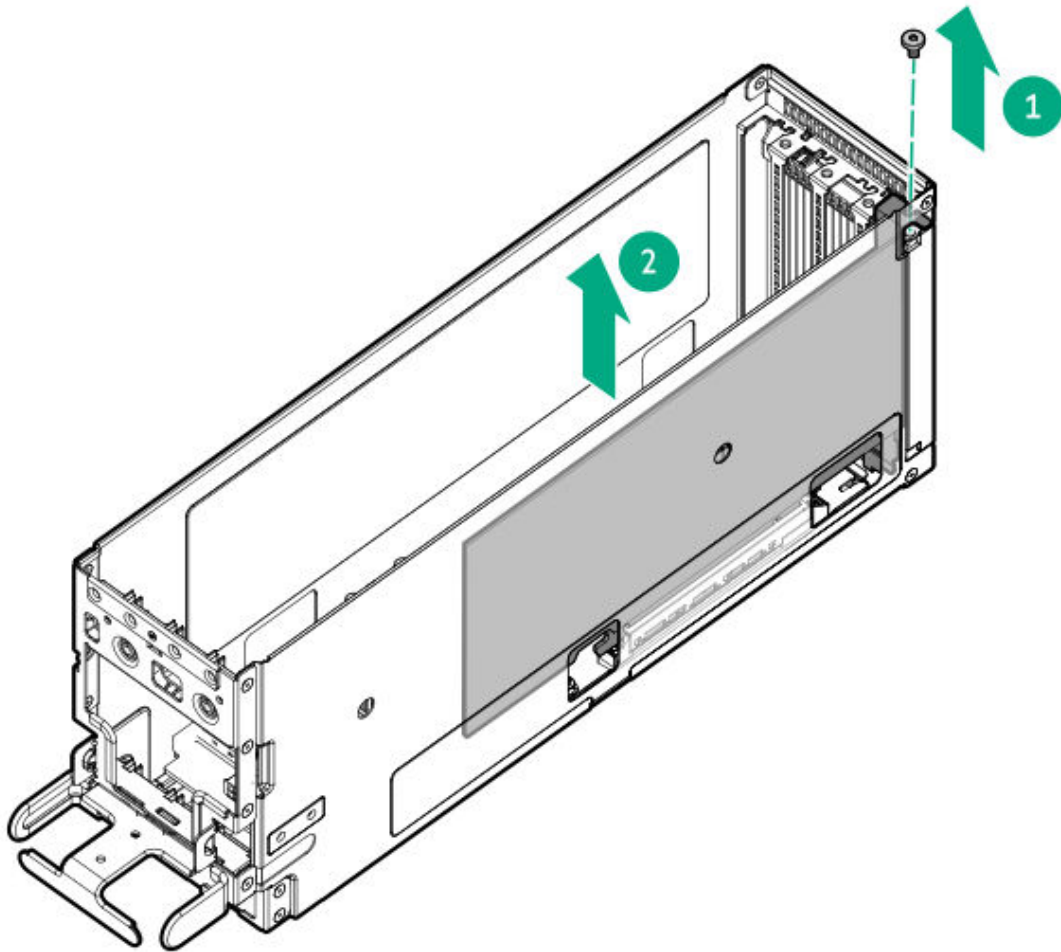
- GPU cage 2



.2. Remove the GPU cage cover.



.3. Remove the PCIe NIC.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing a PCIe NIC

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### About this task

<https://sketchfab.com/models/d9e1cdb76a124201b21000aa17d37c75/embed?>



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

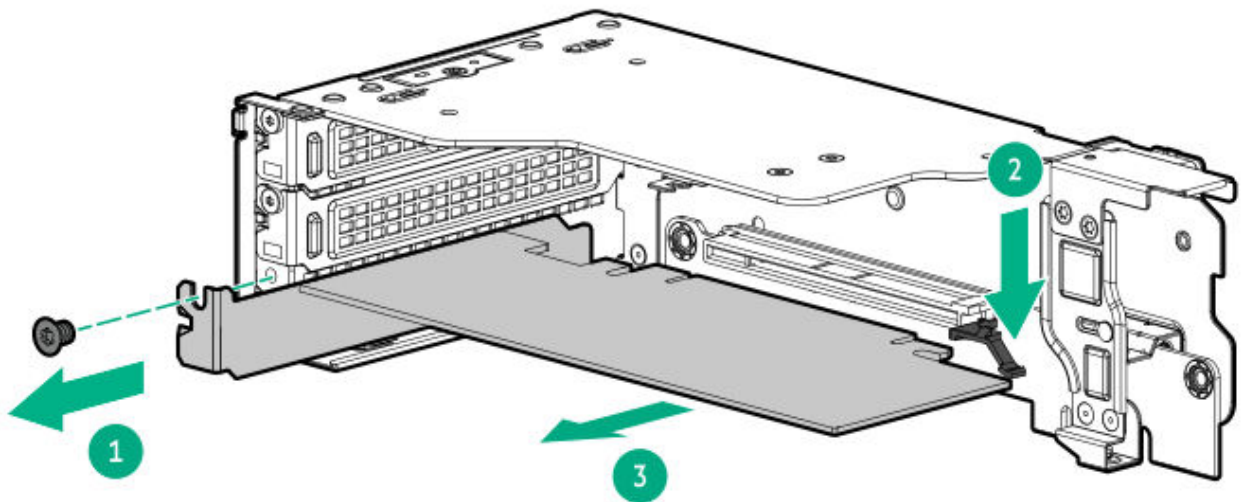


### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all PCIe slots have either a riser slot blank or an expansion card installed.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Disconnect internal cables from the PCIe NIC.
8. Remove the riser cage.
9. Remove the screw, press and hold the release latch, and then remove the expansion card from the riser.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Storage controller replacement

### Subtopics

[Removing and replacing a type-o storage controller](#)

[Removing and replacing a type-p storage controller](#)

## Removing and replacing a type-o storage controller

### About this task

<https://sketchfab.com/models/0eaf67ab7e3843938deb05417072c30f/embed?>



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.



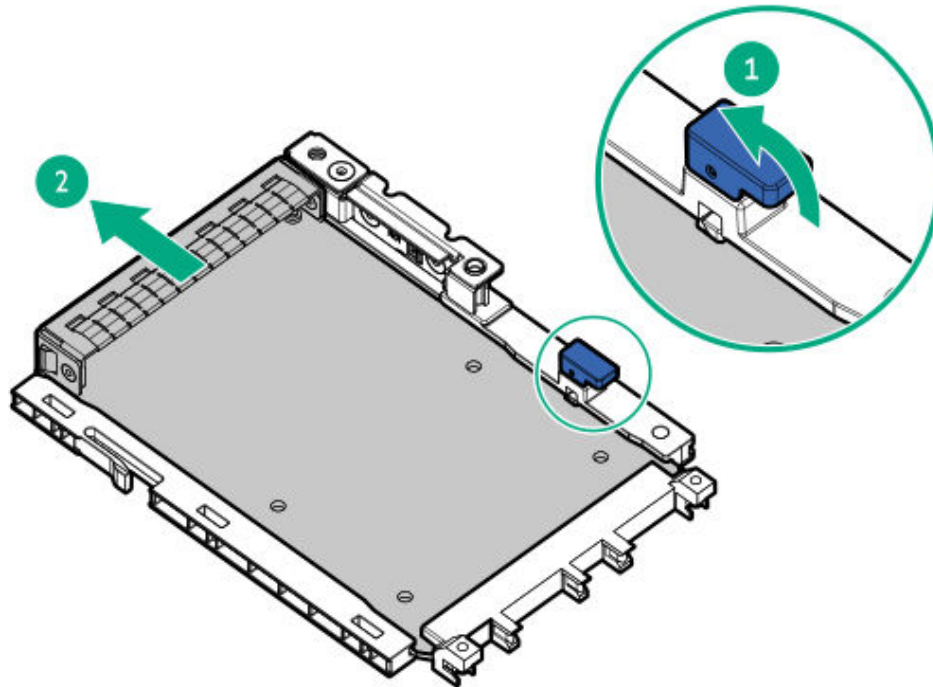
### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all OCP slots have either an OCP option or a slot blank installed.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. If installed, remove the secondary riser cage.
7. Disconnect all cables from the type-o storage controller.
8. Remove the type-o storage controller:
  - a. Pivot the locking pin to the open (vertical) position.

b. Remove the controller from the slot.



### Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing a type-p storage controller

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### About this task

<https://sketchfab.com/models/d9e1cdb76a124201b21000aa17d37c75/embed?>



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.



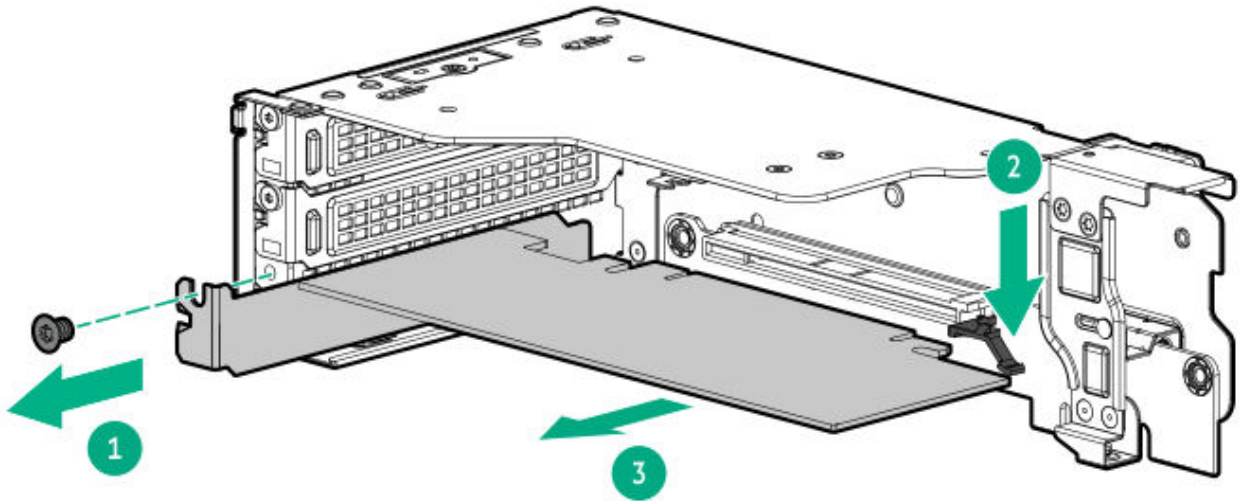
### CAUTION

To prevent improper cooling and thermal damage, do not operate the server unless all PCIe slots have either a riser slot blank or an expansion card installed.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Disconnect any internal cables that are connected to the expansion card.
8. Disconnect the storage controller cables from the system board.
9. Remove the riser cage.

0. Remove the screw, press and hold the release latch, and then remove the storage controller from the riser.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Riser board replacement

### Subtopics

[Removing and replacing the base riser](#)

[Removing and replacing the two-slot PCIe x16 captive riser from the PCIe riser cage](#)

[Removing and replacing the two-slot captive riser from the GPU cage](#)

## Removing and replacing the base riser

### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

## About this task

[https://sketchfab.com/models/be33342c98de4293b11406e5215bbd1e/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/be33342c98de4293b11406e5215bbd1e/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

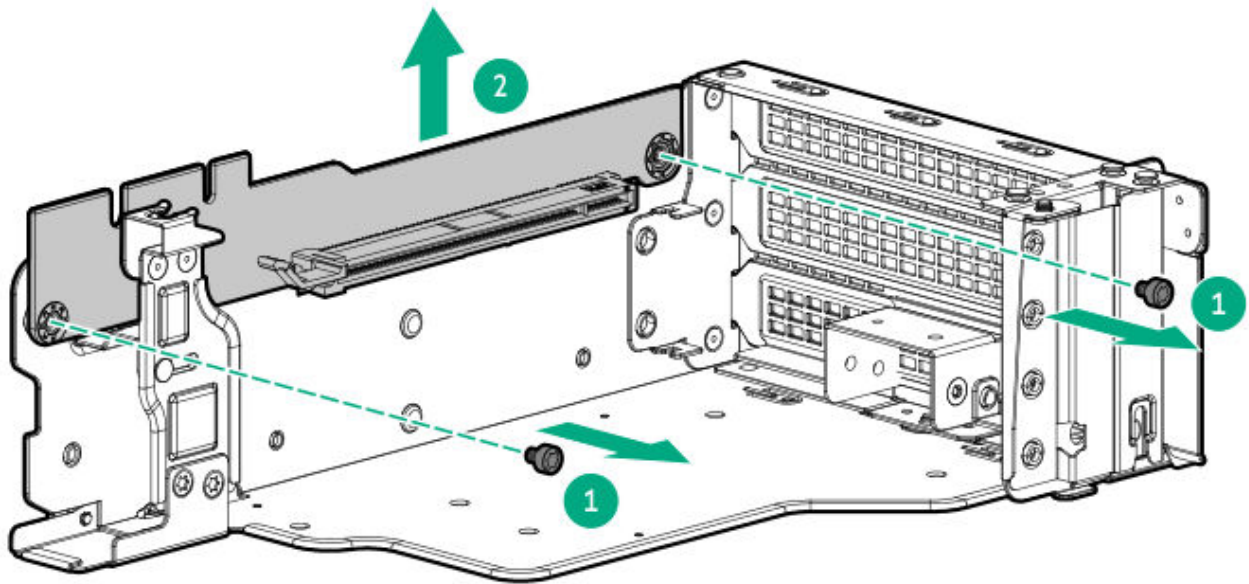
When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Remove the riser cage.
8. If installed, remove the following component from the riser:
  - GPU
  - Type-p storage controller

9. Remove the riser.



### Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the two-slot PCIe x16 captive riser from the PCIe riser cage

### Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-10 Torx screwdriver
- T-15 Torx screwdriver
- Phillips No. 1 screwdriver

### About this task

<https://sketchfab.com/models/a4833b7b79984d598d4913c086b634c2/embed?>



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

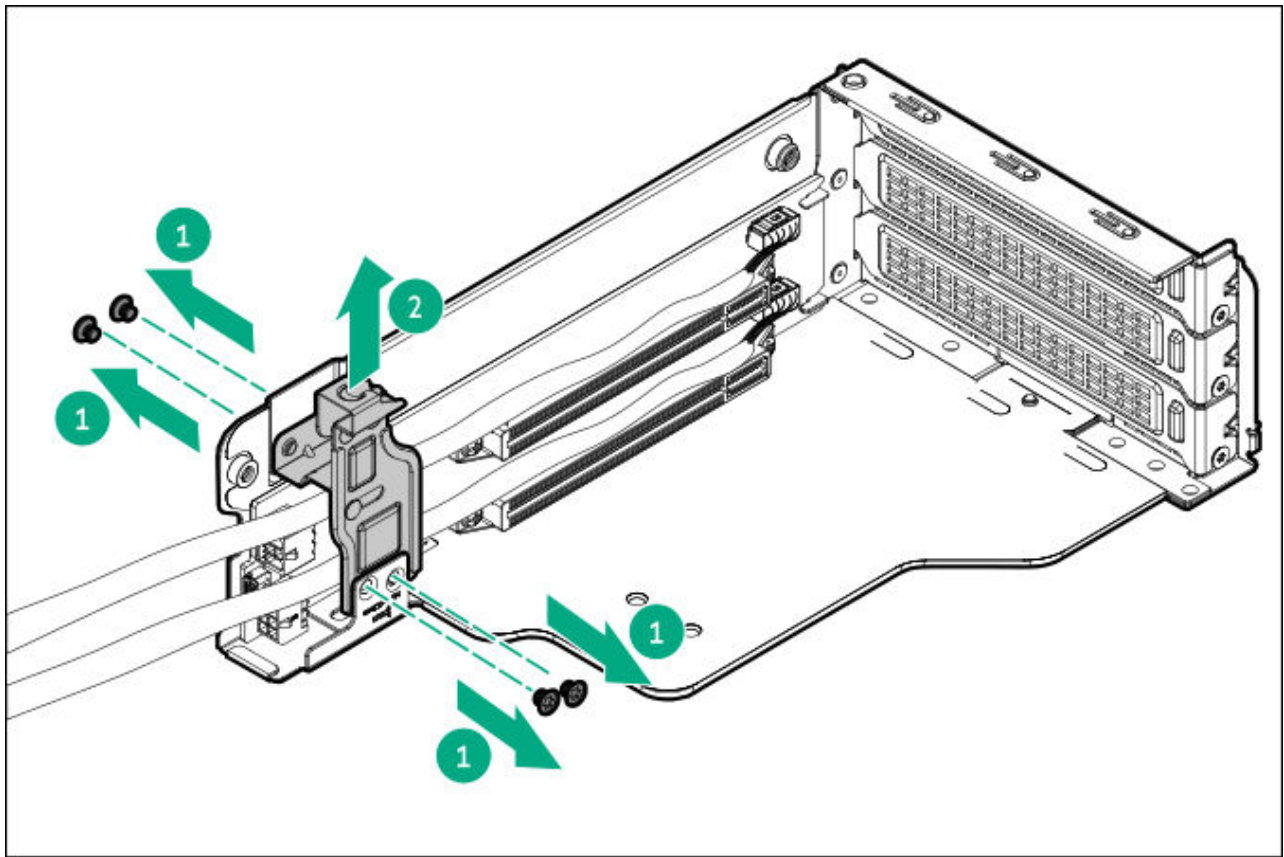
When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

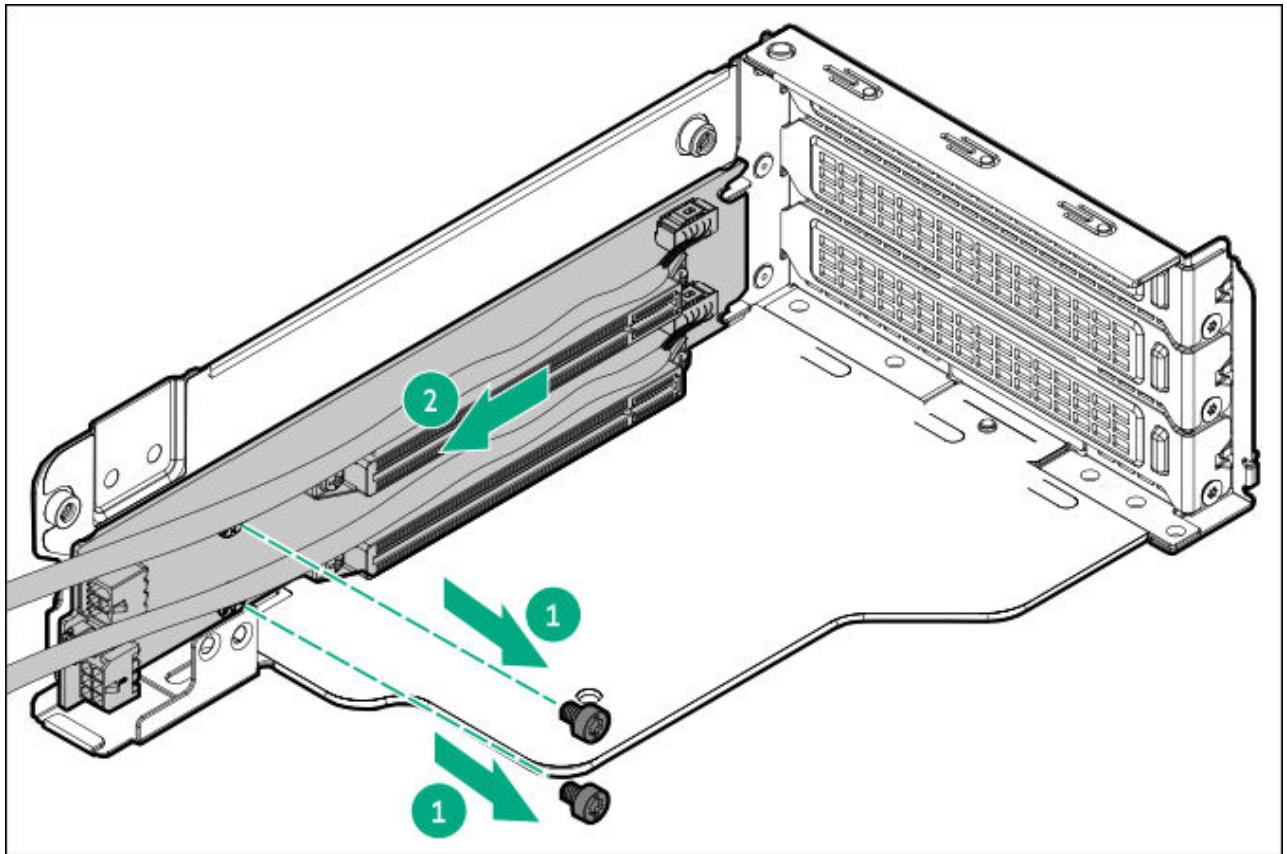
### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Disconnect the PCIe captive riser and power cables from the system board.
8. Remove the riser cage.
9. If installed, remove the following component from the riser:
  - Type-p storage controller
  - PCIe NIC
  - GPU

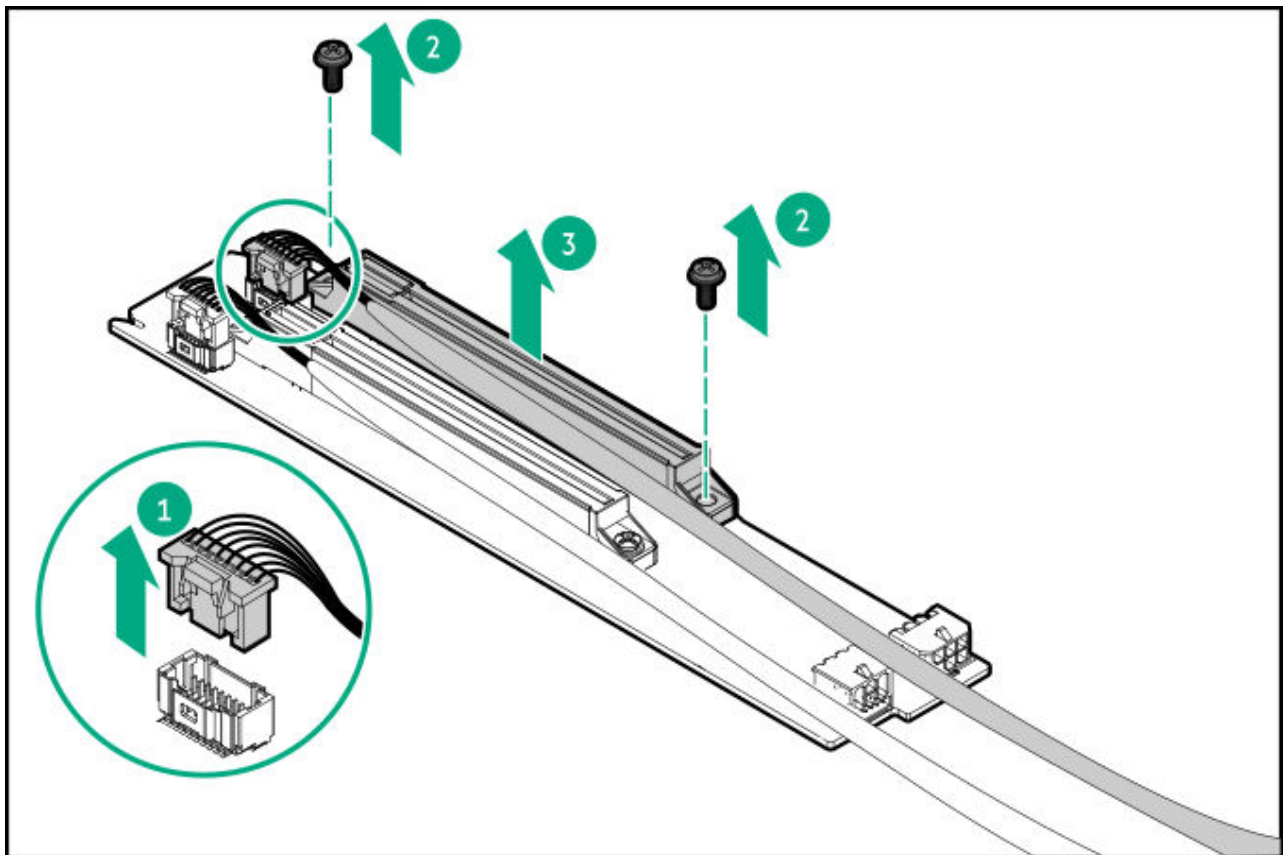
- .0. Remove the base riser.
- .1. Remove the riser screw bracket.



- .2. Remove the PCIe ×16 captive riser from the riser cage.



3. Remove the captive riser cable.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

# Removing and replacing the two-slot captive riser from the GPU cage

## Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-10 Torx screwdriver
- T-15 Torx screwdriver
- Phillips No. 1 screwdriver

## About this task

<https://sketchfab.com/models/8d65bd57b7704f8a85e9910c82a95eb0/embed?>



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.



### CAUTION

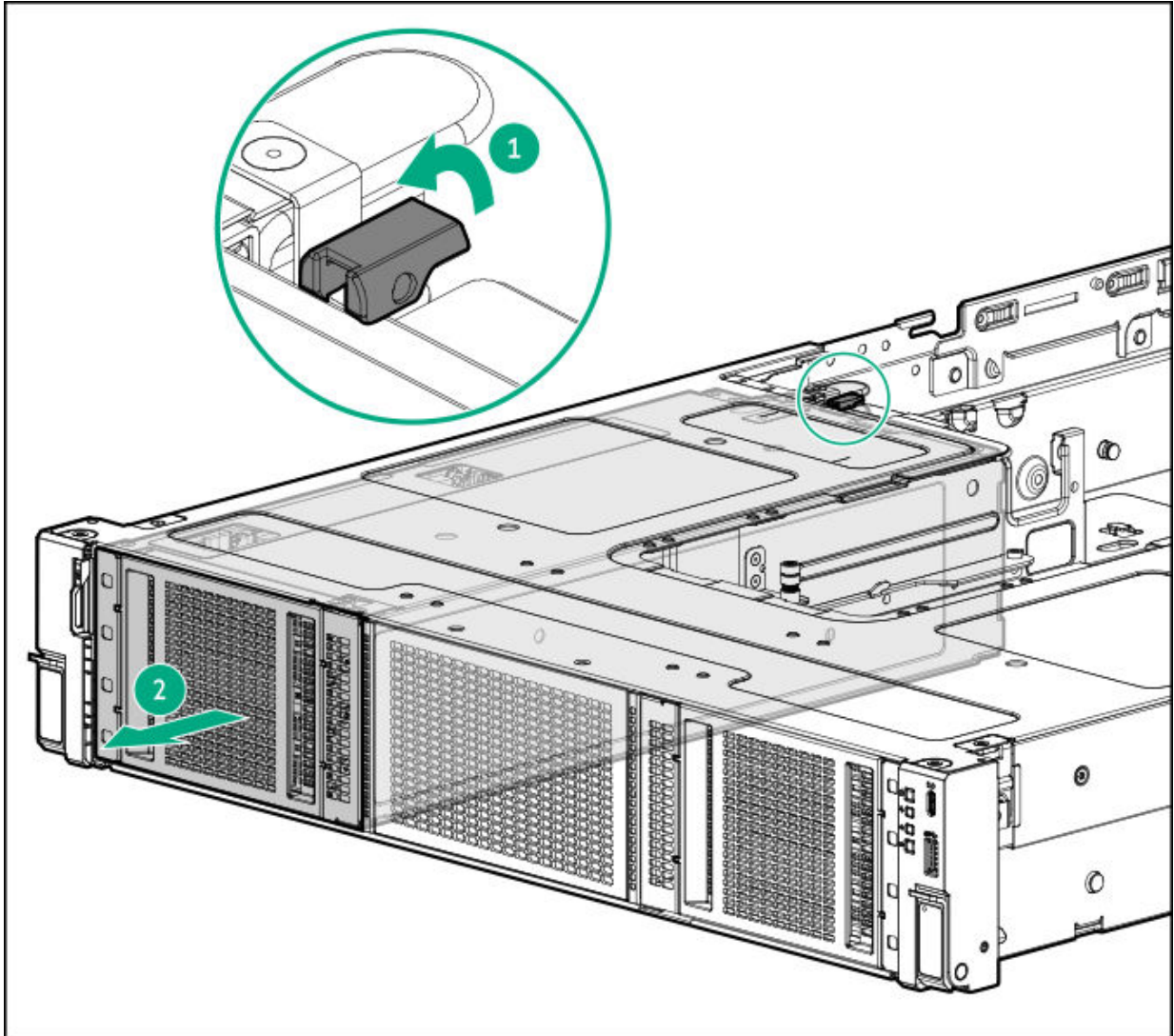
To prevent improper cooling and thermal damage, do not operate the server unless all PCIe slots have either a riser slot blank or an expansion card installed.

## Procedure

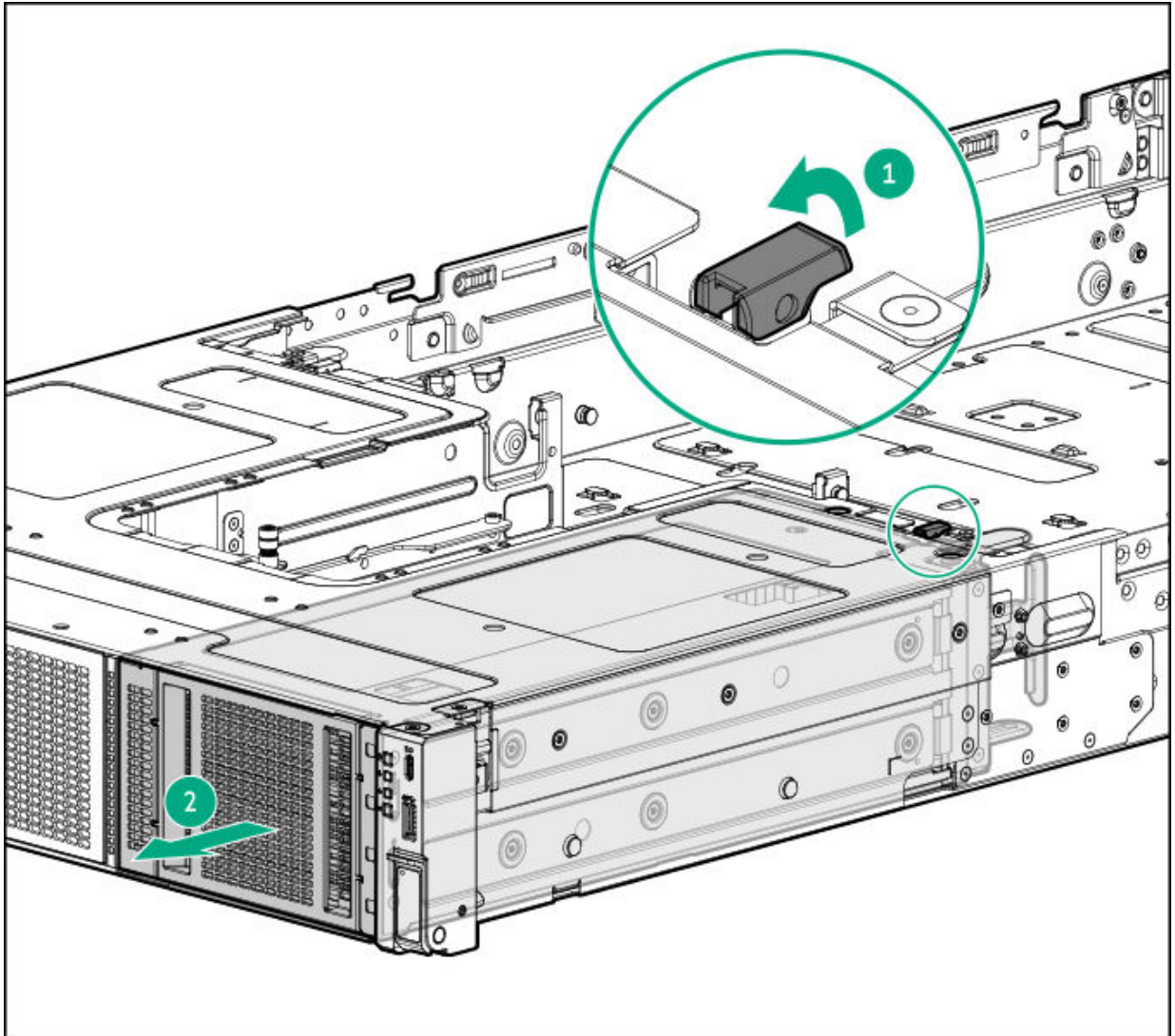
1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fan cage.
9. Remove the middle cover.

- .0. Disconnect the GPU captive riser and power cables from the system board.
- .1. If the double-width GPUs installed, disconnect the GPU auxiliary power cable from the GPU.
- .2. Remove the GPU cage.

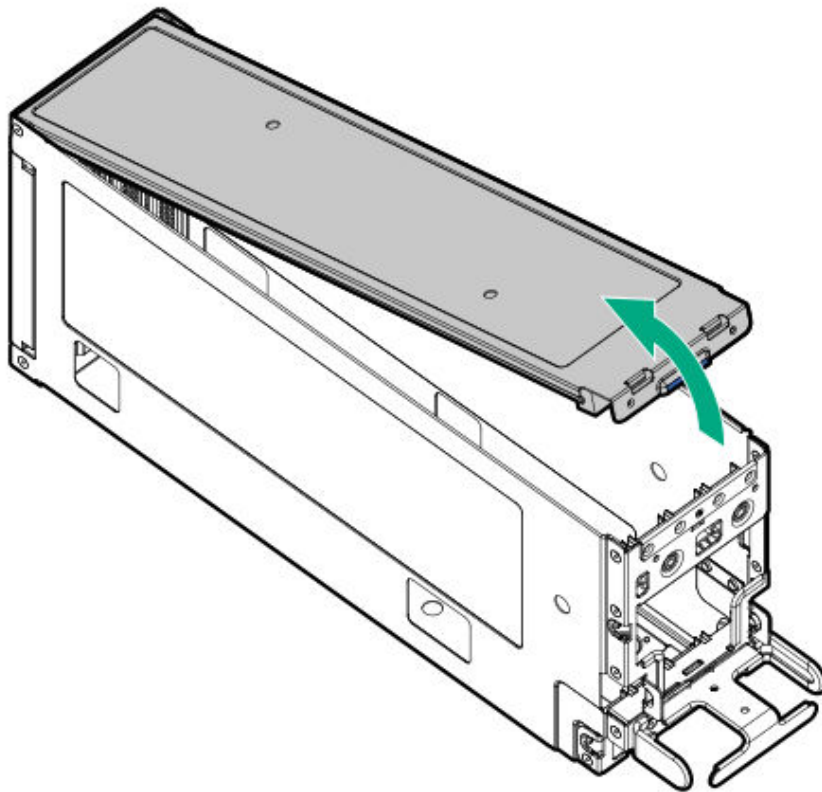
- GPU cage 1



- GPU cage 2



.3. Remove the GPU cage cover.



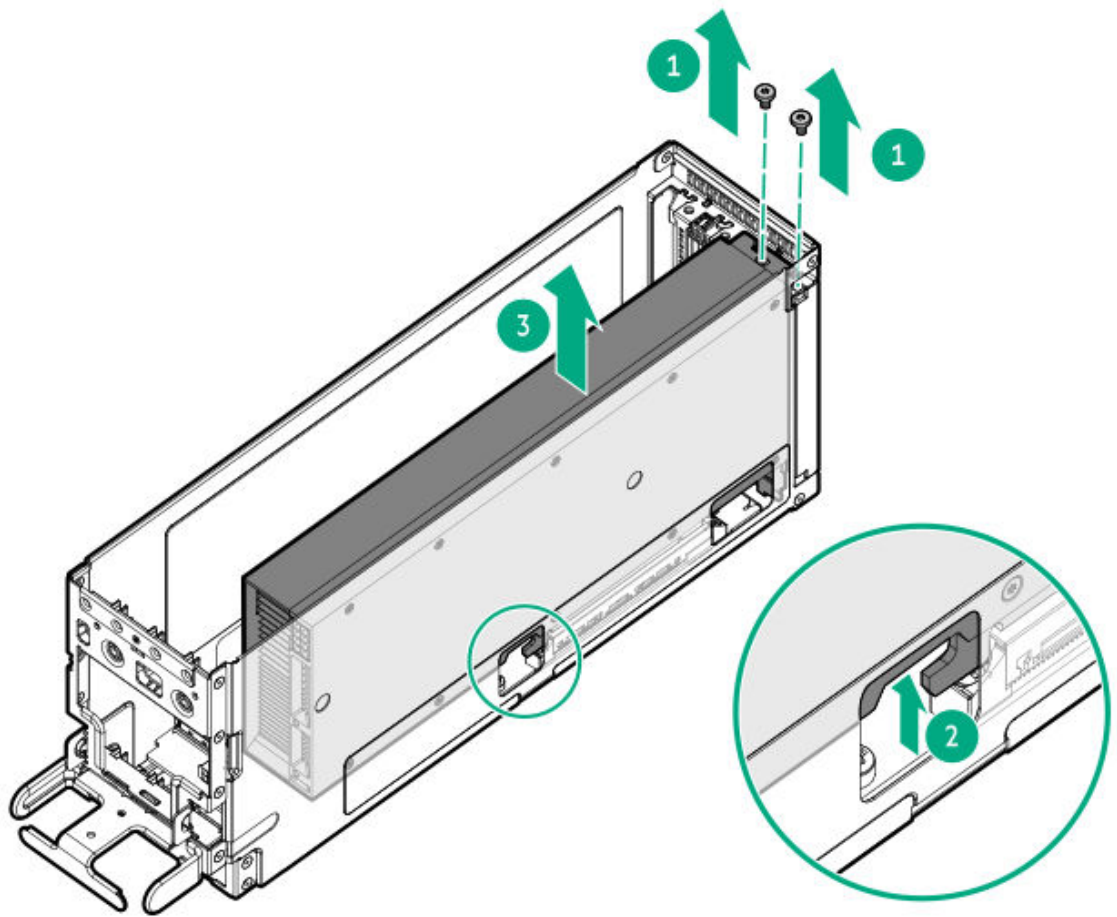
4. Remove the GPU:

- a. Remove the screws.

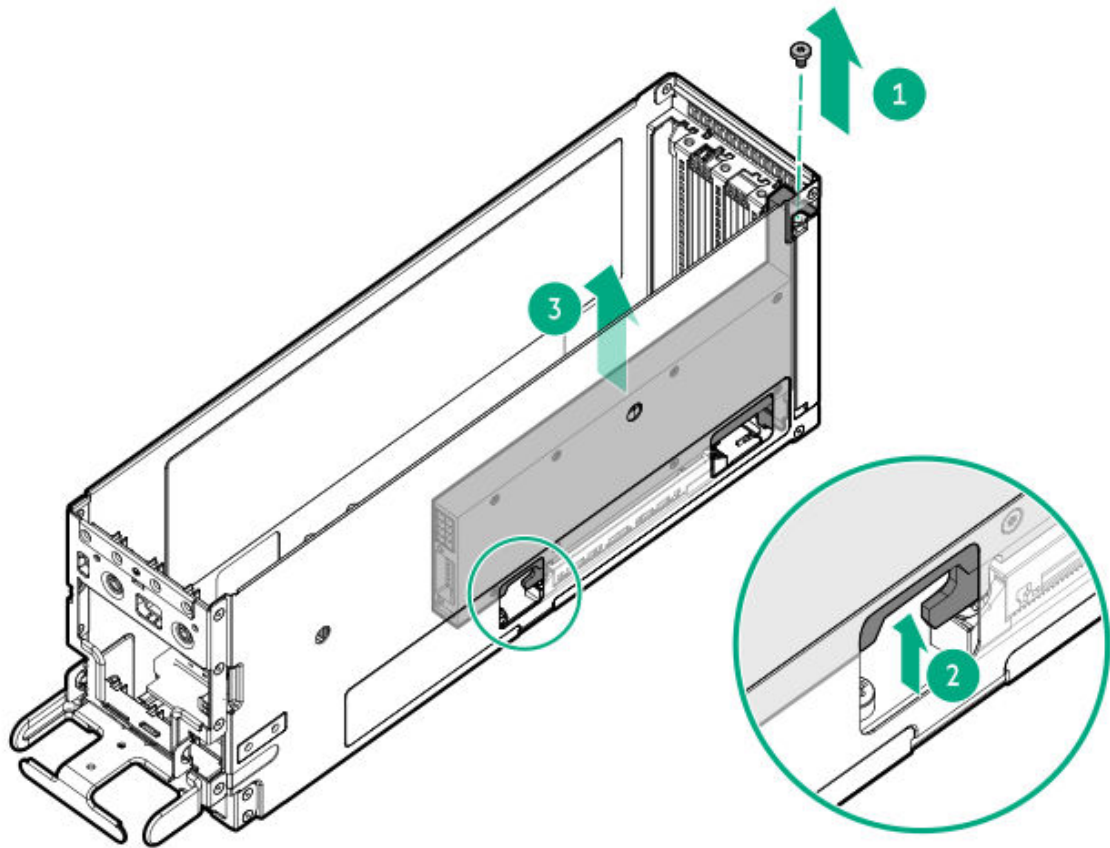
Retain the screws. These screws are used to secure the new GPU.

- b. Press the GPU from the GPU riser cage opening.
- c. Slide the GPU from the GPU riser cage.

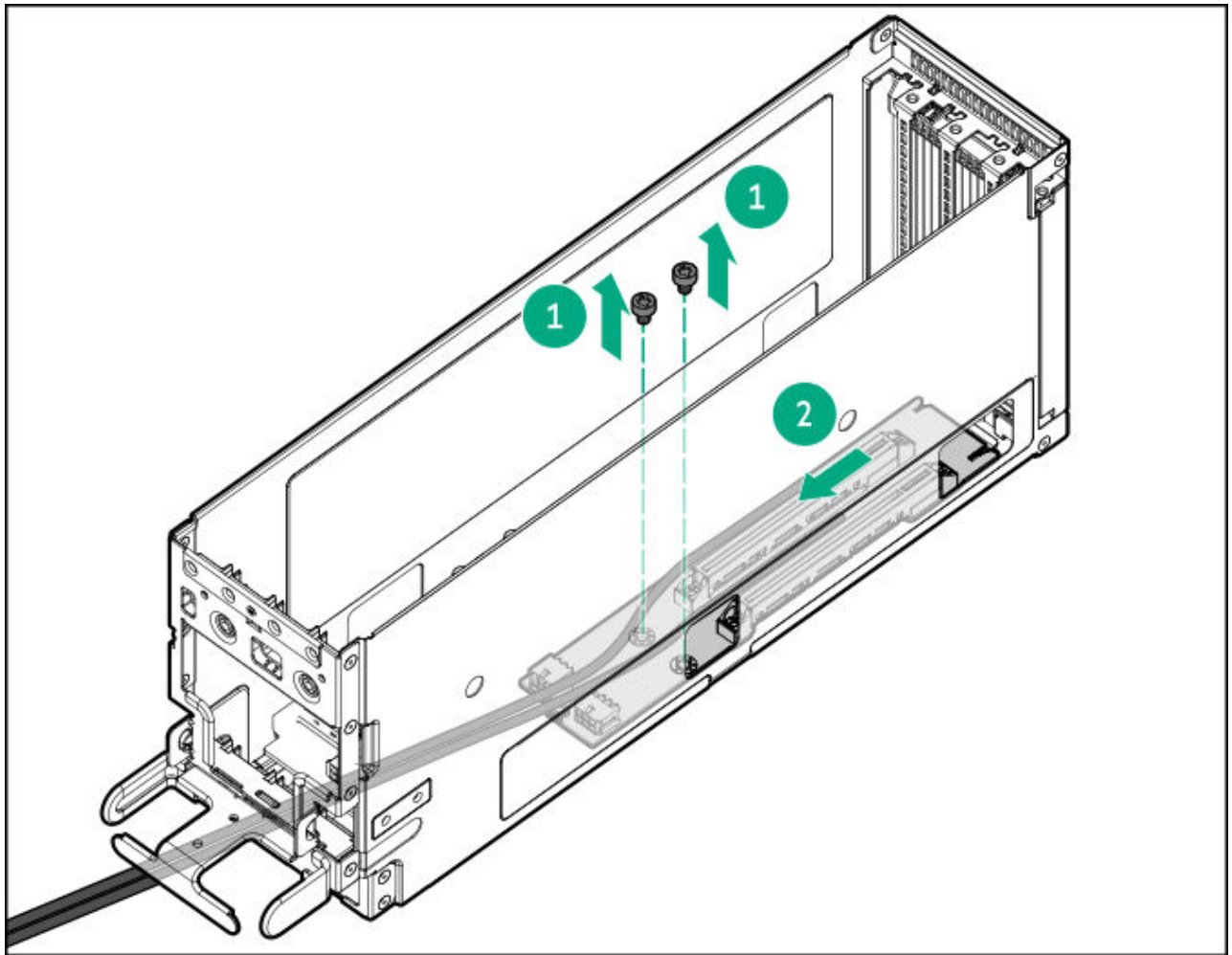
- Double-width GPU



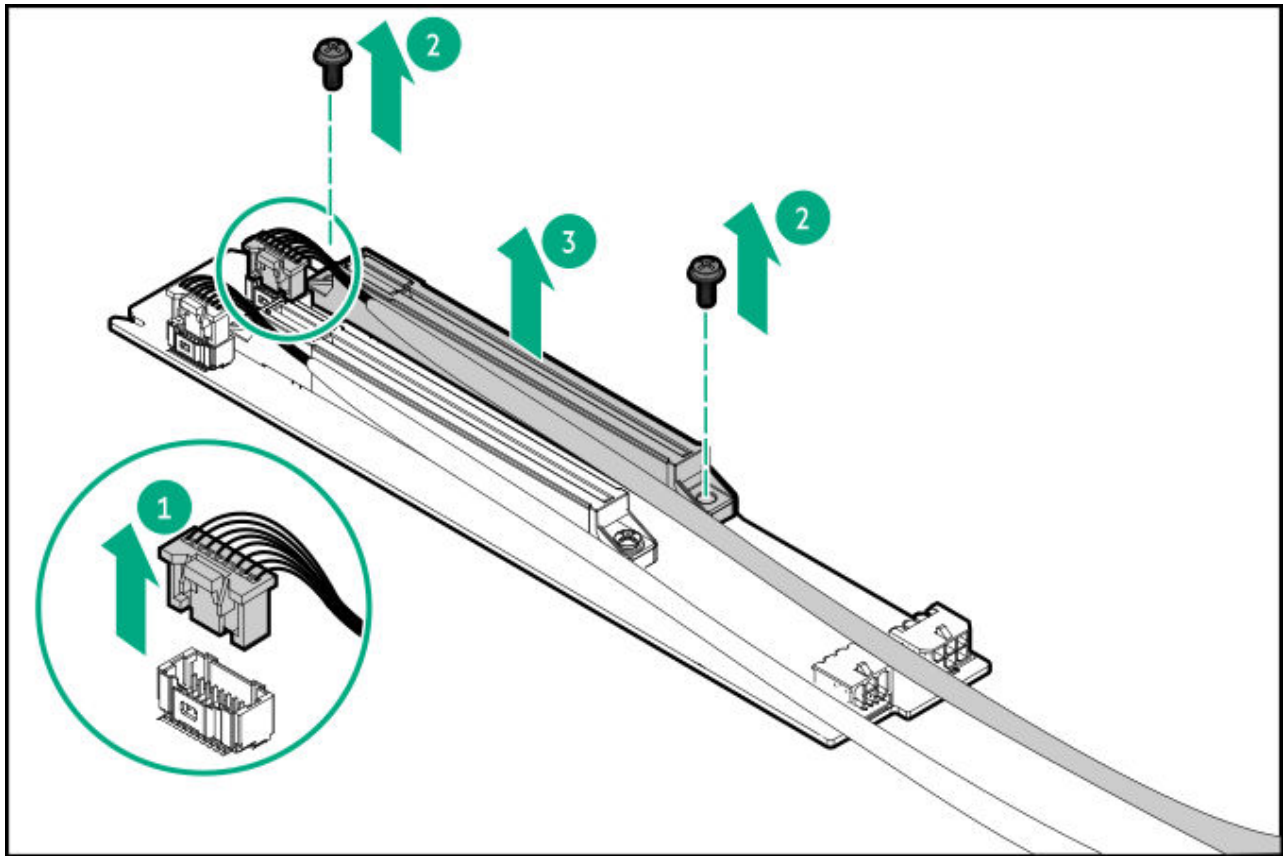
- Single-width GPU



.5. Remove the captive riser from the GPU cage.



.6. Remove the captive riser cable.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## DC-SCM replacement

### Subtopics

[Removing the DC-SCM](#)

[Installing the DC-SCM](#)

## Removing the DC-SCM

### About this task

<https://sketchfab.com/models/c24a054a02b54f46be9e9c6d2ea10a83/embed?>



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.



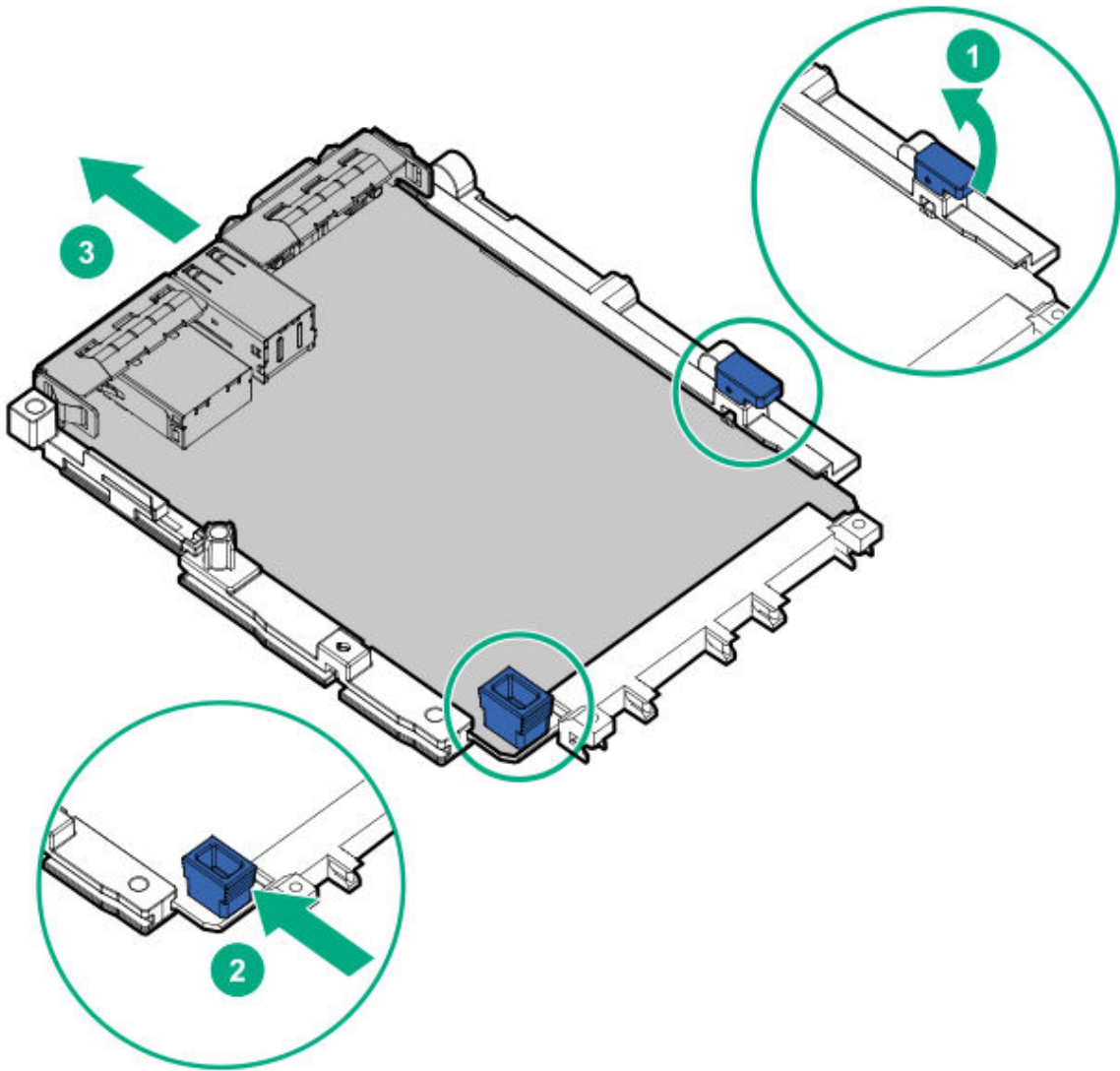
### CAUTION

The port blank provides EMI shielding and helps maintain proper thermal status inside the server. Do not operate the server when a port blank is removed without the corresponding I/O port option installed.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the primary riser cage.
7. If the serial port is installed, disconnect the ix port cable from the DC-SCM.
8. Remove the DC-SCM:

- a. Pivot the locking pin to the open (vertical) position.
- b. Push the blue touchpoint to disengage the module from the slot.
- c. Remove the module from the slot.



## Installing the DC-SCM

### Prerequisites

Before you perform this procedure, make sure that you have the iLO login credentials from the toe tag that shipped with the new DC-SCM spare. Use these credentials to bind the new DC-SCM with the existing system board.

## About this task



### CAUTION

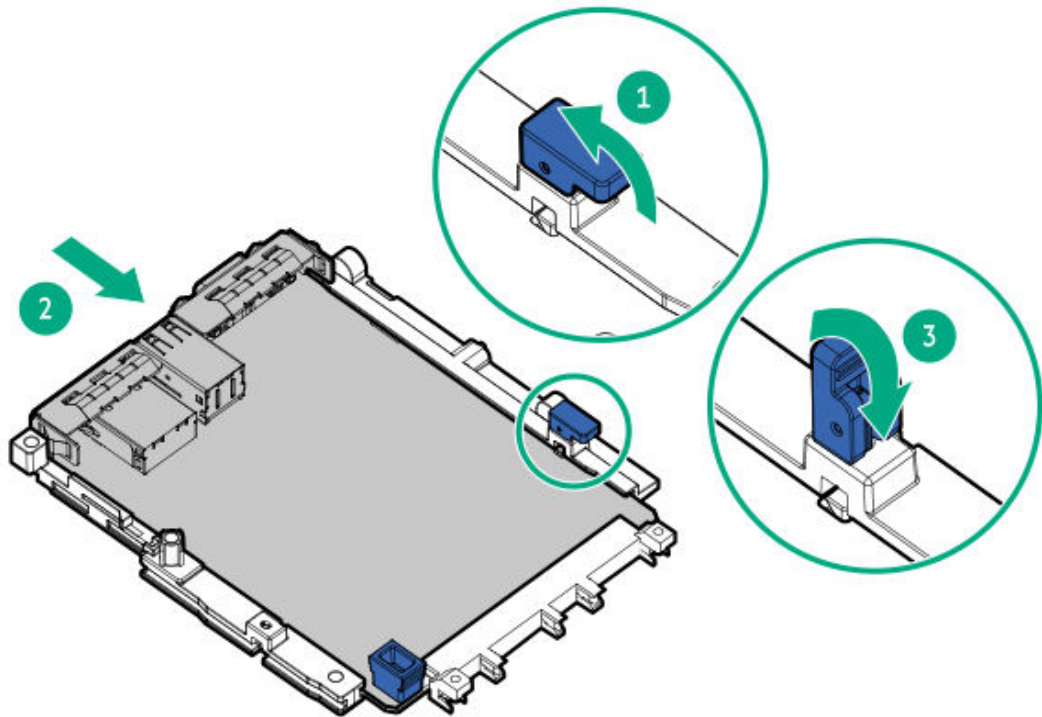
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

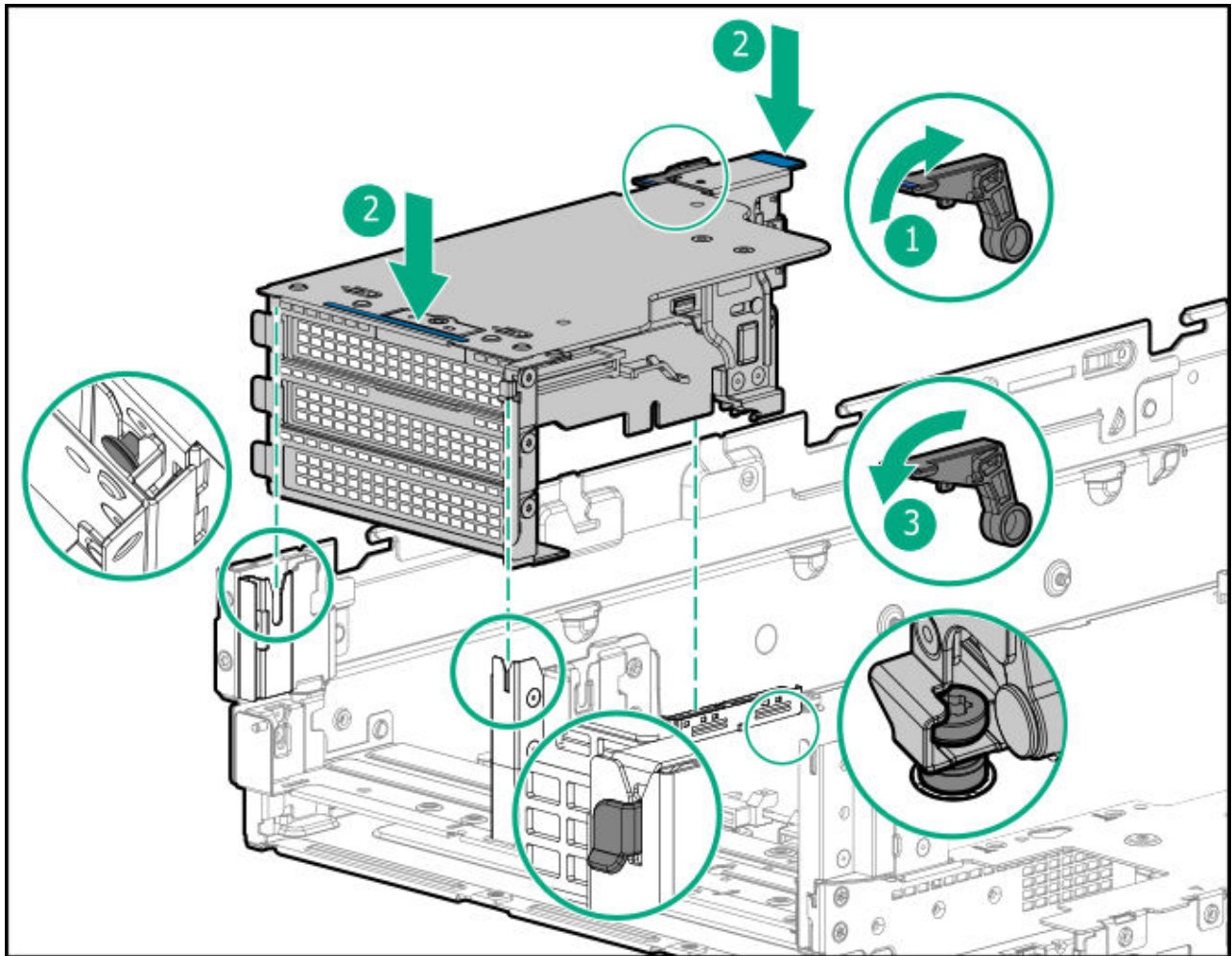
## Procedure

1. Install the DC-SCM:
  - a. Rotate the locking pin to the open (vertical) position.
  - b. Slide the module into the slot until it clicks into place. Make sure that the module is seated firmly in the slot.
  - c. Rotate the locking pin to the close (horizontal) position.



2. If disconnected, connect the ix port cable to the DC-SCM.
3. Install the riser on the system board, and then close the latch.

Make sure that the riser cage is secured with the screw spool on the system board.



4. Connect all cables from the primary riser cage to the system board.
5. Install the access panel.
6. Install the server into the rack.
7. If the DLC module is installed, connect the DLC extension hoses.
8. Connect all peripheral cables to the server.
9. Connect each power cord to the server.
0. Connect each power cord to the power source.
- .1. Power up the server.
- .2. Bind the DC-SCM with the system board using one of the following tools:
  - **iLO web interface**
  - **iLO RESTful API**

- **UEFI System Utilities**

## Results

The replacement procedure is complete.

# Heatsink replacement

## Subtopics

**Removing the heatsink**

**Installing the heatsink**

## Removing the heatsink

### Prerequisites

- Perform a backup of critical server data.
- Identify the heatsink and processor socket components.
- Review the processor cautions.
- Before you perform this procedure, make sure that you have the following items available:
  - T-30 Torx screwdriver or a bit driver with T-30 Torx bit
  - Alcohol wipe
- If you are not immediately installing the replacement processor-heatsink assembly, make sure that you have a processor socket dust cover.

### About this task

- Standard heatsink

<https://sketchfab.com/models/4c04ee6e4de04b5c8bca81cc78ec8bad/embed?>



#### **WARNING**

To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.



#### **CAUTION**

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

### **Procedure**

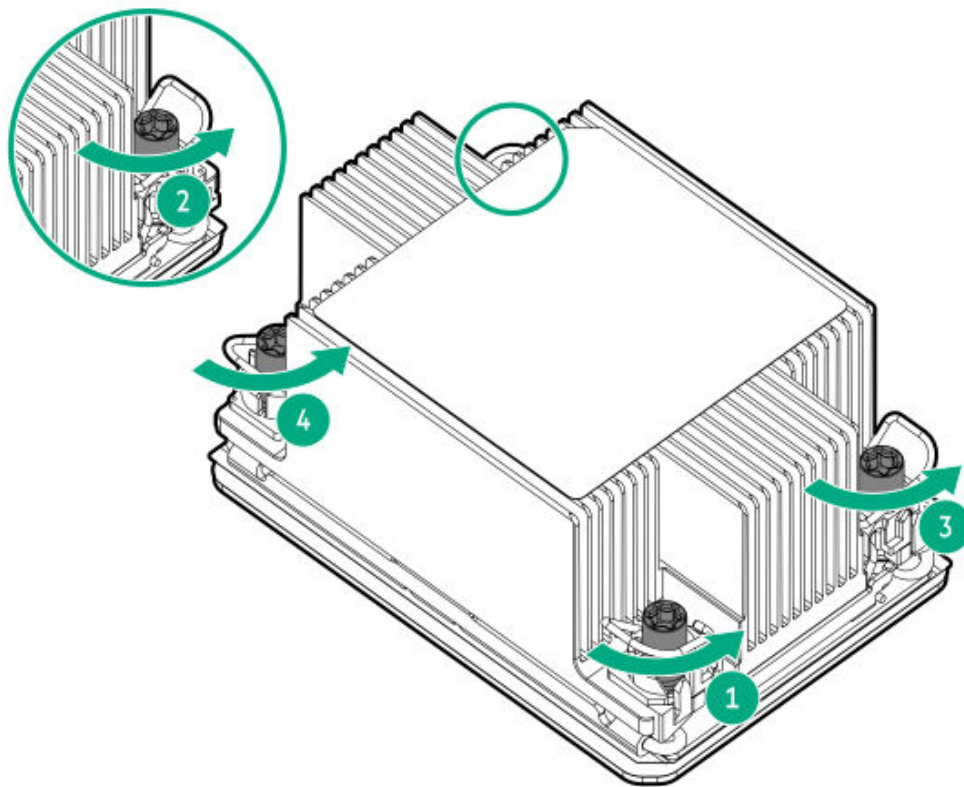
1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Allow all internal system components to cool before continuing.
8. Loosen one pair of diagonally opposite heatsink screws, and then loosen the other pair of heatsink screws.



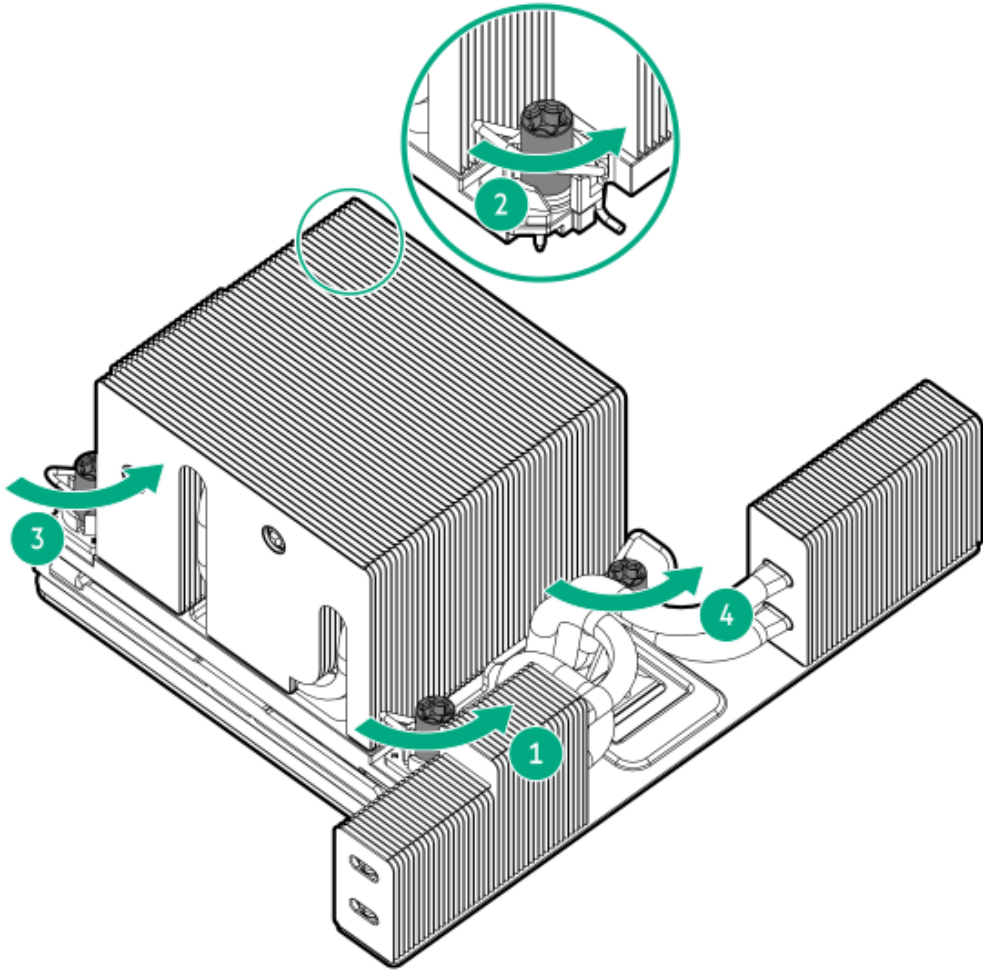
#### **CAUTION**

Heatsink screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the processor socket.

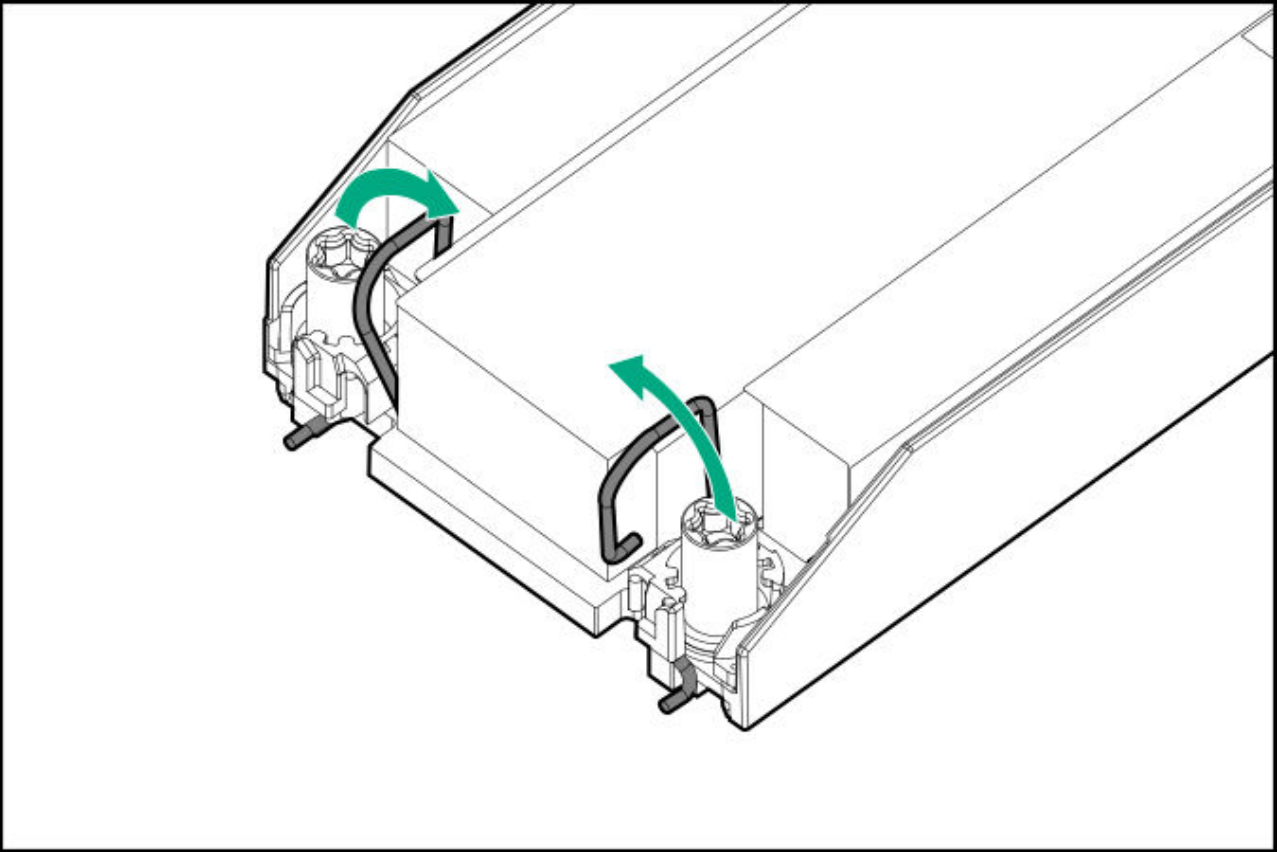
- Standard heatsink



- High performance heatsink



9. Set the anti-tilt wires to the unlocked position.



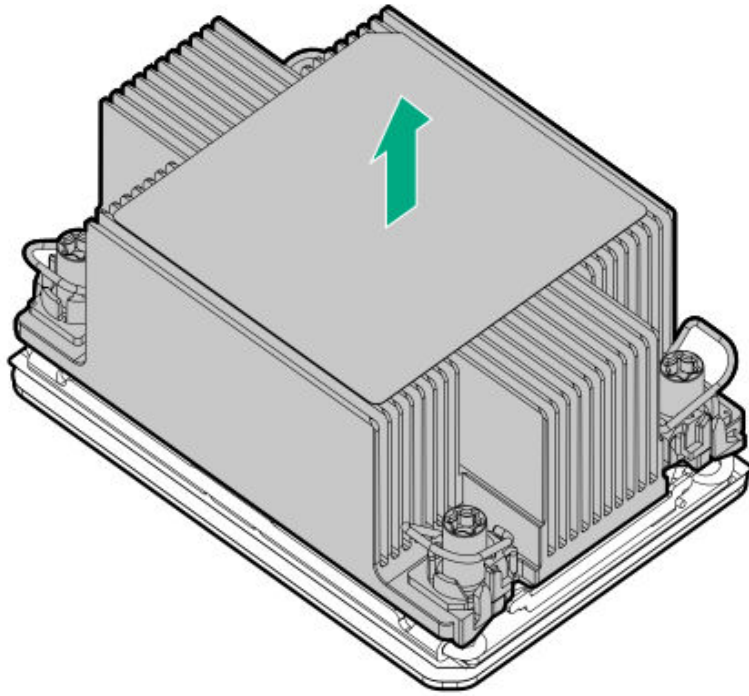
.0. Lift the processor-heatsink module straight up from the system board.



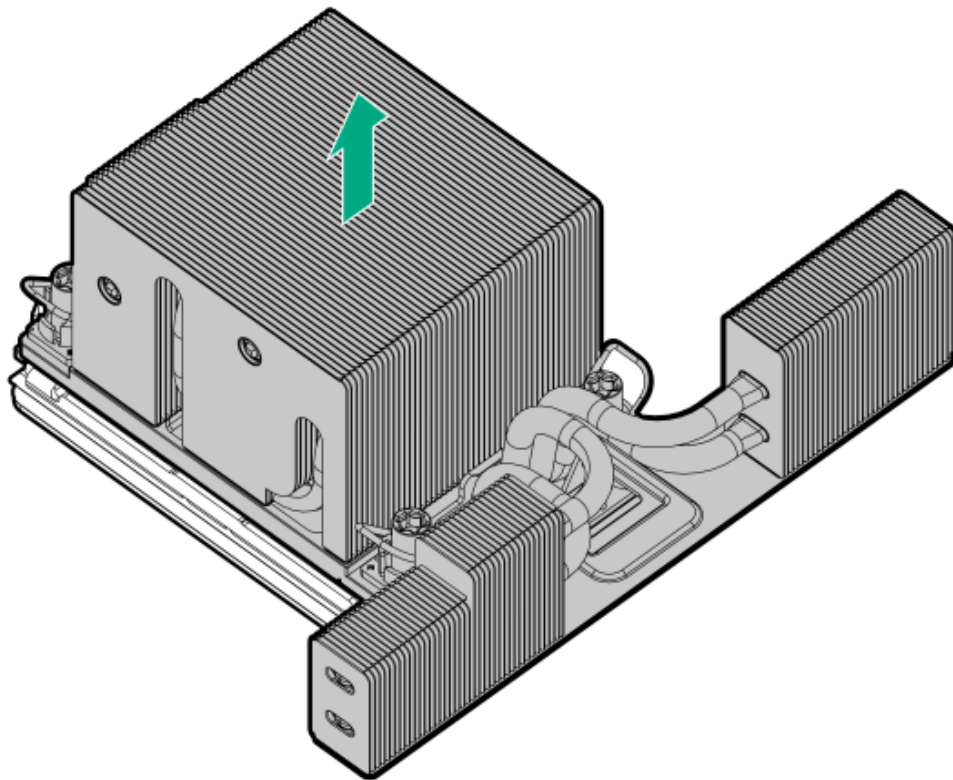
**CAUTION**

To prevent mechanical damage or depositing oil on your hands or other contaminants to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

- Standard heatsink



- High performance heatsink



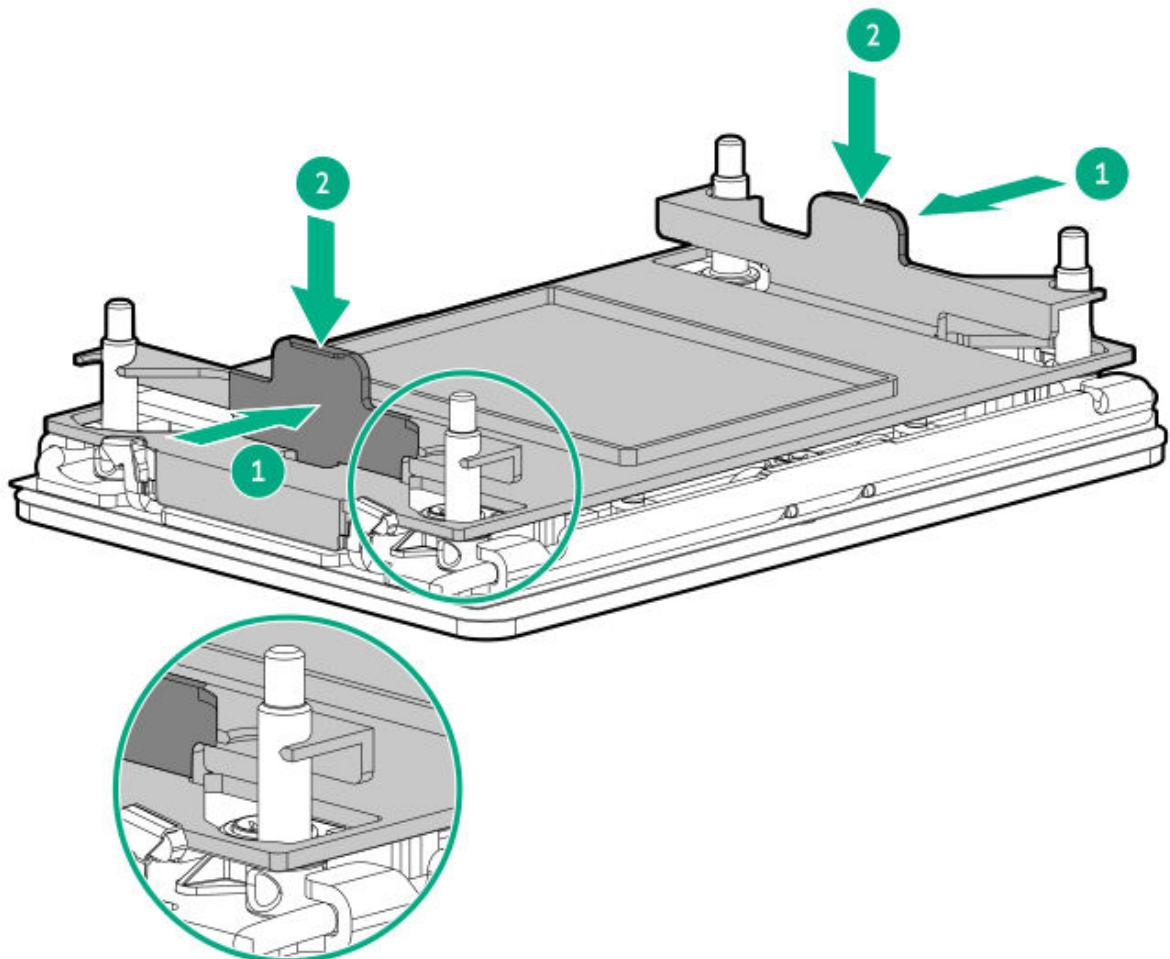
- .1. Place the processor-heatsink module on a flat work surface with its contact side facing up.
- .2. If you are not immediately installing the replacement processor-heatsink module, install the dust cover on the empty processor socket:

**CAUTION**

Do not press down on the dust cover. Pressing down on the dust cover might damage the processor socket.

- a. Press and hold the grip tabs on the dust cover.
- b. Carefully lower the dust cover onto the bolster plate guide posts.

Make sure that the corner holes of the dust cover are properly engaged with the guide posts on the bolster plate.

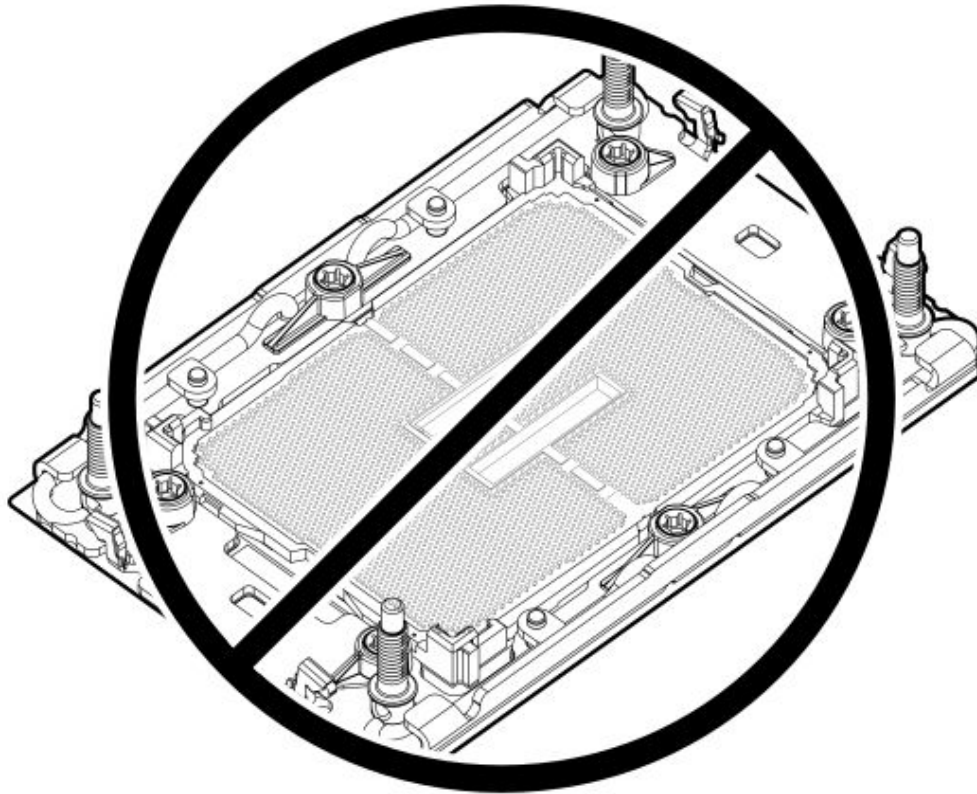


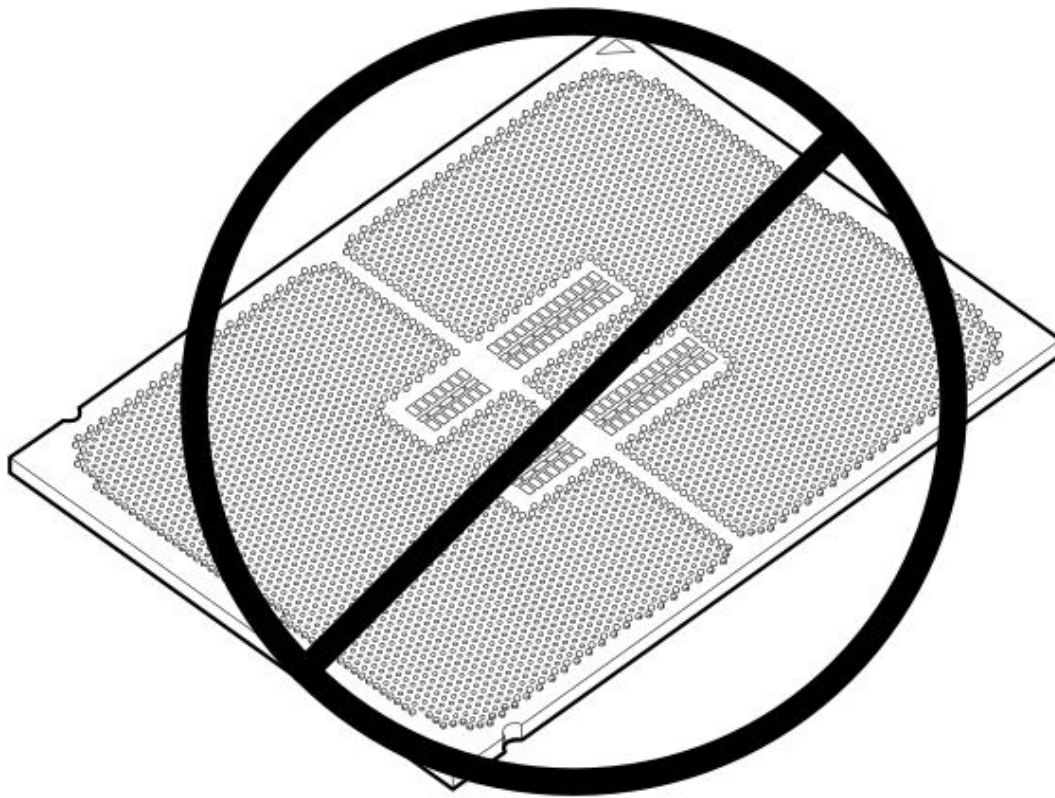
.3. Do not touch the pins on the processor socket and the processor.



**CAUTION**

**THE PINS ON THE PROCESSOR SOCKET AND ON THE PROCESSOR ARE VERY FRAGILE AND EASILY DAMAGED.** Any damage to them might require replacing the system board.



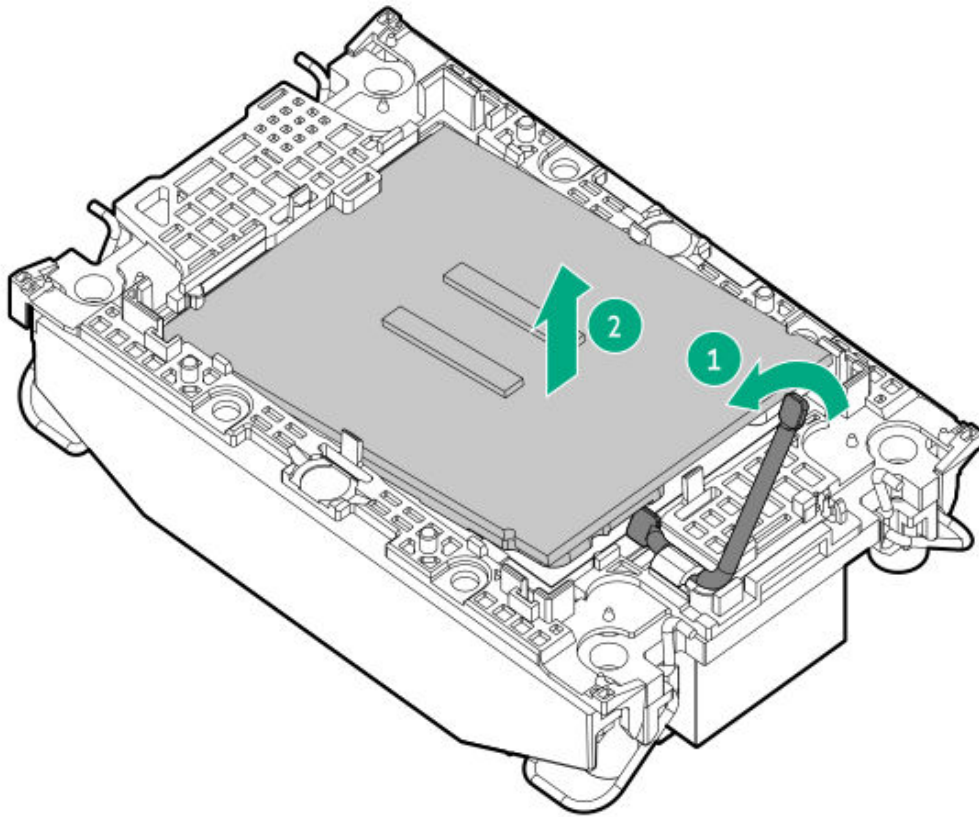


4. Remove the processor from the heatsink:

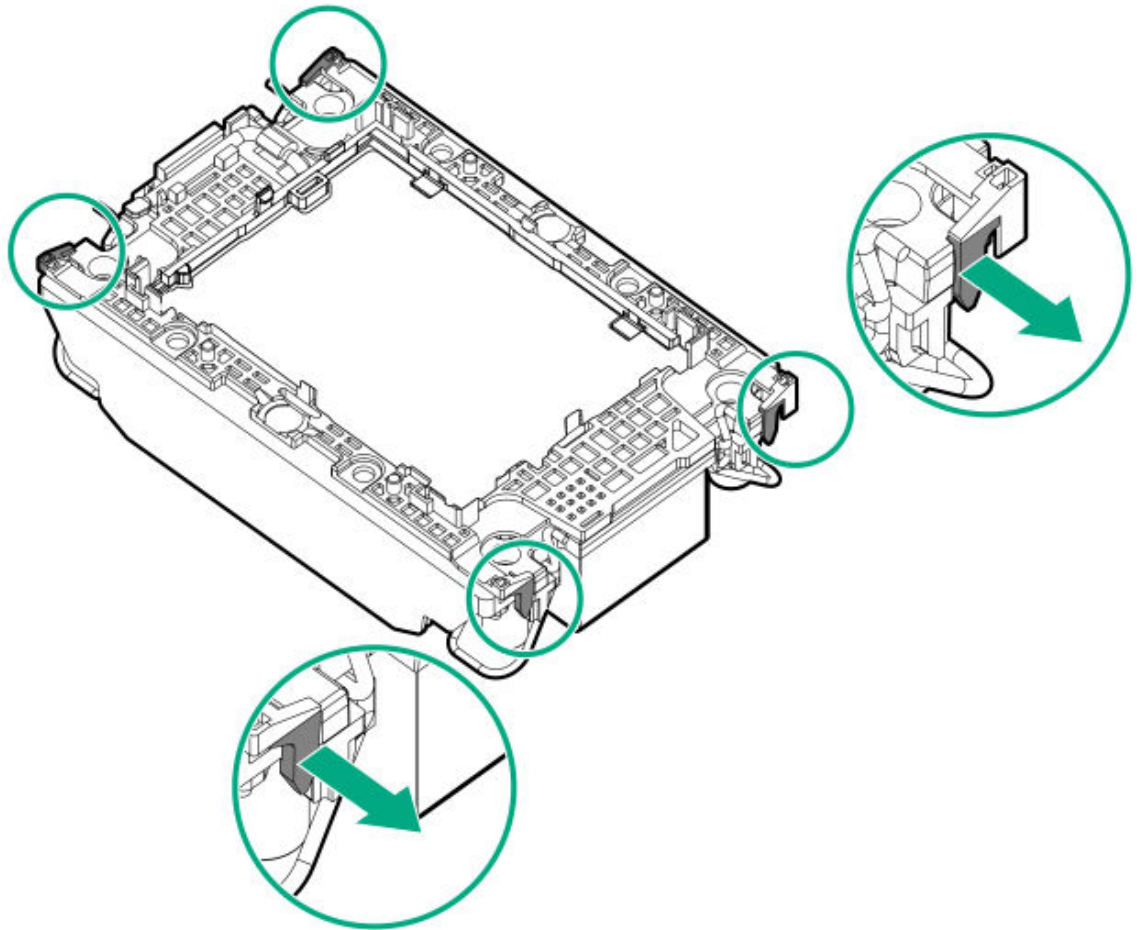
- a. Open the TIM breaker lever.

This action breaks the adhesion between the processor and the heatsink.

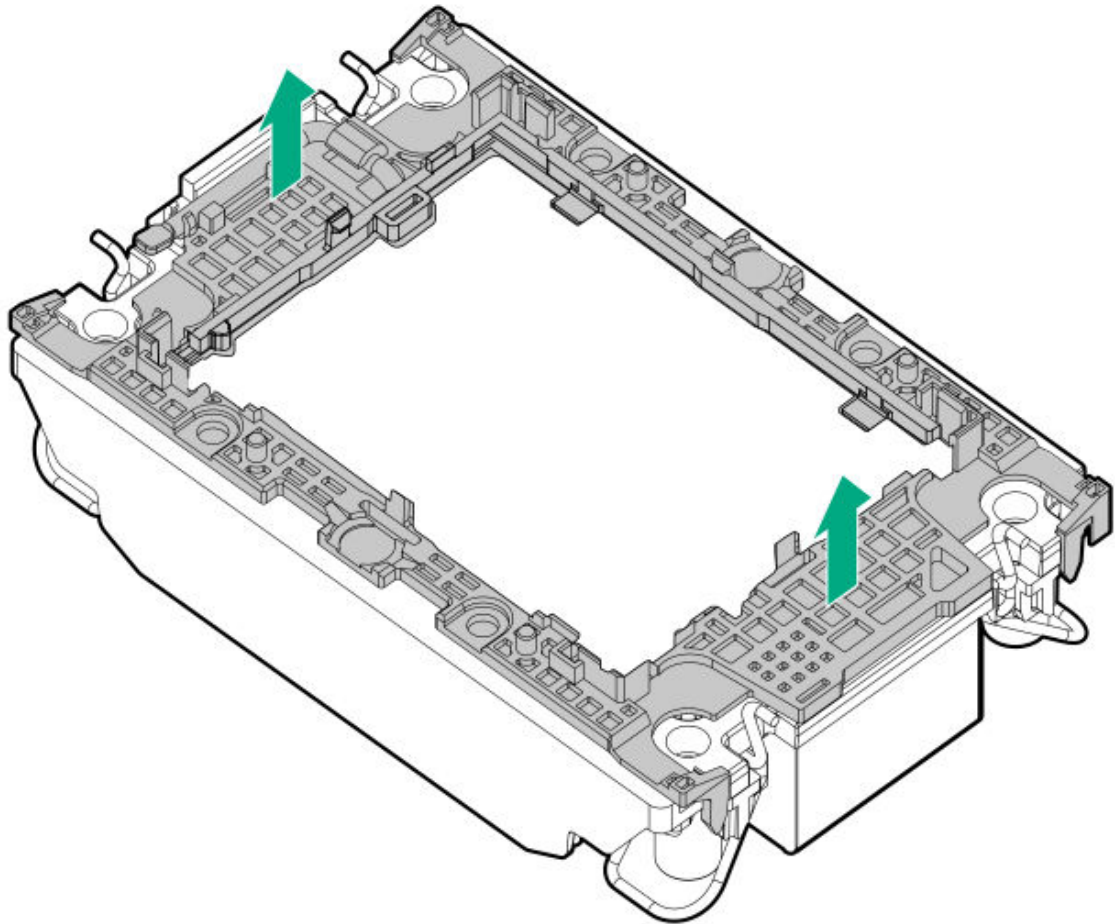
- b. Hold the processor on its edges, and then remove it from the carrier.



- c. Starting from the pin 1 corner and moving in an opposite manner, disengage the processor carrier release tabs from the heatsink.



d. Lift the processor carrier away from the heatsink.



- .5. Use an alcohol wipe to remove the existing thermal grease from the heatsink and processor.  
Allow the alcohol to evaporate before continuing.

## Installing the heatsink

### Prerequisites

- Identify the heatsink and processor socket components.
- Review the processor cautions.
- Before you perform this procedure, make sure that you have a T-30 Torx screwdriver or a torque screwdriver with T-30 Torx bit available.

## About this task



### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

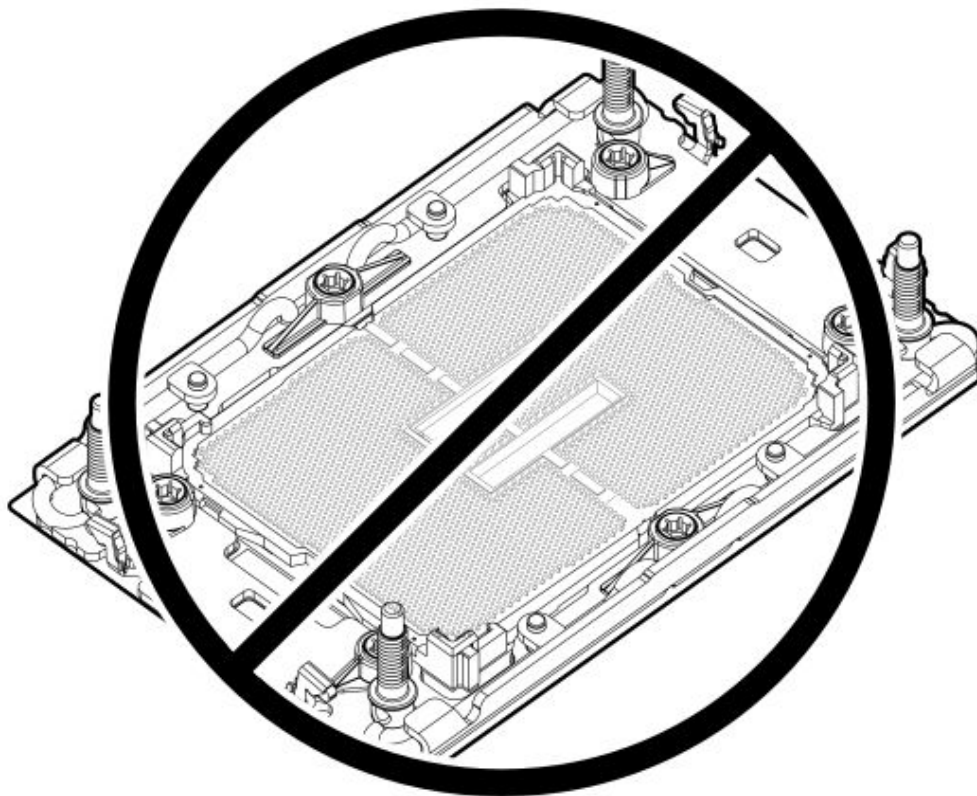
## Procedure

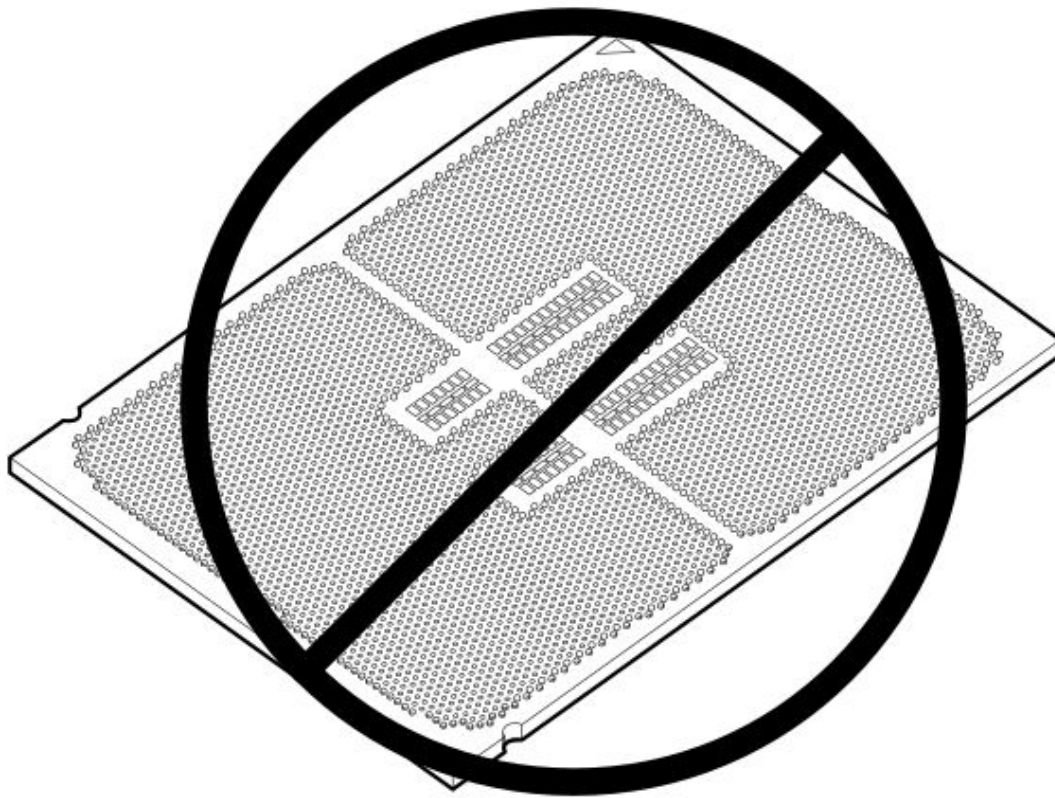
1. Do not touch the pins on the processor socket and the processor.



### CAUTION

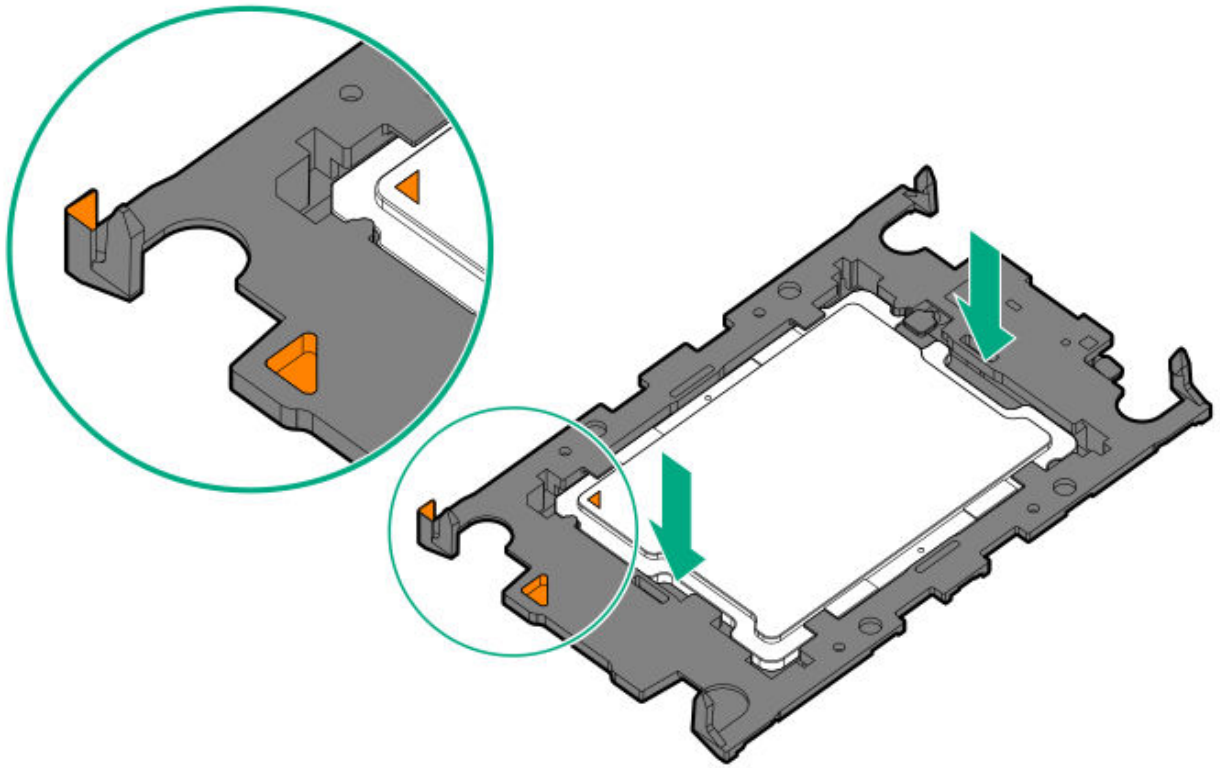
**THE PINS ON THE PROCESSOR SOCKET AND ON THE PROCESSOR ARE VERY FRAGILE AND EASILY DAMAGED.** Any damage to them might require replacing the system board.



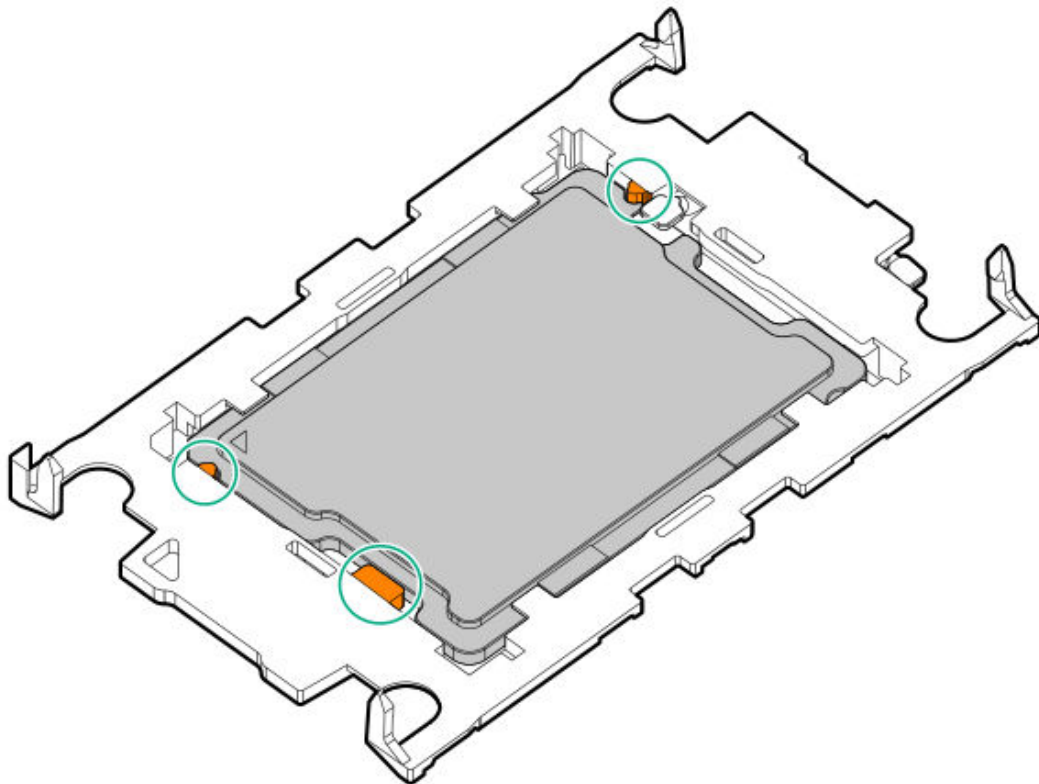


2. Install the processor carrier on the processor:

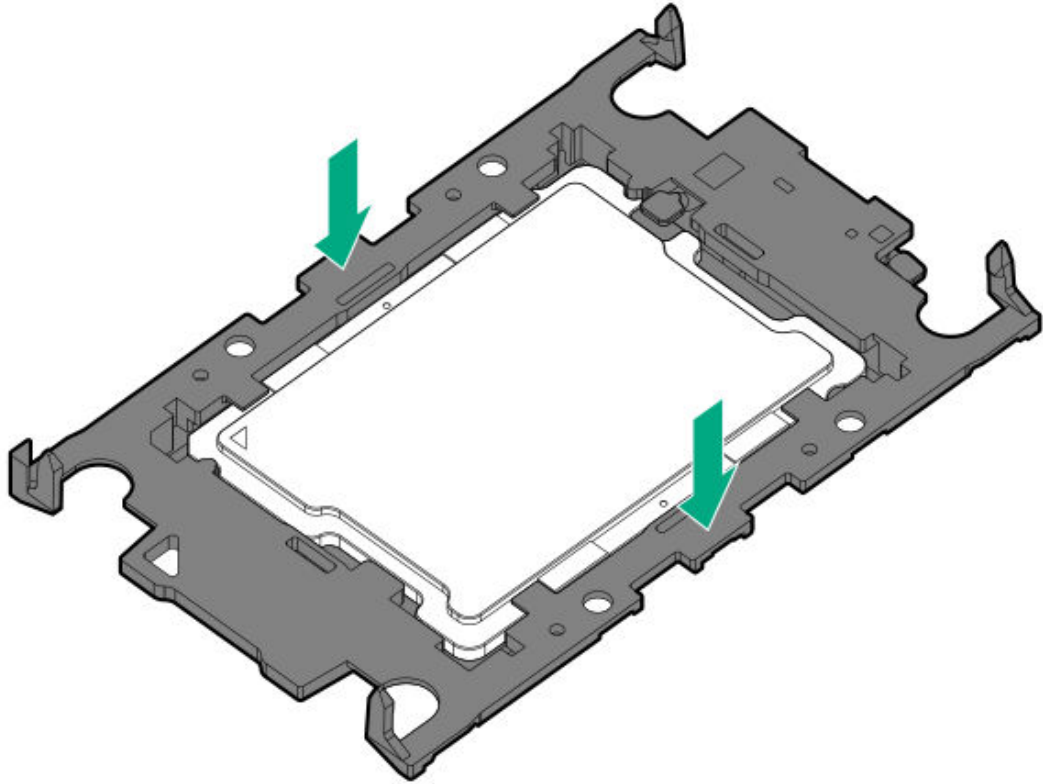
- a. Align the pin 1 indicator on the processor carrier with that on the processor, and then press on the pair of opposite sides on the TIM breaker lever of the processor carrier until it clicks into place.



b. Verify that the processor is properly latched on the processor carrier.



If not, press the other pair of opposite sides of the processor carrier until it clicks into place.

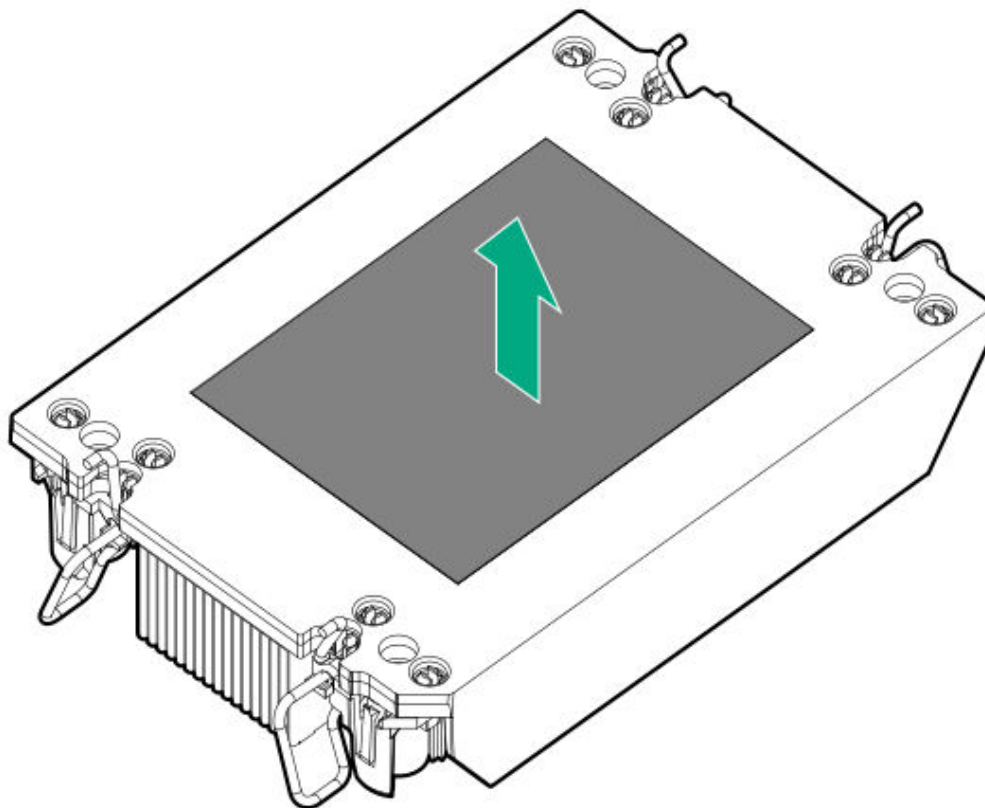


3. Remove the protective film from the thermal interface material.

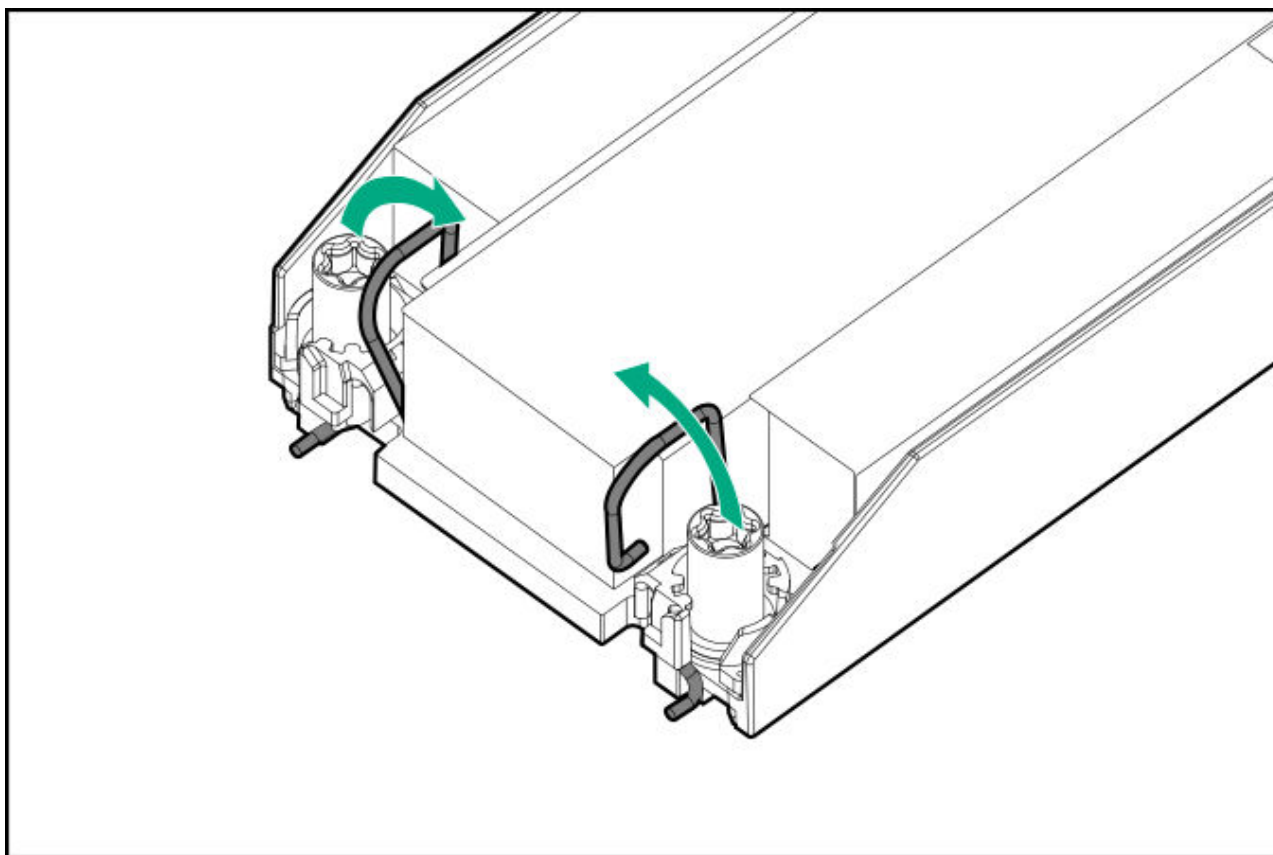


**CAUTION**

To prevent mechanical damage or depositing oil on your hands or other contaminants to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

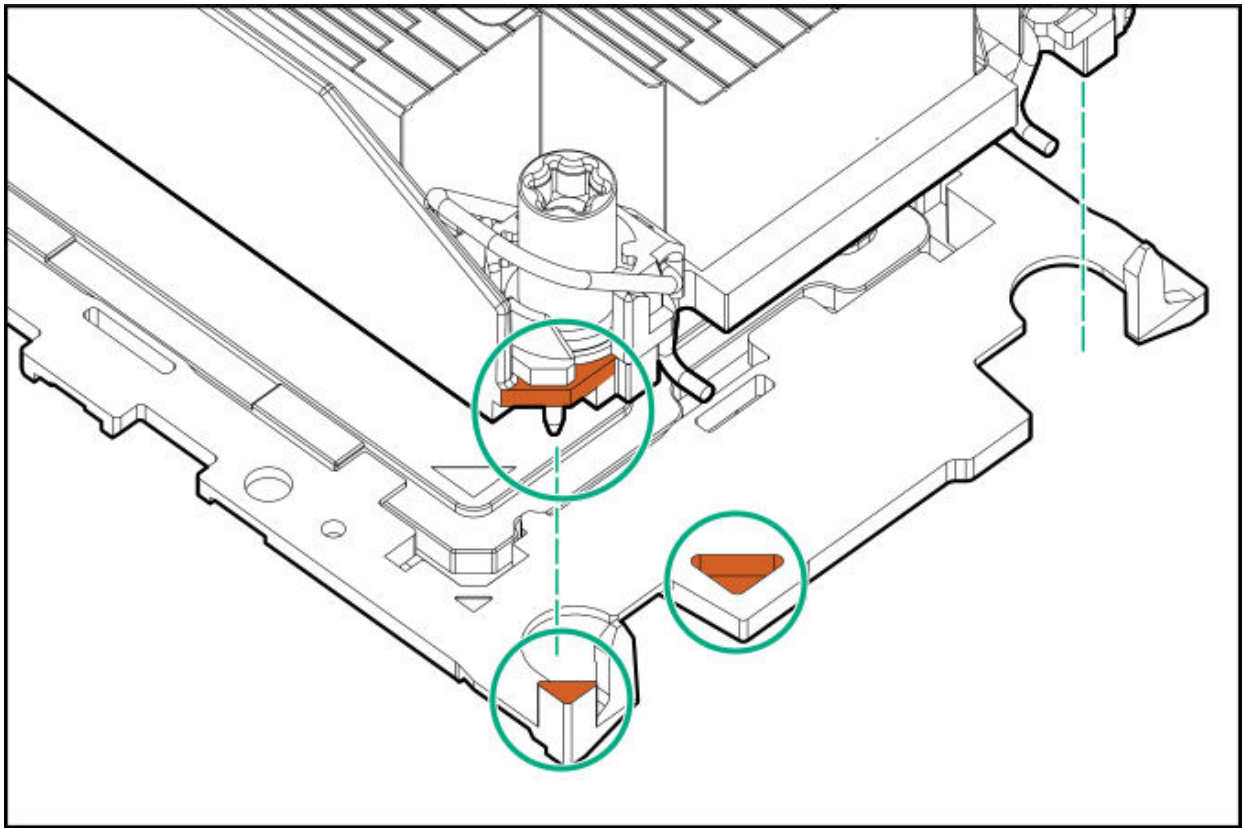


4. Set the anti-tilt wires to the unlocked position.



5. Attach the heatsink to the processor carrier:

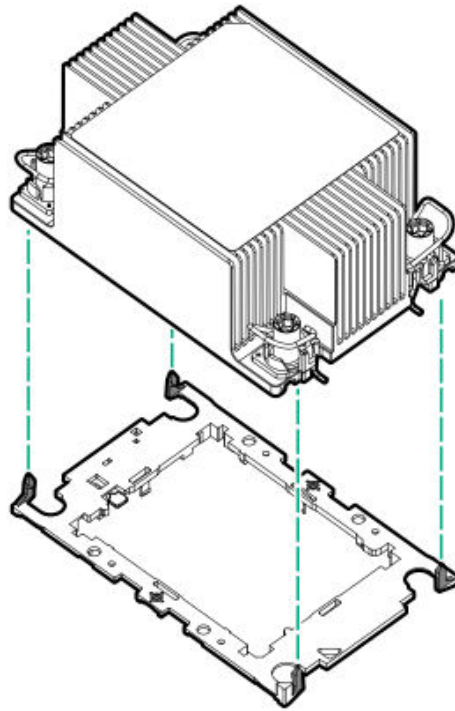
a. Align the pin 1 indicator on the processor carrier with that on the heatsink.



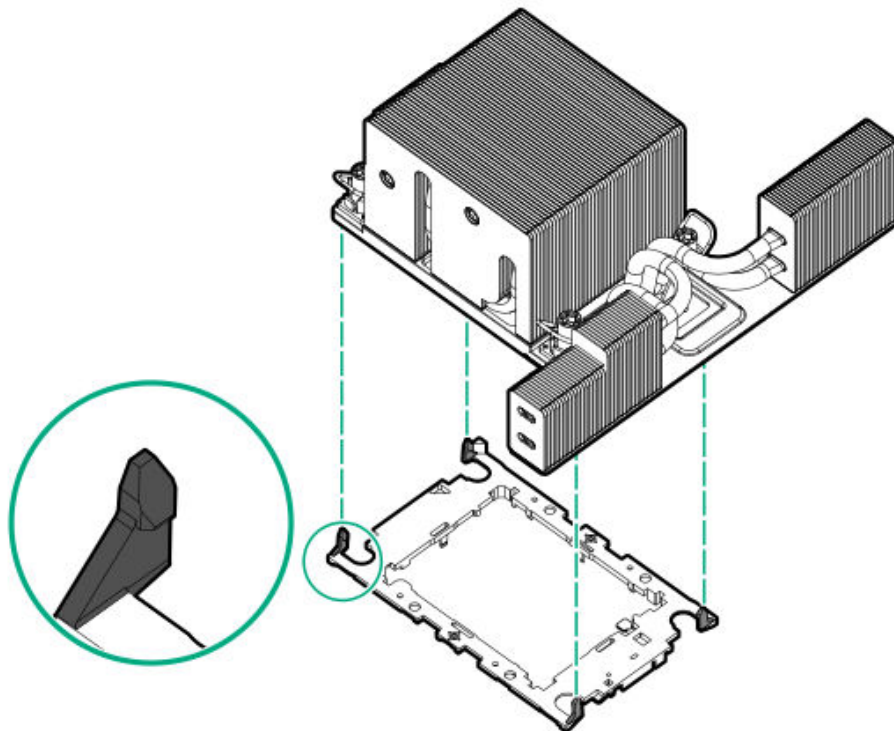
b. Lower the heatsink on the processor carrier until the carrier tabs snap into place.

There will be an audible click to indicate that the heatsink is properly latched on the processor carrier.

- Standard heatsink

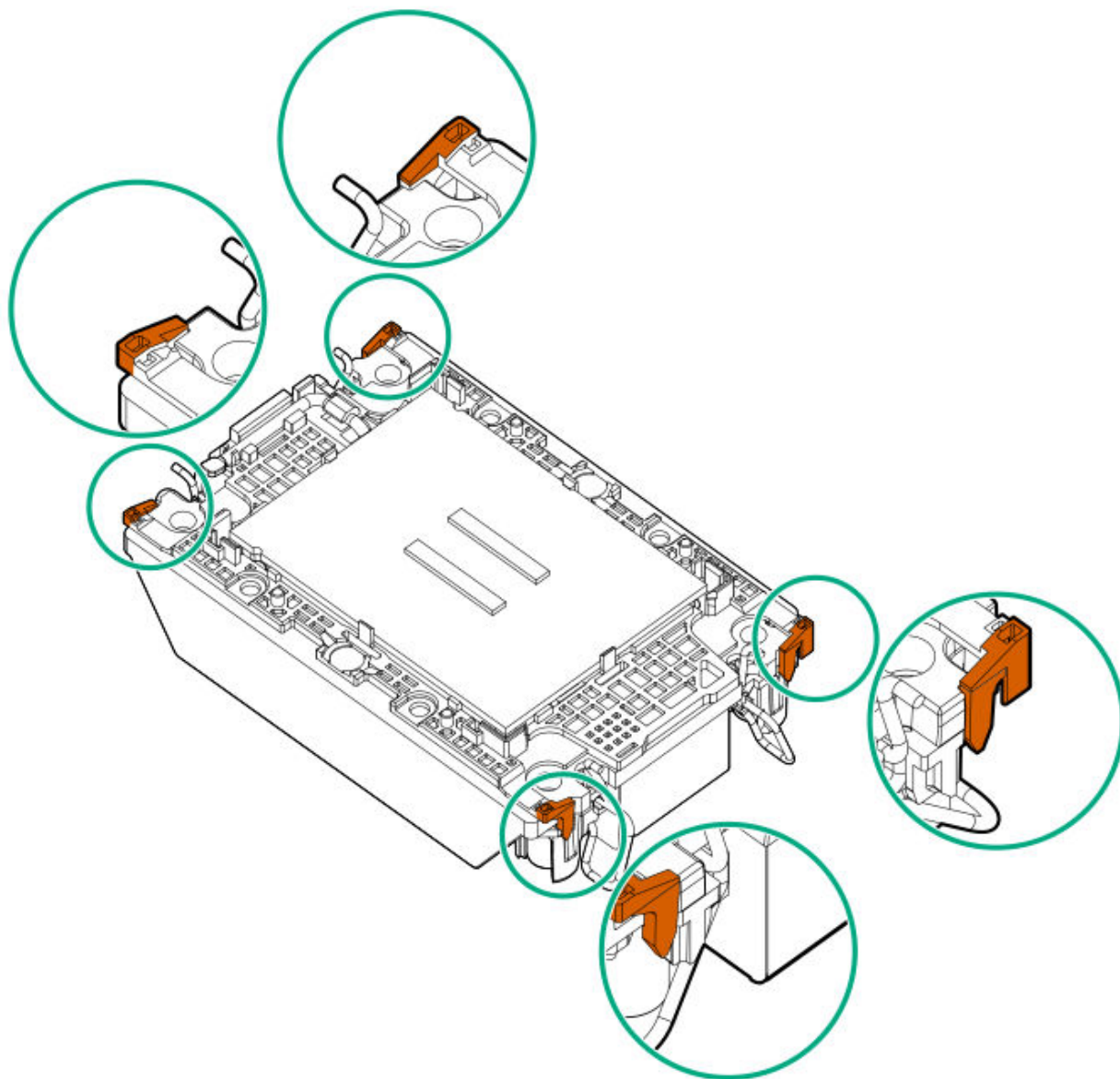


- High performance heatsink

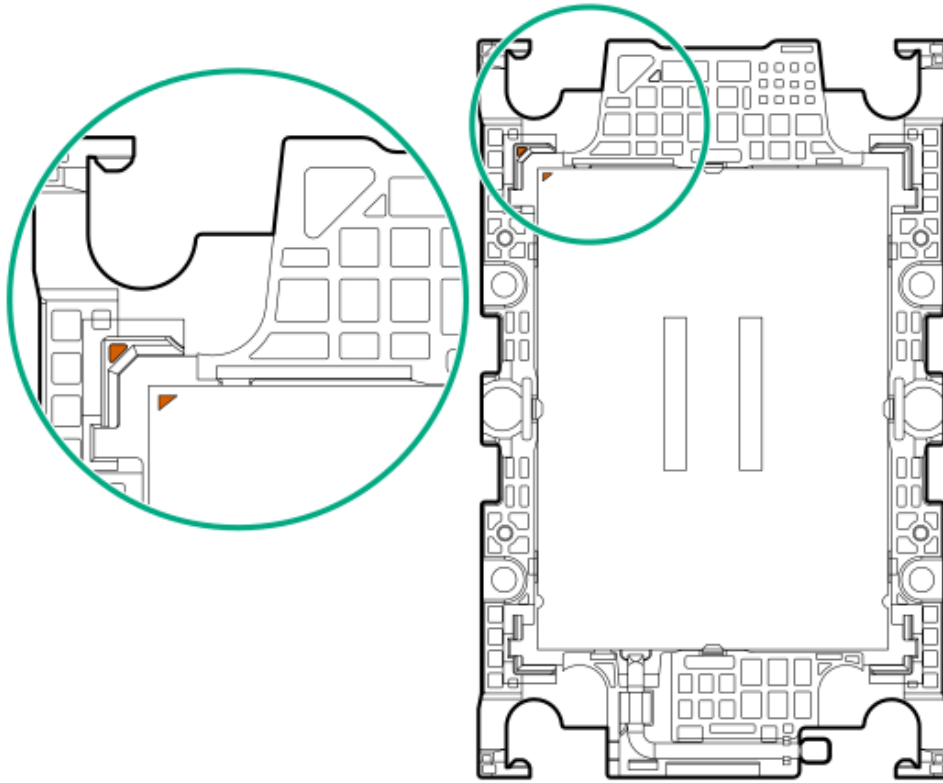


6. Perform the following verification steps:

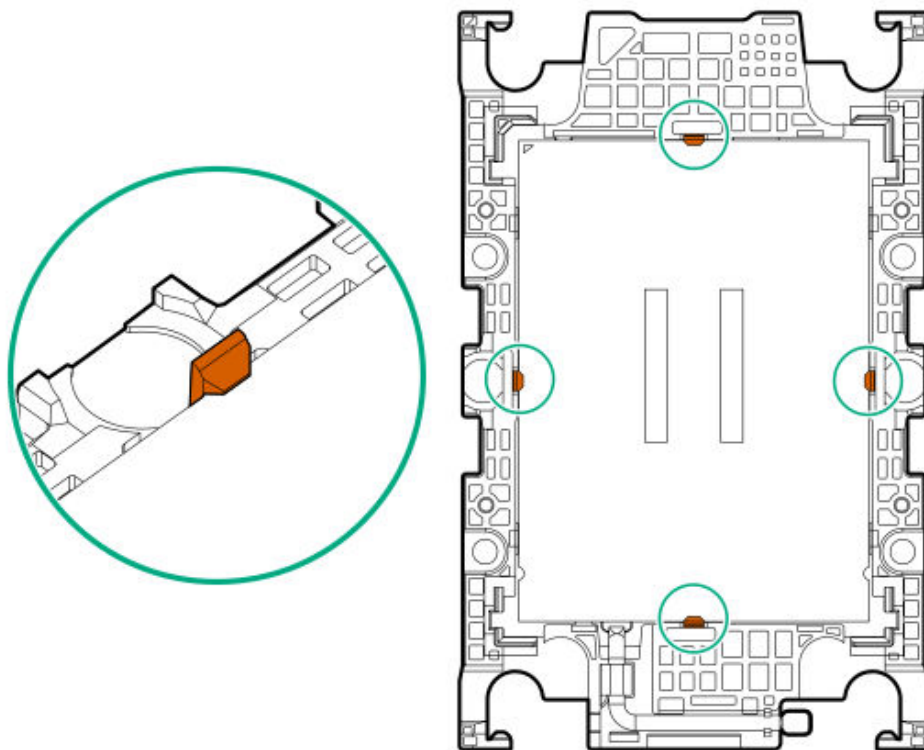
- a. Verify that the tabs on the processor carrier are securely latched on the heatsink.



b. Verify that the pin 1 indicators on the processor and processor carrier are aligned.



c. Verify that the processor is properly secured by the carrier snaps.



7. Install the processor-heatsink module:



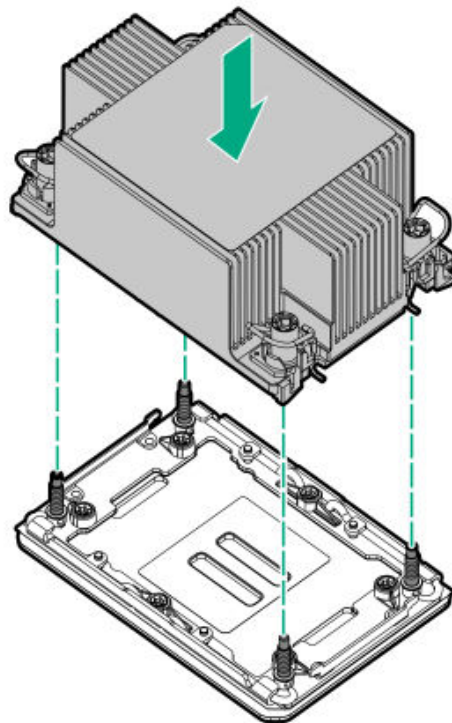
**CAUTION**

To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

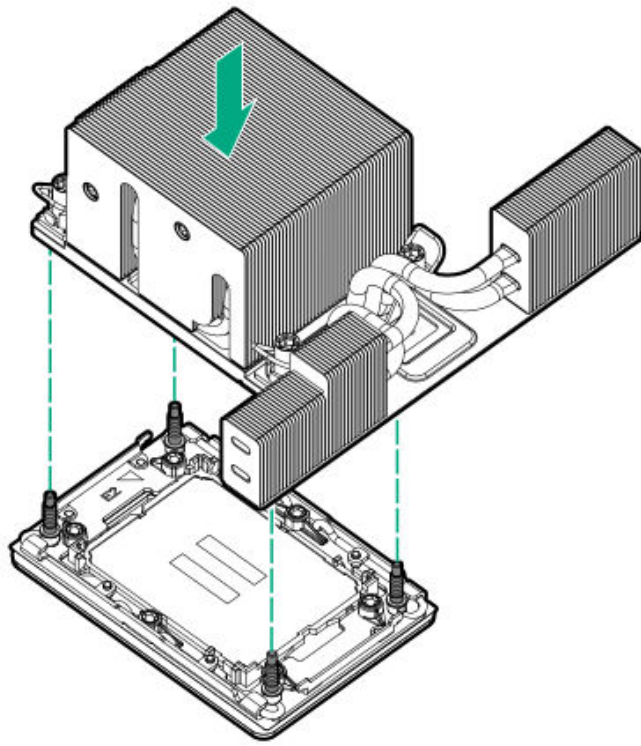
- a. When using a torque wrench to tighten the heatsink screws, set it to 0.9 N-m (8 in-lb) of torque.
- b. Note the **Front of server** text on the heatsink label to correctly orient the processor-heatsink module over the bolster plate.
- c. Carefully lower the processor-heatsink module onto the bolster plate guide posts.

The posts are keyed so that the module can only be installed one way. Make sure that the module is properly seated on the bolster plate before securing the screws.

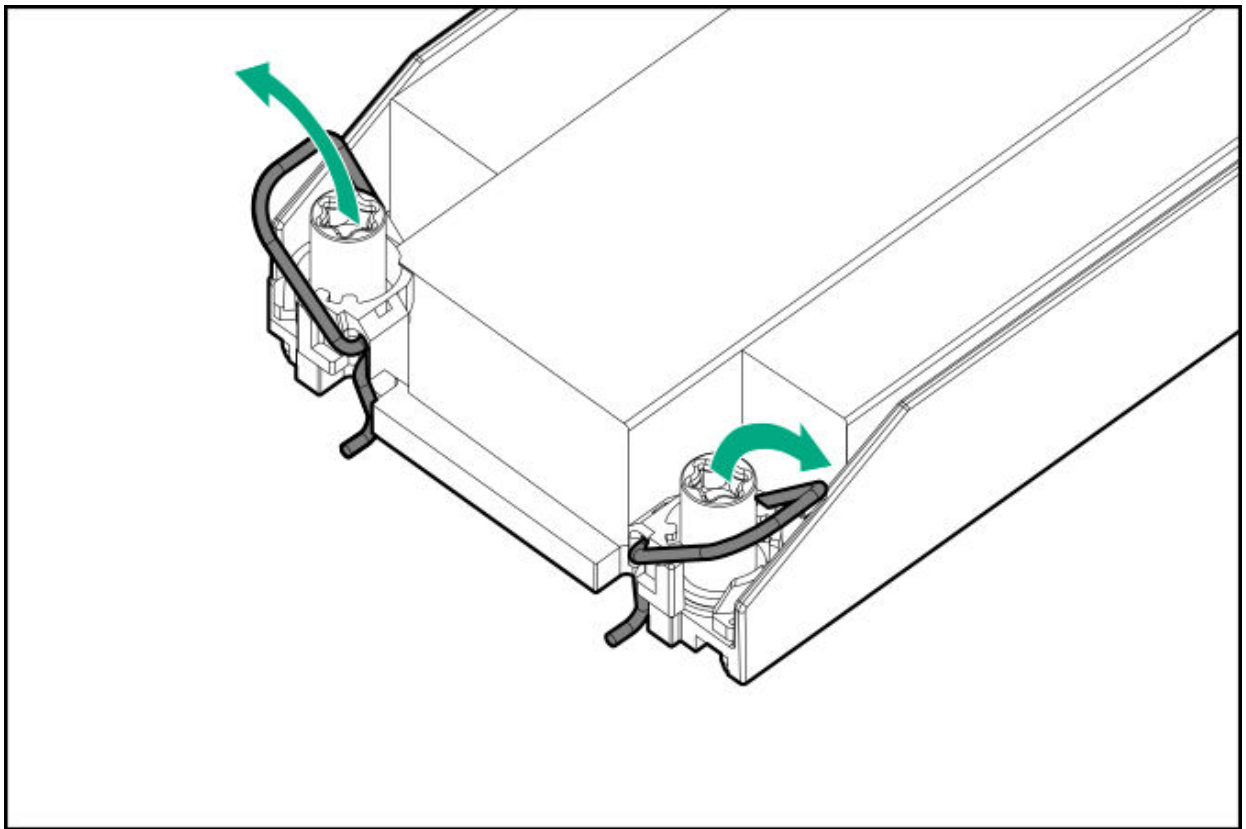
- Standard heatsink



- High performance heatsink

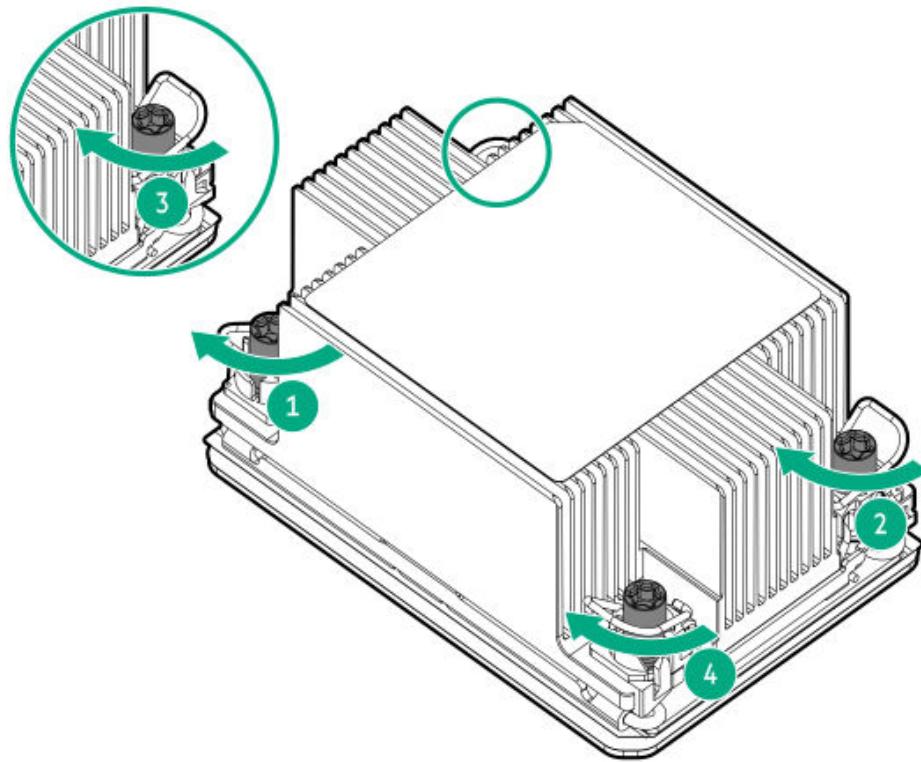


d. Set the anti-tilt wires to the locked position.

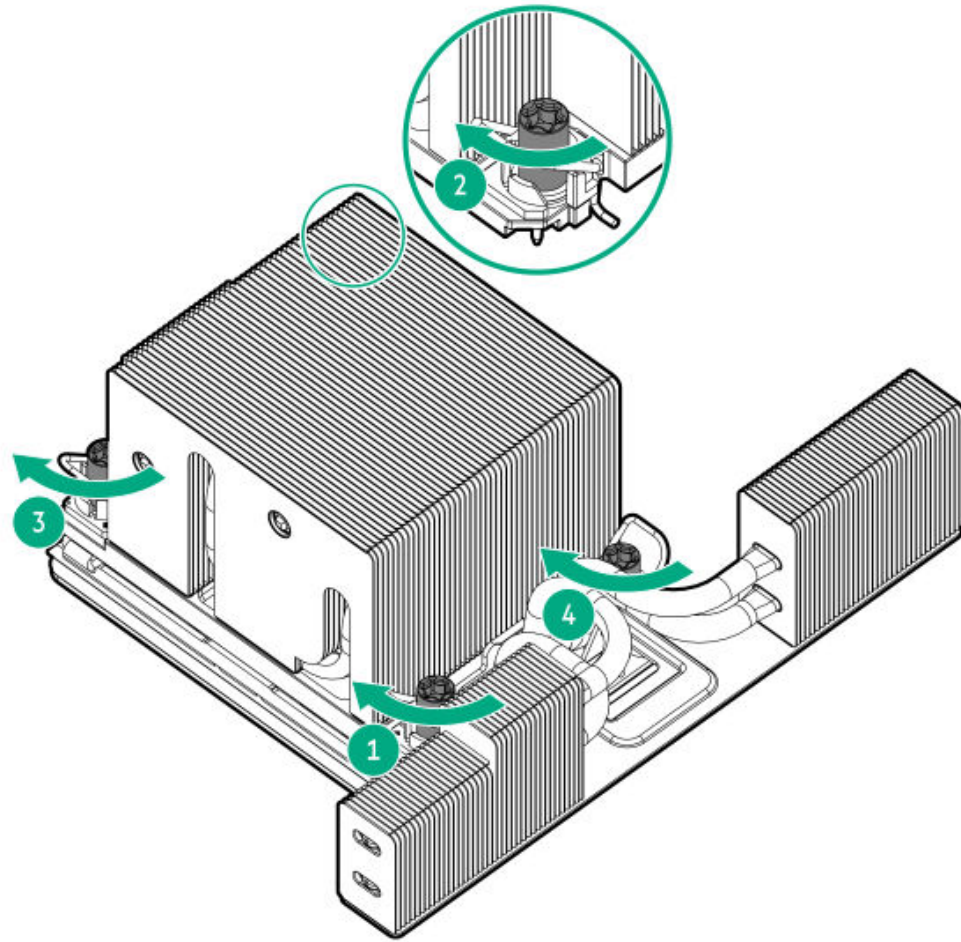


e. Tighten one pair of diagonally opposite heatsink screws, and then tighten the other pair of heatsink screws.

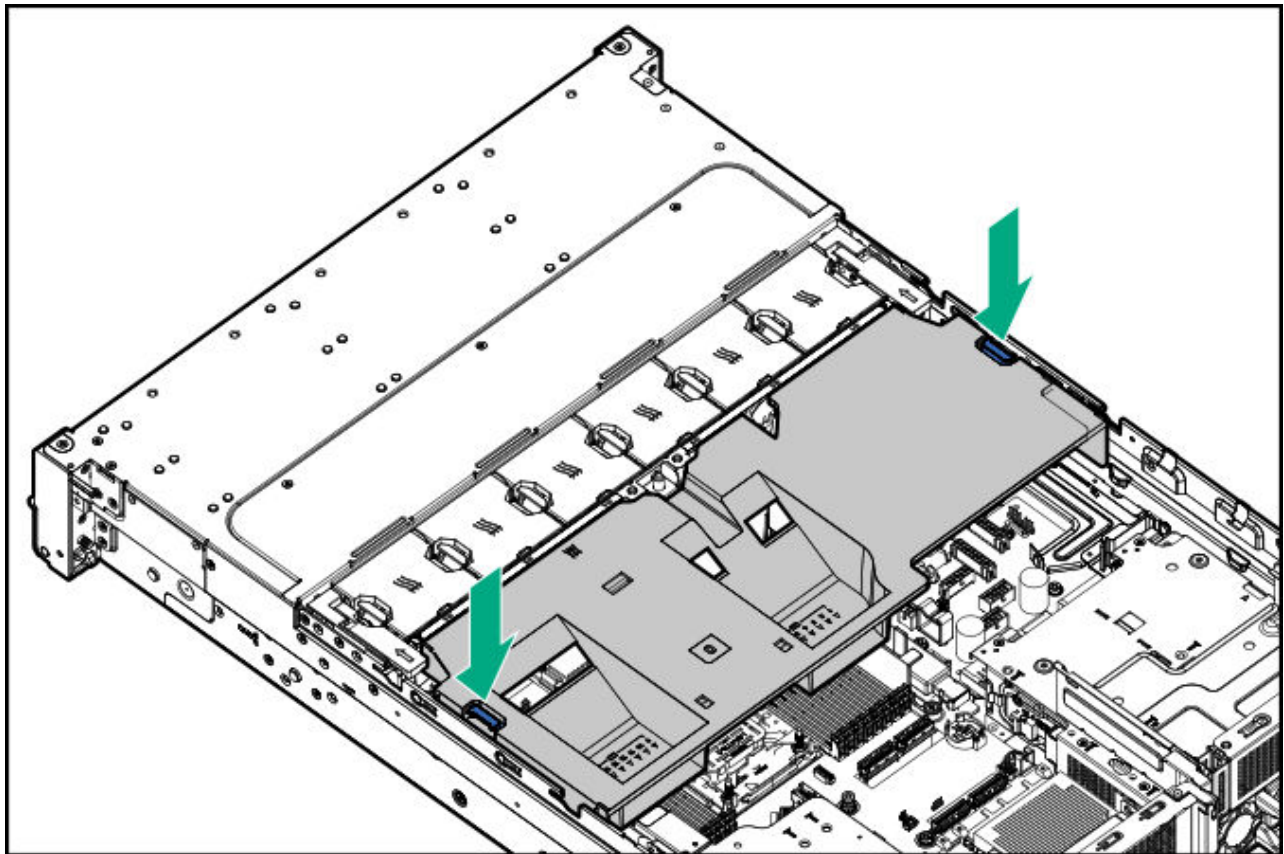
- Standard heatsink



- High performance heatsink



8. Install all removed components.
9. Lower the air baffle into the chassis and make sure that it fits properly into place.



- .0. Install the access panel.
- .1. Install the server into the rack.
- .2. Connect all peripheral cables to the server.
- .3. Connect each power cord to the server.
- .4. Connect each power cord to the power source.
- .5. Power up the server.

### **Results**

The replacement procedure is complete.

## **Processor replacement**

### **Subtopics**

#### **Processor cautions**

## Processor cautions



### CAUTION

To avoid damage to the processor or system board, only authorized personnel should attempt to replace or install the processor in this server.



### CAUTION

To prevent possible server malfunction and damage to the equipment, multiprocessor configurations must contain processors with the same part number.



### CAUTION

**The pins on the processor socket and on the processor are very fragile and easily damaged.** To avoid component damage, **do not touch these pins.** Any damage to them might require replacing the system board and/or processor.



### IMPORTANT

Processor socket 1 must be populated at all times or the server does not function.



### IMPORTANT

If installing a processor with a faster speed, update the system ROM before installing the processor. To download firmware, see [Updating firmware or system ROM](#).

## Removing the processor

### Prerequisites

- [Perform a backup of critical server data.](#)
- Identify the [heatsink and processor socket components](#).

- Review the [processor cautions](#).
- Before you perform this procedure, make sure that you have the following items available:
  - T-30 Torx screwdriver
  - Alcohol wipe
- If you are not immediately installing the replacement processor-heatsink assembly, make sure that you have a processor socket dust cover.
- In a preconfigured system with a DLC module installed, [remove the DLC module](#) before replacing the processor.

### About this task

[https://sketchfab.com/models/4c04ee6e4de04b5c8bca81cc78ec8bad/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/4c04ee6e4de04b5c8bca81cc78ec8bad/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)



#### WARNING

To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.



#### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

### Procedure

1. [Power down the server](#).
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - [Extend the server out of the rack](#).
  - [Remove the server from the rack](#).
5. [Remove the access panel](#).

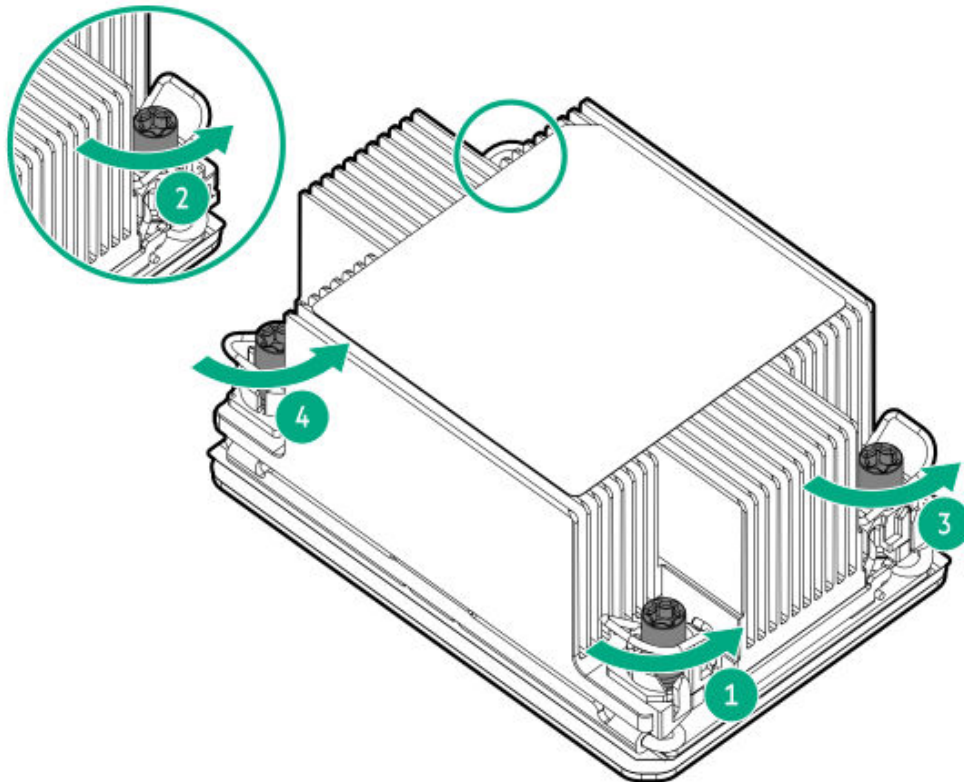
6. Remove the air baffle.
7. Allow all internal system components to cool before continuing.
8. If installed, remove the DLC module.
9. Loosen one pair of diagonally opposite heatsink screws, and then loosen the other pair of heatsink screws.



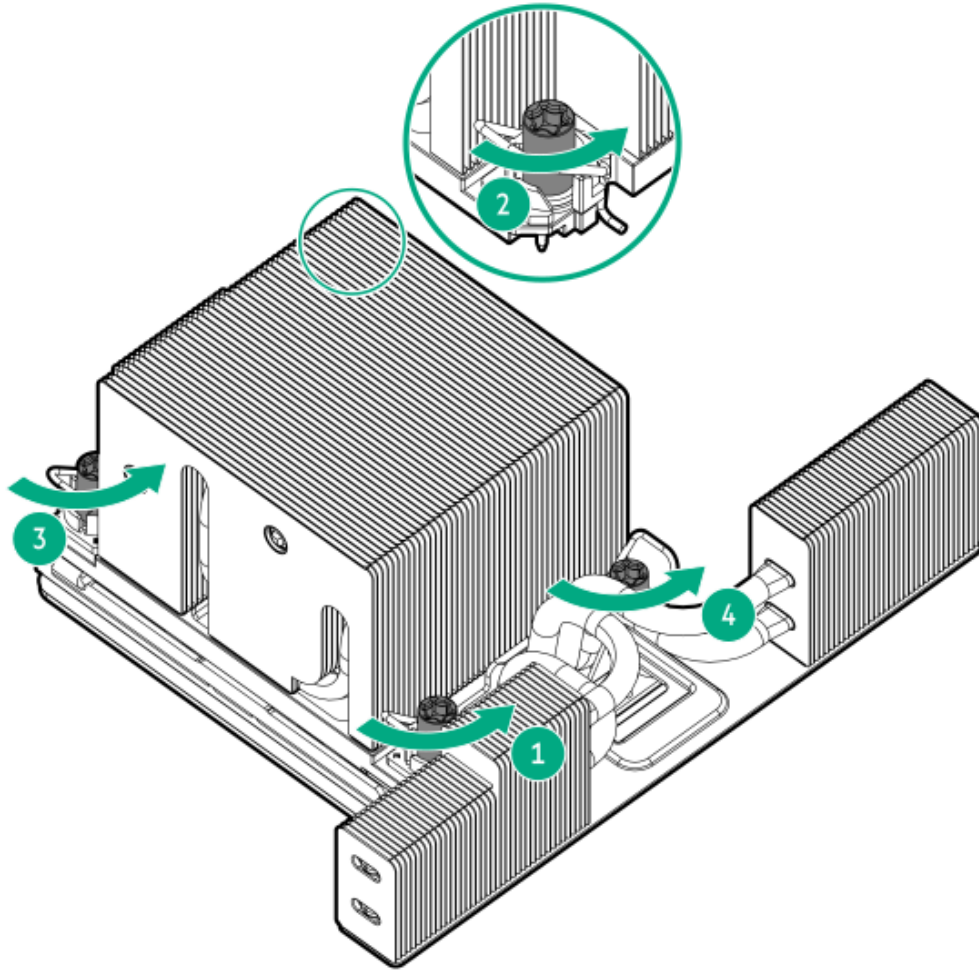
### CAUTION

Heatsink screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the processor socket.

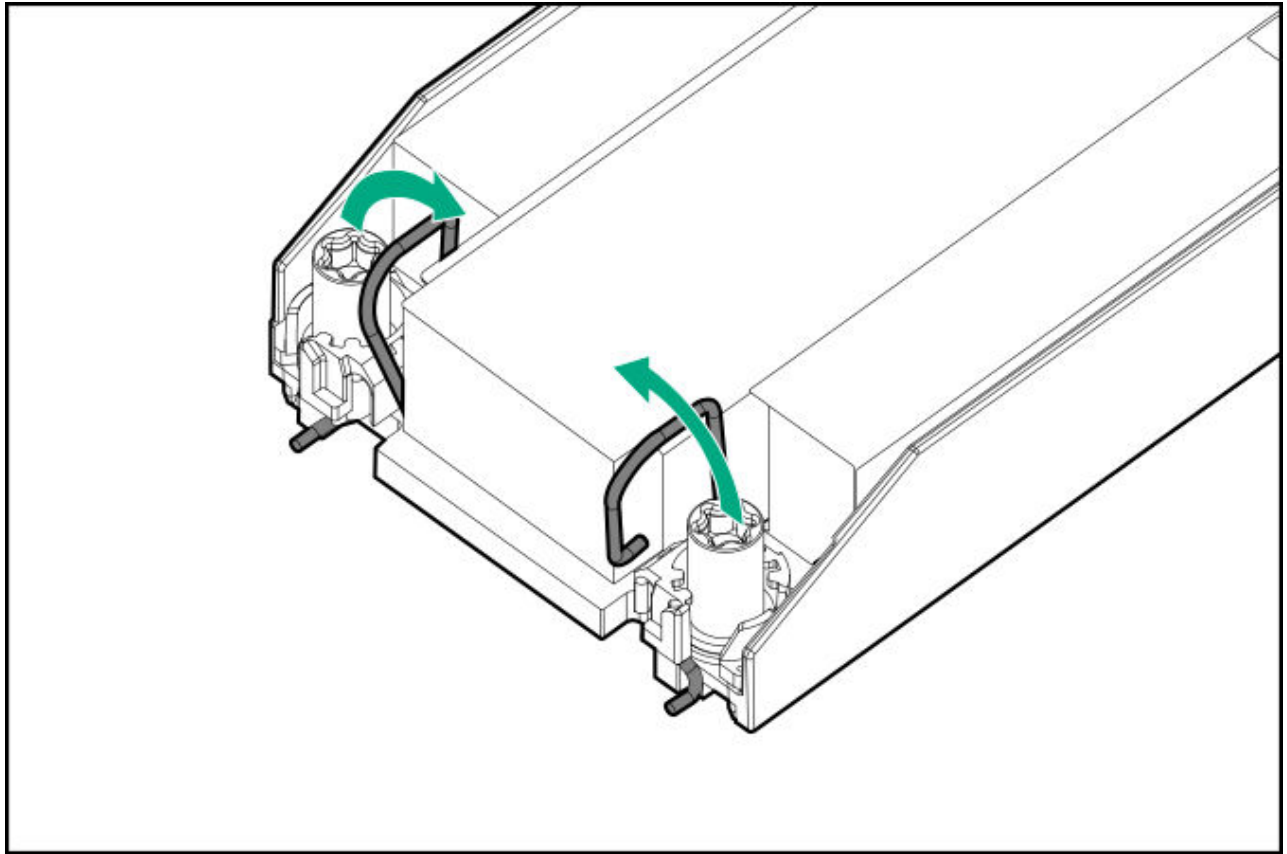
- Standard heatsink



- High performance heatsink



.0. Set the anti-tilt wires to the unlocked position.



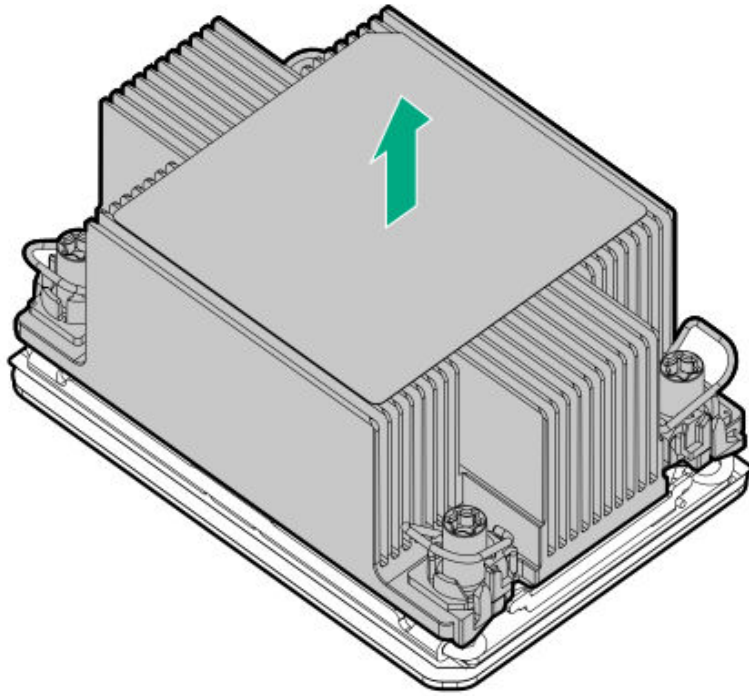
1. Lift the processor-heatsink module straight up from the system board.



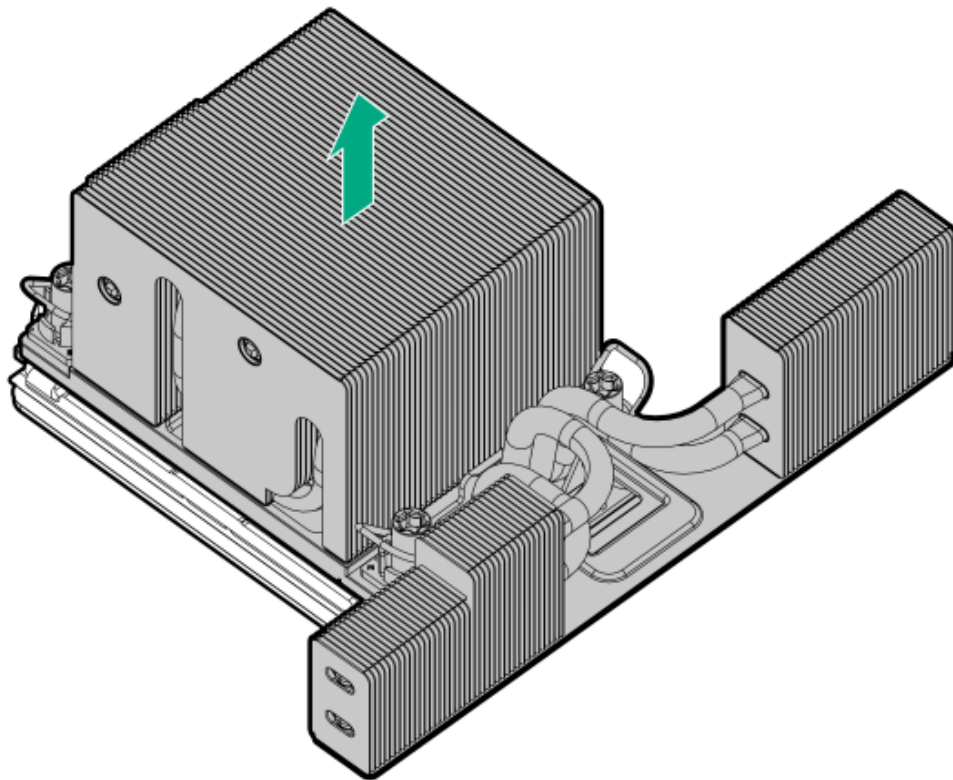
**CAUTION**

To prevent mechanical damage or depositing oil on your hands or other contaminants to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

- Standard heatsink



- High performance heatsink



- .2. Place the processor-heatsink module on a flat work surface with its contact side facing up.
- .3. If you are not immediately installing the replacement processor-heatsink module, install the dust cover on the empty processor socket:

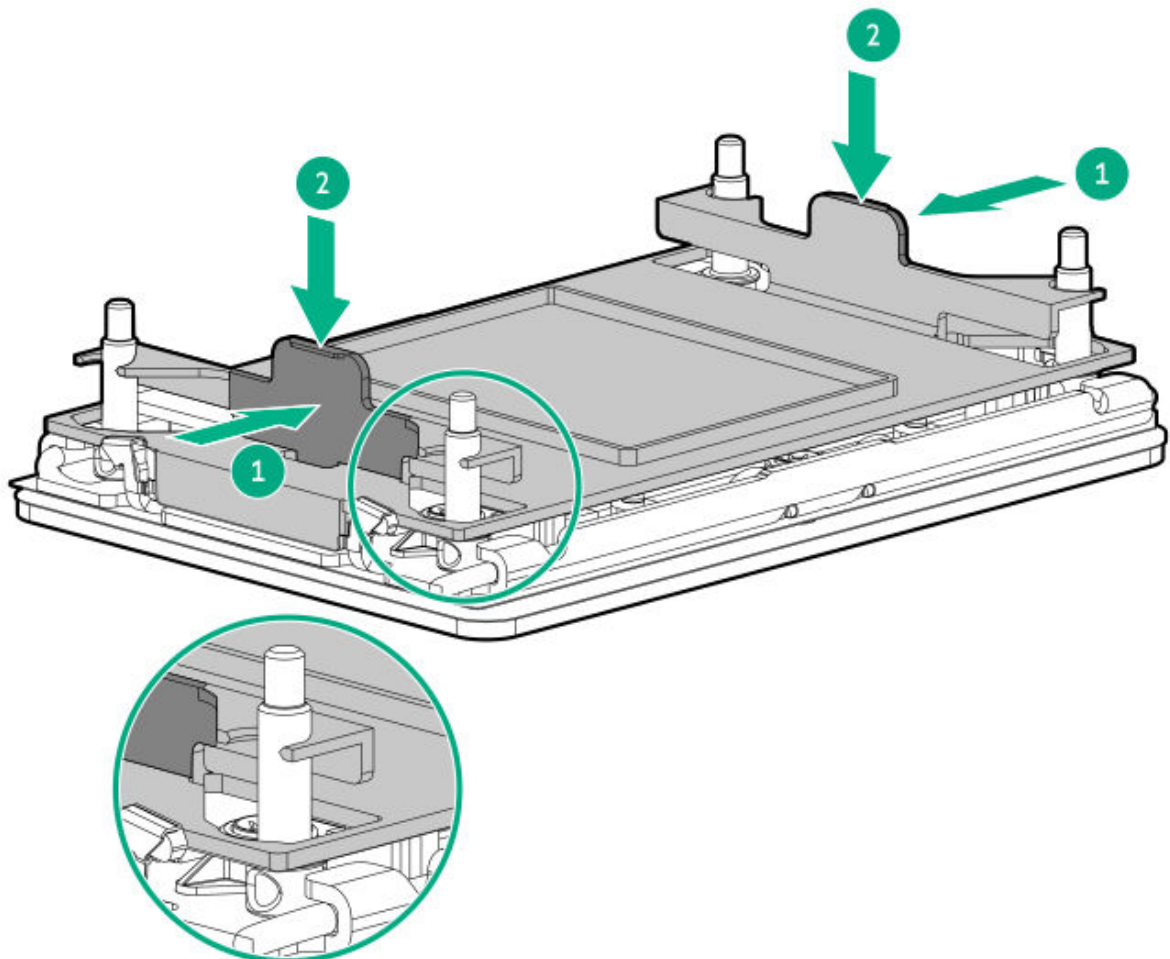


**CAUTION**

Do not press down on the dust cover. Pressing down on the dust cover might damage the processor socket.

- a. Press and hold the grip tabs on the dust cover.
- b. Carefully lower the dust cover onto the bolster plate guide posts.

Make sure that the corner holes of the dust cover are properly engaged with the guide posts on the bolster plate.

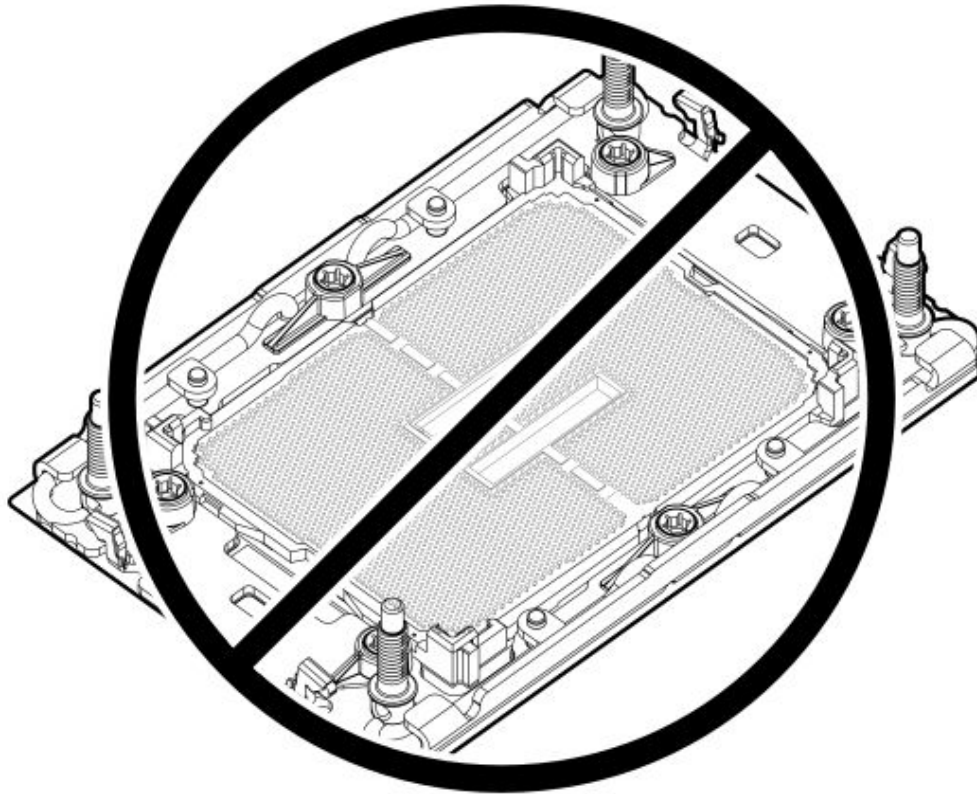


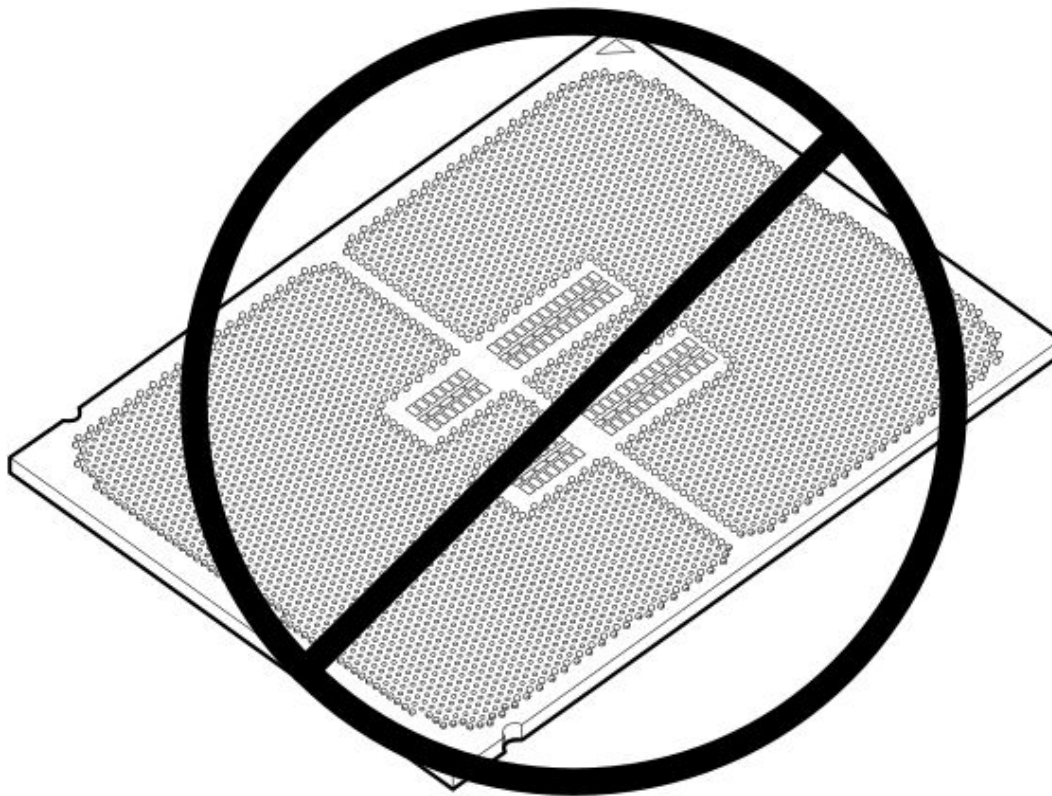
4. Do not touch the pins on the processor socket and the processor.



**CAUTION**

**THE PINS ON THE PROCESSOR SOCKET AND ON THE PROCESSOR ARE VERY FRAGILE AND EASILY DAMAGED.** Any damage to them might require replacing the system board.



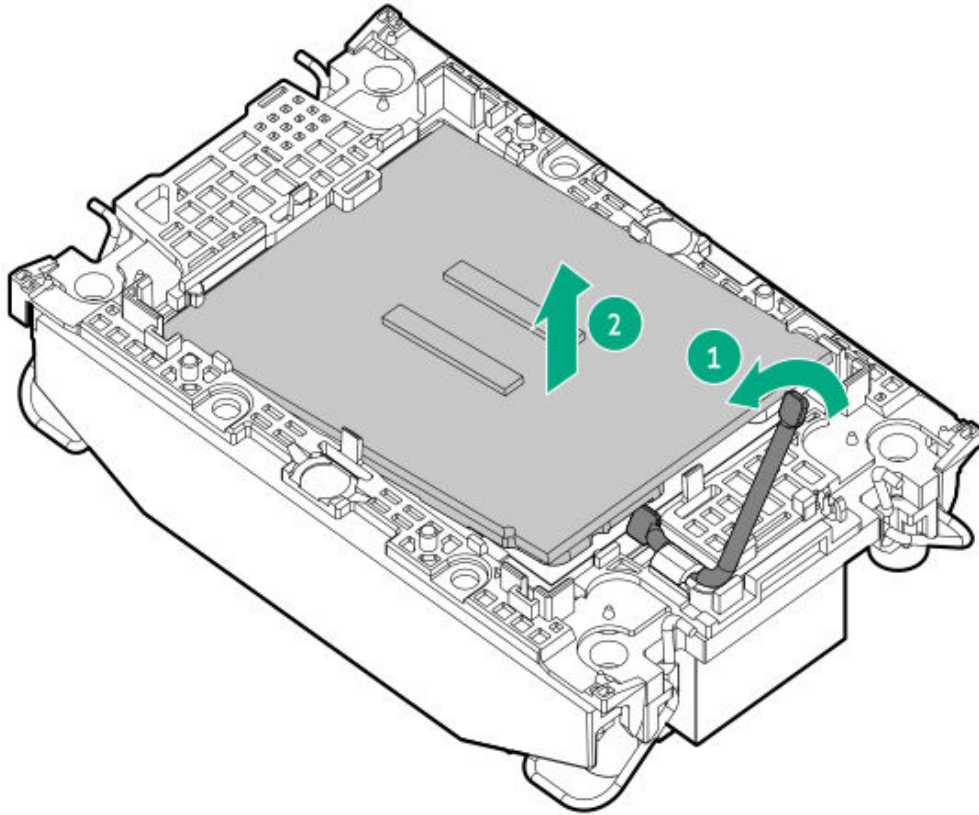


.5. Remove the processor from the heatsink:

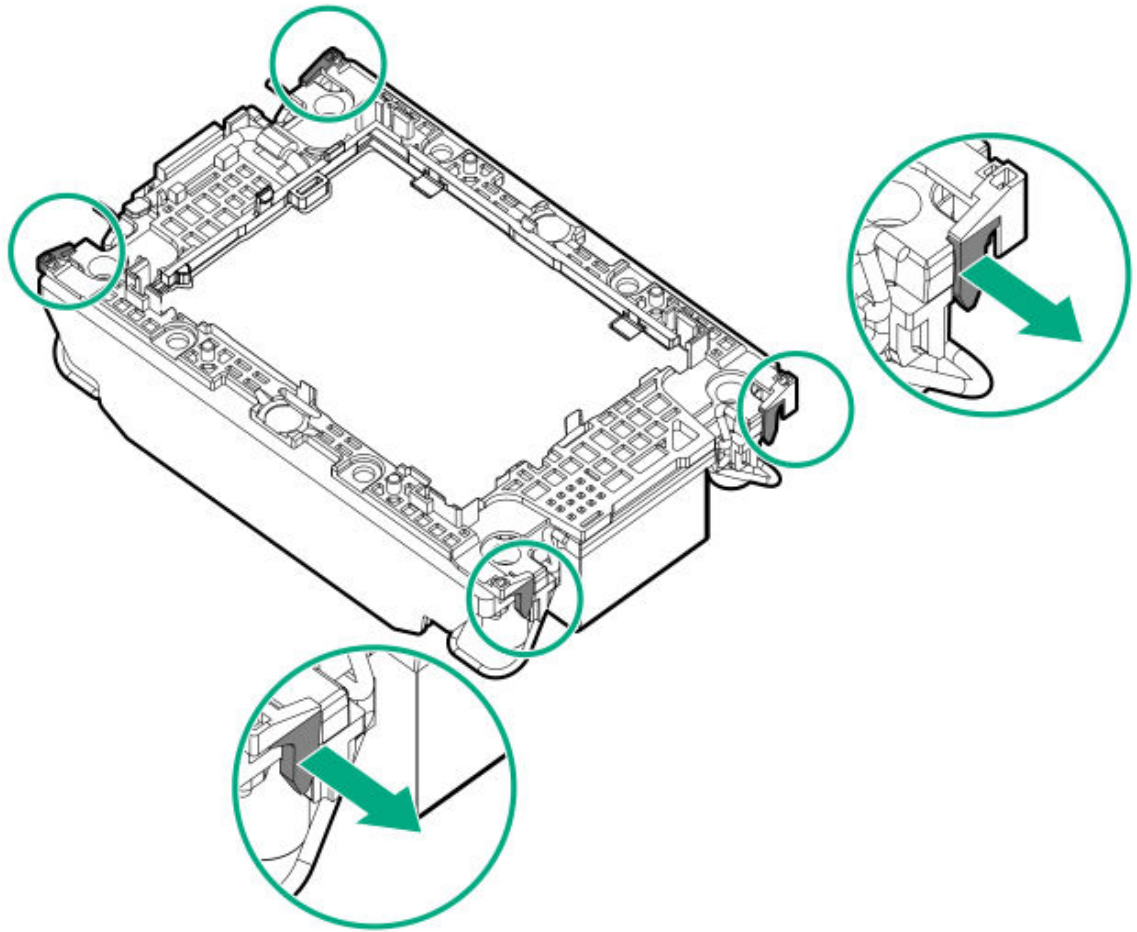
a. Open the TIM breaker lever.

This action breaks the adhesion between the processor and the heatsink.

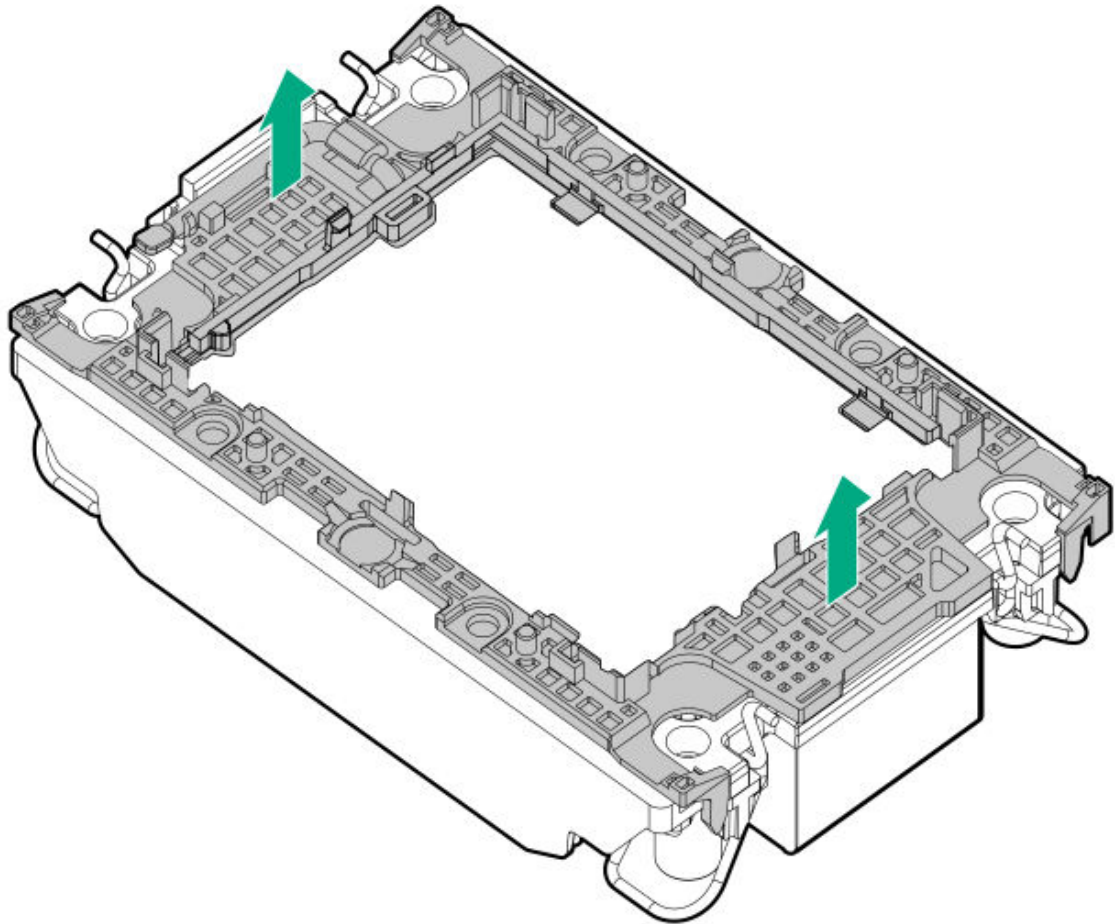
b. Hold the processor on its edges, and then remove it from the carrier.



- c. Starting from the pin 1 corner and moving in an opposite manner, disengage the processor carrier release tabs from the heatsink.



d. Lift the processor carrier away from the heatsink.



- .6. Use an alcohol wipe to remove the existing thermal grease from the heatsink / cold plate and the processor.

Allow the alcohol to evaporate before continuing.

## Installing the processor

### Prerequisites

- Identify the heatsink and processor socket components.
- Review the processor cautions.
- Before you perform this procedure, make sure that you have the following items available:
  - T-30 Torx screwdriver
  - 1.0 gm (0.5 ml) or two 0.5 gm (0.25 ml) of thermal grease

- After installing the new processor, install the DLC module on the system board.

### About this task



#### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

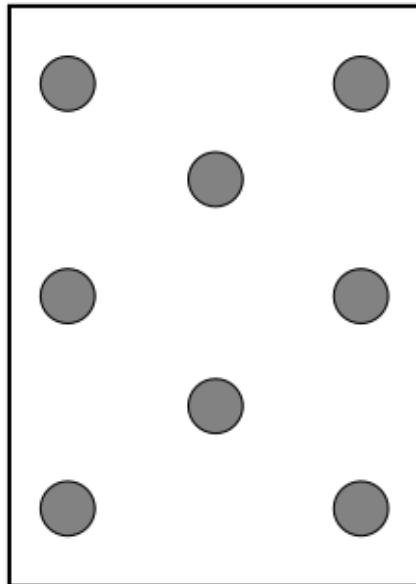


#### CAUTION

To prevent possible server overheating, always populate each processor socket with a processor socket cover and a processor blank, or a processor and a heatsink.

### Procedure

1. If you are using the same heatsink / DLC module, apply the full content of the thermal grease syringes on top of the processor. Follow the pattern shown in the following image.

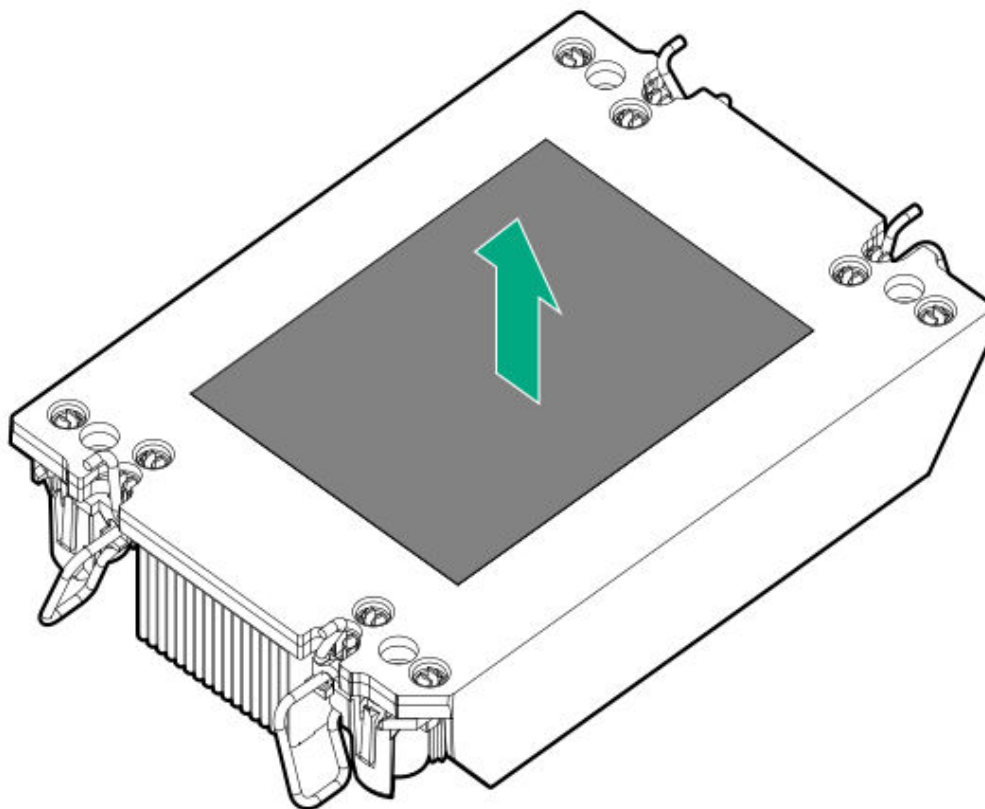


2. If you are using a new heatsink, remove the protective film from the thermal interface material.

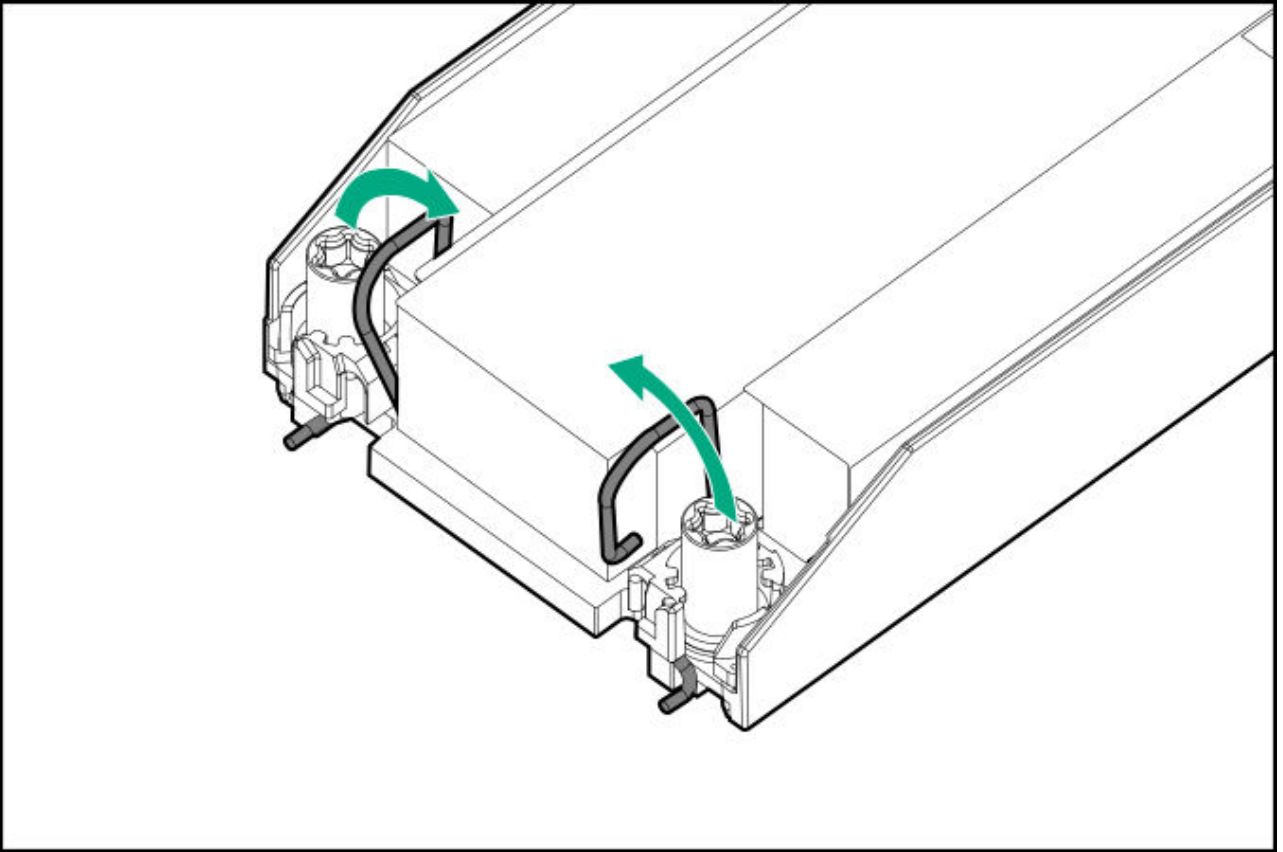


**CAUTION**

To prevent mechanical damage or depositing oil on your hands or other contaminants to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

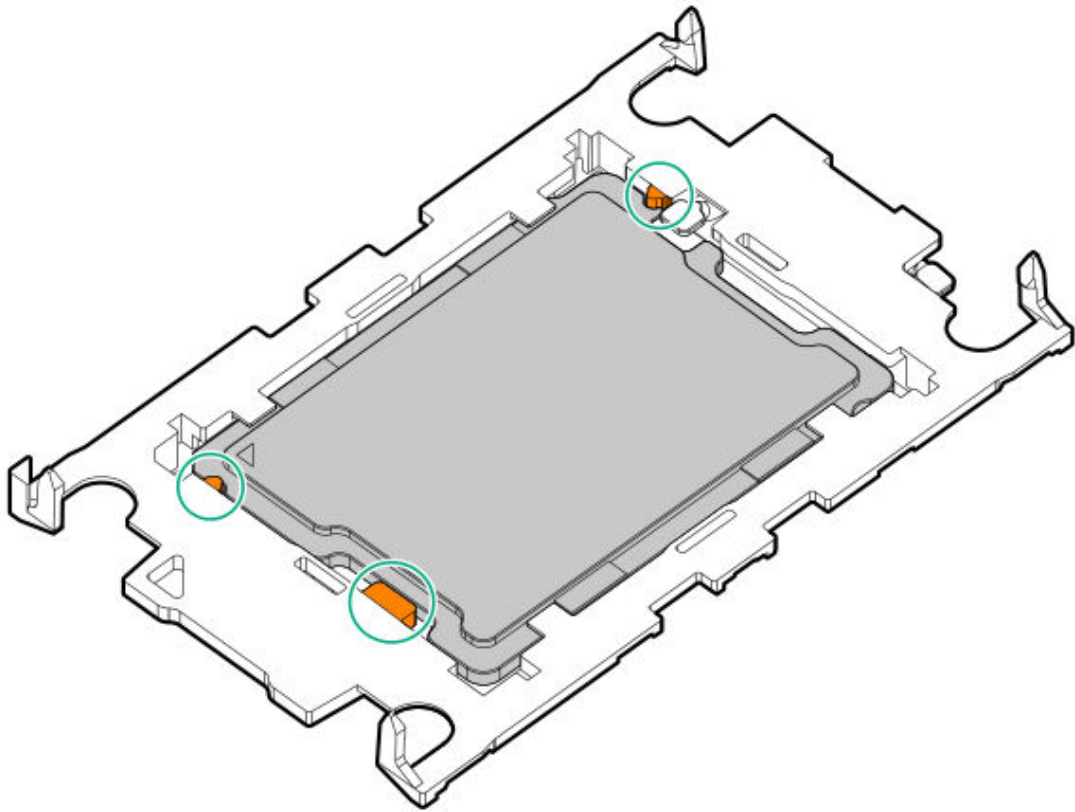


3. Set the anti-tilt wires to the unlocked position.



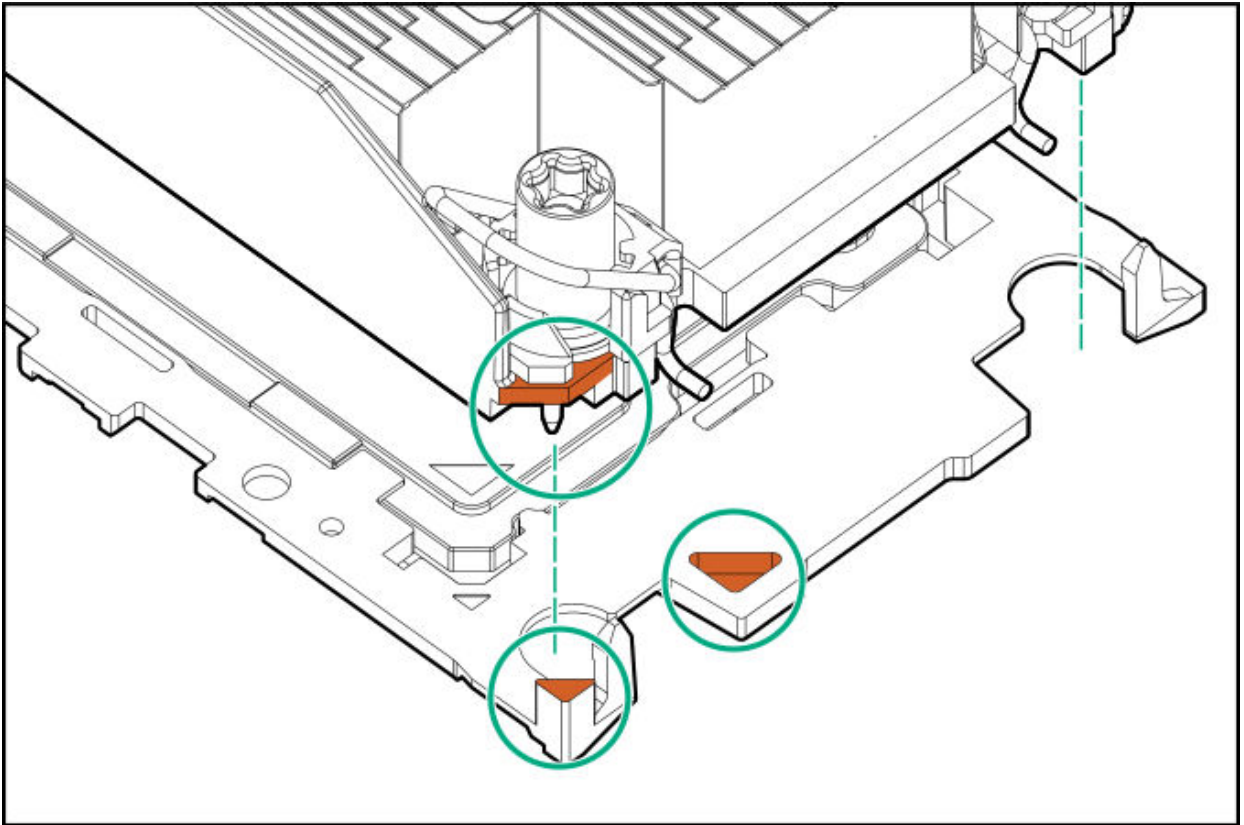
4. Verify that the processor is securely latched to the processor carrier.

The following illustration calls out the keying feature tabs that secure the processor. Different processor carriers will have these tabs in different locations.



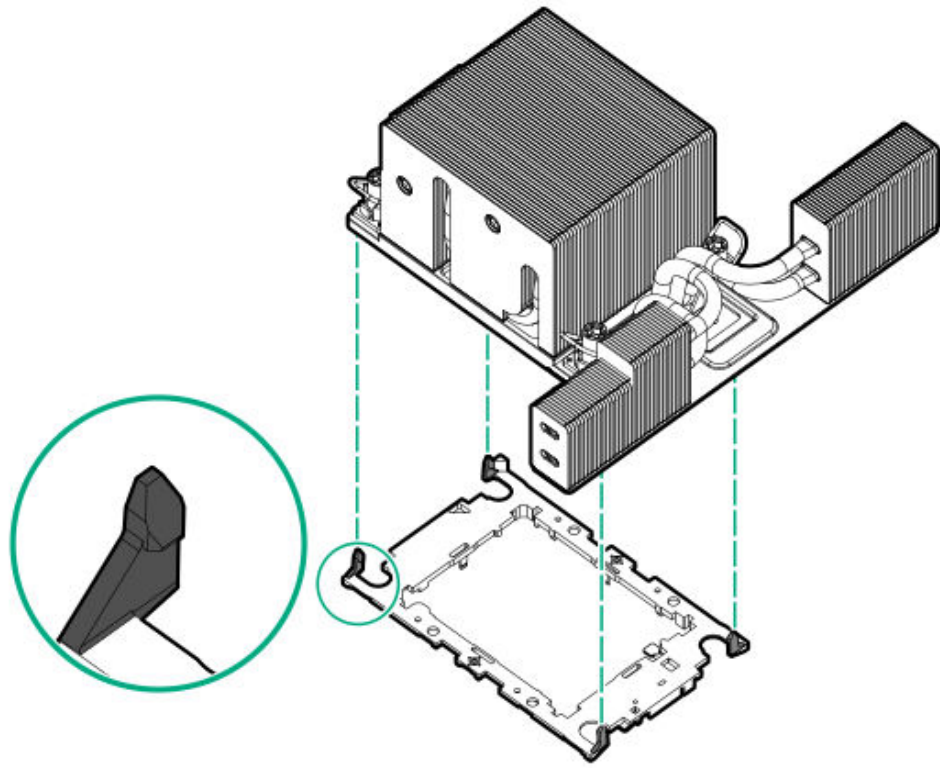
5. Attach the heatsink to the processor carrier:

- a. Align the pin 1 indicator on the processor carrier with that on the heatsink.



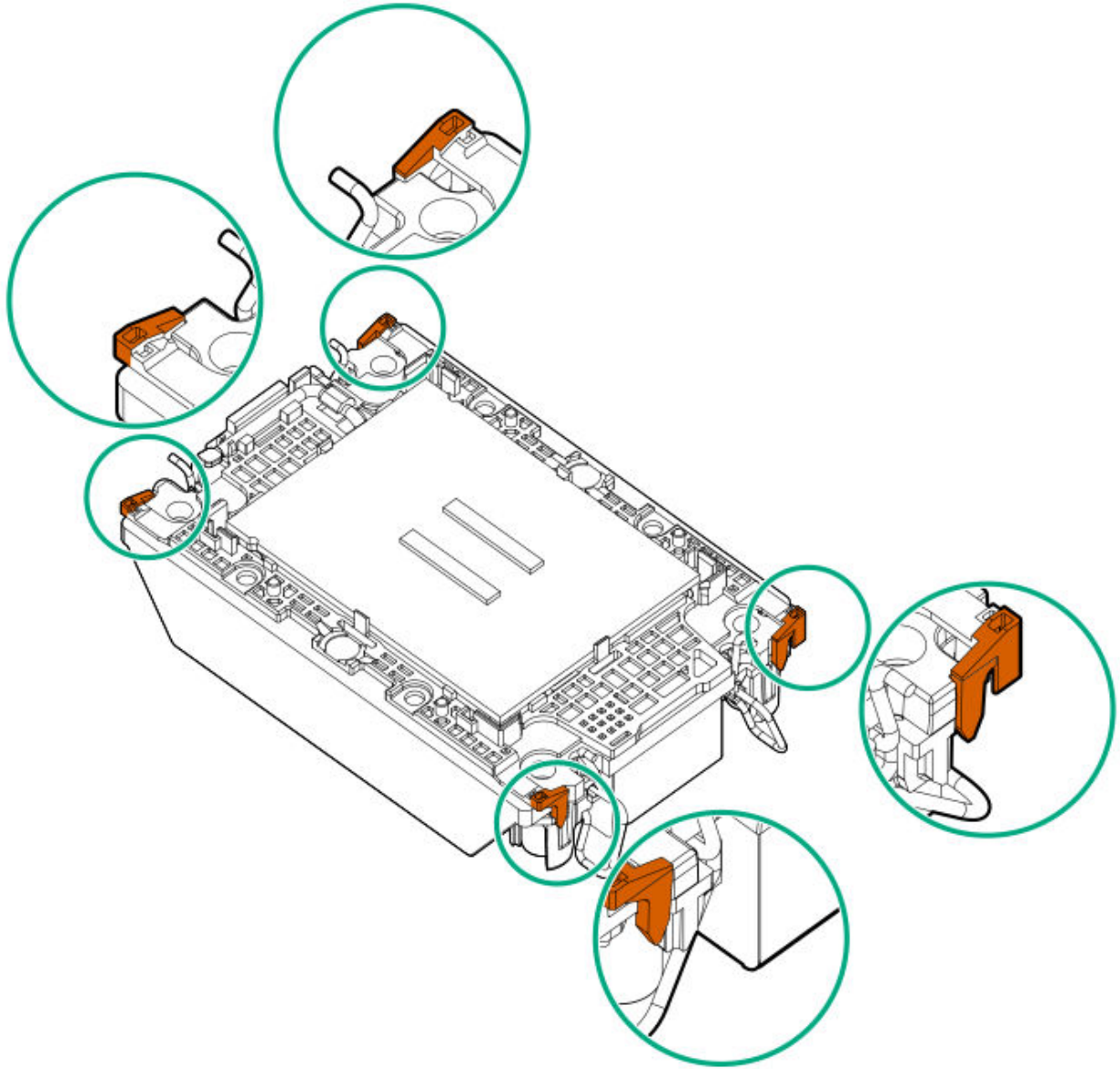
- b. Lower the heatsink on the processor carrier until the carrier tabs snap into place.

There will be an audible click to indicate that the heatsink is properly latched on the processor carrier.

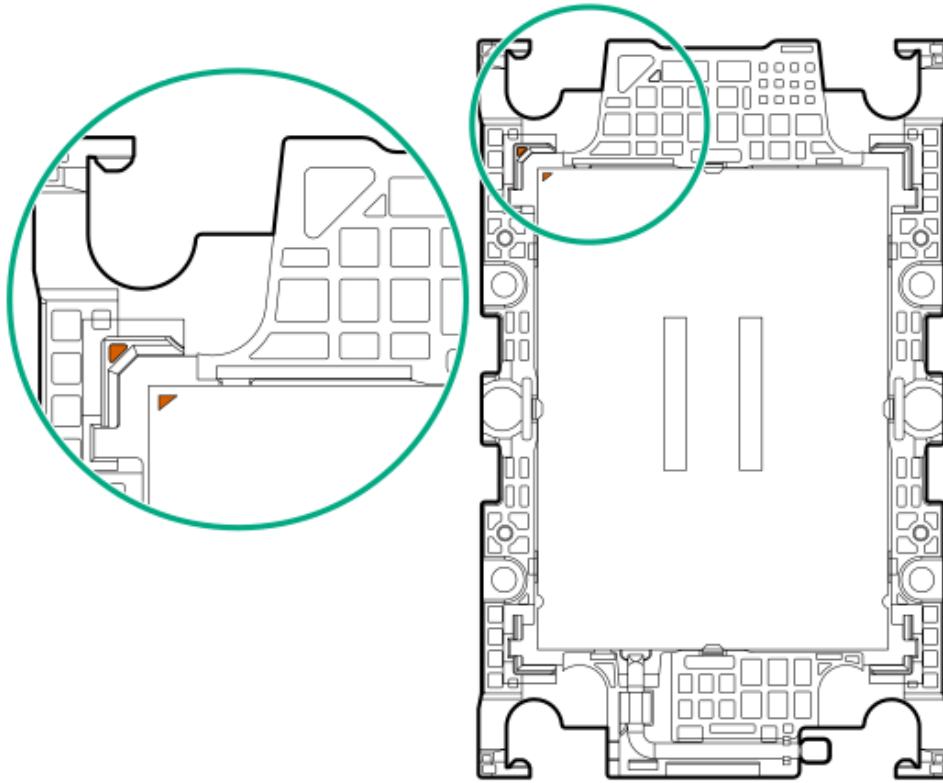


6. Perform the following verification steps:

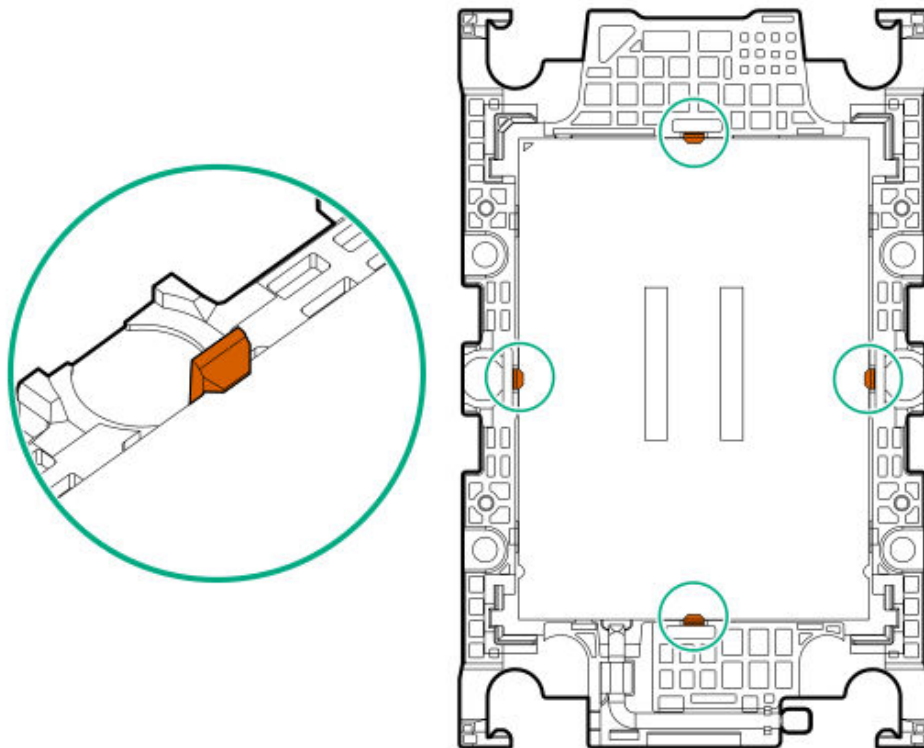
- a. Verify that the tabs on the processor carrier are securely latched on the heatsink.



b. Verify that the pin 1 indicators on the processor and processor carrier are aligned.



c. Verify that the processor is properly secured by the carrier snaps.



7. Install the processor-heatsink module:



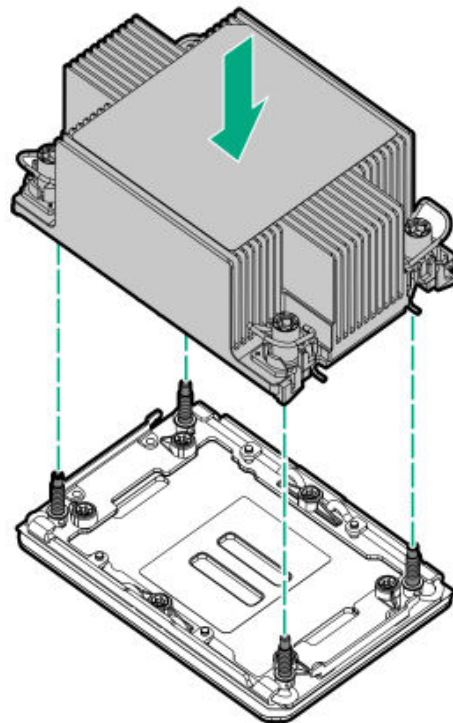
**CAUTION**

To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

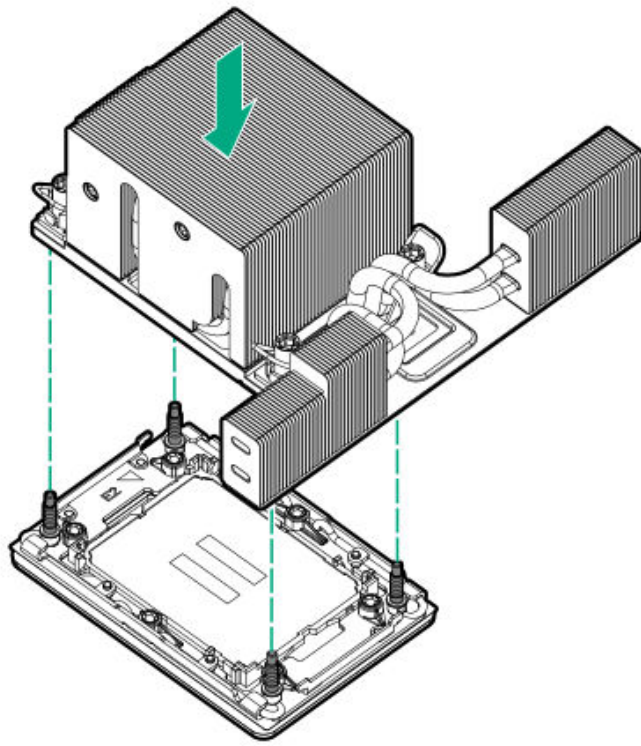
- a. When using a torque wrench to tighten the heatsink screws, set it to 0.9 N-m (8 in-lb) of torque.
- b. Note the **Front of server** text on the heatsink label to correctly orient the processor-heatsink module over the bolster plate.
- c. Carefully lower the processor-heatsink module onto the bolster plate guide posts.

The posts are keyed so that the module can only be installed one way. Make sure that the module is properly seated on the bolster plate before securing the screws.

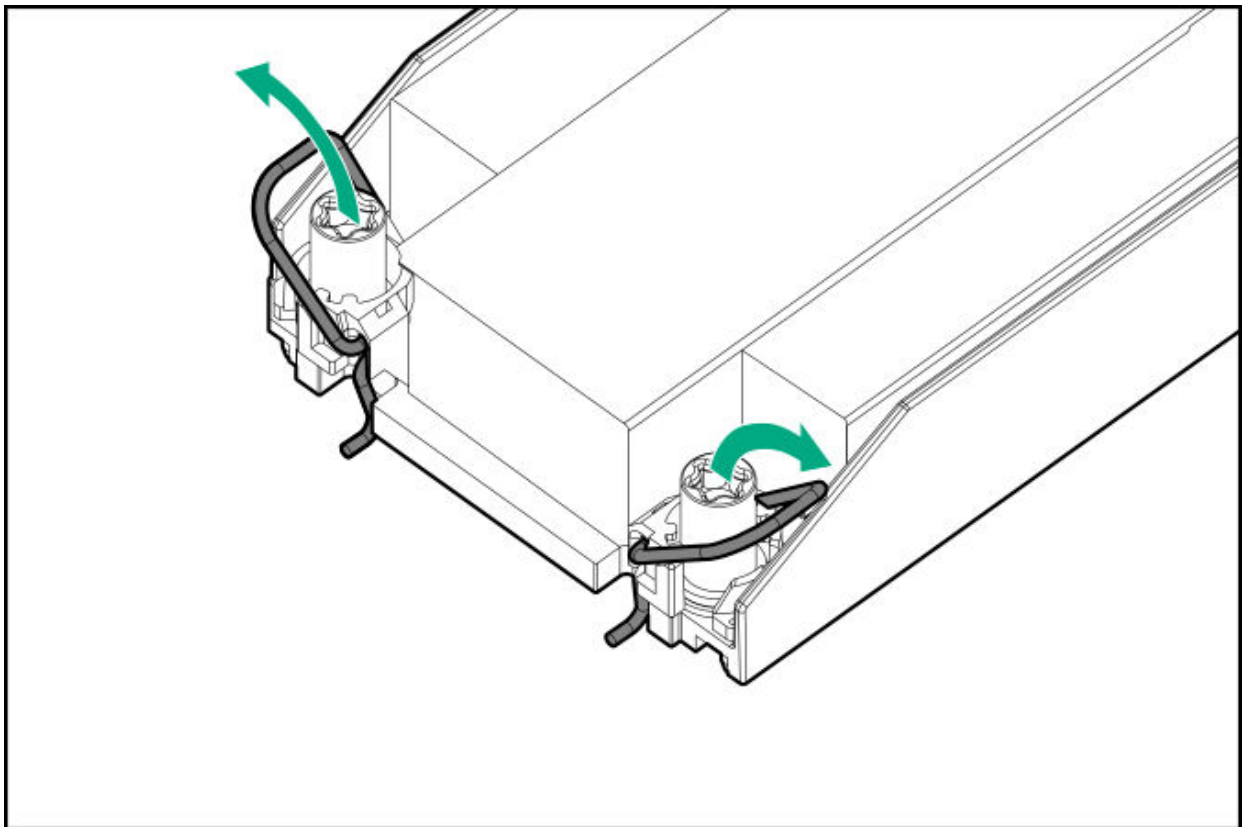
- Standard heatsink



- High performance heatsink

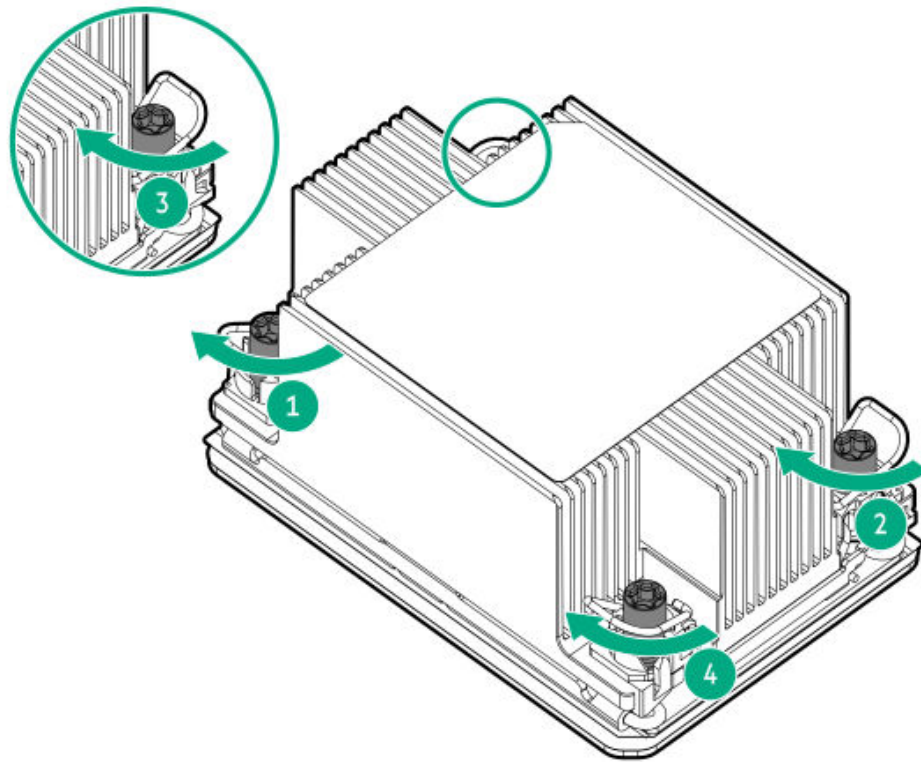


d. Set the anti-tilt wires to the locked position.

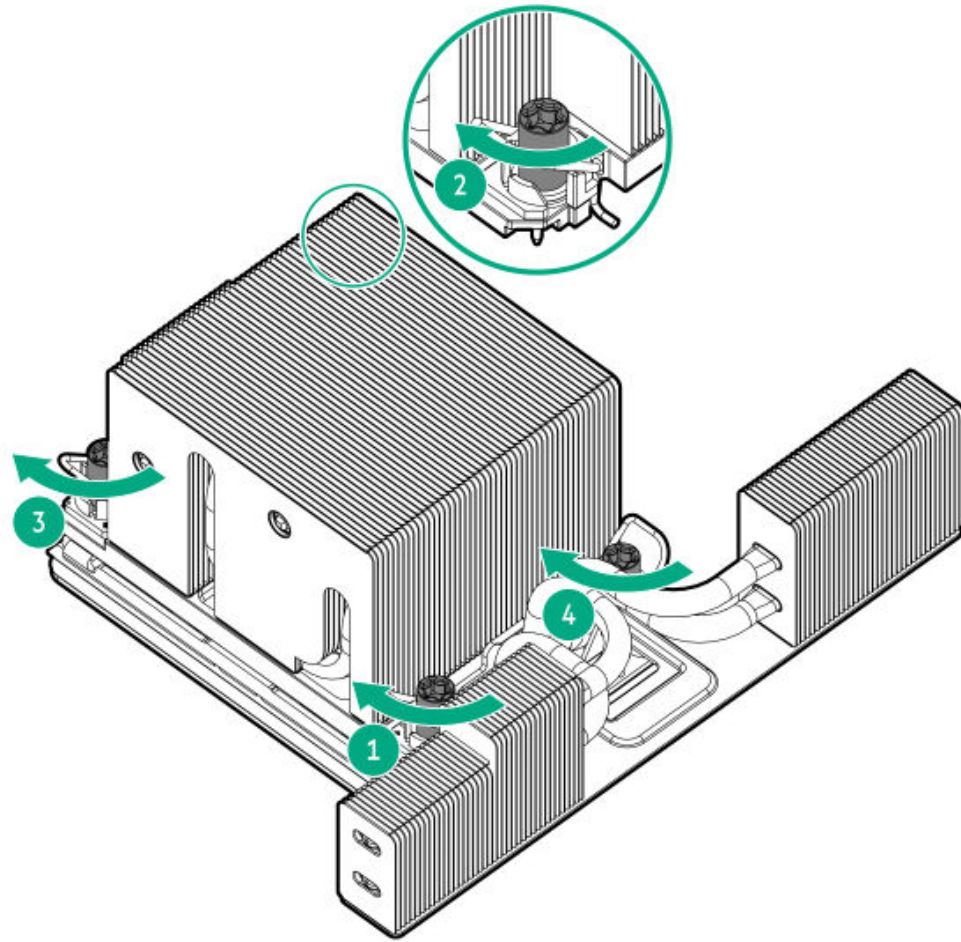


e. Tighten one pair of diagonally opposite heatsink screws, and then tighten the other pair of heatsink screws.

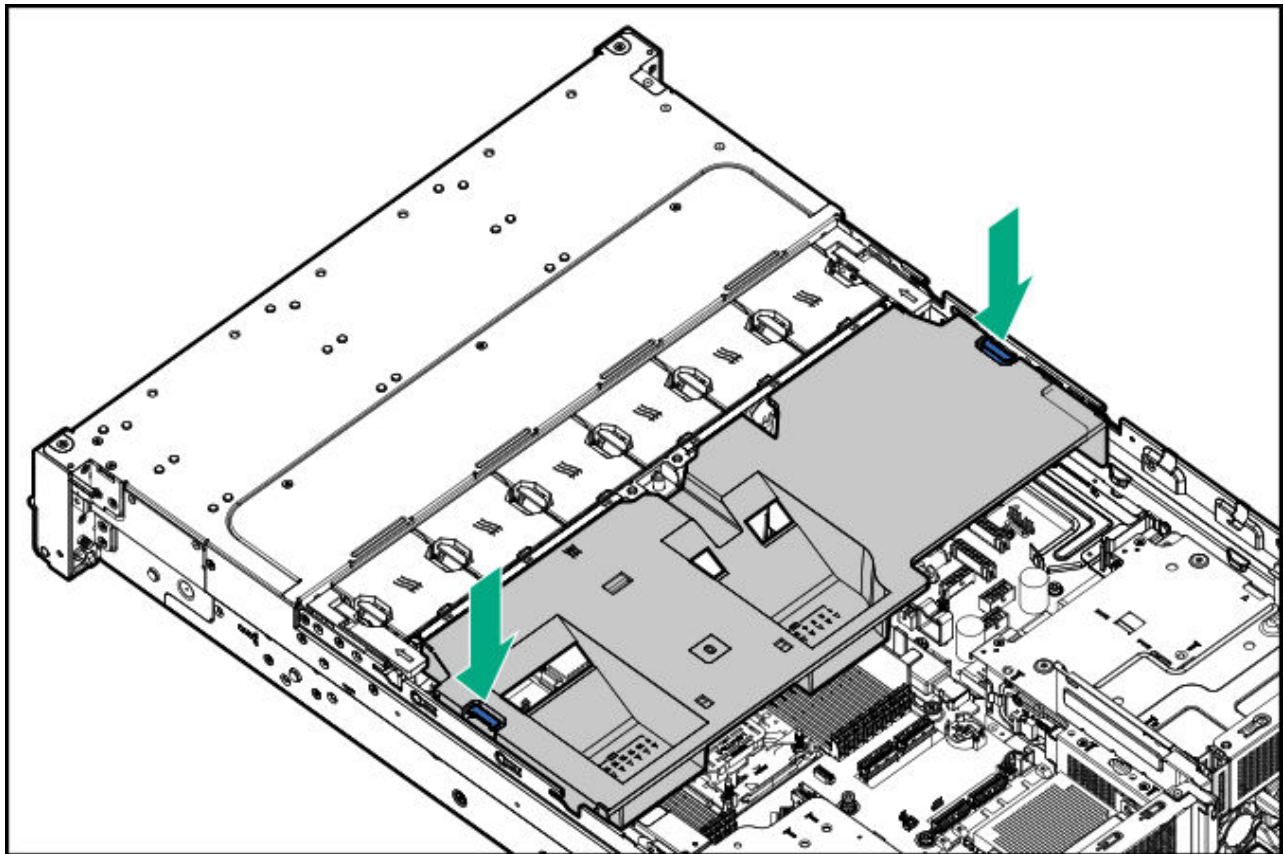
- Standard heatsink



- High performance heatsink



8. If removed, install the DLC module.
9. Install all removed components.
10. Lower the air baffle into the chassis and make sure that it fits properly into place.



- .1. Install the access panel.
- .2. Install the server into the rack.
- .3. If the DLC module is installed, connect the DLC extension hoses.
- .4. Connect all peripheral cables to the server.
- .5. Connect each power cord to the server.
- .6. Connect each power cord to the power source.
- .7. Power up the server.

### Results

The replacement procedure is complete.

## Direct liquid cooling module replacement

### Subtopics

**Removing the DLC module**

**Installing the DLC module**

**Removing and replacing the DLC extension hoses**

## Removing the DLC module

### Prerequisites

- Identify the [DLC module components](#).
- If the reason for replacing the DLC module is due to a coolant leak, perform the [Appendix I: Server coolant spill response procedure](#).
- Before you perform this procedure, make sure that you have the following items available:
  - T-10 Torx screwdriver
  - T-20 Torx screwdriver
  - Alcohol wipe
  - Small hand towel or container to catch any leaked coolant

### About this task

The entire cooling loop must be removed as one unit. Do not attempt to remove riser cage or pump-cold plates separately.



#### **WARNING**

To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.



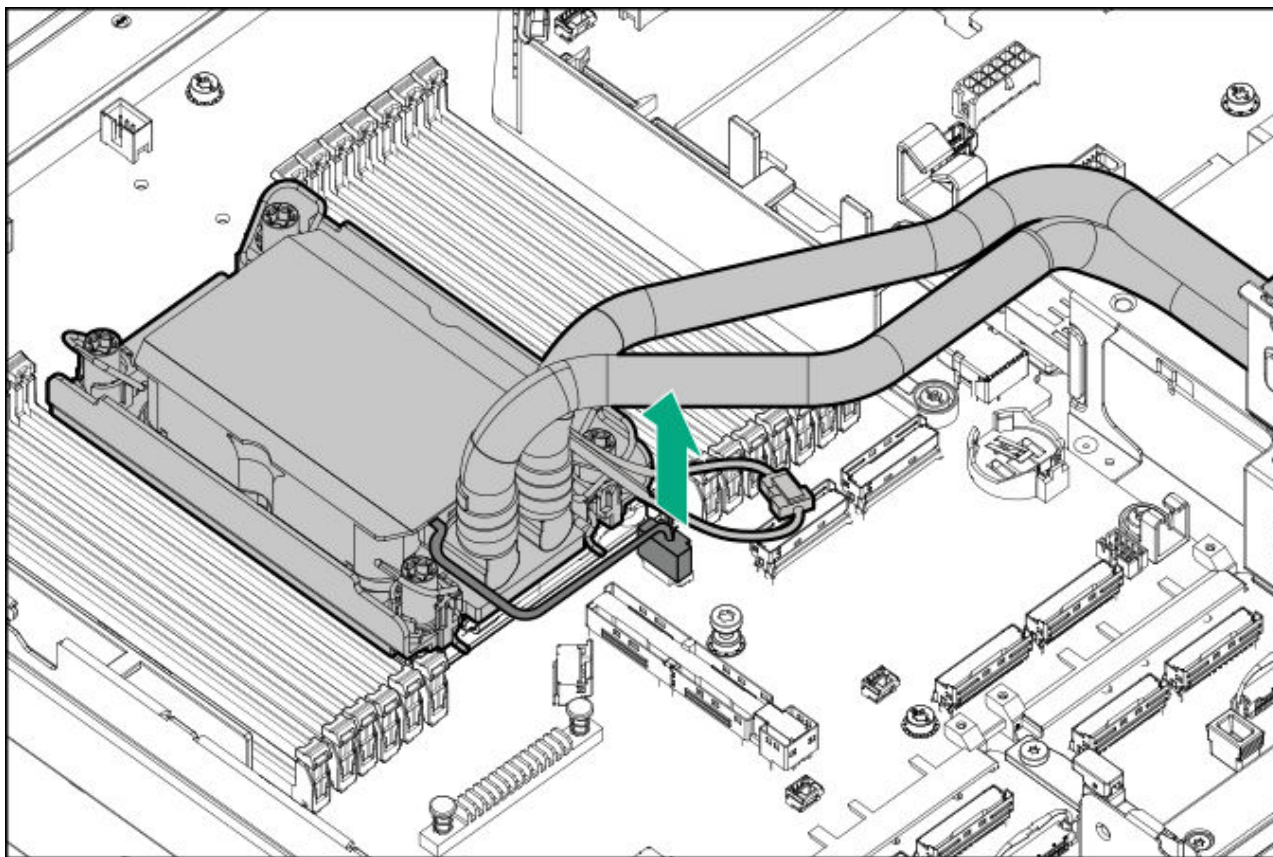
#### **CAUTION**

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

### Procedure

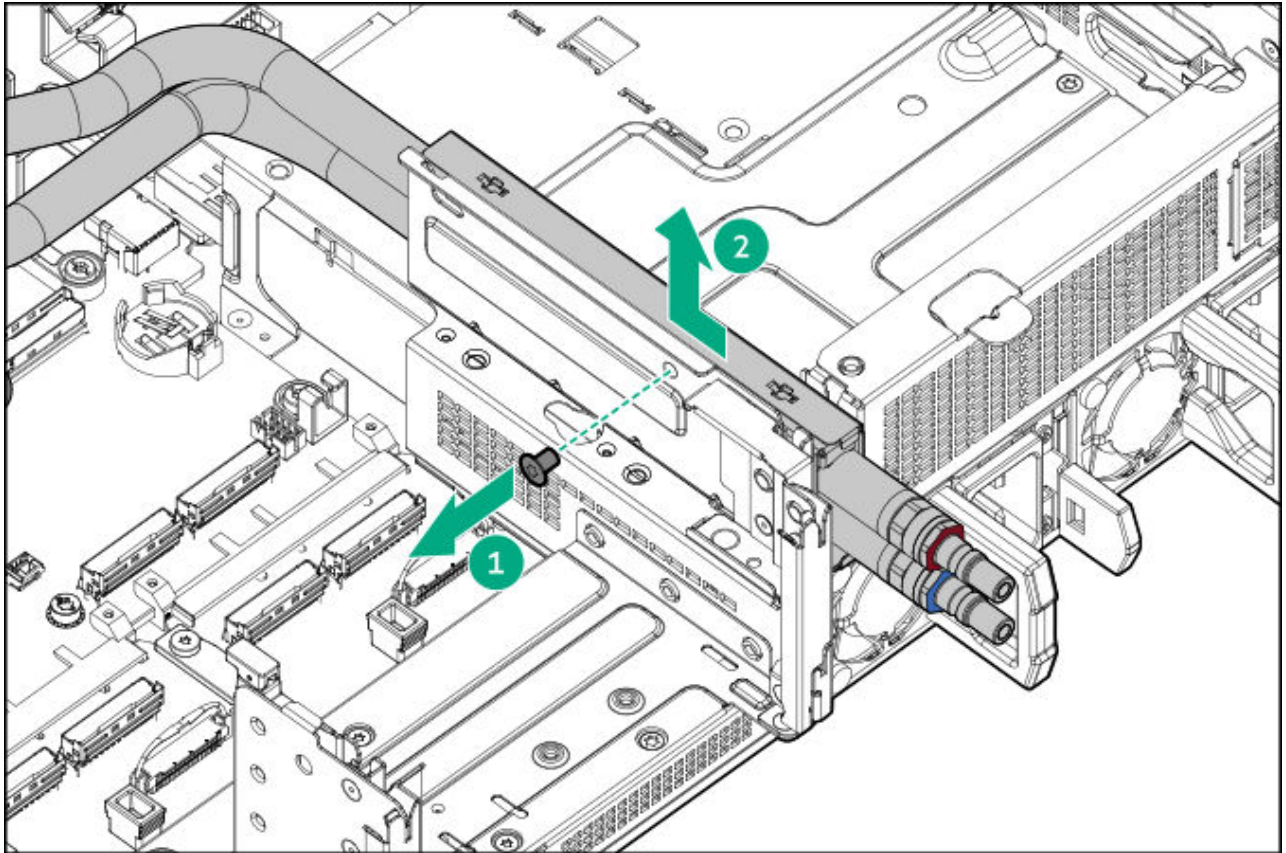
1. [Power down the server](#).
2. Remove all power:
  - a. Disconnect each power cord from the power source.

- b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Disconnect the hoses from the DLC manifold.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the air baffle.
9. If installed, disconnect the following cables from the system board:
  - Storage controller cable
  - Captive riser cable
- .0. Remove the secondary riser cage.
- .1. Disconnect the DLC module power and signal cable from the system board.



- .2. Remove the DLC hose holder from the rear boot device holder.

Retain the screw. The screw will be used to secure the new DLC module.



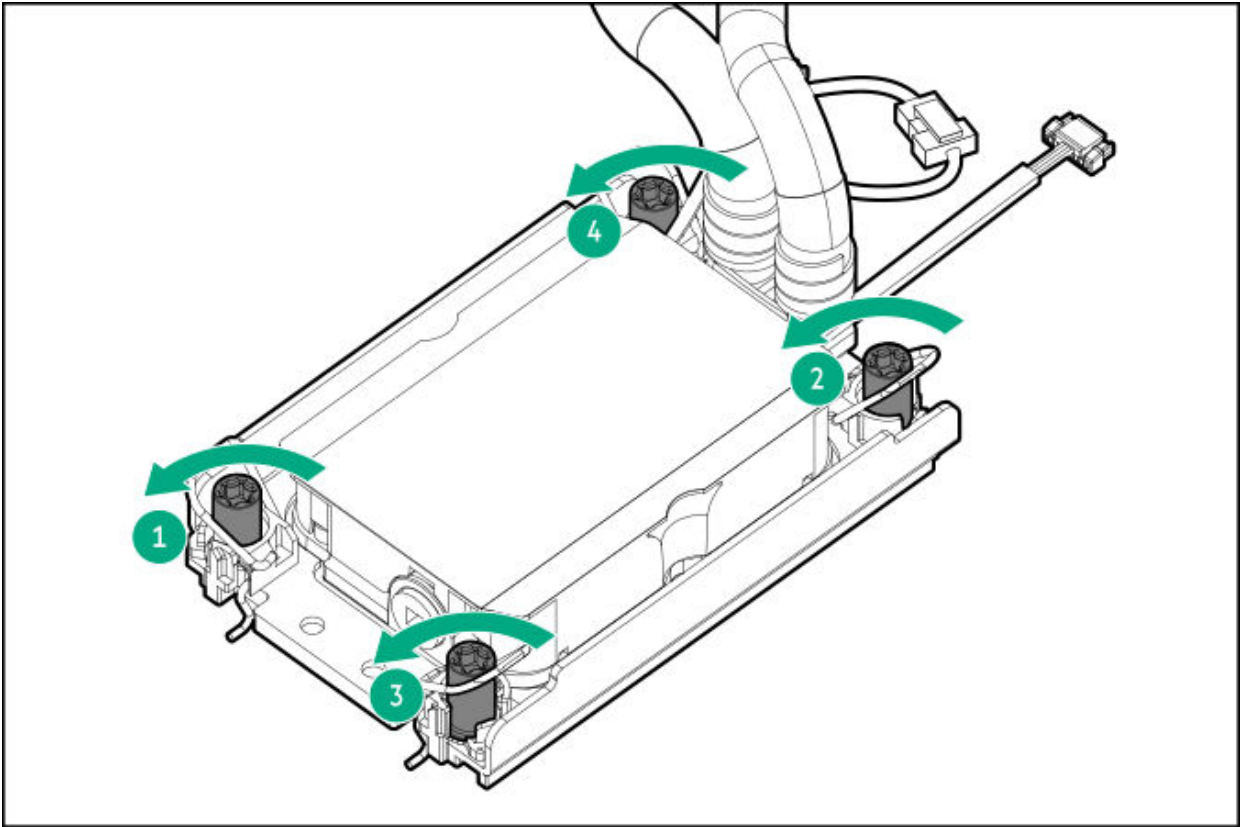
.3. Remove the DLC module:

- a. Loosen one pair of diagonally opposite cold plate screws, and then loosen the other pair of cold plate screws.

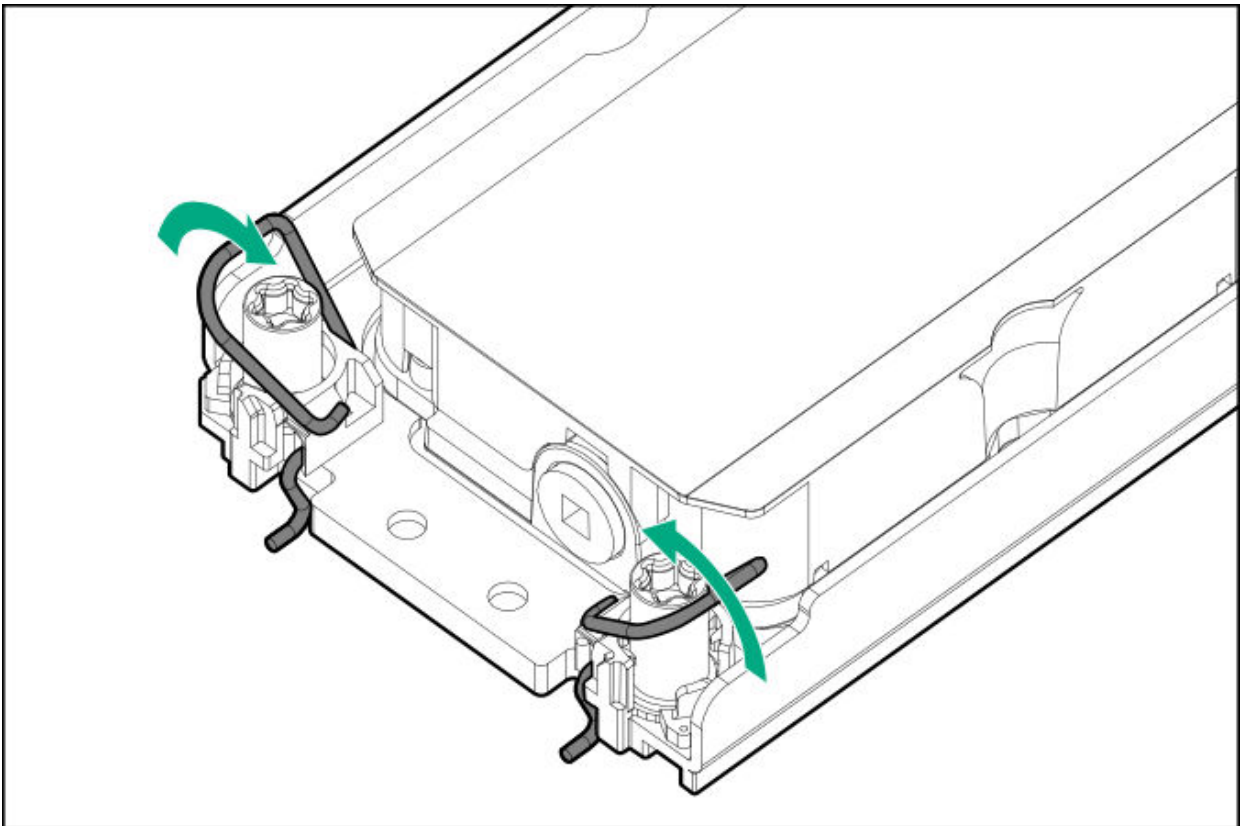


**NOTE**

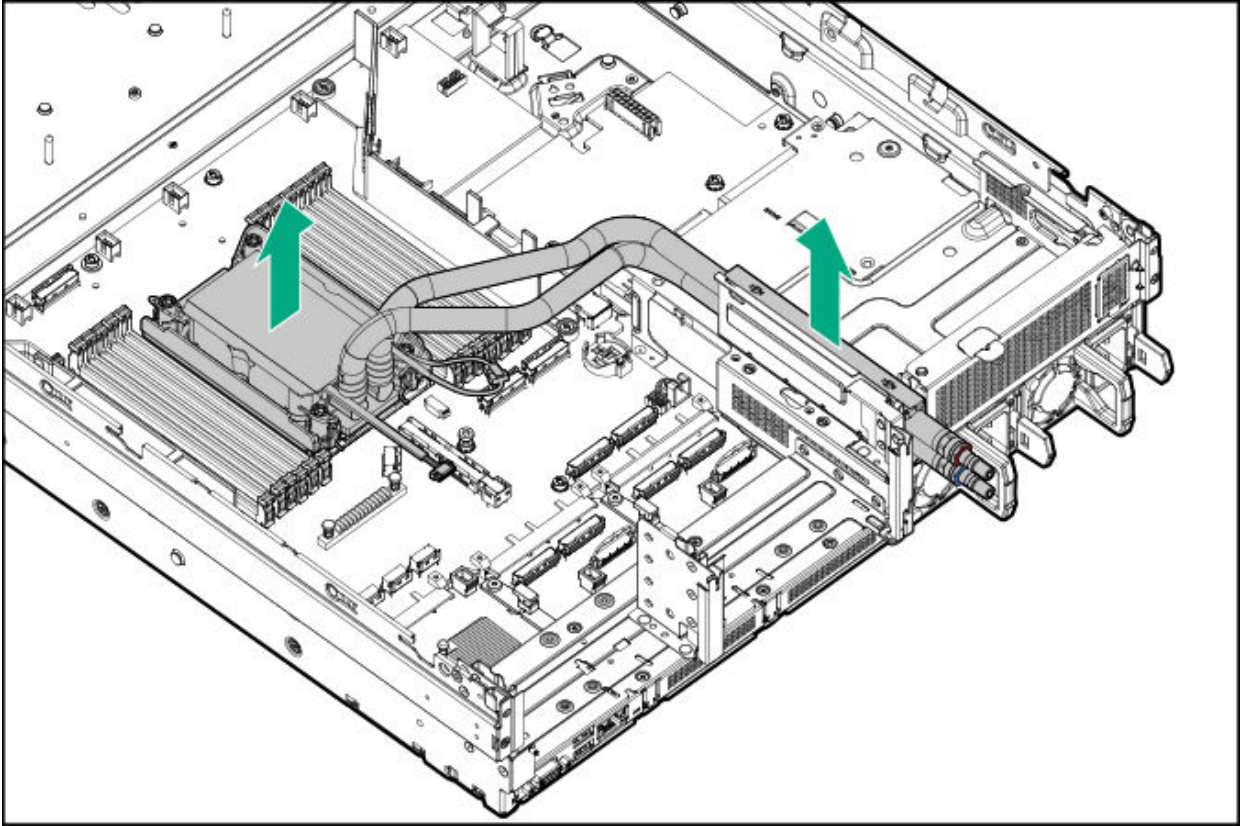
Cold plate screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the cold plate.



b. Set the anti-tilt wires to the unlocked position.



- c. Take the cold plate and the DLC hose holder, and then lift the DLC module from the system board.



4. If you are not immediately installing the replacement the DLC module, install the dust cover on the empty processor socket:

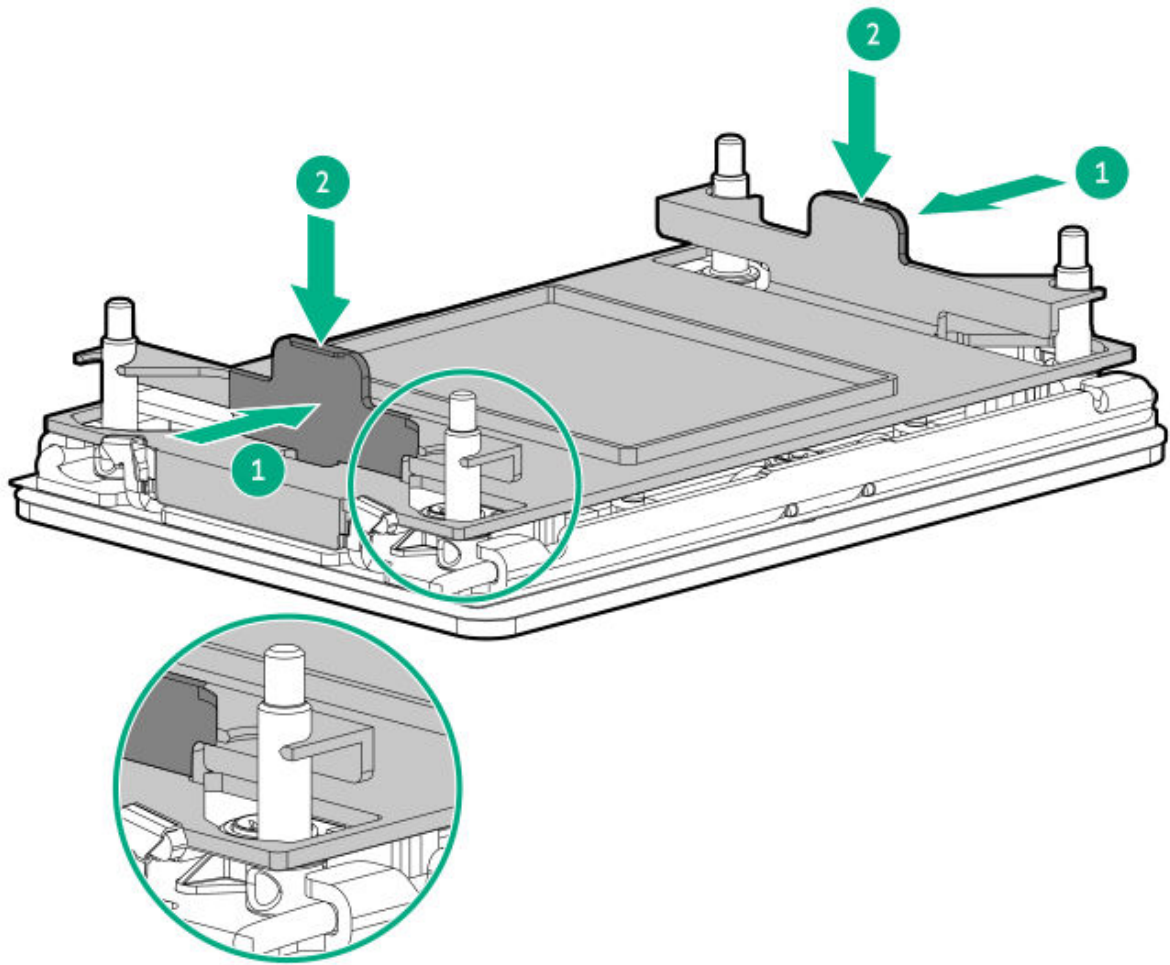


**CAUTION**

Do not press down on the dust cover. Pressing down on the dust cover might damage the processor socket.

- a. Press and hold the grip tabs on the dust cover.
- b. Carefully lower the dust cover onto the bolster plate guide posts.

Make sure that the corner holes of the dust cover are properly engaged with the guide posts on the bolster plate.



- .5. Using an alcohol wipe to remove the existing thermal grease from the processor and cold plate.  
Allow the alcohol to evaporate before continuing.

## Installing the DLC module

### Prerequisites

- Identify the heatsink and processor socket components.
- Before you perform this procedure, make sure that you have the following items available:
  - T-30 Torx screwdriver or a bit driver with T-30 Torx bit
  - Two 1.0 gm (0.5 ml) of thermal grease

## About this task

The entire cooling loop must be removed as one unit. Do not attempt to remove riser cage or pump-cold plate separately.



### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

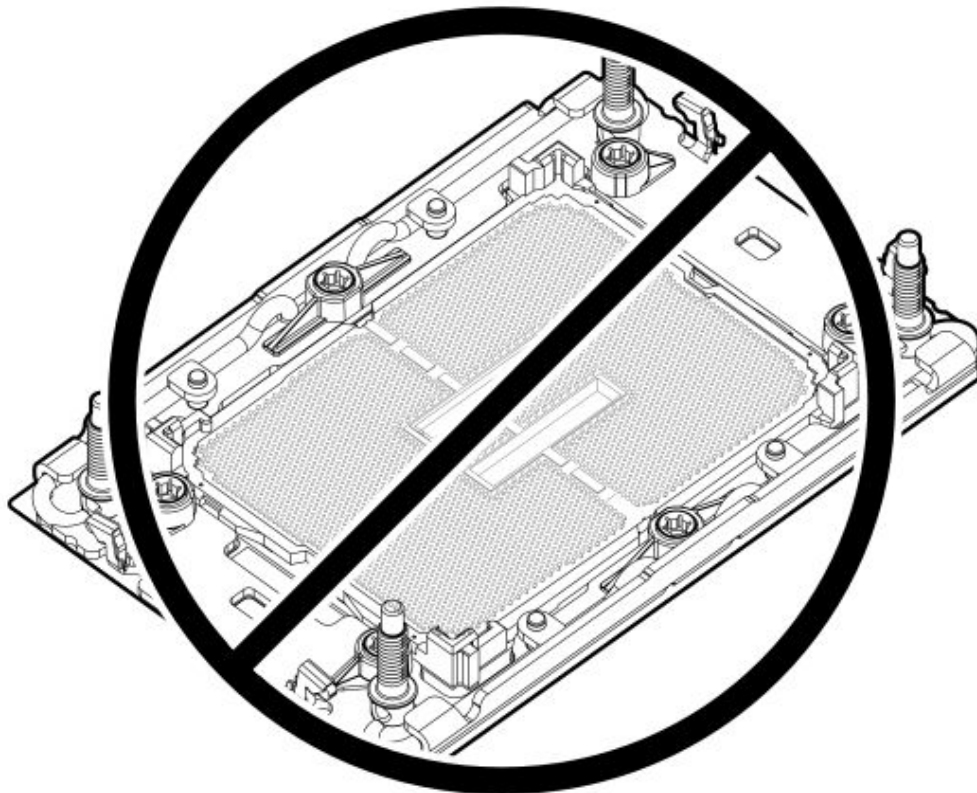
## Procedure

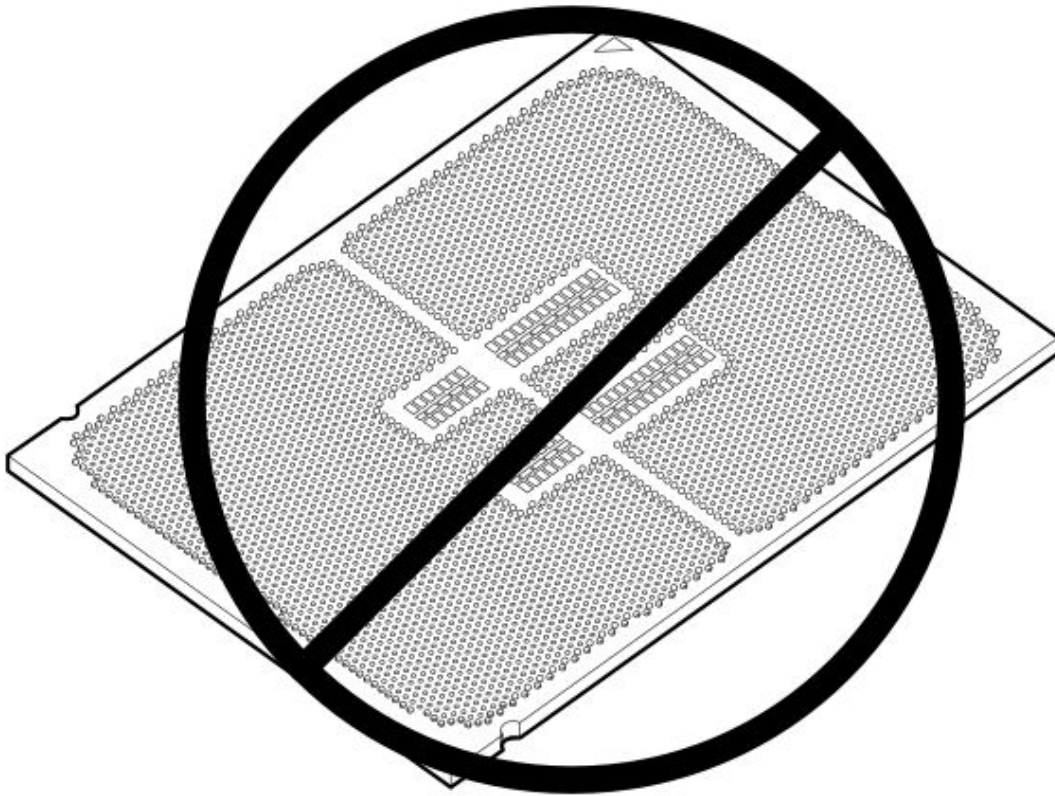
1. Do not touch the pins on the processor socket and the processor.



### CAUTION

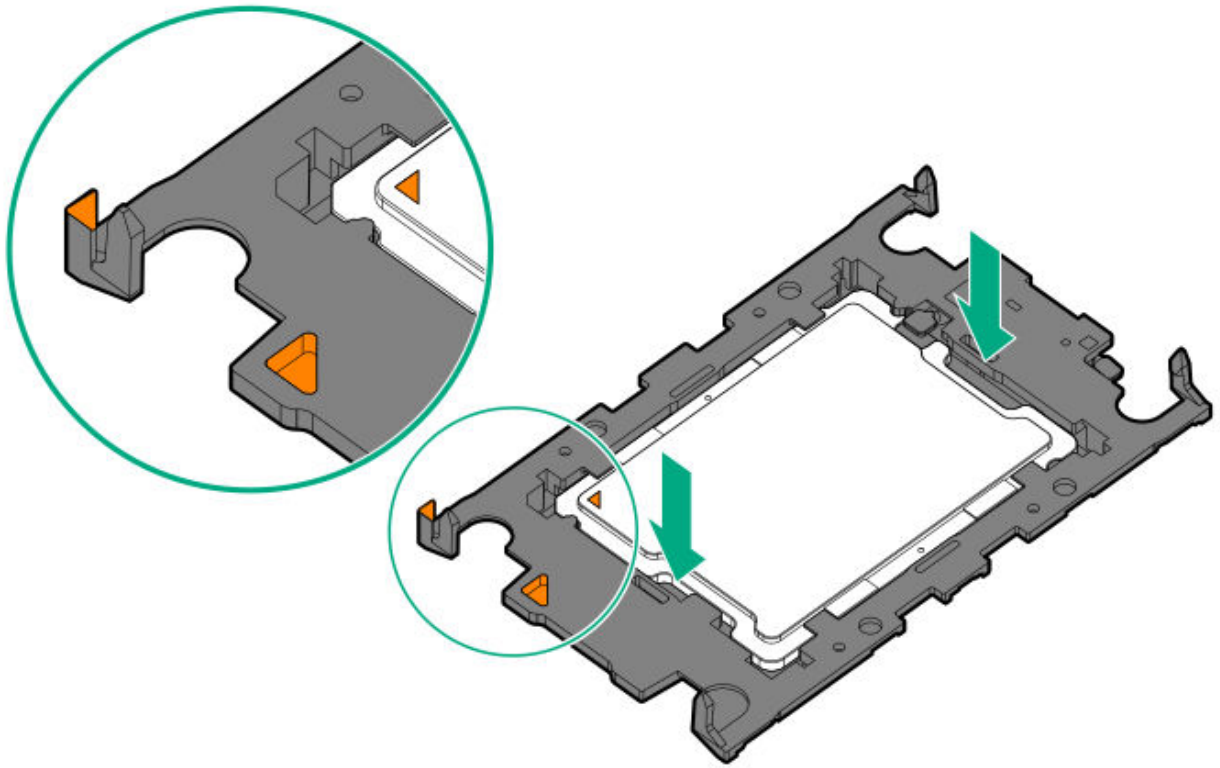
**THE PINS ON THE PROCESSOR SOCKET AND ON THE PROCESSOR ARE VERY FRAGILE AND EASILY DAMAGED.** Any damage to them might require replacing the system board.



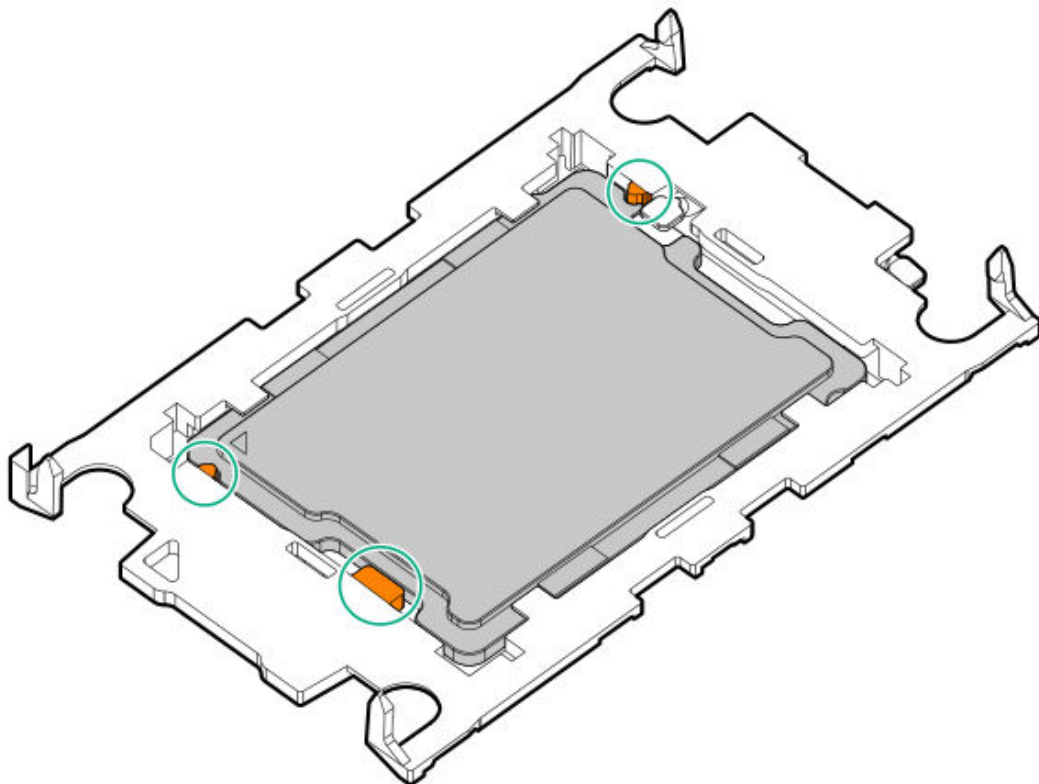


2. Install the processor carrier on the processor:

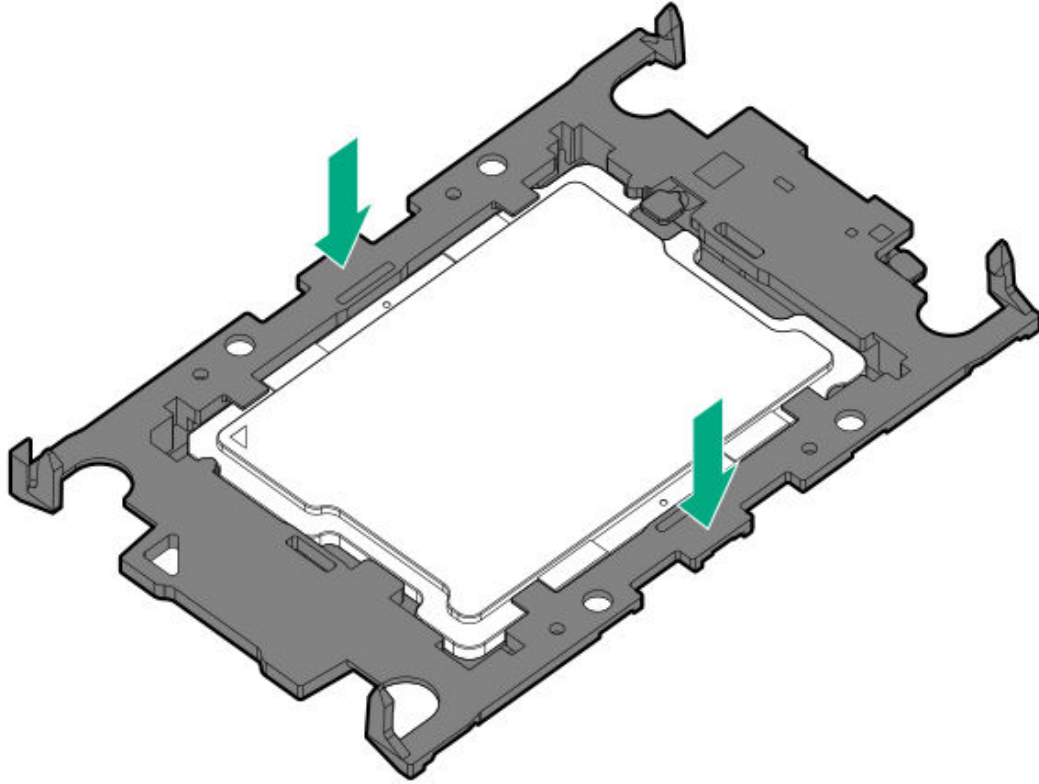
- a. Align the pin 1 indicator on the processor carrier with that on the processor, and then press on the pair of opposite sides on the TIM breaker lever of the processor carrier until it clicks into place.



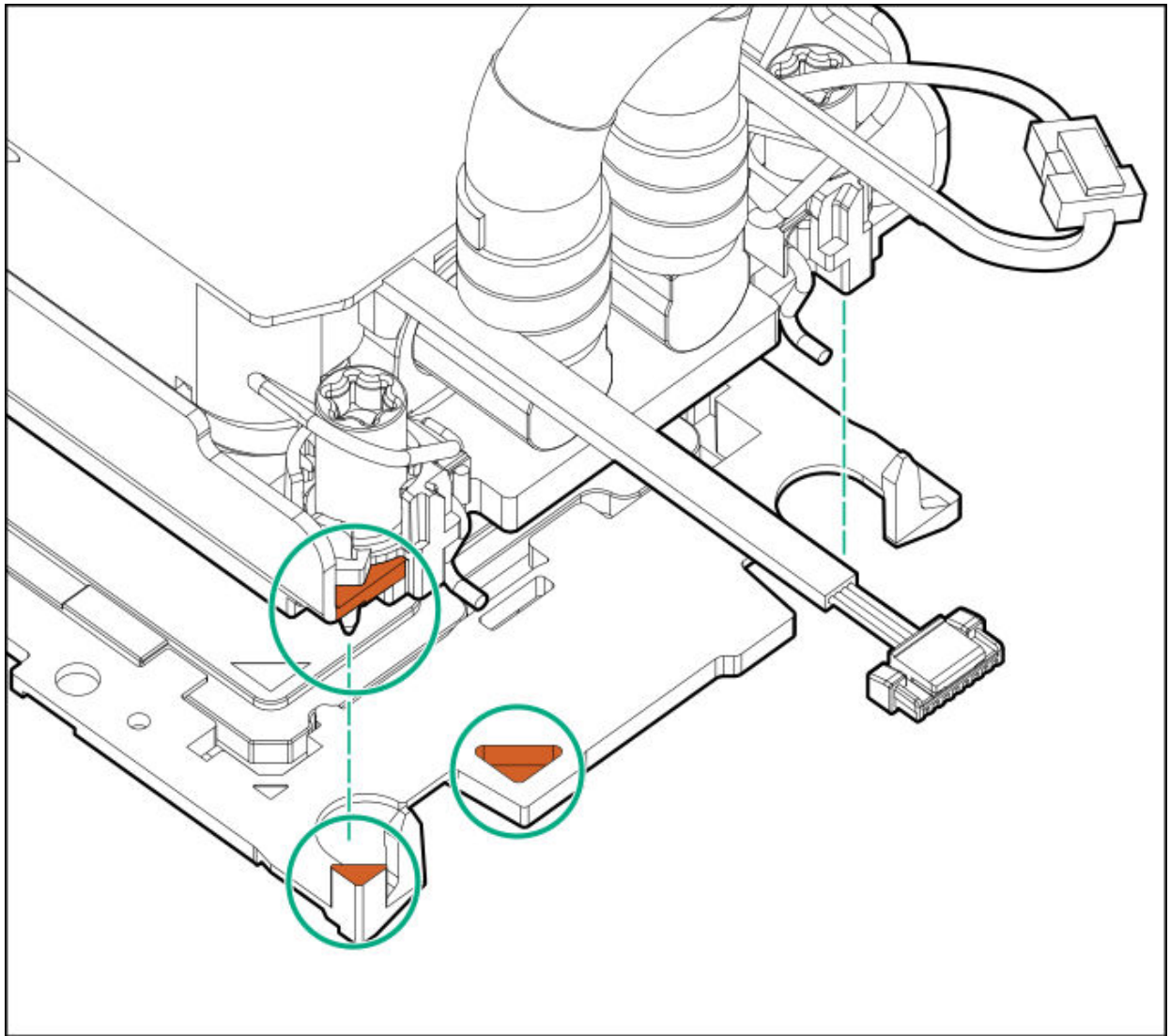
b. Verify that the processor is properly latched on the processor carrier.



If not, press the other pair of opposite sides of the processor carrier until it clicks into place.

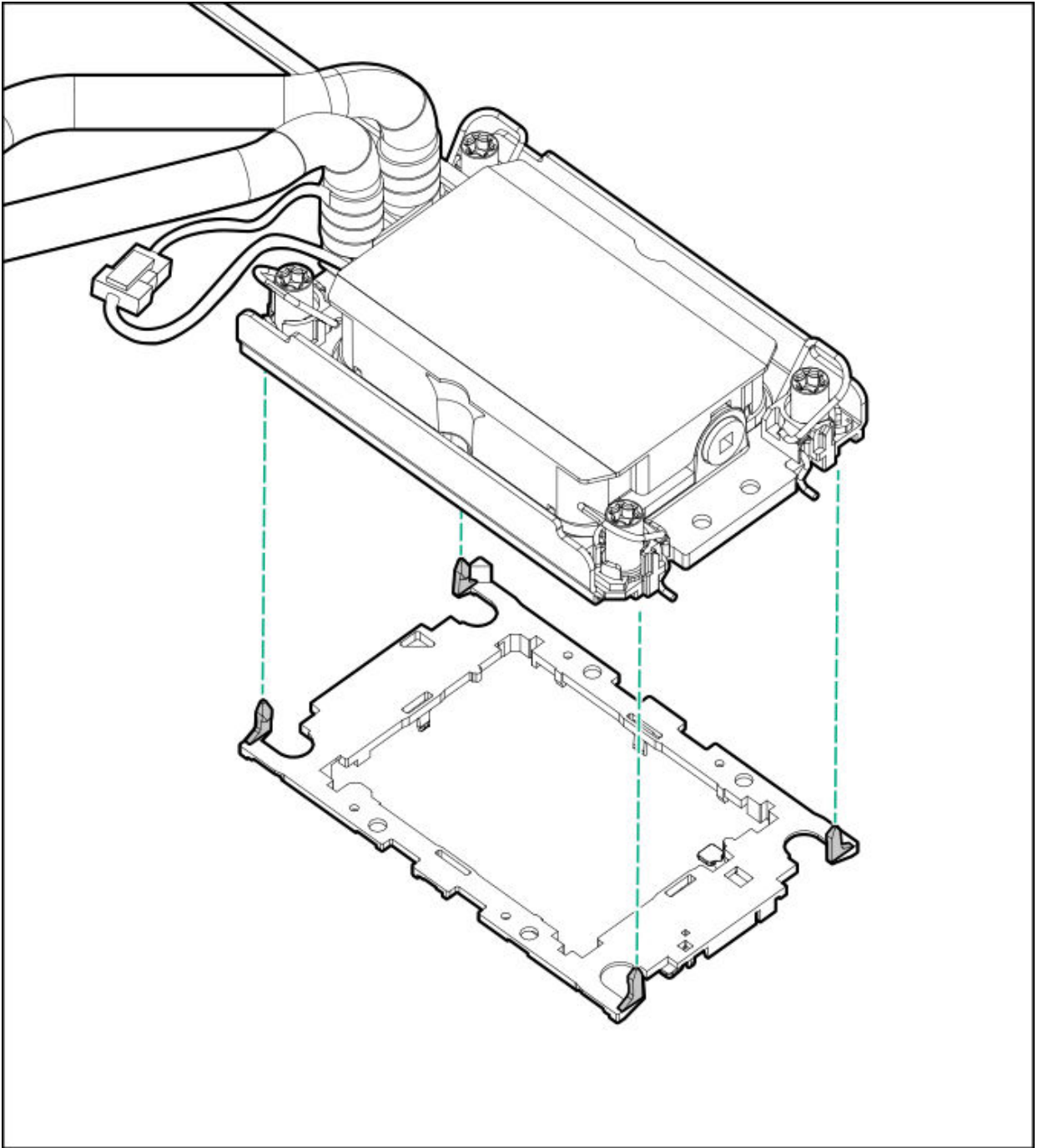


3. Remove the thermal interface protective cover from the new liquid cooling heatsink.
4. Attache the cold plate on the processor carrier:
  - a. Align the pin 1 indicator on the processor carrier with that on the cold plate.



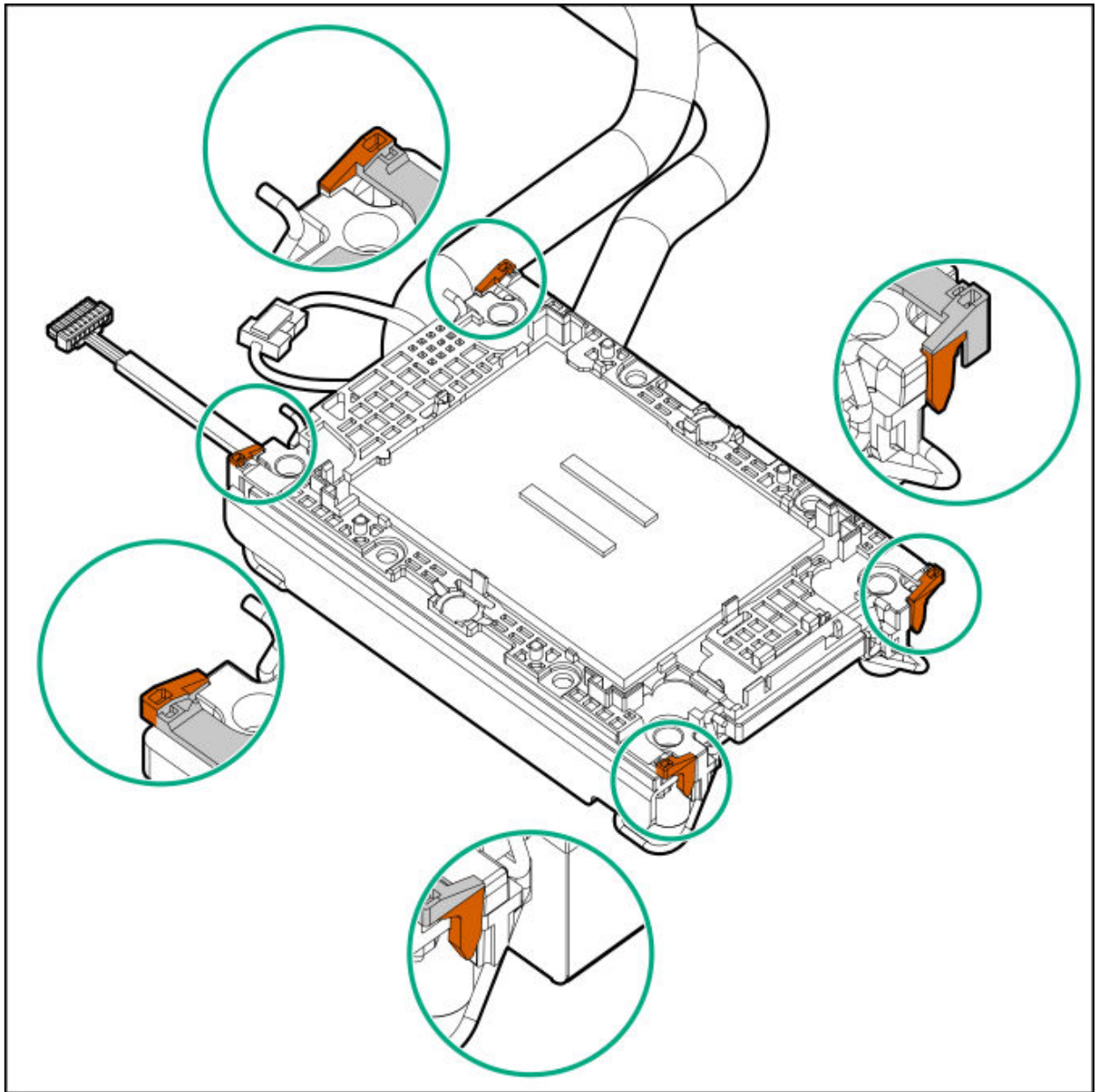
- b. Lower the cold plate on the processor carrier until the carrier tabs snap into place.

There will be an audible click to indicate that the cold plate is properly latched on the processor carrier.

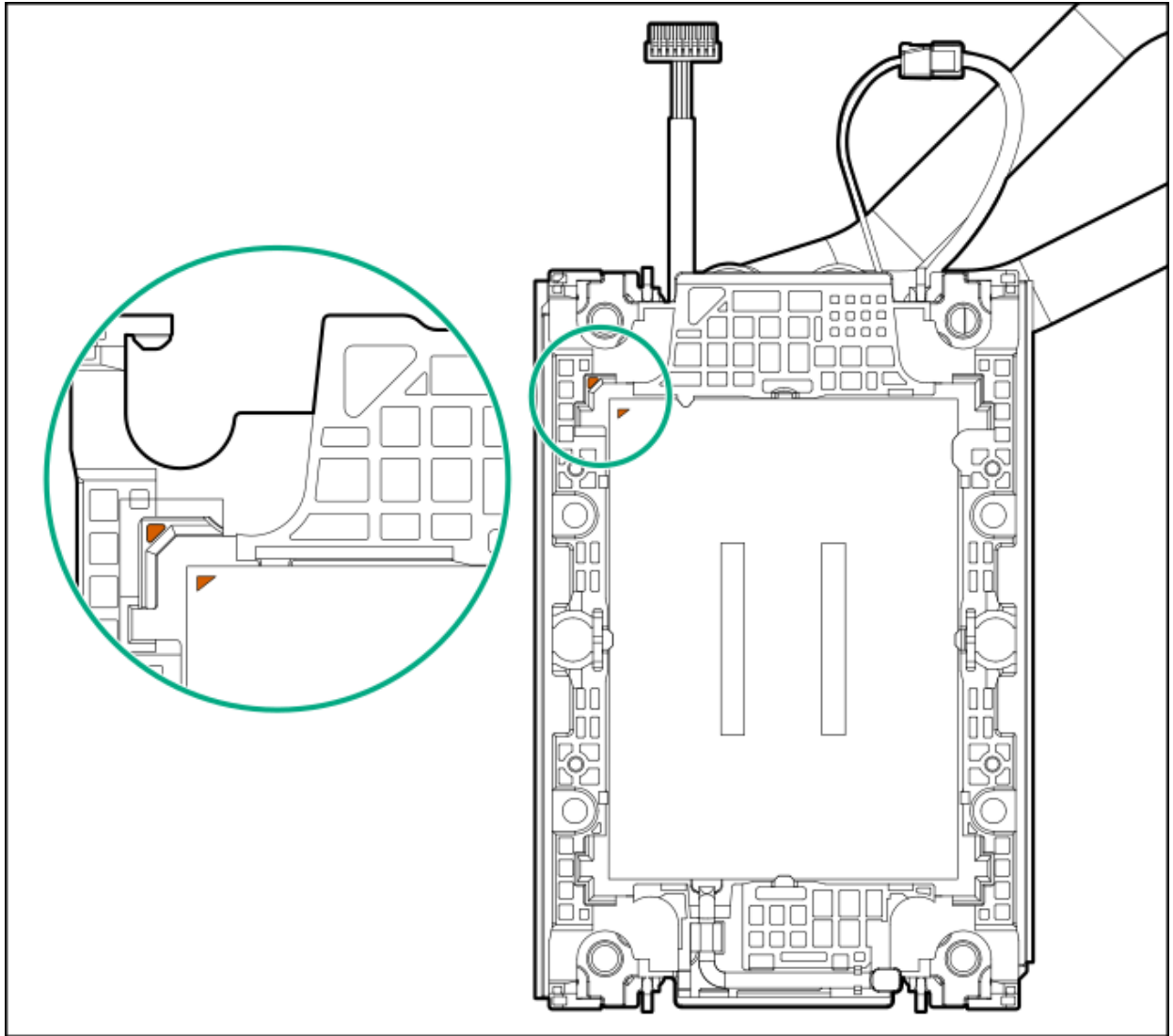


5. Perform the following verification steps:

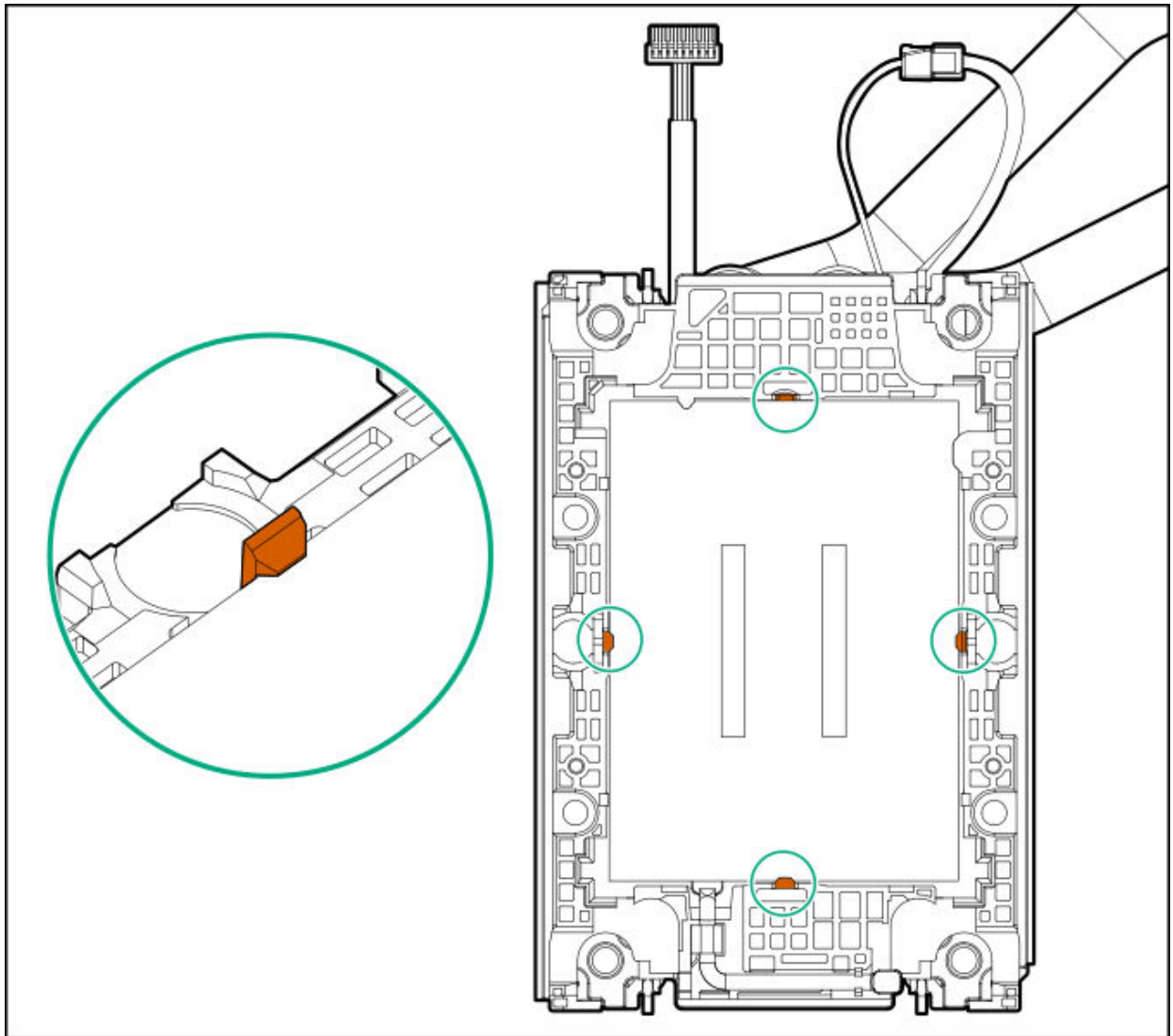
- a. Verify that the tabs on the processor carrier are securely latched on the cold plate.



b. Verify that the pin 1 indicators on the cold plate and processor carrier are aligned.



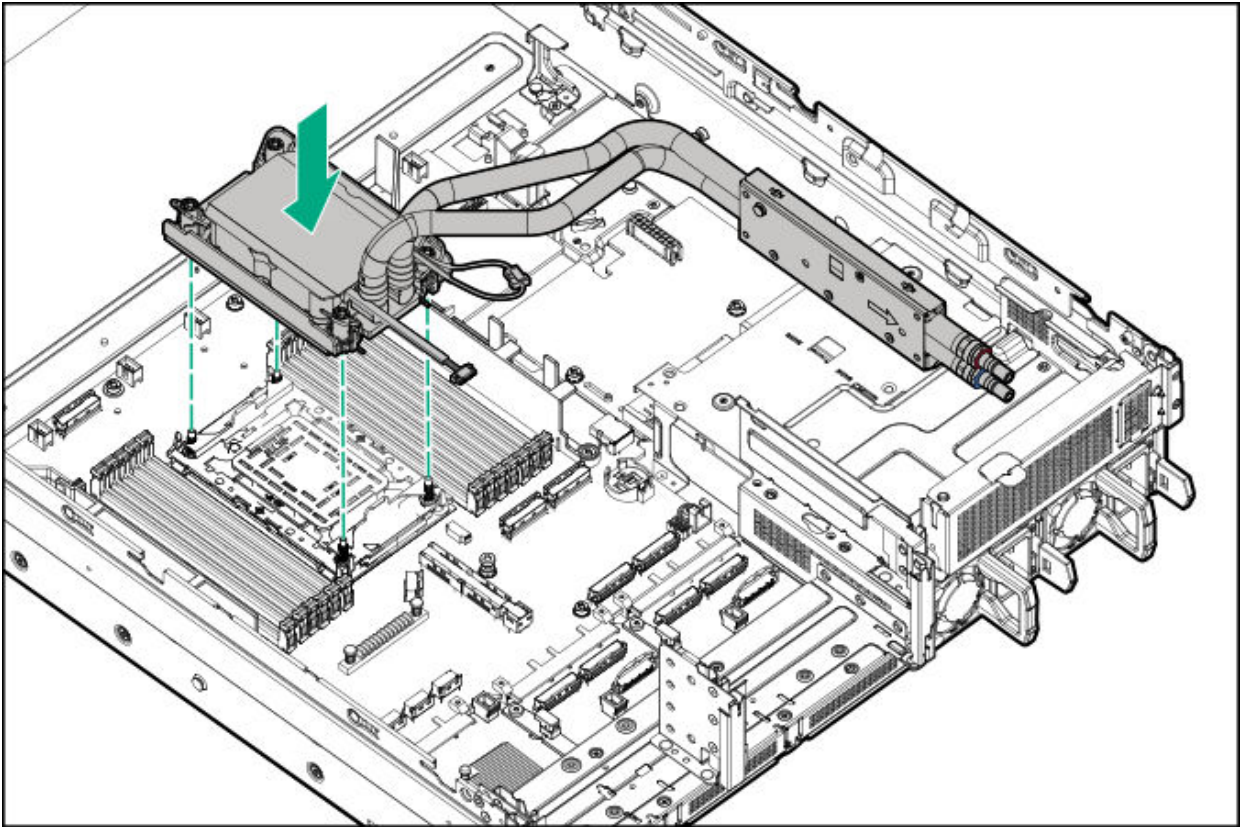
- c. Verify that the processor is properly secured by the carrier snaps.



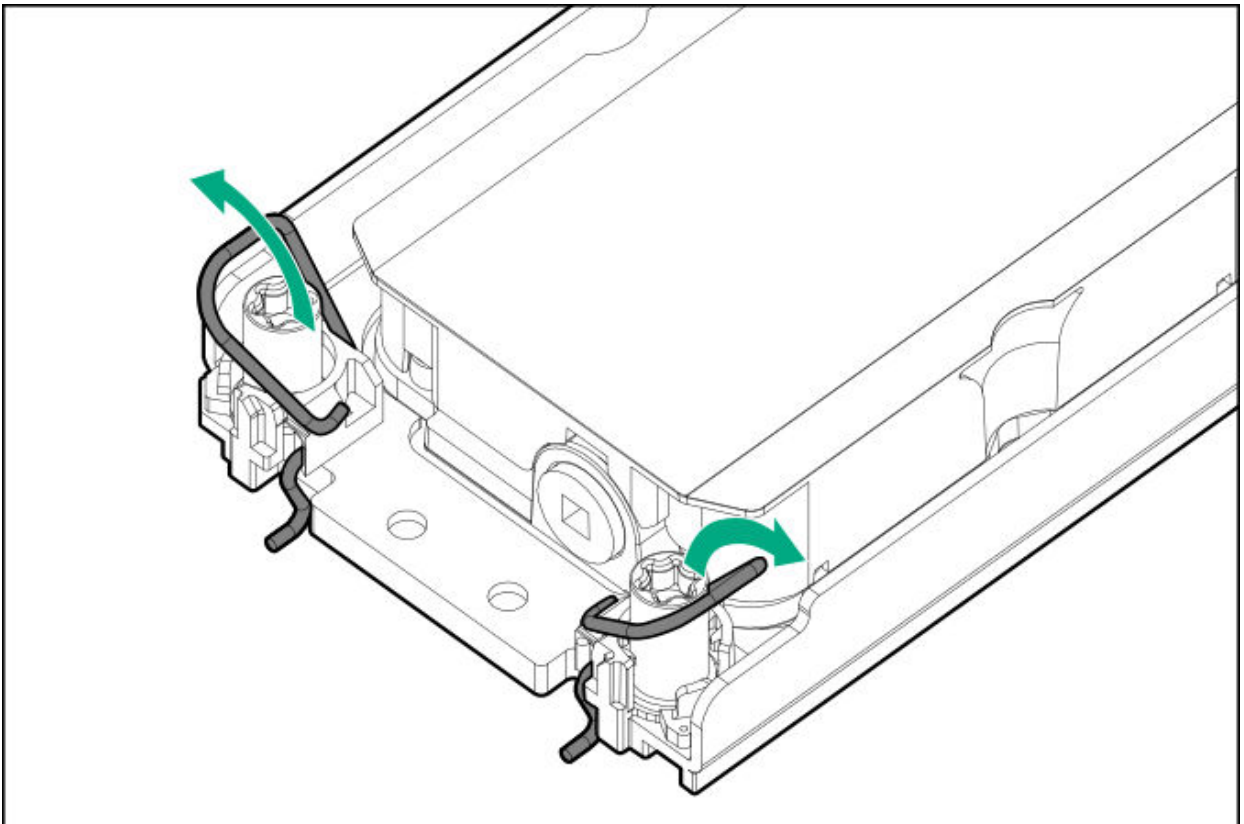
6. Install the DLC module:

- a. When using a torque wrench to tighten the cold plate screws, set it to 0.9 N-m (8 in-lb) of torque.
- b. Note the **Front of server** text on the cold plate label to correctly orient the cold plate over the bolster plate.
- c. Carefully lower the cold plate onto the bolster plate guide posts.

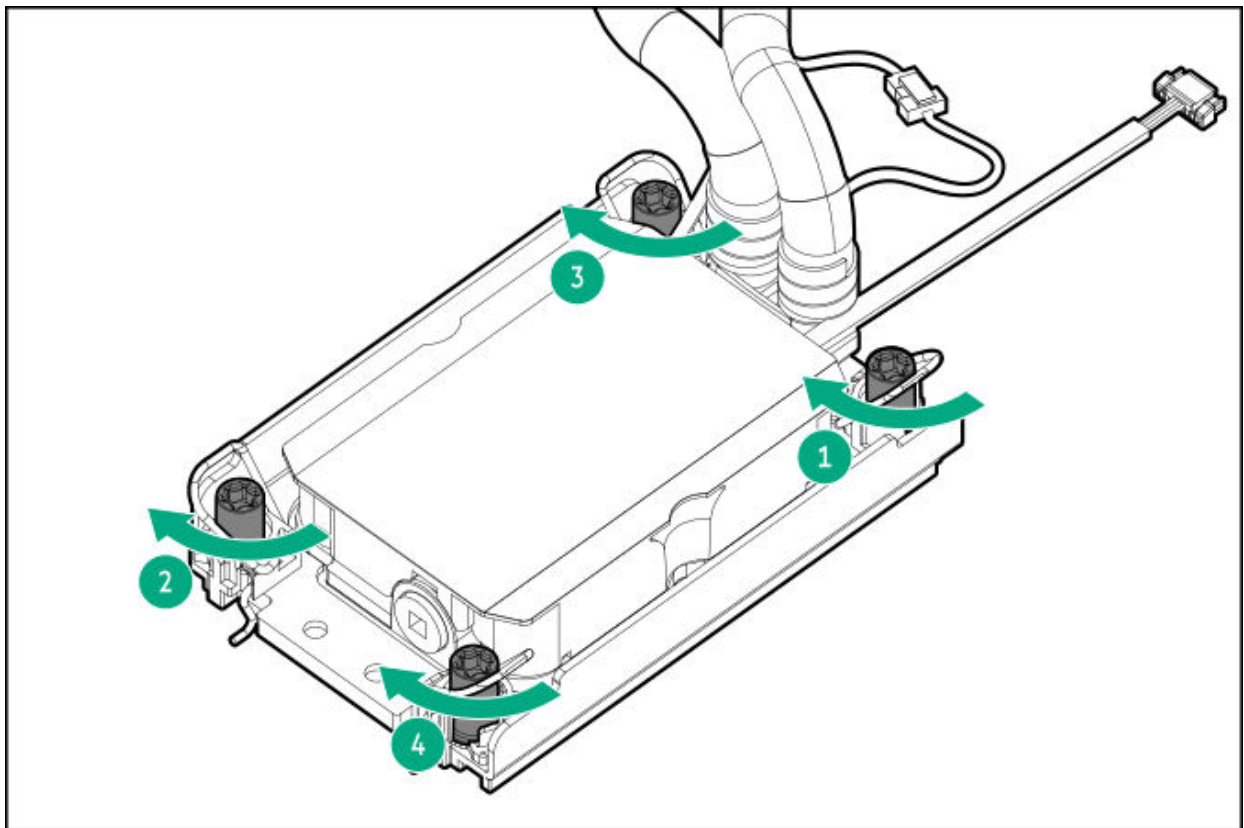
The posts are keyed so that the module can only be installed one way. Make sure that the module is properly seated on the bolster plate before securing the screws.



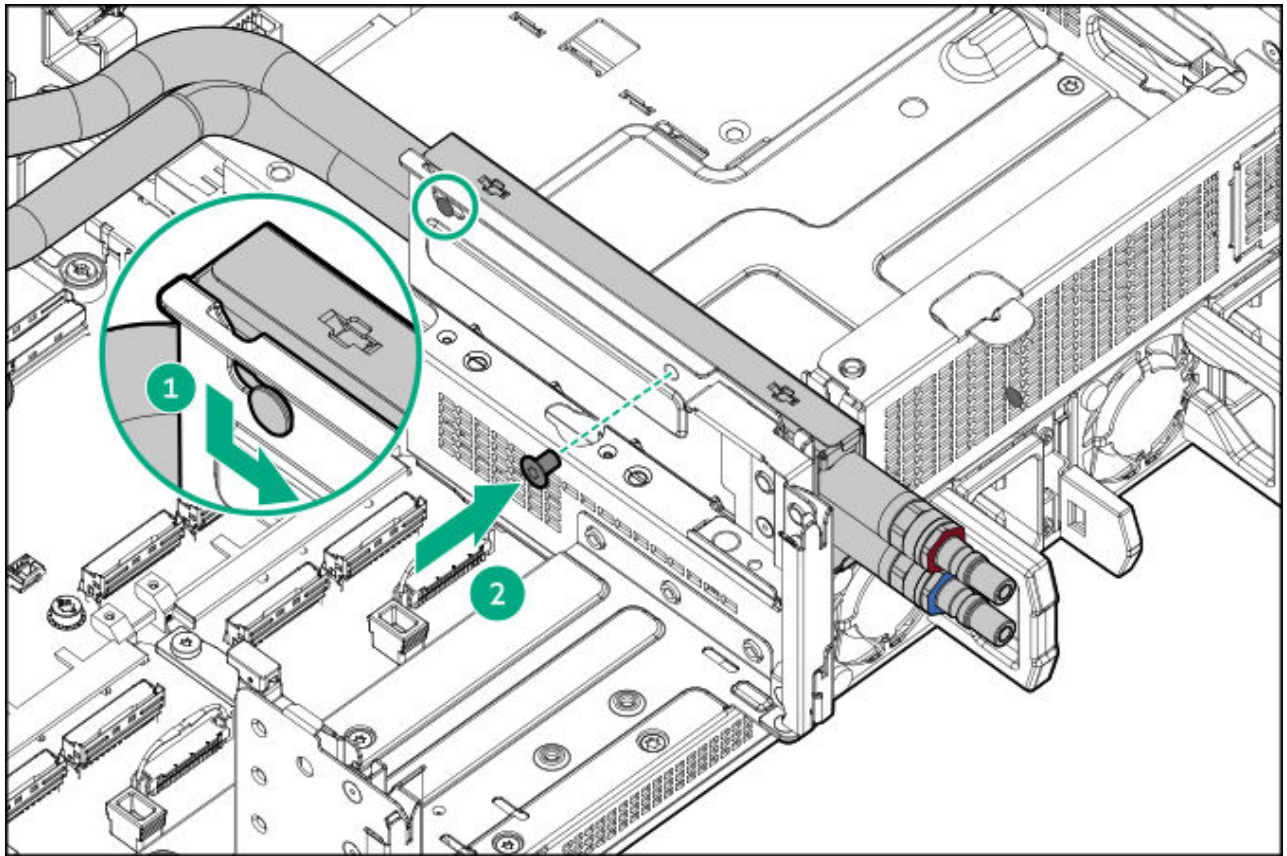
d. Set the anti-tilt wires to the locked position.



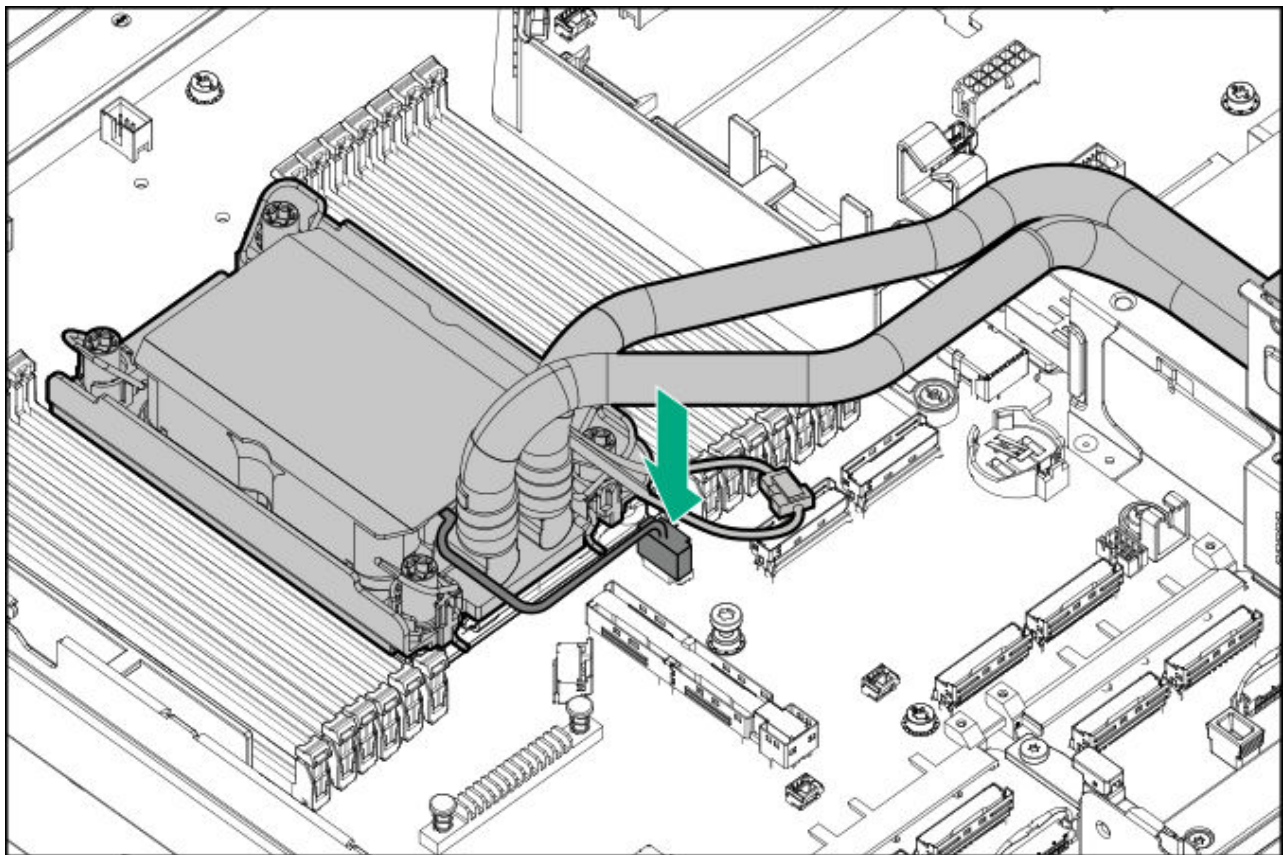
- e. Tighten one pair of diagonally opposite cold plate screws, and then tighten the other pair of cold plate screws.



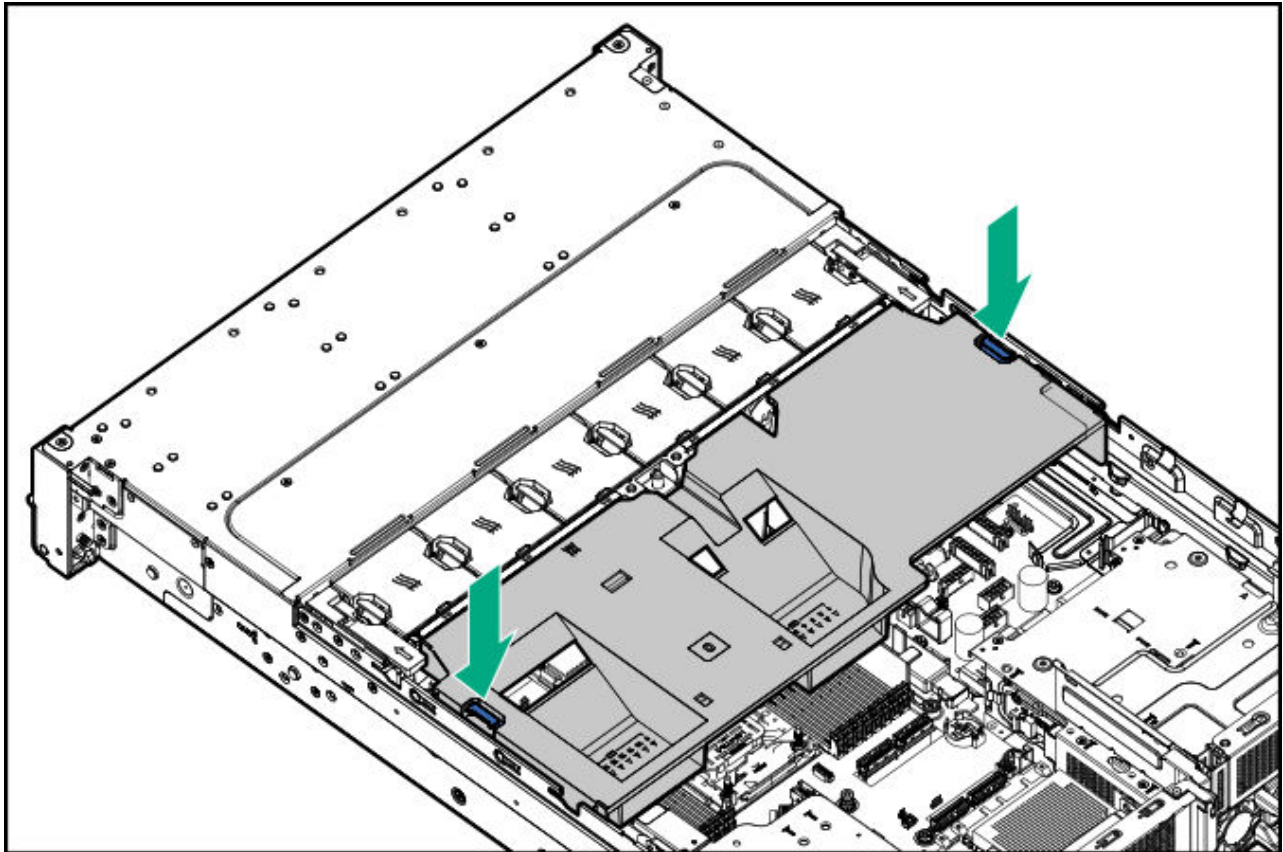
7. Secure the DLC hose holder on the boot device holder.



8. Connect the DLC module signal cable.



9. Lower the air baffle into the chassis and make sure that it fits properly into place.



- .0. Install the access panel.
- .1. Install the server into the rack.
- .2. Connect all peripheral cables to the server.
- .3. Connect each power cord to the server.
- .4. Connect each power cord to the power source.
- .5. Power up the server.
- .6. After powering up the server, wait for a few minutes for the system to stabilize.
- .7. Check the coolant level in the coolant distribution unit (CDU).
- .8. If the coolant feed (CF) pump reservoir bag is empty, or the return pressure is  $\leq 10$  PSIG, do one of the following:
  - Refill the CF pump reservoir bag.
  - Refill the system using a hand pump.

For detailed procedures, see the CDU documentation.

## Results

The replacement procedure is complete.

# Removing and replacing the DLC extension hoses

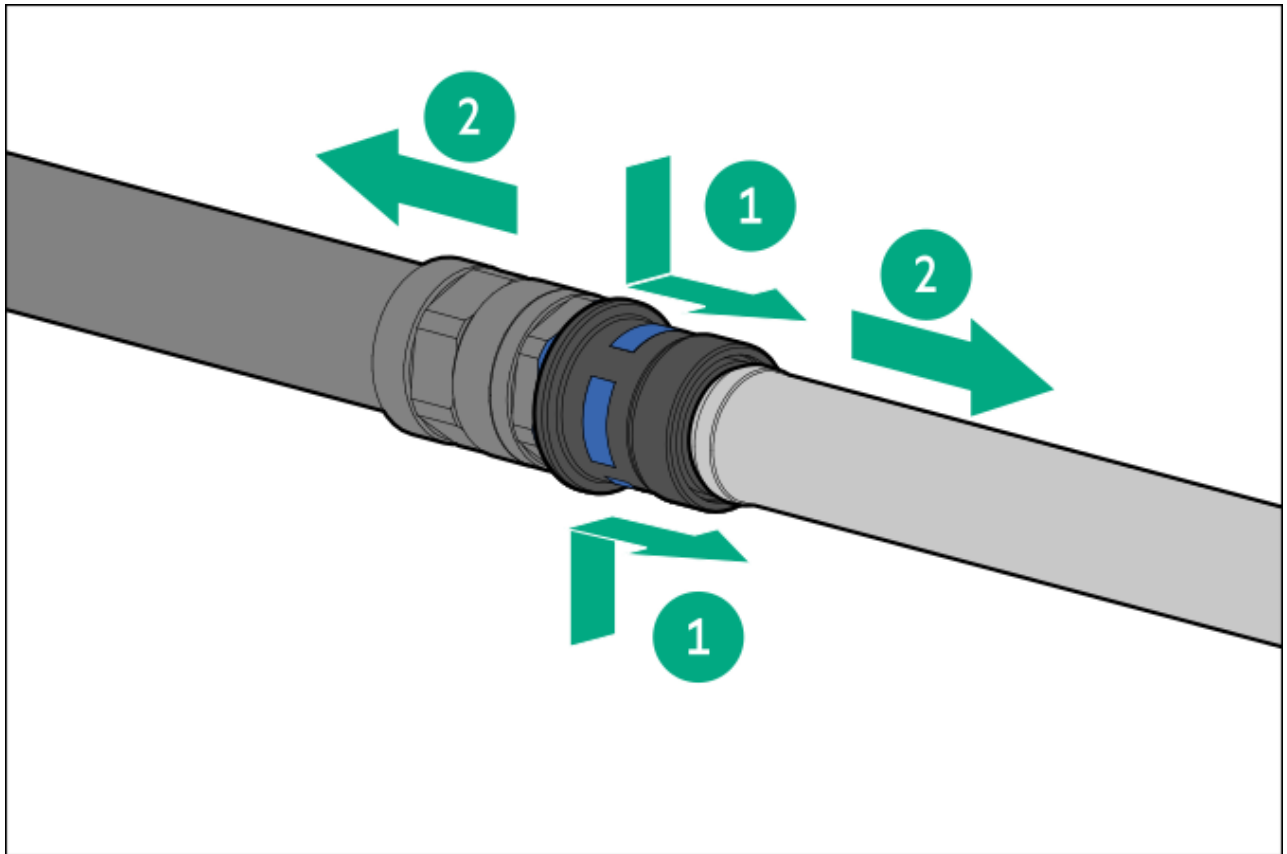
## Prerequisites

- Review the [Direct liquid cooling module components](#).
- For more information, see the HPE Cray XD Direct Liquid Cooling System Site Preparation, User, and Maintenance Guide at <https://www.hpe.com/info/xdDLCguide>.
- Make sure that you have a small hand towel or container to catch any leaked coolant.

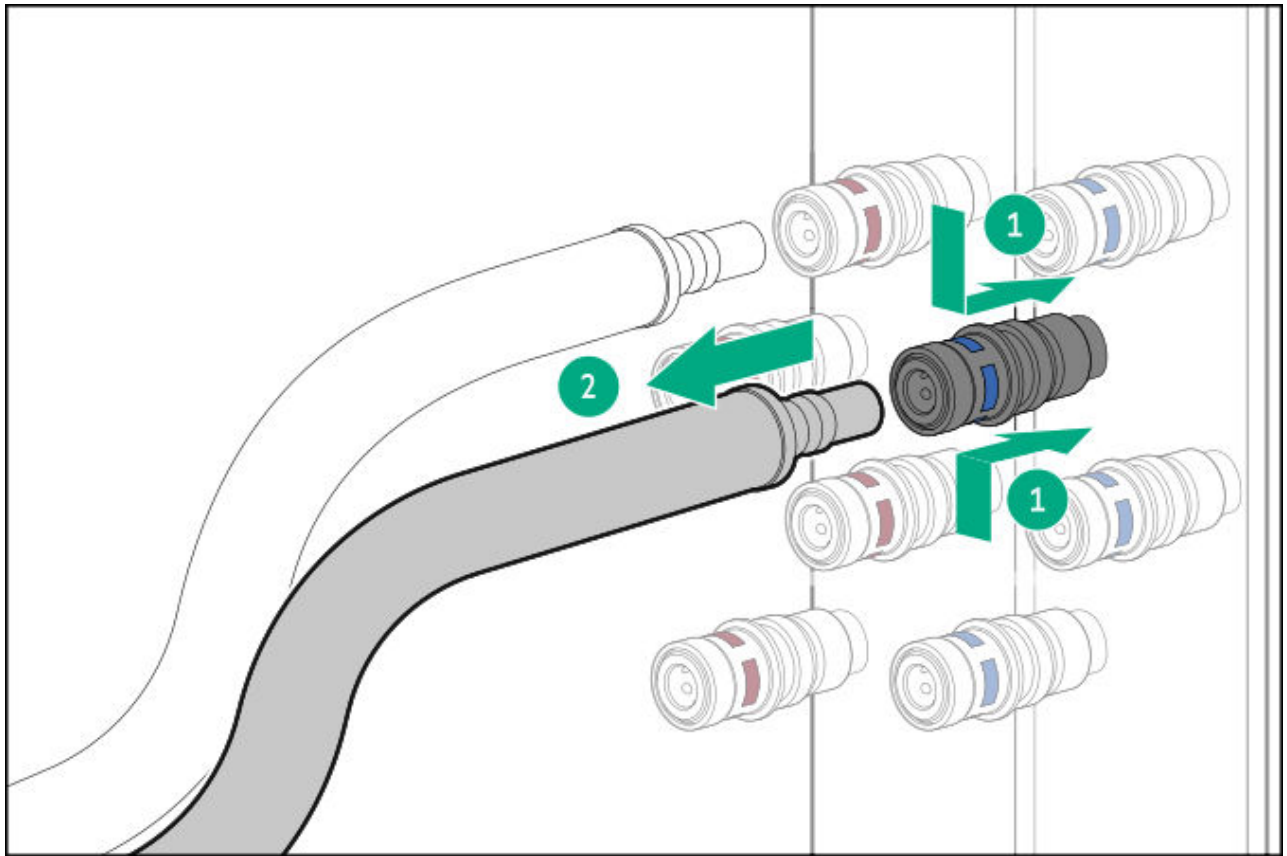
## About this task

### Procedure

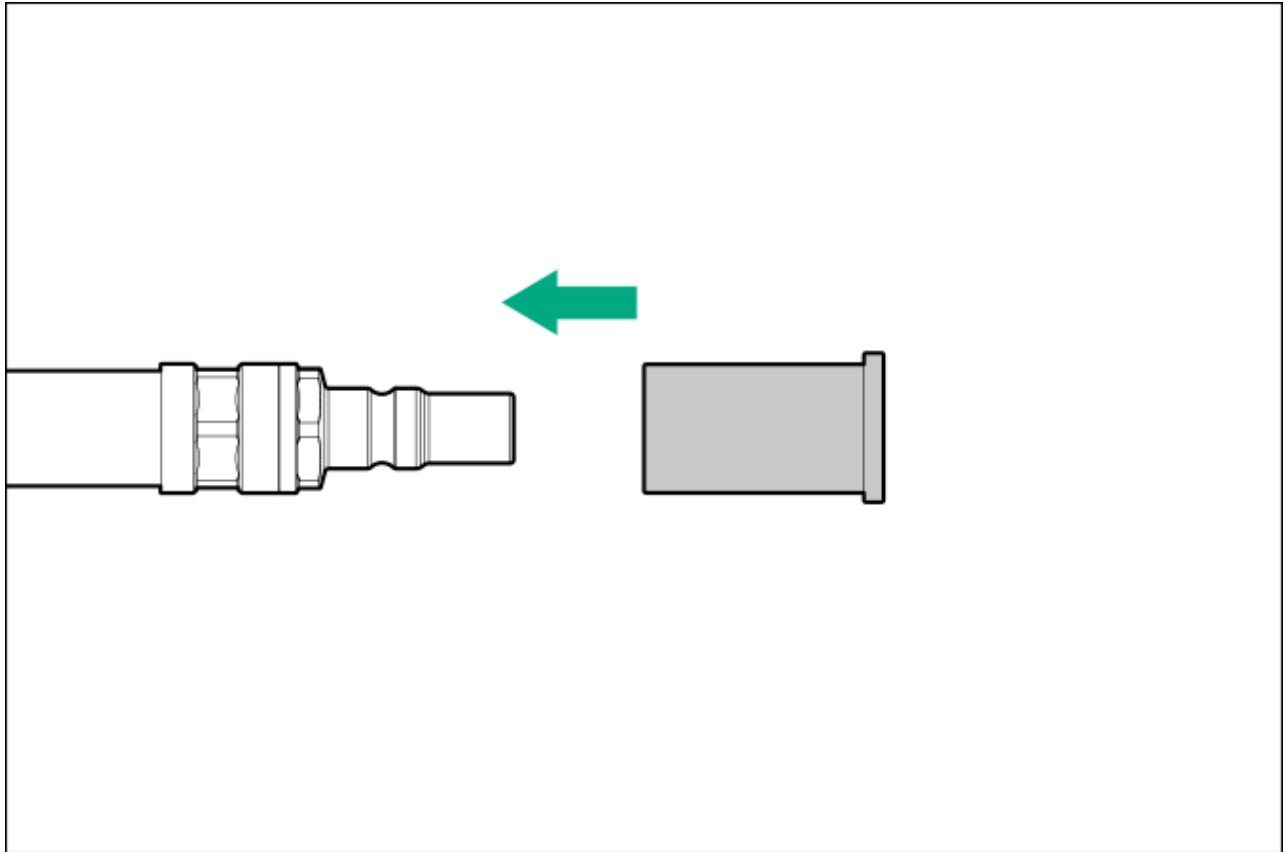
1. [Power down the server](#).
2. [Locate the coolant quick connectors](#) from the rear of the server.
3. Position some towels or a container under the extension hoses to catch any spilled coolant.
4. Press and pull the extension hose quick socket connector to disengage it from the DLC module coolant hose.



5. Press and pull the manifold hose quick socket connector to disengage the extension hose from the DLC manifold.



6. Install the coolant quick connector caps.



### Results

The removal procedure is complete. To replace the component, reverse this procedure.

## Removing and replacing the power distribution board

### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

### About this task

<https://sketchfab.com/models/2eb80884a8cd4bf3ae4c2a2874335ff4/embed?>



### CAUTION

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

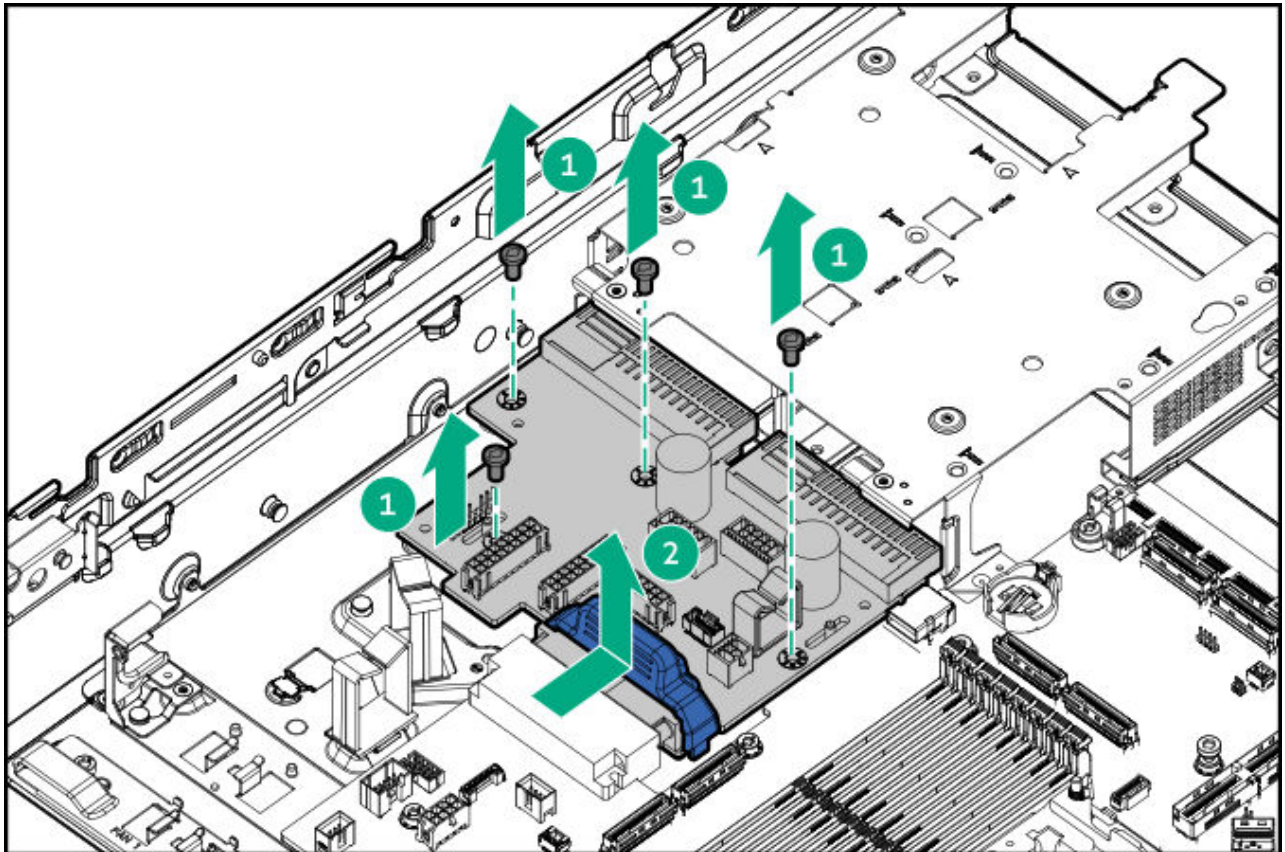
When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Remove the following components:
  - Energy pack holder
  - Power supply
  - Boot device bracket
  - ix port cable bracket
  - Power supply bay fillers

8. Disconnect all cables from the power distribution board.
9. Remove the power distribution board:
  - a. Remove the screws from the power distribution board.
  - b. Push the blue touch point to disengage from the system board, and then lift the power distribution board.



## Results

The removal procedure is complete. To replace the component, reverse this procedure.

## System board replacement

### Subtopics

[Removing the system board](#)

[Installing the system board](#)

[Re-entering the server serial number and product ID](#)

# Removing the system board

## Prerequisites



### CAUTION

Be sure to have the BitLocker recovery key/password prior to replacing the system board. If you do not have the key/password, you will need to reinstall the OS.

- Perform a backup of critical server data.
- Before you perform this procedure, make sure that you have the following items available:
  - T-30 Torx screwdriver
  - T-15 Torx screwdriver
- In a preconfigured system with a DLC module installed, remove the DLC module before replacing the system board.

## About this task

This server is a Modular Hardware System (MHS)-based product.

The system board functionality is implemented in two separate modules in this server—the Datacenter Secure Control Module (DC-SCM) and the Host Processor Module (HPM). The HPM refers to the system board.

<https://sketchfab.com/models/a52d50702b424793a6f75540cdc69468/embed?>



### CAUTION

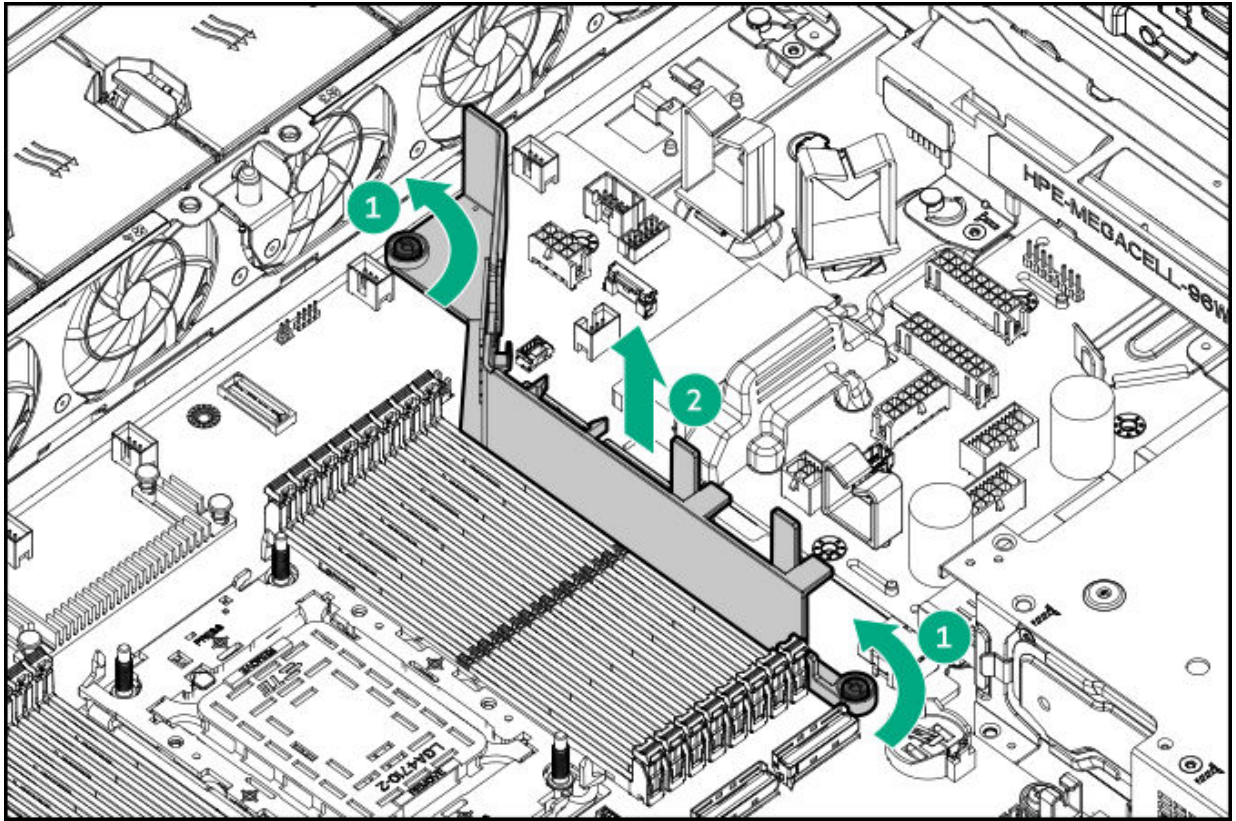
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

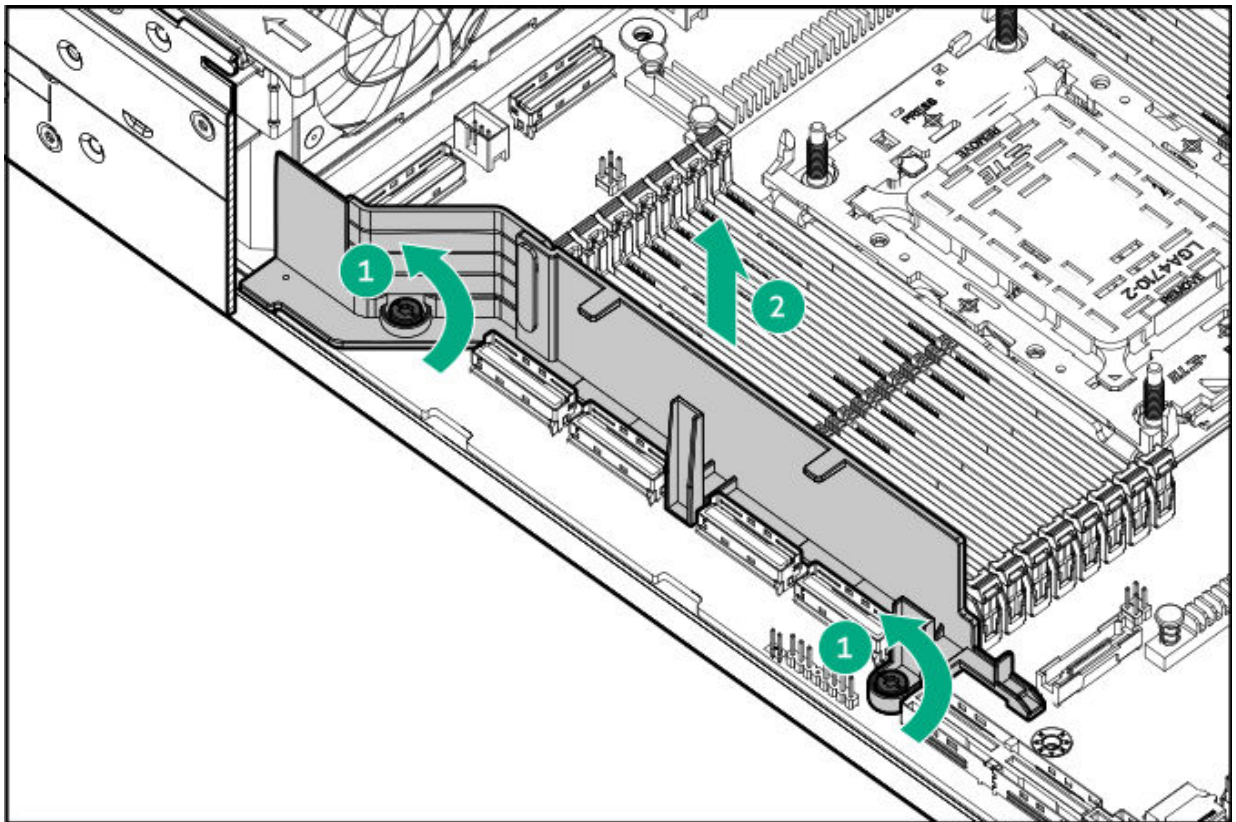
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

### Procedure

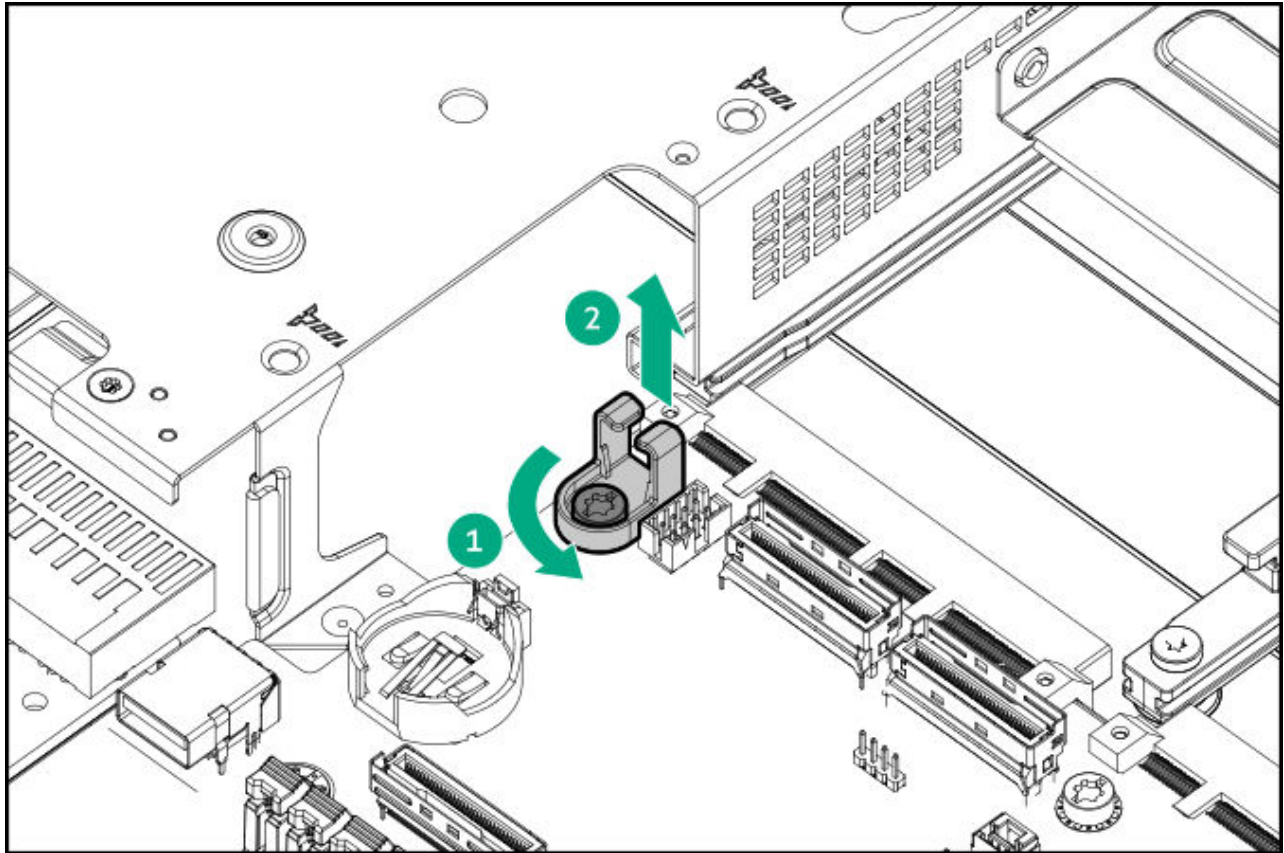
1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Remove the air baffle.
7. Remove the fan cage.
8. Remove the riser cage.
9. Remove the DC-SCM.
- .0. If installed, remove the OCP NIC.
- .1. Release the cables from the DIMM guards, and then remove the DIMM guards.
  - Left DIMM guard



- Right DIMM guard



- .2. Remove the ix port cable clamp.



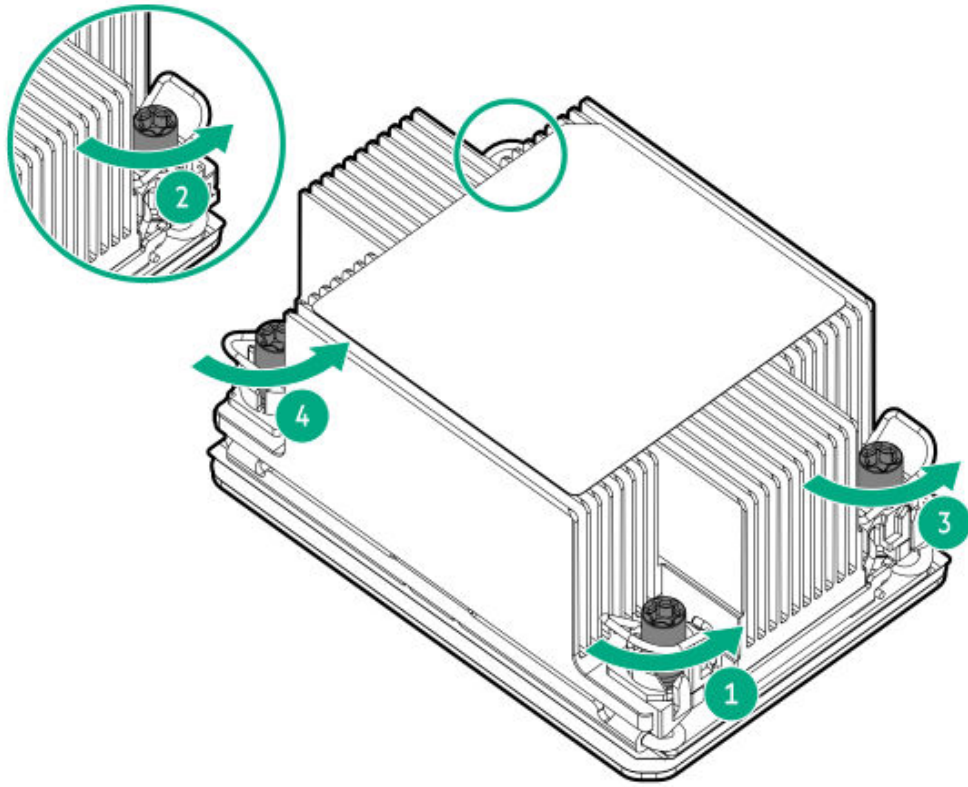
- .3. Allow all internal system components to cool before continuing.
- .4. If installed, remove the DLC module.
- .5. Loosen one pair of diagonally opposite heatsink screws, and then loosen the other pair of heatsink screws.



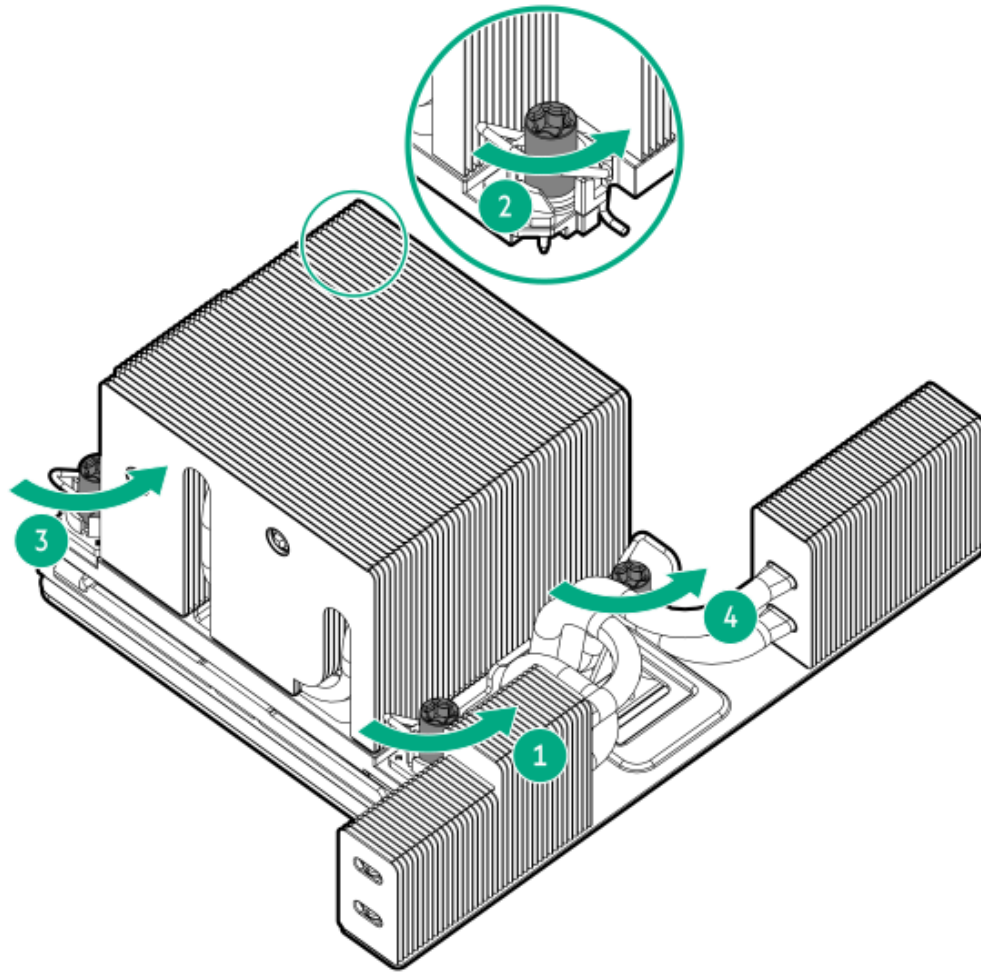
**CAUTION**

Heatsink screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the processor socket.

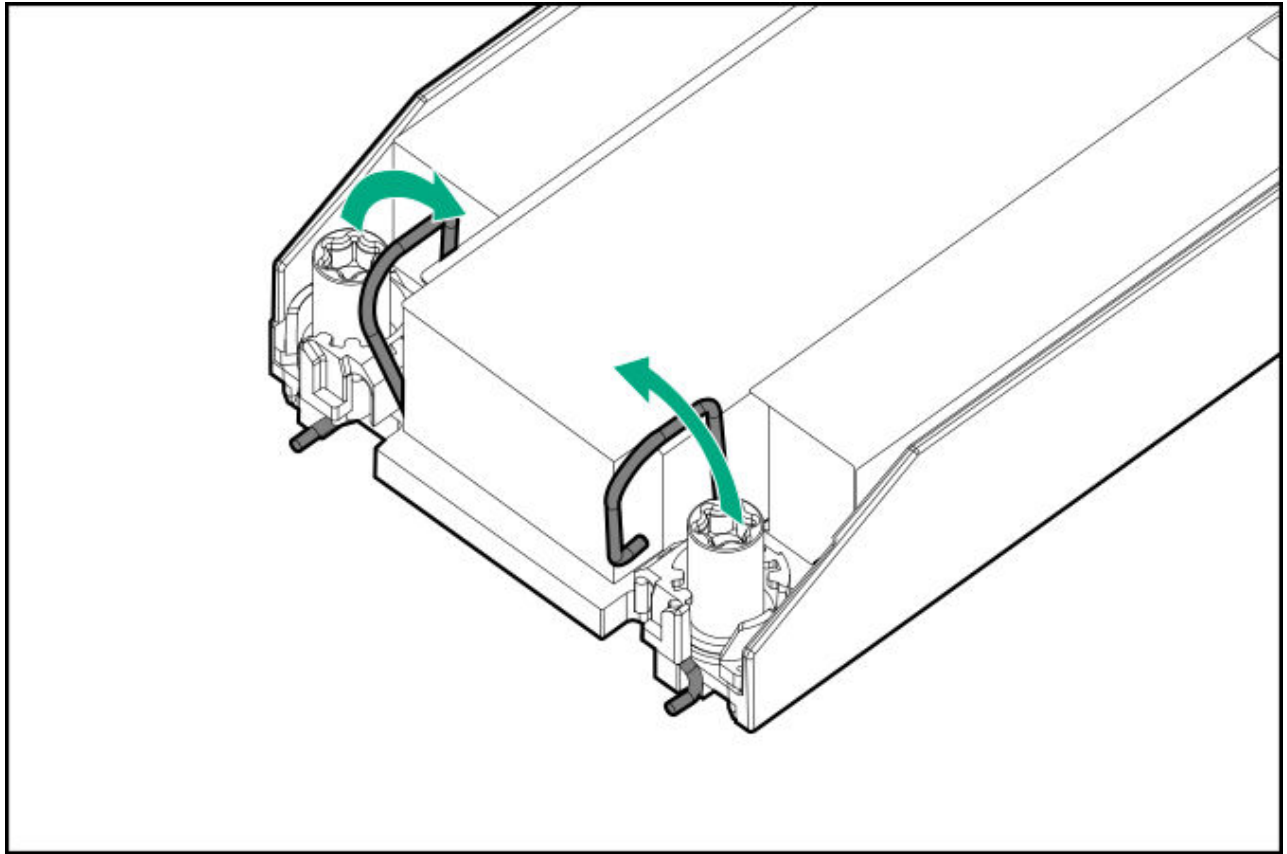
- Standard heatsink



- High performance heatsink



.6. Set the anti-tilt wires to the unlocked position.



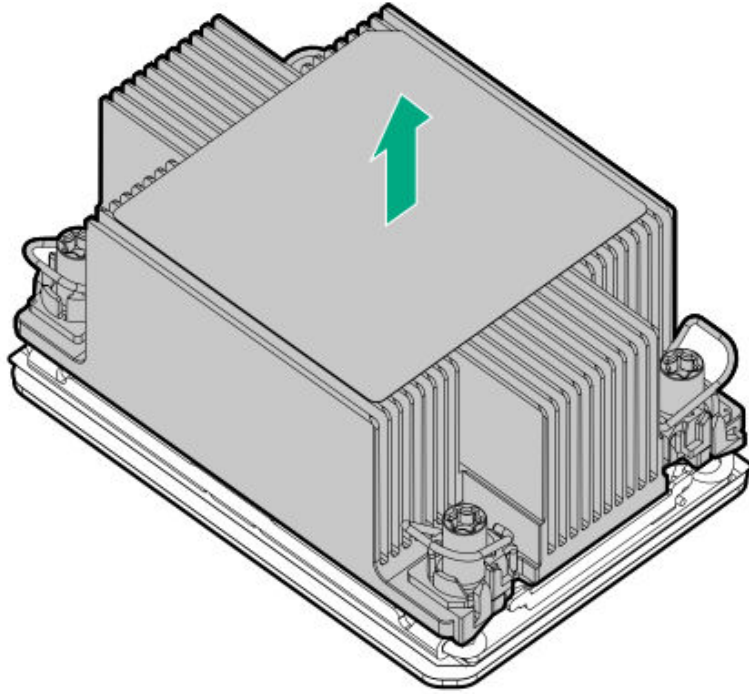
.7. Lift the processor-heatsink module straight up from the system board.



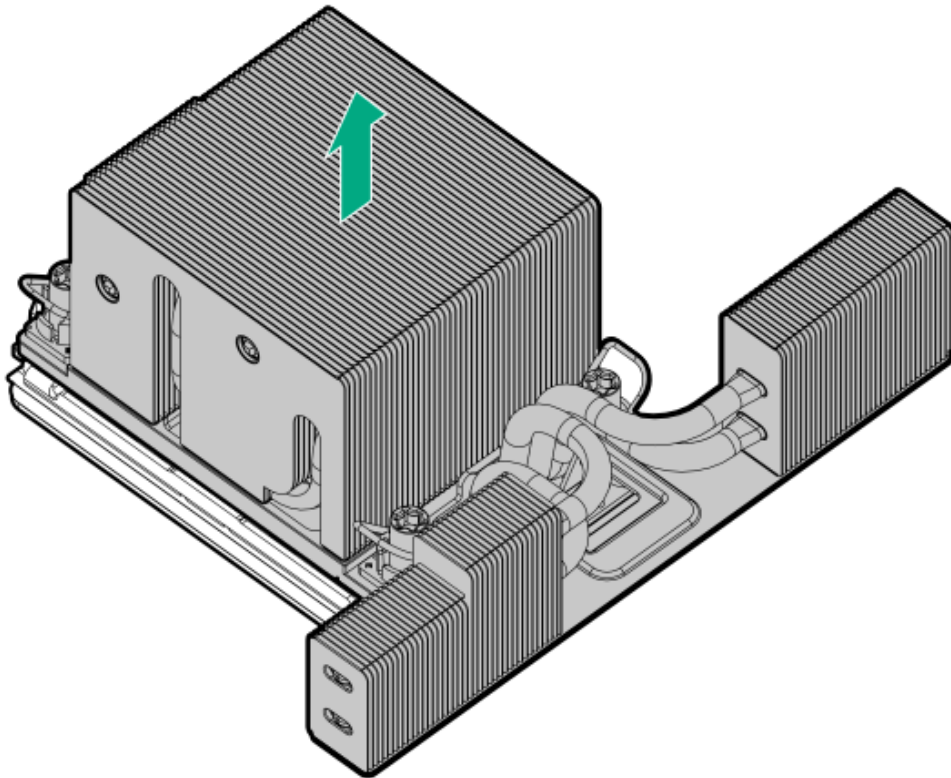
**CAUTION**

To prevent mechanical damage or depositing oil on your hands or other contaminants to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

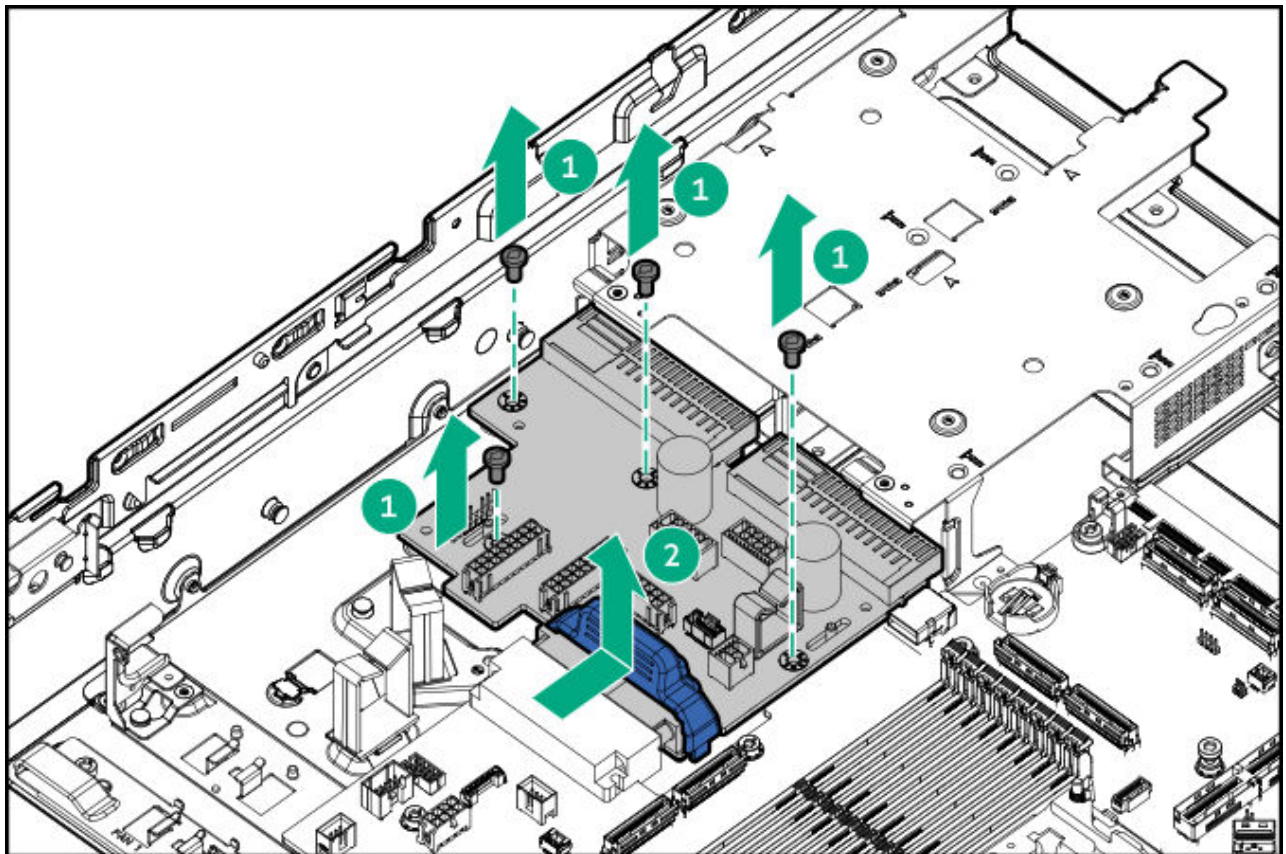
- Standard heatsink



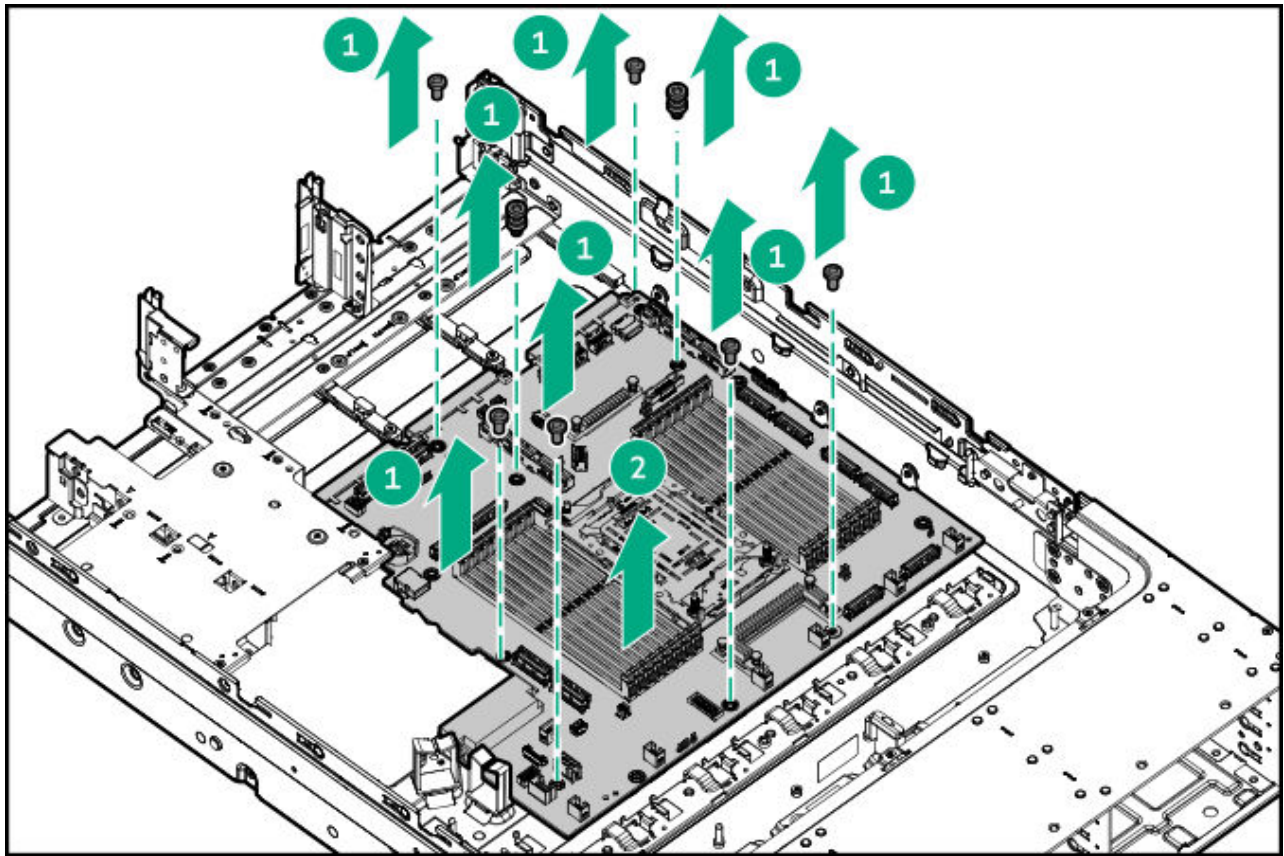
- High performance heatsink



- .8. Place the processor-heatsink module on a flat work surface with its contact side facing up.
- .9. Disconnect all cables and remove all components from the system board.
- !0. Remove the following components:
  - [Boot device bracket](#)
  - [Energy pack holder](#)
  - [ix port cable bracket](#)
  - [Power supply](#)
  - [Power supply bay fillers](#)
- !1. Remove the power distribution board:
  - a. Remove the screws from the power distribution board.
  - b. Push the blue touch point to disengage from the system board, and then lift the power distribution board.



- !2. Remove all screws from the system board, and then lift the system board from the chassis.



## Installing the system board

### Prerequisites



#### CAUTION

Be sure to have the BitLocker recovery key/password prior to replacing the system board. If you do not have the key/password, you will need to reinstall the OS.



#### CAUTION

Do not use One-button secure erase (OBSE). OBSE should only be used to decommission or repurpose a system. **This option erases all data. Be sure to disconnect any drives, SANs, NAS, or other shared/external storage devices that you do not want erased.**

- Before you perform this procedure, make sure that you have the following items available:

- iLO login credentials from the customer—These are required to bind the existing DC-SCM with the new system board.



### IMPORTANT

If you do not know the iLO login credentials or you cannot log in to iLO, reset your iLO login credentials.

- **iLO 7 v1.20.00 or later**
- **iLO 7 v1.19.00 or earlier**

- T-30 Torx screwdriver
- T-15 Torx screwdriver
- After installing the new system board, install the DLC module.

### About this task



### CAUTION

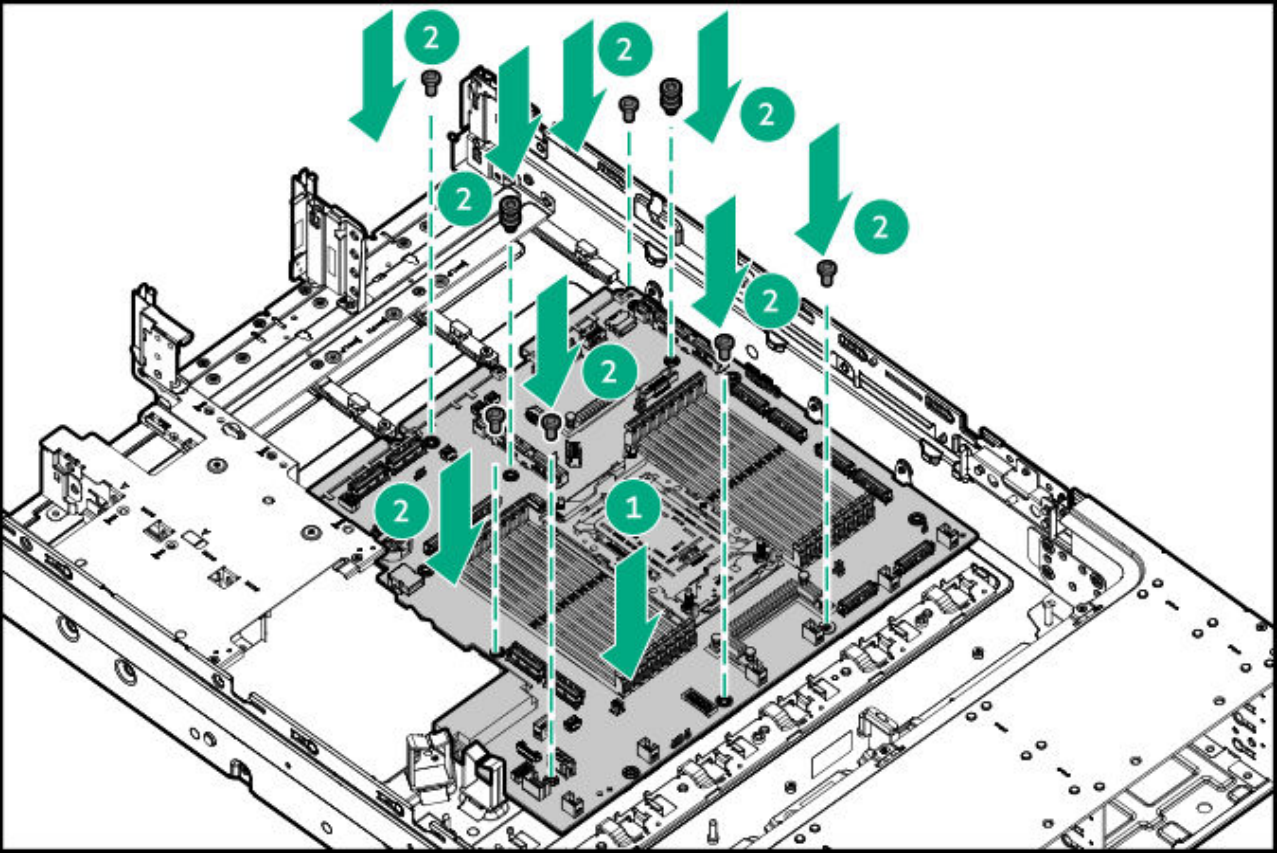
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

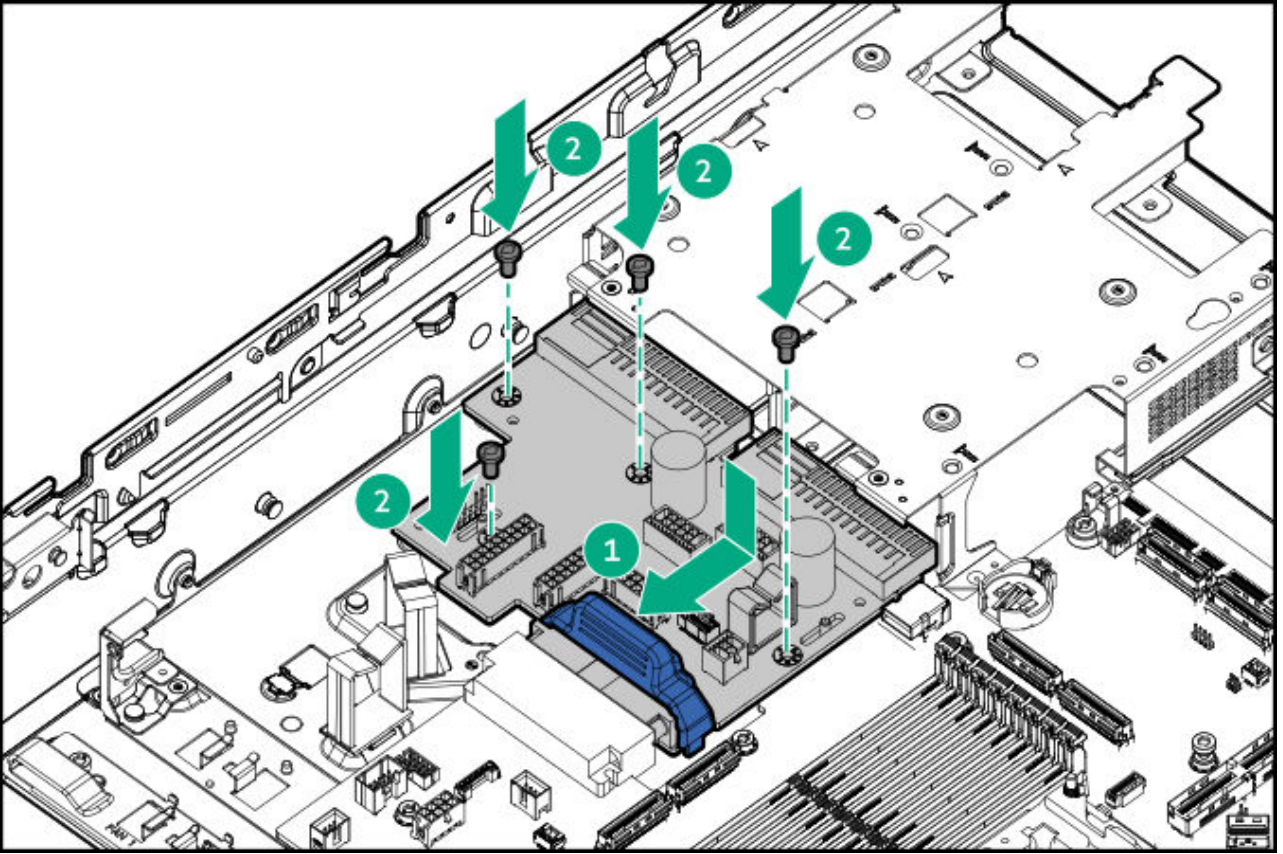
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

### Procedure

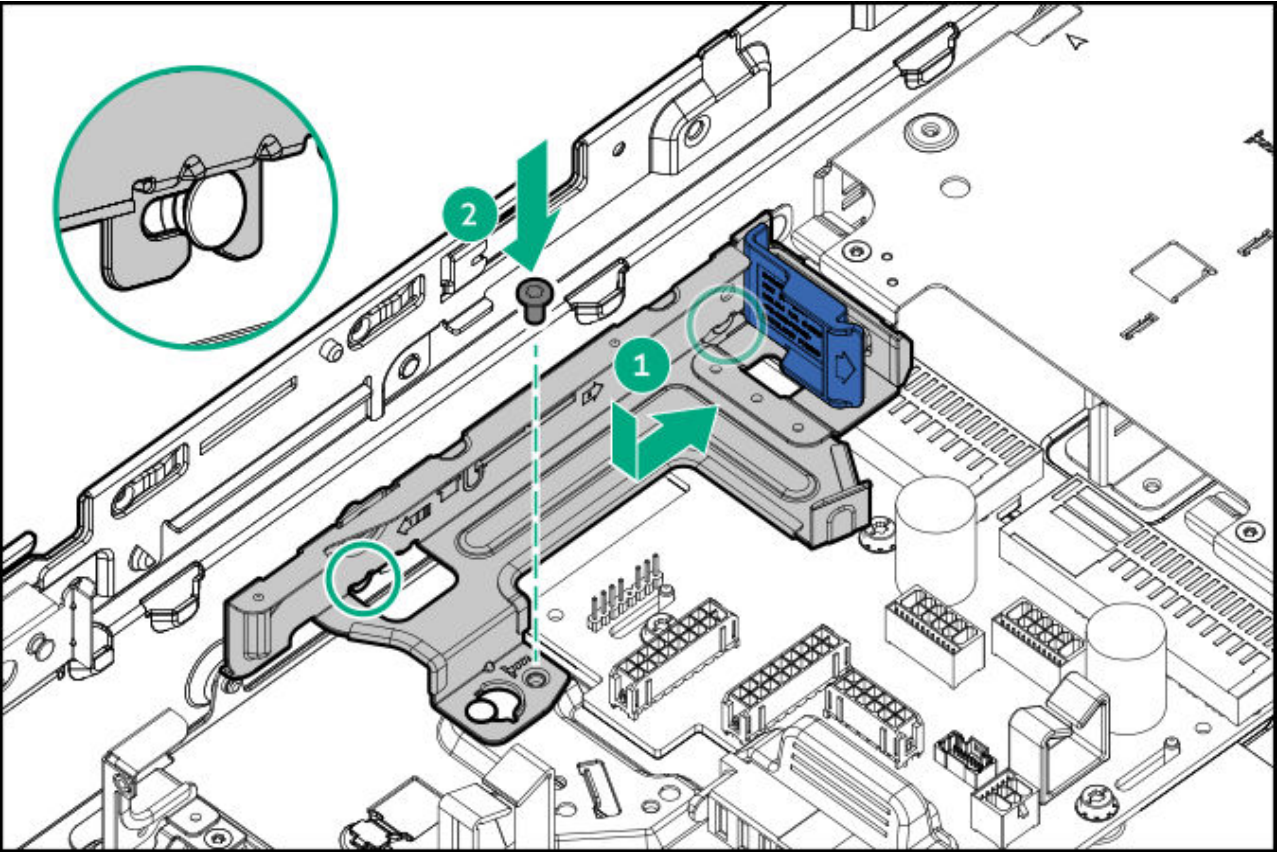
1. Install the system board.



2. Connect the power distribution board to the system board, and then install the screws on the power distribution board.



3. Install the energy pack holder.



4.

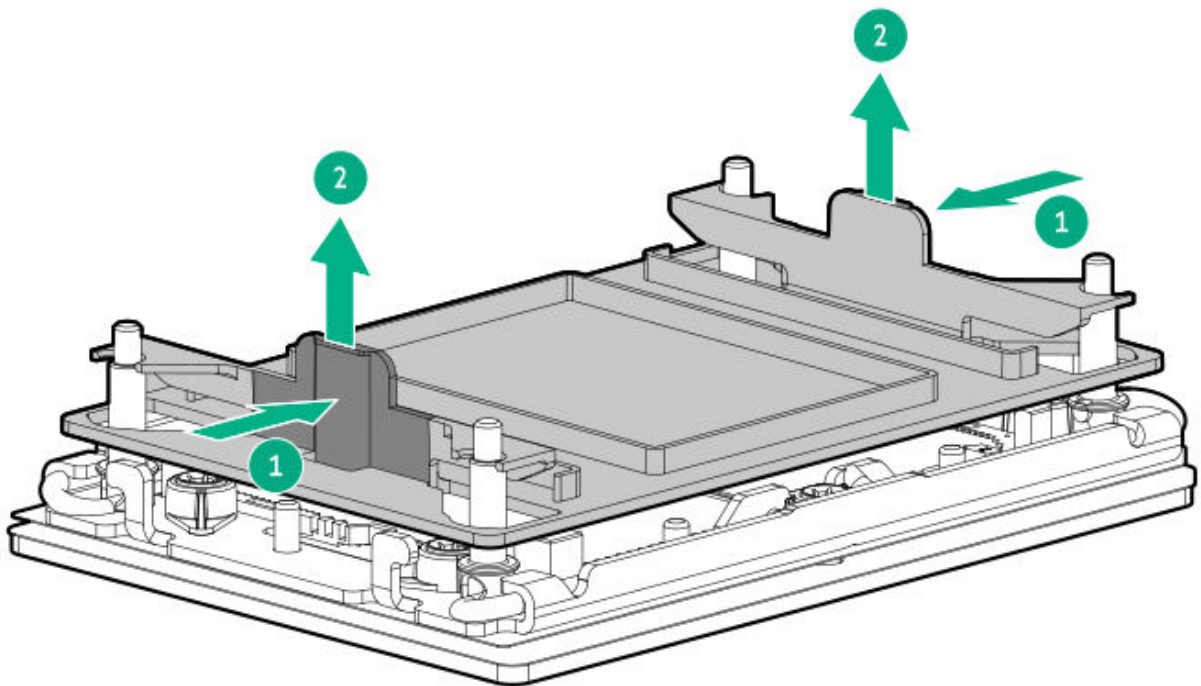


**CAUTION**

Do not press down on the dust cover. Pressing down on the dust cover might damage the processor socket.

Remove the dust cover from the processor socket:

- a. Press and hold the grip tabs on the dust cover.
- b. Lift the dust cover away from the bolster plate.



5. Install the processor-heatsink module:



**CAUTION**

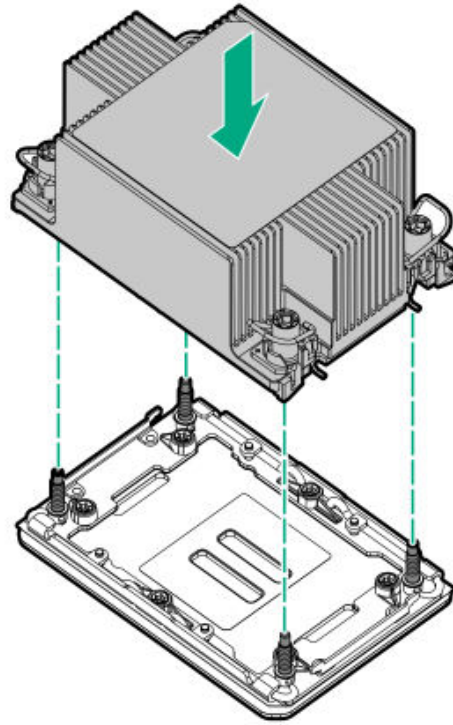
To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

- a. When using a torque wrench to tighten the heatsink screws, set it to 0.9 N-m (8 in-lb) of torque.

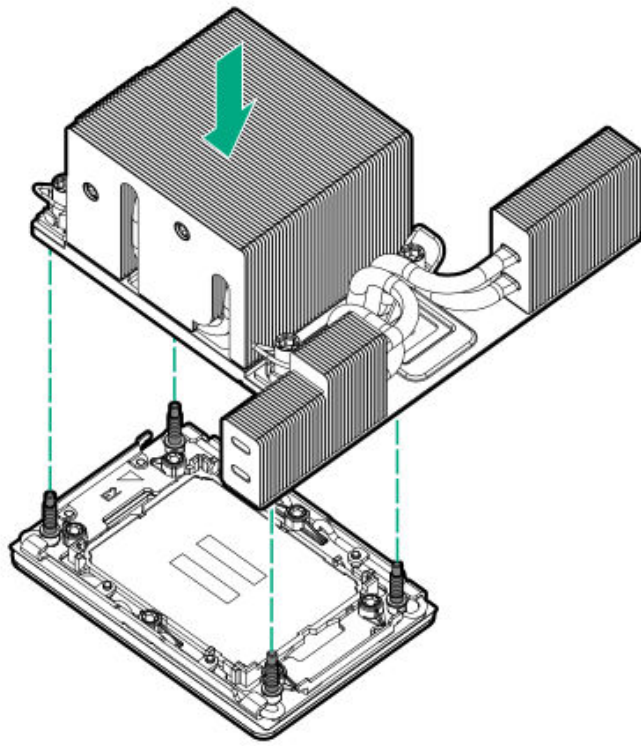
- b. Note the **Front of server** text on the heatsink label to correctly orient the processor-heatsink module over the bolster plate.
- c. Carefully lower the processor-heatsink module onto the bolster plate guide posts.

The posts are keyed so that the module can only be installed one way. Make sure that the module is properly seated on the bolster plate before securing the screws.

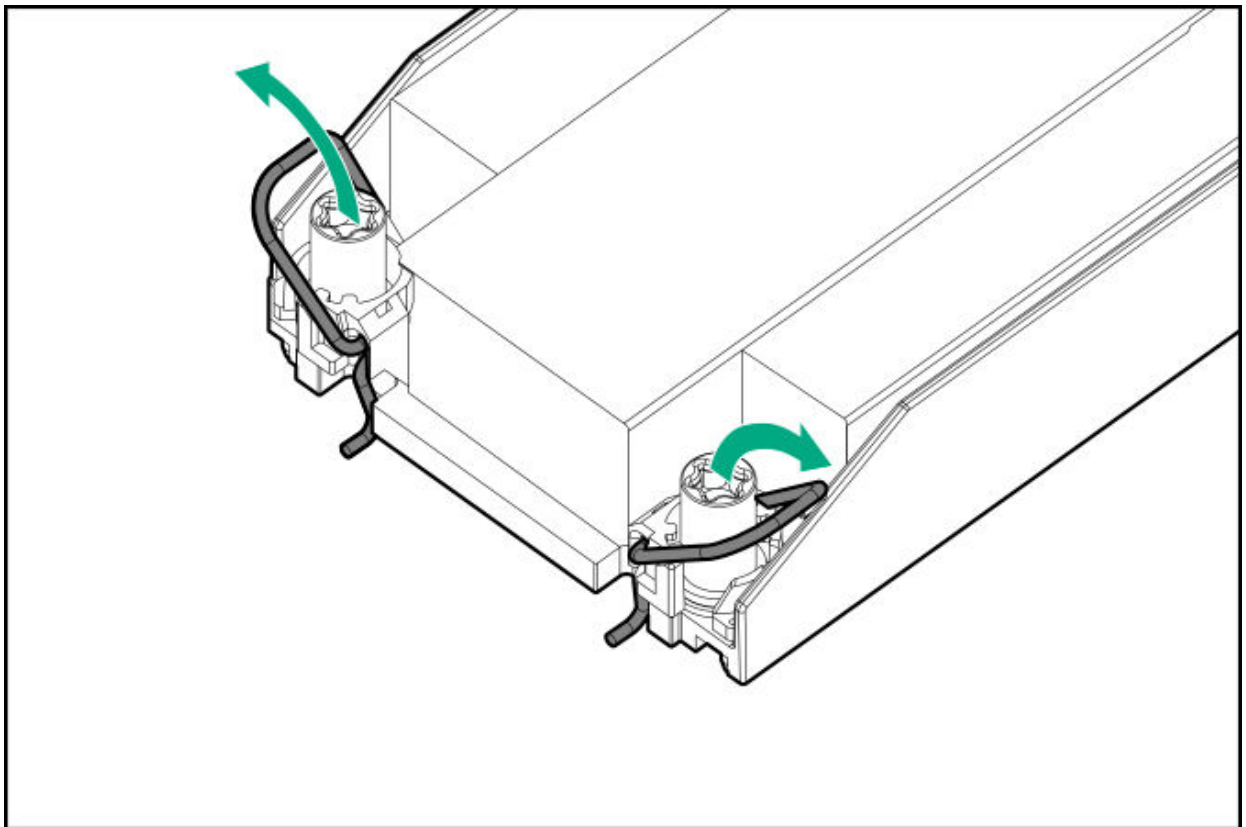
- Standard heatsink



- High performance heatsink

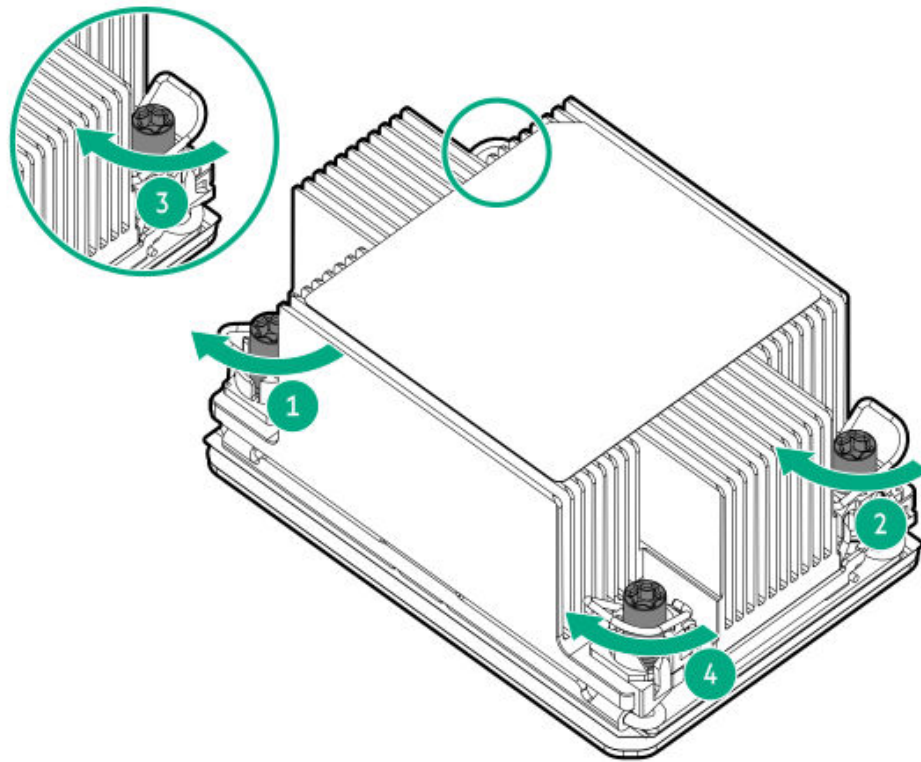


d. Set the anti-tilt wires to the locked position.

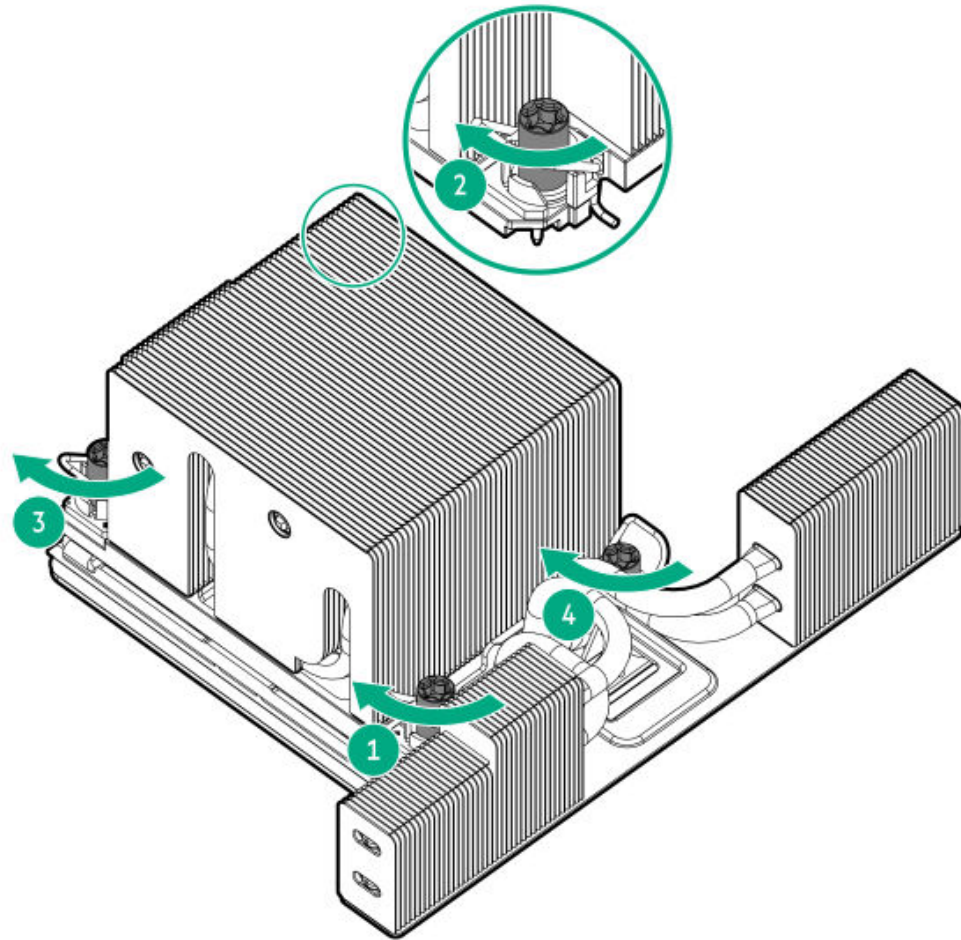


e. Tighten one pair of diagonally opposite heatsink screws, and then tighten the other pair of heatsink screws.

- Standard heatsink



- High performance heatsink



6. Install the processor-heatsink module:

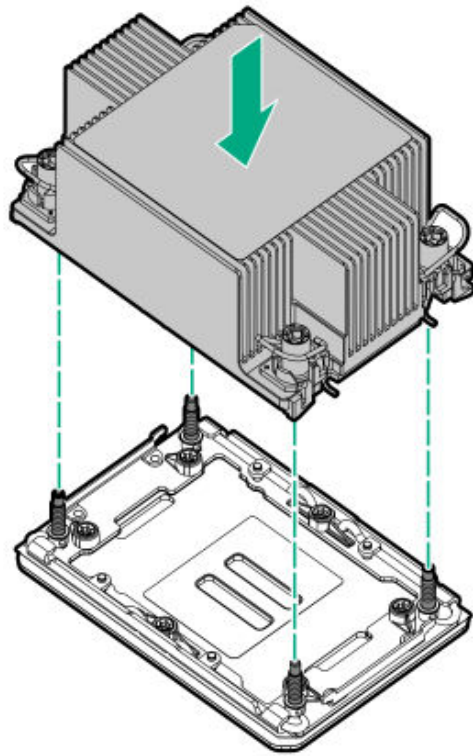


**CAUTION**

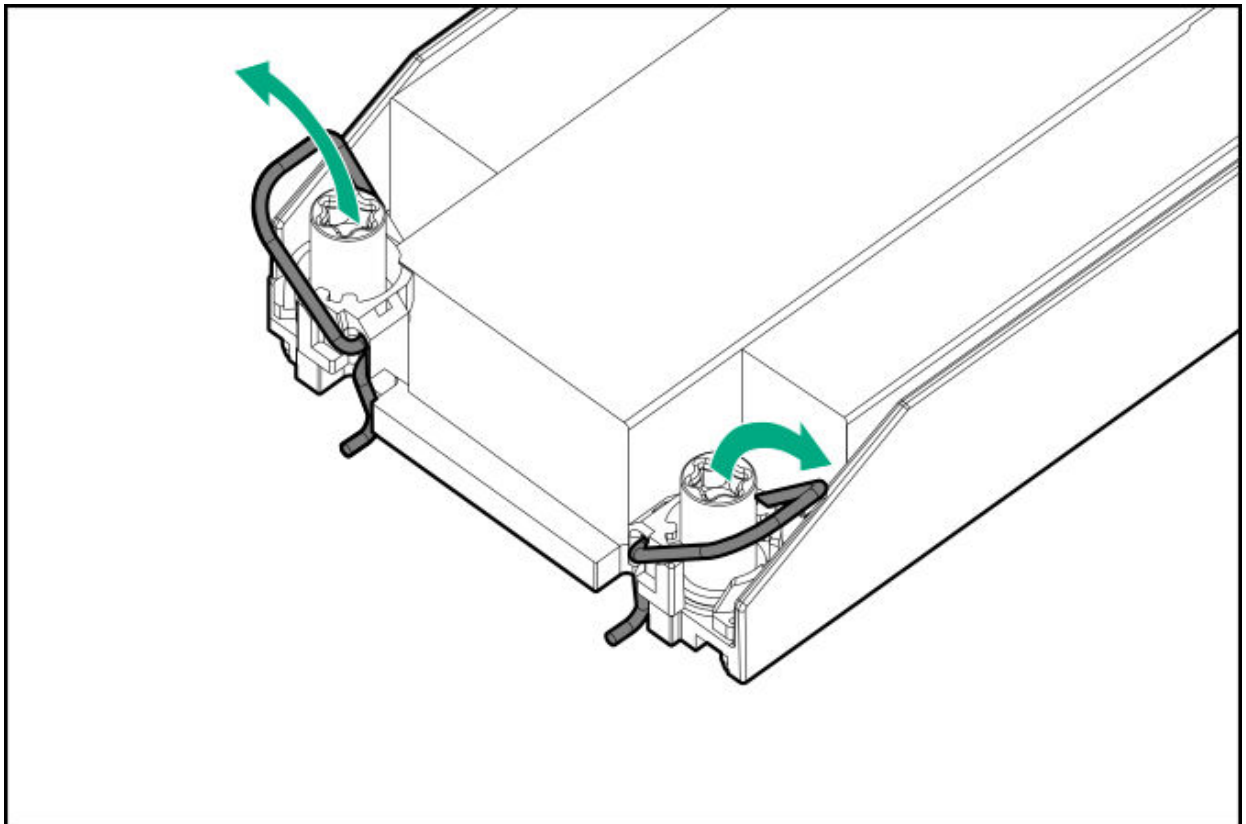
To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

- a. When using a torque wrench to tighten the heatsink screws, set it to 0.9 N-m (8 in-lb) of torque.
- b. Note the **Front of server** text on the heatsink label to correctly orient the processor-heatsink module over the bolster plate.
- c. Carefully lower the processor-heatsink module onto the bolster plate guide posts.

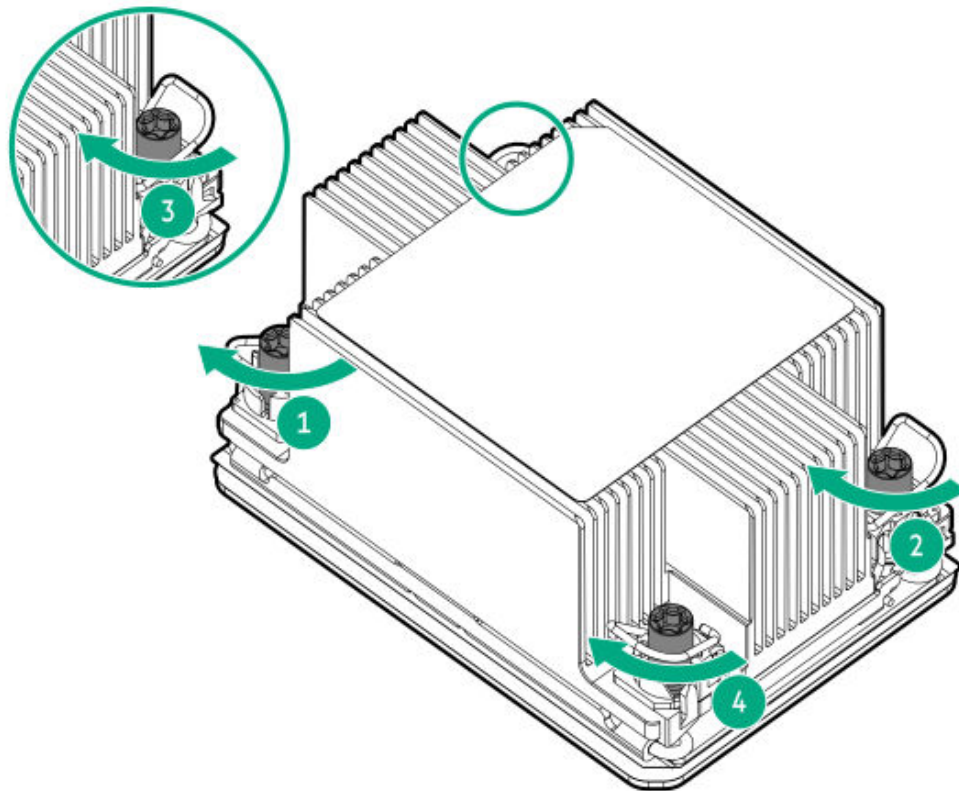
The posts are keyed so that the module can only be installed one way. Make sure that the module is properly seated on the bolster plate before securing the screws.



d. Set the anti-tilt wires to the locked position.

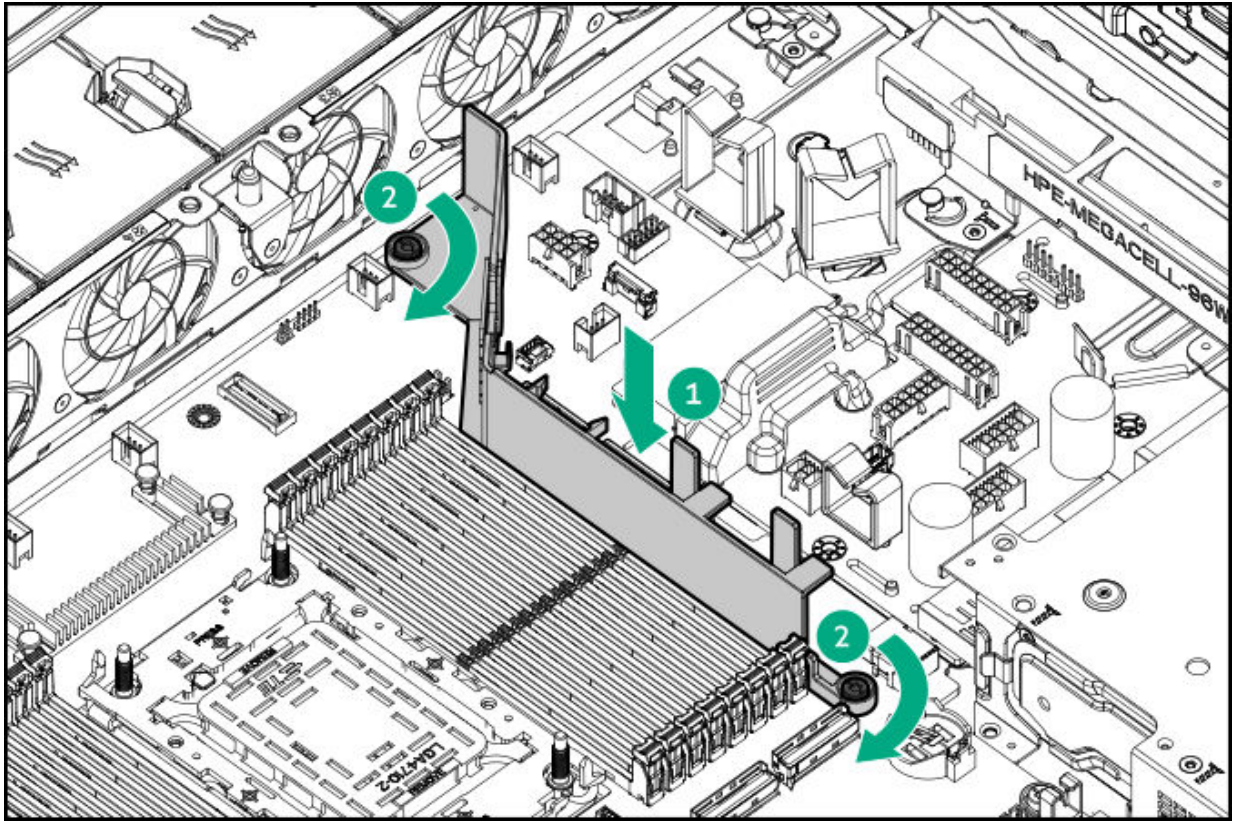


- e. Tighten one pair of diagonally opposite heatsink screws, and then tighten the other pair of heatsink screws.

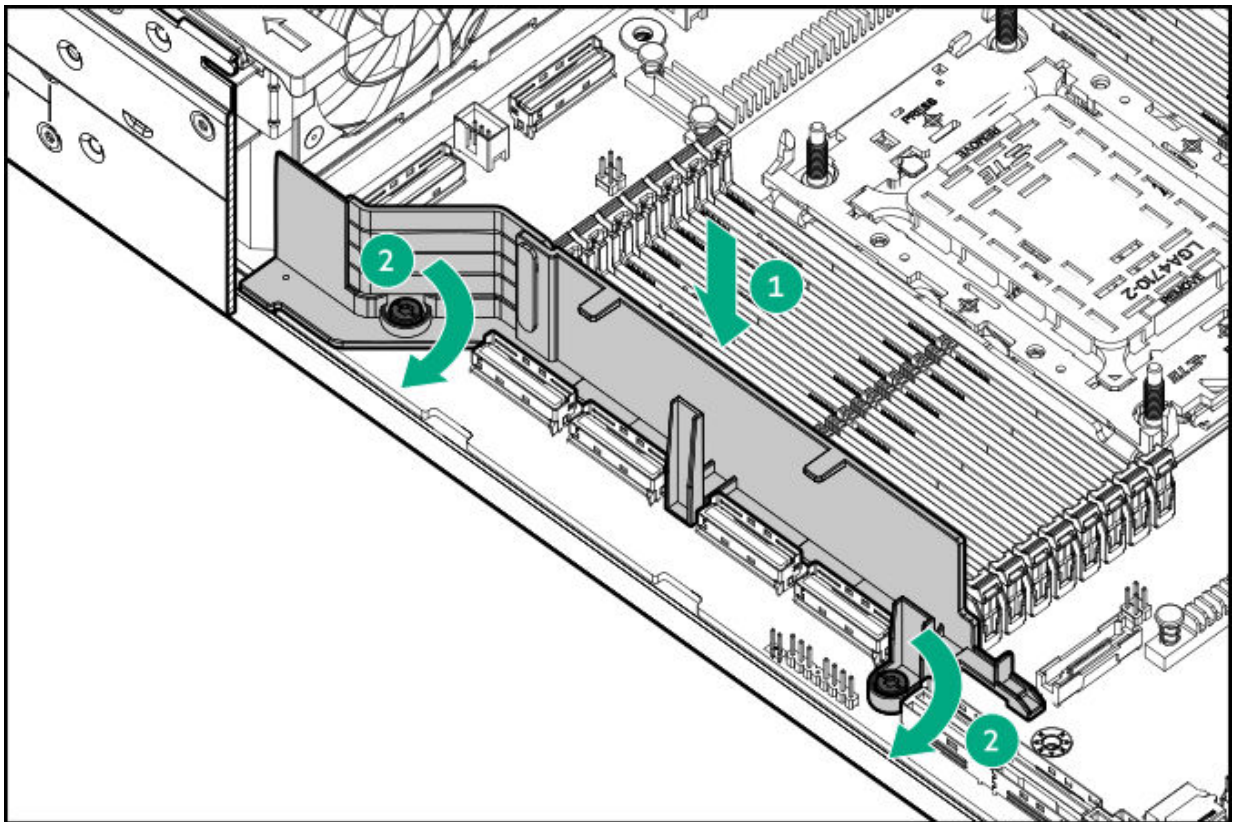


7. Install the DIMM guards.

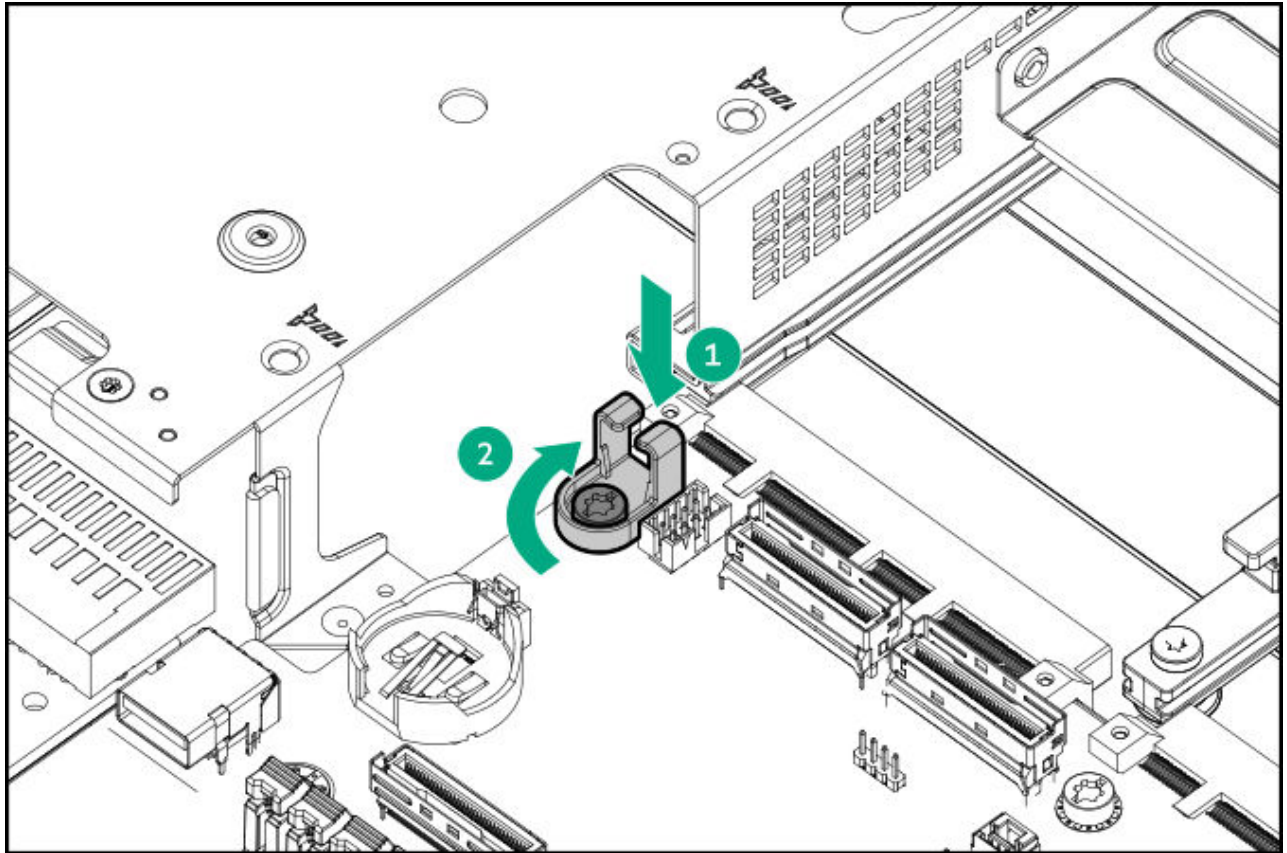
- Left DIMM guard



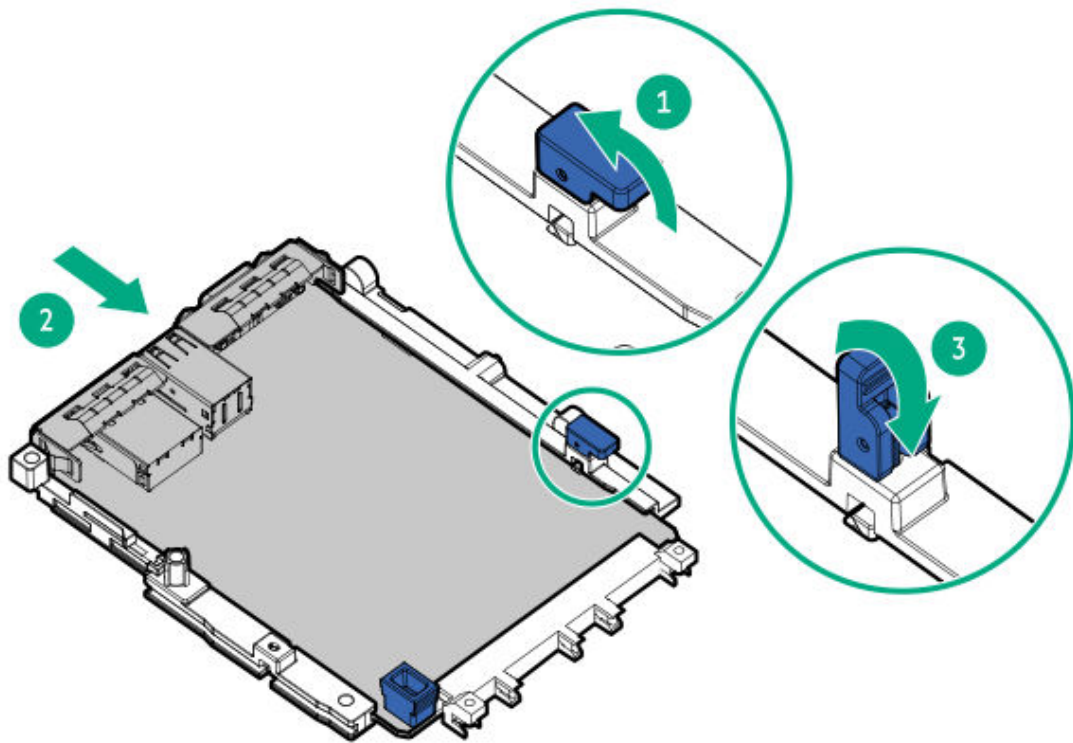
- Right DIMM guard



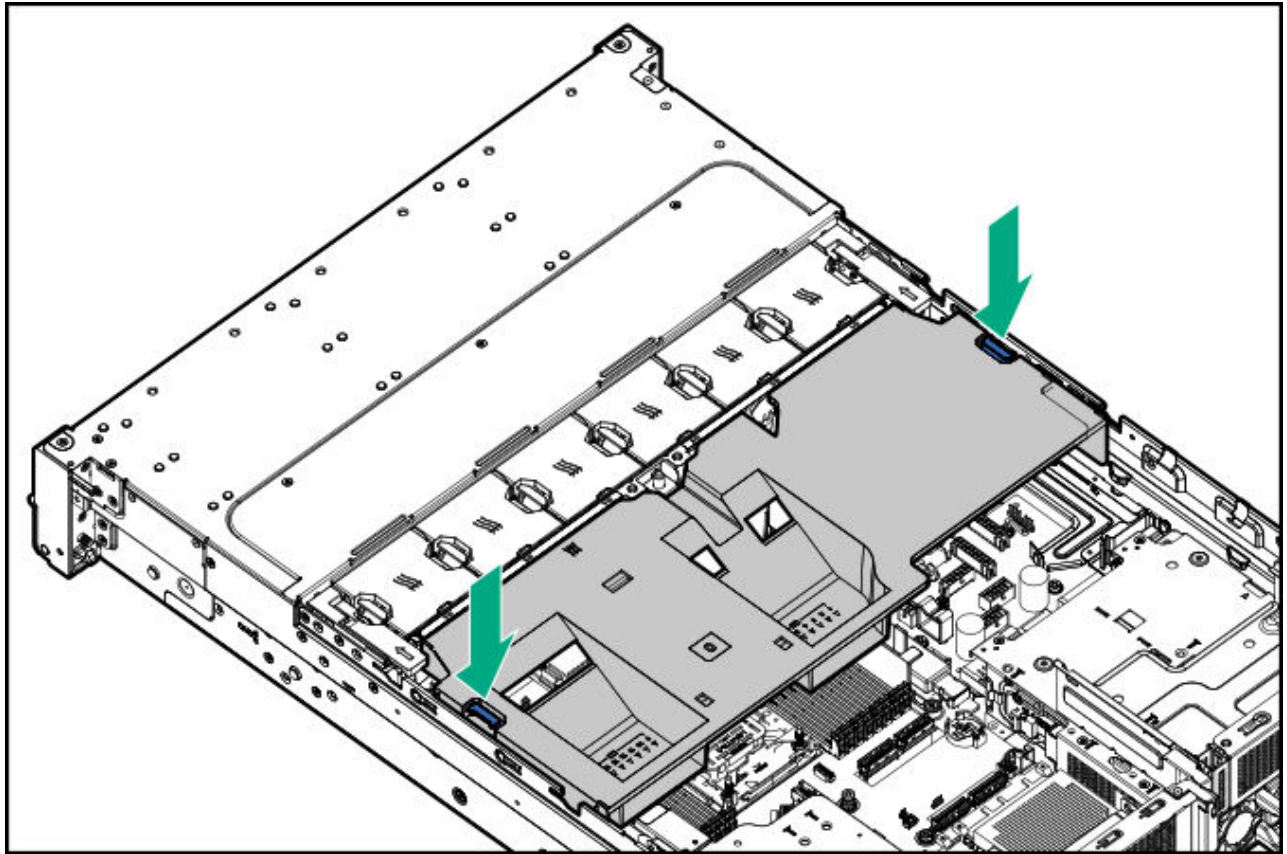
8. Install the ix port cable clamp.



9. Install the DC-SCM that shipped with the new system board:
  - a. Rotate the locking pin to the open (vertical) position.
  - b. Slide the module into the slot until it clicks into place. Make sure that the module is seated firmly in the slot.
  - c. Rotate the locking pin to the close (horizontal) position.



- .0. Connect the ix port cable to the DC-SCM.
- .1. Install the following components:
  - Boot device bracket
  - ix port cable bracket
  - Power supply bay fillers
  - Power supply
- .2. If removed, install the DLC module.
- .3. Install all removed components on the new system board.
- .4. Lower the air baffle into the chassis and make sure that it fits properly into place.



- .5. Install the access panel.
- .6. Install the server into the rack.
- .7. Connect all peripheral cables to the server.
- .8. Connect each power cord to the server.
- .9. Connect each power cord to the power source.
- !0. Power up the server.
- !1. Bind the DC-SCM with the system board using one of the following tools:
  - **iLO web interface**
  - **iLO RESTful API**
  - **UEFI System Utilities**
- !2. Make sure all firmware, including option cards and embedded devices, is updated to the same versions to ensure that the latest drivers are being used.
- !3. Re-enter the server serial number and product ID.

4. See the applicable OS documentation for procedures and recommendations on restoring the OS and accessing drive data.



#### CAUTION

(For Microsoft Windows only) After replacing the system board, we recommend using BitLocker Recovery to restore the OS and access drive data. The recovery key/password previously generated during the initial server installation and BitLocker setup is required to enter Recovery Mode.

For more information about BitLocker Recovery, see the [Microsoft website](#).

### Results

The replacement procedure is complete.

## Re-entering the server serial number and product ID

### About this task

After replacing the system board, re-enter the system serial number and product ID.

### Procedure

1. Access the UEFI System Utilities. During POST, press **F9**.
2. From the **System Utilities** screen, select **System Configuration > BIOS/Platform Configuration (RBSU) > Advanced Options > Advanced Service Options**.
3. Select **Serial Number**, and then press **Enter**.

The following warning appears:

```
The serial number is modified by qualified service personnel and must match the serial number located on the chassis.
```

4. Click **OK**.
5. Type the serial number, and then press **Enter**.
6. Select **Product ID**, and then press **Enter**.

The following warning appears:

```
Product ID is modified only by qualified service personnel. This value must match the product ID located on the chassis.
```

7. Type the product ID, and then press **Enter**.
8. To confirm and save the settings, press **F12**.

The server automatically reboots.

## Results

The installation procedure is complete.

# System battery replacement

If the server no longer automatically displays the correct date and time, then replace the battery that provides power to the real-time clock. Under normal use, battery life is 5–10 years.

## Subtopics

### System battery information

### Removing and replacing the system battery

## System battery information

The server contains an internal lithium manganese dioxide, a vanadium pentoxide, or an alkaline battery that provides power to the real-time clock.



### **WARNING**

If this battery is not properly handled, a risk of fire or burning exists. To reduce the risk of personal injury:

- Do not attempt to recharge the battery.
- Do not expose the battery to temperatures higher than 60°C (140°F).
- Do not expose the battery to low air pressure as it might lead to explosion or leakage of flammable liquid or gas.
- Do not disassemble, crush, puncture, short external contacts, or dispose of the battery in fire or water.

# Removing and replacing the system battery

## Prerequisites

Before you perform this procedure, make sure that you have a spudger or any small prying tool available.

## About this task

[https://sketchfab.com/models/6f2a2a1a5c8540cb9a3adc740b055e0e/embed?ui\\_infos=0&ui\\_watermark=0&ui\\_help=0&ui\\_vr=0&ui\\_settings=0&ui\\_inspector=0&ui\\_hint=2&ui\\_animations=0&ui\\_color=01a982&ui\\_theme=dark&autostart=1&camera=0](https://sketchfab.com/models/6f2a2a1a5c8540cb9a3adc740b055e0e/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_animations=0&ui_color=01a982&ui_theme=dark&autostart=1&camera=0)



### IMPORTANT

After replacing the system battery and applying power, wait for 10 minutes before powering on the server. This lead time is required for the server to reset and reinitialize the iLO configuration settings stored in SRAM.

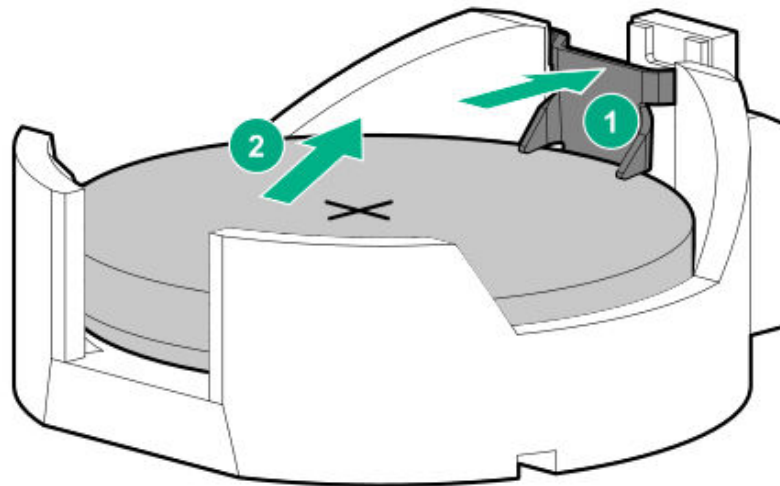


### CAUTION

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

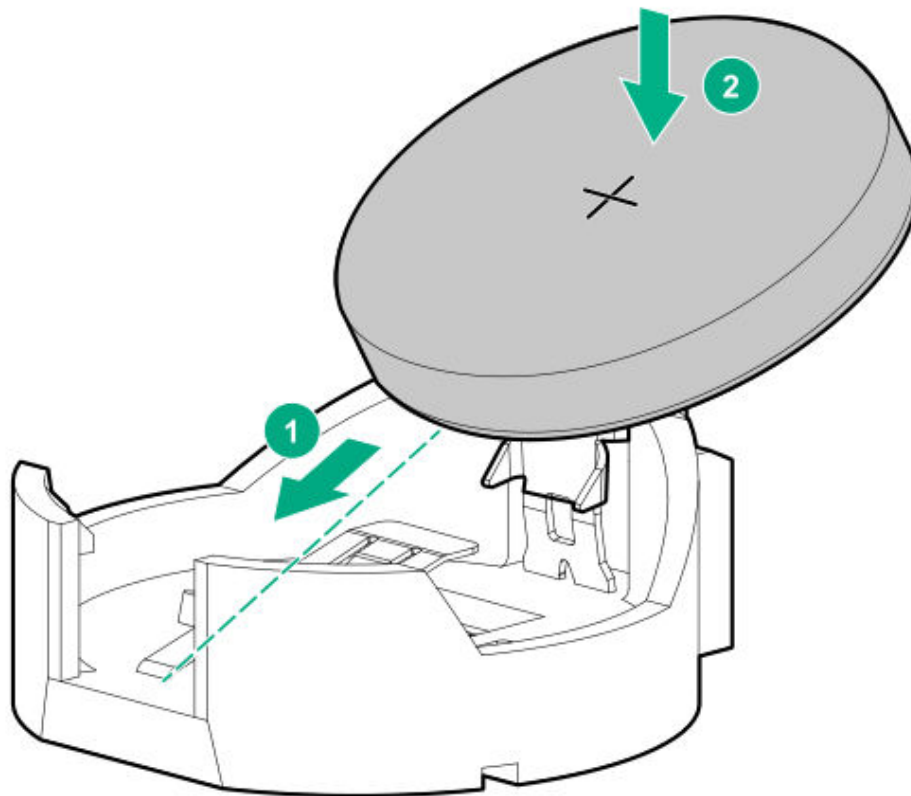
## Procedure

1. [Power down the server](#).
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
  - [Extend the server out of the rack](#).
  - [Remove the server from the rack](#).
5. [Remove the access panel](#).
6. Remove the system battery:
  - a. Use a small flat-bladed, nonconductive tool to press the battery latch.
  - b. Remove the system battery from the socket.



7. Install the system battery:

- a. With the side of the battery showing the "+" sign facing up, insert the battery into the socket.
- b. Press the system battery down until it clicks into place.



8. Wait for 10 minutes for the server to reset and reinitialize the iLO configuration settings stored in SRAM.



### **IMPORTANT**

If iLO security is disabled, the configuration will not be restored. To restore the configuration manually, see <https://www.hpe.com/support/hpeilodocs-quicklinks>.

9. Properly dispose of the old battery.

For more information about proper battery disposal, contact an authorized reseller or an authorized service provider.

- .0. Install the access panel.
- .1. Install the server into the rack.
- .2. If the DLC module is installed, connect the DLC extension hoses.
- .3. Connect all peripheral cables to the server.
- .4. Connect each power cord to the server.
- .5. Connect each power cord to the power source.
- .6. Power up the server.

### **Results**

The replacement procedure is complete.

## **Component identification**

This chapter describes the external and internal server features and components.

### **Subtopics**

**Front panel components**

**Front panel LEDs and buttons**

**Rear panel components**

**Rear panel LEDs**

**Component touchpoints**

**System board and power distribution board components**

**GPU riser slot numbering**

**Drive bay numbering**

- [HPE Basic Drive LED definitions](#)
- [EDSFF SSD LED definitions](#)
- [Drive backplane naming](#)
- [HPE NS204i-u Boot Device V2 components](#)
- [HPE NS204i-u Boot Device V2 LED definitions](#)
- [Systems Insight Display LEDs](#)
- [System Insight Display combined LED descriptions](#)
- [Fan numbering](#)
- [Direct liquid cooling module components](#)
- [Datacenter Secure Control Module components](#)
- [Riser board components](#)
- [Heatsink and processor socket components](#)

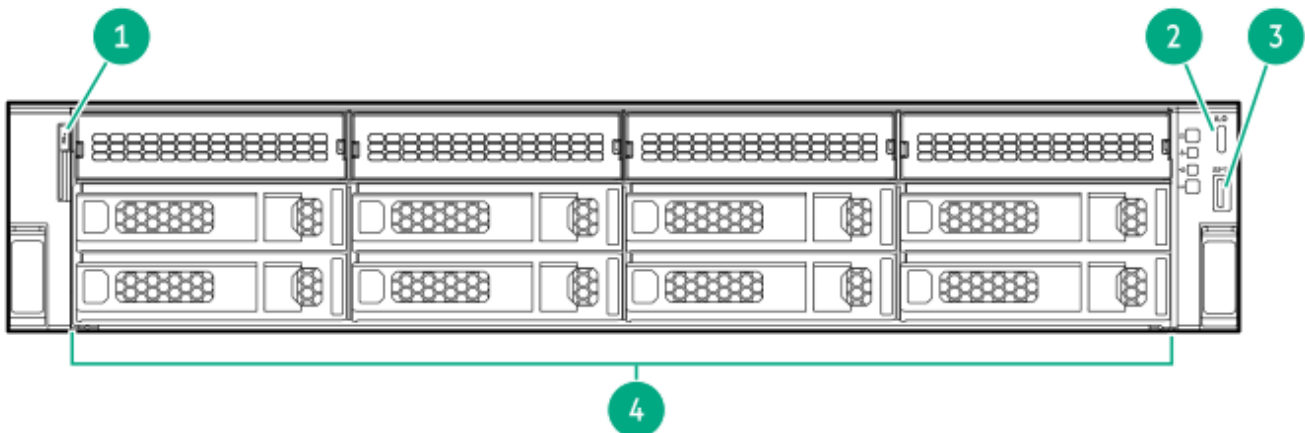
## Front panel components

### Subtopics

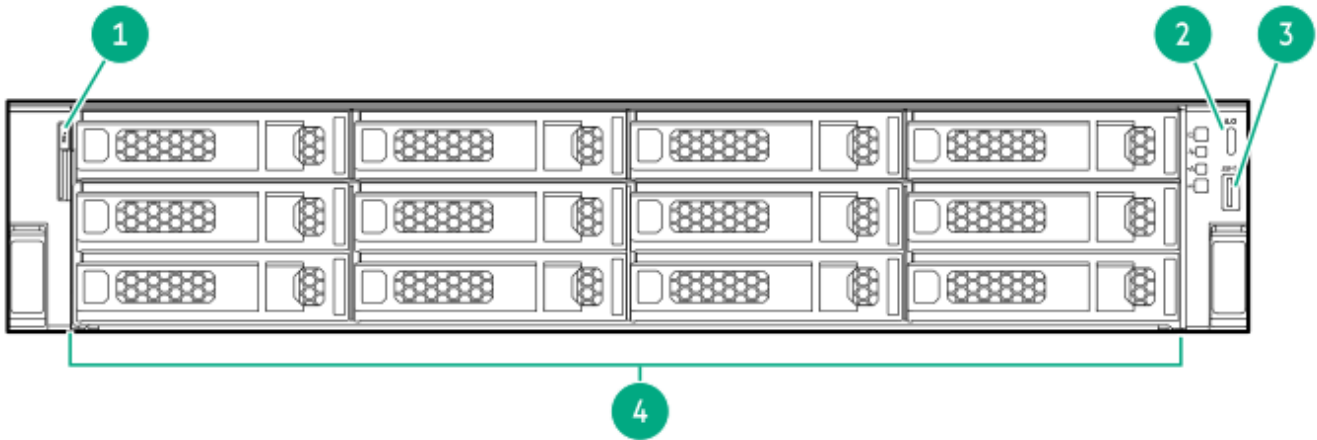
- [LFF drive configurations](#)
- [SFF drive configurations](#)
- [E3.S drive configurations](#)
- [GPU-optimized configurations](#)
- [Mixed drive configurations](#)

## LFF drive configurations

### 8 LFF drives



## 12 LFF drives



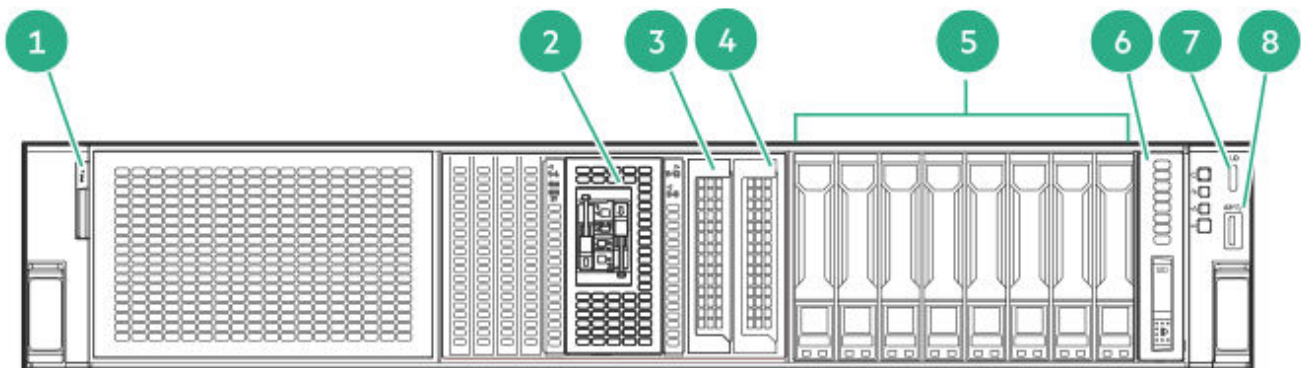
Item	Description
1	Serial number / iLO information pull tab <sup>1</sup>
2	iLO service port
3	USB 3.2 Gen 1 port
4	LFF drives <sup>2</sup>

<sup>1</sup> The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> The server supports LFF SAS or SATA drives.

## SFF drive configurations

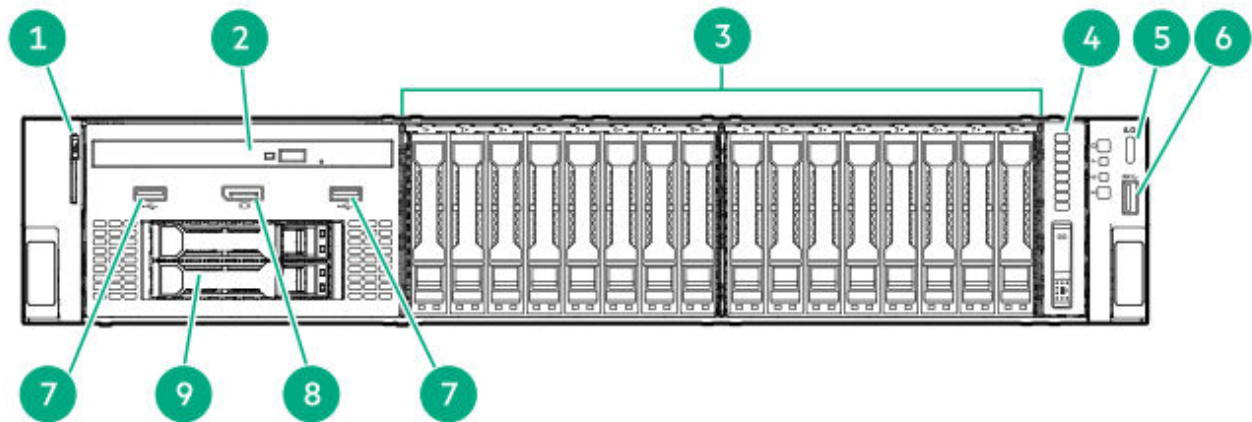
### 8 SFF drives



Item	Description
1	Serial number / iLO information pull tab <sup>1</sup>
2	HPE NS204i-u Boot Device V2 <sup>2</sup> , <sup>3</sup>
3	Box 2, Bay 9 OCP slot PCIe5 x16 <sup>2</sup>
4	Box 2, Bay 11 OCP slot PCIe5 x16 <sup>2</sup>
5	SFF drives <sup>4</sup>
6	System Insight Display <sup>2</sup>
7	iLO service port
8	USB 3.2 Gen 1 port

- <sup>1</sup> The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.
- <sup>2</sup> These are component options.
- <sup>3</sup> The NS204i-u boot device is supported in multipurpose cage bays 5–8 or 9–12.
- <sup>4</sup> The front-end SFF drive boxes support SAS, SATA, or U.3 NVMe drives.

### 16 SFF drives with the universal media bay



Item	Description
1	Serial number / iLO information pull tab <sup>1</sup>
2	Optical drive <sup>2</sup>
3	SFF drives <sup>3</sup>
4	System Insight Display <sup>2</sup>
5	iLO service port
6	USB 3.2 Gen 1 port

Item	Description
7	USB 2.0 ports <sup>2</sup>
8	DisplayPort 1.1a <sup>2</sup>
9	2 SFF stacked drives <sup>2, 4</sup>

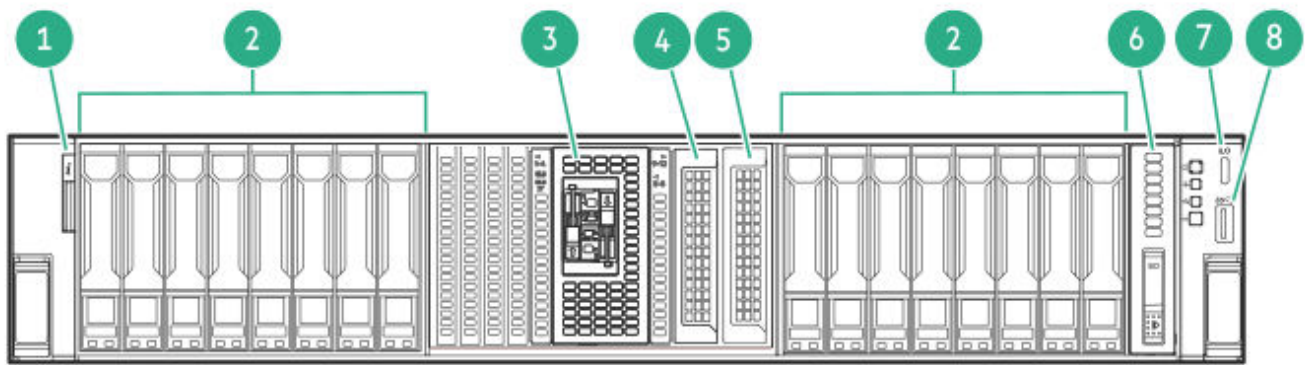
<sup>1</sup> The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> These are component options.

<sup>3</sup> The front-end SFF drive boxes support SAS, SATA, or U.3 NVMe drives.

<sup>4</sup> The 2 SFF stacked drive cage option supports SAS, SATA, or U.3 NVMe drives.

### 16 SFF drives with the boot device and the OCP NIC



Item	Description
1	Serial number / iLO information pull tab <sup>1</sup>
2	SFF drives <sup>2</sup>
3	HPE NS204i-u Boot Device V2 <sup>3, 4</sup>
4	Box 2, Bay 9 OCP slot PCIe5 x16 <sup>4</sup>
5	Box 2, Bay 11 OCP slot PCIe5 x16 <sup>4</sup>
6	System Insight Display <sup>4</sup>
7	iLO service port
8	USB 3.2 Gen 1 port

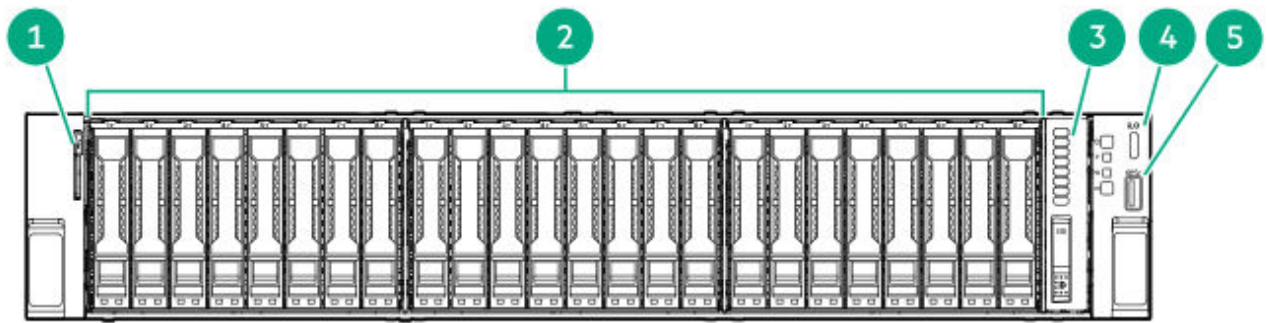
<sup>1</sup> The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> The front-end SFF drive boxes support SAS, SATA, or U.3 NVMe drives.

<sup>3</sup> The NS204i-u boot device is supported in multipurpose cage bays 5–8 or 9–12.

<sup>4</sup> These are component options.

## 24 SFF drives



Item	Description
1	Serial number / iLO information pull tab
2	SFF drives <sup>2</sup>
3	System Insight Display <sup>3</sup>
4	iLO service port
5	USB 3.2 Gen 1 port

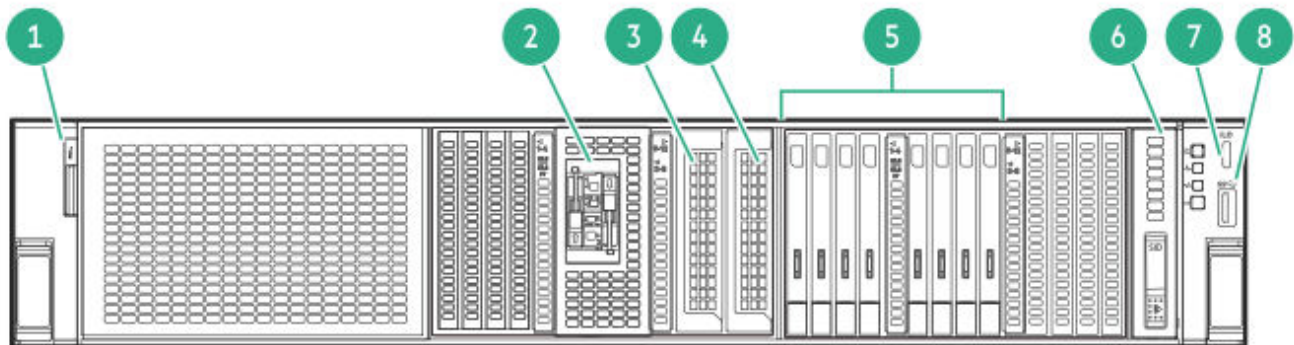
<sup>1</sup> The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> The front-end SFF drive boxes support SAS, SATA, or U.3 NVMe drives.

<sup>3</sup> These are component options.

# E3.S drive configurations

## 8 E3.S drives



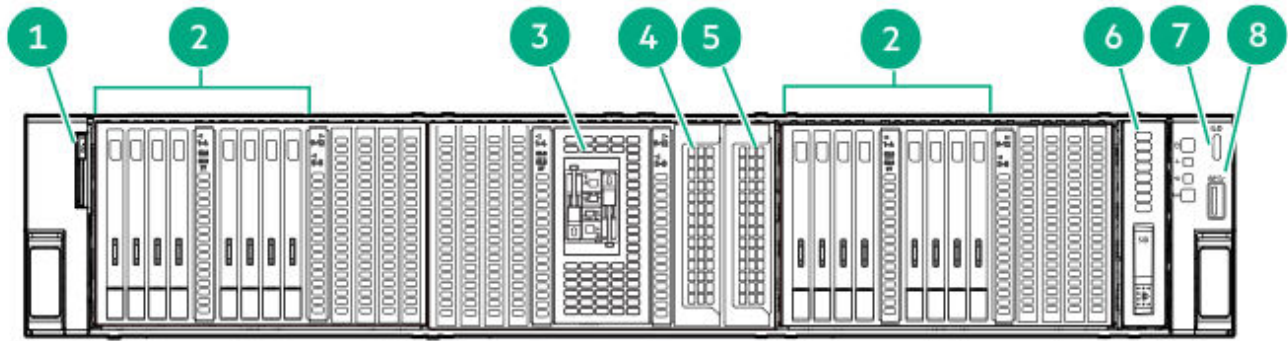
Item	Description
1	Serial number / iLO information pull tab <sup>1</sup>
2	HPE NS204i-u Boot Device V2 <sup>2</sup> , <sup>3</sup>
3	Box 2, Bay 9 OCP slot PCIe5 x16 <sup>2</sup>
4	Box 2, Bay 11 OCP slot PCIe5 x16 <sup>2</sup>
5	E3.S drives
6	System Insight Display
7	iLO service port
8	USB 3.2 Gen 1 port

<sup>1</sup> The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> These are component options.

<sup>3</sup> The NS204i-u boot device is supported in multipurpose cage bays 5-8 or 9-12. If the front OCP is installed, the NS204i-u boot device is supported only in bays 5-8.

## 16 E3.S drives



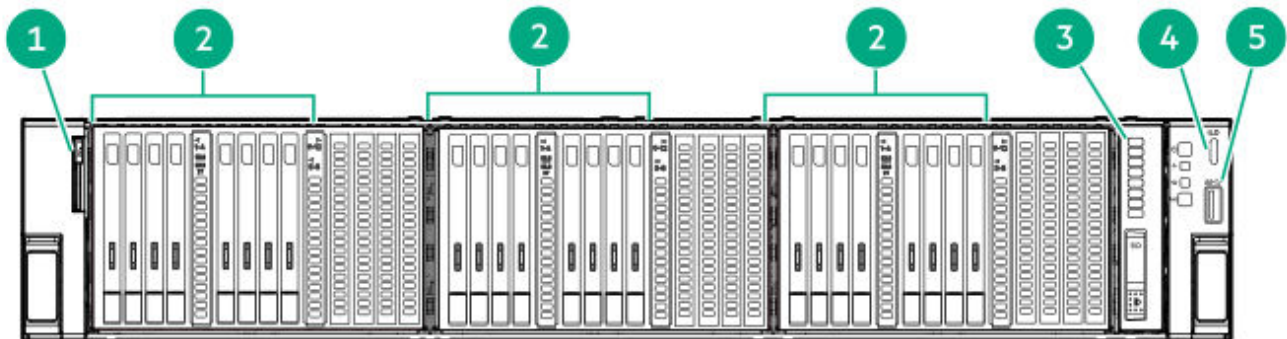
Item	Description
1	Serial number / iLO information pull tab <sup>1</sup>
2	E3.S drives
3	HPE NS204i-u Boot Device V2 <sup>2, 3</sup>
4	Box 2, Bay 9 OCP slot PCIe5 x16 <sup>2</sup>
5	Box 2, Bay 11 OCP slot PCIe5 x16 <sup>2</sup>
6	System Insight Display <sup>2</sup>
7	iLO service port
8	USB 3.2 Gen 1 port

<sup>1</sup> The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> These are component options.

<sup>3</sup> The NS204i-u boot device is supported in multipurpose cage bays 5–8 or 9–12. If the front OCP is installed, the NS204i-u boot device is supported only in bays 5–8.

## 24 E3.S drives

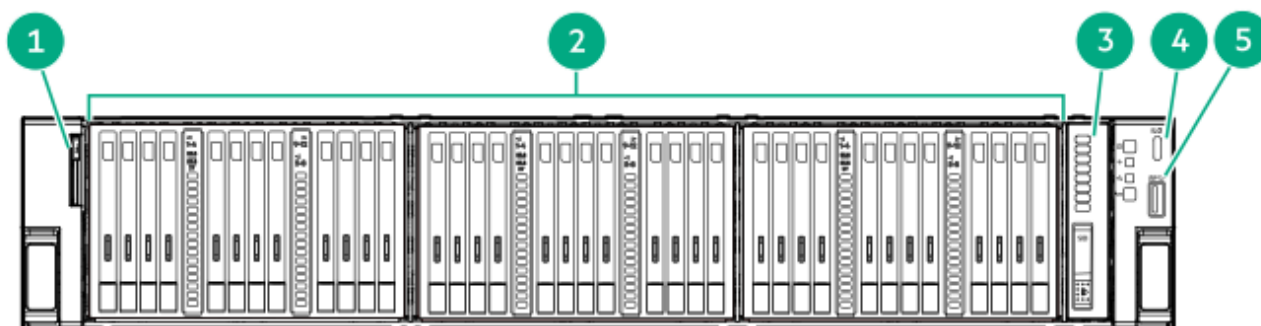


Item	Description
1	Serial number / iLO information pull tab <sup>1</sup>
2	E3.S drives
3	System Insight Display <sup>2</sup>
4	iLO service port
5	USB 3.2 Gen 1 port

<sup>1</sup> The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> These are component options.

### 36 E3.S drive



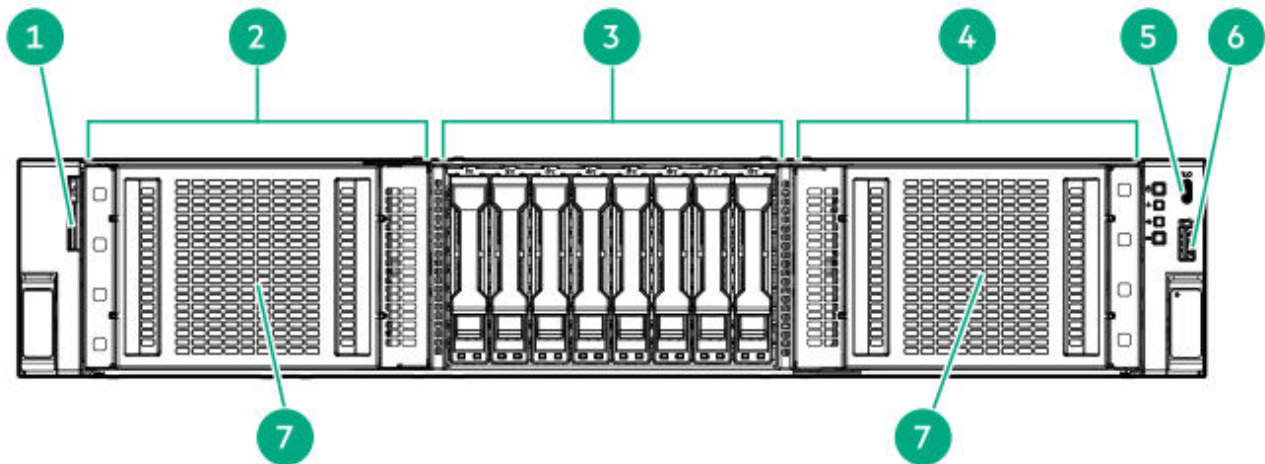
Item	Description
1	Serial number / iLO information pull tab <sup>1</sup>
2	E3.S drives
3	System Insight Display <sup>2</sup>
4	iLO service port
5	USB 3.2 Gen 1 port

<sup>1</sup> The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> These are component options.

# GPU-optimized configurations

## 8 SFF drives



Item	Description
1	Serial number / iLO information pull tab <sup>1</sup>
2	GPU cage 1 <sup>2</sup>
3	SFF drives <sup>3</sup>
4	GPU cage 2 <sup>4</sup>
5	iLO service port
6	USB 3.2 Gen 1 port
7	GPU cage bezel

<sup>1</sup> The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> The following options are supported in the slots 10 and 12:

- Up to 2 double-width GPUs
- Up to 2 single-width GPUs
- Up to 2 PCIe NIC adapters
- One double-width/single-width GPU, and one PCIe NIC adapter

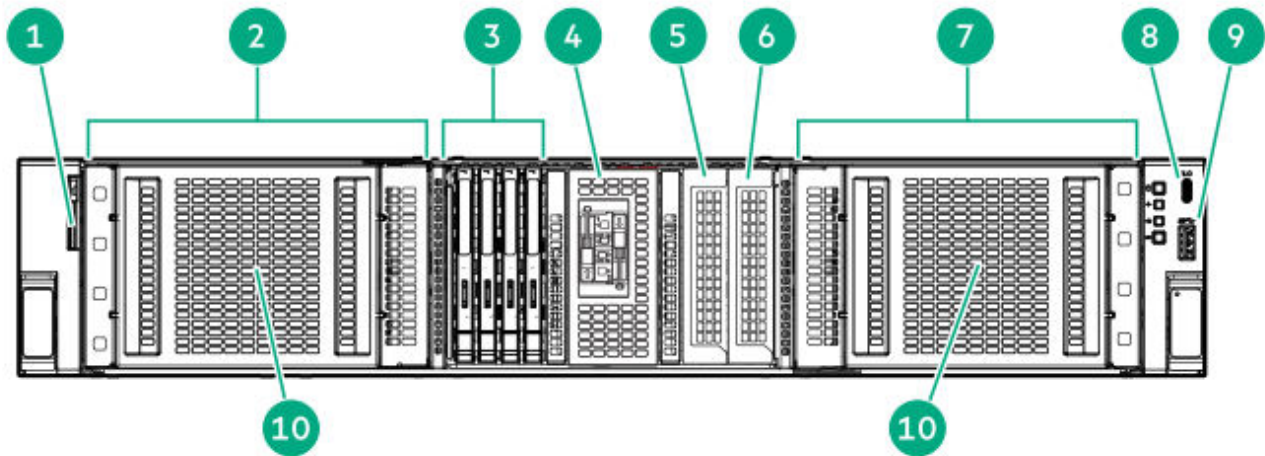
<sup>3</sup> The front-end SFF drive boxes support SAS, SATA, or U.3 NVMe.

<sup>4</sup> The following options are supported in the slots 15 and 17:

- Up to 2 double-width GPUs

- Up to 2 single-width GPUs
- Up to 2 PCIe NICs
- One double-width/single-width GPU, and one PCIe NIC

#### 4 E3.S drives



Item	Description
1	Serial number / iLO information pull tab <sup>1</sup> <sub>—</sub>
2	GPU cage 1 <sup>2</sup> <sub>—</sub>
3	E3.S drives
4	HPE NS204i-u Boot Device V2 <sup>3, 4</sup> <sub>—</sub>
5	Box 2, Bay 9 OCP slot PCIe5 x16 <sup>3</sup> <sub>—</sub>
6	Box 2, Bay 11 OCP slot PCIe5 x16 <sup>3</sup> <sub>—</sub>
7	GPU cage 2 <sup>5</sup> <sub>—</sub>
8	iLO service port
9	USB 3.2 Gen 1 port
10	GPU cage bezel

<sup>1</sup><sub>—</sub> The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup><sub>—</sub> The following options are supported in the slots 10 and 12:

- Up to 2 double-width GPUs
- Up to 2 single-width GPUs

- Up to 2 PCIe NICs
- One double-width/single-width GPU, and one PCIe NIC

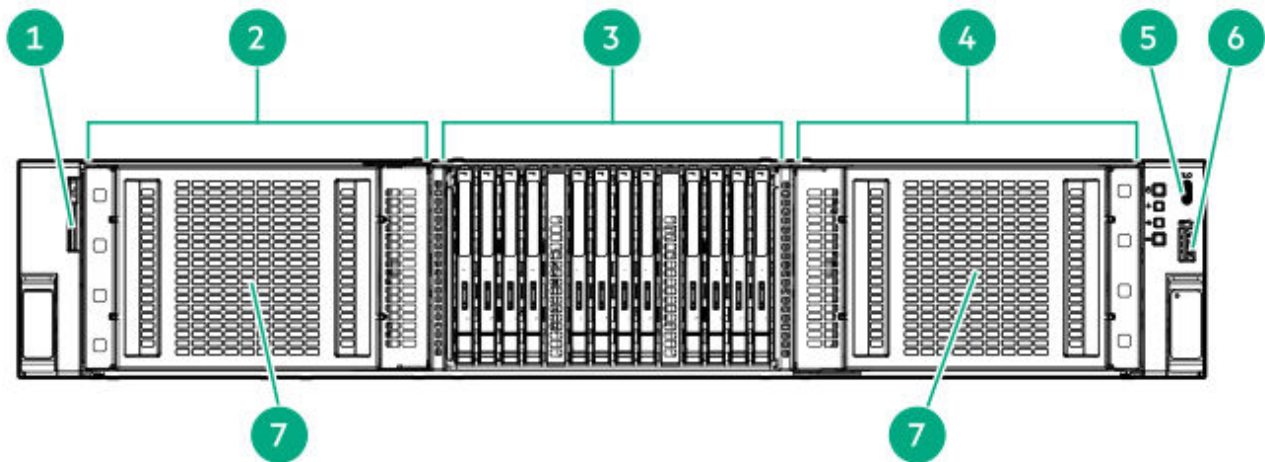
<sup>3</sup> These are component options.

<sup>4</sup> The NS204i-u boot device can be supported in the multipurpose cage bays 9-12.

<sup>5</sup> The following options are supported in the slots 15 and 17:

- Up to 2 double-width GPUs
- Up to 2 single-width GPUs
- Up to 2 PCIe NICs
- One double-width/single-width GPU, and one PCIe NIC

## 12 E3.S drives



Item	Description
1	Serial number / iLO information pull tab <sup>1</sup>
2	GPU cage 1 <sup>2</sup>
3	E3.S drives
4	GPU cage 2 <sup>3</sup>
5	iLO service port
6	USB 3.2 Gen 1 port
7	GPU cage bezel

<sup>1</sup> The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> The following options are supported in the slots 10 and 12:

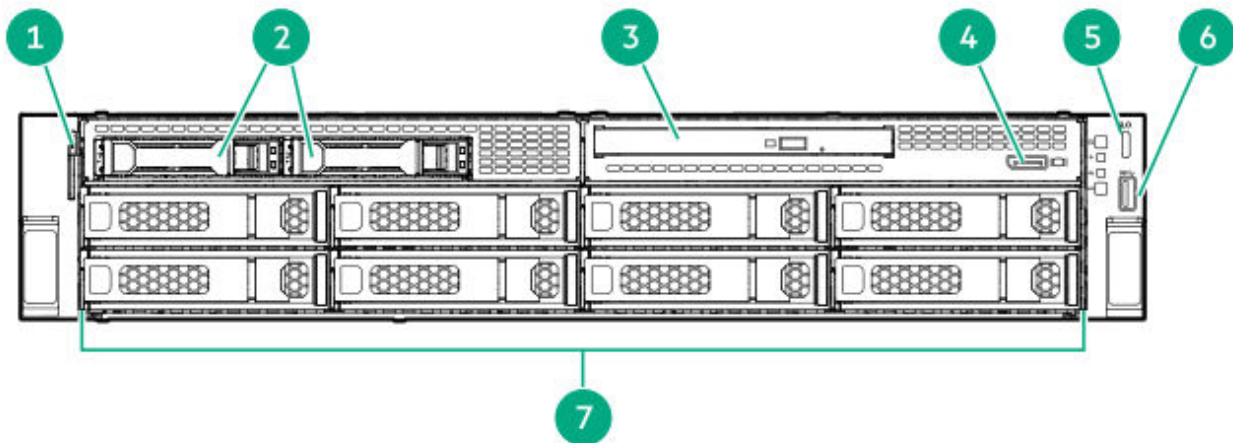
- Up to 2 double-width GPUs
- Up to 2 single-width GPUs
- Up to 2 PCIe NICs
- One double-width/single-width GPU, and one PCIe NIC

<sup>3</sup> The following options are supported in the slots 15 and 17:

- Up to 2 double-width GPUs
- Up to 2 single-width GPUs
- Up to 2 PCIe NICs
- One double-width/single-width GPU, and one PCIe NIC

## Mixed drive configurations

### 2 SFF side-by-side + 8 LFF drives

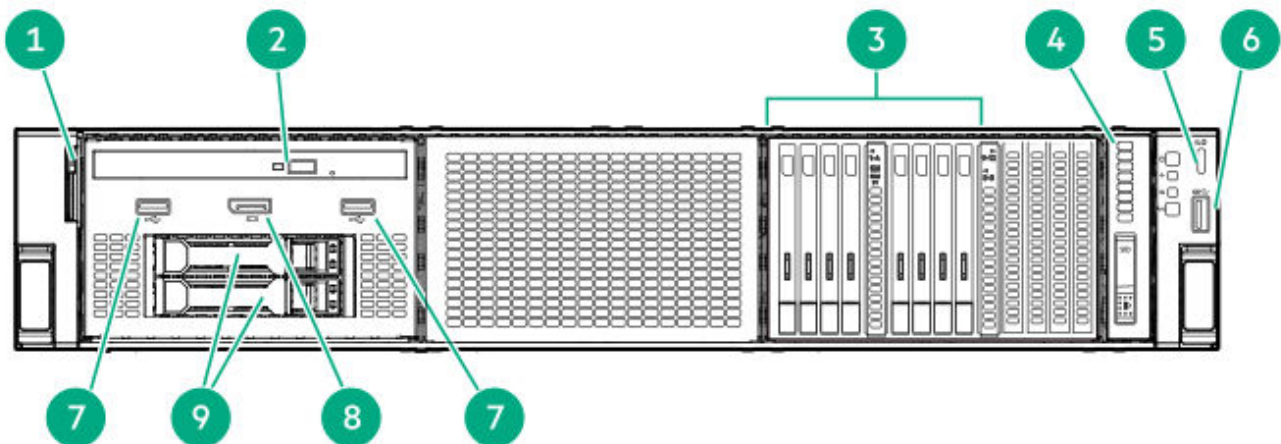


Item	Description
1	Serial number / iLO information pull tab <sup>1</sup>
2	2 SFF side-by-side drives <sup>3</sup> , <sup>2</sup>
3	Optical drive <sup>3</sup>
4	DisplayPort 1.1a <sup>3</sup>
5	iLO service port
6	USB 3.2 Gen 1 port

Item	Description
7	LFF drives <sup>4</sup> <sub>—</sub>

- <sup>1</sup><sub>—</sub> The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.
- <sup>2</sup><sub>—</sub> The 2 SFF side-by-side drive cage option supports the SAS, SATA, or U.3 NVMe drives
- <sup>3</sup><sub>—</sub> These are component options.
- <sup>4</sup><sub>—</sub> The server supports LFF SAS or SATA drives.

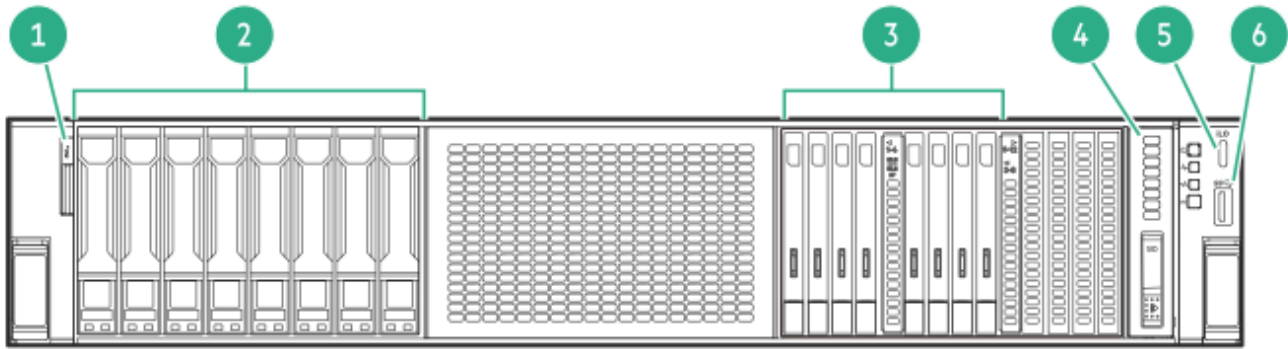
### 2 SFF stacked + 8 E3.S drives



Item	Description
1	Serial number / iLO information pull tab <sup>1</sup> <sub>—</sub>
2	Optical drive <sup>2</sup> <sub>—</sub>
3	E3.S drives
4	System Insight Display <sup>2</sup> <sub>—</sub>
5	iLO service port
6	USB 3.2 Gen 1 port
7	USB 2.0 ports <sup>2</sup> <sub>—</sub>
8	DisplayPort 1.1a <sup>2</sup> <sub>—</sub>
9	2 SFF stacked drives <sup>2, 3</sup> <sub>—</sub>

- <sup>1</sup><sub>—</sub> The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.
- <sup>2</sup><sub>—</sub> These are component options.
- <sup>3</sup><sub>—</sub> The 2 SFF stacked drive cage option supports SAS, SATA, or U.3 NVMe drives.

## 8 SFF + 8 E3.S drives



Item	Description
1	Serial number / iLO information pull tab <sup>1</sup>
2	SFF drives <sup>2</sup>
3	E3.S drives
4	System Insight Display <sup>3</sup>
5	iLO service port
6	USB 3.2 Gen 1 port

<sup>1</sup> The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> The front-end SFF drive boxes support SAS, SATA, or U.3 NVMe

<sup>3</sup> These are component options.

### Subtopics

#### Monitor setup

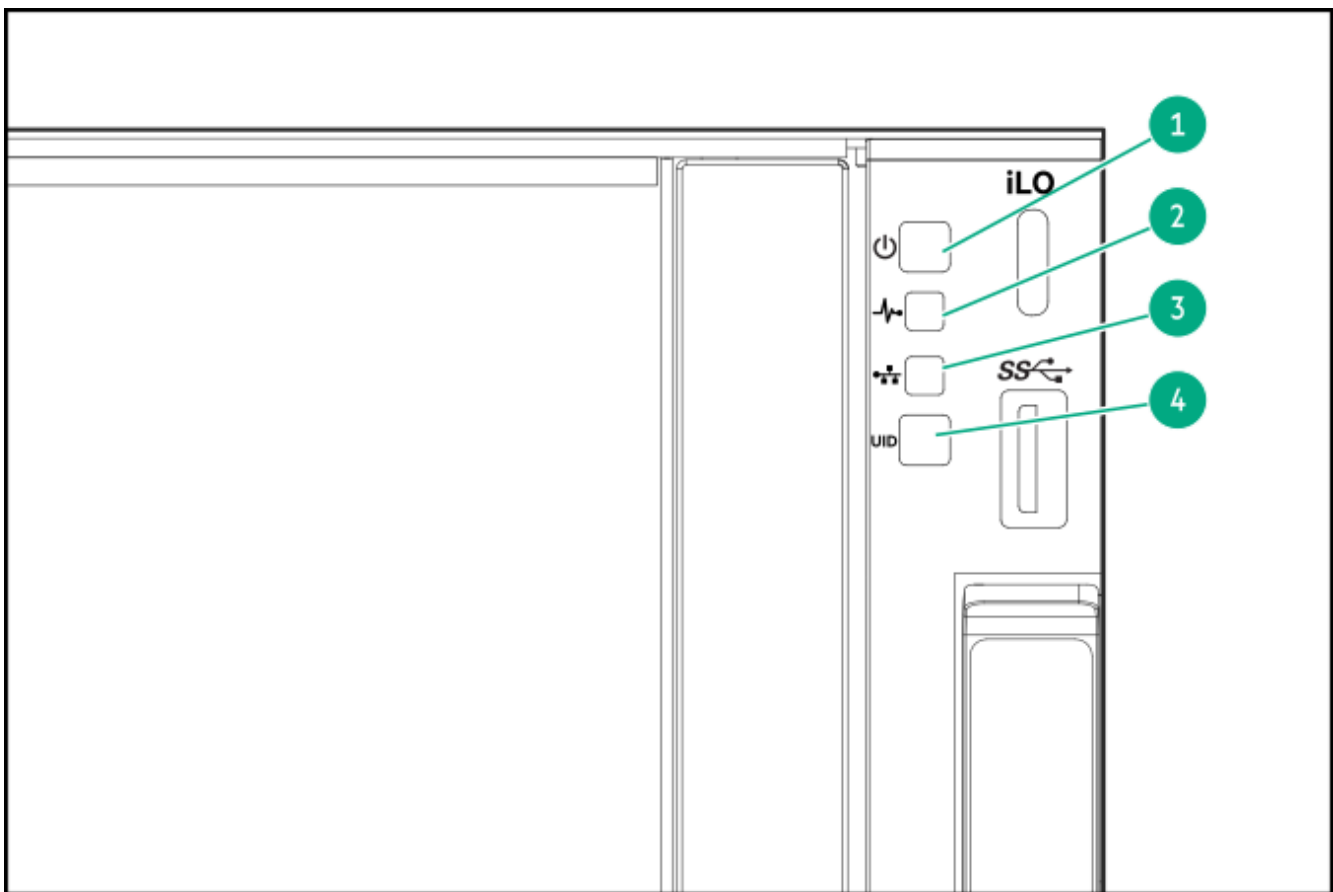
## Monitor setup

Before connecting a monitor, observe the following:

- The server supports both VGA port and DisplayPort 1.1a.
- If you connect two display devices to the server using both the VGA port and DisplayPort, the same image is mirrored on both devices.

- The embedded video controller in the iLO chipset does not support dual display or screen extension mode. To enable dual display, install a compatible graphics card.
- When using HDMI or DVI adapters for the DisplayPort, use an active-type adapter. Passive-type adapters marked with the DP++ symbol are not supported.
- Whenever possible, use the same display connection type. For example, if your monitor only has a VGA port, use the VGA port on the server. Using other adapters or converter cables or dongles might lead to decreased display quality or a lag over the connection.

## Front panel LEDs and buttons



Item	Description	Status	Definition
1	Power On/Standby button/LED	Solid green	System on and normal operation
		Flashing green	Performing power-on sequence
		Solid amber	Power button initialized

Item	Description	Status	Definition
			System in standby
		Off	No power present <sup>2</sup>
2	Health LED <sup>1</sup>	Solid green	Normal
		Flashing green	iLO is rebooting
		Flashing amber	System degraded <sup>3</sup>
		Flashing red	System critical <sup>3</sup>
3	OCP NIC status LED <sup>1</sup>	Solid green	Linked to network
		Flashing green	Network active
		Off	No network activity
4	UID button/LED <sup>1</sup>	Solid blue	Activated
		Flashing blue	<ul style="list-style-type: none"> <li>• 1 flash per second—Remote management or firmware upgrade in progress</li> <li>• 4 flashes per second—iLO manual reboot sequence initiated</li> <li>• 8 flashes per second—iLO manual reboot sequence in progress</li> </ul>
		Off	Deactivated

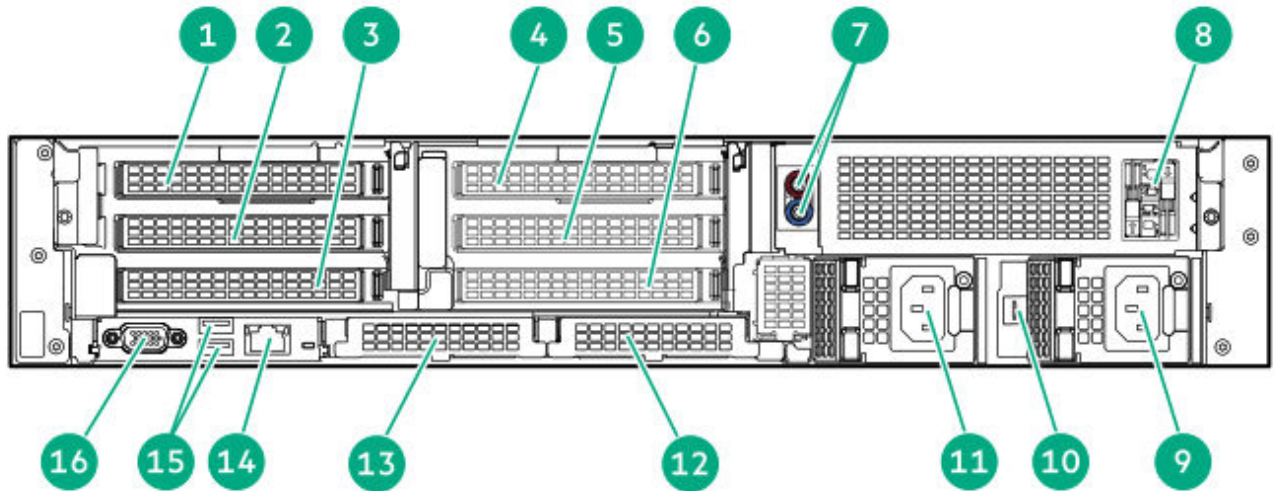
<sup>1</sup> When all LEDs flash simultaneously, a power fault has occurred. For more information, see [Front panel LED power fault codes](#).

<sup>2</sup> Facility power is not present, the power cord is not attached, no power supplies are installed, power supply failure has occurred, or the front I/O cable is disconnected.

<sup>3</sup> If the health LED indicates a degraded or critical state, [review the system Integrated Management Log \(IML\)](#) or use HPE iLO to review the system health status.

# Rear panel components

## 60-mm M-CRPS configuration



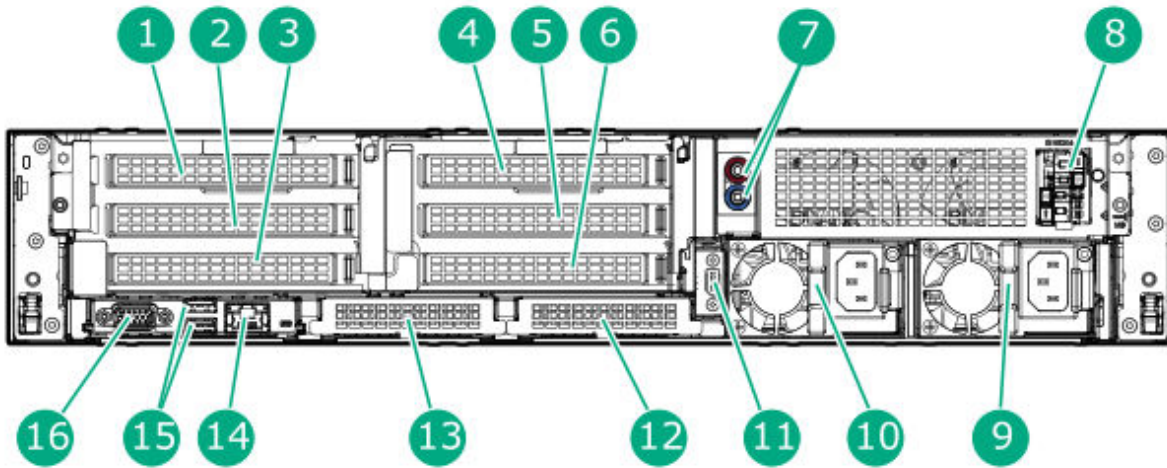
Item	Description
1	Slot 1 PCIe5 x16 <sup>1</sup> <sub>—</sub>
2	Slot 2 PCIe5 x16 <sup>1</sup> <sub>—</sub>
3	Slot 3 PCIe5 x16 <sup>1</sup> <sub>—</sub>
4	Slot 4 PCIe5 x16 <sup>1</sup> <sub>—</sub>
5	Slot 5 PCIe5 x16 <sup>1</sup> <sub>—</sub>
6	Slot 6 PCIe5 x16 <sup>1</sup> <sub>—</sub>
7	Direct liquid cooling quick connectors <sup>1</sup> <sub>—</sub>
8	HPE NS204i-u Boot Device V2 <sup>1</sup> <sub>—</sub>
9	M-CRPS <sup>2</sup> <sub>—</sub> 1
10	ix port <sup>1, 3</sup> <sub>—, —</sub>
11	M-CRPS 2 <sup>1</sup> <sub>—</sub>
12	Slot 21 OCP B PCIe5 x16 <sup>1</sup> <sub>—</sub>
13	Slot 20 OCP A PCIe5 x16
14	iLO dedicated network port <sup>4</sup> <sub>—</sub>
15	USB 3.2 Gen 1 ports <sup>4</sup> <sub>—</sub>
16	VGA port <sup>4</sup> <sub>—</sub>

<sup>1</sup> These are component options.

<sup>2</sup> Modular hardware system common redundant power supply

- <sup>3</sup> The ix port connects to an external serial port dongle.
- <sup>4</sup> These components are on the HPE ProLiant Compute iLO 7 DC-SCM option.

### 73.5-mm M-CRPS configuration



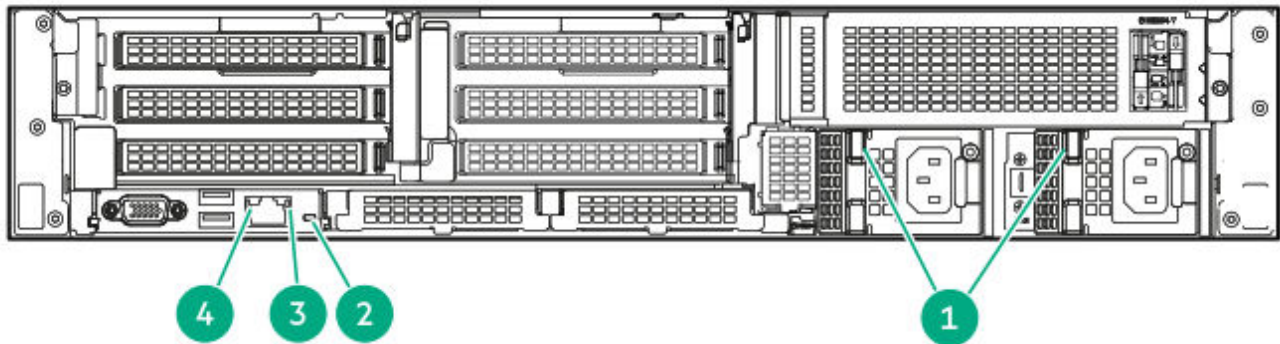
Item	Description
1	Slot 1 PCIe5 x16 <sup>1</sup> <sub>—</sub>
2	Slot 2 PCIe5 x16 <sup>1</sup> <sub>—</sub>
3	Slot 3 PCIe5 x16 <sup>1</sup> <sub>—</sub>
4	Slot 4 PCIe5 x16 <sup>1</sup> <sub>—</sub>
5	Slot 5 PCIe5 x16 <sup>1</sup> <sub>—</sub>
6	Slot 6 PCIe5 x16 <sup>1</sup> <sub>—</sub>
7	Direct liquid cooling quick connectors <sup>1</sup> <sub>—</sub>
8	HPE NS204i-u Boot Device V2 <sup>1</sup> <sub>—</sub>
9	M-CRPS 1
10	M-CRPS 2 <sup>1</sup> <sub>—</sub>
11	ix port <sup>1, 2</sup> <sub>—</sub>
12	Slot 21 OCP B PCIe5 x16 <sup>1</sup> <sub>—</sub>
13	Slot 20 OCP A PCIe5 x16
14	iLO dedicated network port <sup>3</sup> <sub>—</sub>
15	USB 3.2 Gen 1 ports <sup>3</sup> <sub>—</sub>
16	VGA port <sup>3</sup> <sub>—</sub>

- <sup>1</sup> These are component options.
- <sup>2</sup> The ix port connects to an external serial port dongle.

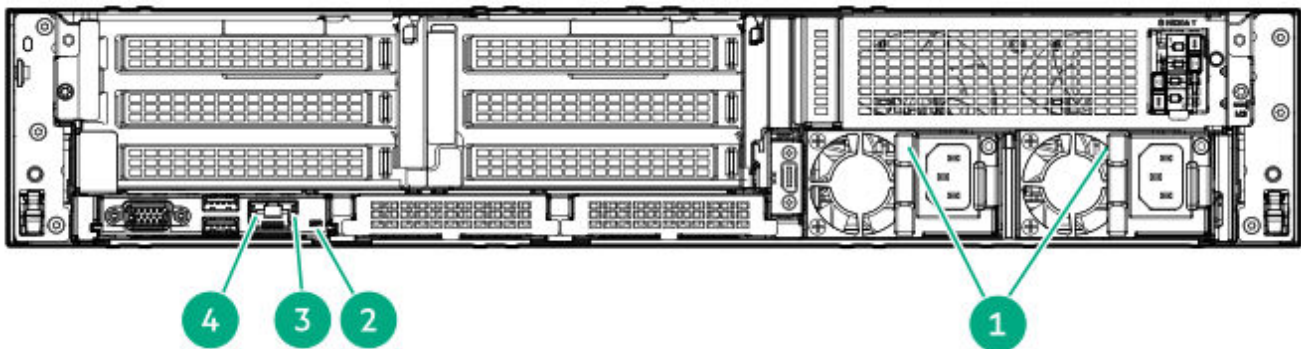
<sup>3</sup> These components are on the HPE ProLiant Compute iLO 7 DC-SCM option.

## Rear panel LEDs

### Rear panel with 60-mm M-CRPS



### Rear panel with 73.5-mm M-CRPS



Item	LED	Status	Definition
1	Power supply	Solid green	The power supply is operating normally.
		Flashing green	<ul style="list-style-type: none"> <li>• 1 flash per sec—Power supply is in standby mode</li> <li>• 2 flashes per sec—Power supply firmware is updating</li> </ul>

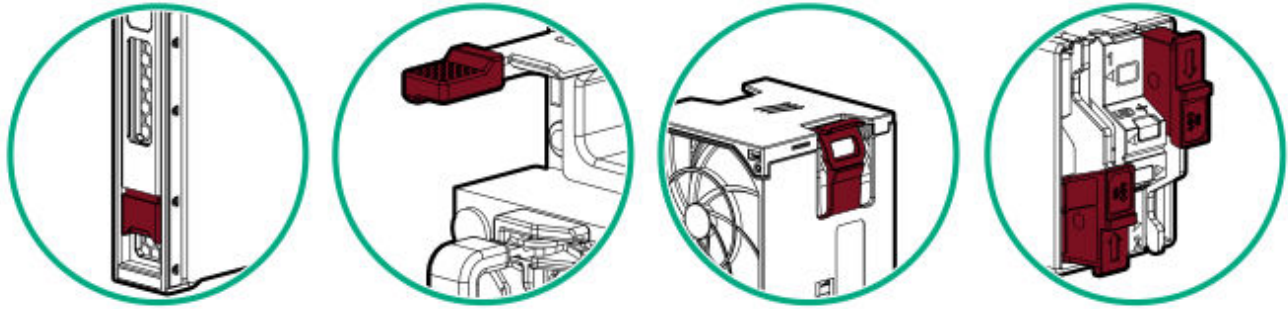
Item	LED	Status	Definition
		Solid amber	One or more of the following conditions exists: <ul style="list-style-type: none"> <li>• Power supply failure</li> <li>• Power supply error</li> </ul>
		Off	One or more of the following conditions exists: <ul style="list-style-type: none"> <li>• Power is unavailable</li> <li>• The power cord is disconnected.</li> </ul>
2	UID	Solid blue	Activated
		Flashing blue	<ul style="list-style-type: none"> <li>• 1 flash per sec—Remote management or firmware upgrade in progress</li> <li>• 4 flashes per sec—iLO manual reboot sequence initiated</li> <li>• 8 flashes per sec—iLO manual reboot sequence in progress</li> </ul>
		Off	Deactivated
3	iLO status	Solid green	Linked to network
		Flashing green	Network active
		Off	No network activity
4	iLO link	Solid green	Network link
		Off	No network link

## Component touchpoints

Certain components are color-coded. These colors represent the recommended touch areas for a removal process and indicate whether components require a system shutdown before removal.

The following diagrams are examples only.

## HPE hot-plug red

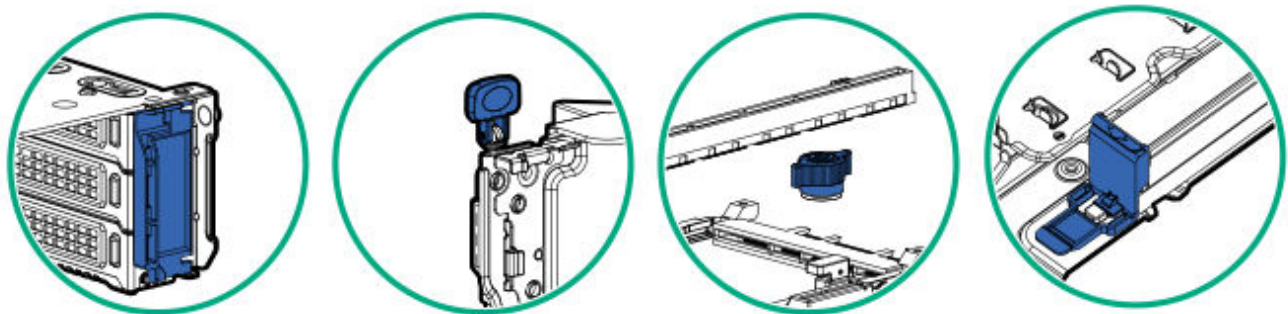


Hot-plug red indicates hot-pluggable components. These components can be removed and installed while the system is running, and doing so will not result in a system shutdown.

Component examples:

- Power supplies in a redundant power configuration
- Hot-plug fans
- Hot-plug drives
- M.2 SSDs in a hot-plug boot device

## HPE touchpoint blue



Touchpoint blue indicates cold-pluggable components. These components require a system shutdown. Failure to do so might result in system failure or data loss. Cold-pluggable components might also indicate touchpoints on non-electrical components.

Component examples:

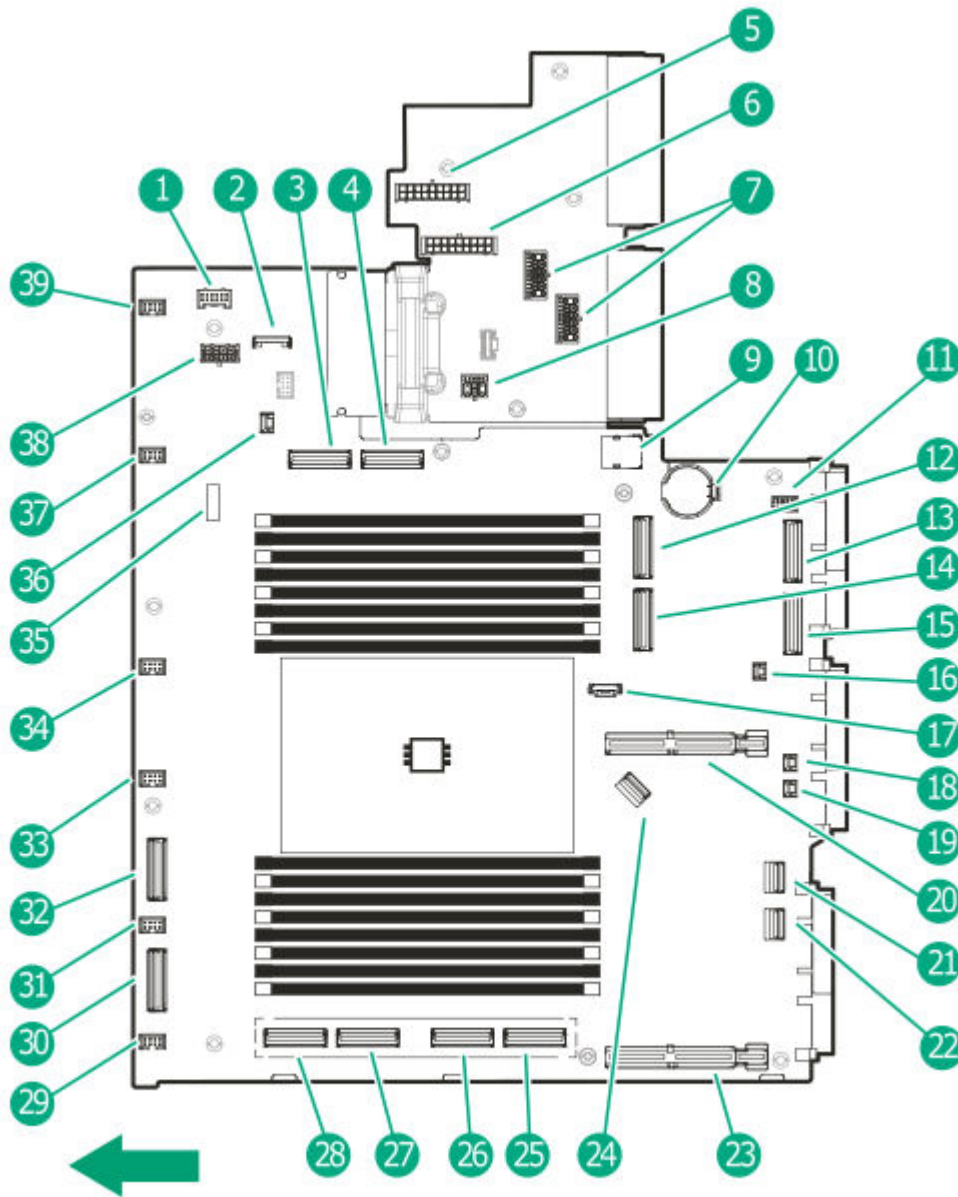
- Storage devices
- Fan cages
- System boards

- Energy packs

## System board and power distribution board components

The grayed out components in the system board and the PDB images are not for use in this server.

The arrow points to the front of the server.



<b>Item</b>	<b>Description</b>
1	Energy pack connector
2	SID connector
3	M-XIO port 6
4	M-XIO port 4
5	Box 1-2 drive backplane power connector
6	Box 3 drive backplane power connector
7	2 x 6 M-PIC power connectors
8	2 x 3 M-PIC power connector
9	USB 3.2 Gen 1 port
10	System battery
11	NS204i-u power connector
12	M-XIO port 17
13	MCIO OCP B-1 input port
14	M-XIO port 13
15	MCIO OCP B-2 input port
16	Storage controller backup power connector 1
17	Liquid cooling module signal and power connector
18	Storage controller backup power connector 2
19	Storage controller backup power connector 3
20	Secondary riser connector
21	Front I/O connector
22	USB 2.0 / DisplayPort cable connector
23	Primary riser connector
24	NS204i-u signal connector
25	M-XIO port 3
26	M-XIO port 1
27	M-XIO port 5
28	M-XIO port 7
29	Fan connector 6
30	M-XIO port 0
31	Fan connector 5
32	M-XIO port 2

Item	Description
33	Fan connector 4
34	Fan connector 3
35	<u>System maintenance switch</u>
36	Chassis intrusion detection switch connector
37	Fan connector 2
38	Universal media bay power connector
39	Fan connector 1

## Subtopics

**System maintenance switch descriptions**

**DIMM label identification**

**DIMM slot numbering**

## System maintenance switch descriptions

Position	Default	Function
S1	Off	<ul style="list-style-type: none"> <li>Off—iLO 7 security is enabled.</li> <li>On—iLO 7 security is disabled.</li> </ul>
S2	Off	Reserved
S3	Off	Reserved
S4	Off	Reserved
S5	Off	<ul style="list-style-type: none"> <li>Off—Power-on password is enabled.</li> <li>On—Power-on password is disabled.</li> </ul>
S6 <u>1, 2</u>	Off	<ul style="list-style-type: none"> <li>Off—No function</li> <li>On—Restore default manufacturing settings</li> </ul>
S7	Off	Reserved
S8	Off	Reserved
S9	Off	Reserved

Position	Default	Function
S10	Off	Reserved
S11	Off	Reserved
S12	Off	Reserved

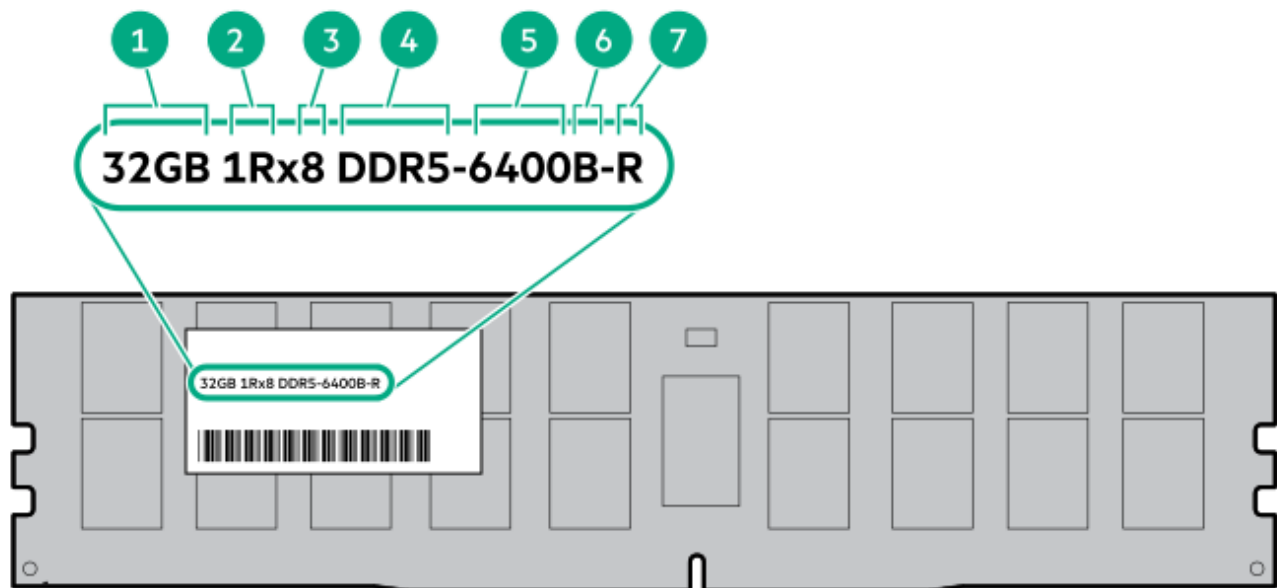
- <sup>1</sup> When the system maintenance switch position 6 is set to the On position, the system is prepared to restore all configuration settings to their manufacturing defaults.
- <sup>2</sup> When the system maintenance switch position 6 is set to the On position and Secure Boot is enabled, some configurations cannot be restored. For more information, see [Configuring the server](#).

## DIMM label identification

To determine DIMM characteristics, see the label attached to the DIMM. The information in this section helps you to use the label to locate specific information about the DIMM.

For more information about product features, specifications, options, configurations, and compatibility, see the HPE DDR5 SmartMemory QuickSpecs:

<https://www.hpe.com/docs/server-memory>



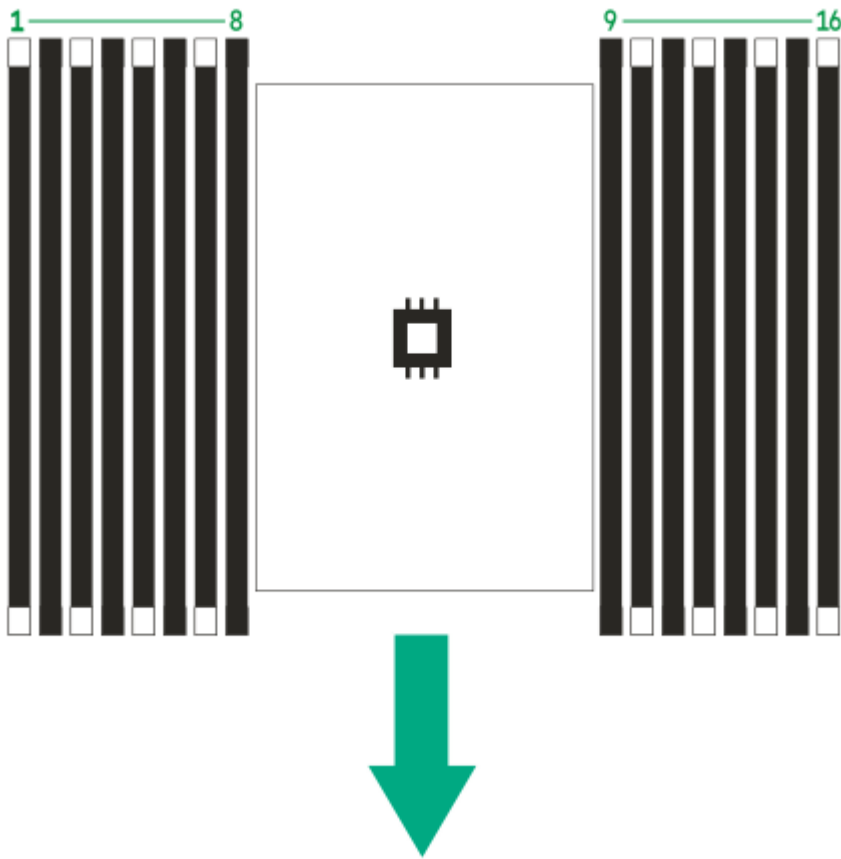
Item	Description	Example
1	Capacity*	16 GB

Item	Description	Example
		32 GB
		64 GB
		96 GB
		128 GB
		256 GB
2	Rank	1R—Single rank 2R—Dual rank 4R—Quad rank
3	Data width on DRAM	x4—4-bit x8—8-bit
4	Memory generation	PC5—DDR5
5	Maximum memory speed*	6400 MT/s
6	CAS latency	B—42-42-42
7	DIMM type	R—RDIMM (registered)

\* The maximum memory speed and capacity is a function of the memory type, memory configuration, and processor model.

## DIMM slot numbering

The arrow points to the front of the server.



## GPU riser slot numbering

All riser slots are PCIe5 x16 (16, 8, 4, 2) and are rated for a maximum power draw of 75 W each. To support high power GPUs (> TDP 75 W), an auxiliary power cable is required.

### 2 GPU configuration

- The 2 GPU configuration uses single-slot PCIe x16 captive risers. The GPUs are installed in slots 12 and 17.
- 2 double-width GPUs



- 2 single-width GPUs



#### 4 GPU configuration

- The 4 GPU configuration uses single-slot PCIe x16 captive risers. The GPUs are installed in slots 10, 12, 15, and 17.
- 4 double-width GPUs



- 4 single-width GPUs



# Drive bay numbering



## CAUTION

When a server is purchased without any drive installed, some drive bays might be empty while other drive bays might be populated with drive blanks. To maintain proper system cooling, do not operate the server without a drive or a drive blank installed.

## Subtopics

**LFF drive bay numbering**

**SFF drive bay numbering**

**E3.S drive bay numbering**

**Mixed drive bay numbering**

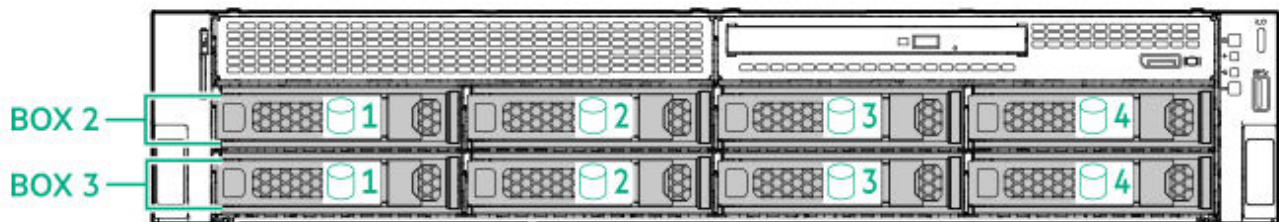
## LFF drive bay numbering

The following drive backplane options are supported in LFF drive configurations:

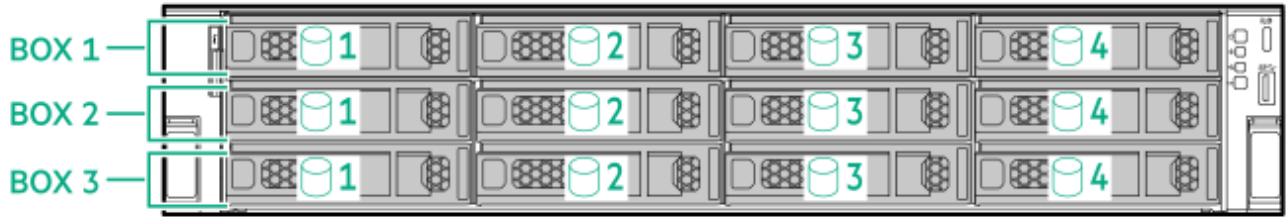
- 4 LFF 12G x1 SAS/SATA UBM2 LP
- 4 LFF 12G x1 SAS/SATA UBM6 LP

For more information on the drive backplane description, see [Drive backplane naming](#).

## 8 LFF drive bay numbering



## 12 LFF drive bay numbering



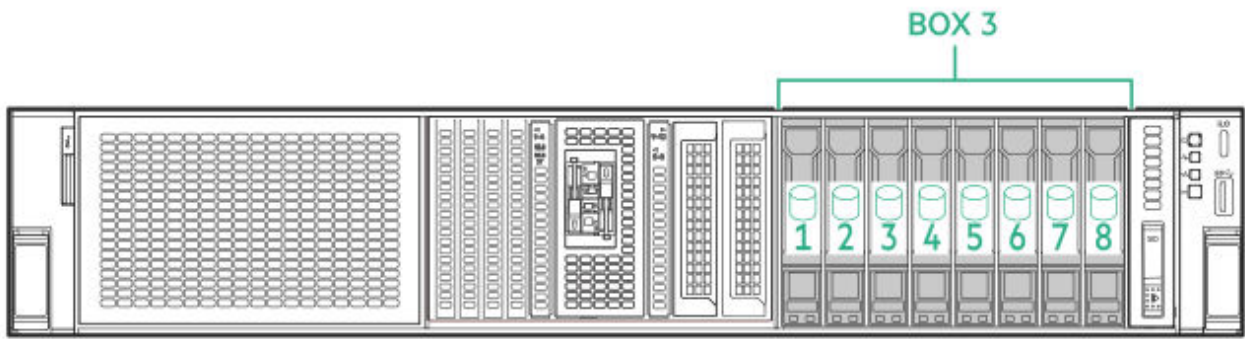
## SFF drive bay numbering

The following drive backplane options are supported in SFF drive configurations:

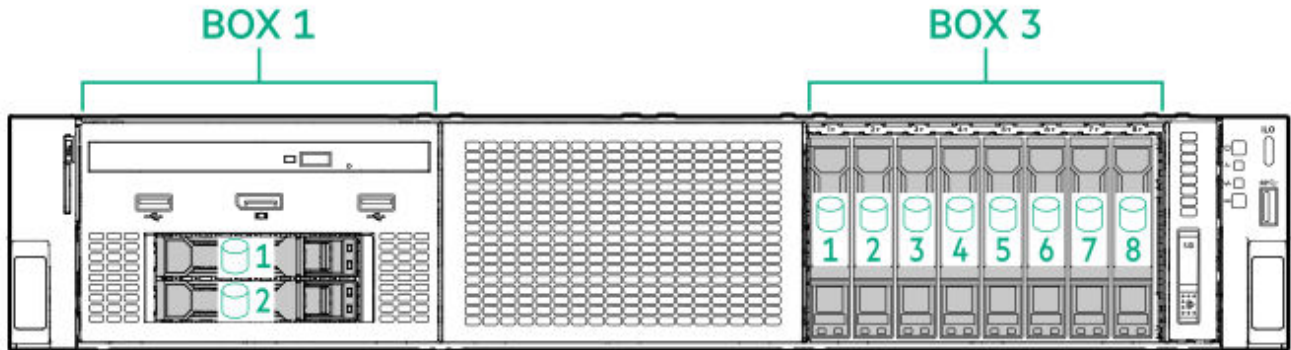
- 2 SFF stacked drives:
  - 24G x4 U.3 NVMe / SAS / SATA UBM3 BC
  - 24G x4 U.3 NVMe / SAS / SATA UBM6 BC
- 8 SFF drives:
  - 8 SFF 16G x4 U.2 NVMe / SAS / SATA UBM4 BC
  - 8 SFF 16G x4 U.2 NVMe / SAS / SATA UBM6 BC
  - 8 SFF 24G x1 U.3 NVMe / SAS / SATA UBM3 BC
  - 8 SFF 24G x1 U.3 NVMe / SAS / SATA UBM6 BC
  - 8 SFF 24G x4 U.3 NVMe / SAS / SATA UBM3 BC
  - 8 SFF 24G x4 U.3 NVMe / SAS / SATA UBM6 BC

For more information on the drive backplane description, see [Drive backplane naming](#).

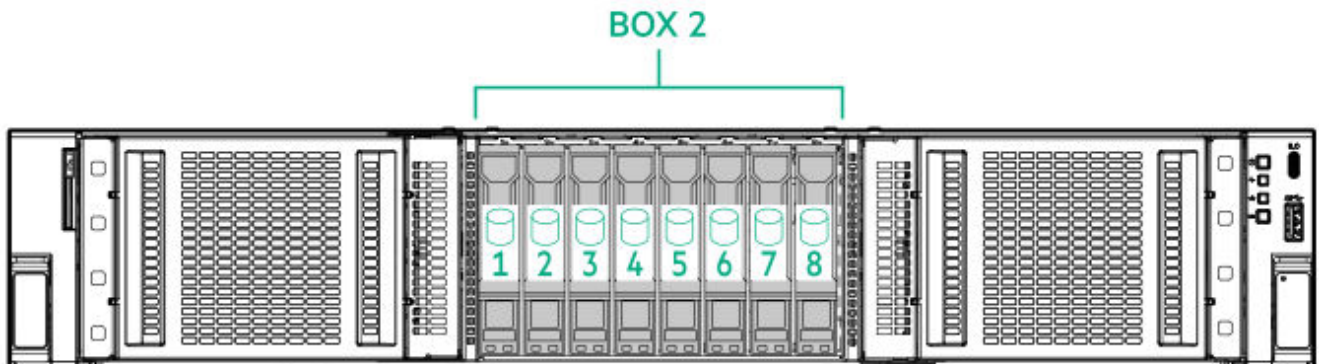
### 8 SFF drive bay numbering



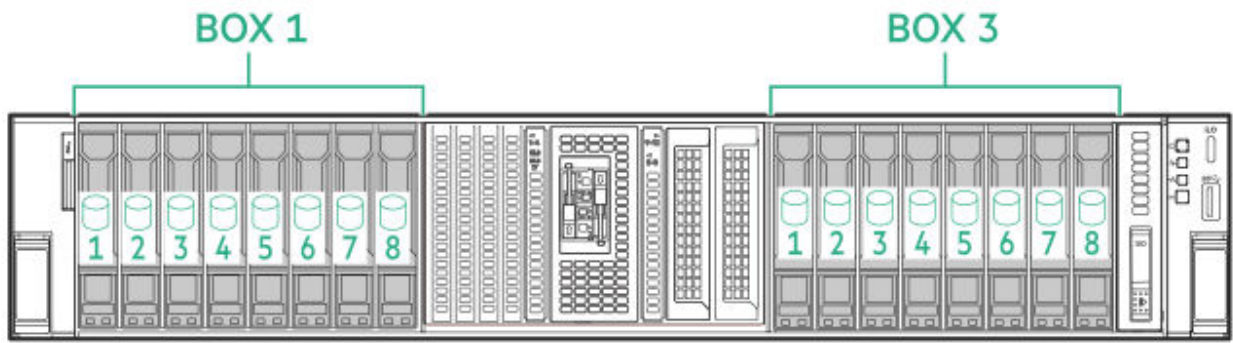
### 8 SFF drive bay numbering: Universal media bay configuration



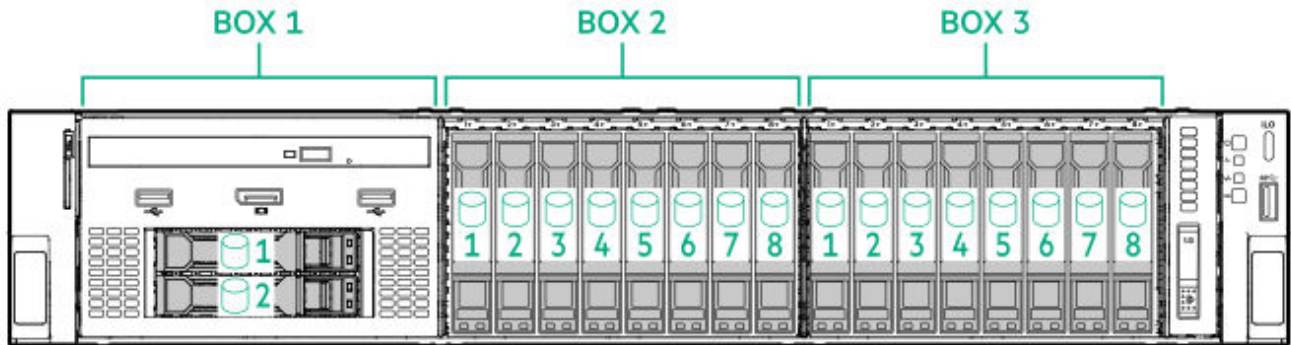
### 8 SFF drive bay numbering: GPU-optimized configuration



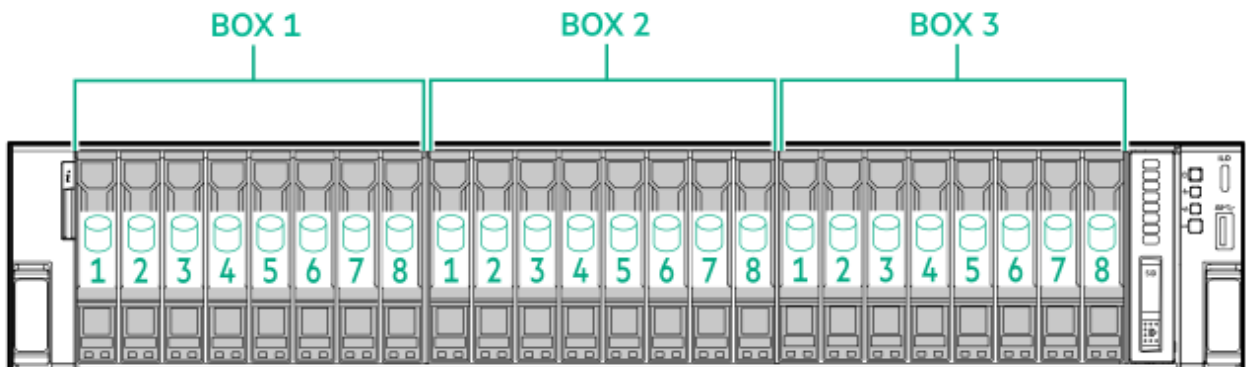
### 16 SFF drive numbering



### 16 SFF drive numbering: Universal media bay configuration



### 24 SFF drive numbering

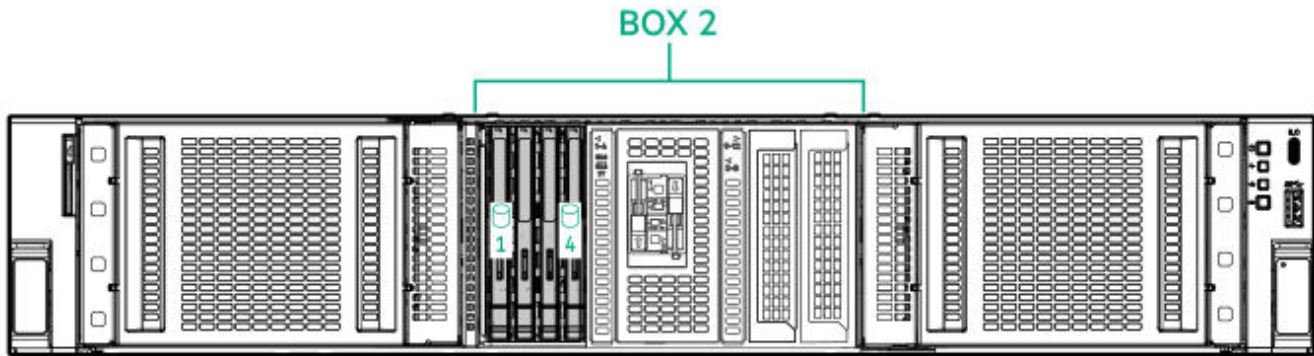


## E3.S drive bay numbering

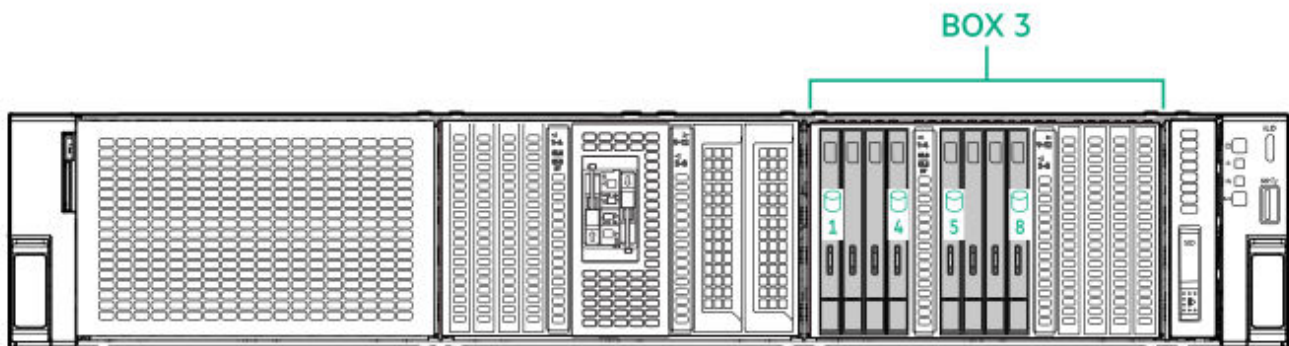
The 4 E3.S 32G x4 NVMe UBM10 EC is supported in E3.S drive configurations.

For more information on the drive backplane description, see [Drive backplane naming](#).

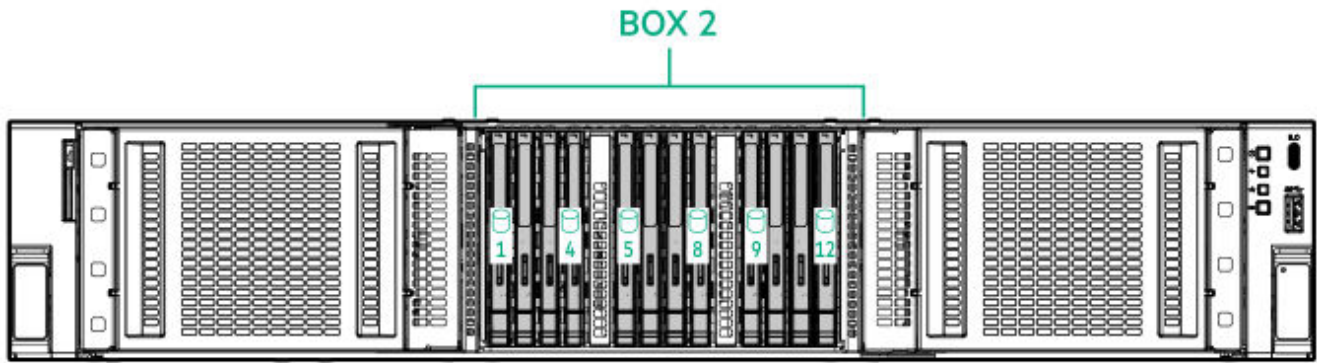
### 4 E3.S drive bay numbering: GPU-optimized configuration



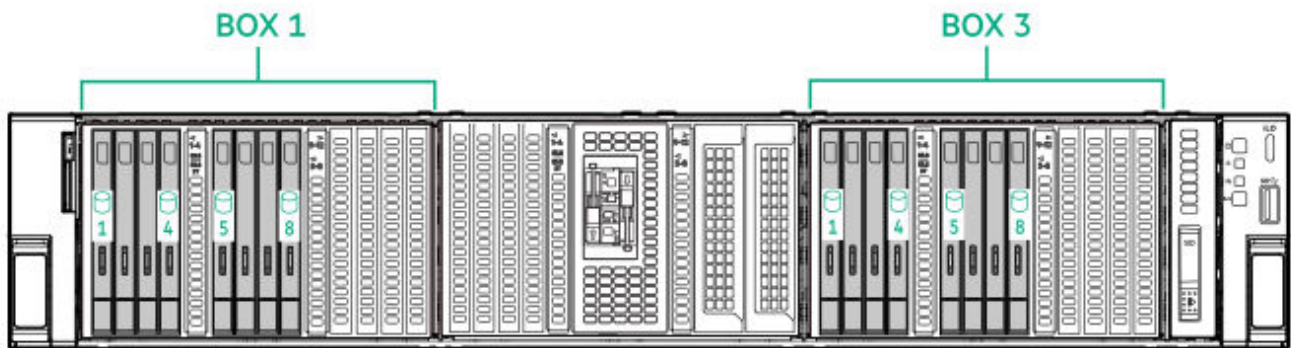
### 8 E3.S drive bay numbering



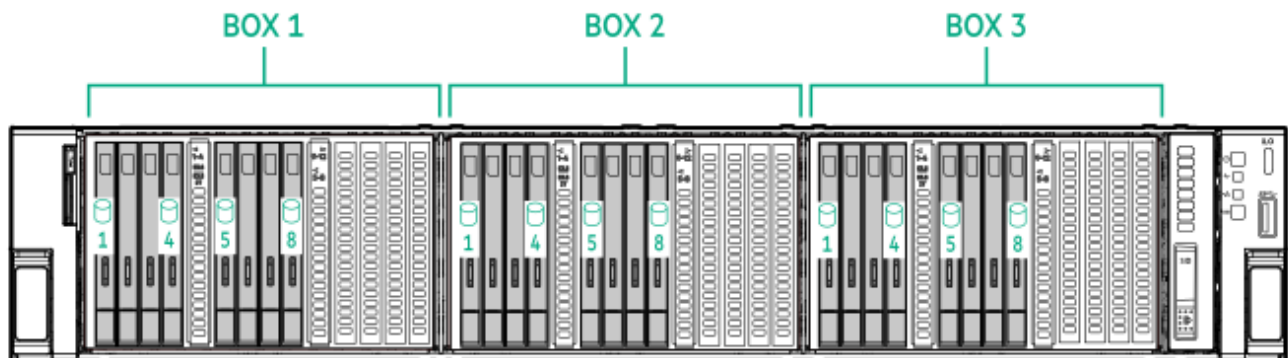
## 12 E3.S drive bay numbering: GPU-optimized configuration



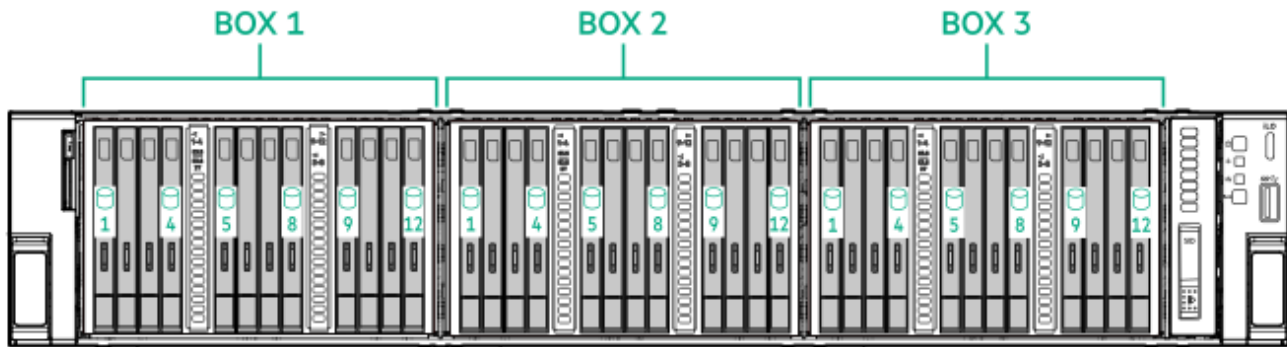
## 16 E3.S drive bay numbering



## 24 E3.S drive bay numbering



## 36 E3.S drive bay numbering



## Mixed drive bay numbering

The following drive backplane options are supported in mixed drive configurations:

- LFF drives:
  - 4 LFF 12G x1 SAS/SATA UBM2 LP
  - 4 LFF 12G x1 SAS/SATA UBM6 LP
- 2 SFF side-by-side drives (LFF chassis only):
  - 2 SFF 24G x4 U.3 NVMe / SAS / SATA UBM3 BC
  - 2 SFF 24G x4 U.3 NVMe / SAS / SATA UBM6 BC
- 2 SFF stacked drives:
  - 2 SFF 24G x4 U.3 NVMe / SAS / SATA UBM4 BC
  - 2 SFF 24G x4 U.3 NVMe / SAS / SATA UBM6 BC
- 8 SFF drives:
  - 8 SFF 16G x4 U.2 NVMe / SAS / SATA UBM4 BC
  - 8 SFF 16G x4 U.2 NVMe / SAS / SATA UBM6 BC
  - 8 SFF 24G x1 U.3 NVMe / SAS / SATA UBM3 BC
  - 8 SFF 24G x1 U.3 NVMe / SAS / SATA UBM6 BC

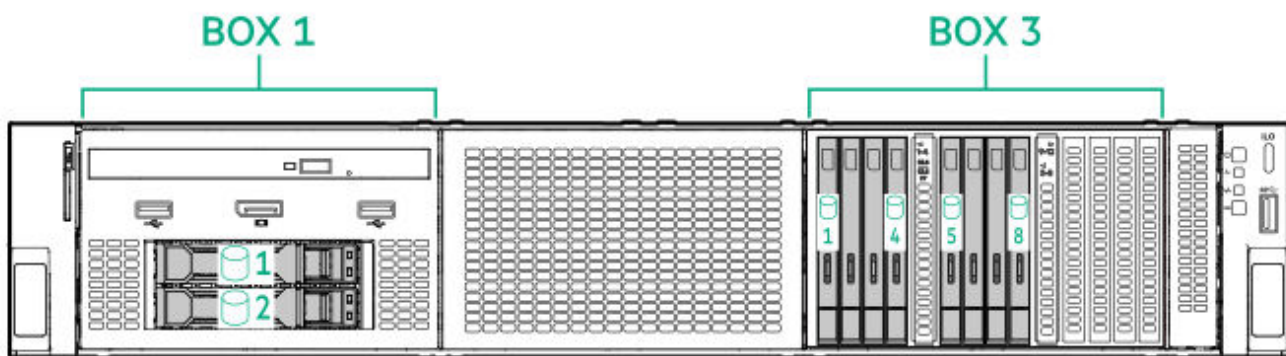
- 8 SFF 24G x4 U.3 NVMe / SAS / SATA UBM3 BC
- 8 SFF 24G x4 U.3 NVMe / SAS / SATA UBM6 BC
- 8 E3.S drives: 4 E3.S 32G x4 NVMe UBM10 EC

For more information on the drive backplane description, see [Drive backplane naming](#).

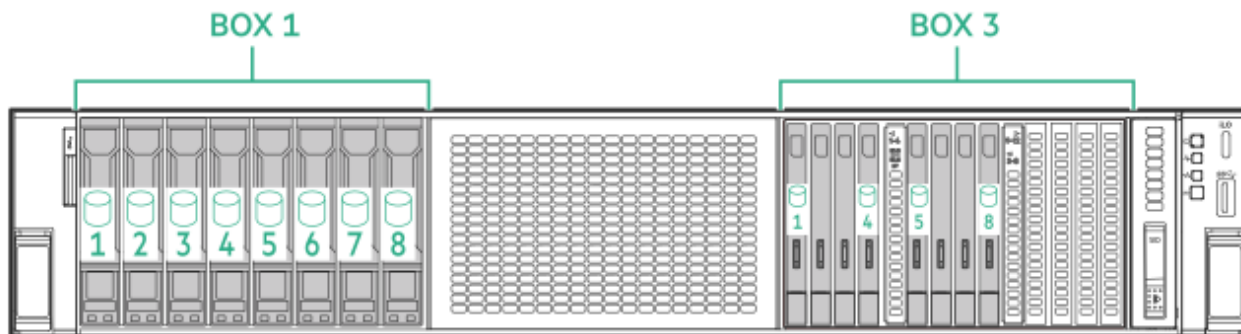
### 2 SFF side-by-side + 8 LFF drive bay numbering



### 2 stacked + 8 E3.S drive bay numbering



### 8 SFF + 8 E3.S drive bay numbering



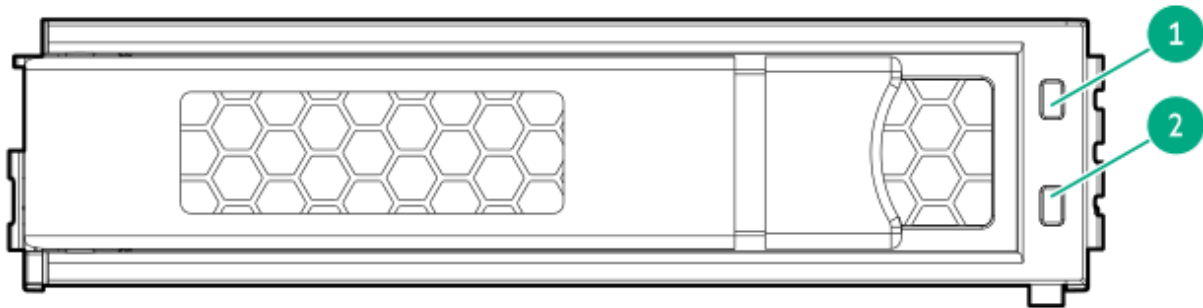
## HPE Basic Drive LED definitions

The HPE Basic drive carrier has the following LEDs:

- Amber/blue LED—Managed by the drive backplane in conjunction with the storage controller and is used to indicate drive status.
- Green LED—Managed by the drive itself and indicates the drive activity.

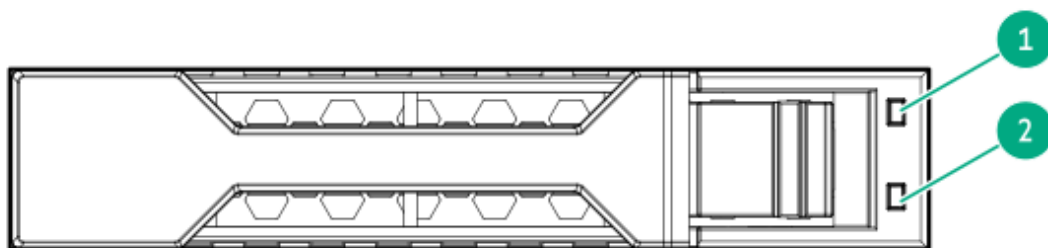
### LFF low-profile drive carrier

The LFF low-profile drive carrier supports hot-plug SAS or SATA drives.



### SFF basic drive carrier

The SFF basic drive carrier supports hot-plug U.3 NVMe drives.



Item	LED	State	Definition
1	Fault/Locate	Solid amber	This drive has failed, is unsupported, or is invalid.
		Solid blue	The drive is operating normally and being identified by a management application.
		Flashing amber/blue (1 flash per second)	The drive has failed, or a predictive failure alert has been received for this drive. The drive has also been identified by a management application.
		Flashing amber (1 flash per second)	A predictive failure alert has been received for this drive. Replace the drive as soon as possible.
		Off	The drive is operating normally and not being identified by a management application.
2	Online/Activity	Solid green	The drive is online and has no activity.
		Flashing green (1 flash per second)	The drive is doing one of the following: <ul style="list-style-type: none"> <li>• Rebuilding or performing a RAID</li> <li>• Performing a stripe size migration</li> <li>• Performing a capacity expansion</li> <li>• Performing a logical drive extension</li> <li>• Erasing</li> <li>• Spare part activation</li> </ul>
		Flashing green (4 flashes per second)	The drive is operating normally and has activity.
		Off	The drive is not configured by a RAID controller or is a spare drive.

## EDSFF SSD LED definitions

The EDSFF drive carrier has two LEDs:

- Amber/blue LED—Managed by the drive backplane in conjunction with the storage controller and is used to indicate drive status.
- Green LED—Managed by the drive itself and indicates the drive activity.



Item	LED	State	Definition
1	Fault/Locate	Solid amber	This drive has failed, is unsupported, or is invalid.
		Solid blue	The drive is operating normally and being identified by a management application.
		Flashing amber/blue (1 flash per second)	The drive has failed, or a predictive failure alert has been received for this drive. The drive has also been identified by a management application.
		Flashing amber (1 flash per second)	A predictive failure alert has been received for this drive. Replace the drive as soon as possible.
		Off	The drive is operating normally and not being identified by a management application.
2	Online/Activity	Solid green	The drive is online and has no activity.
		Flashing green (4 flashes per second)	The drive is operating normally and has activity.
		Off	No power present.

## Drive backplane naming

This topic explains the features represented in the drive backplane naming. This naming convention was adopted starting in the HPE Gen11 server release. Your server might not support all the features listed in this topic. For server-specific support information, see the server guides:

- Drive backplane support, see [Drive bay numbering](#).
- Drive backplane cabling, see [Storage cabling](#).



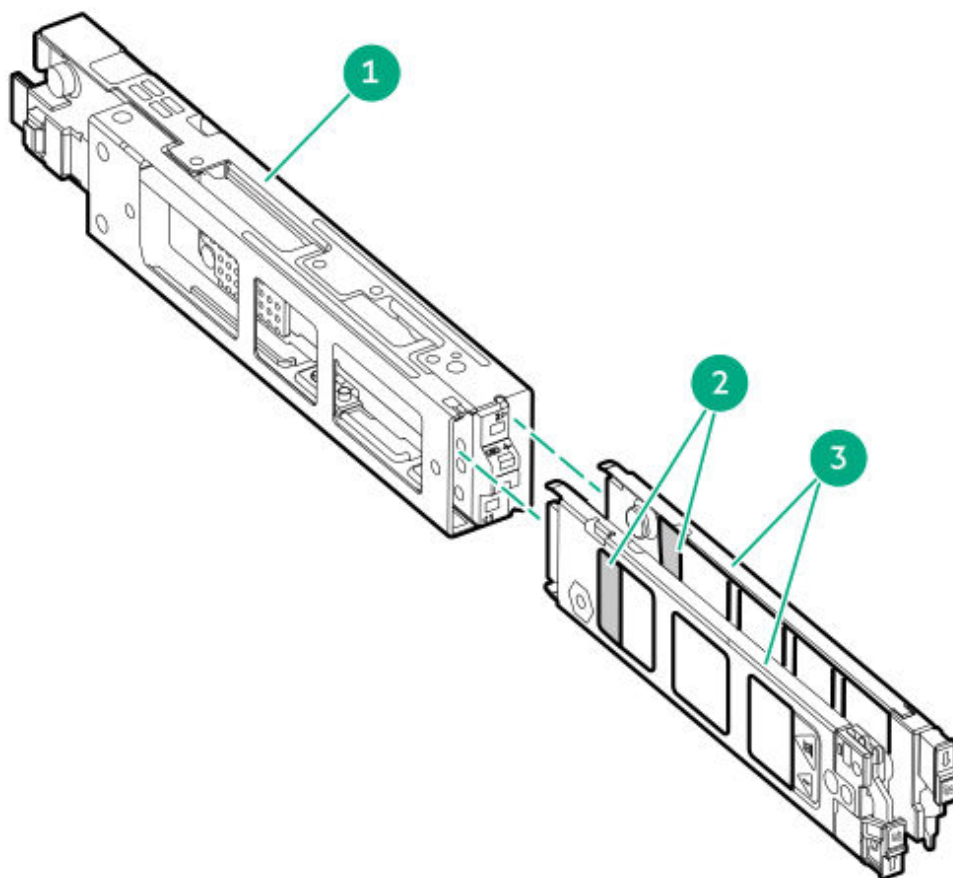
Item	Description	Values
1	Drive bay count	Number of drive bays supported by the backplane.
2	Drive form factor	LFF—Large Form Factor
		SFF—Small Form Factor
		E3S—Enterprise and Datacenter Standard Form Factor (EDSFF E3.S)
3	Maximum link rate per lane (GT/s)	12G
		16G
		24G
		32G
4	Port link width and interface	x1 NVMe/SAS—U.3 NVMe, SAS, or SATA <sup>1</sup>
		x4 NVMe/SAS—U.3 NVMe, SAS, or SATA <sup>2</sup>
		x4 NVMe—NVMe <sup>3</sup>
		x4 NVMe—E3.S
5	Universal backplane manager (UBM) model	The UBM model defines the UBM firmware used by the backplane.  Examples of UBM models: UBM2, UBM3, and etc.
6	Drive carrier type	BC—Basic carrier (SFF)
		LP—Low-profile carrier (LFF)
		EC—E3.S carrier

<sup>1</sup> Tri-mode controller support for x1 U.3 NVMe, SAS, and SATA drives. System board connection supports SATA drives only.

<sup>2</sup> CPU direct attach or tri-mode controller support for x4 U.3 NVMe, x2 (via a splitter cable) U.3 NVMe, or x1 SAS and SATA drives.

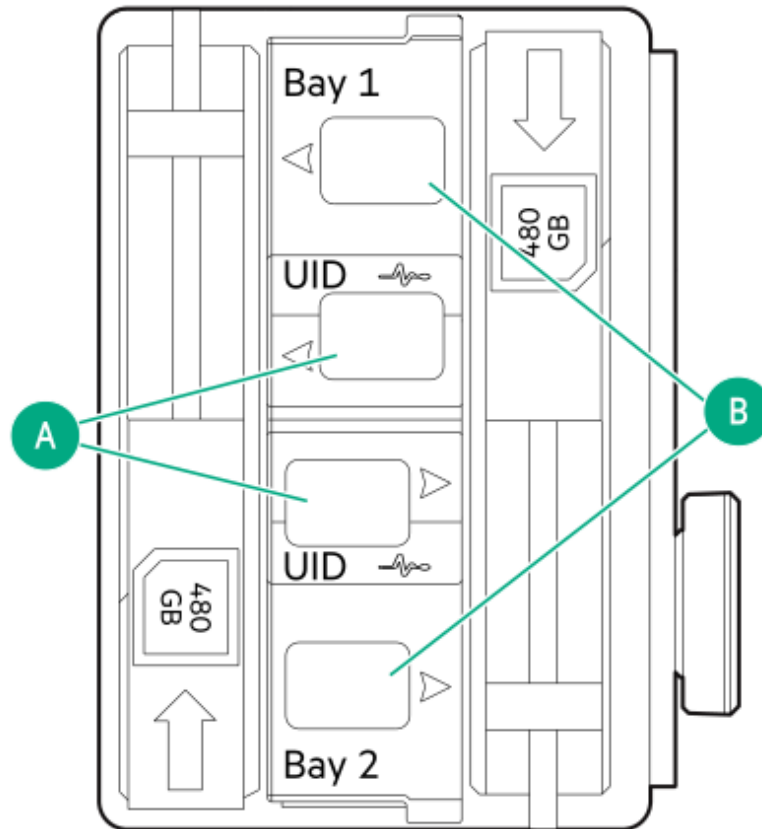
<sup>3</sup> CPU direct attach or tri-mode controller support for x4 NVMe drives.

## HPE NS204i-u Boot Device V2 components



Item	Description
1	Boot device cage
2	M.2 slots
3	Boot device carriers

## HPE NS204i-u Boot Device V2 LED definitions



### NOTE

The bay number can be found on the SSD carrier handle.

Item	LED	Status	Definition
A	Fault or Locate	Solid amber	Drive has failed, unsupported, or invalid.
		Solid blue	Drive is operating normally.
		Flashing amber or blue (one flash per second)	Drive has failed, or a predictive failure alert is received for the drive.
		Flashing amber (one flash per second)	Drive predictive failure alert is received. Replace the drive as soon as possible.
		Off	Drive is operating normally and is not identified by any application.
B	Online/Activity	Solid green	Drive is online and has no activity.

Item	LED	Status	Definition
		Flashing green (one flash per second)	Drive is doing one of the following: <ul style="list-style-type: none"> <li>• Rebuilding or performing a RAID</li> <li>• Erasing</li> </ul>
		Flashing green (4 flashes per second)	Drive is operating normally and has activity.
		Off	Drive is not configured by a RAID controller.

## Systems Insight Display LEDs

The Systems Insight Display (SID) LEDs represent components on the system board. The display enables components issue diagnosis even with the access panel installed.

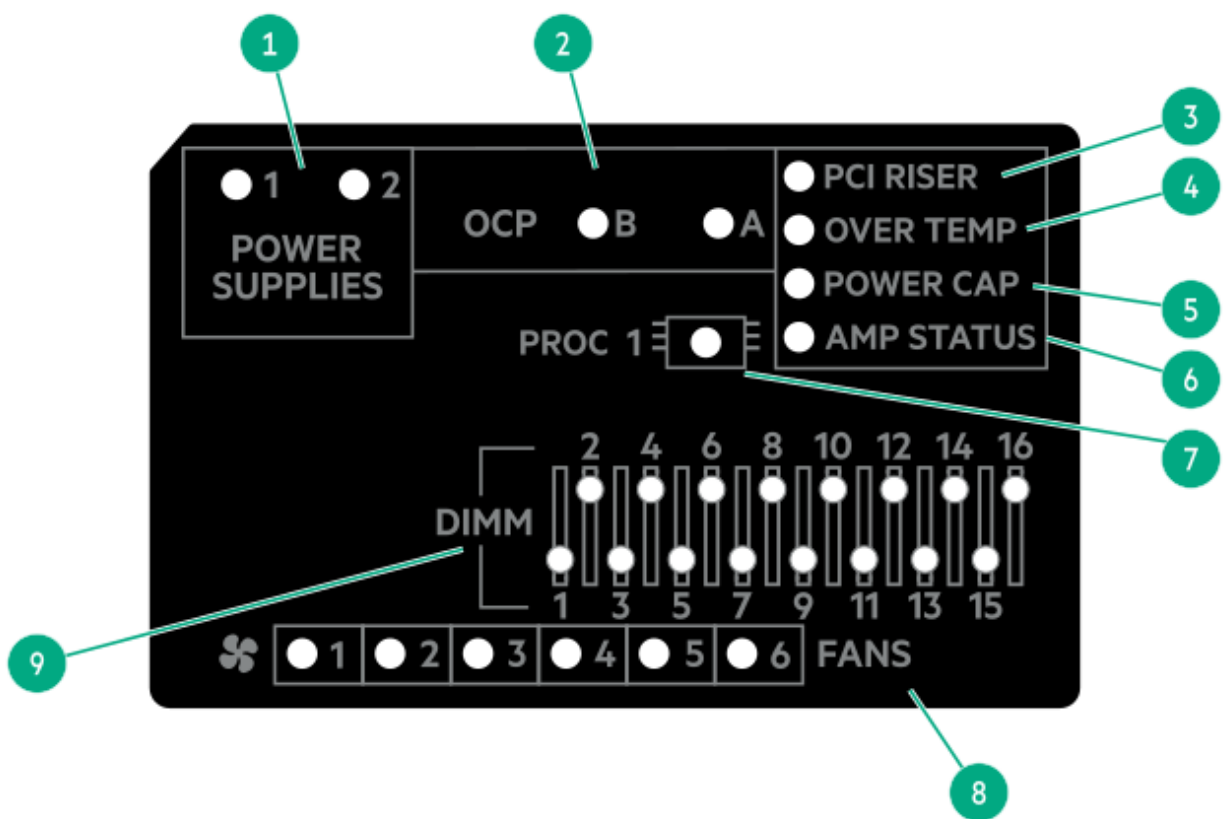


### IMPORTANT

If more than one DIMM slot LED is illuminated, further troubleshooting is required. Test each bank of DIMMs by removing all other DIMMs. Isolate the failed DIMM by replacing each DIMM in a bank with a known working DIMM.

For information about memory population rules, see the relevant memory technical paper in:

<https://www.hpe.com/docs/server-memory>



Item	LED	Status	Description
1	Power supply LEDs	Off	Normal
		Solid amber	One or more of the following conditions exit: <ul style="list-style-type: none"> <li>Power subsystem degraded</li> <li>Power supply failure</li> <li>Input power lost</li> </ul>
2	OCP LEDs	Solid green	Network link
		Flashing green	Network active
		Off	No network link
3	PCI riser LED	Off	Normal
		Solid amber	Incorrectly installed PCI riser cage
4	Over temp LED	Off	Normal
		Solid amber	High system temperature detected

Item	LED	Status	Description
5	Power cap LED	Solid green	Power cap applied
		Off	One or more of the following conditions exit: <ul style="list-style-type: none"> <li>• System is in standby</li> <li>• No cap is set</li> </ul>
6	AMP <sup>1</sup>	Solid green	AMP mode enabled
		Solid amber	Failover
		Flashing amber	Invalid configuration
		Off	AMP modes disabled
7	Processor LED	Off	Normal
		Solid amber	Failed processor
8	Fan LEDs	Off	Normal
		Solid amber	Failed fan or missing fan
9	DIMM LEDs	Off	Normal
		Solid amber	Failed DIMM or configuration issue

<sup>1</sup> To enable Advanced Memory Protection (AMP), see the UEFI user guide (<https://www.hpe.com/support/hpeuefisystemutilities-quicklinks>).

When the health LED on the front panel illuminates either amber or red, the server is experiencing a health event. For more information on the combination of these LEDs, see [Systems Insight Display combined LED descriptions](#).

## System Insight Display combined LED descriptions

The combined illumination of the following LEDs indicates a system condition:

- SID LEDs
- System power LED
- Health LED

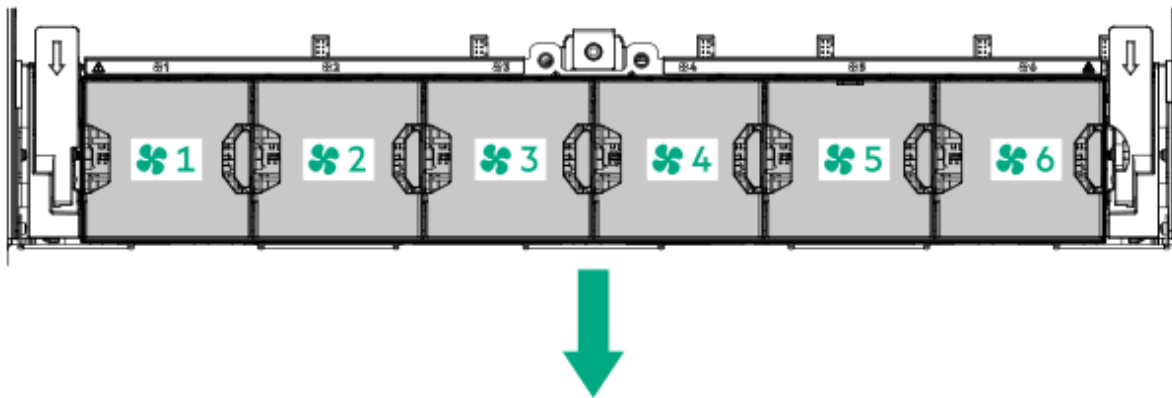
SID LED status	Health LED status	System power LED status	LED Definition
Power supply (solid amber)	Flashing red	Solid amber	One or more of the following conditions exist: <ul style="list-style-type: none"> <li>Only one power supply is installed and that power supply is in standby.</li> <li>Power supply fault.</li> <li>System board fault.</li> </ul>
	Flashing amber	Solid green	One or more of the following conditions exist: <ul style="list-style-type: none"> <li>Redundant power supply is installed and only one power supply is functional.</li> <li>AC power cord is not plugged into redundant power supply.</li> <li>Redundant power supply fault.</li> <li>Power supply mismatch at POST or power supply mismatch through hot-plug addition.</li> </ul>
PCI riser (solid amber)	Flashing red	Solid green	The PCI riser cage is not seated properly.
Over temp (solid amber)	Flashing amber	Solid green	The Health Driver has detected a cautionary temperature level.
	Flashing red	Solid amber	The server has detected a hardware critical temperature level.
Power cap (solid green)	—	Solid green	Power is available.
Power cap (solid green)	—	Flashing green	Waiting for power
Power cap (flashing amber)	—	Solid amber	Power is not available.
Power cap (off)	—	Solid amber	Standby
Processor (solid amber)	Flashing red	Solid amber	One or more of the following conditions might exist: <ul style="list-style-type: none"> <li>Processor in socket X has failed.</li> <li>Processor X is not installed in the socket.</li> <li>Processor X is unsupported.</li> <li>ROM detects a failed processor during POST.</li> </ul>
	Flashing amber	Solid green	Processor in socket X is in a pre-failure condition.

SID LED status	Health LED status	System power LED status	Definition
Fan (solid amber)	Flashing amber	Solid green	One fan has failed or has been removed.
	Flashing red	Solid green	Two or more fans have failed or been removed.
DIMM (solid amber)	Flashing red	Solid green	One or more DIMMs have failed.
	Flashing amber	Solid green	DIMM in slot X is in a pre-failure condition.

## Fan numbering

To provide sufficient airflow to the system, the server is by default populated by 6 fans. The fans can either be standard, single-rotor fans (P51153-001) or high performance, dual-rotor fans (P49977-001). Mixed fan configuration is not supported.

The arrow points to the front of the server.



### Subtopics

#### Fan and heatsink requirements

# Fan and heatsink requirements

## LFF drive configuration

Hardware configuration	Processors TDP	Fan type	Heatsink type
8/12 LFF drive	$\leq 350$ W	Standard fans	High performance heatsink

## SFF drive configuration

Hardware configuration	Processors TDP	Fan type	Heatsink type
8/16 SFF drives	$\leq 250$ W	Standard fans	Standard heatsink
8/16 SFF drives and the front OCP NIC	$> 250$ W	Standard fans	High performance heatsink
24 SFF drives	$\leq 350$ W	Standard fans	High performance heatsink

## E3.S drive configuration

Hardware configuration	Processors TDP	Fan type	Heatsink type
24/36 E3.S drive	$\leq 350$ W	Standard fans	High performance heatsink

## GPU-optimized configuration

Hardware configuration	Processors TDP	Fan type	Heatsink type
Single-width GPU	$\leq 350$ W	High performance fans	High performance heatsink
Double-width GPU			

## Mixed drive configuration

Hardware configuration	Processors TDP	Fan type	Heatsink type
2 SFF side-by-side + 8 LFF drives	$\leq 250$ W	Standard fans	Standard heatsink
	$> 250$ W	Standard fans	High performance heatsink
2 SFF stacked + 8 SFF drives			

Hardware configuration	Processors TDP	Fan type	Heatsink type
8 E3.S + 8 SFF drives			

### NEBS configuration

Hardware configuration	Processors TDP	Fan type	Heatsink type
NEBS	≤ 350 W	High performance fans	High performance heatsink

### PCIe and OCP NIC configuration

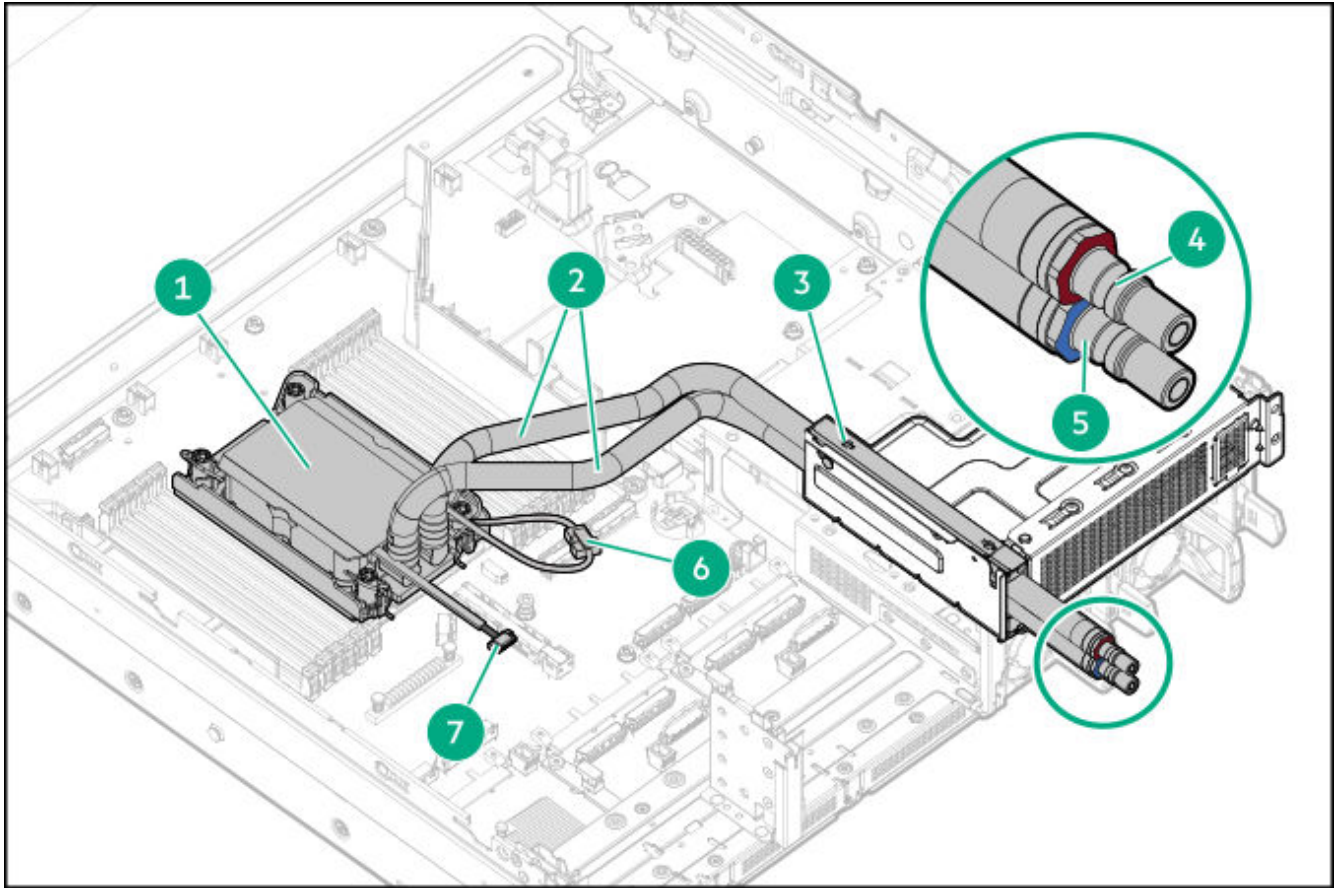
Hardware configuration	Fan type	Heatsink type
Type-p Ethernet/InfiniBand/NVME-oF adapters with 100 Gb or faster speed and the following adapters: <ul style="list-style-type: none"> <li>• BCM 57504 10/25GbE 4p SFP28 adapter</li> <li>• INT E810 10/25GbE 4p SFP28 adapter</li> </ul>	High performance fans	Standard heatsink
Type-o Ethernet/InfiniBand/NVME-oF adapters with 100 Gb or faster speed and the following adapters: <ul style="list-style-type: none"> <li>• BCM 57504 10/25GbE 4p SFP28 OCP3 adapter</li> <li>• INT E810 10/25GbE 4p SFP28 OCP3 adapter</li> </ul>		

### DIMM configuration

Hardware configuration	Fan type	Heatsink type
96 GB or higher capacity DIMMs	High performance fans	Standard heatsink

## Direct liquid cooling module components

For more information, see the [Direct liquid cooling guidelines](#).



Item	Description
1	Cold plate
2	Coolant hoses
3	DLC hose holder
4	Coolant return quick plug connector
5	Coolant supply quick plug connector
6	Coolant leakage detection cables
7	Power and signal cable

**Subtopics**

**Direct liquid cooling guidelines**

**Direct liquid cooling guidelines**

The direct liquid cooling (DLC) module is a preinstalled option.

## Coolant leakage detection

The DLC module coolant is fed into the hoses through the rack manifolds. If a coolant leakage occurs, the system events occur:

- iLO automatically detects the leakage and:
  - Sends an iLO REST alert and Simple Network Management Protocol (SNMP) trap
  - Record the event in the Integrated Management Log (IML)
- The system initiates an immediate shutdown. The system will not power on until the leakage event is cleared, and a REST API operation for system recovery is performed.
- Follow the recommended procedure in Appendix I: Server coolant spill response of the server maintenance guide.

## Storage temperature

When storing a server with a DLC module, maintain a temperature of -10°C to 60°C (14°F to 140°F). Allowing the DLC module coolant to freeze can damage its metallic microstructures.

## Facility water supply temperature

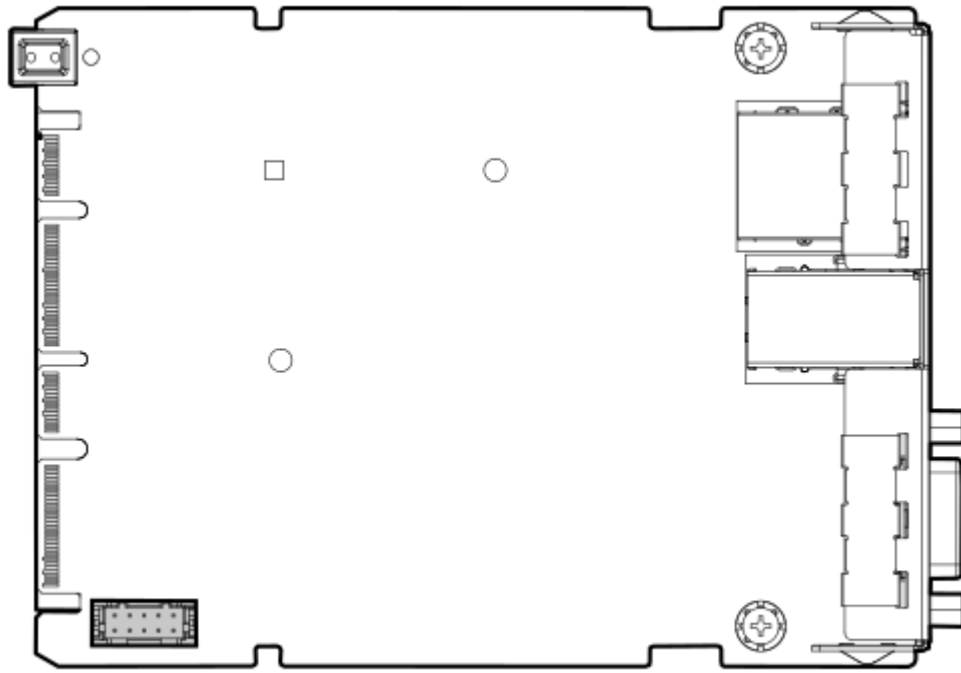
To maintain optimal cooling performance and prevent equipment damage from overheating:

- Do not allow the facility water supply temperature to exceed 40°C (104°F).
- Monitor environmental conditions year-round to anticipate temperature fluctuations.
- Install insulated plumbing as needed to ensure the water supply remains at or below 40°C (104°F).

## Datacenter Secure Control Module components

This server is a Datacenter Modular Hardware System (DC-MHS)-based product.

- The processors and DIMMs on the [system board](#) provide the compute function. The system board serves as the Host Processor Module (HPM).
- The iLO and the Trusted Platform Module 2.0 (TPM 2.0) chipsets embedded on the Datacenter Secure Control Module (DC-SCM) provide this server's manageability and security functions. This module also has the connector for the serial port option.



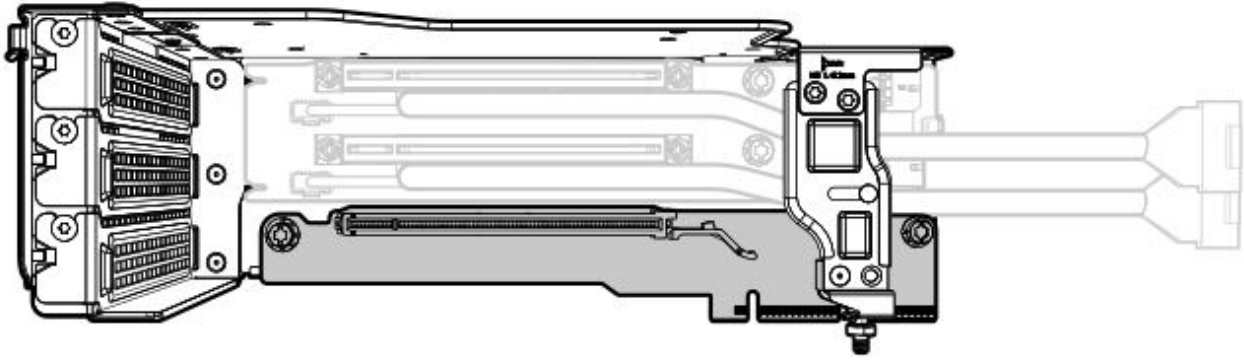
## Riser board components

This server supports two general types of PCIe risers:

- One-slot PCIe x16 base riser—This riser is a board-only riser that is directly installed on the riser connector on the system board. This riser type is used as the base riser in the riser cage as primary riser slot 3 and secondary riser slot 6.
- Two-slot PCIe x16 captive riser—This riser type has its signal cable option that attaches a PCIe slot and supported in the slots 1, 2, 4, 5, 10, 12, 15, and 17. Each riser supports up to two slots.

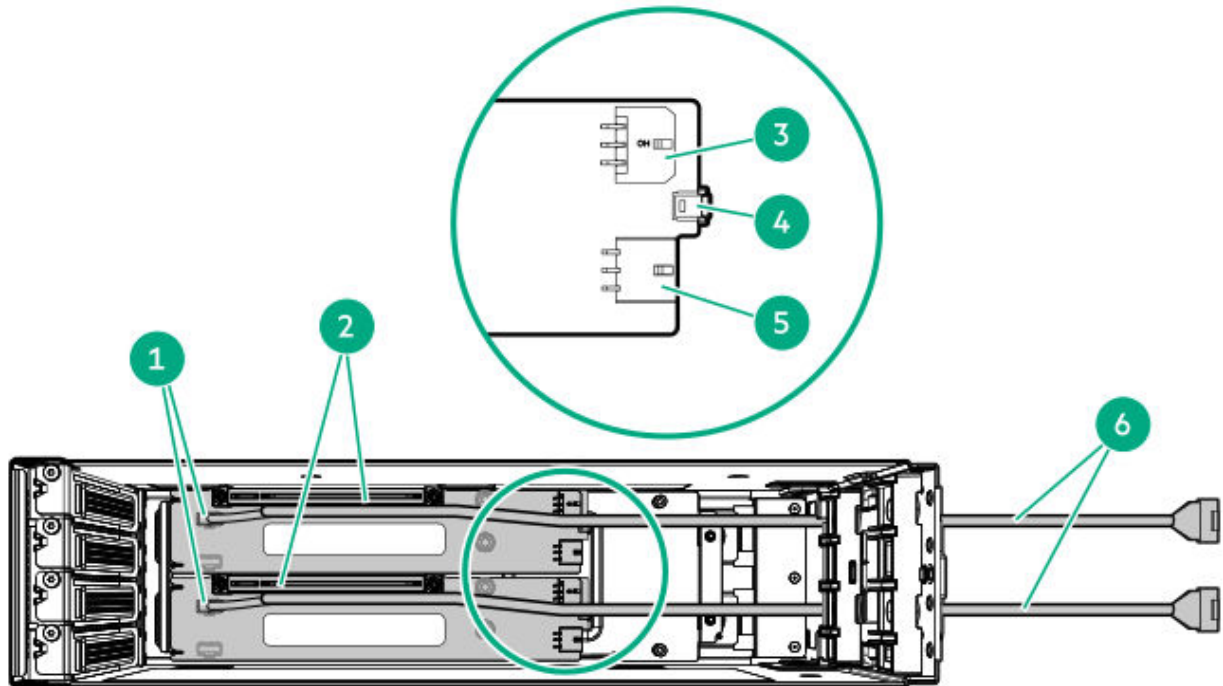
### One-slot PCIe x16 base riser component

This single PCIe 5 x16 (16, 8, 4, 2) slot supports the full-height, half-length, or half-height, half-length (low-profile) expansion cards.

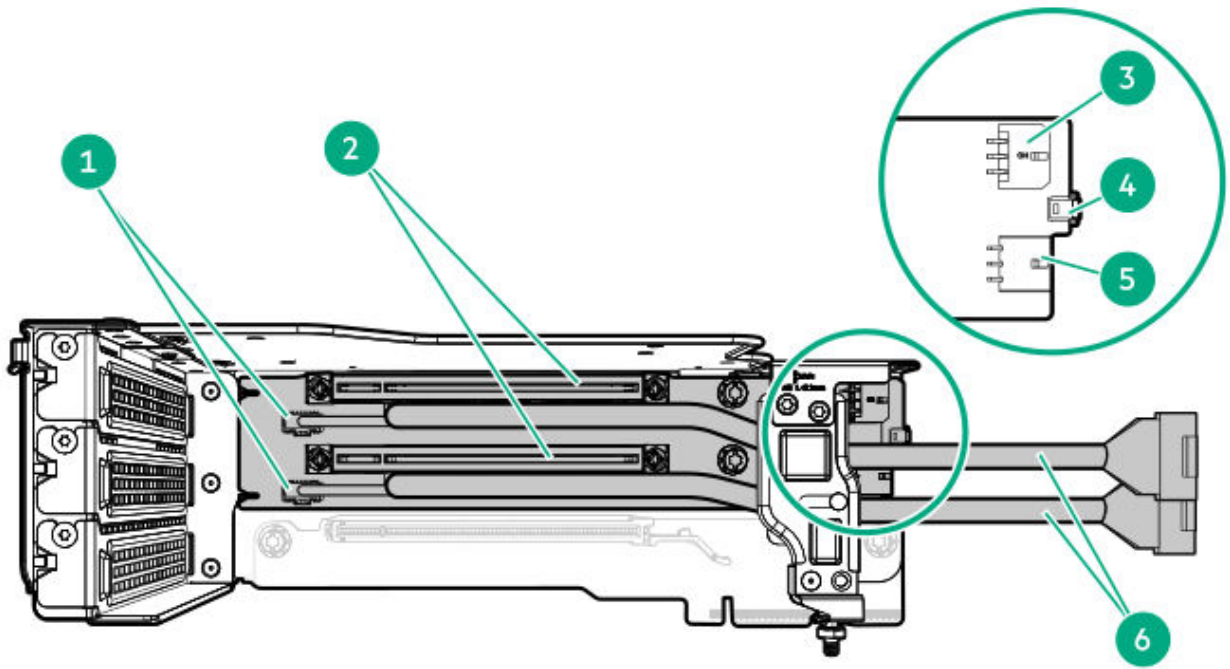


**Two-slot PCIe x16 captive riser components**

- GPU cage



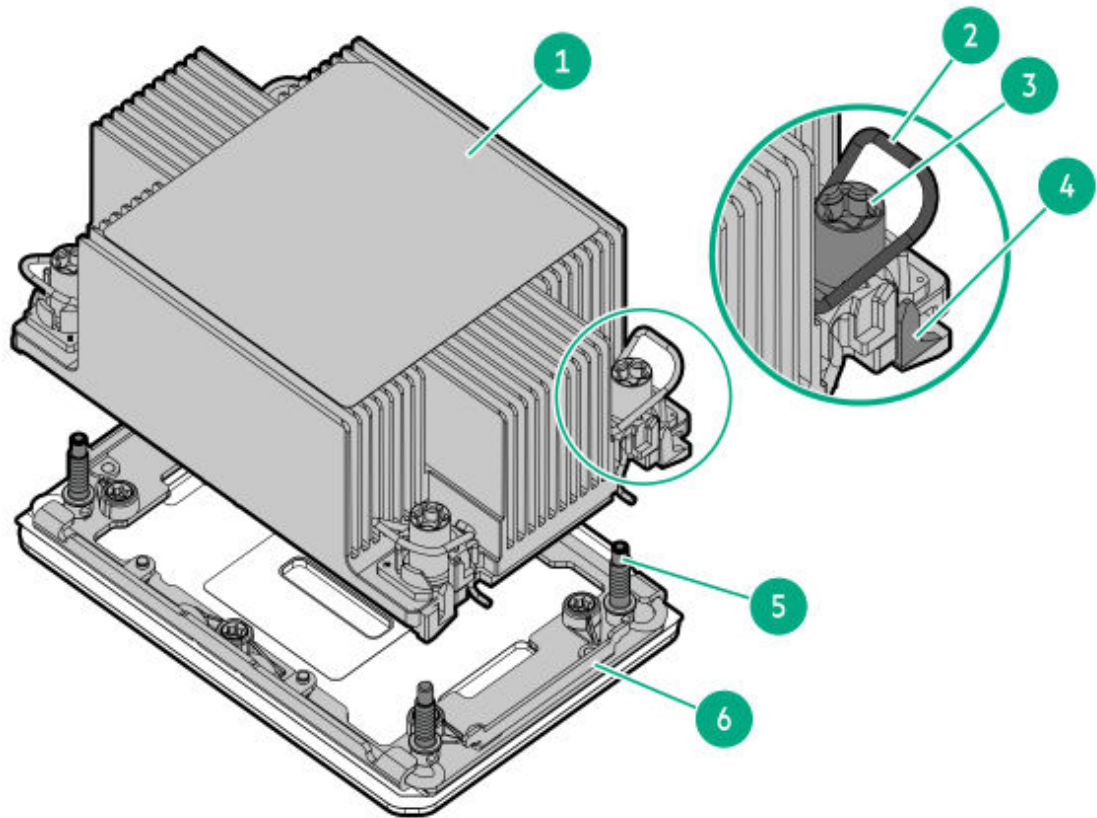
- PCIe riser cage



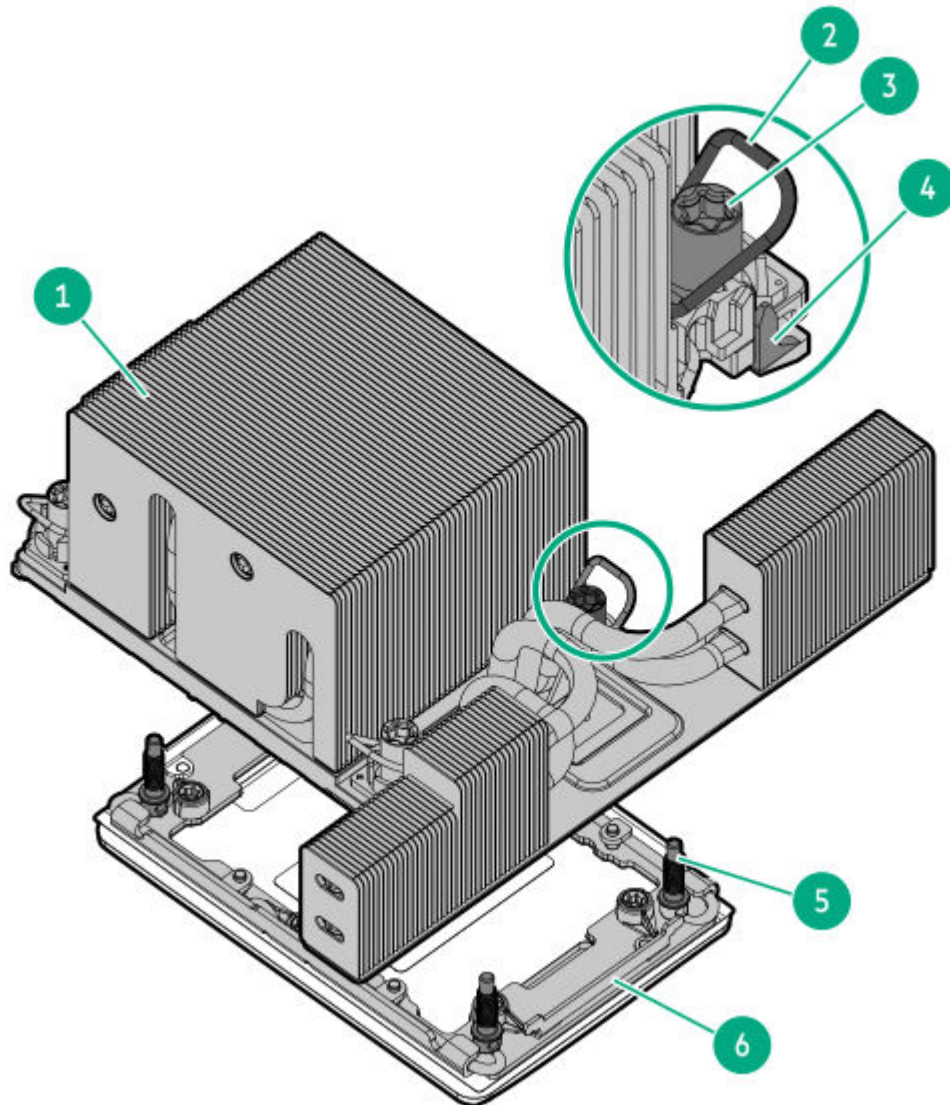
Item	Description	Supported form factors
1	PCIe slots sideband signal connector	—
2	PCIe5 x16 (16, 8, 4, 2) slot	<ul style="list-style-type: none"> <li>• Full-height, half-length</li> <li>• Half-height, half-length (low-profile)</li> </ul>
3	GPU auxiliary power connectors	—
4	GPU sideband connector	—
5	Captive riser power connectors	—
6	Captive riser signal cable	—

# Heatsink and processor socket components

## Standard heatsink



## High performance heatsink



Item	Description
1	Processor-heatsink module*
2	Anti-tilt wire
3	Heatsink screw
4	Processor carrier release tab
5	Bolster plate guide post
6	Bolster plate

\* This module consists of the heatsink attached to the processor that is already secured in its carrier.

# Troubleshooting

## Subtopics

[NMI functionality](#)

[Front panel LED power fault codes](#)

[Troubleshooting resources](#)

## NMI functionality

An NMI crash dump enables administrators to create crash dump files when a system is not responding to traditional debugging methods.

An analysis of the crash dump log is an essential part of diagnosing reliability problems, such as hanging operating systems, device drivers, and applications. Many crashes freeze a system, and the only available action for administrators is to cycle the system power. Resetting the system erases any information that could support problem analysis, but the NMI feature preserves that information by performing a memory dump before a hard reset.

To force the OS to initiate the NMI handler and generate a crash dump log, the administrator can use the iLO Generate NMI feature.

## Front panel LED power fault codes

The following table provides a list of power fault codes, and the subsystems that are affected. Not all power faults are used by all servers.

<b>Subsystem</b>	<b>LED behavior</b>
System board	1 flash
Processor	2 flashes
Memory	3 flashes
Riser board PCIe slots	4 flashes
OCP adapter	5 flashes
Storage controller	6 flashes
System board PCIe slots	7 flashes
Power backplane	8 flashes

<b>Subsystem</b>	<b>LED behavior</b>
Storage backplane	9 flashes
Power supply	10 flashes
PCIe expansion cards installed in riser board	11 flashes
Chassis	12 flashes
GPU card	13 flashes

## Troubleshooting resources

If you need help troubleshooting, see the latest articles for your server.

<https://www.hpe.com/info/dl340gen12-ts>

## Cabling

### Subtopics

[Cabling guidelines](#)

[Cable diagrams](#)

[Storage cabling](#)

[GPU cabling](#)

[OCP slot cabling](#)

[HPE NS204i-u Boot Device V2 cabling](#)

[Universal media bay cabling](#)

[Optical drive cabling](#)

[System Insight Display cabling](#)

[Front I/O cabling](#)

[Fan cabling](#)

[Chassis intrusion detection switch cabling](#)

[PCIe captive riser and power cabling](#)

[Serial port cabling](#)

[DLC module cabling](#)

# Cabling guidelines

Observe the following:



## NOTE

The colors in the cabling diagrams are for illustration purposes only.



## CAUTION

To avoid damaging connectors, avoid repeated installation and removal of cables. Excessive handling can shorten the lifespan of the cable.

- For cable option kits, see the product QuickSpecs.
- For cable spare part numbers, see the Illustrated parts catalog in the maintenance and service guide.
- Some diagrams show alphabetical callouts such as A, B, C, etc. These callouts correspond to labels near the connectors on the cable.
- Some cables have more than one connector, such as a Y-cable, but not all connectors are used.
- Observe all guidelines when working with server cables.

## Before connecting cables

- Note the port labels on the PCA components. Not all these components are used by all servers:
  - System board ports
  - Drive and power supply backplane ports
  - Expansion board ports (controllers, retimers, adapters, expanders, risers, and similar boards)
- Note the label near each cable connector. This label indicates the destination port for the cable connector.
- Some data cables are prebent. Do not unbend or manipulate the cables.
- To prevent mechanical damage or depositing oil that is present on your hands, and other contamination, do not touch the ends of the connectors.

## When connecting cables

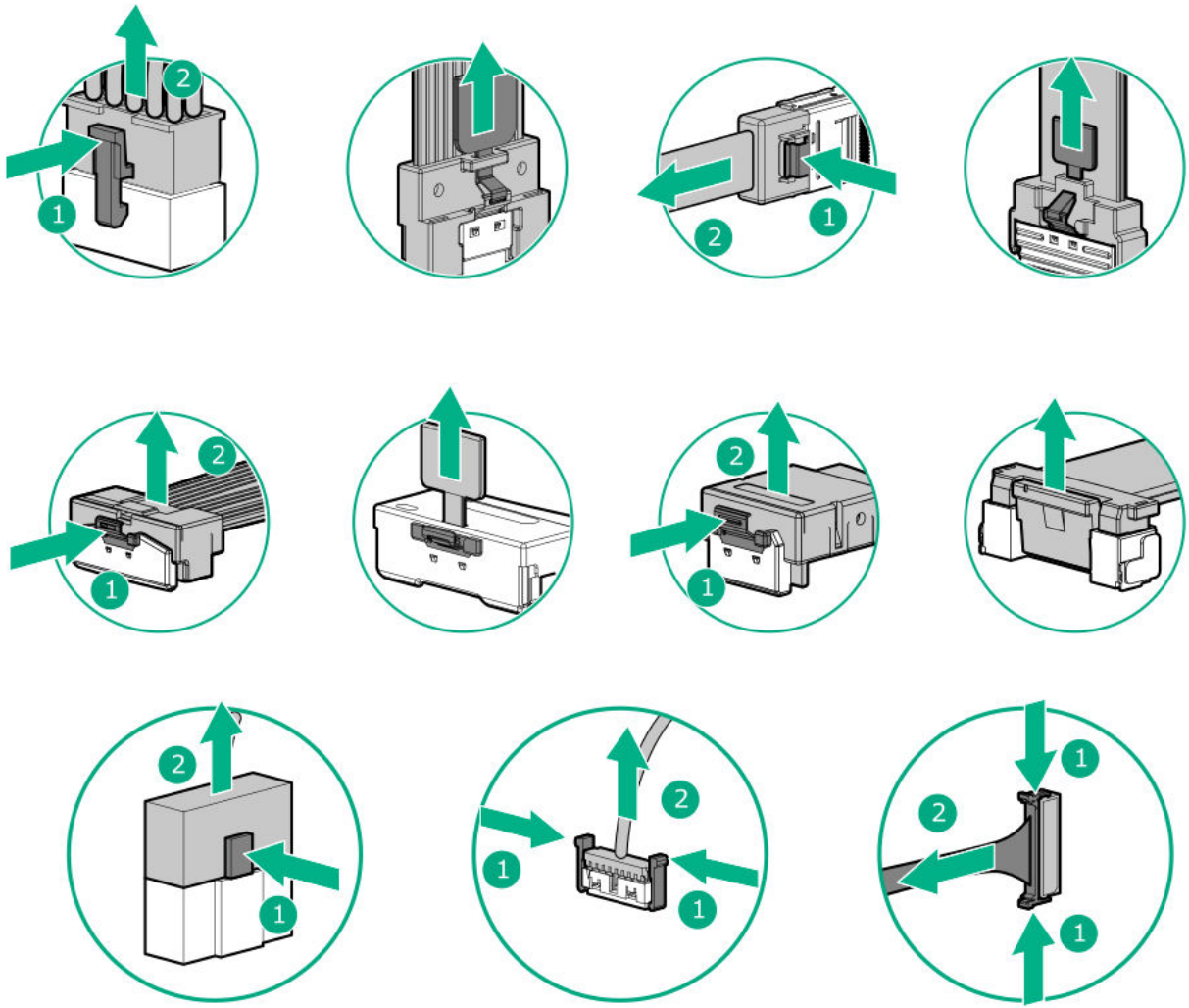
- Before connecting a cable to a port, lay the cable in place to verify the length of the cable.
- Use the internal cable management features to properly route and secure the cables.

- Route cables so that they do not contact or rest on cooling components, including heatsinks. Ensure that cable routing does not obstruct airflow to or from heatsinks or ventilation openings
- When routing cables, be sure that the cables are not in a position where they can be pinched or crimped.
- Avoid tight bend radii to prevent damaging the internal wires of a power cord or a server cable. Never bend power cords and server cables tight enough to cause a crease in the sheathing.
- Make sure that the excess length of cables is properly secured to avoid excess bends, interference issues, and airflow restriction.
- Before installing a new component or closing up the server, make sure that all cables are in their appropriate routing position. This cable check prevents component damage and potential signal interference.

### **When disconnecting cables**

- Grip the body of the cable connector. Do not pull on the cable itself because this action can damage the internal wires of the cable or the pins on the port.

- If a cable does not disconnect easily, check for any release latch that must be pressed to disconnect the cable.



- Remove cables that are no longer being used. Retaining them inside the server can restrict airflow. If you intend to use the removed cables later, label and store them for future use.

## Cable diagrams

Observe the following:

- Before cabling components, see the [Cabling guidelines](#).
- Use the cable part number or search feature to find your diagram.

<b>Component cable</b>	<b>Cable part number</b>
<b>8 LFF drive cables: Type-p 2-port tri-mode controller</b>	—
Box 2	<a href="#">P58063-001</a>
Box 3	<a href="#">P54931-001</a>
<b>12 LFF drive cables: Type-p 2-port tri-mode controller</b>	—
Boxes 1 and 2	<a href="#">P58063-001</a>
Box 3	<a href="#">P54931-001</a>
<b>8 SFF x1 drive cable: Type-p 2-port tri-mode controller</b>	—
Box 3	<a href="#">P58018-001</a>
<b>8 SFF x2 drive cable: Type-p 2-port tri-mode controller</b>	—
Box 3	<a href="#">P76440-001</a>
<b>8 SFF x4 drive direct attach cables: Secondary riser blank</b>	—
Box 3 ports 1 and 2	<a href="#">P74804-001</a>
Box 3 ports 3 and 4	<a href="#">P74815-001</a>
<b>8 SFF x4 drive direct attach cables: Secondary riser cage</b>	—
Box 3 ports 1 and 2	<a href="#">P74807-001</a>
Box 3 ports 3 and 4	<a href="#">P75257-001</a>
<b>16 SFF x1 drive cables: Type-o 2-port tri-mode controller</b>	—
Box 2	<a href="#">P58148-001</a>
Box 3	<a href="#">P58014-001</a>
<b>16 SFF x2 drive cables: Type-p 2-port tri-mode controllers</b>	—
Box 2	<a href="#">P76440-001</a>
Box 3	<a href="#">P76440-001</a>
<b>16 SFF x4 drive direct attach cables: Boxes 2 and 3</b>	—
Box 2	<a href="#">P76442-001</a>
Box 3 ports 1 and 2	<a href="#">P75257-001</a>
Box 3 ports 3 and 4	<a href="#">P74815-001</a>
<b>16 SFF x2 drive direct attach cables: Boxes 1 and 3</b>	—
Box 1 ports 1 and 2	<a href="#">P71880-001</a>
Box 1 ports 3 and 4	<a href="#">P71881-001</a>
Box 3 ports 1 and 2	<a href="#">P75257-001</a>
Box 3 ports 3 and 4	<a href="#">P74815-001</a>
<b>24 SFF x1 drive cables: Type-p 2-port tri-mode controller</b>	—

<b>Component cable</b>	<b>Cable part number</b>
Boxes 1 and 2	<a href="#">P58020-001</a>
Box 3	<a href="#">P58018-001</a>
<b>24 SFF x1 drive cables: Type-p 4-port tri-mode controller</b>	—
Boxes 1 and 2	<a href="#">P79151-001</a>
Box 3	<a href="#">P81063-001</a>
<b>24 SFF x2 drive direct attach cables</b>	—
Box 1	<a href="#">P75563-001</a>
Box 2	<a href="#">P74816-001</a>
Box 3	<a href="#">P74814-001</a>
<b>24 SFF x2 drive cables: Type-p 2-port tri-mode controller</b>	—
Box 1	<a href="#">P76440-001</a>
Box 2	<a href="#">P76440-001</a>
Box 3	<a href="#">P76440-001</a>
<b>24 SFF x4 drive direct attach cables</b>	—
Box 1 ports 1 and 2	<a href="#">P74807-001</a>
Box 1 ports 3 and 4	<a href="#">P71881-001</a>
Box 2	<a href="#">P76442-001</a>
Box 3 ports 1 and 2	<a href="#">P75257-001</a>
Box 3 ports 3 and 4	<a href="#">P74815-001</a>
<b>2 SFF stacked drive direct attach cable</b>	—
Box 1	<a href="#">P75367-001</a>
<b>2 SFF side-by-side direct attach cable</b>	—
Box 1	<a href="#">P75367-001</a>
<b>8 E3.S drive direct attach cables: Universal media bay configuration</b>	—
Box 3 bays 1 to 4	<a href="#">P75317-001</a>
Box 3 bays 5 to 8	<a href="#">P75246-001</a>
<b>8 E3.S drive direct attach cables: Front OCP NIC configuration</b>	—
Box 3 bays 1 to 4	<a href="#">P75580-001</a>
Box 3 bays 5 to 8	<a href="#">P75246-001</a>
<b>16 E3.S drive direct attach cables: Secondary riser blank configuration</b>	—
Box 1 bays 1 to 4	<a href="#">P75580-001</a>
Box 1 bays 5 to 8 port 1	<a href="#">P75317-001</a>

<b>Component cable</b>	<b>Cable part number</b>
Box 1 bays 5 to 8 port 2	
Box 3 bays 1 to 4 port 1	
Box 3 bays 1 to 4 port 2	
Box 3 bays 5 to 8	<u>P75246-001</u>
<b>16 E3.S drive direct attach cables: Rich I/O configuration</b>	—
Box 1 bays 1 to 4	<u>P75576-001</u>
Box 1 bays 5 to 8	<u>P75317-001</u>
Box 3 bays 1 to 4	
Box 3 bays 5 to 8	<u>P75246-001</u>
<b>16 E3.S drive cables: Type-p 4-port tri-mode controller</b>	—
Box 1	<u>P75569-001</u>
Box 3	<u>P75569-001</u>
<b>24 E3.S drive direct attach cables</b>	—
Box 1 bays 1 to 4	<u>P75576-001</u>
Box 1 bays 5 to 8	<u>P75317-001</u>
Box 3 bays 1 to 4	
Box 3 bays 5 to 8	<u>P75246-001</u>
Box 2	<u>P75504-001</u>
<b>24 E3.S drive cables: Type-p 4-port tri-mode controller</b>	—
Box 1	<u>P75569-001</u>
Box 2	<u>P75570-001</u>
Box 3	<u>P75569-001</u>
<b>36 E3.S drive direct attach cables</b>	—
Box 1 bays 1 to 4	<u>P75908-001</u>
Box 1 bays 5 to 8	<u>P75369-001</u>
Box 1 bays 9 to 12	
Box 2	<u>P75908-001</u>
Box 3 bays 1 to 4	<u>P75258-001</u>
Box 3 bays 5 to 8	
Box 3 bays 9 to 12	<u>P75369-001</u>
<b>36 E3.S drive cables: Type-p 4-port tri-mode controller</b>	—
Box 1	<u>P75275-001</u>
Box 2	<u>P75275-001</u>

<b>Component cable</b>	<b>Cable part number</b>
Box 3	<a href="#">P75275-001</a>
<b>Drive controller cables in the GPU-optimized + secondary riser blank configuration</b>	—
8 SFF direct attach cable: Box 2 ports 1 and 2	<a href="#">P74804-001</a>
8 SFF direct attach cable: Box 2 ports 3 and 4	<a href="#">P74807-001</a>
4 E3.S direct attach cable	<a href="#">P75580-001</a>
12 E3.S direct attach cable: Box 2 bays 1 to 4	<a href="#">P75580-001</a>
12 E3.S direct attach cable: Box 2 bays 5 to 8	<a href="#">P75576-001</a>
12 E3.S direct attach cable: Box 2 bays 9 to 12	
<b>Drive controller cables in the GPU-optimized + secondary riser cage configuration</b>	—
8 SFF direct attach cable	<a href="#">P74807-001</a>
8 SFF drive cable: Type-p 2-port tri-mode controller	<a href="#">P69542-001</a>
<b>2 SFF side-by-side + 8 LFF drive storage controller cables</b>	—
2 SFF side-by-side drive direct attach cable: Box 1	<a href="#">P75367-001</a>
8 LFF drive cables: Box 2 to the slot 3 type-p 2-port tri-mode controller	<a href="#">P58063-001</a>
8 LFF drive cables: Box 3 to the slot 3 type-p 2-port tri-mode controller	<a href="#">P54931-001</a>
<b>2 SFF stacked + 8 E3.S drive storage controller cables</b>	—
2 SFF stacked direct attach cable: Box 1	<a href="#">P75367-001</a>
8 E3.S direct attach cable: Box 3 bays 1 to 4	<a href="#">P75317-001</a>
8 E3.S direct attach cable: Box 3 bays 5 to 8	<a href="#">P75246-001</a>
<b>8 SFF + 8 E3.S drive storage controller cables</b>	—
8 SFF drive cable: Box 1 to the slot 6 type-p 2-port tri-mode controller	<a href="#">P58018-001</a>
8 E3.S drive direct attach cable: Box 3 bays 1 to 4	<a href="#">P75576-001</a>
8 E3.S drive direct attach cable: Box 3 bays 5 to 8	<a href="#">P75317-001</a>
<b>LFF drive power cables</b>	—
8 LFF drive power cables: Box 2	<a href="#">P75251-001</a>
8 LFF drive power cables: Box 3	<a href="#">P75250-001</a>
12 LFF drive power cables: Boxes 1 and 2	<a href="#">P75251-001</a>
12 LFF drive power cables: Box 3	<a href="#">P75250-001</a>
<b>SFF drive power cables</b>	—
8 SFF drive power cable: Box 3	<a href="#">P75248-001</a>

<b>Component cable</b>	<b>Cable part number</b>
16 SFF drive power cable: Box 1	<a href="#">P71879-001</a>
16 SFF drive power cable: Box 3	<a href="#">P75248-001</a>
24 SFF drive power cable: Boxes 1 and 2	<a href="#">P71879-001</a>
24 SFF drive power cable: Box 3	<a href="#">P75248-001</a>
2 SFF stacked drive power cable: Box 1	<a href="#">P75251-001</a>
2 SFF side-by-side drive power cable: Box 1	<a href="#">P77049-001</a>
<b>E3.S drive power cables</b>	—
8 E3.S drive power cable: Box 3	<a href="#">P75247-001</a>
16 E3.S drive power cable: Box 1	<a href="#">P75249-001</a>
16 E3.S drive power cable: Box 3	<a href="#">P75247-001</a>
24 E3.S drive power cable: Boxes 1 and 2	<a href="#">P75249-001</a>
24 E3.S drive power cable: Box 3	<a href="#">P75247-001</a>
36 E3.S drive power cable: Boxes 1 and 2	<a href="#">P75249-001</a>
36 E3.S drive power cable: Box 3	<a href="#">P75247-001</a>
<b>Drive power cables in the GPU-optimized configuration</b>	—
SFF drive power cable	<a href="#">P80888-001</a>
E3.S drive power cable	<a href="#">P80887-001</a>
<b>2 SFF side-by-side + 8 LFF drive power cables</b>	—
2 SFF side-by-side drive power cable: Box 1	<a href="#">P77049-001</a>
8 LFF drive power cable: Box 2	<a href="#">P75251-001</a>
8 LFF drive power cable: Box 3	<a href="#">P75250-001</a>
<b>2 SFF stacked + 8 E3.S drive power cables</b>	—
2 SFF stacked drive power cable: Box 1	<a href="#">P75252-001</a>
8 E3.S drive power cable: Box 3	<a href="#">P75247-001</a>
<b>8 SFF + 8 E3.S drive power cables</b>	—
8 SFF drive power cable: Box 1	<a href="#">P71879-001</a>
8 E3.S drive power cable: Box 3	<a href="#">P75247-001</a>
<b>Storage backup power cable</b>	—
Type-o 2-port tri-mode controller	<a href="#">877850-001</a>
Type-p 2-port tri-mode controller	<a href="#">877850-001</a>
<b>Energy pack cable</b>	<a href="#">876850-001</a>
<b>GPU auxiliary power / sideband splitter cable</b>	—
2 double-width GPUs	<a href="#">P75256-001</a>

<b>Component cable</b>	<b>Cable part number</b>
4 double-width GPUs	<a href="#">P75256-001</a>
<b>GPU captive riser cables</b>	—
Slot 10	<a href="#">P71888-001</a>
Slot 12	<a href="#">P73415-001</a>
Slot 15	<a href="#">P71884-001</a>
Slot 17	<a href="#">P71891-001</a>
<b>GPU captive riser power cables</b>	—
GPU cage 1	<a href="#">P75253-001</a>
GPU cage 2	<a href="#">P75254-001</a>
<b>Front OCP NIC and PHY board cables: SFF / E3.S drive configuration</b>	—
Primary front OCP NIC cable	<a href="#">P71941-001</a>
Secondary front OCP NIC cable	<a href="#">P71941-001</a>
PHY board cable	<a href="#">P73927-001</a>
<b>Front OCP NIC and PHY board cables: Rich I/O configuration</b>	—
Primary front OCP NIC cable	<a href="#">P71941-001</a>
Secondary front OCP NIC cable	<a href="#">P71941-001</a>
PHY board cable	<a href="#">P73927-001</a>
<b>Front OCP NIC and PHY board cables: GPU-optimized configuration</b>	—
Primary front OCP NIC cable	<a href="#">P71944-001</a>
Secondary front OCP NIC cable	<a href="#">P71944-001</a>
PHY board cable	<a href="#">P73927-001</a>
<b>Rear OCP enablement cable: Secondary riser blank configuration</b>	—
Slot 21 OCP B PCIe x16 cable	<a href="#">P73494-001</a>
<b>Rear OCP enablement cable: Secondary riser cage configuration</b>	—
Slot 21 OCP B PCIe x8 cable	<a href="#">P75507-001</a>
Slot 21 OCP B PCIe x16 cable	<a href="#">P75506-001</a>
<b>Rear OCP enablement cable: Rich I/O configuration</b>	—
Slot 21 OCP B PCIe x8 cable	<a href="#">P75591-001</a>
Slot 21 OCP B PCIe x16 cable	<a href="#">P75591-001</a>
<b>HPE NS204i-u Boot Device V2 cables: Front panel</b>	—
Signal cable	<a href="#">P74729-001</a>
Power cable	<a href="#">P74730-001</a>

<b>Component cable</b>	<b>Cable part number</b>
<b>HPE NS204i-u Boot Device V2 cables: Rear panel</b>	—
Signal cable	<a href="#">P63720-001</a>
Power cable	<a href="#">P72024-001</a>
<b>HPE NS204i-u Boot Device V2 cables: GPU-optimized configuration</b>	—
Signal cable	<a href="#">P74729-001</a>
Power cable	<a href="#">P74730-001</a>
<b>Universal media bay cable</b>	
LFF drive configuration	<a href="#">P75279-001</a>
SFF / E3.S drive configuration	<a href="#">P75280-001</a>
<b>Optical drive cable</b>	
LFF drive configuration	<a href="#">P73776-002</a>
SFF / E3.S drive configuration	<a href="#">P73776-002</a>
<b>System Insight Display cable</b>	<a href="#">P48971-001</a>
<b>Front I/O cable</b>	—
LFF / SFF / E3.S drive configuration	<a href="#">P71909-002</a>
GPU-optimized configuration	<a href="#">P71909-002</a>
<b>Fan cable</b>	<a href="#">P71914-001</a>
<b>Chassis intrusion detection switch cable</b>	<a href="#">P54901-001</a>
<b>PCIe captive riser cables</b>	—
Slot 1	<a href="#">P71882-001</a>
Slot 2	
Slot 4	
Slot 5	
<b>PCIe captive riser power cables</b>	—
Slot 1	<a href="#">P75255-001</a>
Slot 2	
Slot 4	<a href="#">P75259-001</a>
Slot 5	
<b>Serial port cables: 60-mm M-CRPS configuration</b>	—
ix port cable (620 mm)	<a href="#">P73744-001</a>
Serial port dongle (160 mm)	<a href="#">P71826-001</a>
<b>Serial port cables: 73.5-mm M-CRPS configuration</b>	
ix port cable (620 mm)	<a href="#">P73744-001</a>

<b>Component cable</b>	<b>Cable part number</b>
Serial port dongle (160 mm)	<u>P71826-001</u>
<b>DLC module cable</b>	<u>P84594-001</u>

## Storage cabling

### Subtopics

**LFF drive controller cabling**

**SFF drive controller cabling: Non-GPU-optimized configuration**

**E3.S drive controller cabling: Non-GPU-optimized configuration**

**SFF drive controller cabling: GPU-optimized configuration**

**E3.S drive controller cabling: GPU-optimized configuration**

**Mixed drive controller cabling**

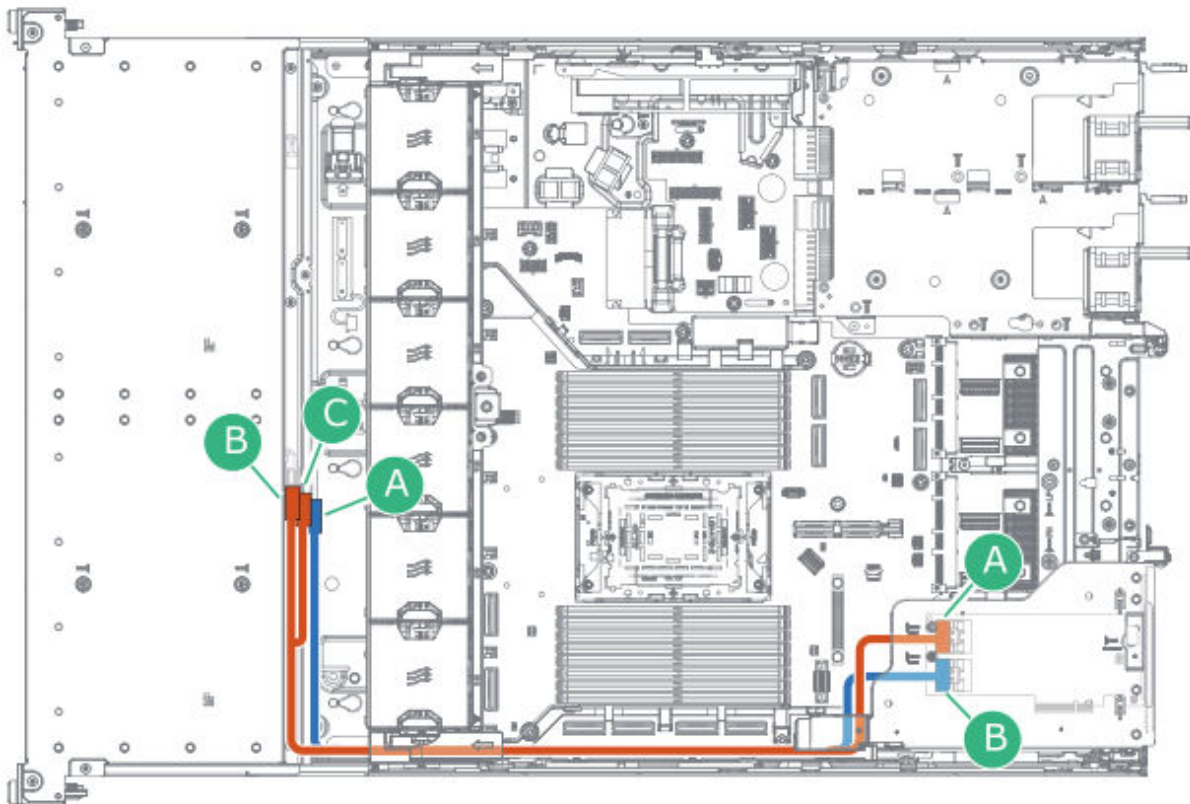
**Drive power cabling**

**Storage controller backup power cabling**

**Energy pack cabling**

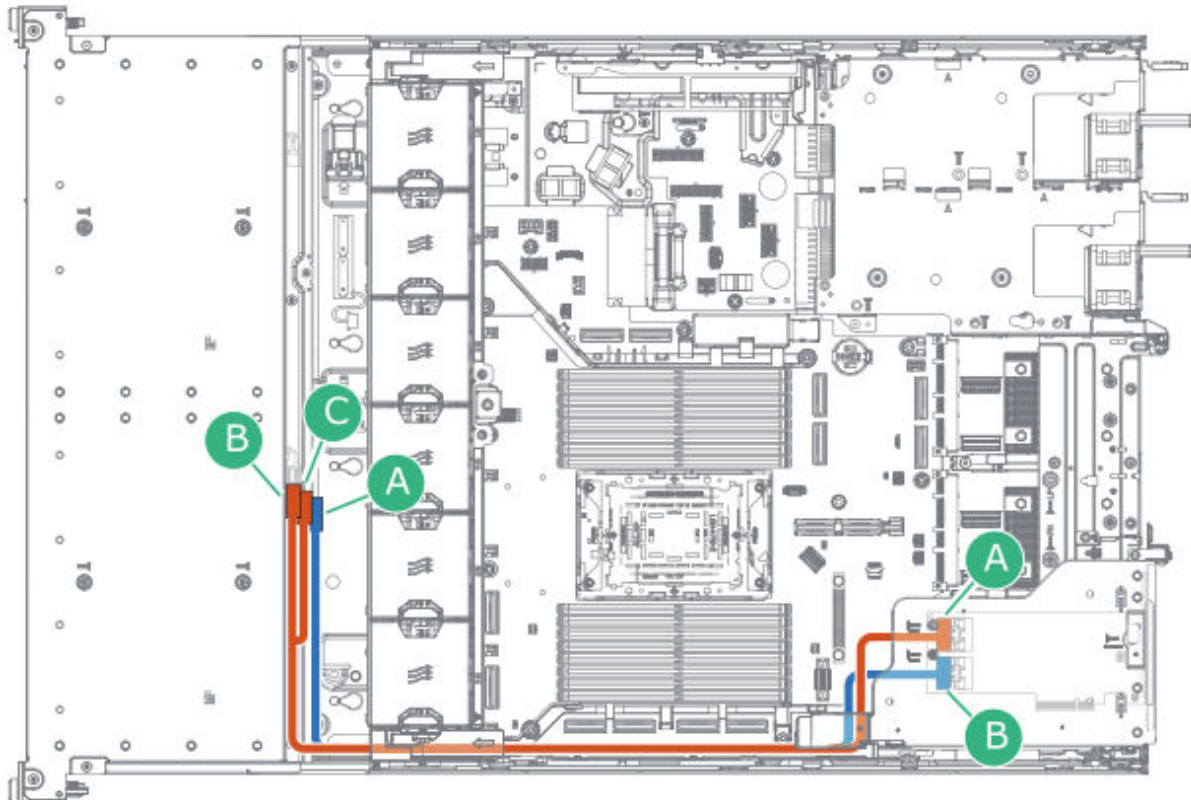
# LFF drive controller cabling

## 8 LFF drive cabling: Type-p 2-port tri-mode controller



Cable part number	Cable color	From	To
P58063-001	Orange	Box 2 port 1	PCIe slot3 port 1
P54931-001	Blue	Box 3 port 1	PCIe slot3 port 2

## 12 LFF drive cabling: Type-p 2-port tri-mode controller



Cable part number	Cable color	From	To
P58063-001	Orange	Box 1 port 1 Box 2 port 1	PCIe slot 3 port 1
P54931-001	Blue	Box 3 port 1	PCIe slot 3 port 2

## SFF drive controller cabling: Non-GPU-optimized configuration

### Subtopics

**8 SFF drive cabling**

**16 SFF drive cabling**

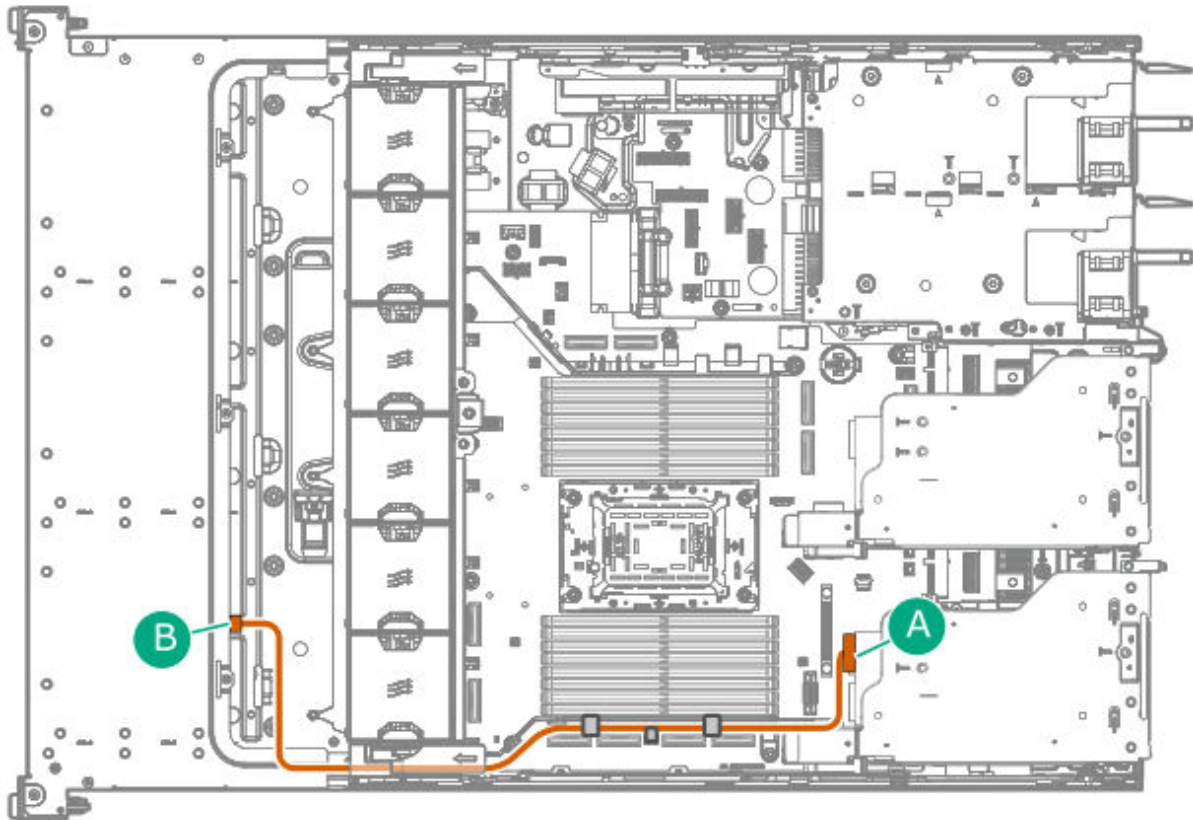
**24 SFF drive cabling**

**2 SFF stacked drive cabling**

**2 SFF side-by-side drive cabling**

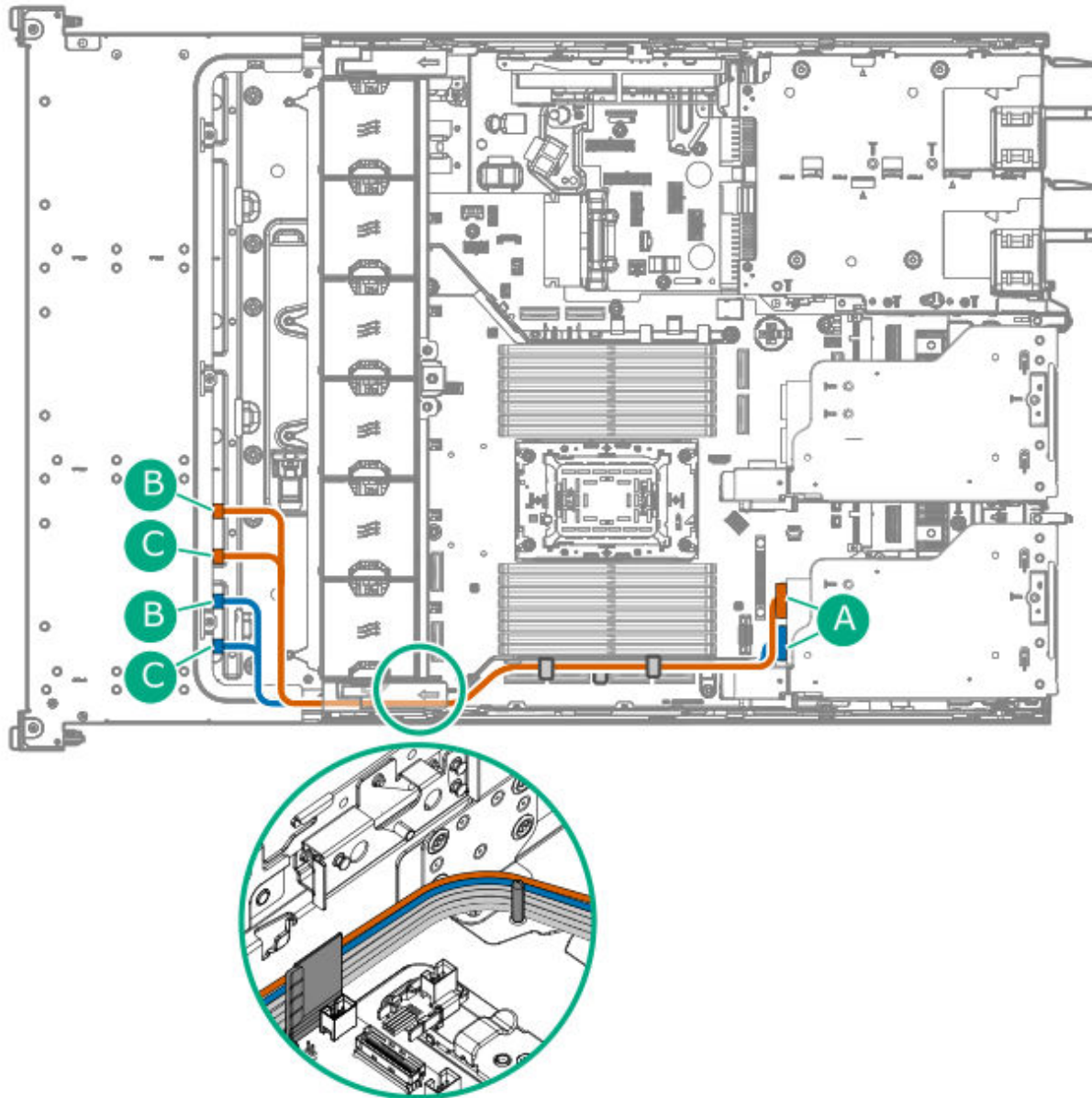
## 8 SFF drive cabling

### 8 SFF x1 drive cabling: Type-p 2-port tri-mode controller



Cable part number	Cable color	From	To
P58018-001	Orange	Box 3 port 1	PCIe slot 3 port 1

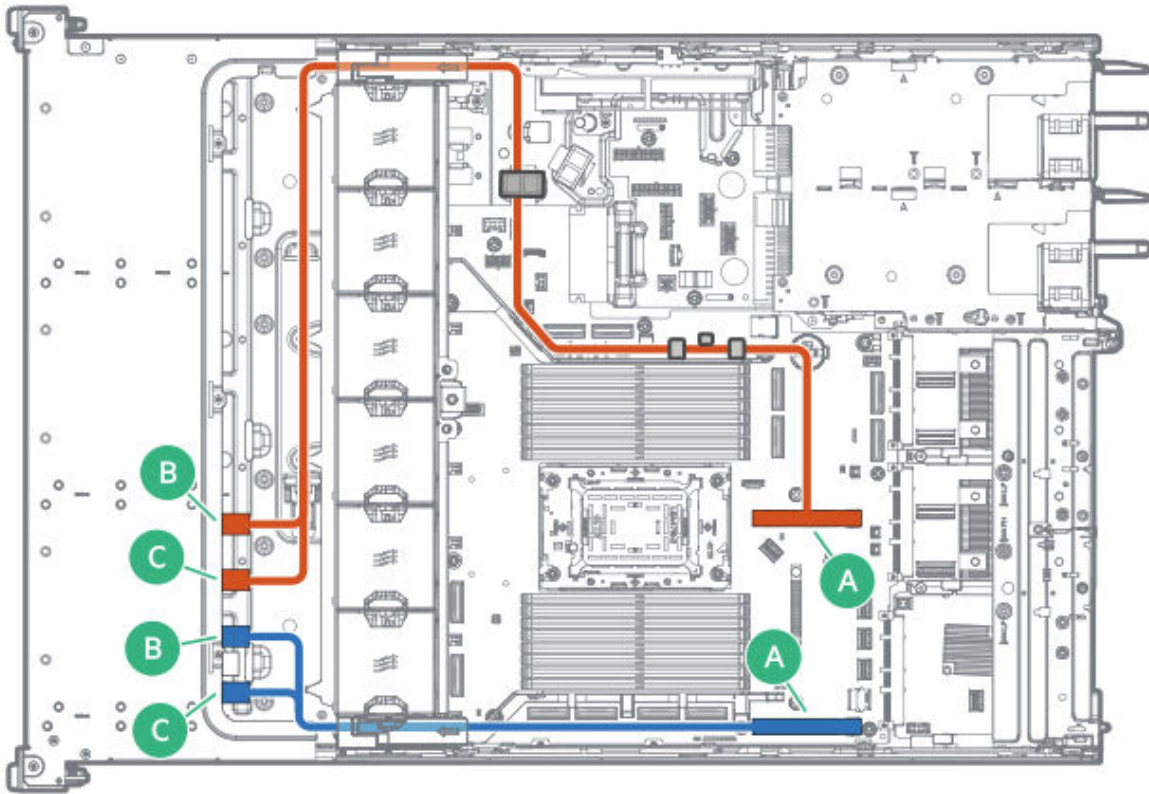
## 8 SFF x2 drive cabling: Type-p 2-port tri-mode controller



Cable part number	Cable color	From	To
P76440-001	Orange	Box 3 ports 1 and 2	PCIe slot 3 port 1
	Blue	Box 3 ports 3 and 4	PCIe slot 3 port 2

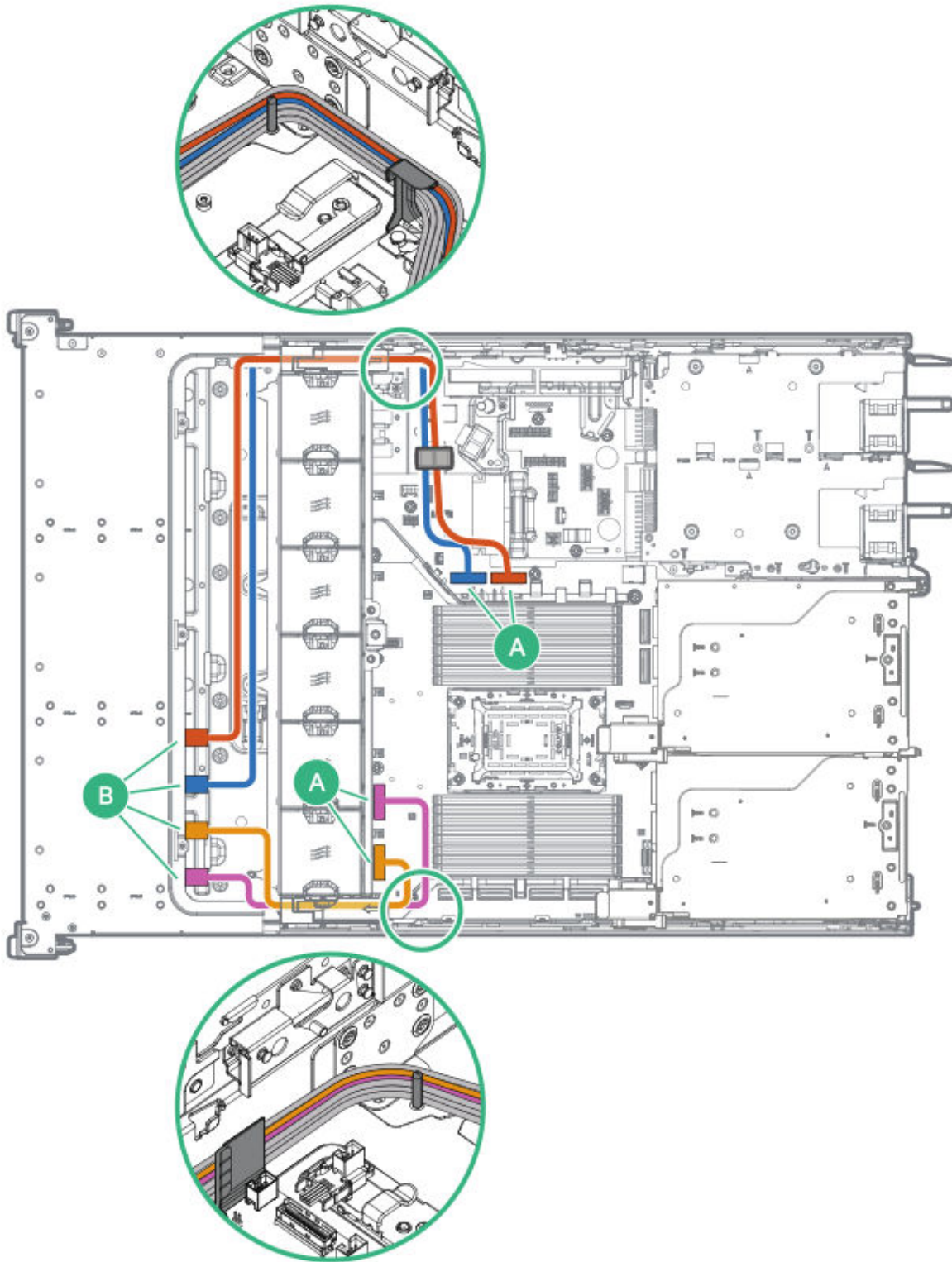
## 8 SFF x4 drive direct attach cabling

- Secondary riser blank configuration



Cable part number	Cable color	From	To
P74804-001	Orange	Box 3 ports 1 and 2	Secondary riser connector
P74815-001	Blue	Box 3 ports 3 and 4	Primary riser connector

- **Secondary riser cage configuration**

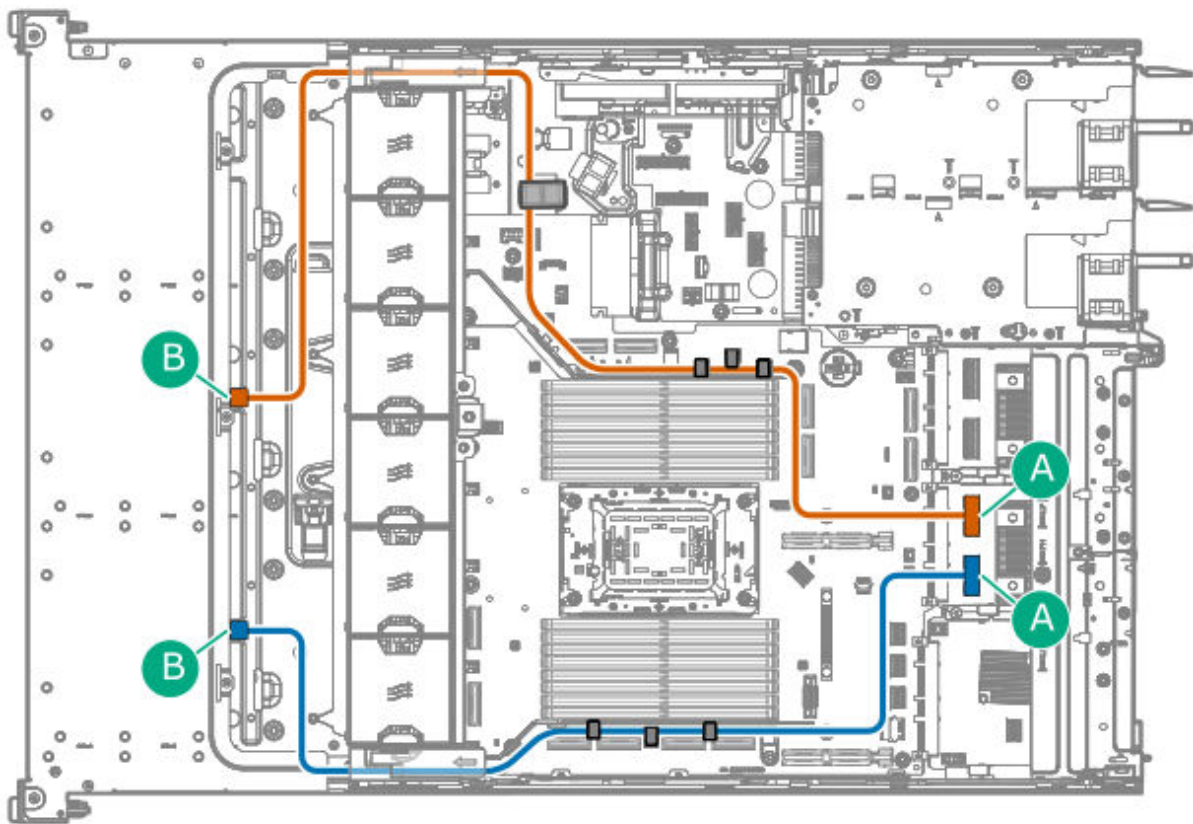


Cable part number	Cable color	From	To
P74807-001	Orange	Box 3 port 1	M-XIO port 4

Cable part number	Cable color	From	To
P75257-001	Blue	Box 3 port 2	M-XIO port 6
	Gold	Box 3 port 3	M-XIO port 0
	Pink	Box 3 port 4	M-XIO port 2

## 16 SFF drive cabling

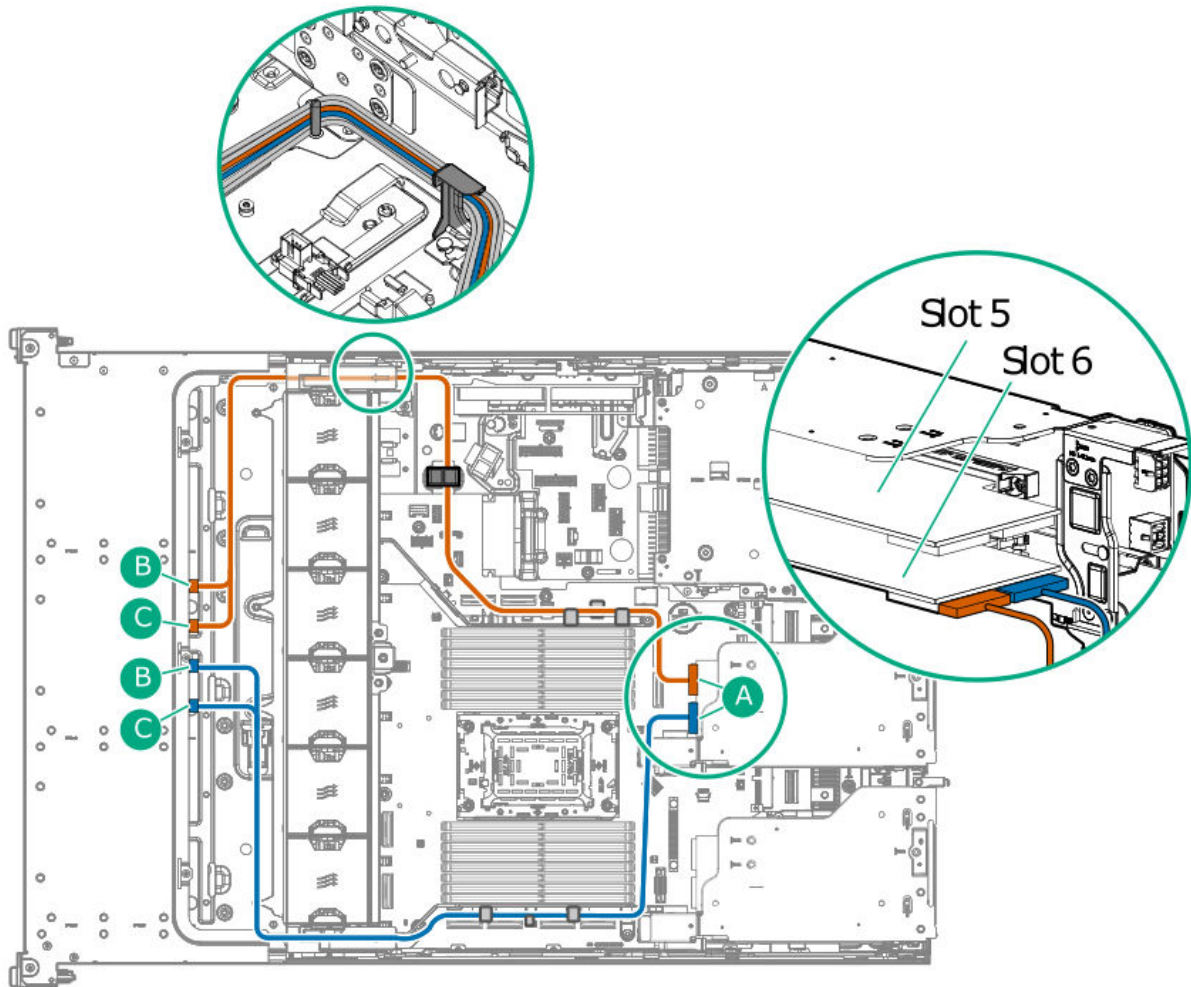
### 16 SFF x1 drive cabling: Slot 20 OCP A type-o 2-port tri-mode controller



Cable part number	Cable color	From	To
P58148-001	Orange	Box 2 port 1	OCP slot A port 2
P58014-001	Blue	Box 3 port 1	OCP slot A port 1

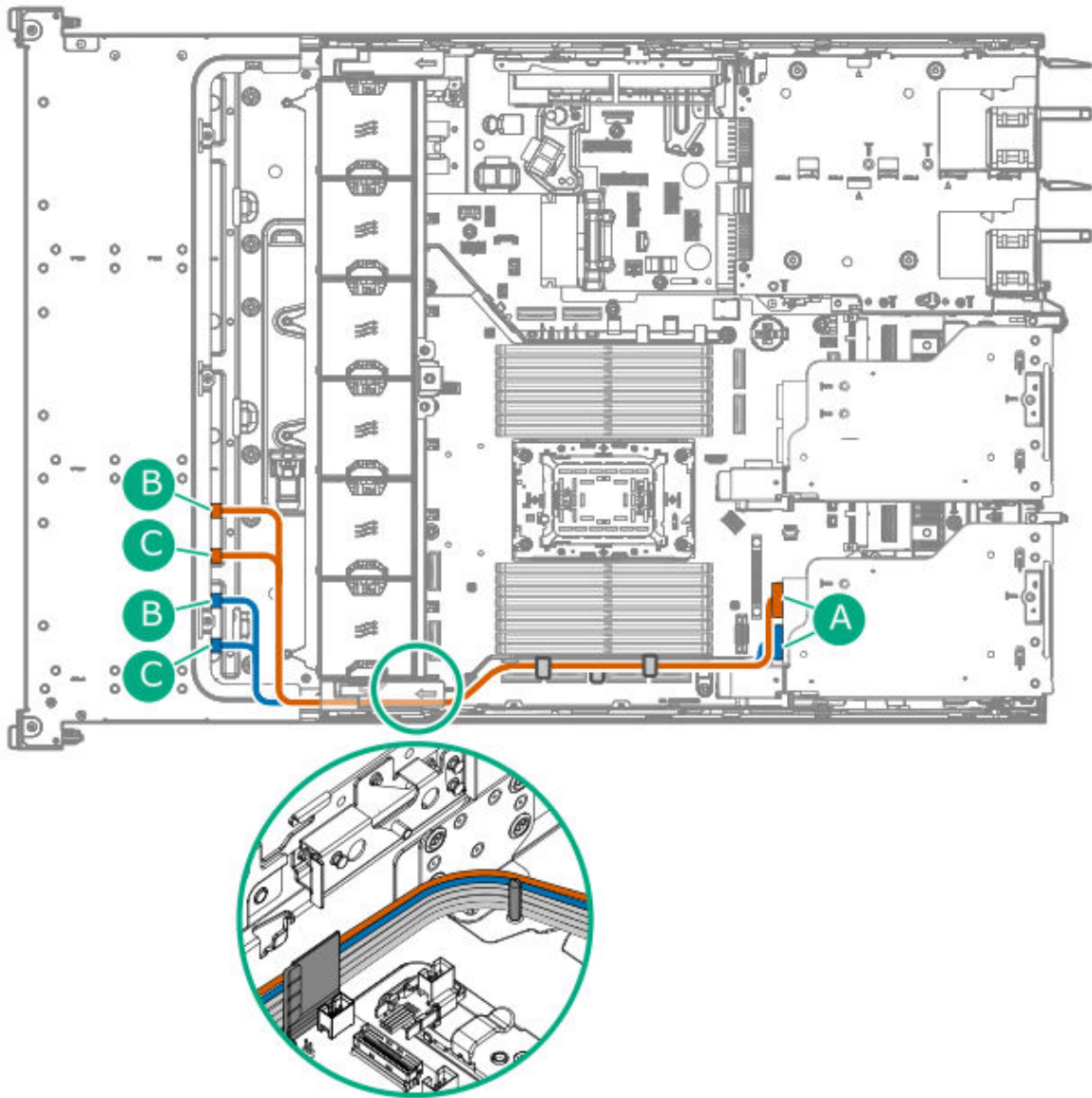
## 16 SFF x2 drive cabling: Type-p 2-port tri-mode controller

- **Box 2**



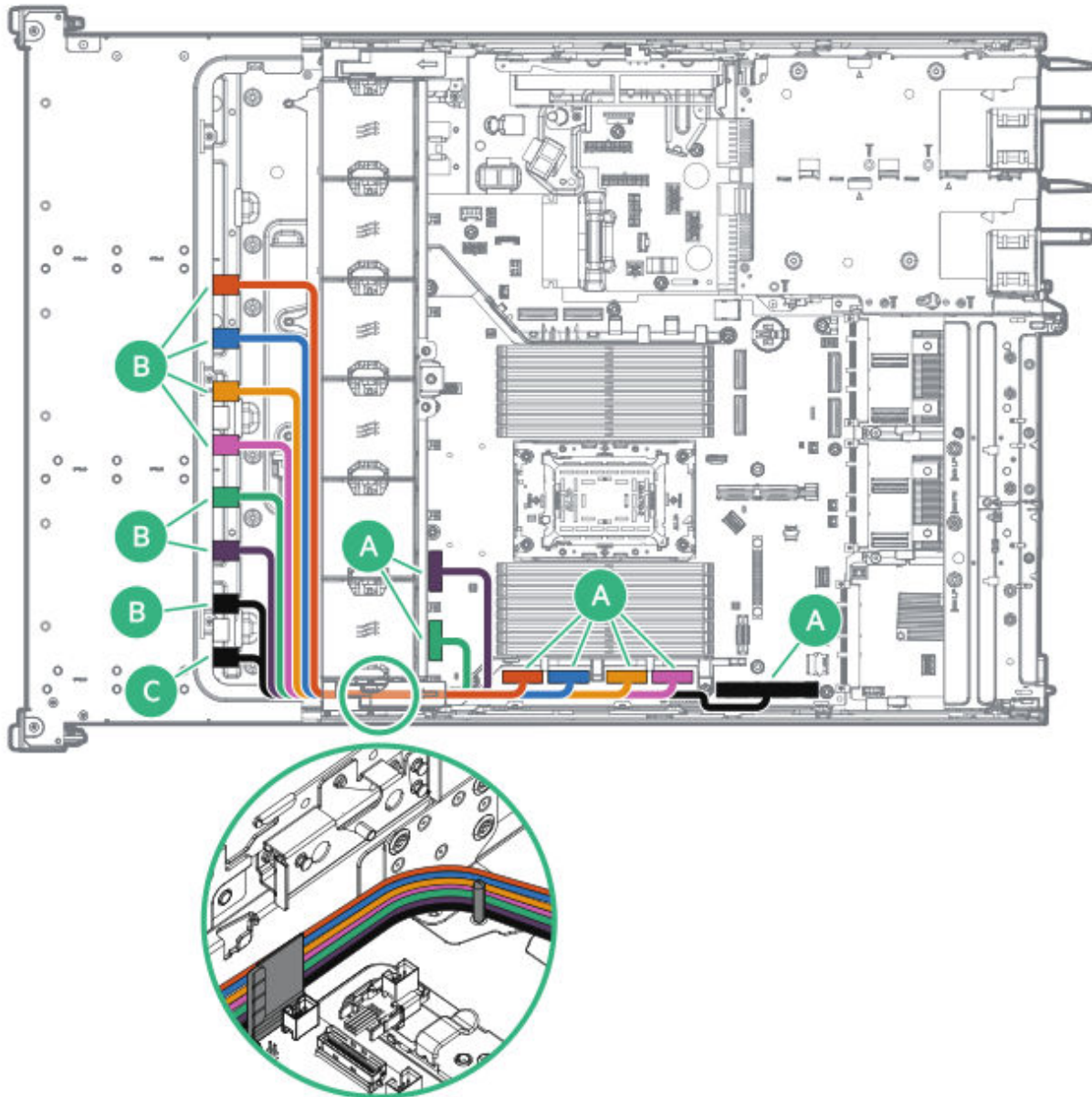
Cable part number	Cable color	From	To
P76440-001	Orange	Ports 1 and 2	PCIe slot 6 port 1
	Blue	Ports 3 and 4	PCIe slot 6 port 2

- **Box 3**



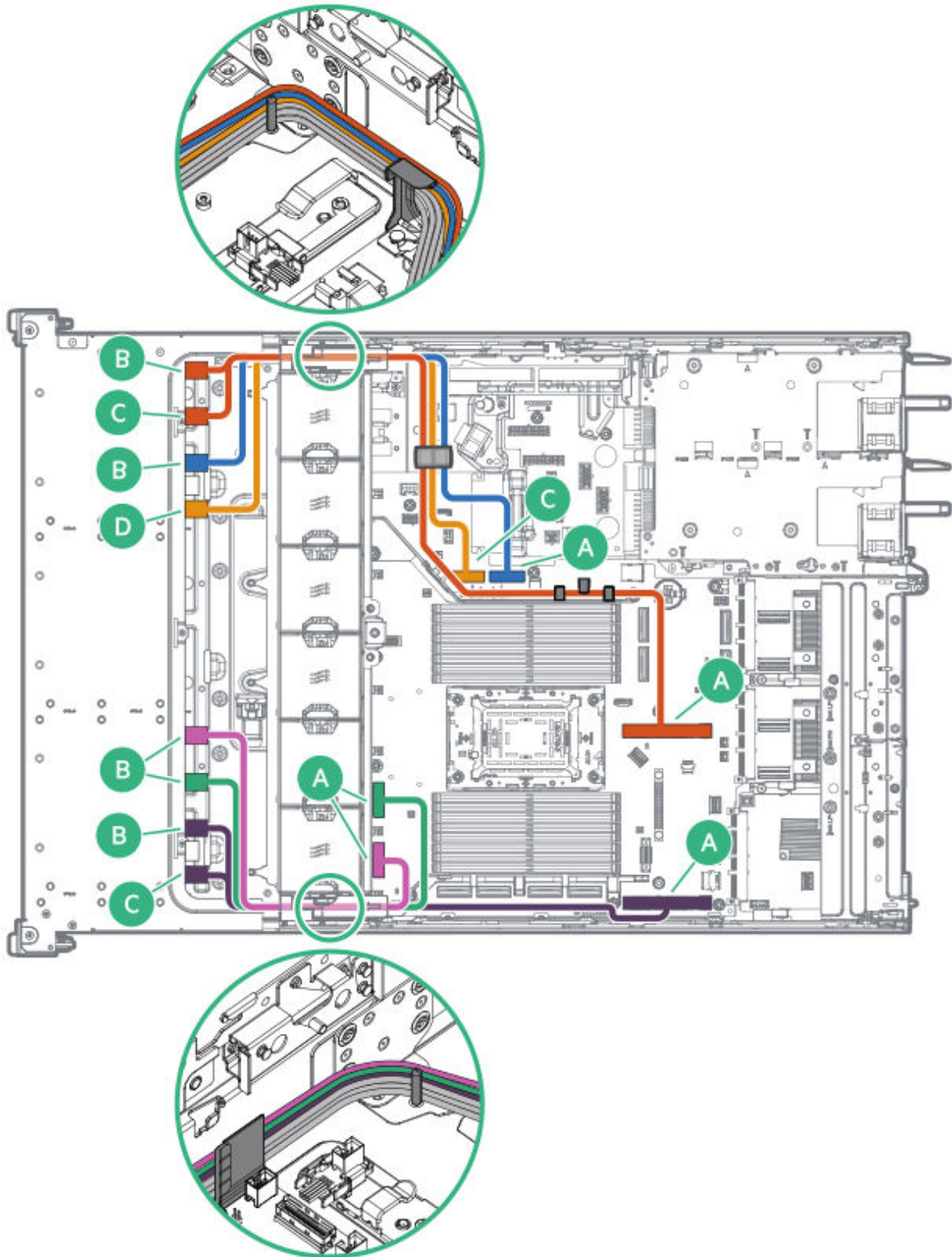
Cable part number	Cable color	From	To
P76440-001	Orange	Ports 1 and 2	PCIe slot 3 port 1
	Blue	Ports 3 and 4	PCIe slot 3 port 2

## 16 SFF x4 drive direct attach cabling: Boxes 2 and 3



Cable part number	Cable color	From	To
P76442-001	Orange	Box 2 port 1	M-XIO port 7
	Blue	Box 2 port 2	M-XIO port 5
	Gold	Box 2 port 3	M-XIO port 1
	Pink	Box 2 port 4	M-XIO port 3
P75257-001	Green	Box 3 port 1	M-XIO port 0
	Purple	Box 3 port 2	M-XIO port 2
P74815-001	Black	Box 3 ports 3 and 4	Primary riser connector

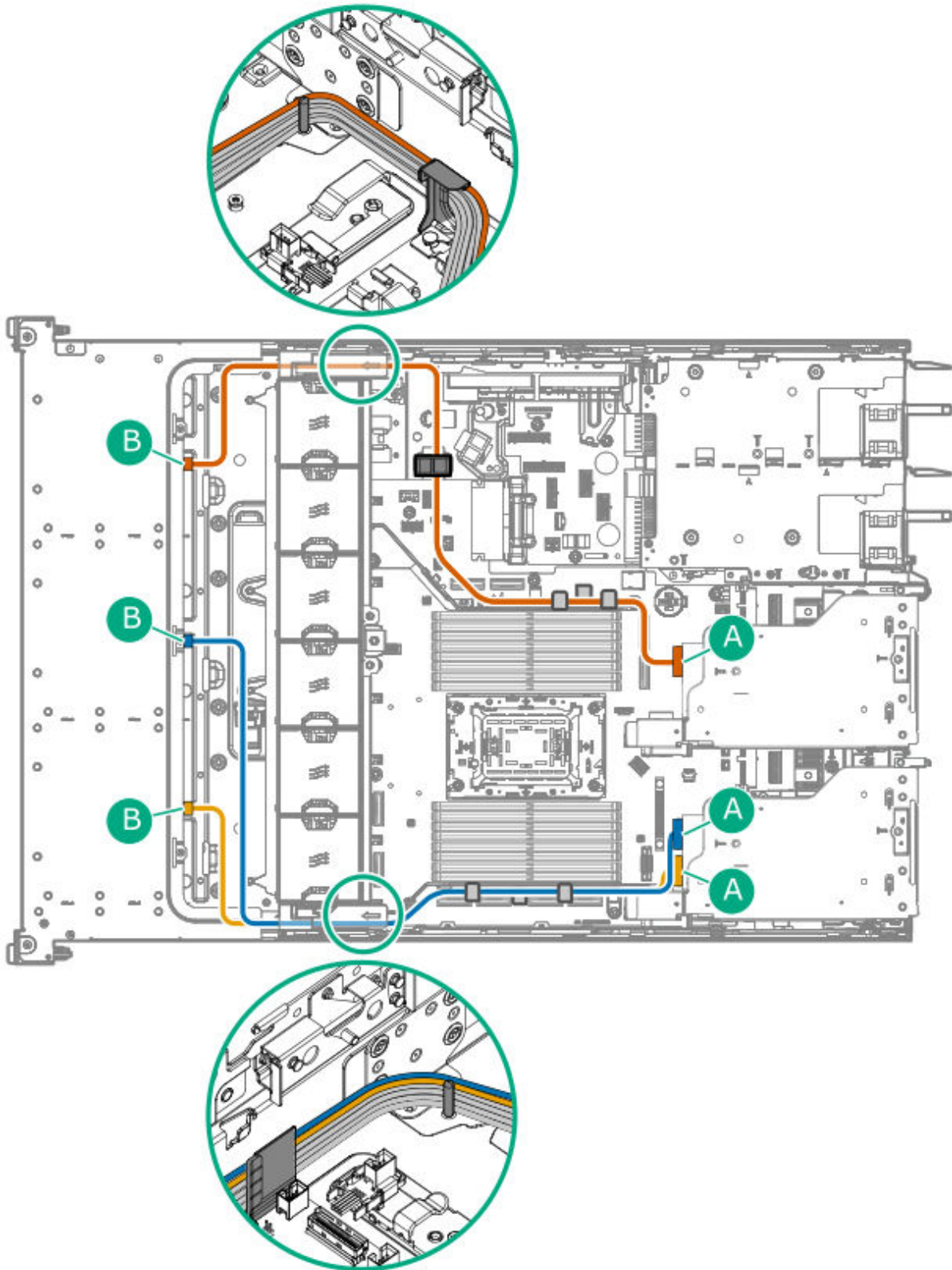
### 16 SFF x4 drive direct attach cabling: Boxes 1 and 3



<b>Cable part number</b>	<b>Cable color</b>	<b>From</b>	<b>To</b>
P71880-001	Orange	Box 1 ports 1 and 2	Secondary riser connector
P71881-001	Blue	Box 1 port 3	M-XIO port 4
	Gold	Box 1 port 4	M-XIO port 6
P75257-001	Pink	Box 3 port 1	M-XIO port 0
	Green	Box 3 port 2	M-XIO port 2
P74815-001	Purple	Box 3 ports 3 and 4	Primary riser connector

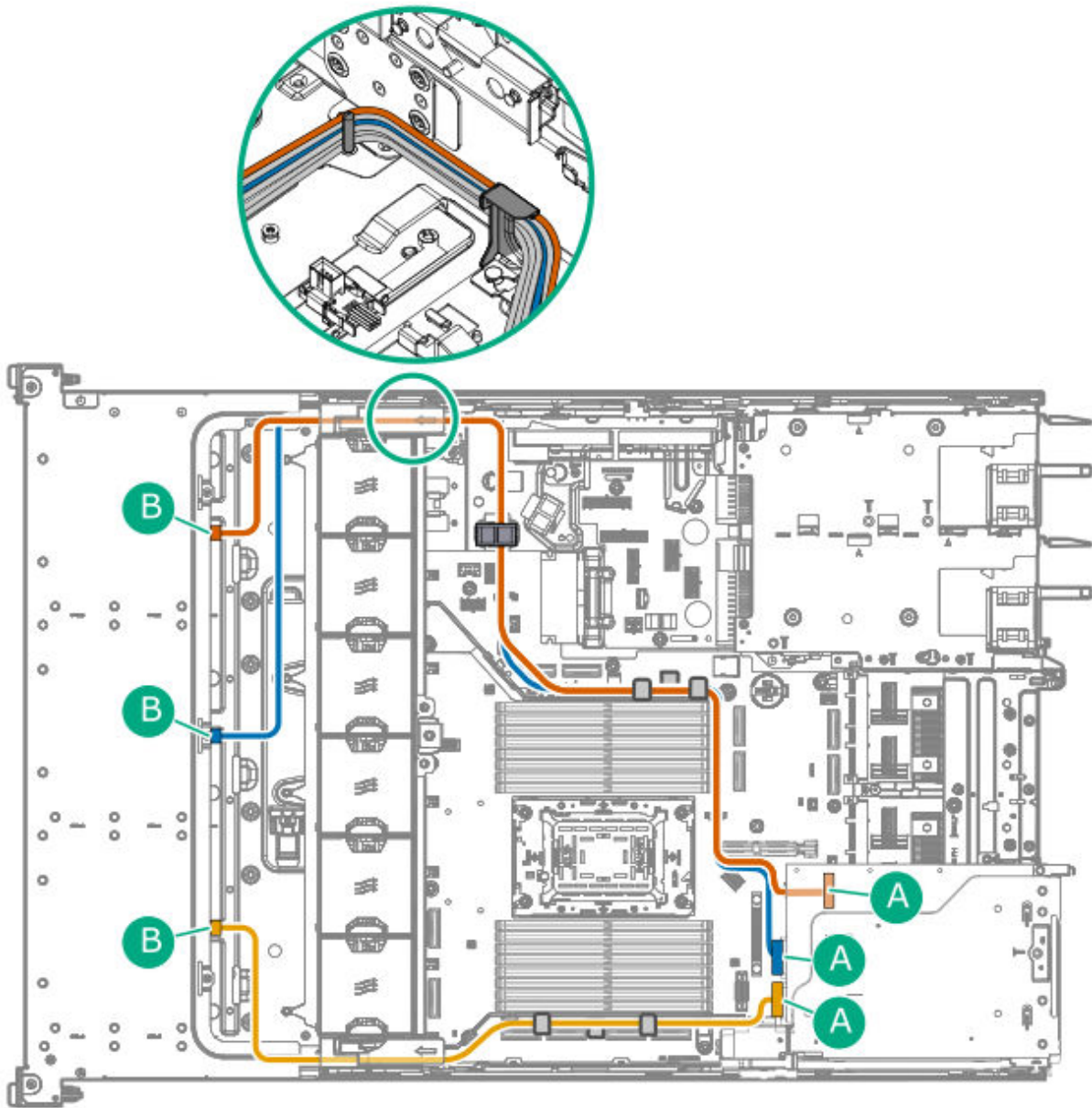
# 24 SFF drive cabling

## 24 SFF x1 drive cabling: Type-p 2-port tri-mode controllers



Cable part number	Cable color	From	To
P58020-001	Orange	Box 1 port 1	PCIe slot 6 port 1
	Blue	Box 2 port 1	PCIe slot 3 port 1
P58018-001	Gold	Box 3 port 1	PCIe slot 3 port 2

**24 SFF x1 drive cabling: Type-p 4-port tri-mode controller**

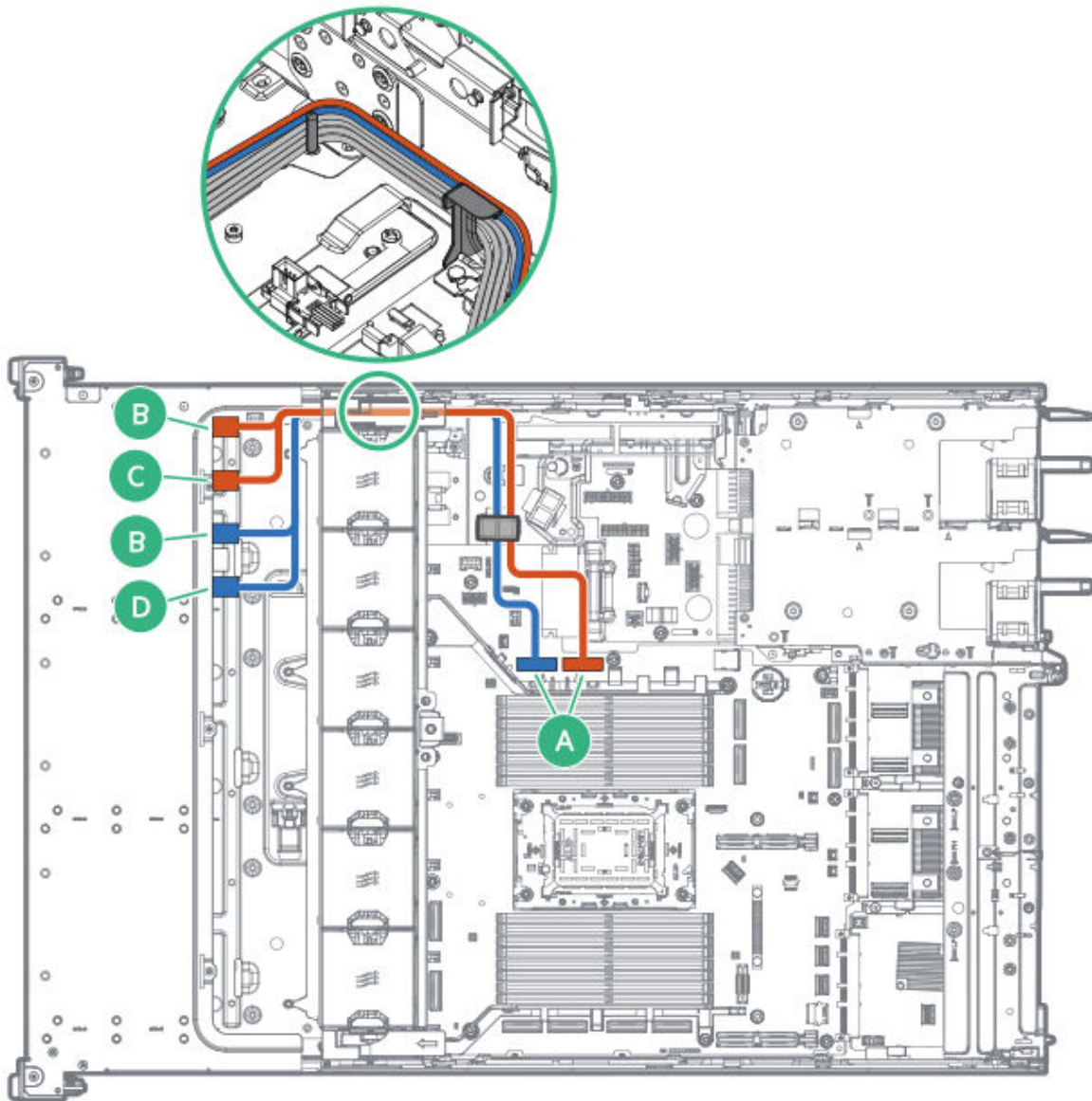


Cable part number	Cable color	From	To
P79151-001	Orange	Box 1 port 1	PCIe slot 3 port 4

Cable part number	Cable color	From	To
	Blue	Box 2 port 1	PCIe slot 3 port 1
P81063-001	Gold	Box 3 port 1	PCIe slot 3 port 2

## 24 SFF x2 drive direct attach cabling

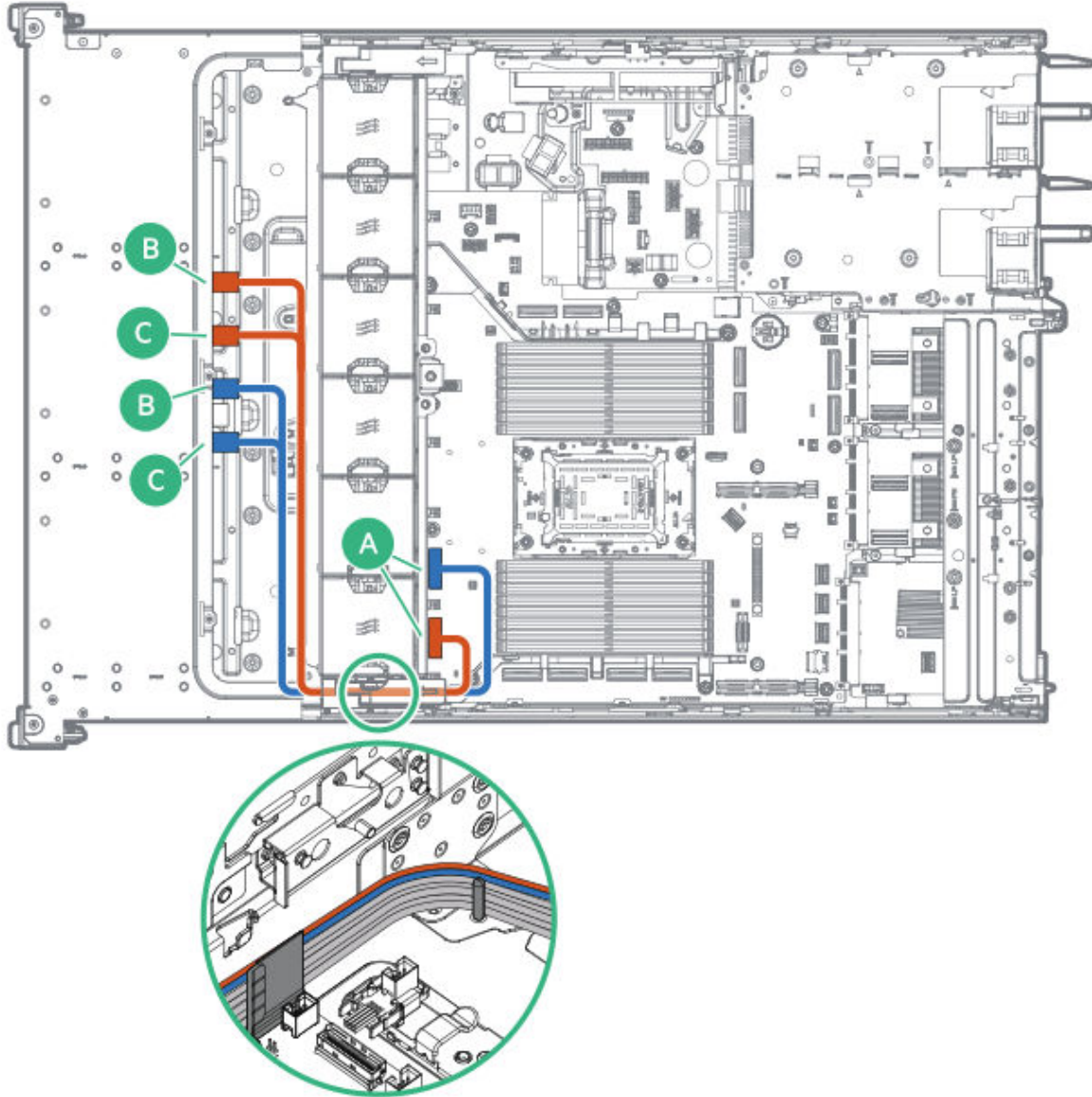
- **Box 1**



Cable part number	Cable color	From	To
P75563-001	Orange	Ports 1 and 2	M-XIO port 4

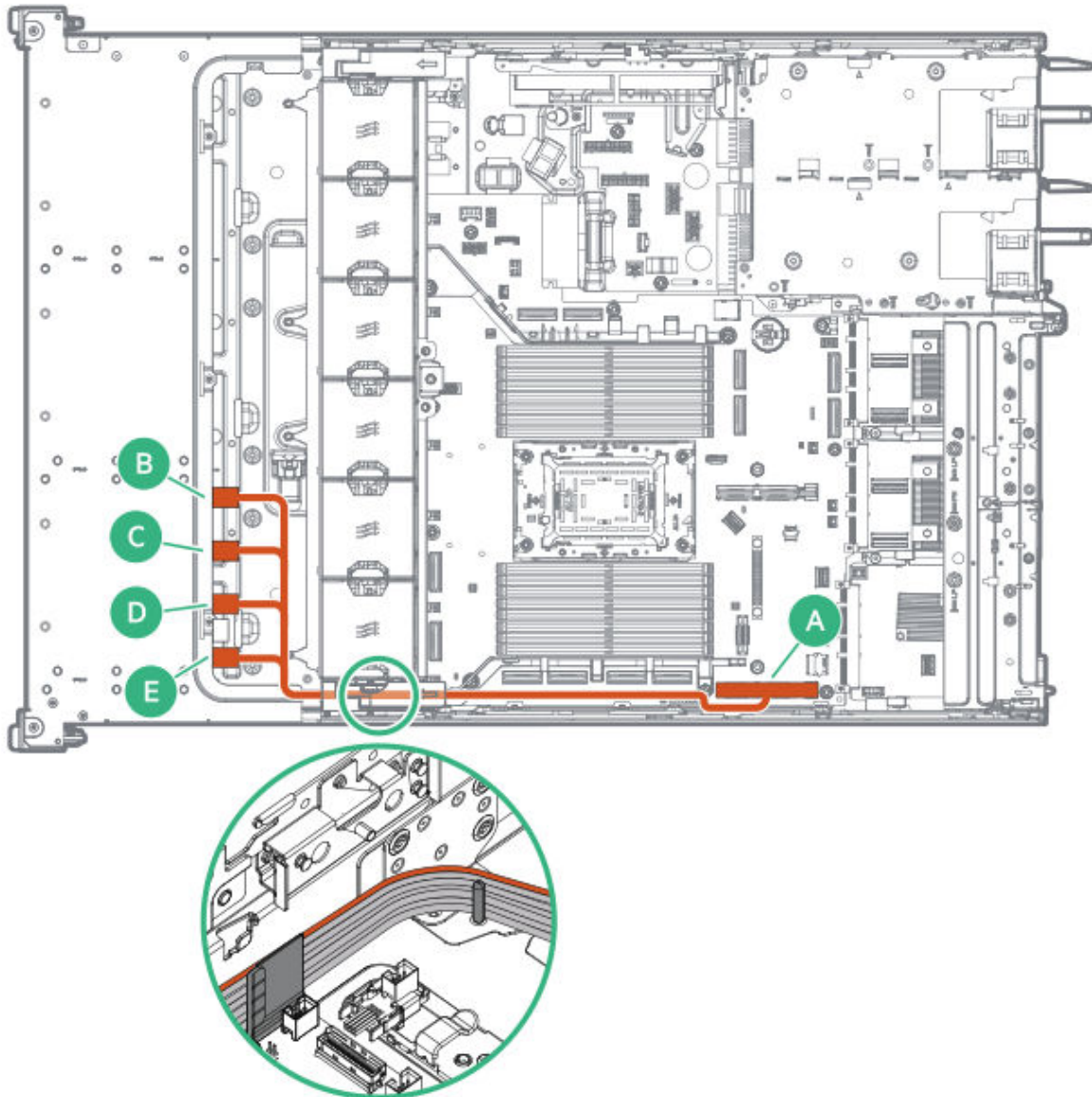
Cable part number	Cable color	From	To
	Blue	Ports 3 and 4	M-XIO port 6

- **Box 2**



Cable part number	Cable color	From	To
P74816-001	Orange	Ports 1 and 2	M-XIO port 0
	Blue	Ports 3 and 4	M-XIO port 2

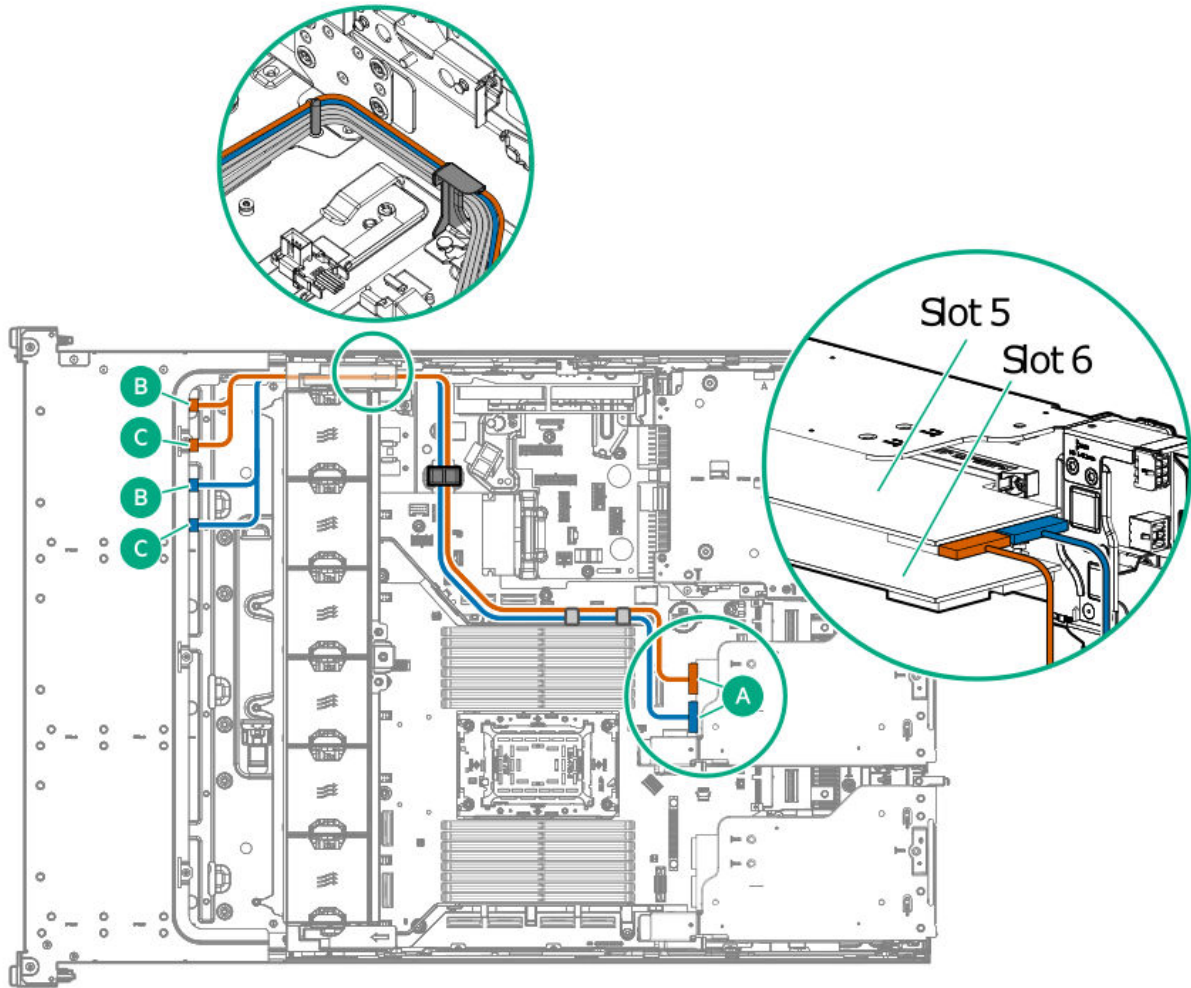
- **Box 3**



Cable part number	Cable color	From	To
P74814-001	Orange	Ports 1 to 4	Primary riser connector

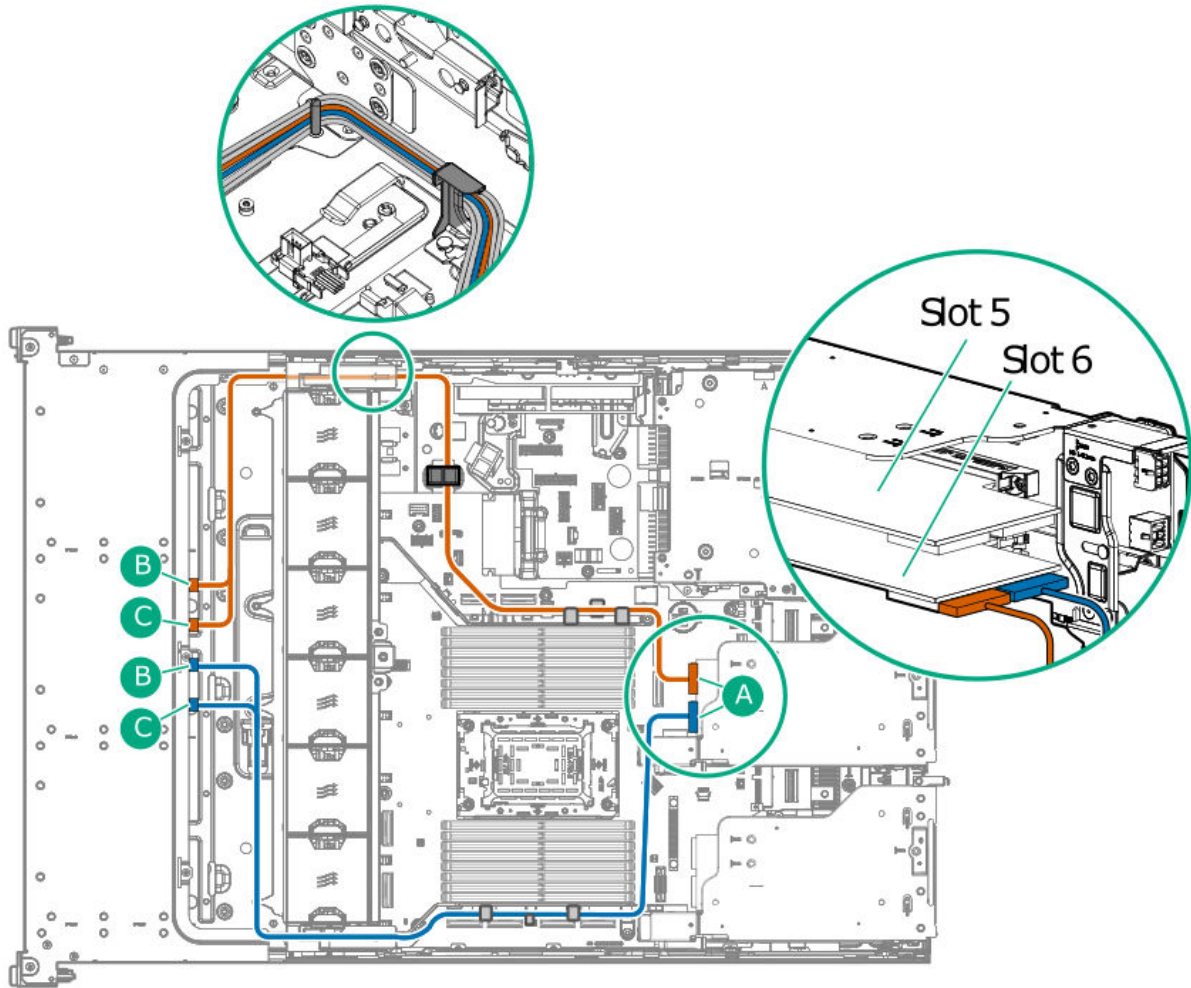
### 24 SFF x2 drive cabling: Type-p 2-port tri-mode controllers

- **Box 1**



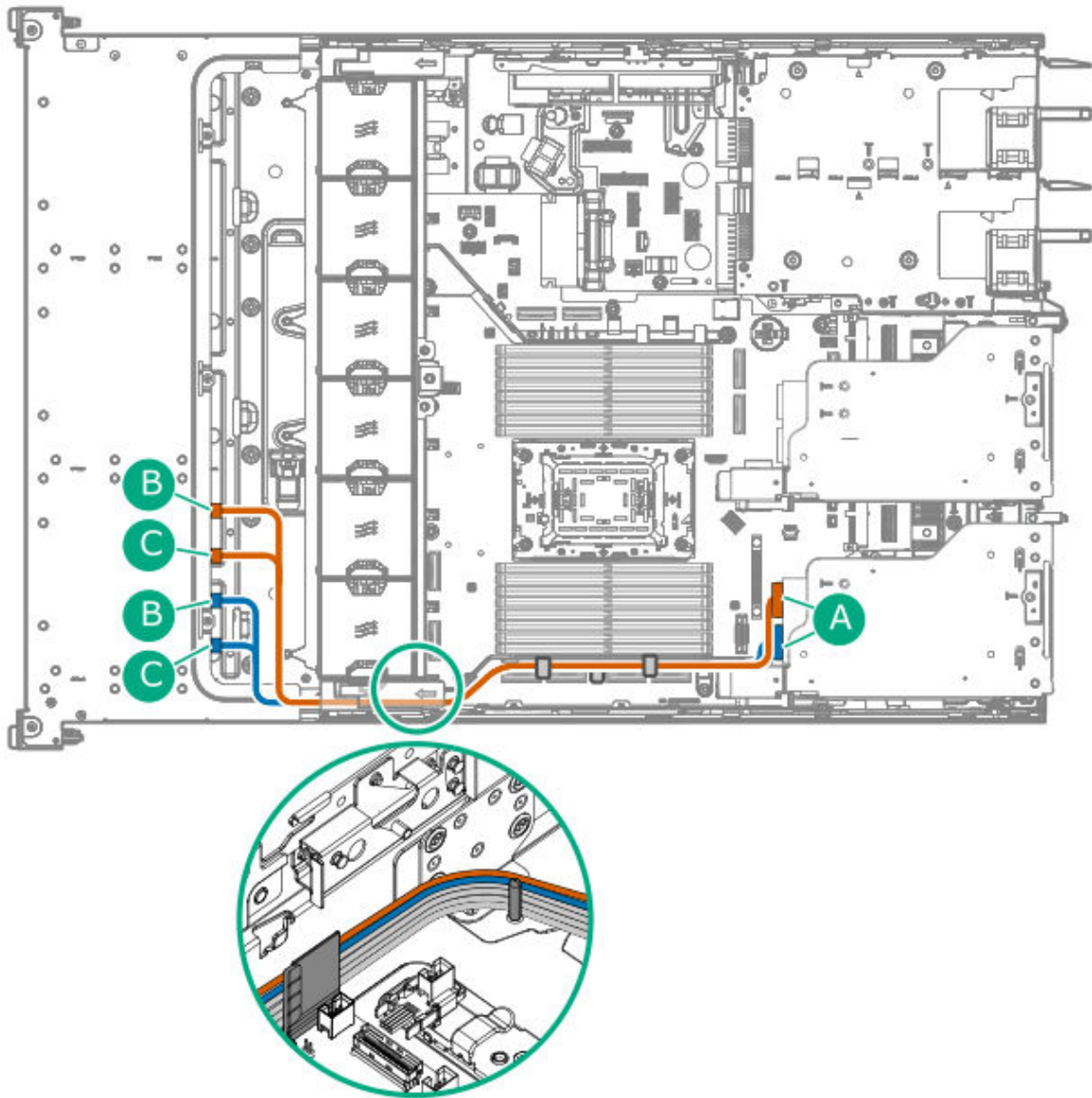
Cable part number	Cable color	From	To
P76440-001	Orange	Ports 1 and 2	PCIe slot 5 port 1
	Blue	Ports 3 and 4	PCIe slot 5 port 2

- **Box 2**



Cable part number	Cable color	From	To
P76440-001	Orange	Ports 1 and 2	PCIe slot 6 port 1
	Blue	Ports 3 and 4	PCIe slot 6 port 2

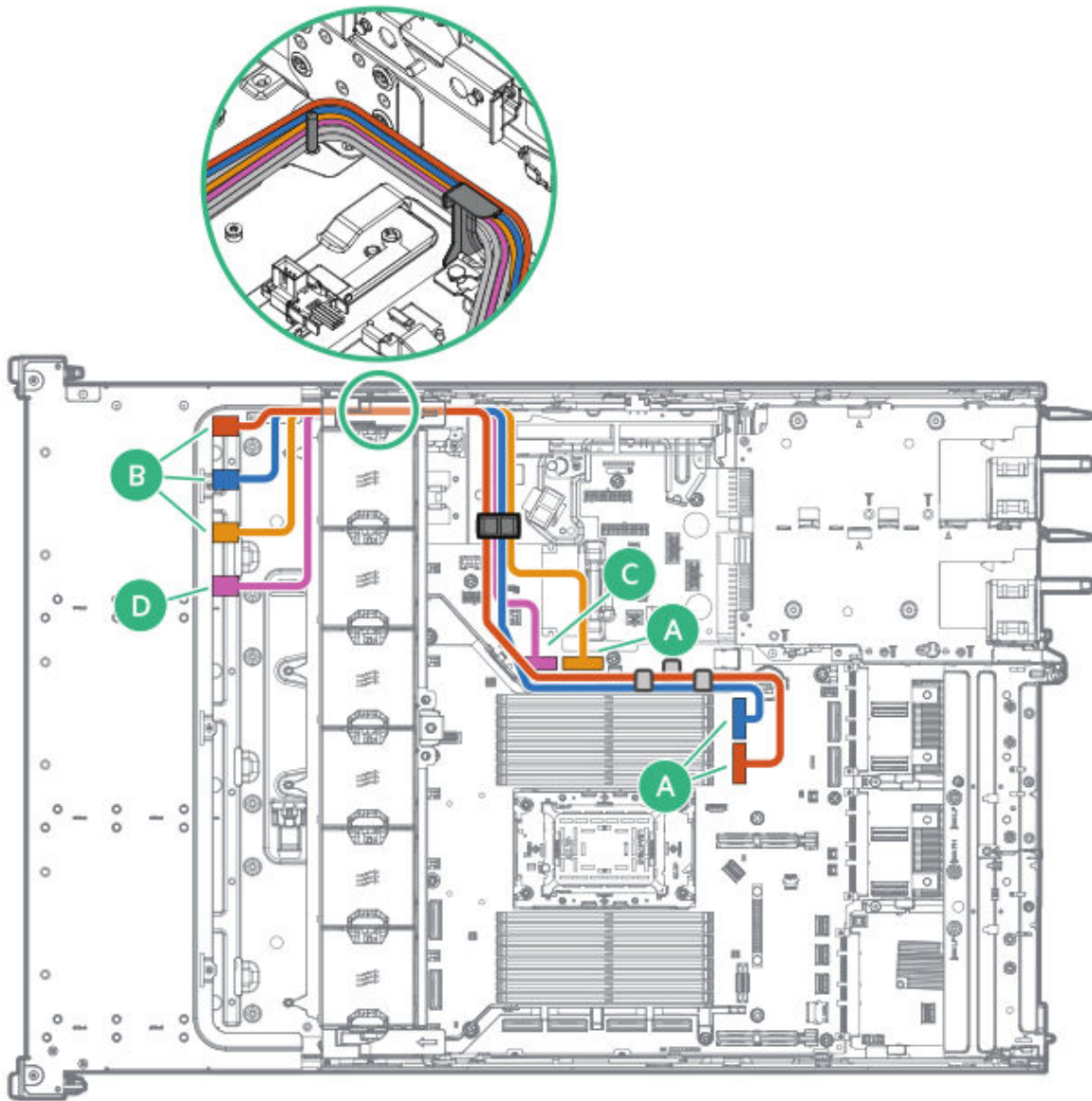
- **Box 3**



Cable part number	Cable color	From	To
P76440-001	Orange	Ports 1 and 2	PCIe slot 3 port 1
	Blue	Ports 3 and 4	PCIe slot 3 port 2

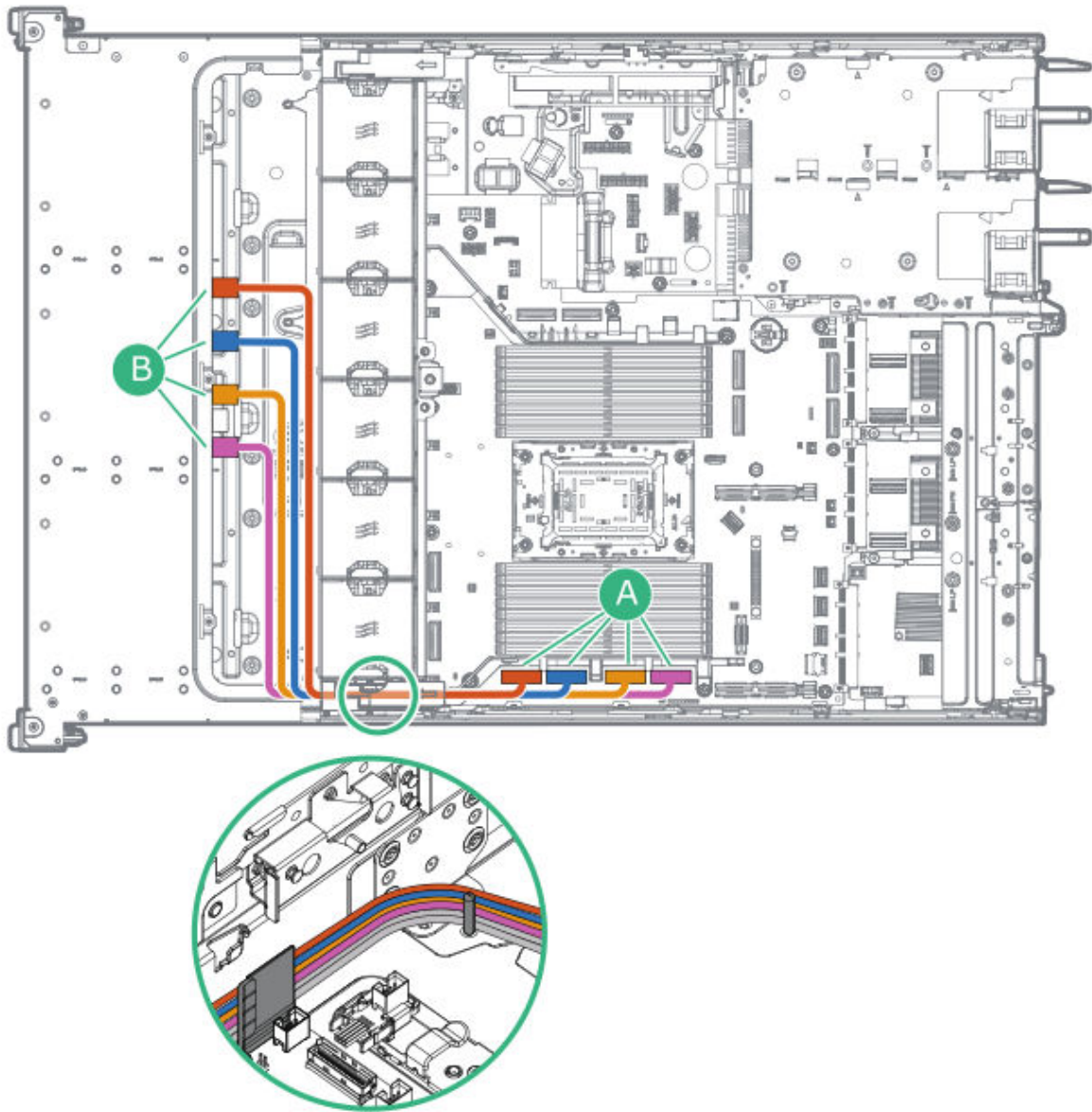
### 24 SFF x4 drive direct attach cabling

- **Box 1**



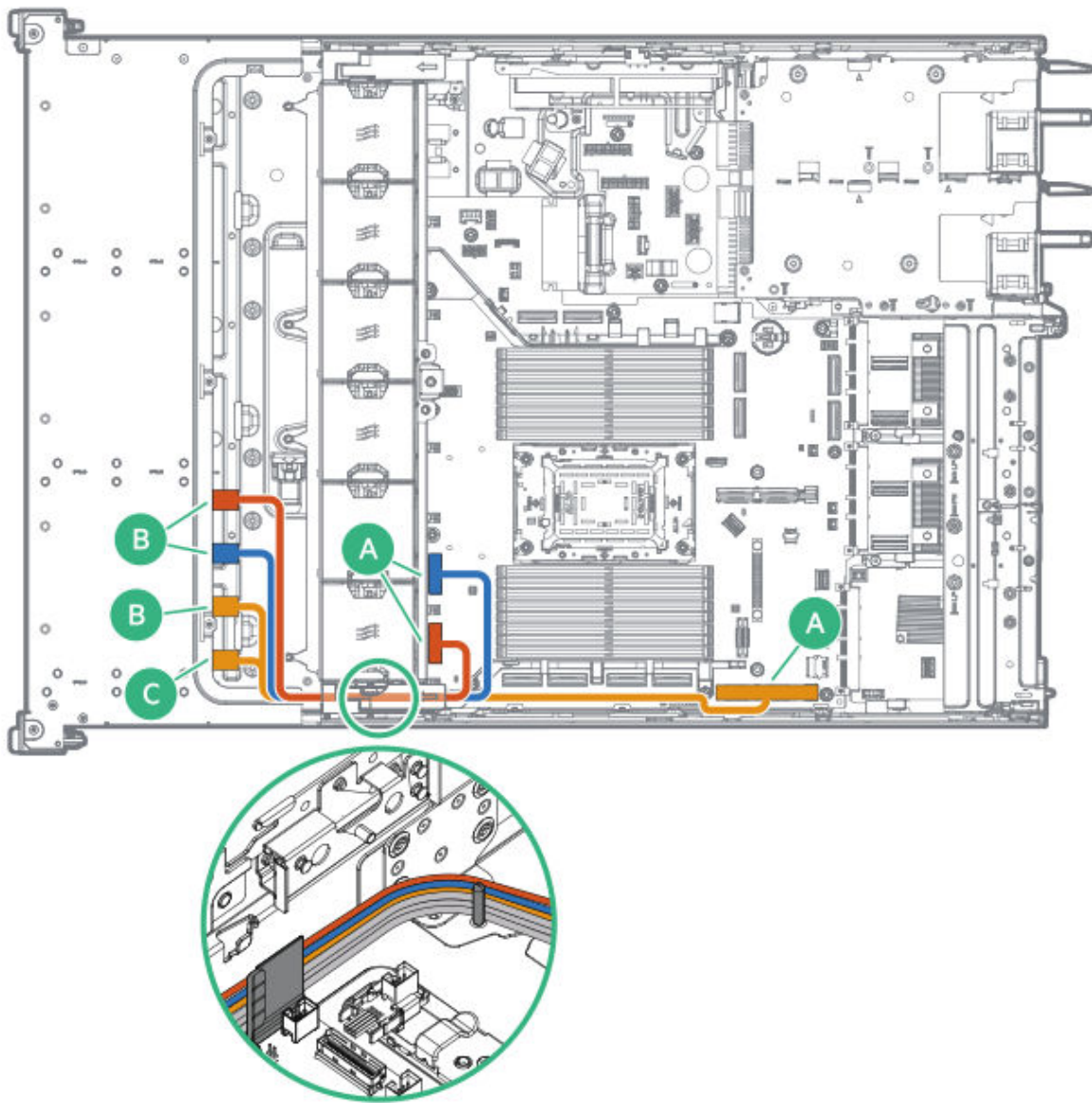
Cable part number	Cable color	From	To
P74807-001	Orange	Port 1	M-XIO port 13
	Blue	Port 2	M-XIO port 17
P71881-001	Gold	Port 3	M-XIO port 4
	Pink	Port 4	M-XIO port 6

- **Box 2**



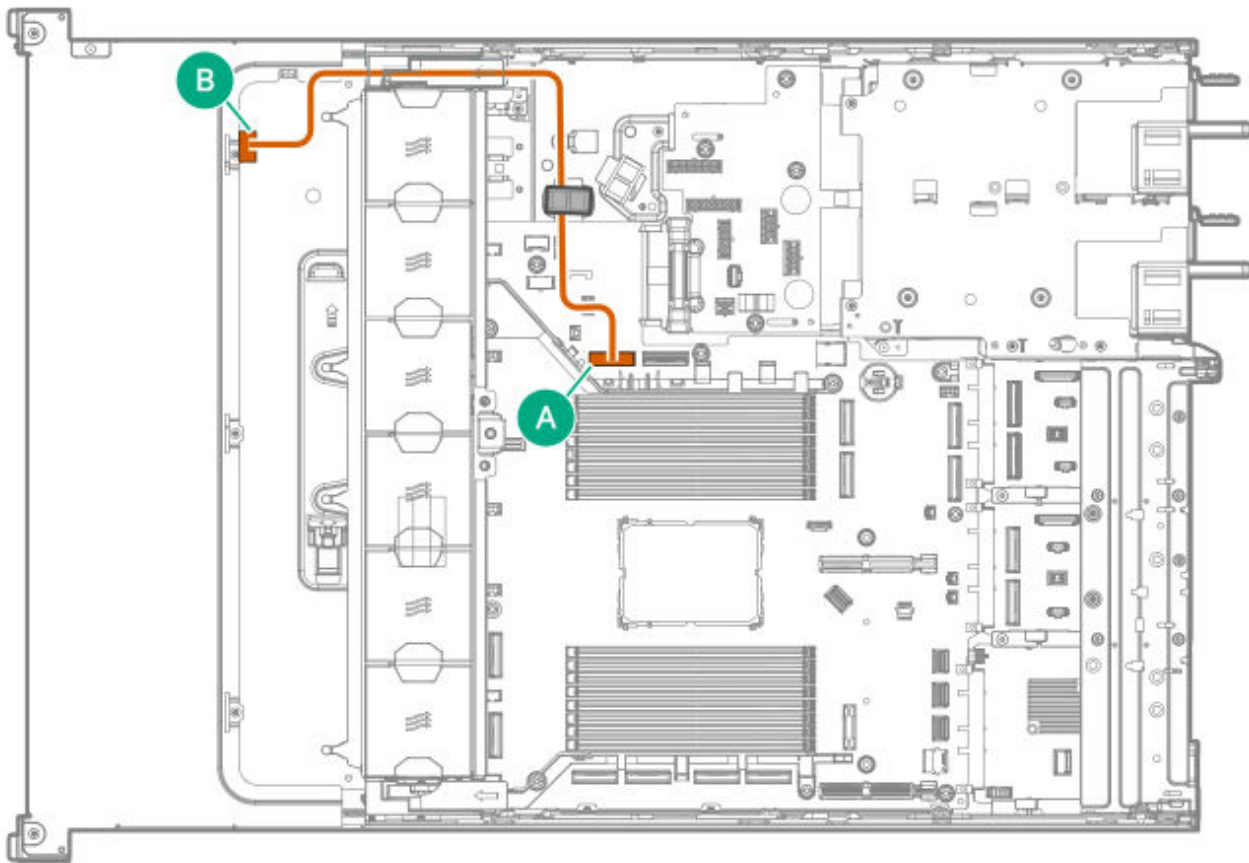
Cable part number	Cable color	From	To
P76442-001	Orange	Port 1	M-XIO port 7
	Blue	Port 2	M-XIO port 5
	Gold	Port 3	M-XIO port 1
	Pink	Port 4	M-XIO port 3

- **Box 3**



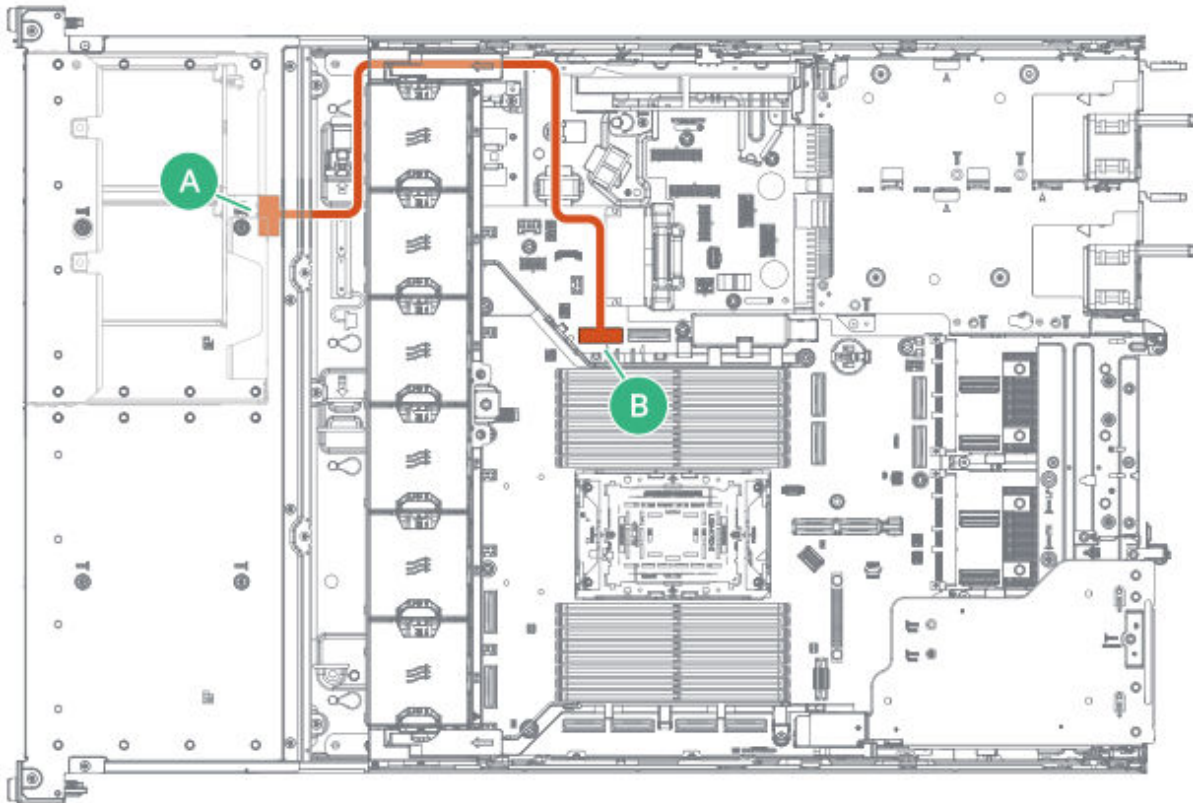
Cable part number	Cable color	From	To
P75257-001	Orange	Port 1	M-XIO port 0
	Blue	Port 2	M-XIO port 2
P74815-001	Gold	Port 3	Primary riser connector
		Port 4	

## 2 SFF stacked drive cabling



Cable part number	Cable color	From	To
P75367-001	Orange	Box 1 port 1	M-XIO port 6

## 2 SFF side-by-side drive cabling



Cable part number	Cable color	From	To
P75367-001	Orange	Box 1 port 1	M-XIO port 6

## E3.S drive controller cabling: Non-GPU-optimized configuration

### Subtopics

[8 E3.S drive cabling](#)

[16 E3.S drive cabling](#)

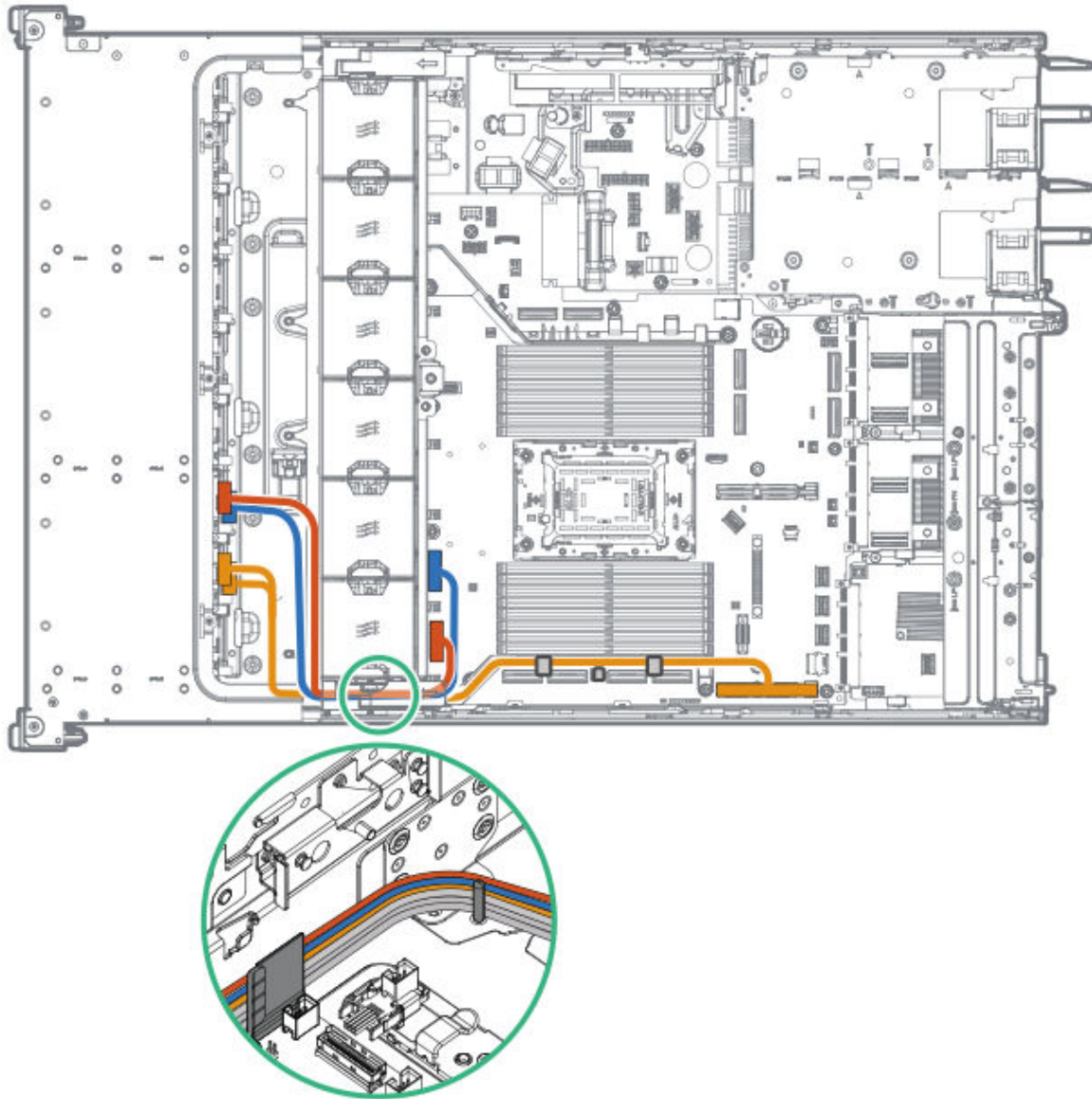
[24 E3.S drive cabling](#)

[36 E3.S drive cabling](#)

## 8 E3.S drive cabling

### Direct attach

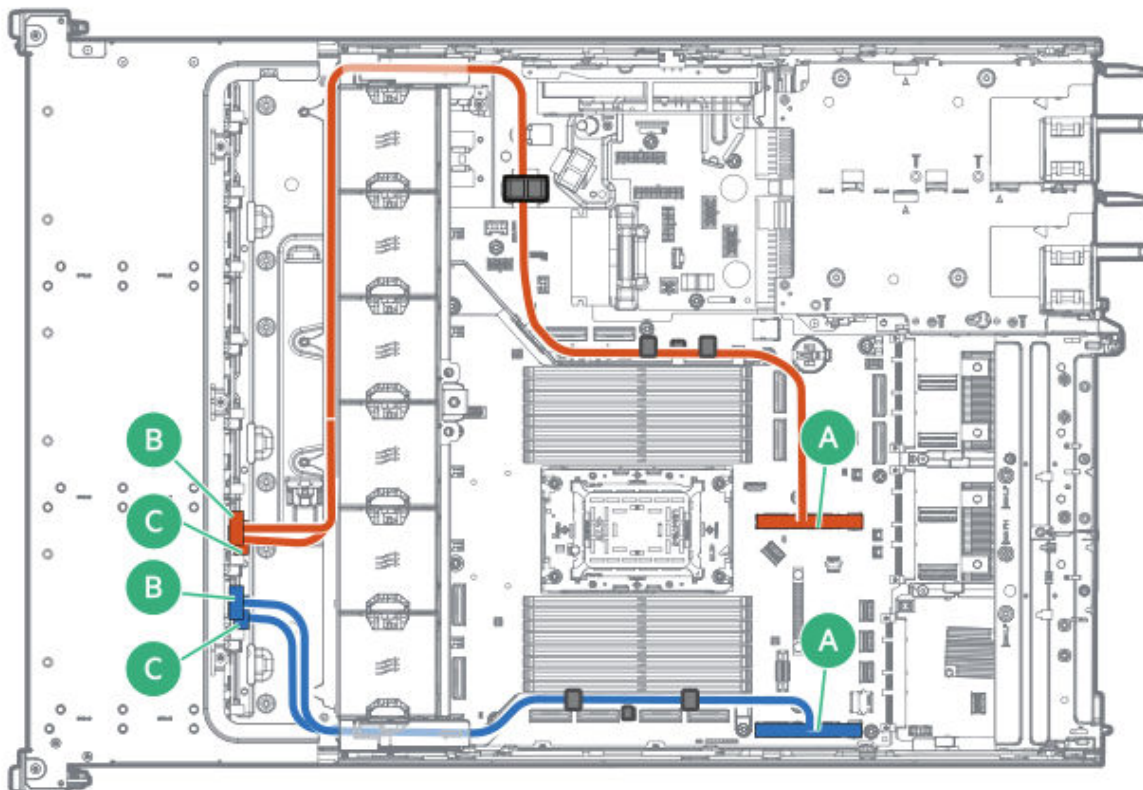
- **Universal media bay configuration**



Cable part number	Cable color	From	To
P75317-001	Orange	Box 3 bays 1 to 4 port 1	M-XIO port 0
	Blue	Box 3 bays 1 to 4 port 2	M-XIO port 2

Cable part number	Cable color	From	To
P75246-001	Gold	Box 3 bays 5 to 8 ports	Primary riser connector 1 and 2

- Front OCP NIC configuration

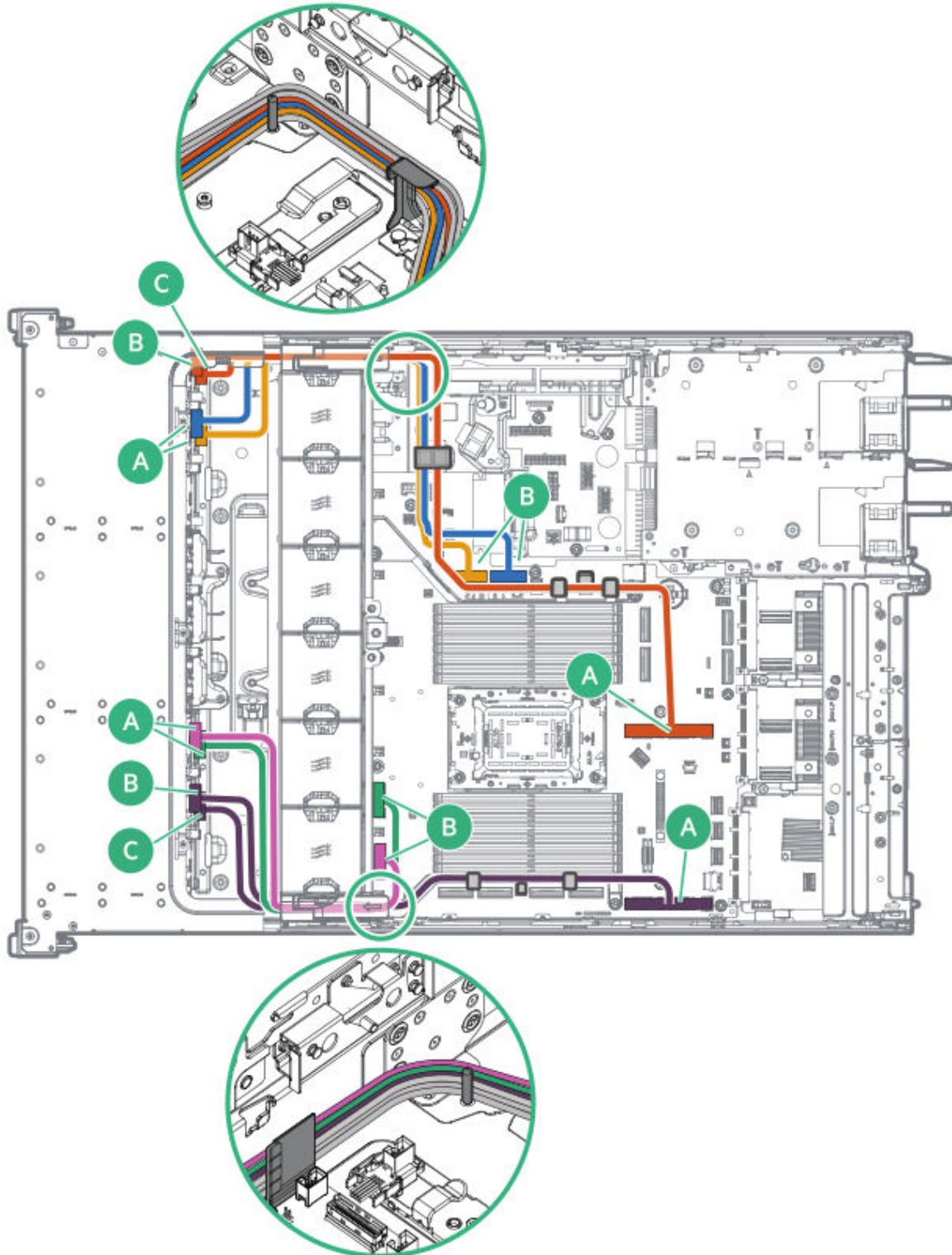


Cable part number	Cable color	From	To
P75580-001	Orange	Box 3 bays 1 to 4 ports 1 and 2	Secondary riser connector
P75246-001	Blue	Box 3 bays 5 to 8 ports 1 and 2	Primary riser connector 1 and 2

# 16 E3.S drive cabling

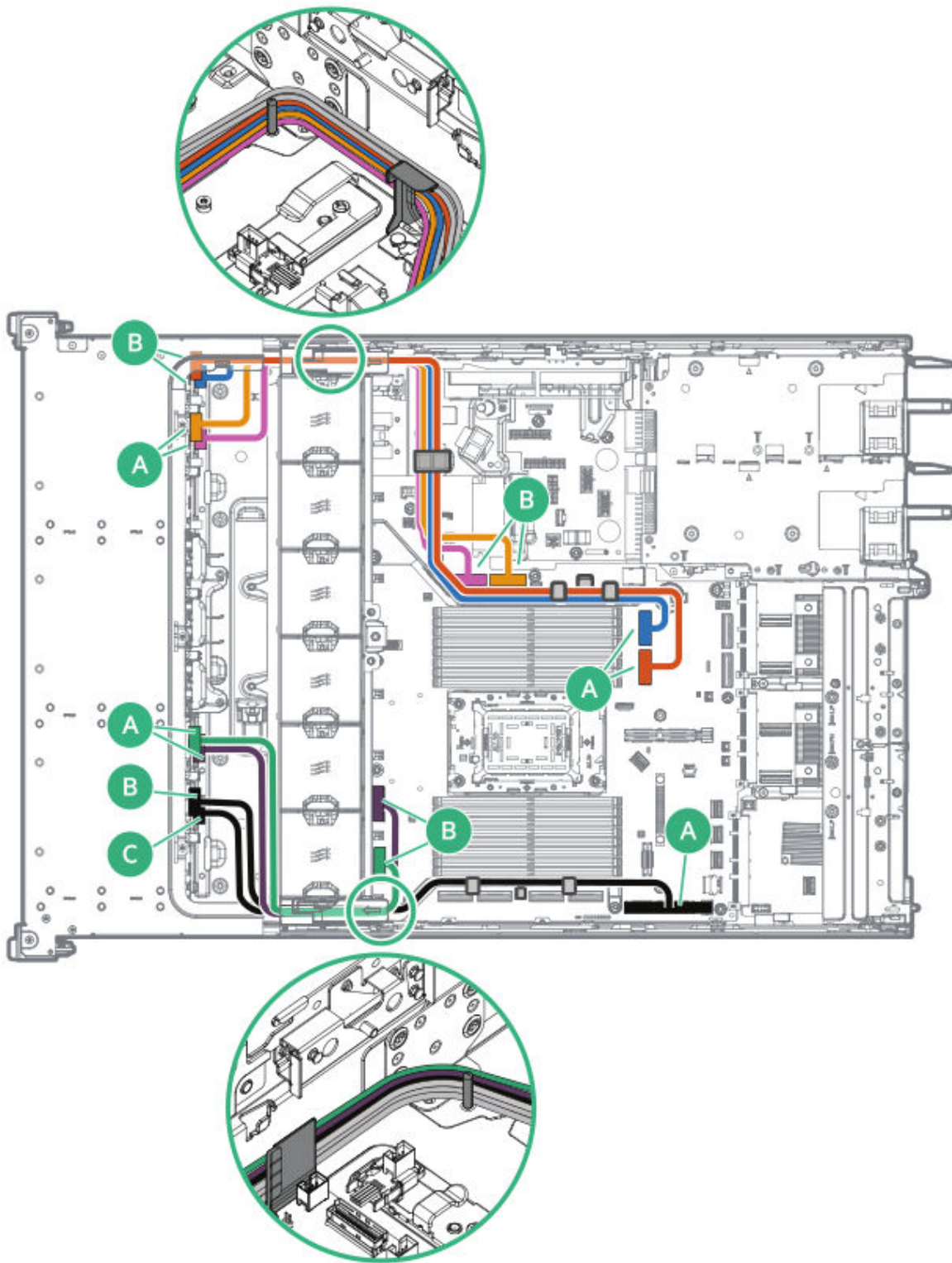
## Direct attach

- Secondary riser blank configuration



<b>Cable part number</b>	<b>Cable color</b>	<b>From</b>	<b>To</b>
P75580-001	Orange	Box 1 bays 1 to 4 ports 1 and 2	Secondary riser connector
P75317-001	Blue	Box 1 bays 5 to 8 port 1	M-XIO port 4
	Gold	Box 1 bays 5 to 8 port 2	M-XIO port 6
	Pink	Box 3 bays 1 to 4 port 1	M-XIO port 0
	Green	Box 3 bays 1 to 4 port 2	M-XIO port 2
P75246-001	Purple	Box 3 bays 5 to 8 ports 1 and 2	Primary riser connector

- **Rich I/O configuration**

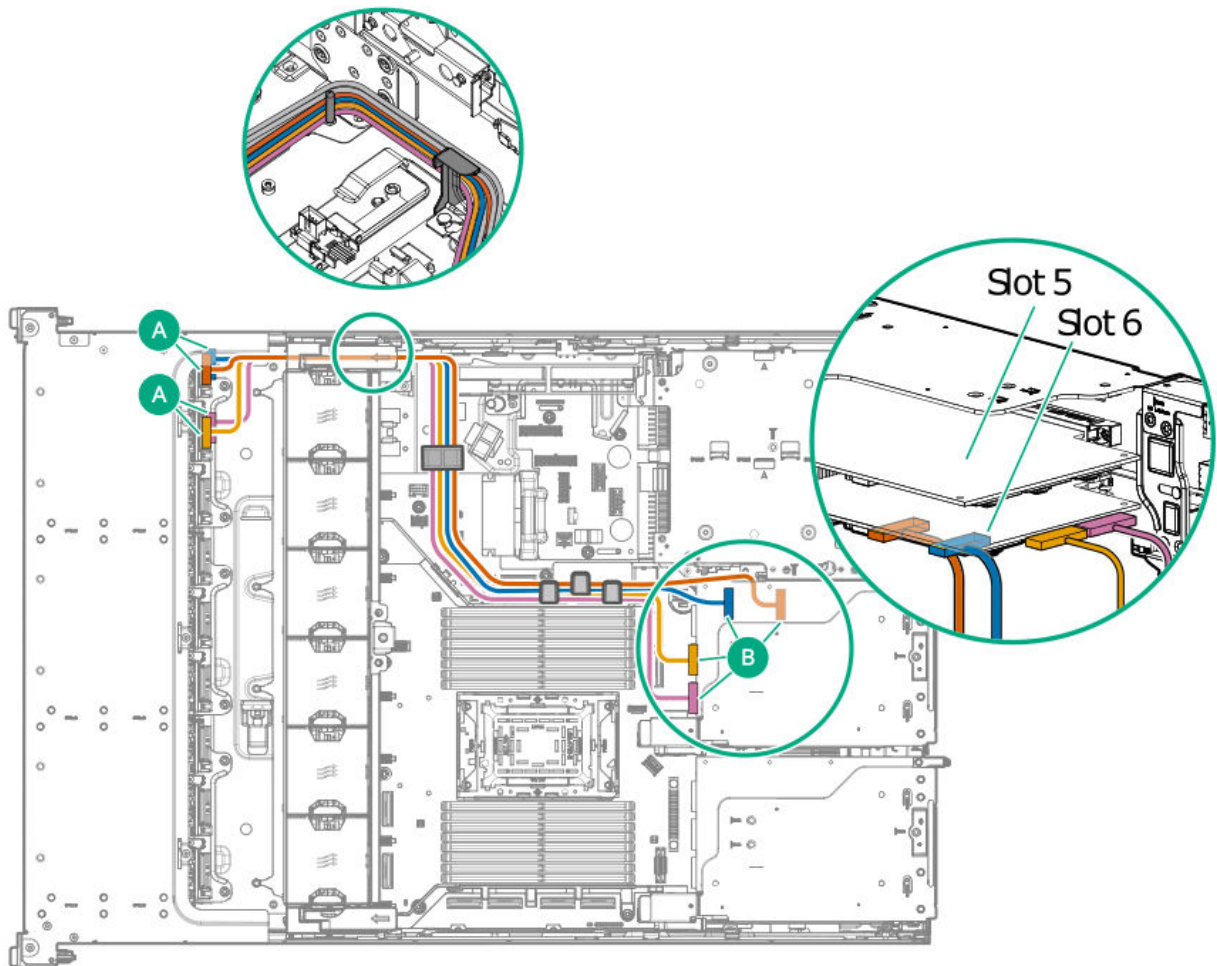


Cable part number	Cable color	From	To
P75576-001	Orange	Box 1 bays 1 to 4 port 1	M-XIO port 13

Cable part number	Cable color	From	To
P75317-001	Blue	Box 1 bays 1 to 4 port 2	M-XIO port 17
	Gold	Box 1 bays 5 to 8 port 1	M-XIO port 4
	Pink	Box 1 bays 5 to 8 port 2	M-XIO port 6
	Green	Box 3 bays 1 to 4 port 1	M-XIO port 0
	Purple	Box 3 bays 1 to 4 port 2	M-XIO port 2
P75246-001	Black	Box 3 bays 5 to 8 ports	Primary riser connector 1 and 2

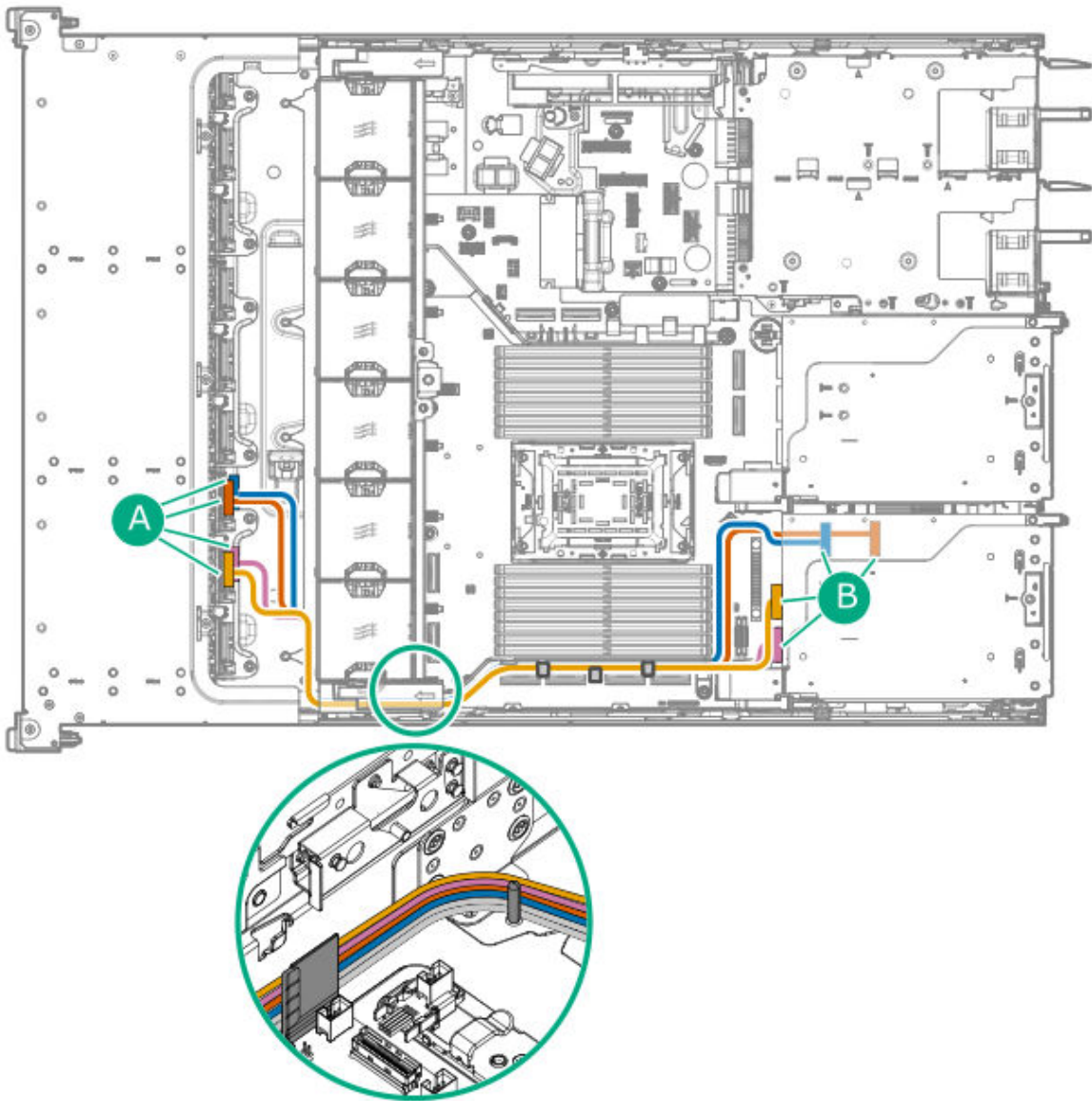
### Type-p 4-port tri-mode controllers

- **Box 1**



Cable part number	Cable color	From	To
P75569-001	Orange	Bays 1 to 4 port 1	PCIe slot 6 port 3
	Blue	Bays 1 to 4 port 2	PCIe slot 6 port 4
	Gold	Bays 5 to 8 port 1	PCIe slot 6 port 1
	Pink	Bays 5 to 8 port 2	PCIe slot 6 port 2

- **Box 3**

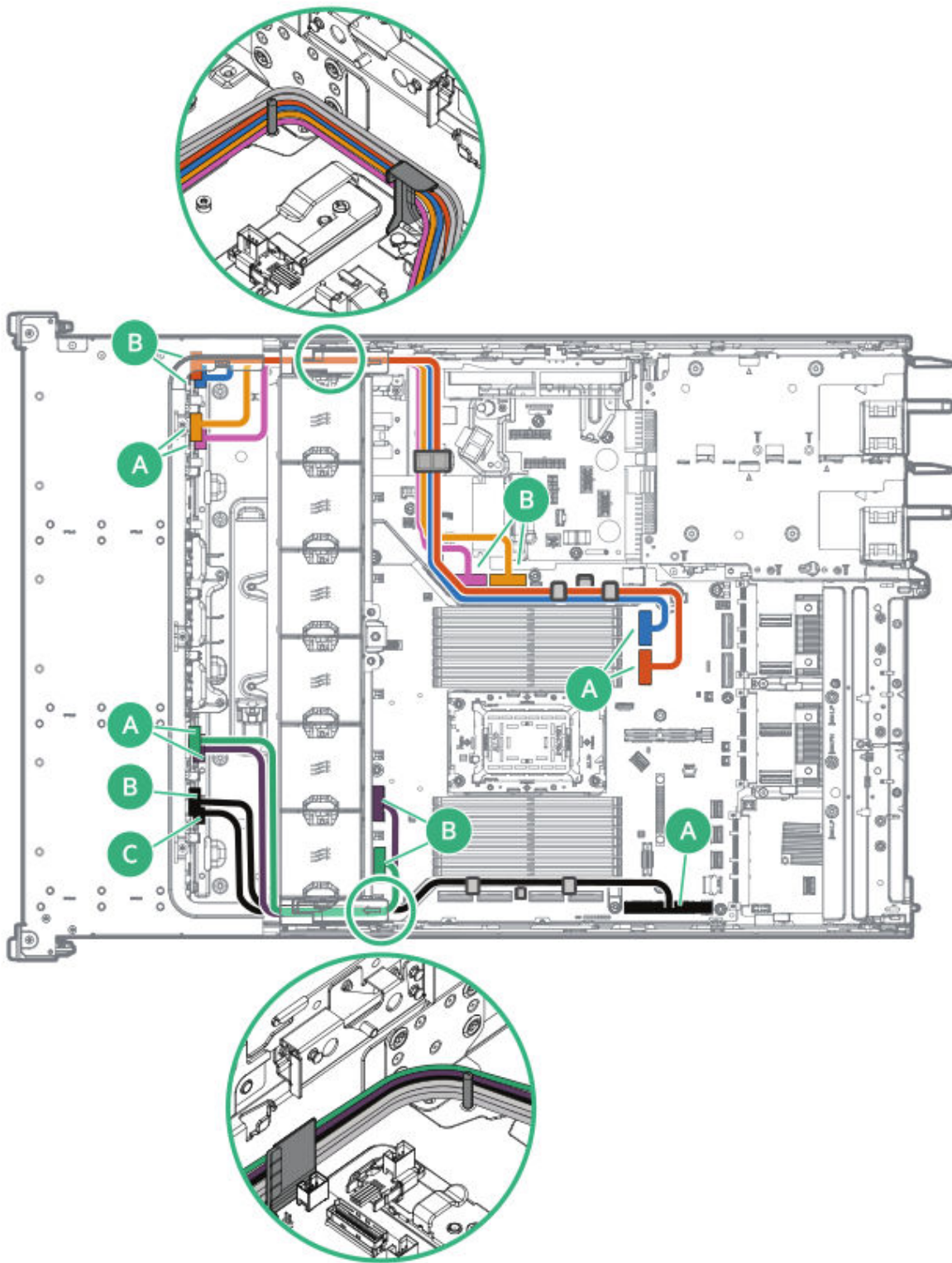


<b>Cable part number</b>	<b>Cable color</b>	<b>From</b>	<b>To</b>
P75569-001	Orange	Bays 1 to 4 port 1	PCIe slot 3 port 3
	Blue	Bays 1 to 4 port 2	PCIe slot 3 port 4
	Gold	Bays 5 to 8 port 1	PCIe slot 3 port 1
	Pink	Bays 5 to 8 port 2	PCIe slot 3 port 2

## 24 E3.S drive cabling

### Direct attach

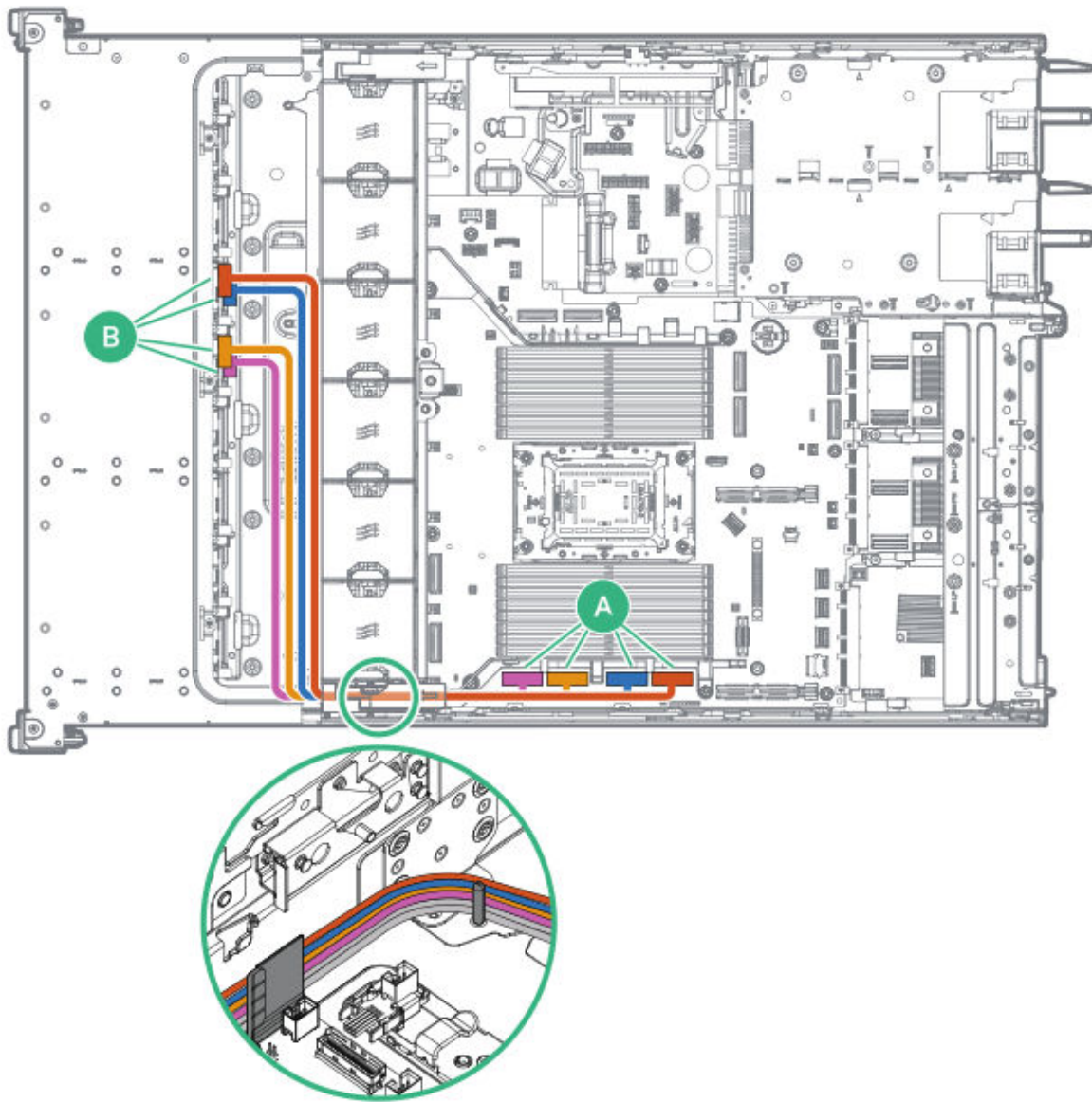
- **Boxes 1 and 3**



Cable part number	Cable color	From	To
P75576-001	Orange	Box 1 bays 1 to 4 port 1	M-XIO port 13

Cable part number	Cable color	From	To
P75317-001	Blue	Box 1 bays 1 to 4 port 2	M-XIO port 17
	Gold	Box 1 bays 5 to 8 port 1	M-XIO port 4
	Pink	Box 1 bays 5 to 8 port 2	M-XIO port 6
	Green	Box 3 bays 1 to 4 port 1	M-XIO port 0
	Purple	Box 3 bays 1 to 4 port 2	M-XIO port 2
P75246-001	Black	Box 3 bays 5 to 8 ports	Primary riser connector 1 and 2

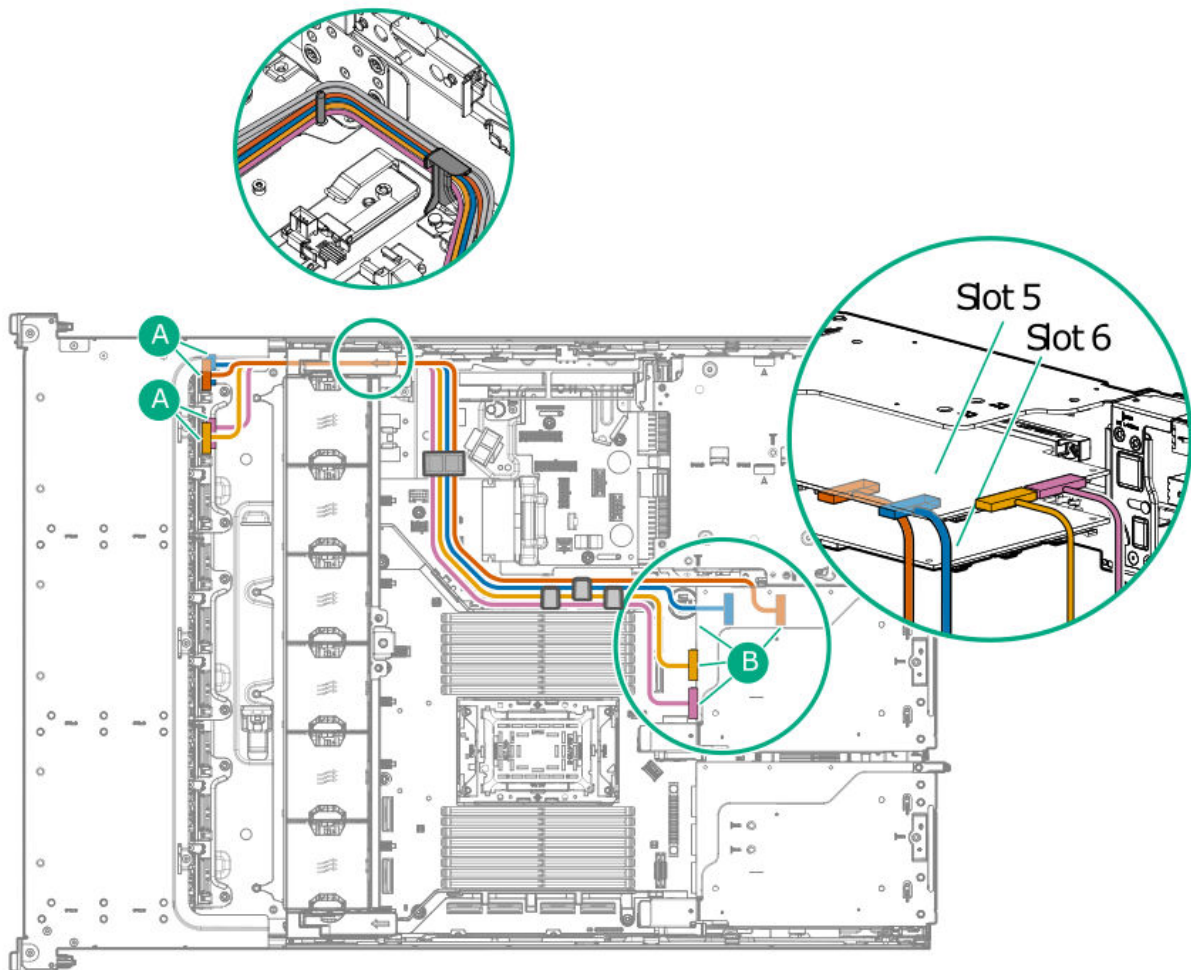
- **Box 2**



Cable part number	Cable color	From	To
P75504-001	Orange	Bays 1 to 4 port 1	M-XIO port 7
	Blue	Bays 1 to 4 port 2	M-XIO port 5
	Gold	Bays 5 to 8 port 1	M-XIO port 1
	Pink	Bays 5 to 8 port 2	M-XIO port 3

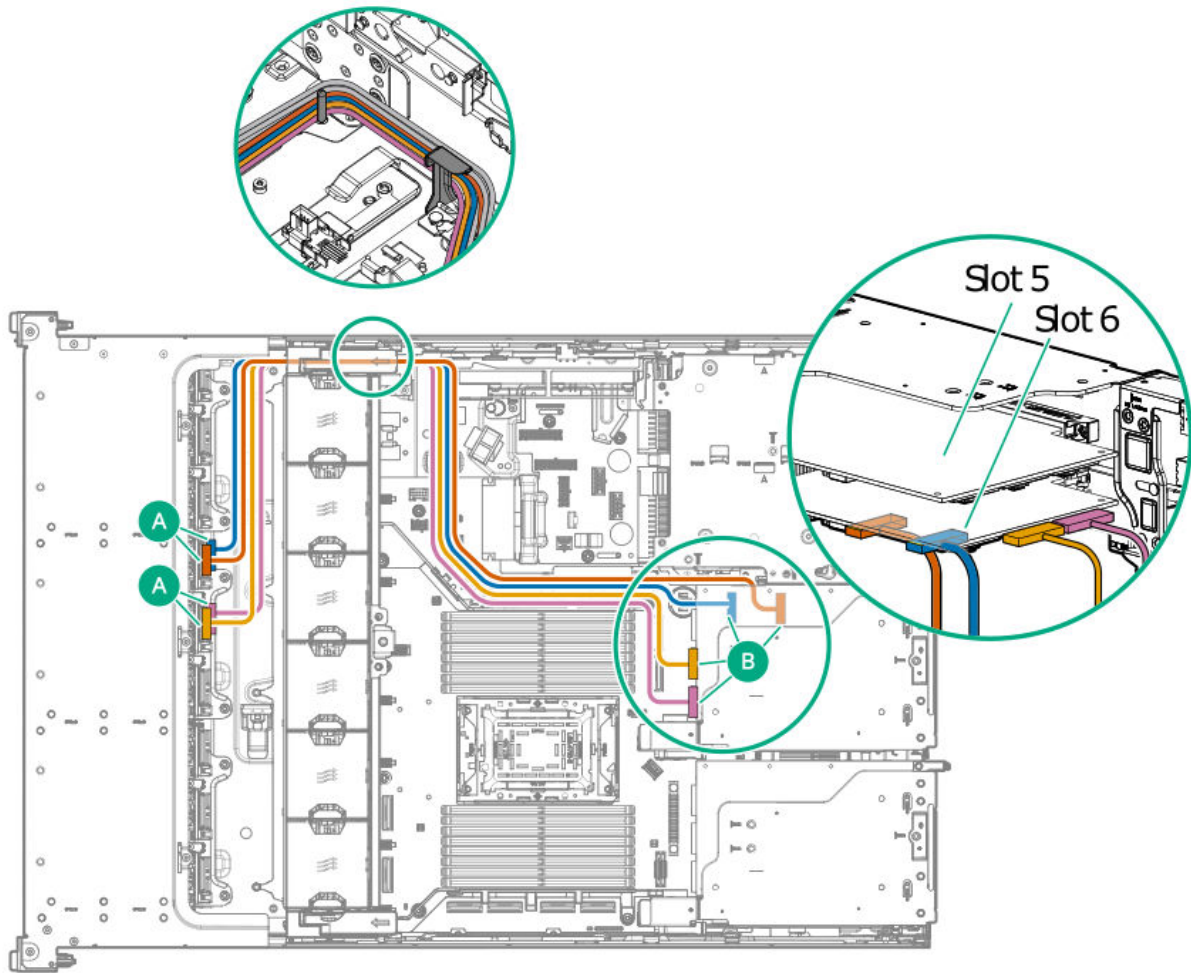
### Type-p 4-port tri-mode controllers

- **Box 1**



Cable part number	Cable color	From	To
P75569-001	Orange	Bays 1 to 4 port 1	PCIe slot 5 port 3
	Blue	Bays 1 to 4 port 2	PCIe slot 5 port 4
	Gold	Bays 5 to 8 port 1	PCIe slot 5 port 1
	Pink	Bays 5 to 8 port 2	PCIe slot 5 port 2

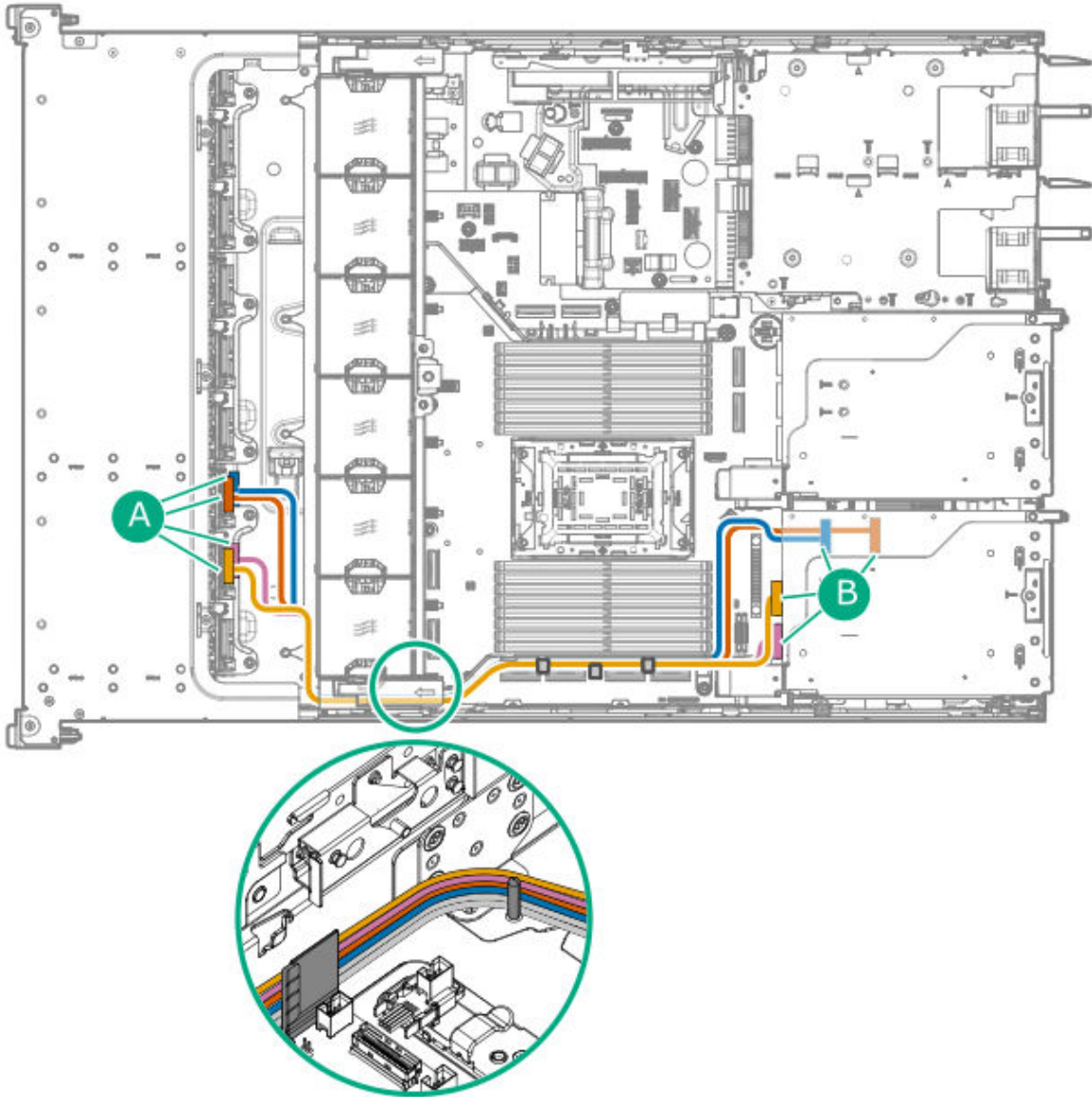
- **Box 2**



Cable part number	Cable color	From	To
P75570-001	Orange	Bays 1 to 4 port 1	PCIe slot 6 port 3
	Blue	Bays 1 to 4 port 2	PCIe slot 6 port 4

Cable part number	Cable color	From	To
	Gold	Bays 5 to 8 port 1	PCIe slot 6 port 1
	Pink	Bays 5 to 8 port 2	PCIe slot 6 port 2

- **Box 3**



Cable part number	Cable color	From	To
P75569-001	Orange	Bays 1 to 4 port 1	PCIe slot 3 port 3
	Blue	Bays 1 to 4 port 2	PCIe slot 3 port 4

Cable part number	Cable color	From	To
	Gold	Bays 5 to 8 port 1	PCIe slot 3 port 1
	Pink	Slots 5 to 8 port 2	PCIe slot 3 port 2

## 36 E3.S drive cabling

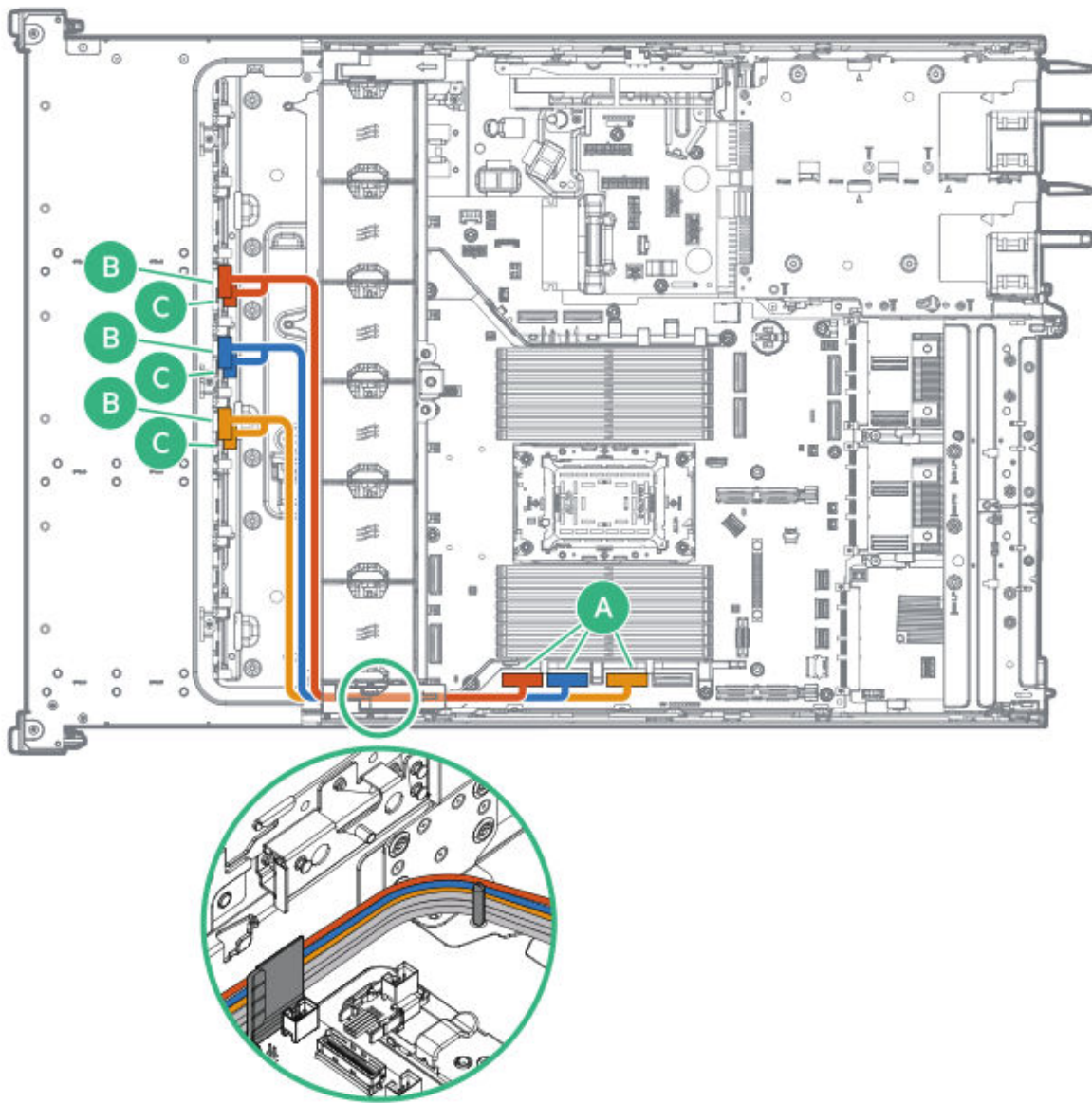
### Direct attach

- **Box 1**



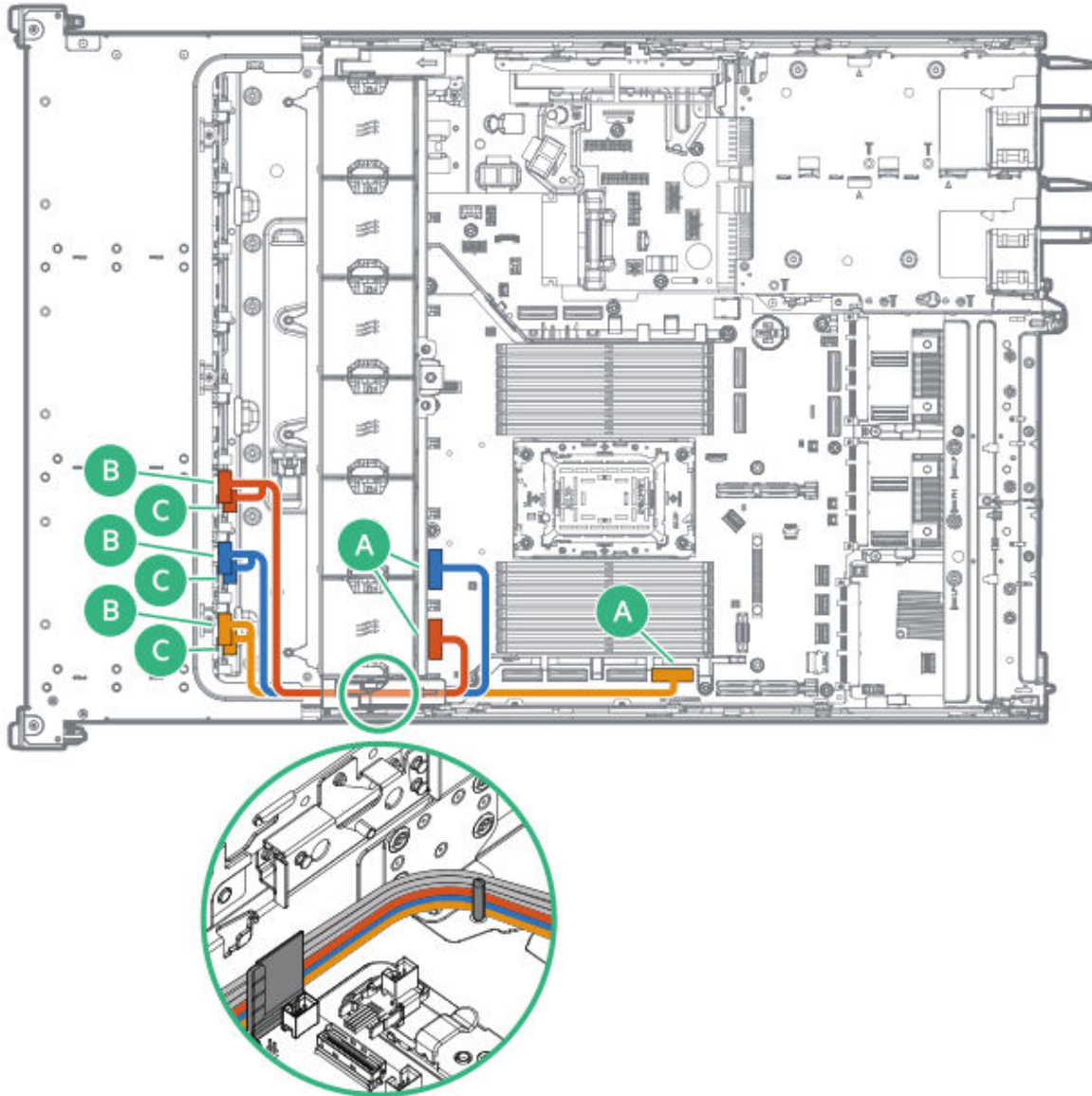
<b>Cable part number</b>	<b>Cable color</b>	<b>From</b>	<b>To</b>
P75908-001	Orange	Bays 1 to 4 port 1	M-XIO port 17
		Bays 1 to 4 port 2	
P75369-001	Blue	Bays 5 to 8 port 1	M-XIO port 4
		Bays 5 to 8 port 2	
	Gold	Bays 9 to 12 port 1	M-XIO port 6
		Bays 9 to 12 port 2	

- **Box 2**



Cable part number	Cable color	From	To
P75908-001	Orange	Bays 1 to 4 port 1	M-XIO port 7
		Bays 1 to 4 port 2	
	Blue	Bays 5 to 8 port 1	M-XIO port 5
		Bays 5 to 8 port 2	
	Gold	Bays 9 to 12 port 1	M-XIO port 1
		Bays 9 to 12 port 2	

- **Box 3**

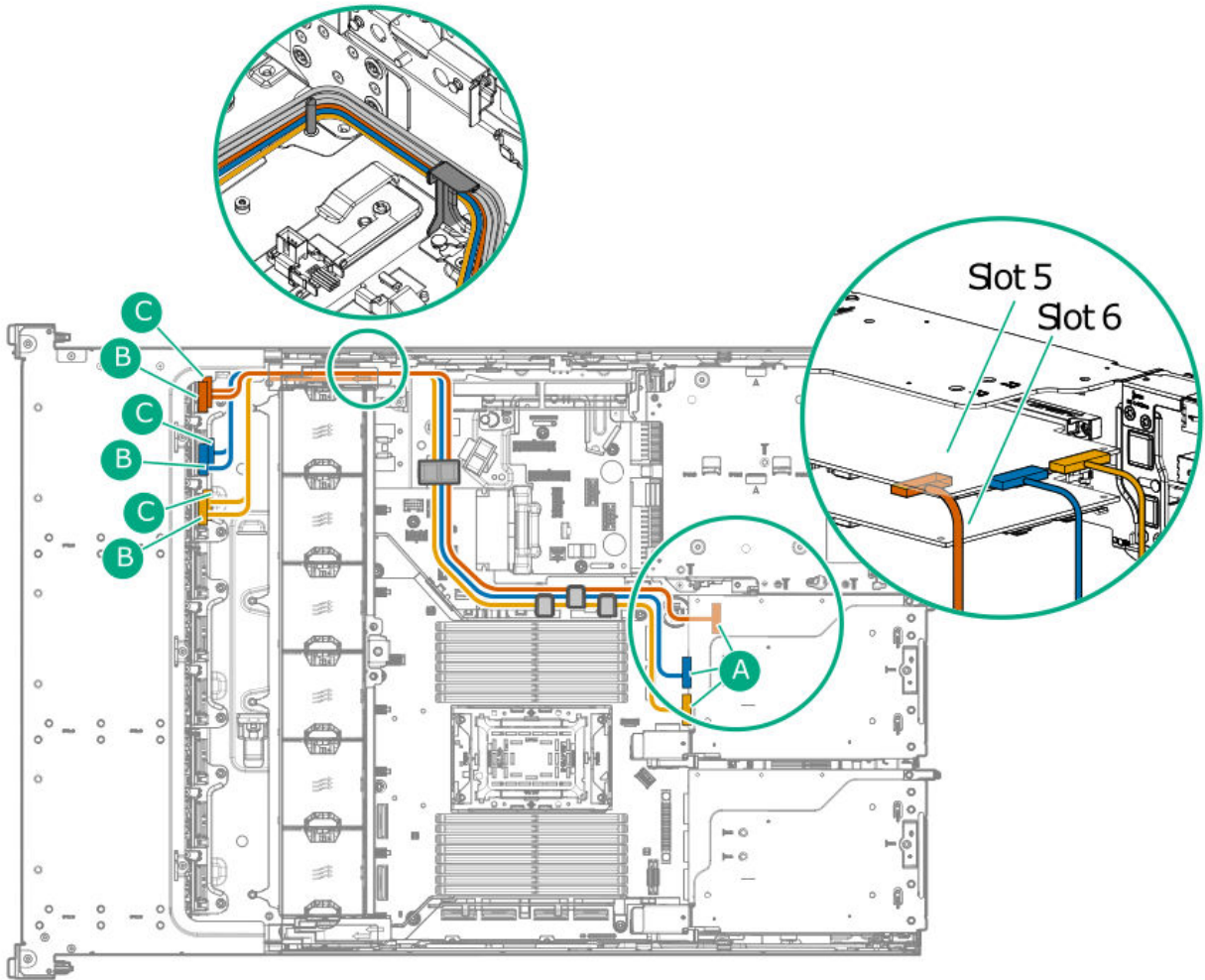


Cable part number	Cable color	From	To
P75258-001	Orange	Bays 1 to 4 port 1	M-XIO port 0
		Bays 1 to 4 port 2	
	Blue	Bays 5 to 8 port 1	M-XIO port 2
		Bays 5 to 8 port 2	
P75369-001	Gold	Bays 9 to 12 port 1	M-XIO port 3

Cable part number	Cable color	From	To
		Bays 9 to 12 port 2	

**Type-p 4-port tri-mode controllers**

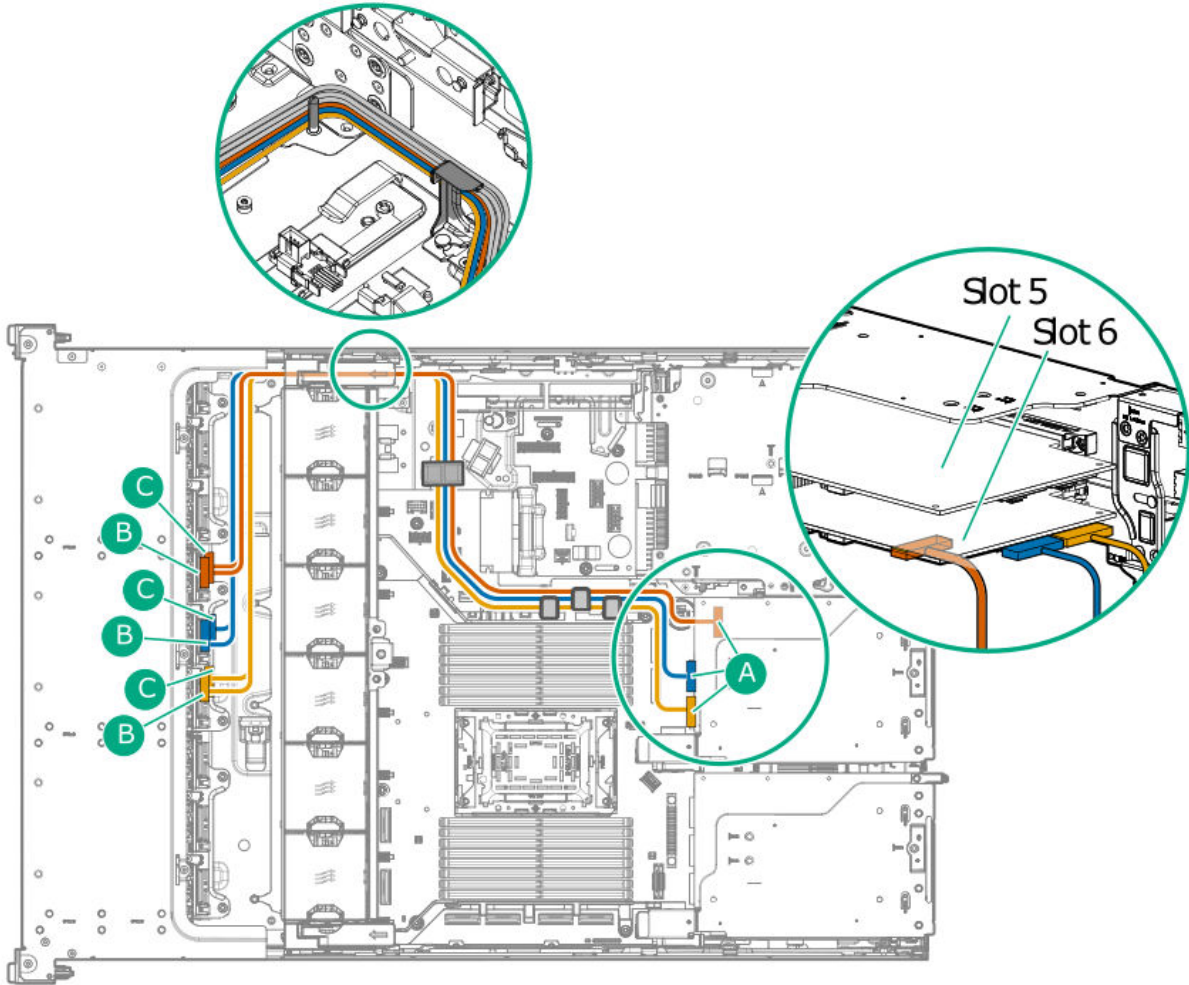
- **Box 1**



Cable part number	Cable color	From	To
P75275-001	Orange	Bays 1 to 4 port 1	PCIe slot 5 port 4
		Bays 1 to 4 port 2	
	Blue	Bays 5 to 8 port 1	PCIe slot 5 port 1
		Bays 5 to 8 port 2	
	Gold	Bays 9 to 12 port 1	PCIe slot 5 port 2

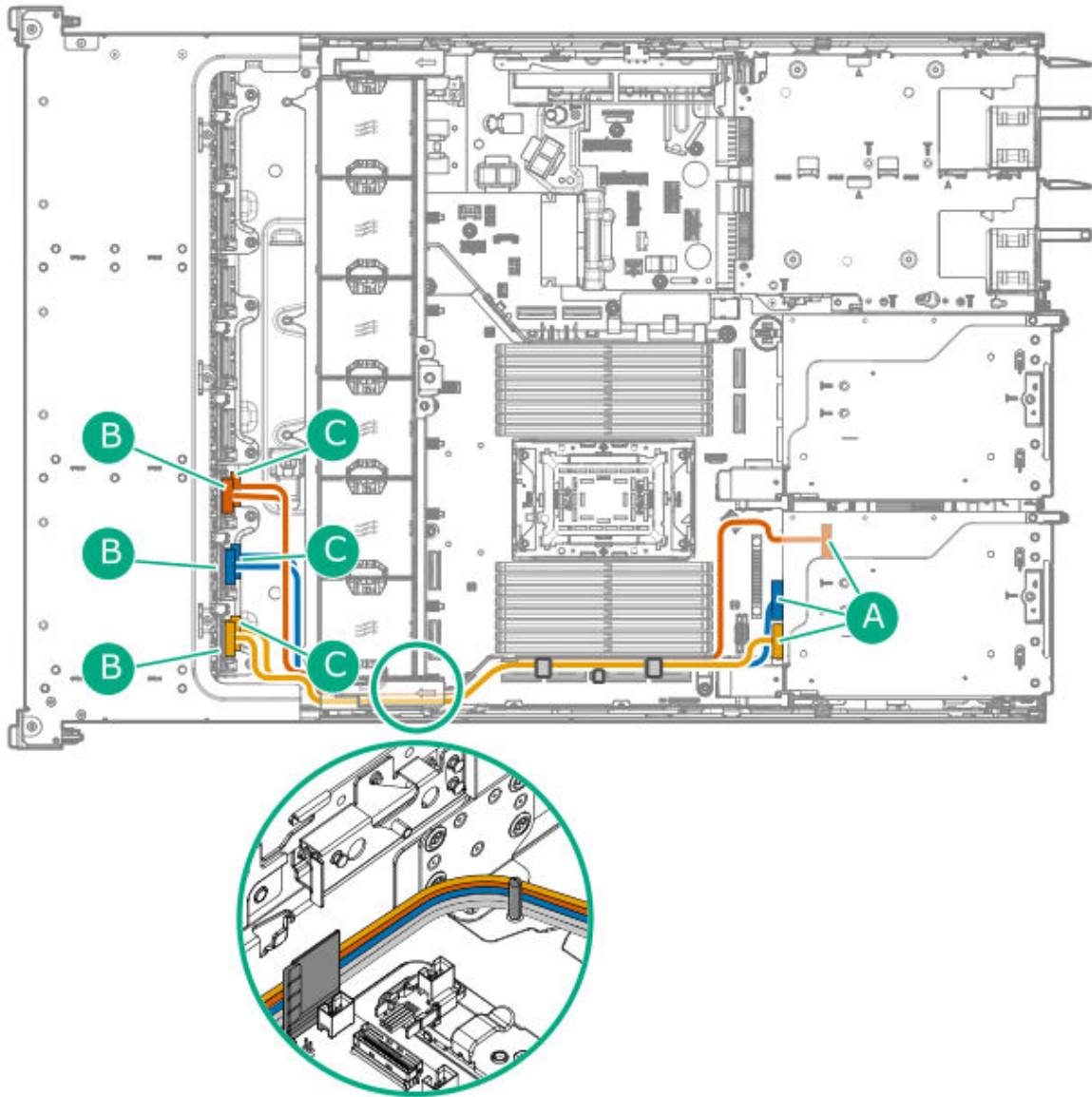
Cable part number	Cable color	From	To
		Bays 9 to 12 port 2	

• **Box 2**



Cable part number	Cable color	From	To
P75275-001	Orange	Bays 1 to 4 port 1	PCIe slot 6 port 4
		Bays 1 to 4 port 2	
	Blue	Bays 5 to 8 port 1	PCIe slot 6 port 1
		Bays 5 to 8 port 2	
	Gold	Bays 9 to 12 port 1	PCIe slot 6 port 2
		Bays 9 to 12 port 2	

- **Box 3**



Cable part number	Cable color	From	To
P75275-001	Orange	Bays 1 to 4 port 1	PCIe slot 3 port 4
		Bays 1 to 4 port 2	
	Blue	Bays 5 to 8 port 1	PCIe slot 3 port 1
		Bays 5 to 8 port 2	
	Gold	Bays 9 to 12 port 1	PCIe slot 3 port 2
		Bays 9 to 12 port 2	

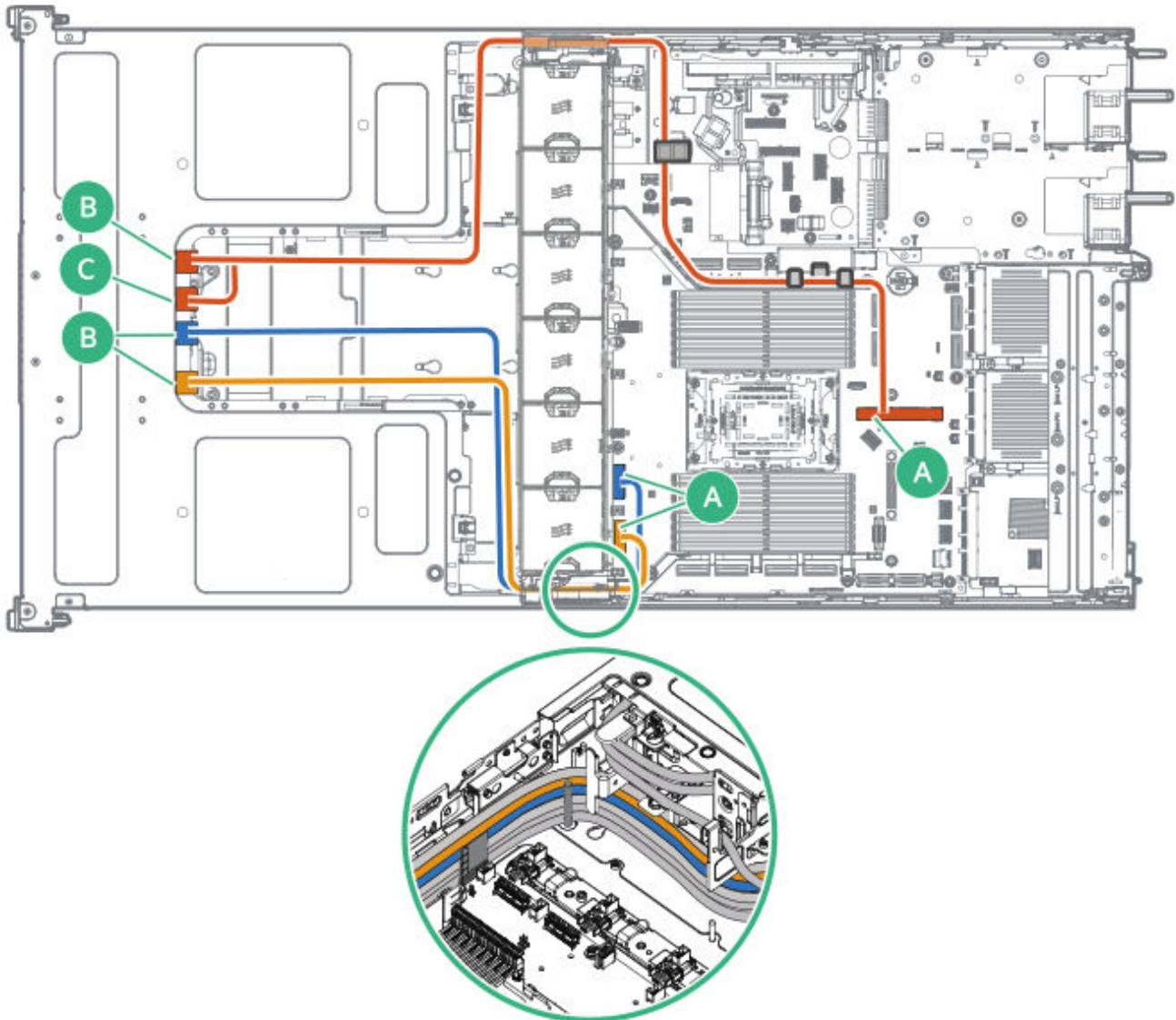
# SFF drive controller cabling: GPU-optimized configuration

## Subtopics

### 8 SFF drive cabling

## 8 SFF drive cabling

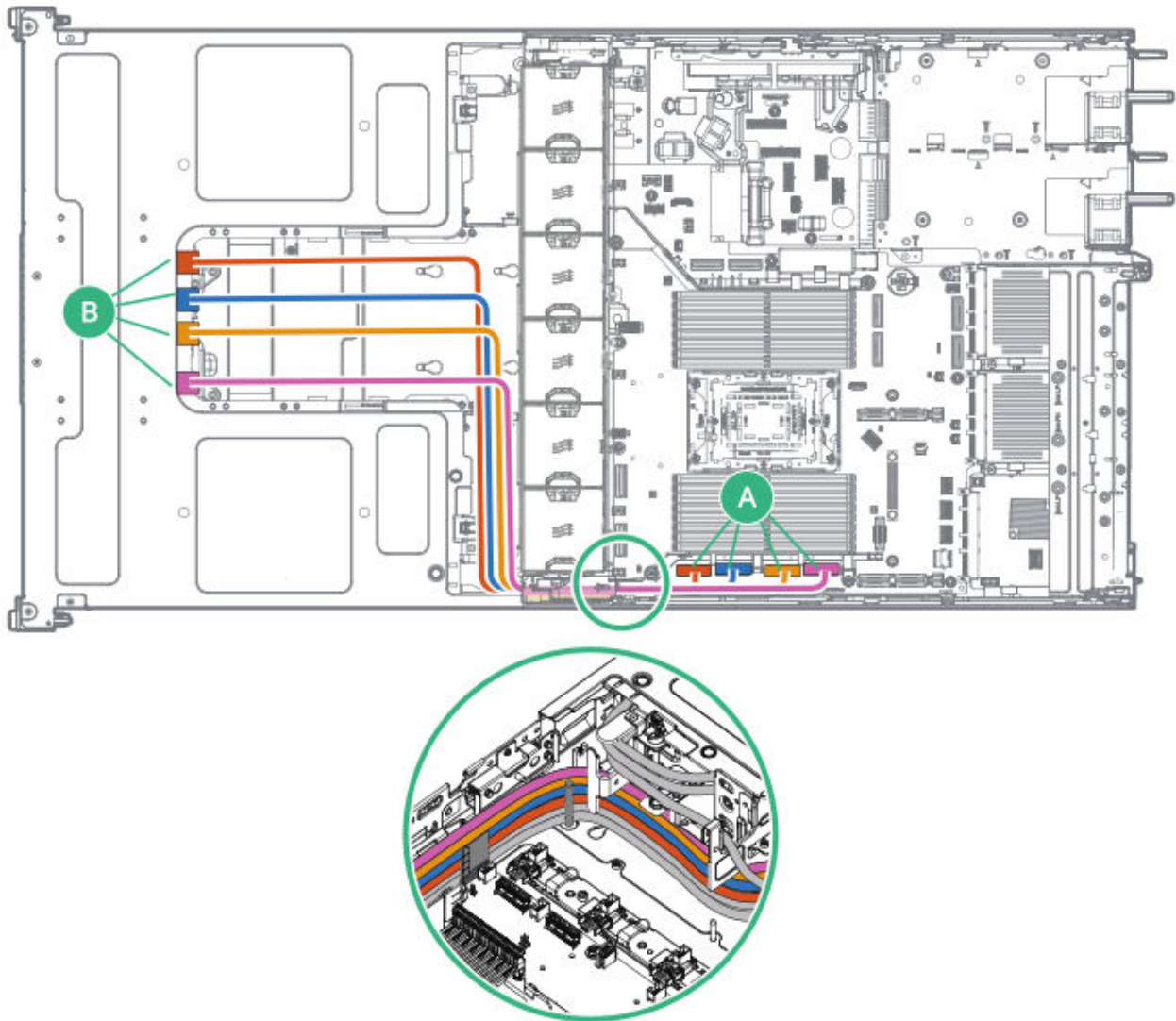
### Secondary riser blank configuration



Cable part number	Cable color	From	To
P74804-001	Orange	Box 2 ports 1 and 2	Secondary riser connector
P74807-001	Blue	Box 2 port 3	M-XIO port 2
	Gold	Box 2 port 4	M-XIO port 0

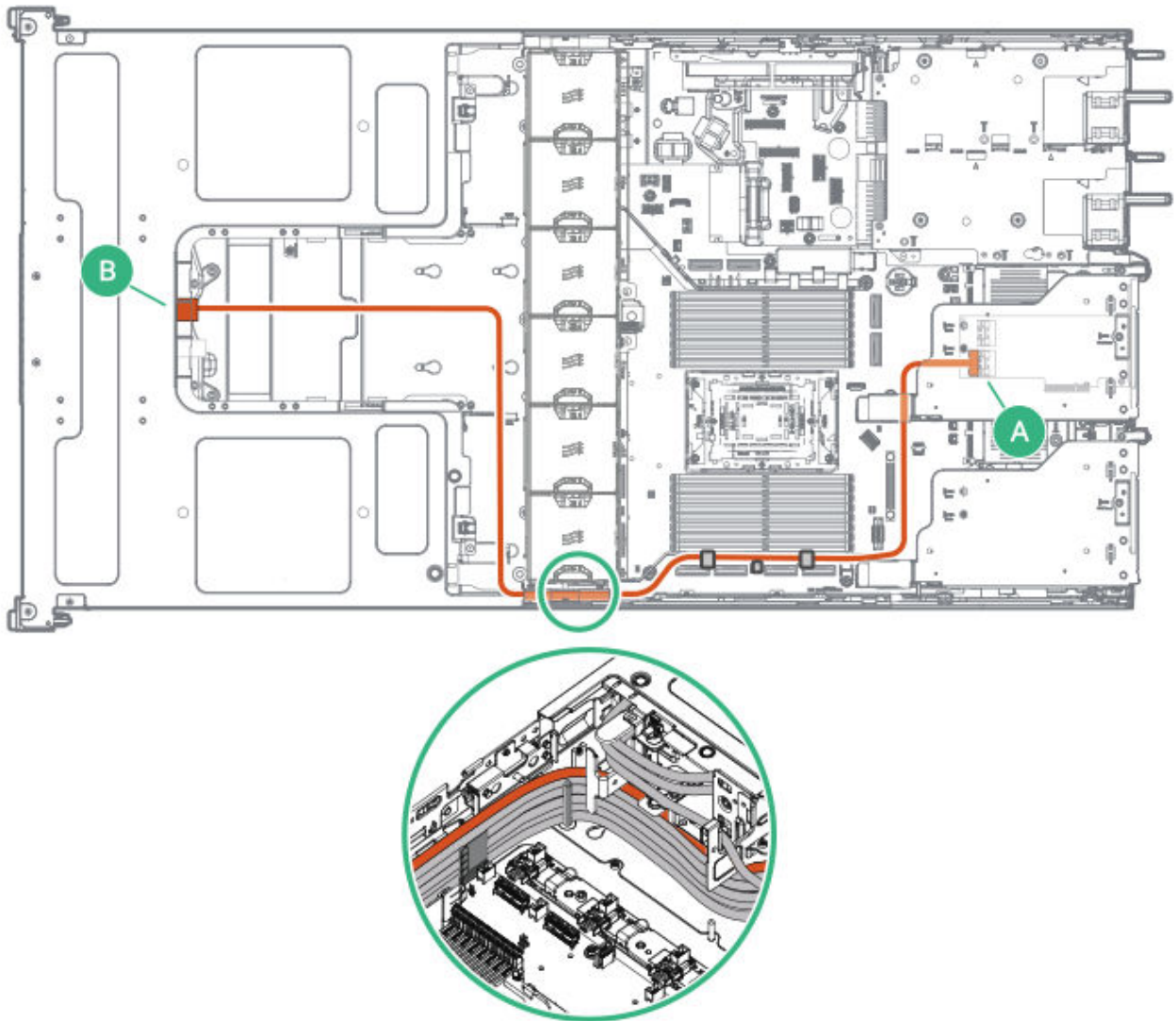
### Secondary riser cage configuration

- Direct attach



Cable part number	Cable color	From	To
P74807-001	Orange	Box 2 port 1	M-XIO port 7
	Blue	Box 2 port 2	M-XIO port 5
	Gold	Box 2 port 3	M-XIO port 1
	Pink	Box 2 port 4	M-XIO port 3

- **Type-p 2-port tri-mode controller**



Cable part number	Cable color	From	To
P69542-001	Orange	Box 2 port 1	PCIe slot 6 port 2

## E3.S drive controller cabling: GPU-optimized configuration

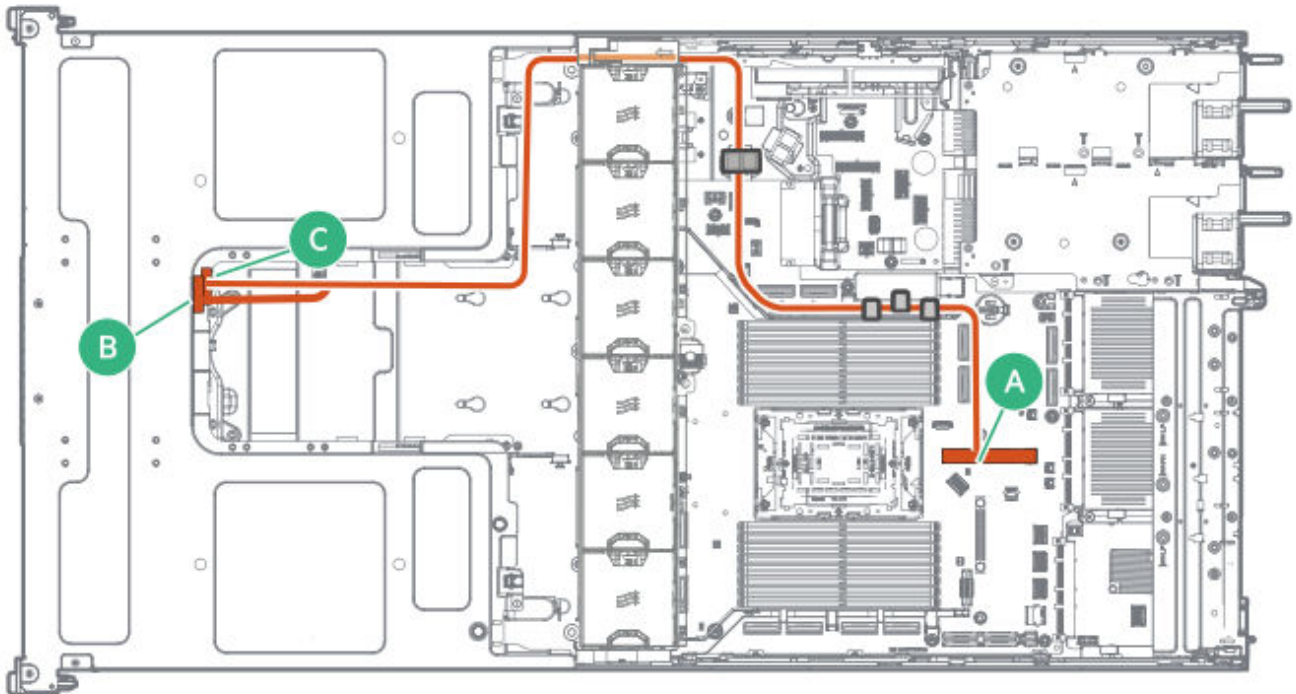
### Subtopics

[4 E3.S drive cabling](#)

[12 E3.S drive cabling](#)

## 4 E3.S drive cabling

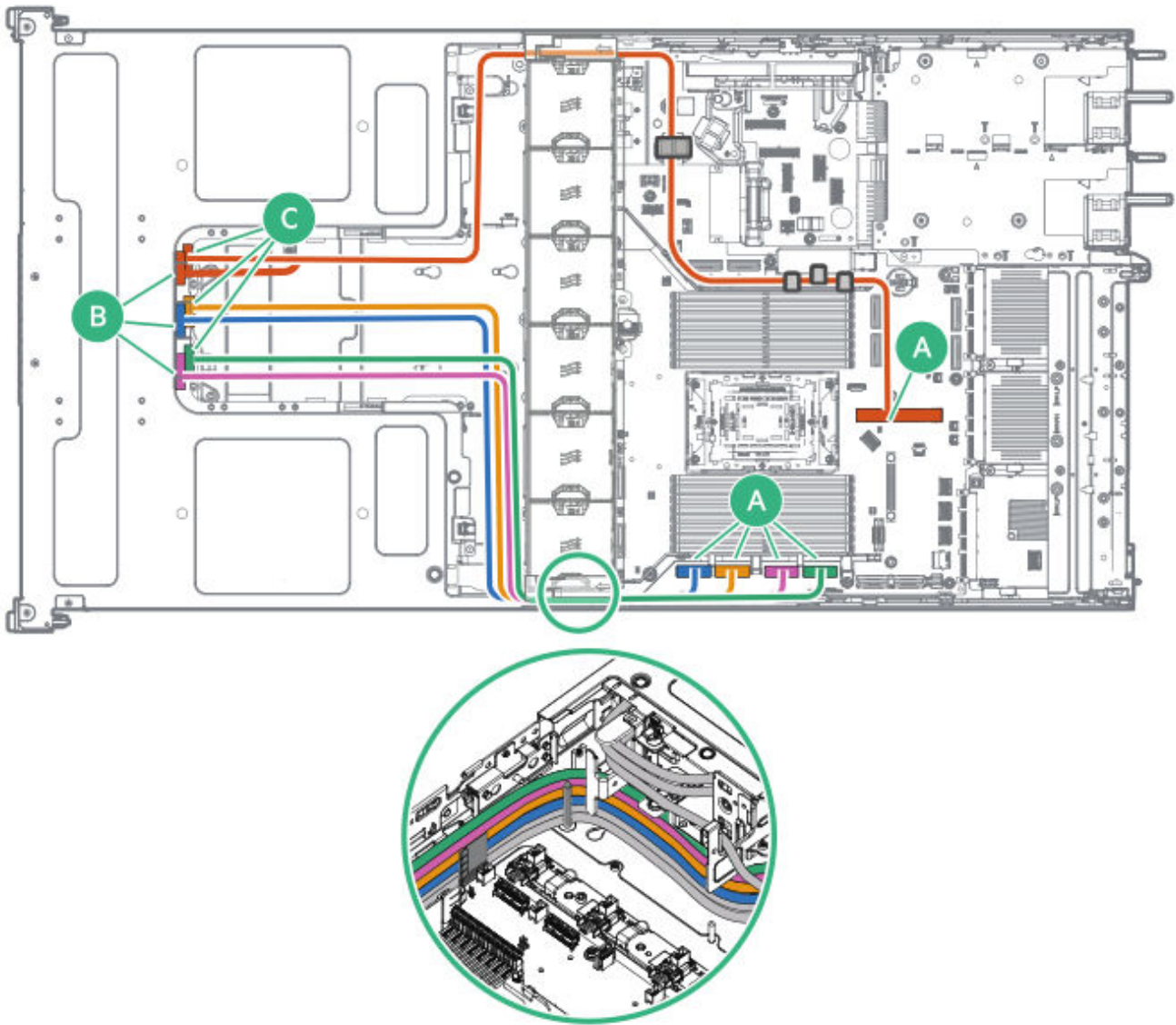
### Secondary riser blank configuration



Cable part number	Cable color	From	To
P75580-001	Orange	Box 2 bays 1 to 4 ports 1 and 2	Secondary riser connector

## 12 E3.S drive cabling

### Secondary riser blank configuration



Cable part number	Cable color	From	To
P75580-001	Orange	Box 2 bays 1 to 4 ports 1 and 2	Secondary riser connector
P75576-001	Blue	Box 2 bays 5 to 8 port 1	M-XIO port 7
	Gold	Box 2 bays 5 to 8 port 2	M-XIO port 5
	Pink	Box 2 bays 9 to 12 port 1	M-XIO port 1
	Green	Box 2 bays 9 to 12 port 2	M-XIO port 3

## Mixed drive controller cabling

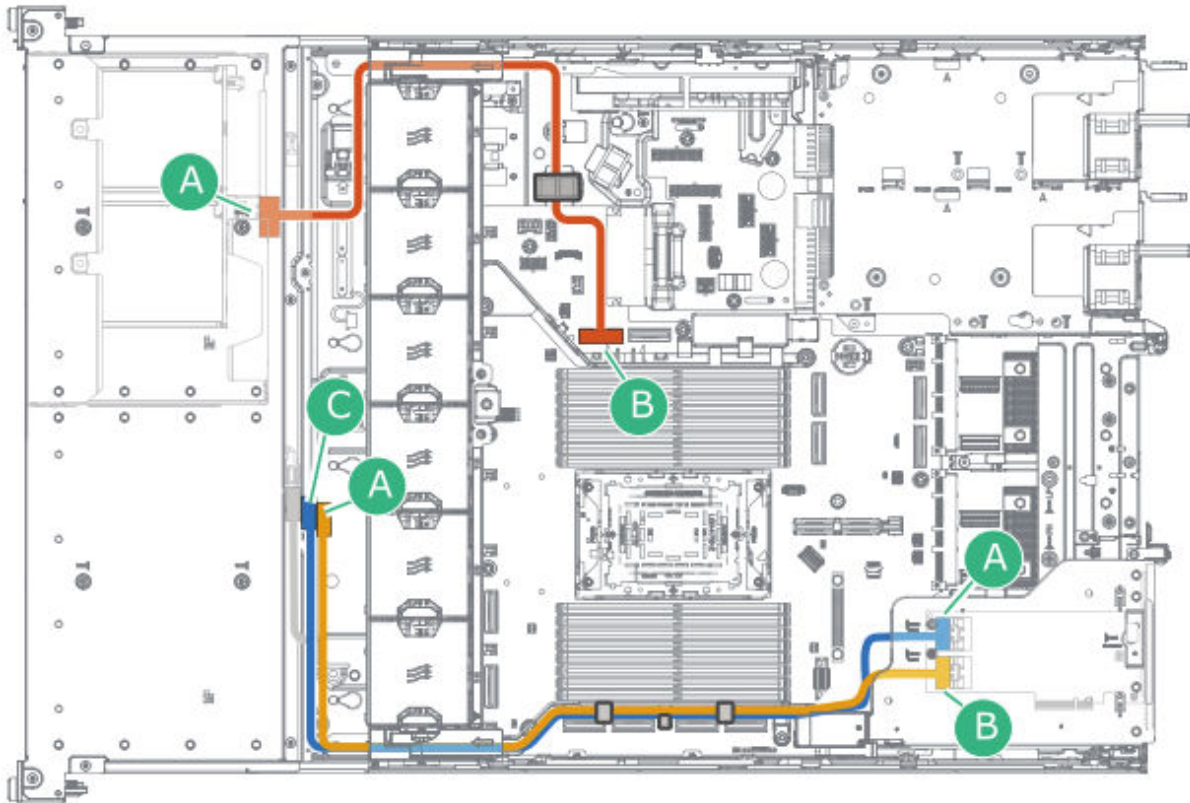
### Subtopics

**[2 SFF side-by-side + 8 LFF drive cabling](#)**

**[2 SFF stacked + 8 E3.S drive cabling](#)**

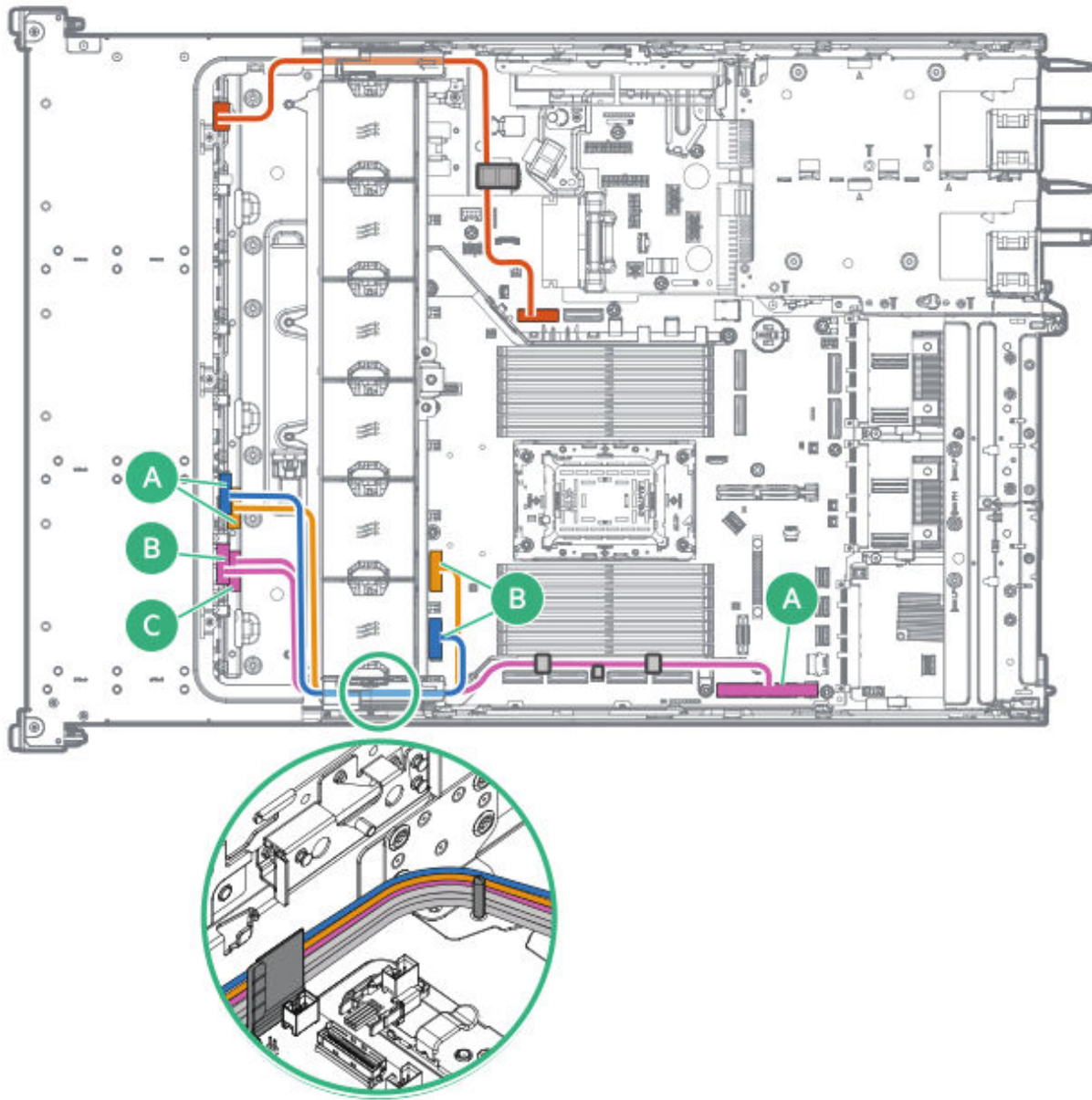
**[8 SFF + 8 E3.S drive cabling](#)**

## 2 SFF side-by-side + 8 LFF drive cabling



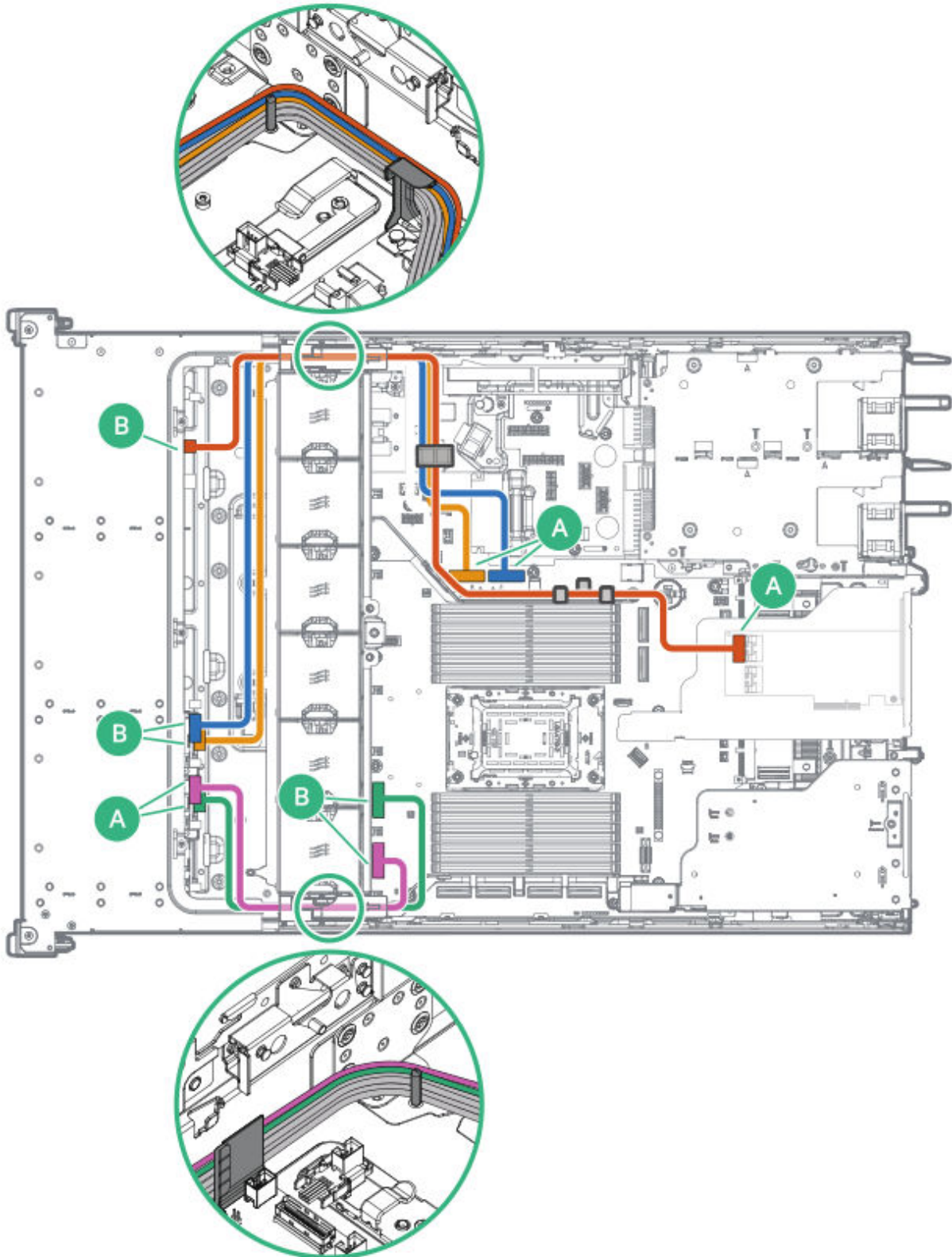
Cable part number	Cable color	From	To
P75367-001	Orange	Box 1 port 1	M-XIO port 6
P58063-001	Blue	Box 2 port 1	PCIe slot 3 port 1
P54931-001	Gold	Box 3 port 1	PCIe slot 3 port 2

## 2 SFF stacked + 8 E3.S drive cabling



Cable part number	Cable color	From	To
P75367-001	Orange	Box 1 port 1	M-XIO port 6
P75317-001	Blue	Box 3 bays 1 to 4 port 1	M-XIO port 0
	Gold	Box 3 bays 1 to 4 port 2	M-XIO port 2
P75246-001	Pink	Box 3 bays 5 to 8 ports 1	Primary riser connector and 2

# 8 SFF + 8 E3.S drive cabling



<b>Cable part number</b>	<b>Cable color</b>	<b>From</b>	<b>To</b>
P58018-001	Orange	Box 1 port 1	PCIe slot 6 port 1
P75576-001	Blue	Box 3 bays 1 to 4 port 1	M-XIO port 4
	Gold	Box 3 bays 1 to 4 port 2	M-XIO port 6
P75317-001	Pink	Box 3 bays 5 to 8 port 1	M-XIO port 0
	Green	Box 3 bays 5 to 8 port 2	M-XIO port 2

## Drive power cabling

### Subtopics

[LFF drive power cabling](#)

[SFF drive power cabling](#)

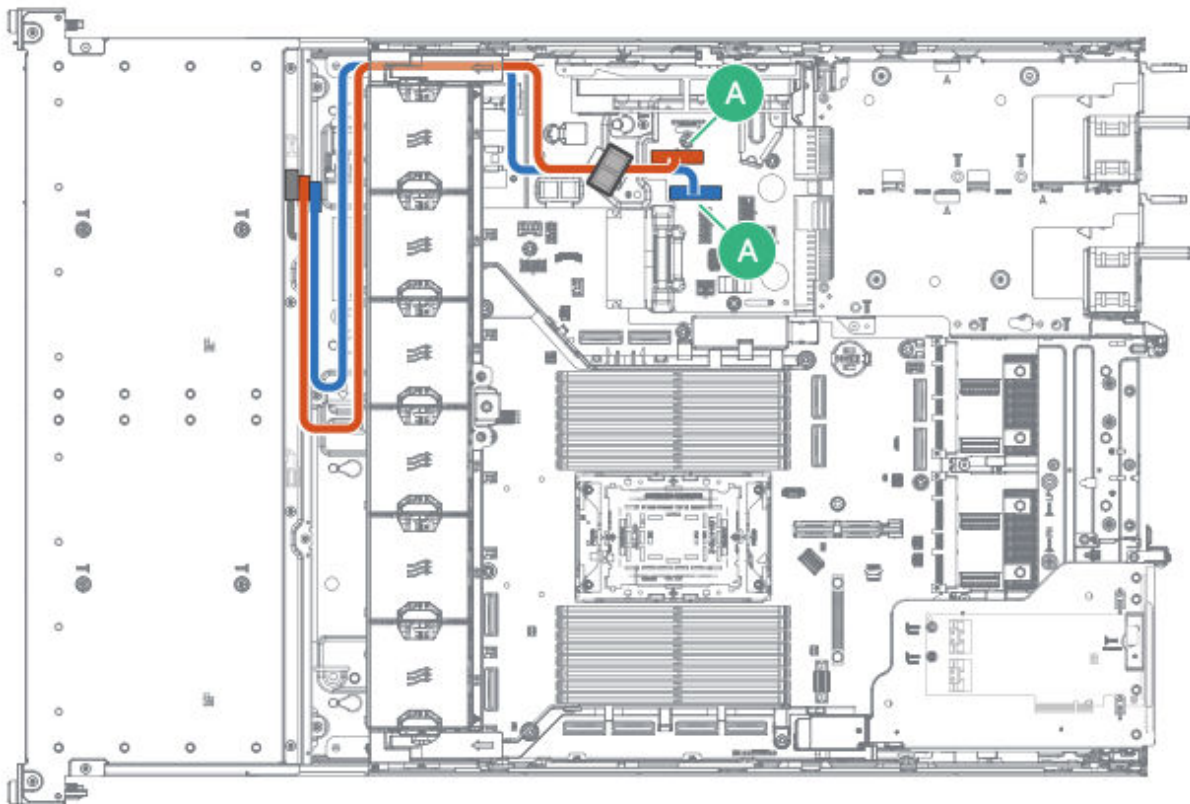
[E3.S drive power cabling](#)

[Drive power cabling in the GPU-optimized configuration](#)

[Mixed drive power cabling](#)

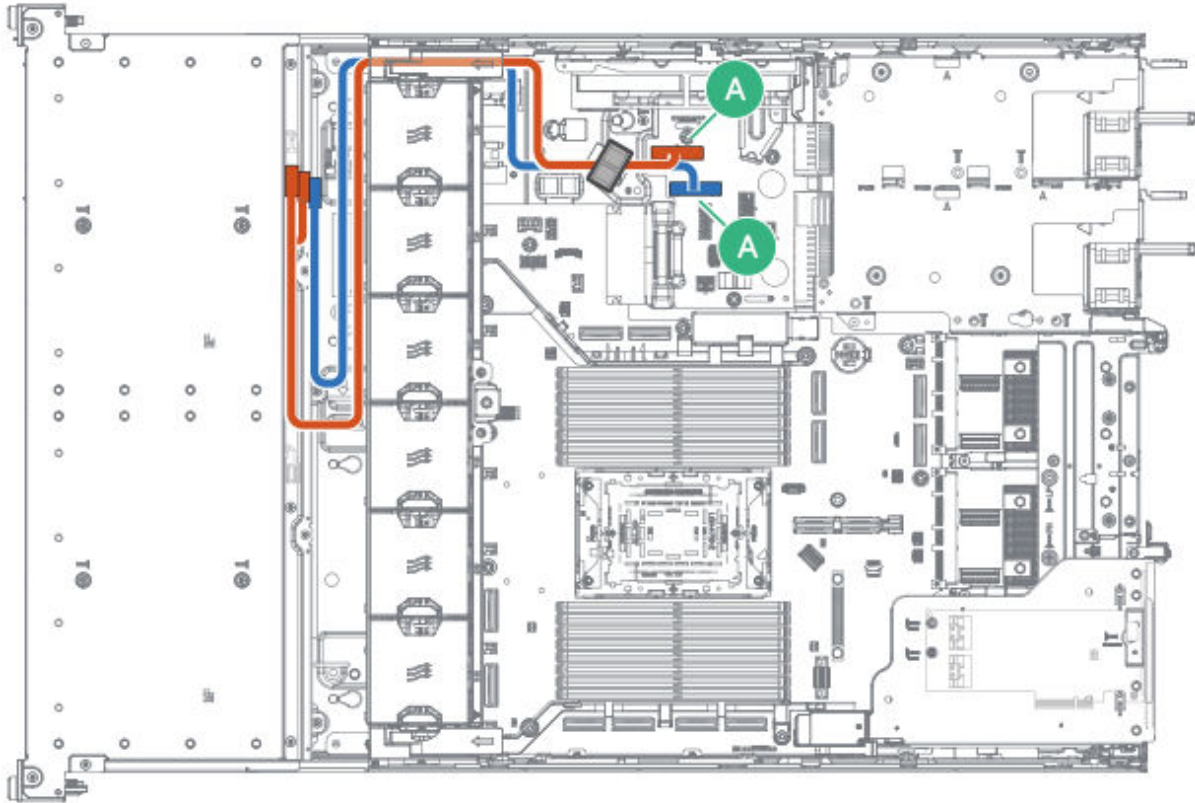
# LFF drive power cabling

## 8 LFF drives



Cable part number	Cable color	From	To
P75251-001	Orange	Box 2	Box 1-2 drive backplane power connector
P75250-001	Blue	Box 3	Box 3 drive backplane power connector

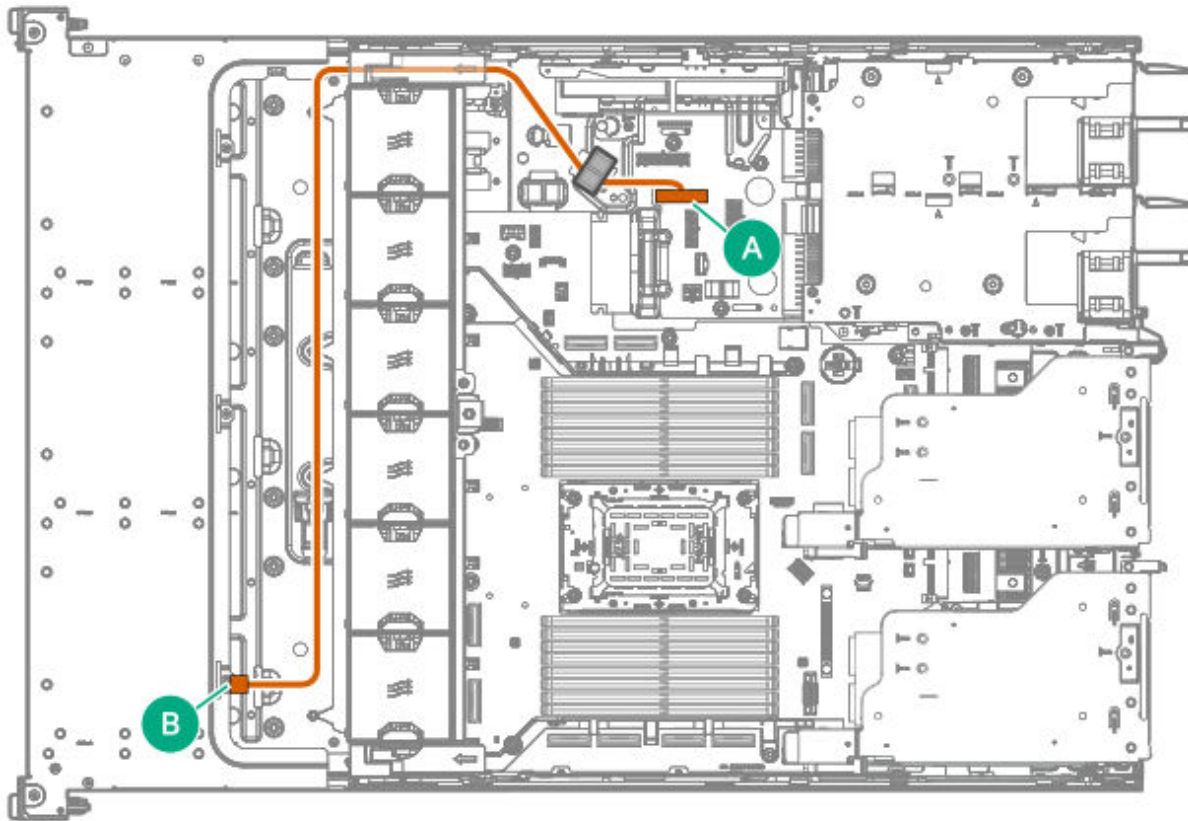
## 12 LFF drives



Cable part number	Cable color	From	To
P75251-001	Orange	Boxes 1 and 2	Box 1-2 drive backplane power connector
P75250-001	Blue	Box 3	Box 3 drive backplane power connector

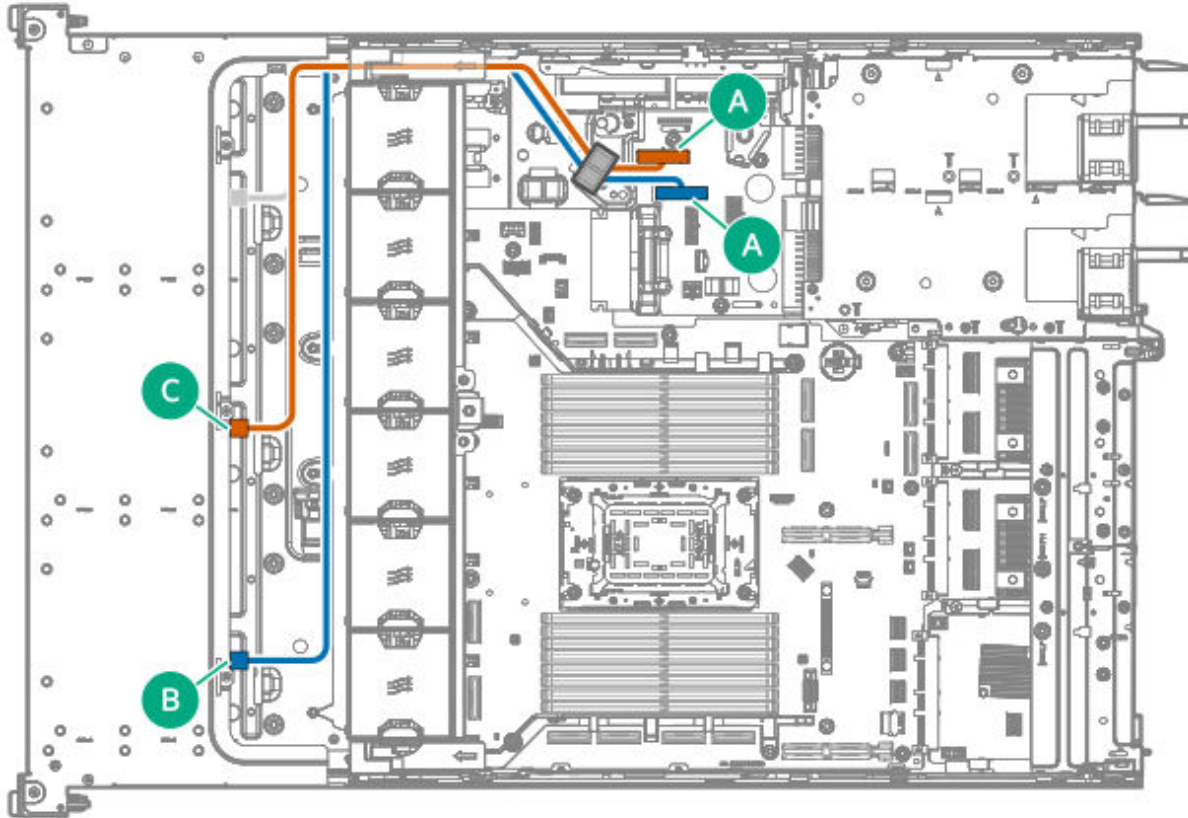
# SFF drive power cabling

8 SFF drives



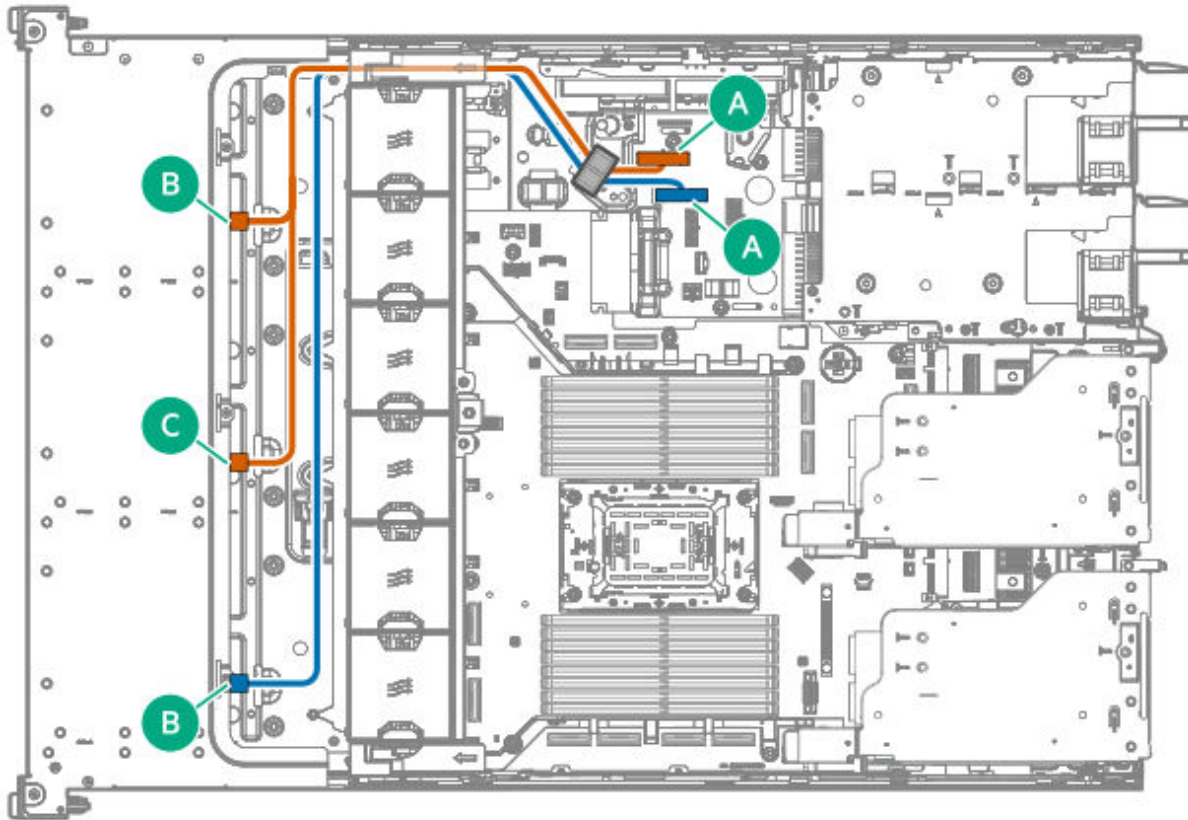
Cable part number	Cable color	From	To
P75248-001	Orange	Box 3	Box 3 drive backplane power connector

## 16 SFF drives



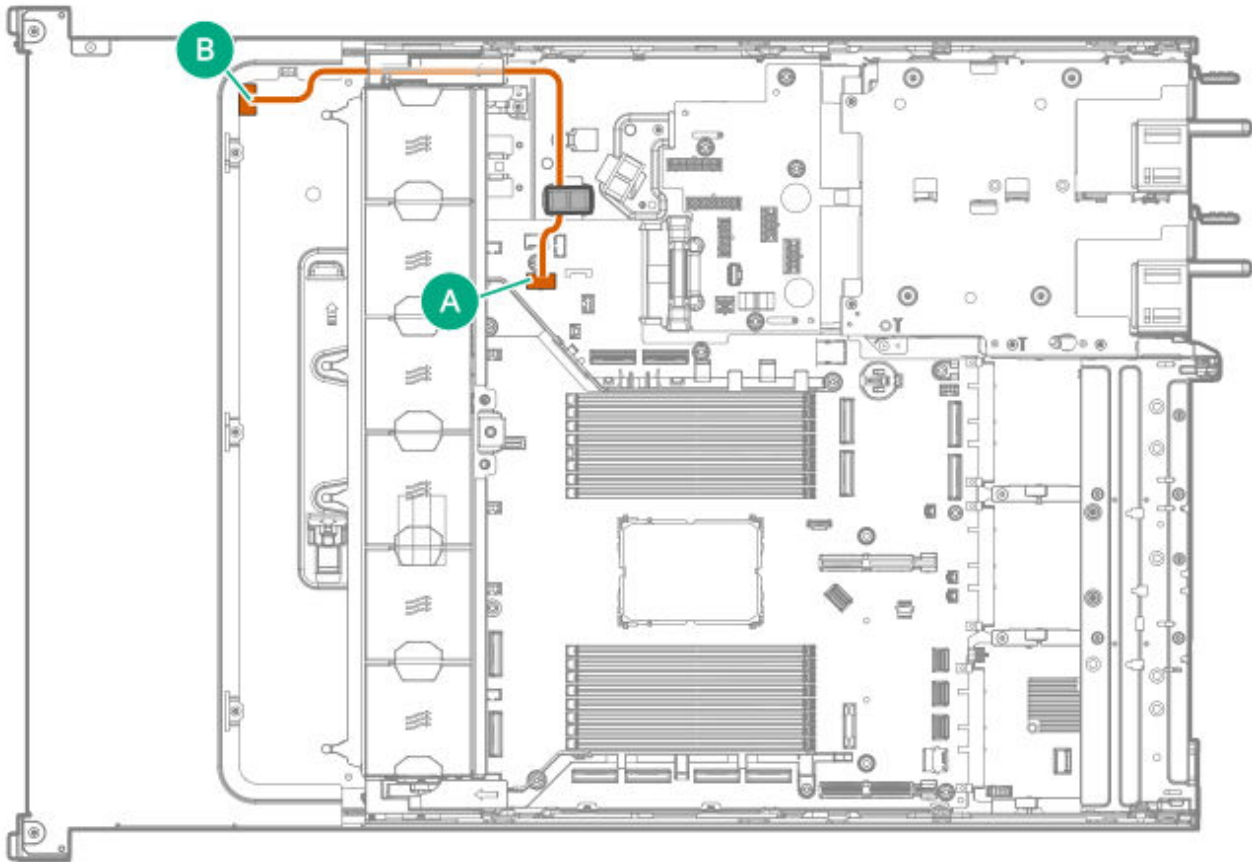
Cable part number	Cable color	From	To
P71879-001	Orange	Box 2	Box 1-2 drive backplane power connector
P75248-001	Blue	Box 3	Box 3 drive backplane power connector

## 24 SFF drives



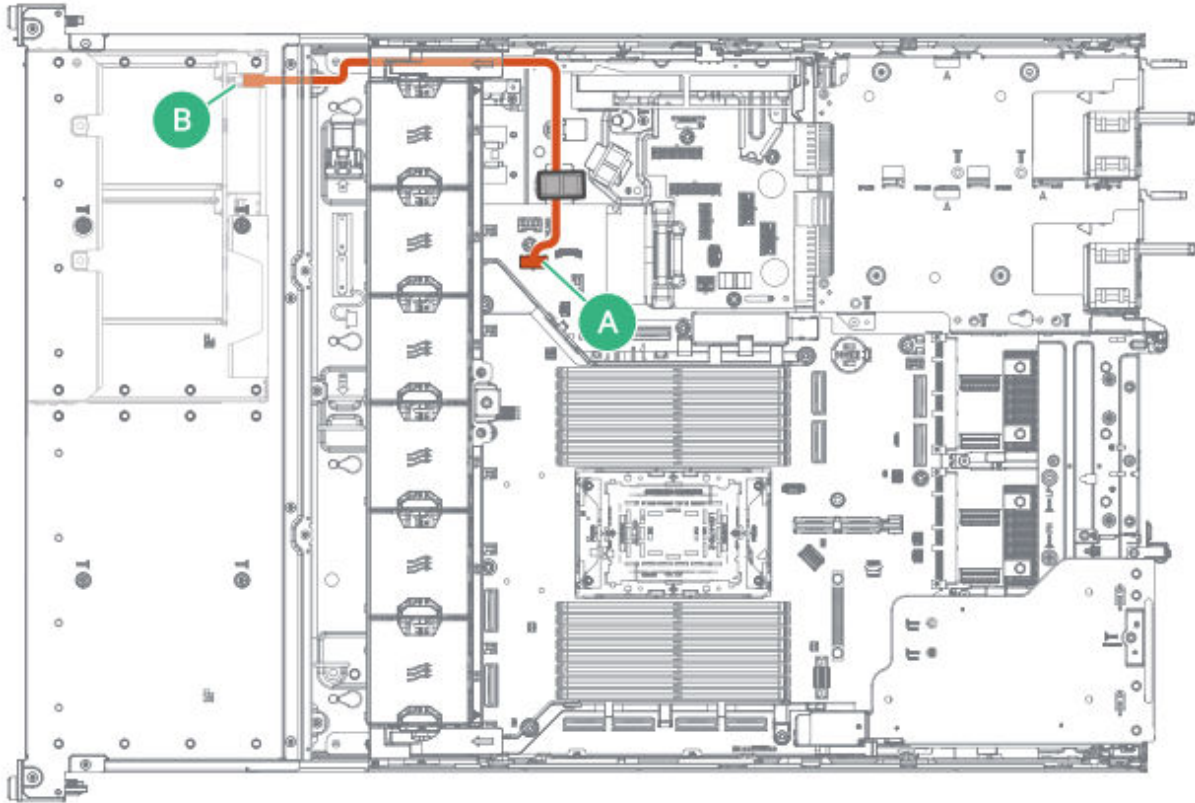
Cable part number	Cable color	From	To
P71879-001	Orange	Boxes 1 and 2	Box 1-2 drive backplane power connector
P75248-001	Blue	Box 3	Box 3 drive backplane power connector

## 2 SFF stacked drives



Cable part number	Cable color	From	To
P75252-001	Orange	Box 1	Universal media bay power connector

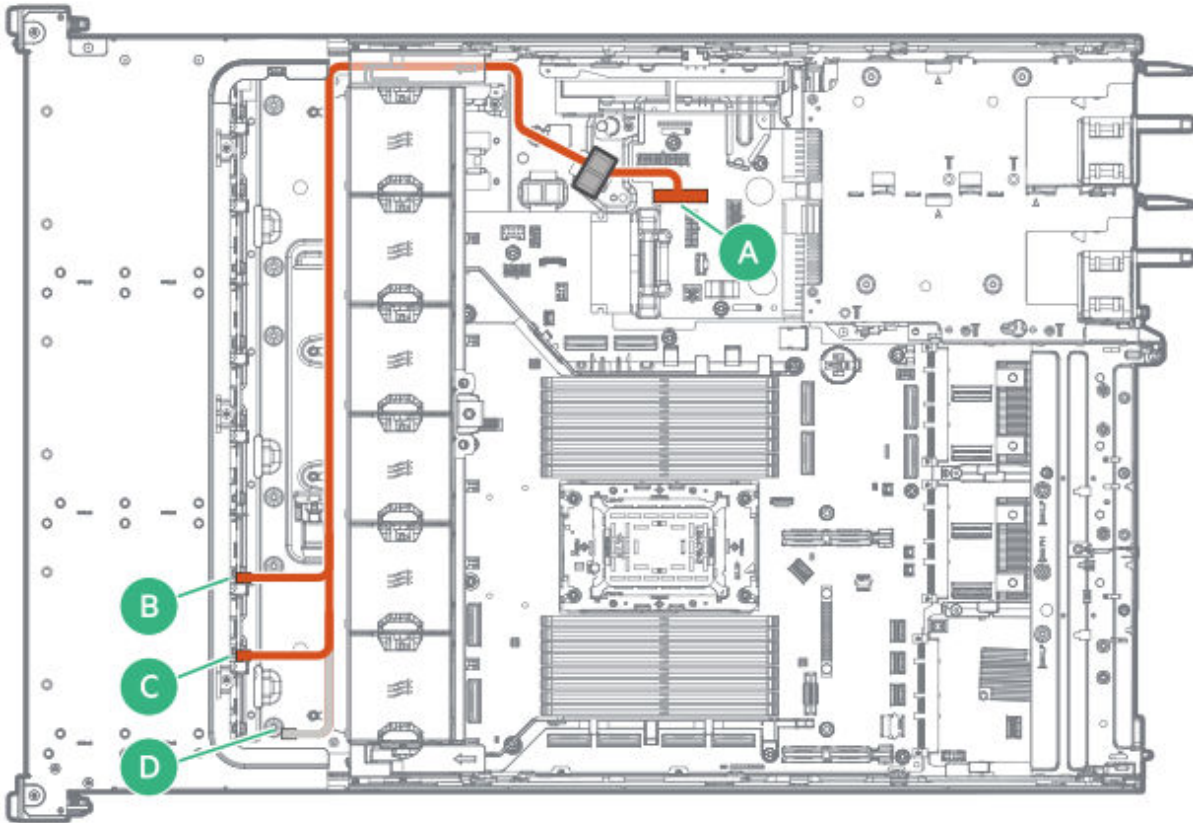
## 2 SFF side-by-side drives



Cable part number	Cable color	From	To
P77049-001	Orange	Box 1	Universal media bay power connector

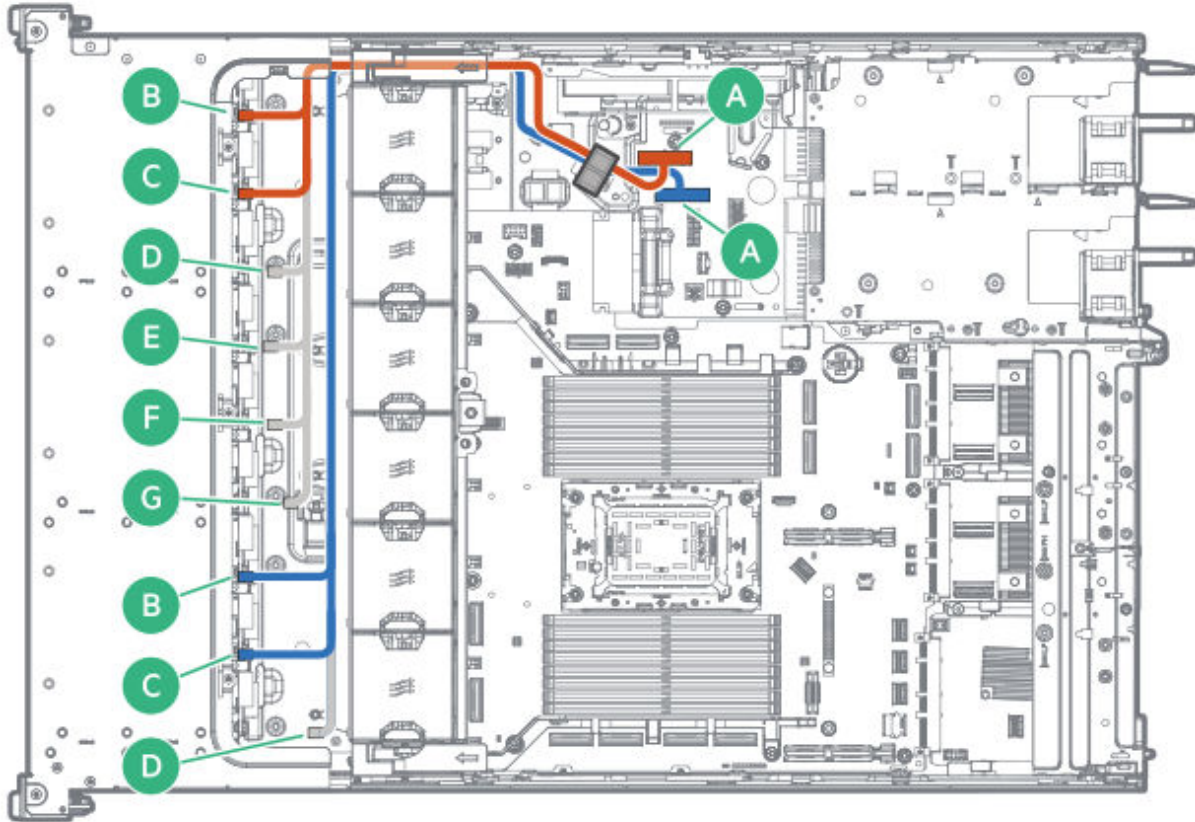
## E3.S drive power cabling

8 E3.S drives



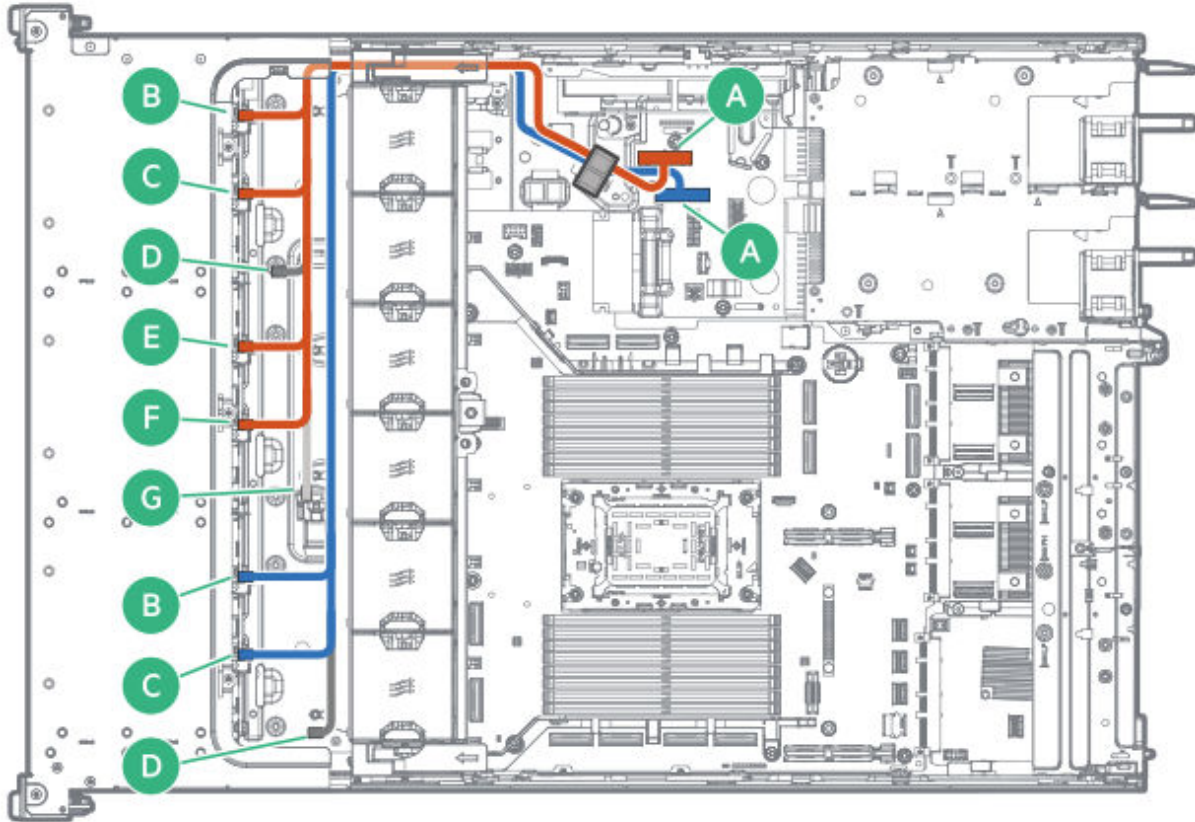
Cable part number	Cable color	From	To
P75247-001	Orange	Box 3	Box 3 drive backplane power connector

## 16 E3.S drives



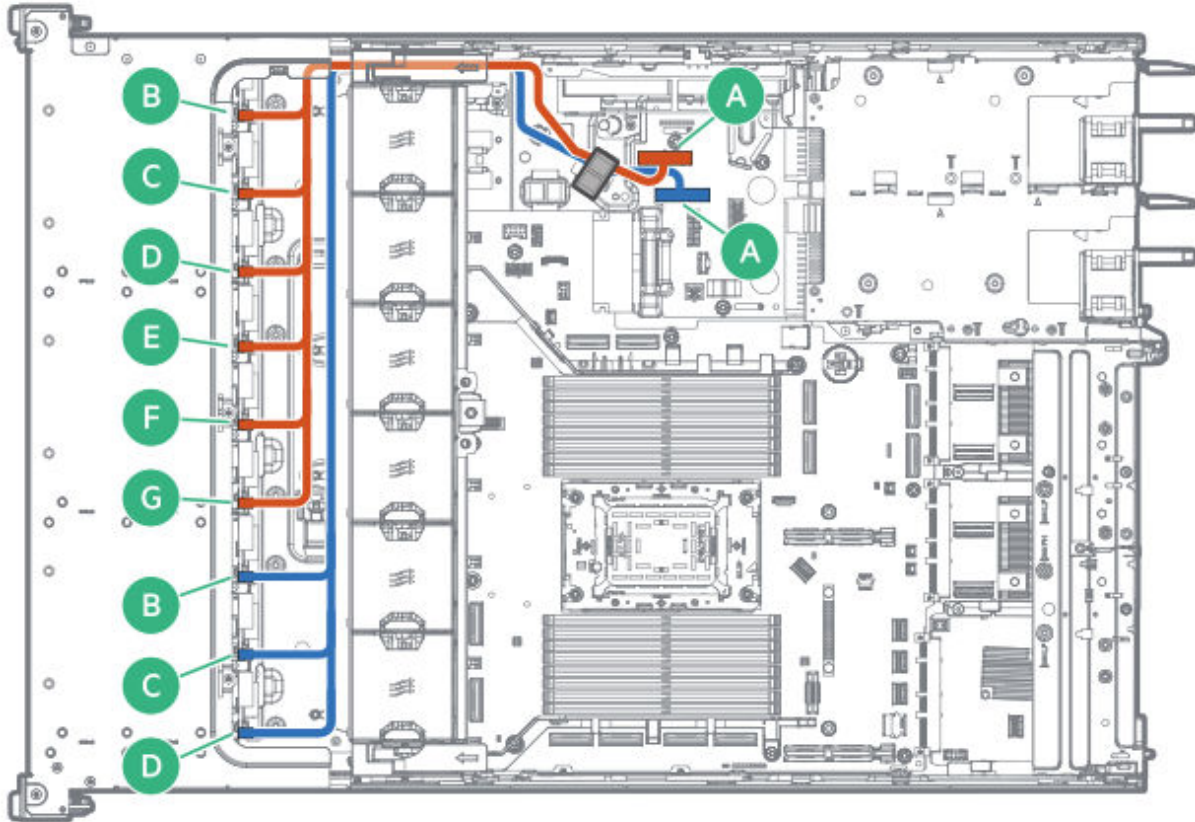
Cable part number	Cable color	From	To
P75249-001	Orange	Box 1	Box 1-2 drive backplane power connector
P75247-001	Blue	Box 3	Box 3 drive backplane power connector

## 24 E3.S drives



Cable part number	Cable color	From	To
P75249-001	Orange	Boxes 1 and 2	Box 1-2 drive backplane power connector
P75247-001	Blue	Box 3	Box 3 drive backplane power connector

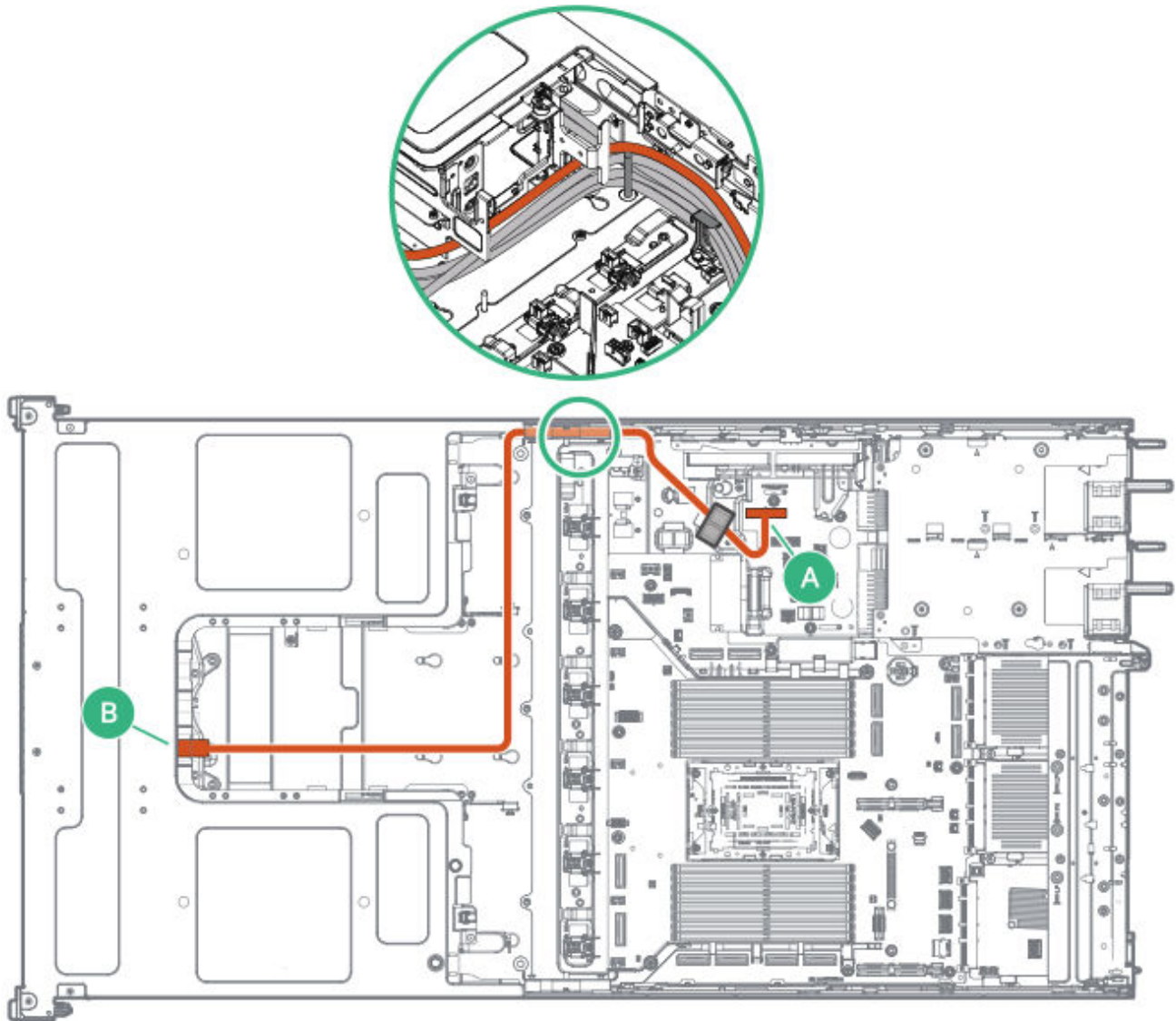
### 36 E3.S drives



Cable part number	Cable color	From	To
P75249-001	Orange	Boxes 1 and 2	Box 1-2 drive backplane power connector
P75247-001	Blue	Box 3	Box 3 drive backplane power connector

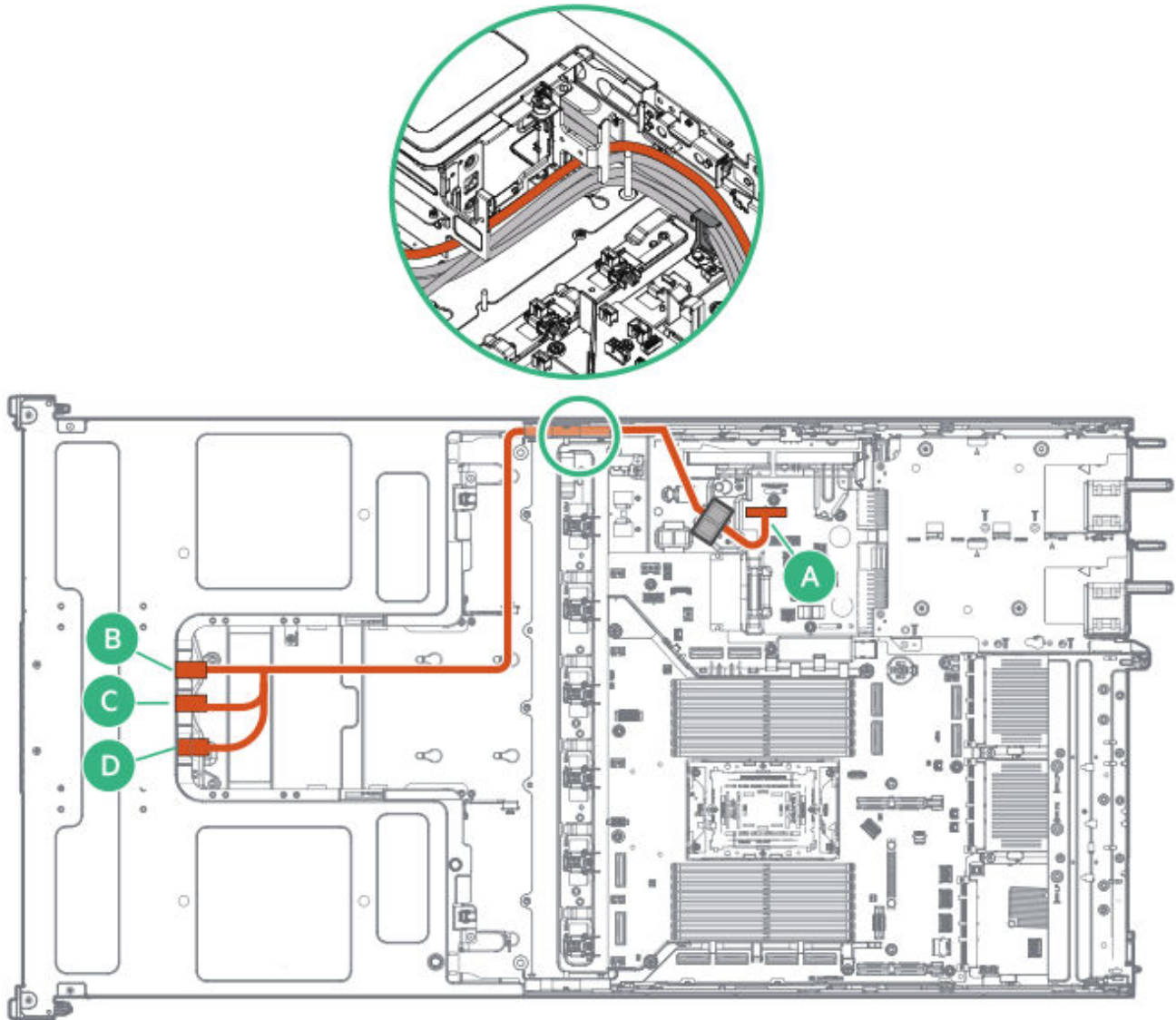
# Drive power cabling in the GPU-optimized configuration

## SFF drives



Cable part number	Cable color	From	To
P80888-001	Orange	Box 2	Box 1-2 drive backplane power connector

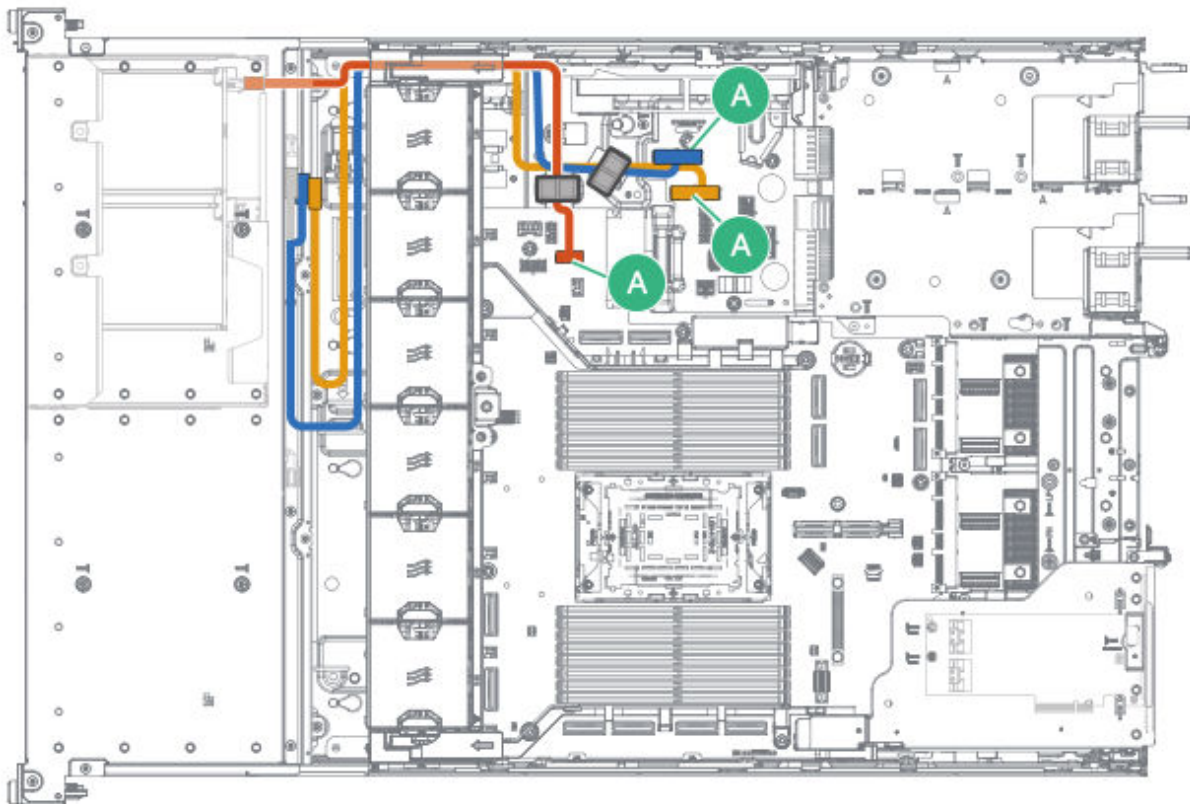
## E3.S drives



Cable part number	Cable color	From	To
P80887-001	Orange	Box 2	Box 1-2 drive backplane power connector

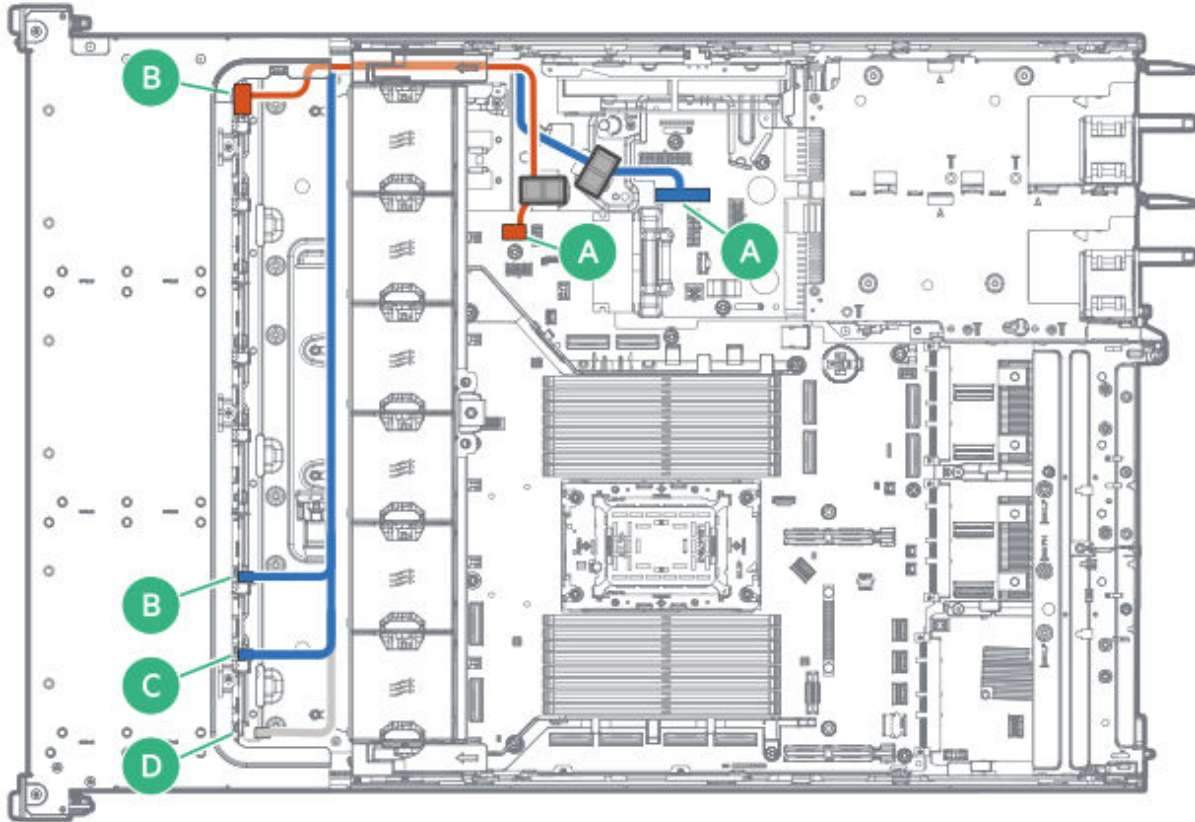
# Mixed drive power cabling

2 SFF side-by-side + 8 LFF drives



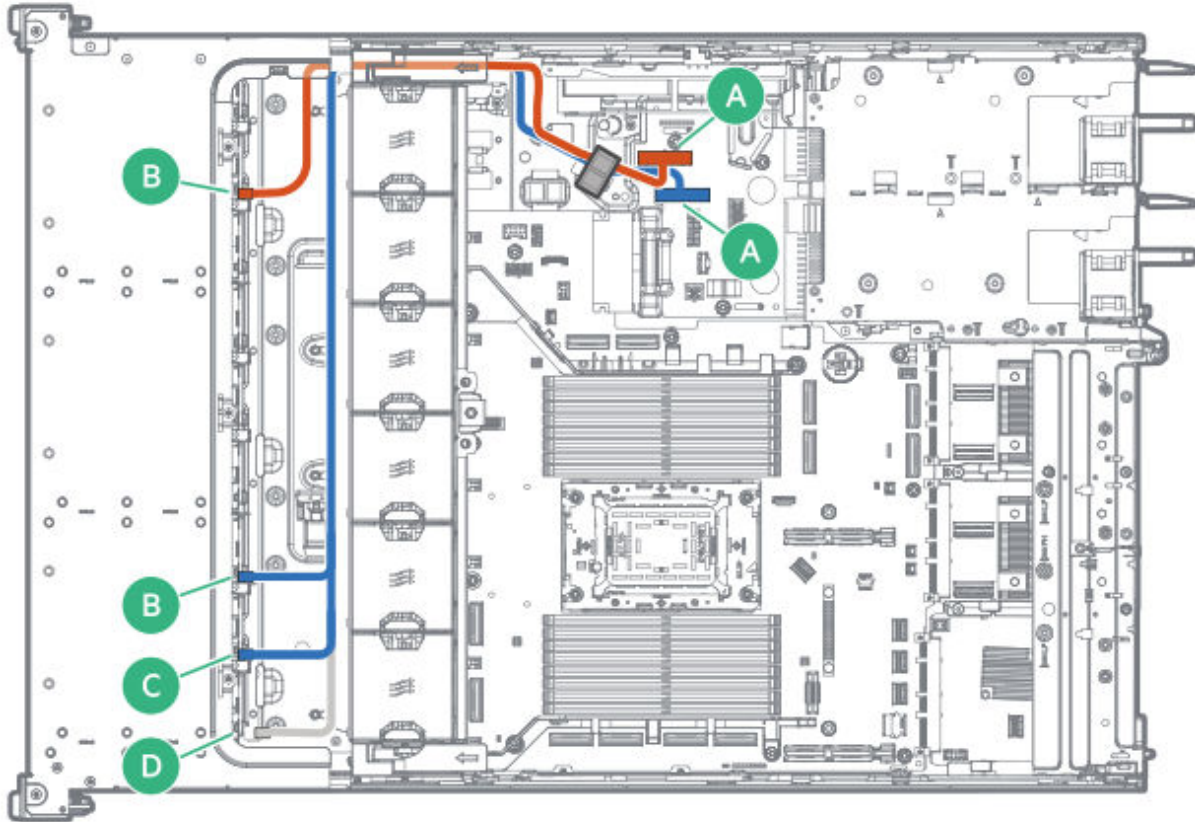
Cable part number	Cable color	From	To
P77049-001	Orange	Box 1	Universal media bay power connector
P75251-001	Blue	Box 2	Box 1-2 drive backplane power connector
P75250-001	Gold	Box 3	Box 3 drive backplane power connector

**2 SFF stacked + 8 E3.S drives**



Cable part number	Cable color	From	To
P75252-001	Orange	Box 1	Universal media bay power connector
P75247-001	Blue	Box 3	Box 3 drive backplane power connector

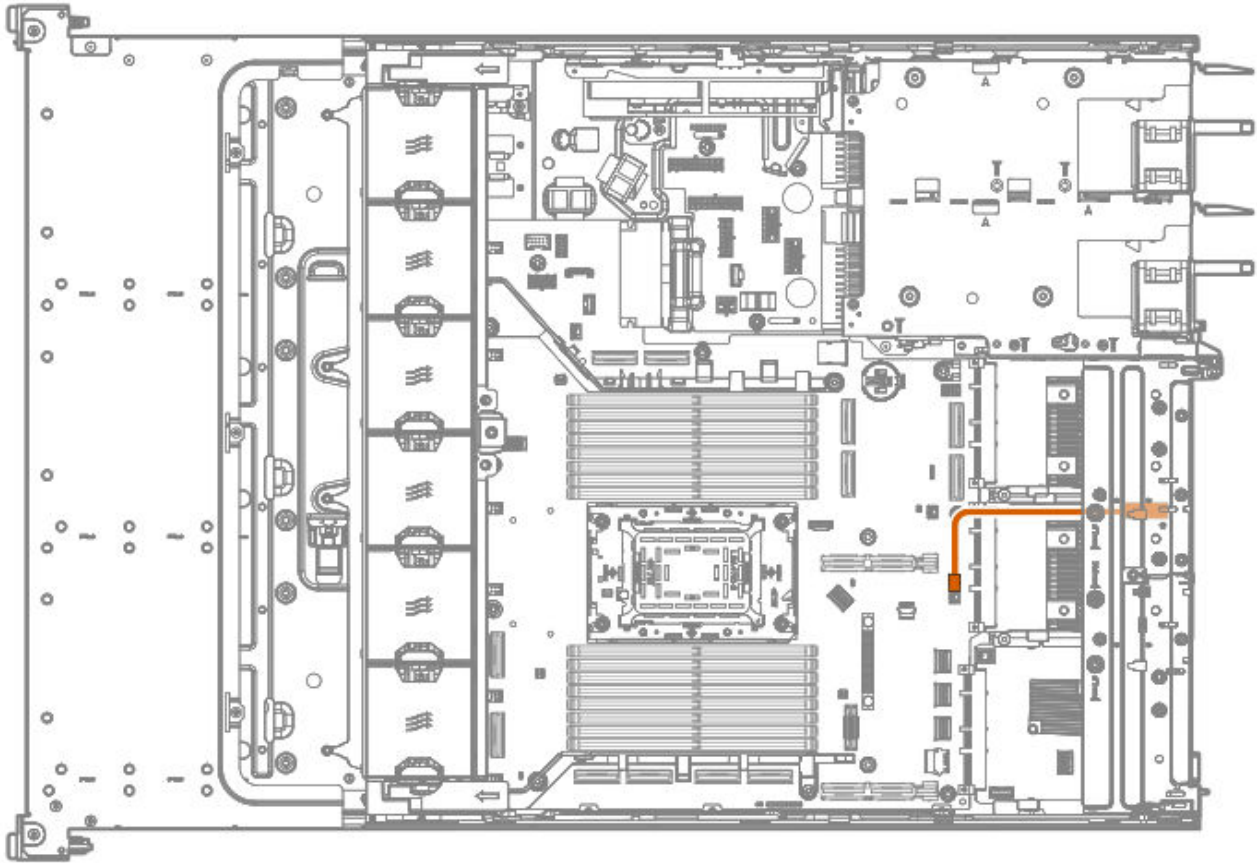
**8 SFF + 8 E3.Sdrives**



Cable part number	Cable color	From	To
P71879-001	Orange	Box1	Box 1-2 drive backplane power connector
P75247-001	Blue	Box 3	Box 3 drive backplane power connector

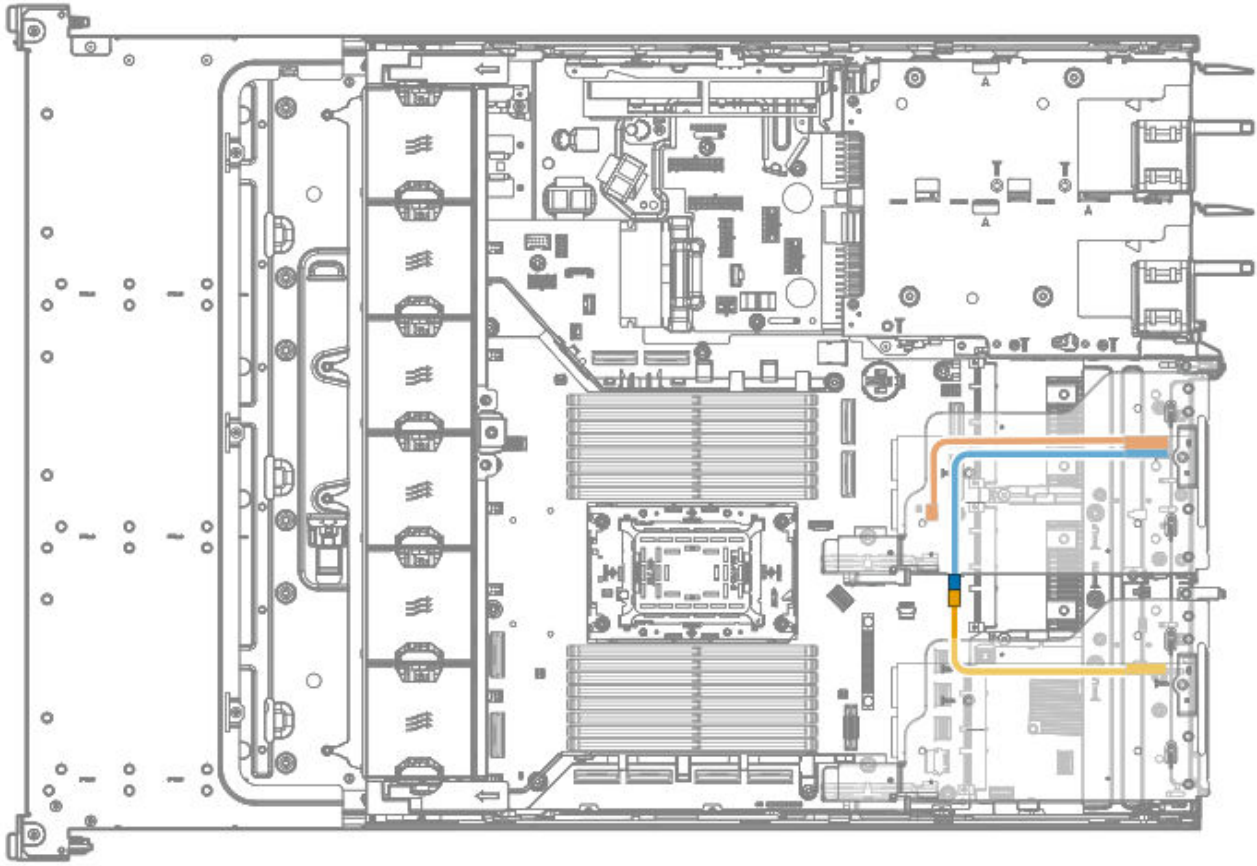
# Storage controller backup power cabling

Type-o 2-port tri-mode controller



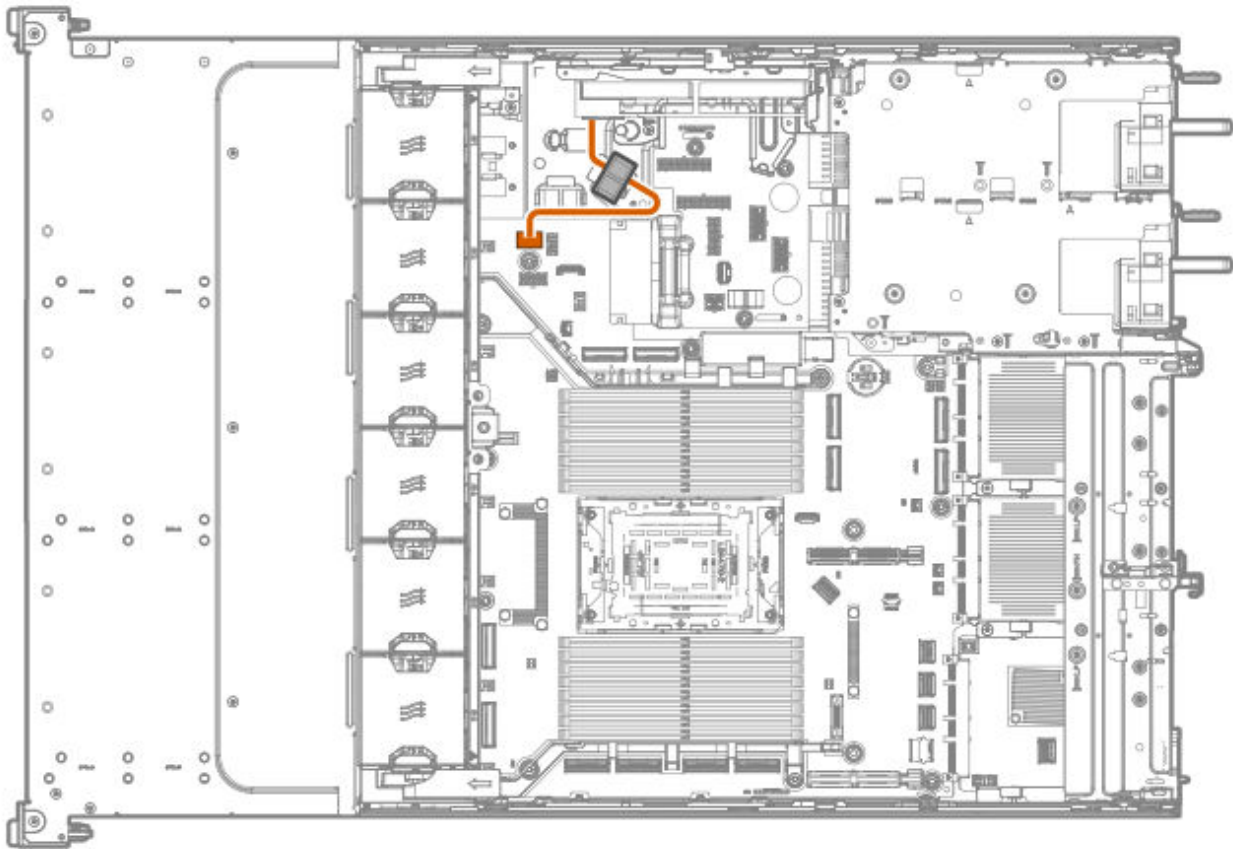
Cable part number	Cable color	From	To
877850-001	Orange	Slot 20 OCP A	Storage controller backup power connector 2

## Type-p 2-port tri-mode controller



Cable part number	Cable color	From	To
877850-001	Orange	Slot 5	Storage controller backup power connector 1
877850-001	Blue	Slot 6	Storage controller backup power connector 2
877850-001	Gold	Slot 3	Storage controller backup power connector 3

## Energy pack cabling



Cable part number	Cable color	From	To
876850-001	Orange	Energy pack	Energy pack connector

## GPU cabling

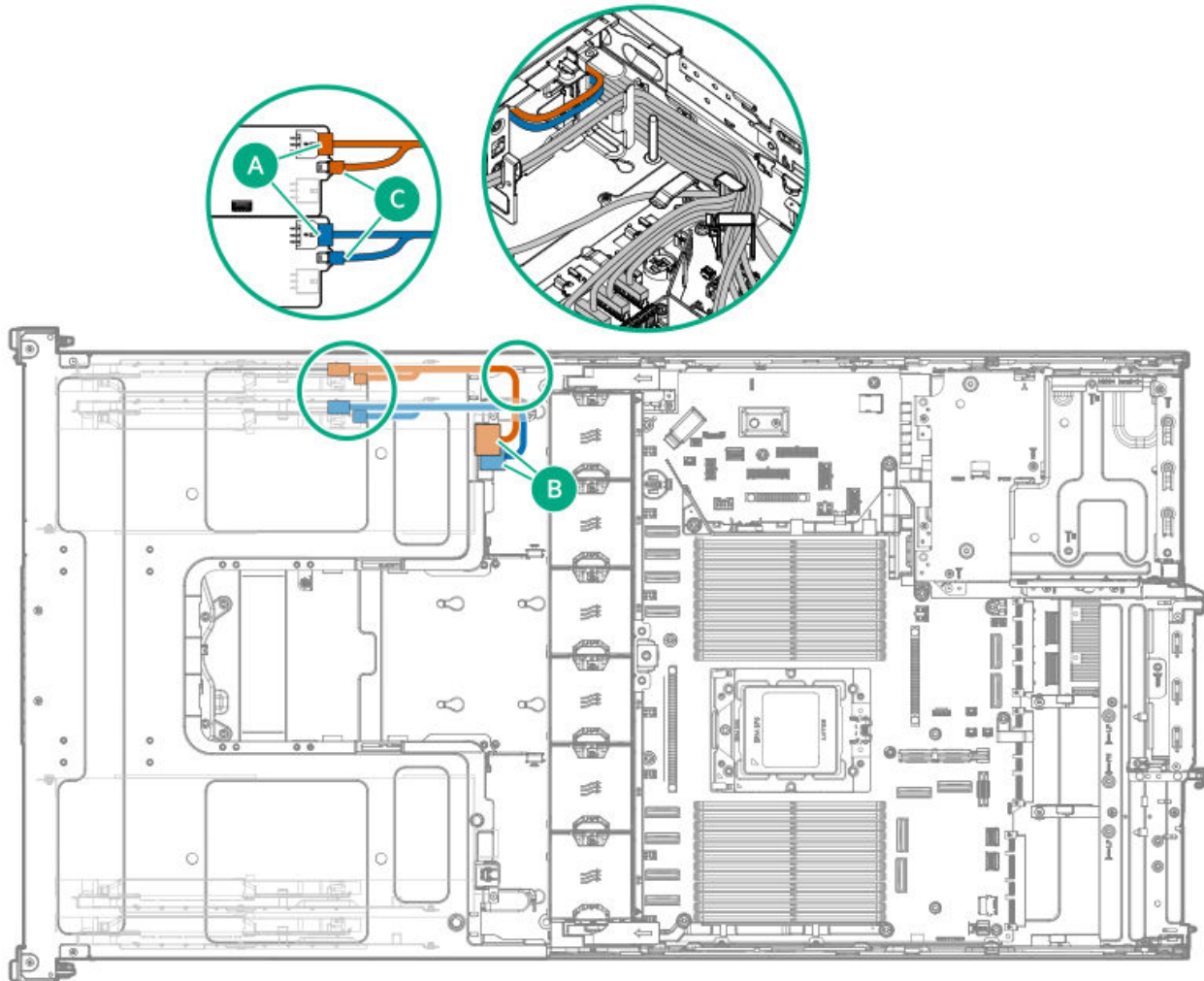
### Subtopics

[GPU auxiliary power / sideband splitter cabling](#)

[GPU captive riser cabling](#)

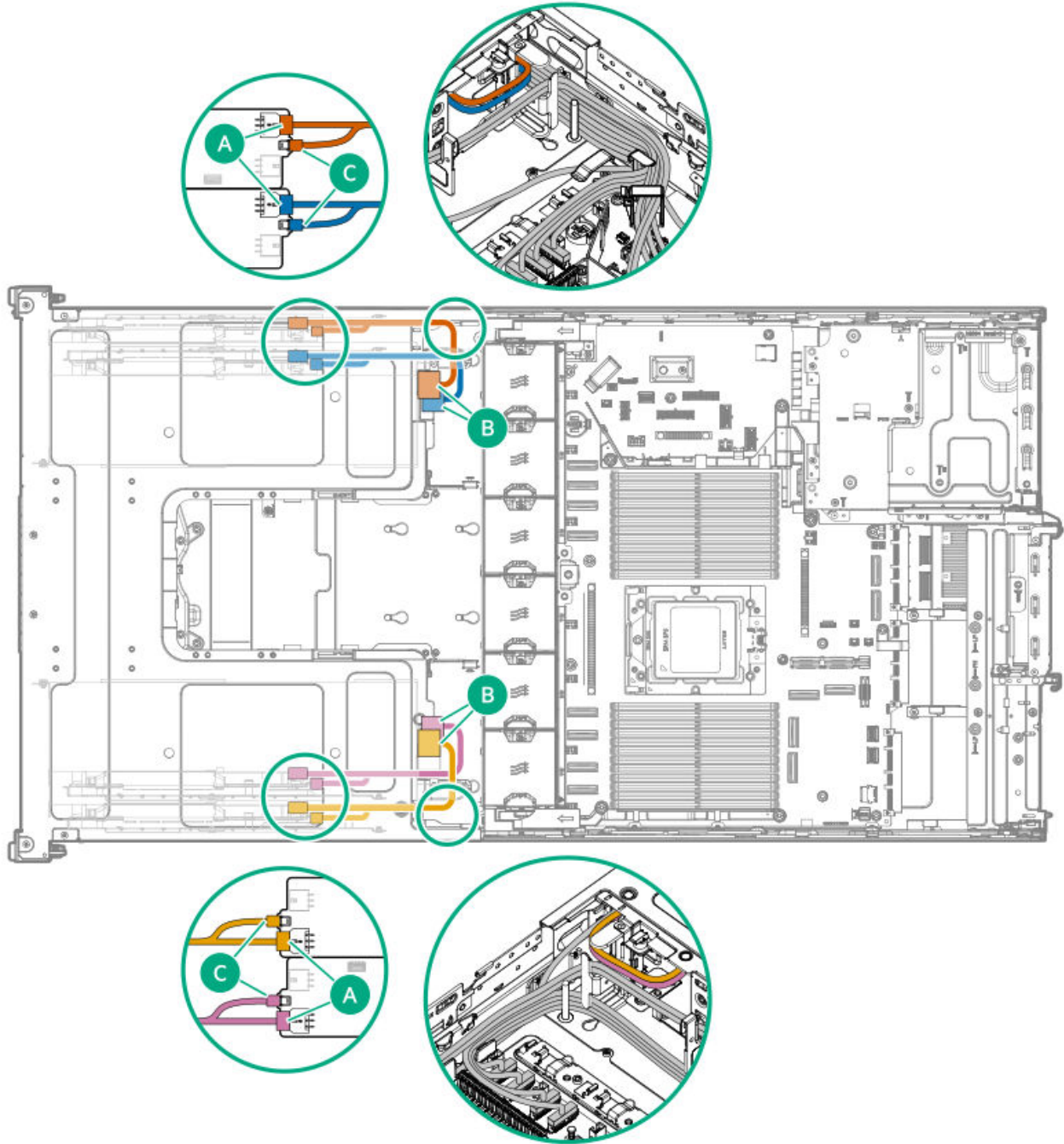
# GPU auxiliary power / sideband splitter cabling

2 double-width GPUs (max TDP: 350 W)



Cable part number	Color	From	To
P75256-001	Orange	Slot 10 GPU	Slot 10 captive riser GPU auxiliary power connector
			Slot 10 captive riser GPU sideband connector
	Blue	Slot 12 GPU	Slot 12 captive riser GPU auxiliary power connector
			Slot 12 captive riser GPU sideband connector

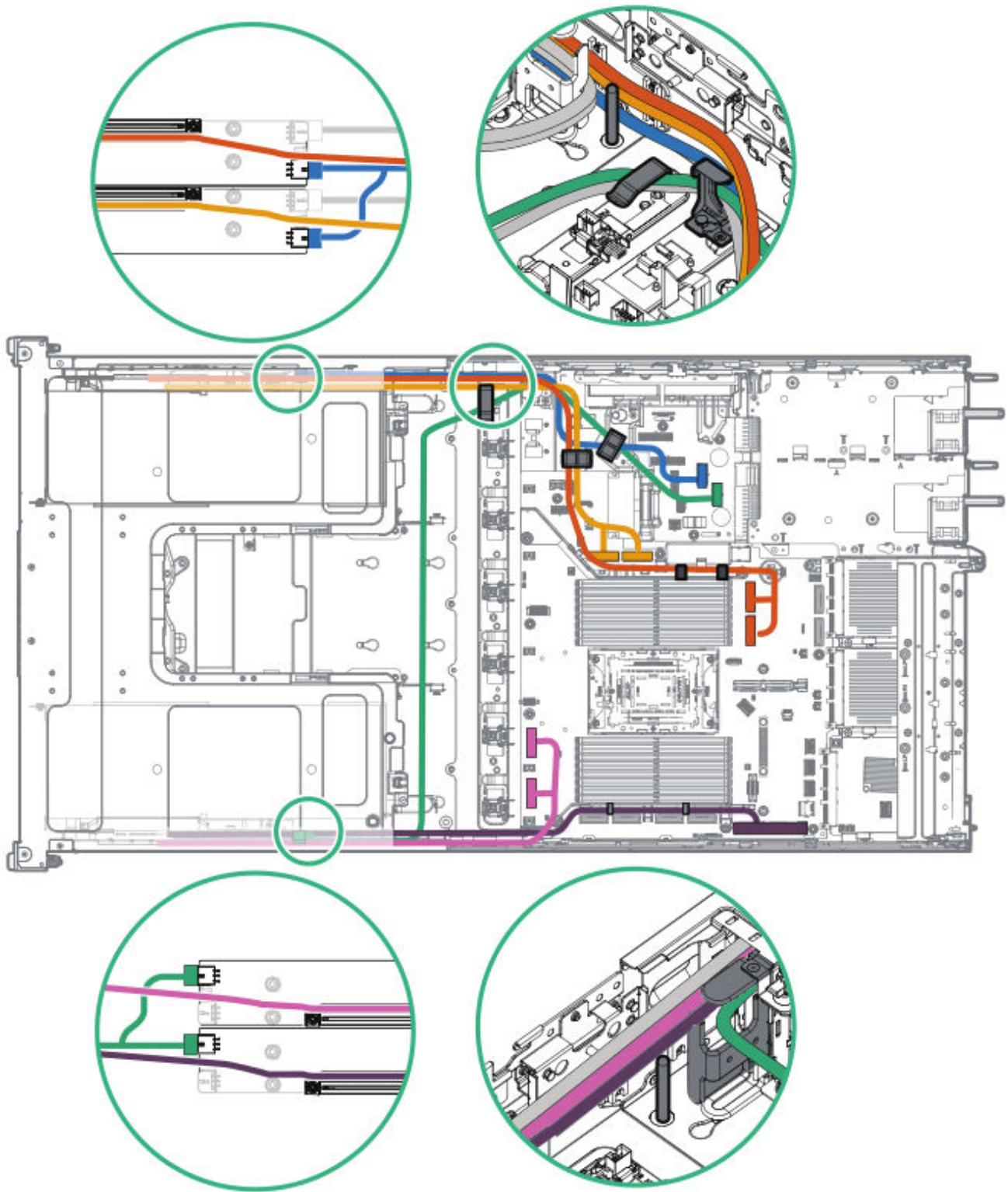
**4 double-width GPUs (max TDP: 350 W)**



Cable part number	Color	From	To
P75256-001	Orange	Slot 10 GPU	Slot 10 captive riser GPU auxiliary power connector
			Slot 10 captive riser GPU sideband connector

<b>Cable part number</b>	<b>Color</b>	<b>From</b>	<b>To</b>
	Blue	Slot 12 GPU	Slot 12 captive riser GPU auxiliary power connector Slot 12 captive riser GPU sideband connector
	Pink	Slot 15 GPU	Slot 15 captive riser GPU auxiliary power connector Slot 15 captive riser GPU sideband connector
	Gold	Slot 17 GPU	Slot 17 captive riser GPU auxiliary power connector Slot 17 captive riser GPU sideband connector

# GPU captive riser cabling



Cable part number	Color	From	To
P71888-001	Orange	Captive riser slot 10	M-XIO port 13 M-XIO port 17
P75253-001	Blue	GPU cage 1 captive riser power connectors	2 x 6 M-PIC power connector
P73415-001	Gold	Captive riser slot 12	M-XIO port 4 M-XIO port 6
P71884-001	Pink	Captive riser slot 15	M-XIO port 0 M-XIO port 2
P75254-001	Green	GPU cage 2 captive riser power connectors	2 x 6 M-PIC power connector
P71891-001	Purple	Captive riser slot 17	Primary riser connector

## OCP slot cabling

### Subtopics

[Front OCP NIC and PHY board cabling](#)

[Front OCP NIC and PHY board cabling in the rich I/O configuration](#)

[Front OCP NIC and PHY board cabling in the GPU-optimized configuration](#)

[Rear OCP enablement cabling](#)

## Front OCP NIC and PHY board cabling

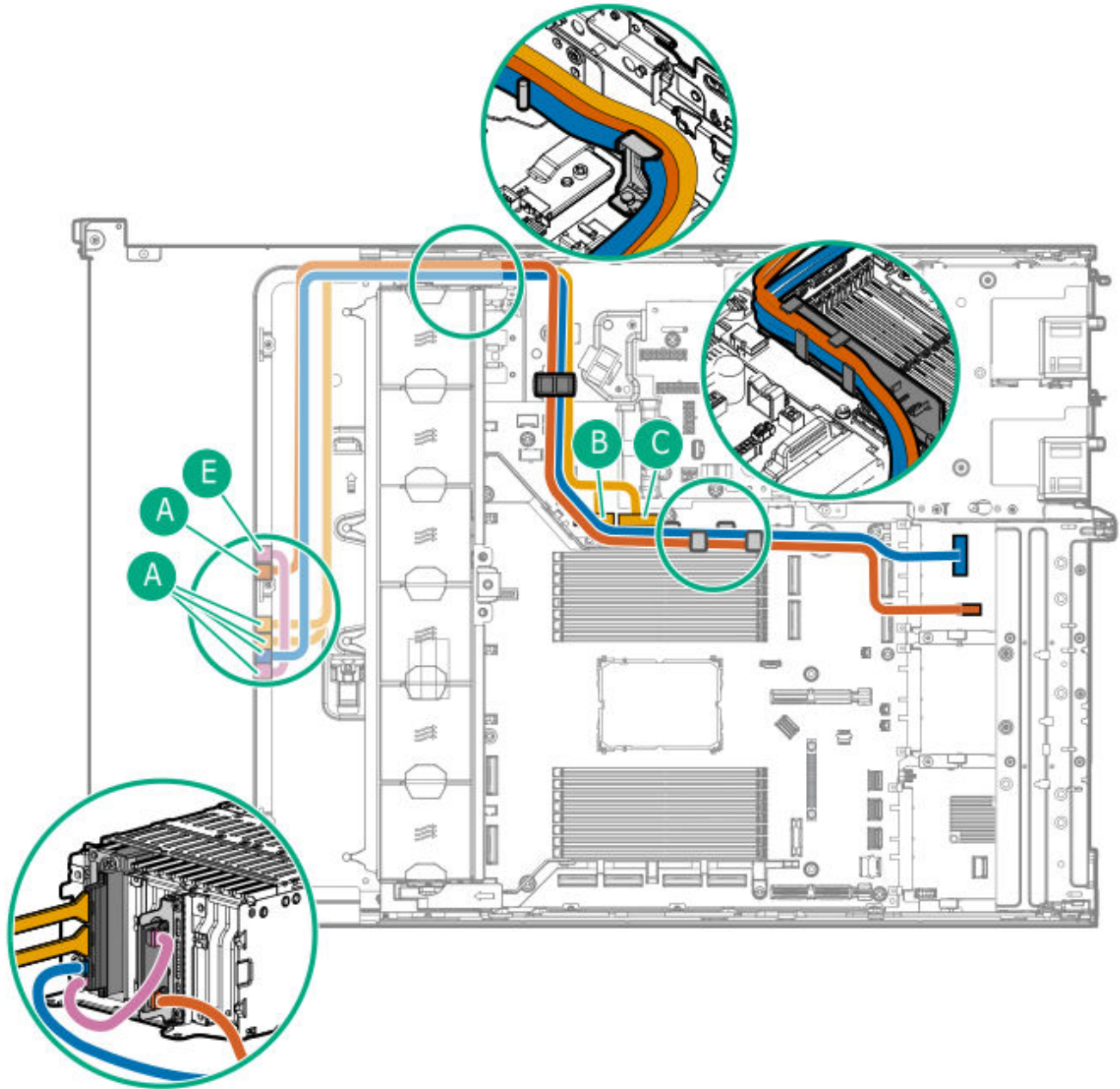


### IMPORTANT

Servers that use Intel Xeon 6 65x1P/67x1P processors are considered rich I/O (RIO) configurations with 64 lanes of CXL 2.0 and up to 96 lanes of PCIe 5.0.

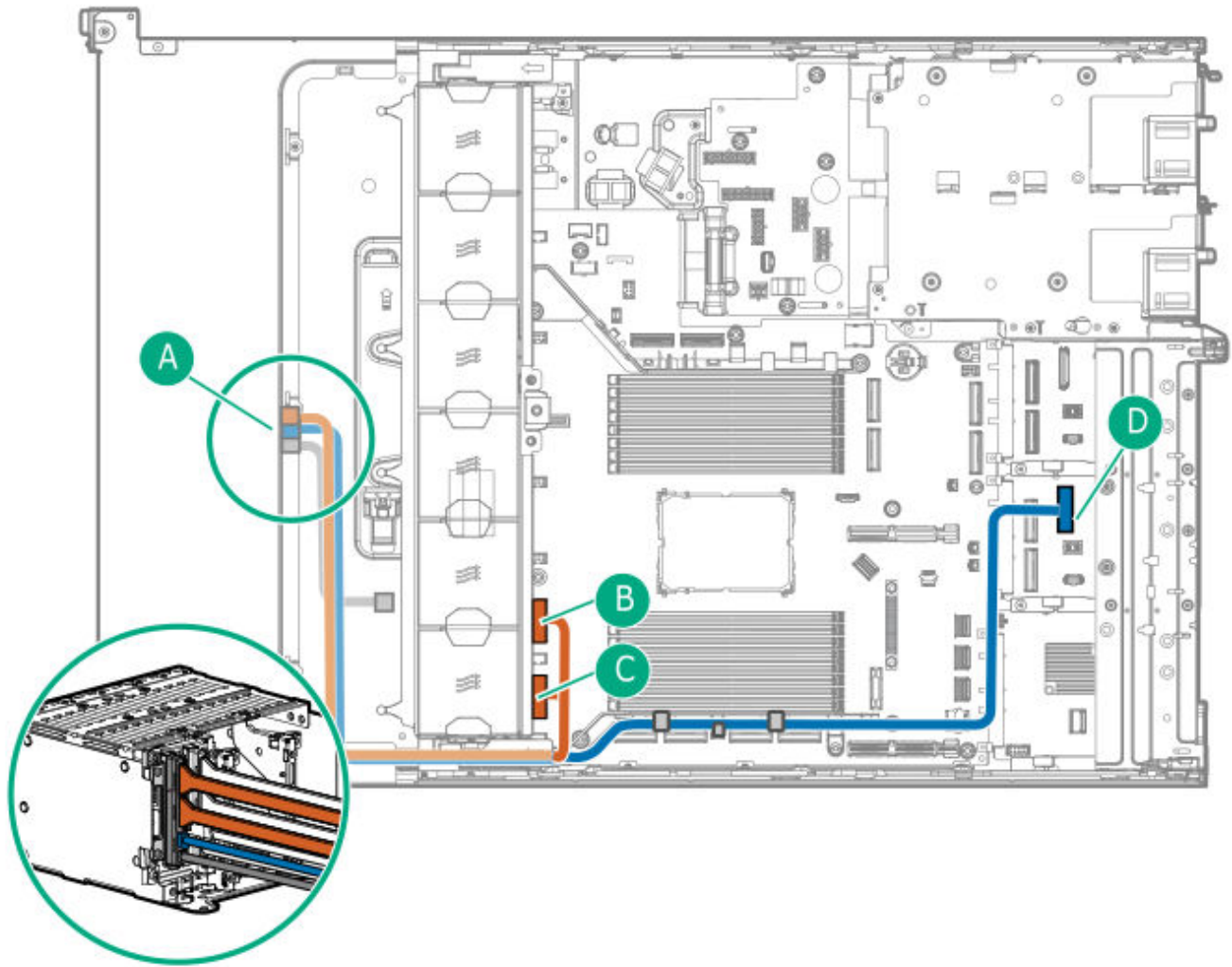
- Primary front OCP NIC cabling is for the Box 2, Bay 9 OCP slot.
- Secondary front OCP NIC cabling is for the Box 2, Bay 11 OCP slot.

## Primary front OCP NIC cabling



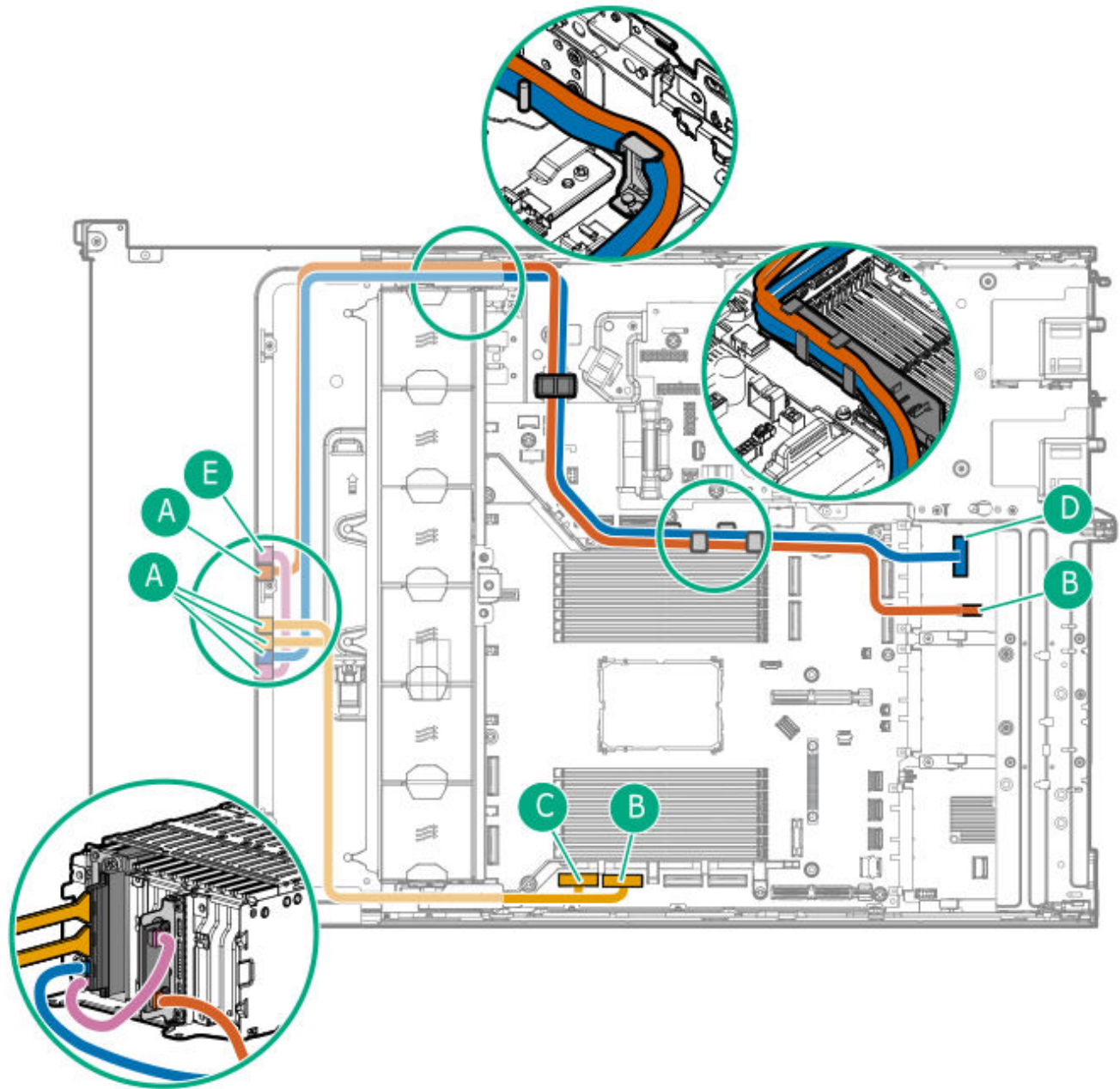
Cable part number	Color	From	To
P73927-001	Orange	PHY board	OCP NIC interposer
P71941-001	Blue	Front OCP NIC cable	OCP NIC interposer
	Gold		M-XIO port 6
			M-XIO port 4
	Pink		PHY board

## Secondary front OCP NIC cabling



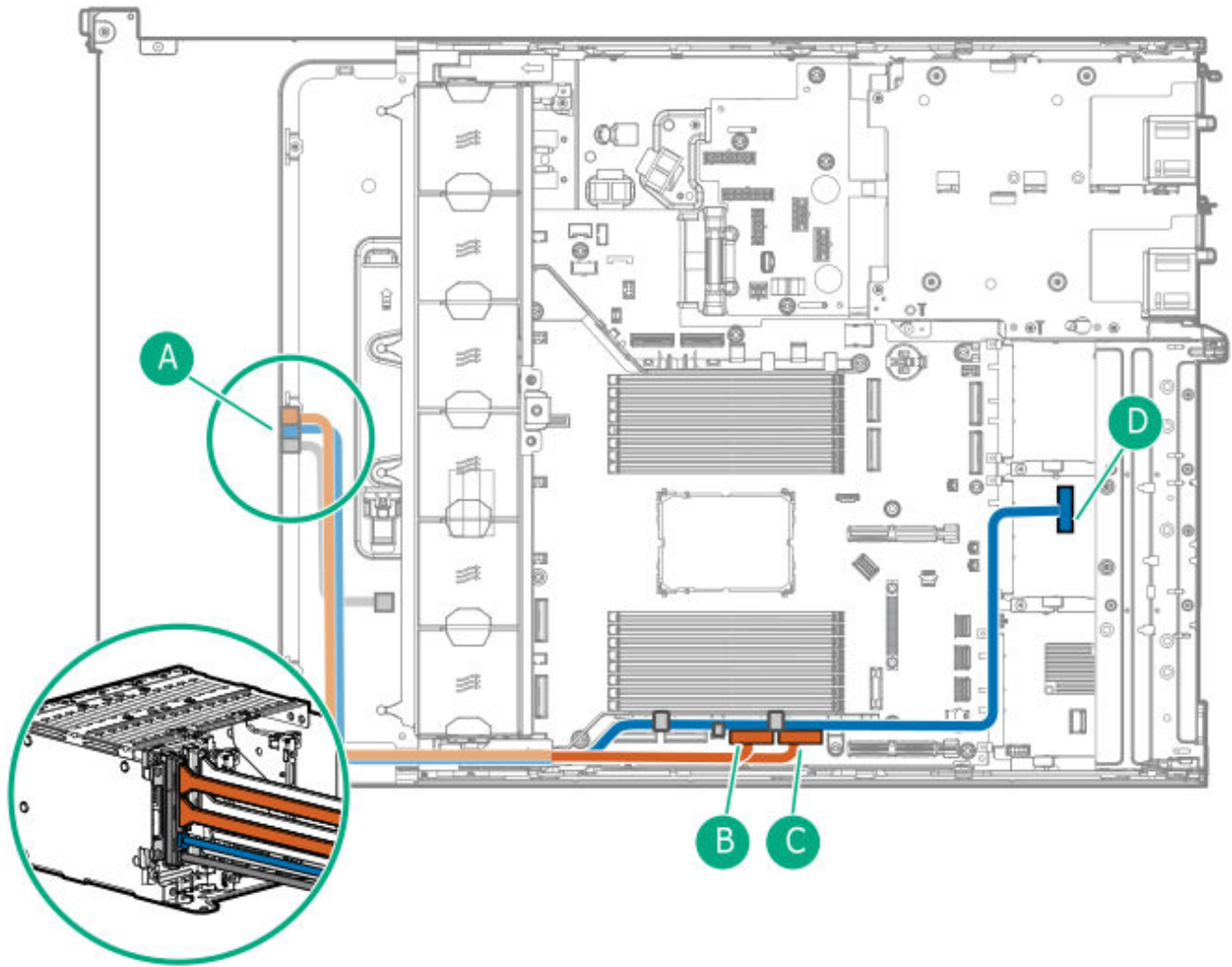
Cable part number	Color	From	To
P71941-001	Orange	Front OCP NIC cable	M-XIO port 0
			M-XIO port 2
	Blue		OCP NIC interposer

## Primary front OCP NIC cabling for the rich I/O configuration



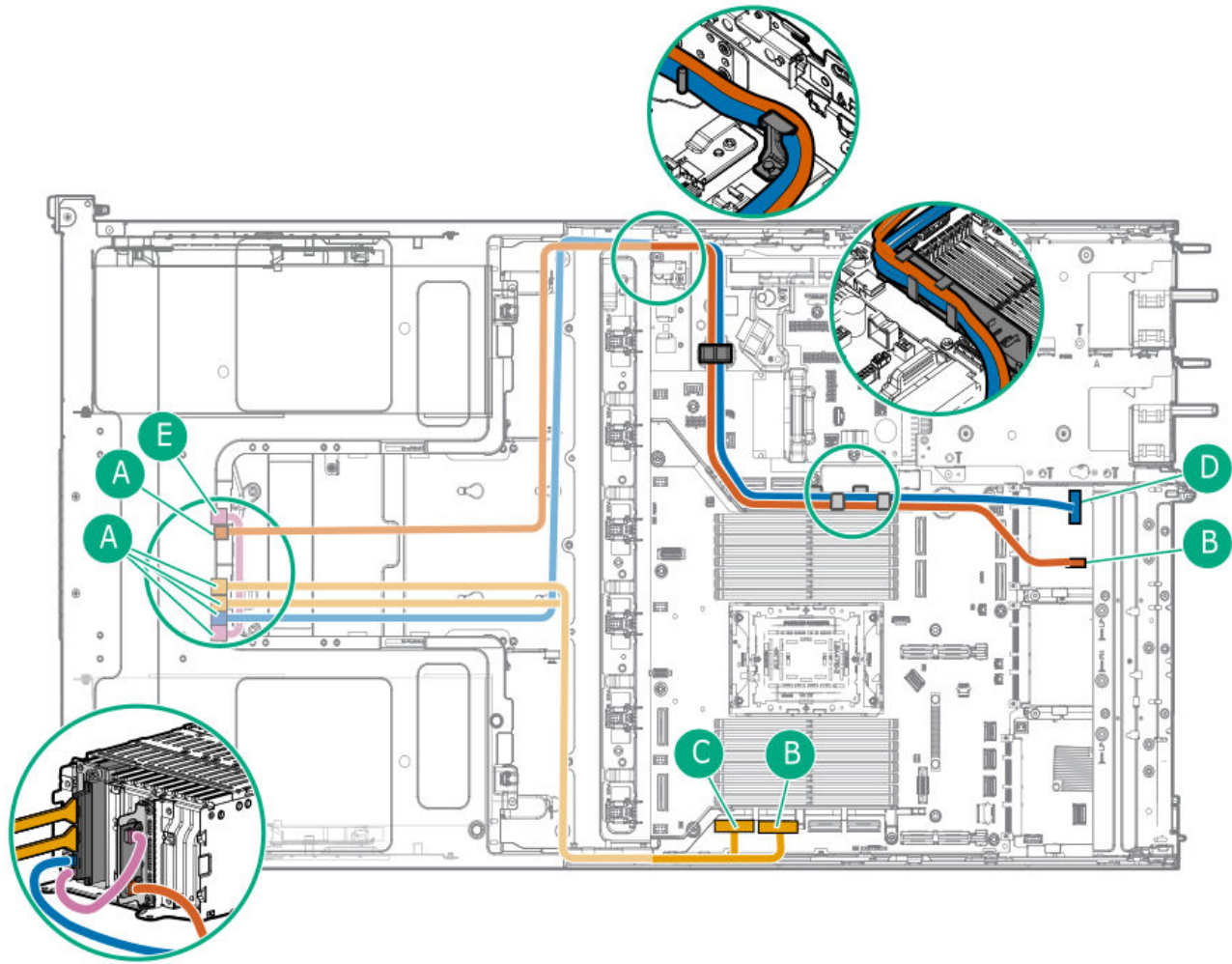
Cable part number	Color	From	To
P73927-001	Orange	PHY board	OCP NIC interposer
P71941-001	Blue	Front OCP NIC cable	OCP NIC interposer
	Gold		M-XIO port 7
			M-XIO port 5
	Pink		PHY board

## Secondary front OCP NIC cabling for the rich I/O configuration



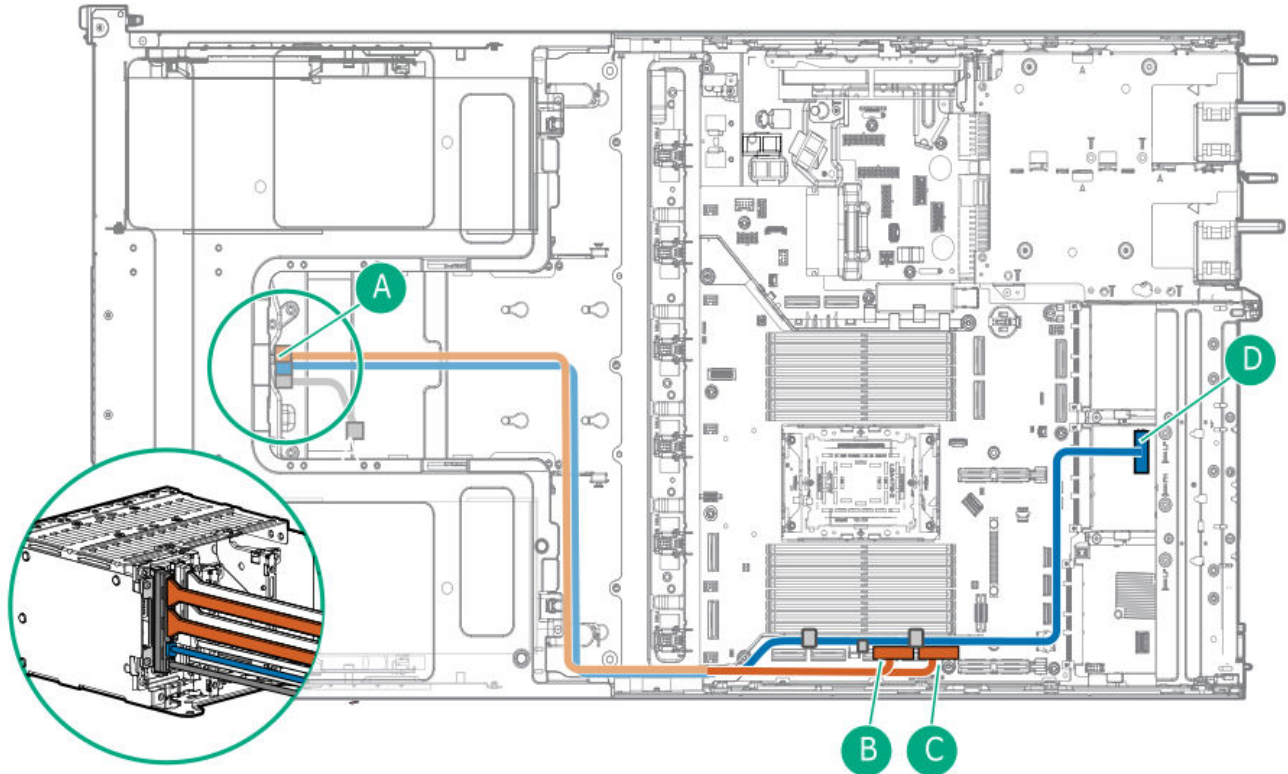
Cable part number	Color	From	To
P71941-001	Orange	Front OCP NIC cable	M-XIO port 1
			M-XIO port 3
	Blue		OCP NIC interposer

## Primary front OCP NIC cabling for the GPU-optimized configuration



Cable part number	Color	From	To
P73927-001	Orange	PHY board	OCP NIC interposer
P71944-001	Blue	Front OCP NIC cable	OCP NIC interposer
	Gold		M-XIO port 7
			M-XIO port 5
	Pink		PHY board

## Secondary front OCP NIC cabling for the GPU-optimized configuration



Cable part number	Color	From	To
P71944-001	Orange	Front OCP NIC cable	M-XIO port 1
			M-XIO port 3
	Blue		OCP NIC interposer

## Front OCP NIC and PHY board cabling in the rich I/O configuration

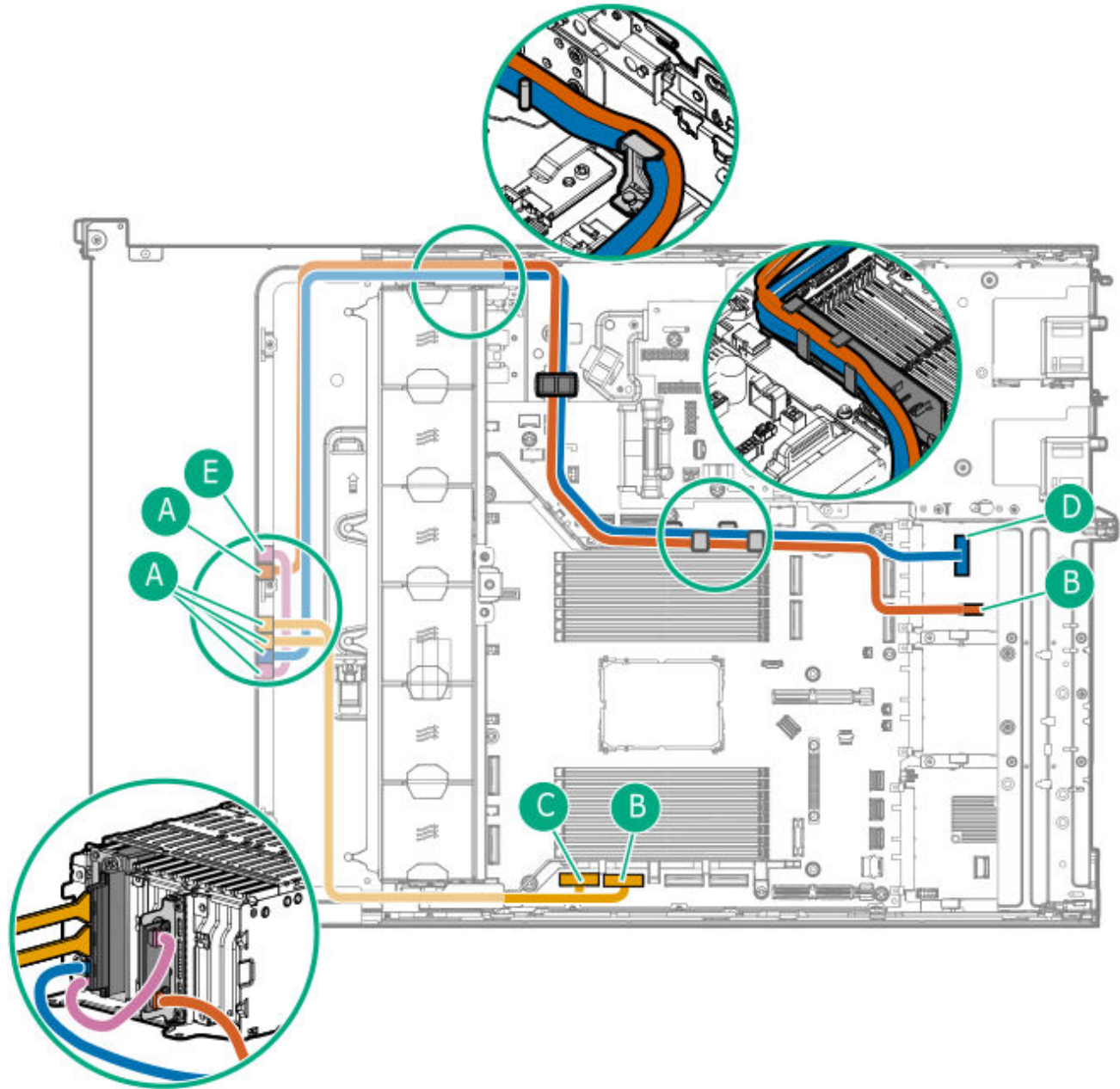


### IMPORTANT

Servers that use Intel Xeon 6 65x1P/67x1P processors are considered rich I/O (RIO) configurations with 64 lanes of CXL 2.0 and up to 96 lanes of PCIe 5.0.

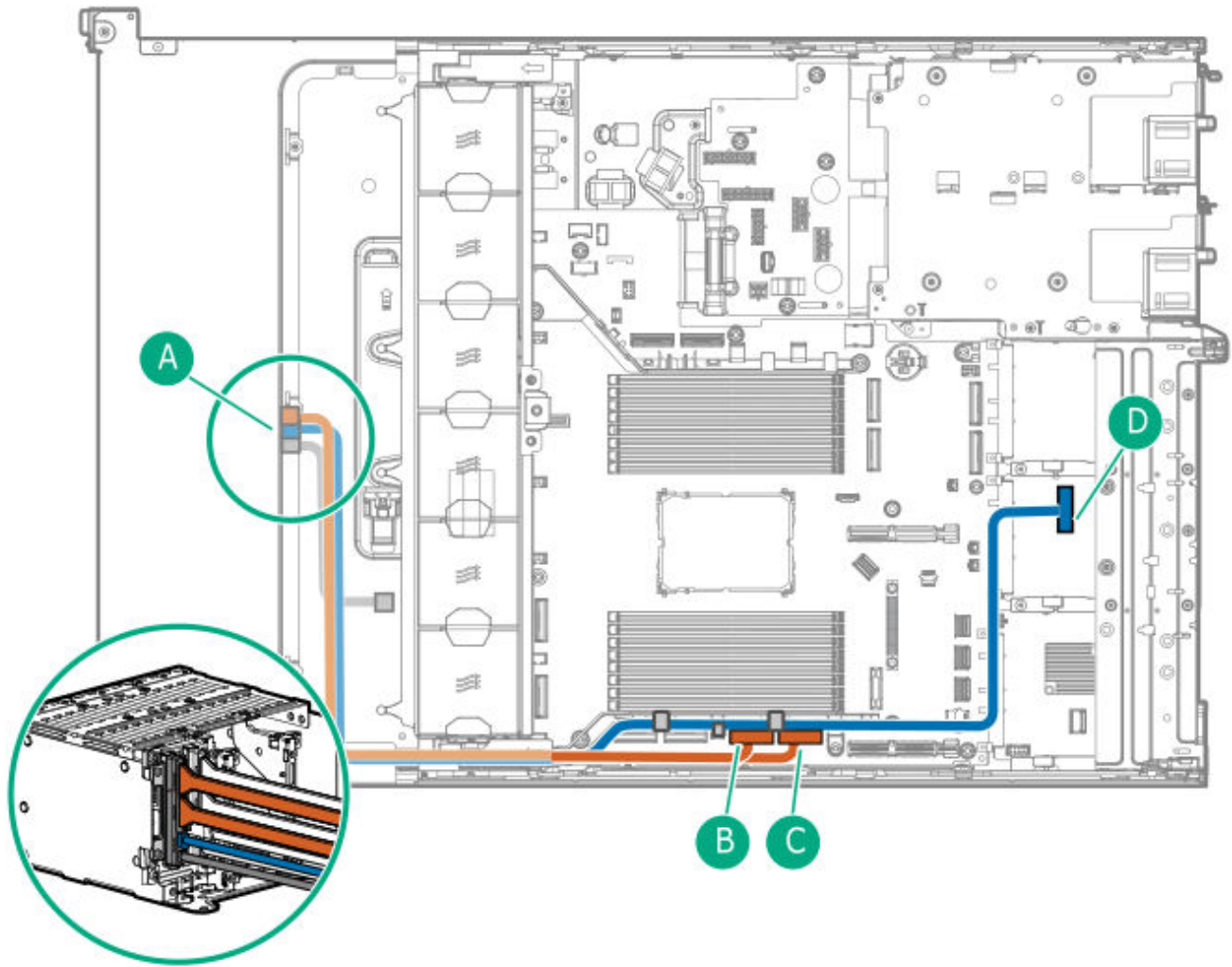
- Primary front OCP NIC cabling is for the Box 2, Bay 9 OCP slot.
- Secondary front OCP NIC cabling is for the Box 2, Bay 11 OCP slot.

## Primary front OCP NIC cabling



Cable part number	Color	From	To
P73927-001	Orange	PHY board	OCP NIC interposer
P71941-001	Blue	Front OCP NIC cable	OCP NIC interposer
	Gold		M-XIO port 7
			M-XIO port 5
	Pink		PHY board

## Secondary front OCP NIC cabling



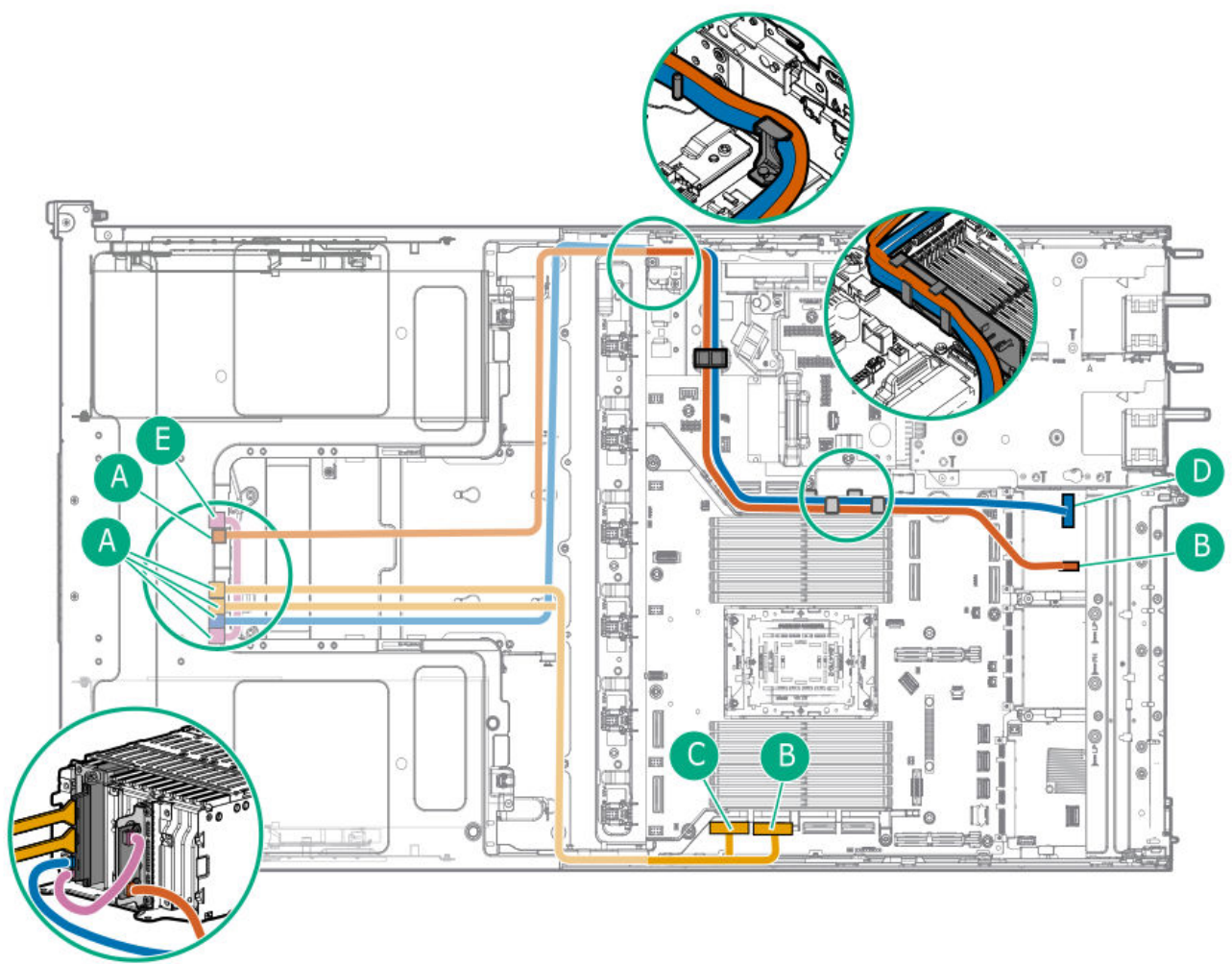
Cable part number	Color	From	To
P71941-001	Orange	Front OCP NIC cable	M-XIO port 1
			M-XIO port 3
	Blue		OCP NIC interposer

# Front OCP NIC and PHY board cabling in the GPU-optimized configuration

**!** **IMPORTANT**  
 Servers that use Intel Xeon 6 65x1P/67x1P processors are considered rich I/O (RIO) configurations with 64 lanes of CXL 2.0 and up to 96 lanes of PCIe 5.0.

- Primary front OCP NIC cabling is for the Box 2, Bay 9 OCP slot.
- Secondary front OCP NIC cabling is for the Box 2, Bay 11 OCP slot.

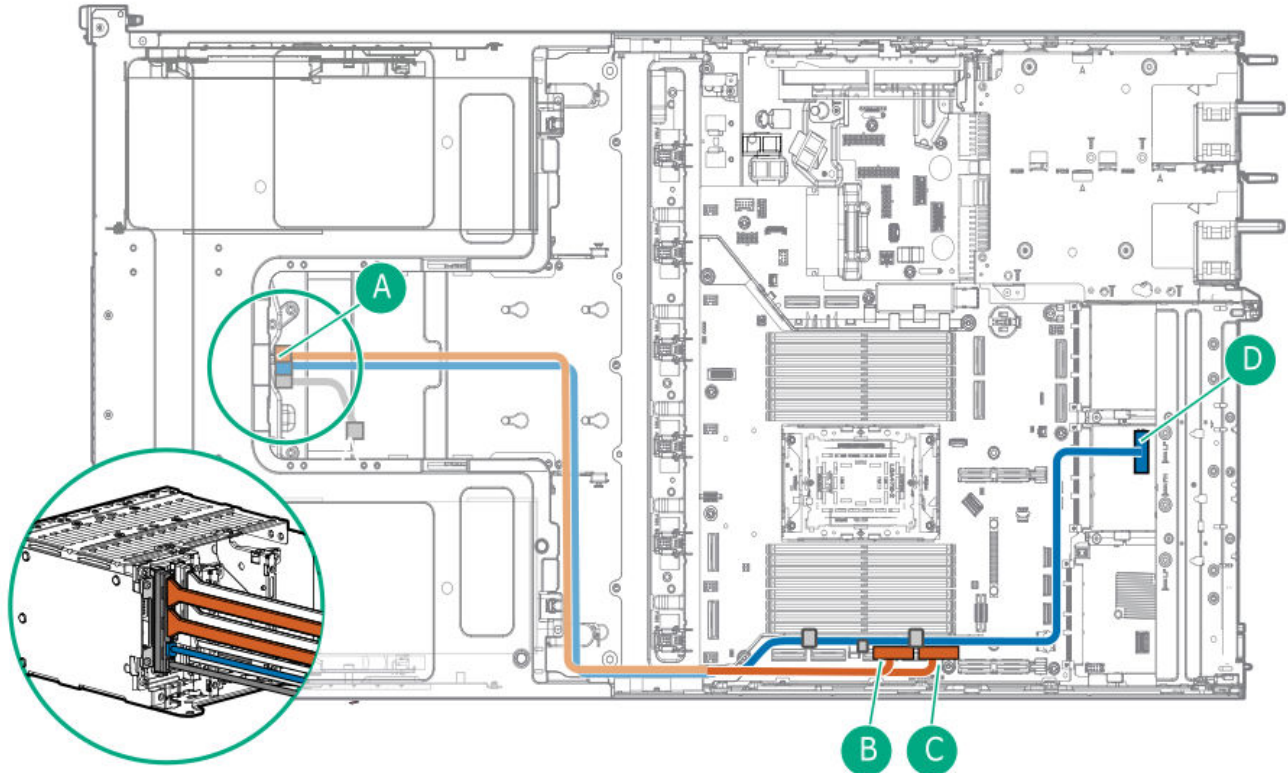
## Primary front OCP NIC cabling



Cable part number	Color	From	To
P73927-001	Orange	PHY board	OCP NIC interposer

Cable part number	Color	From	To
P71944-001	Blue	Front OCP NIC cable	OCP NIC interposer
	Gold		M-XIO port 7
			M-XIO port 5
	Pink		PHY board

### Secondary front OCP NIC cabling

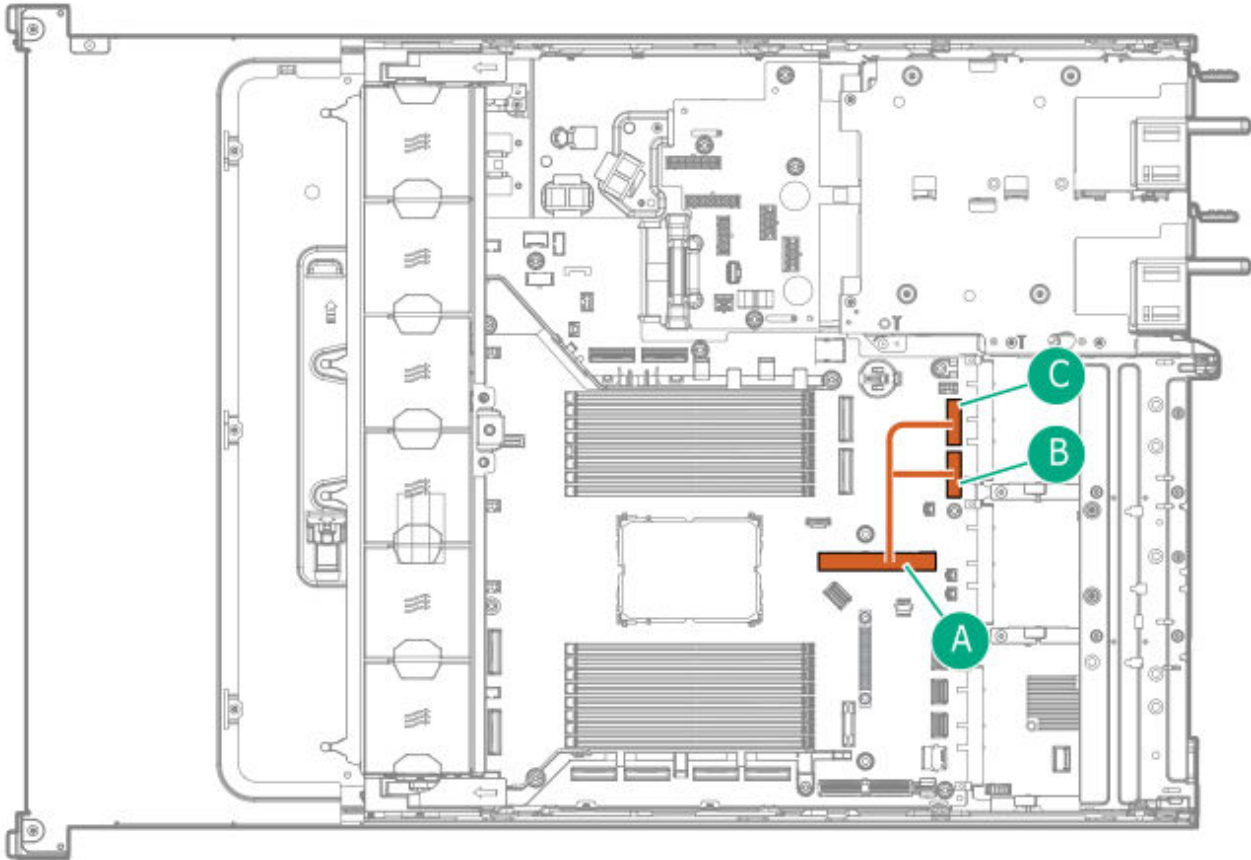


Cable part number	Color	From	To
P71944-001	Orange	Front OCP NIC cable	M-XIO port 1
			M-XIO port 3
	Blue		OCP NIC interposer

### Rear OCP enablement cabling

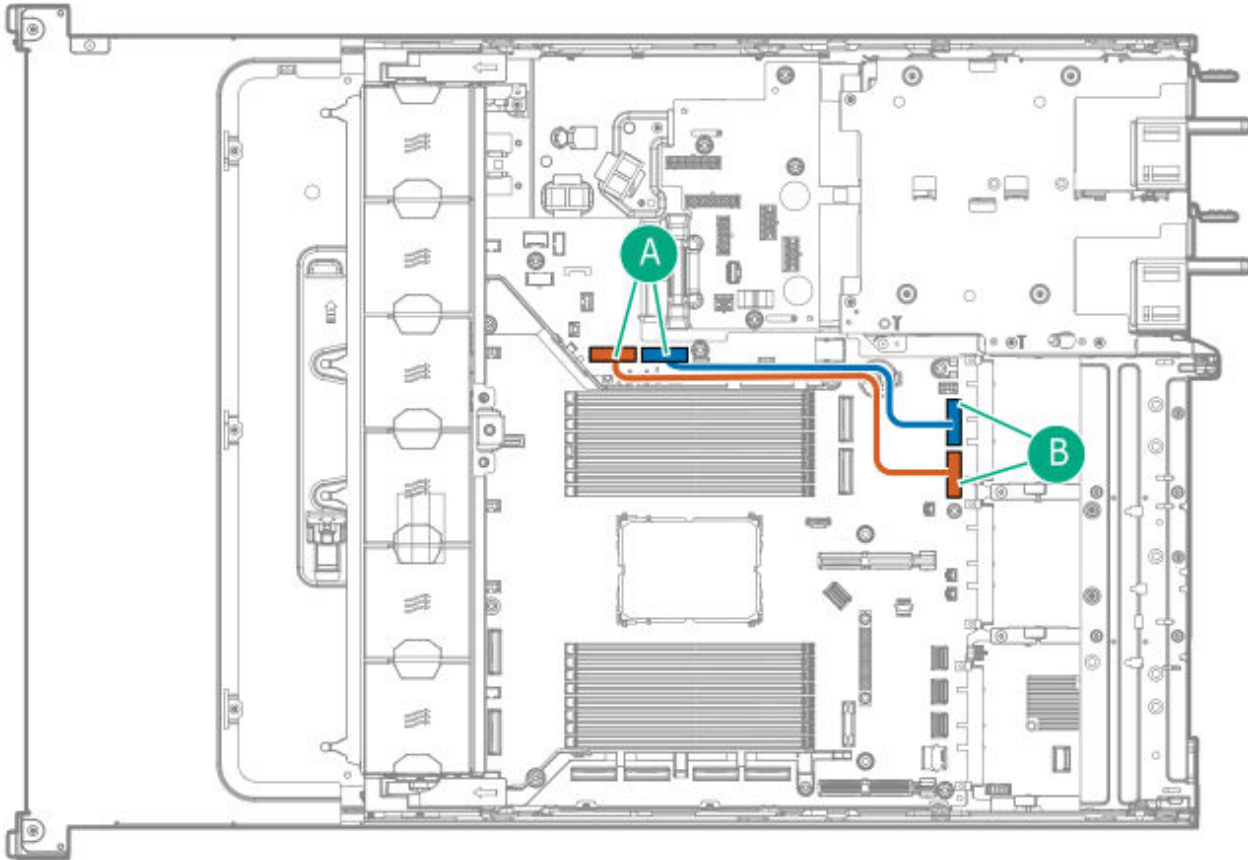
Slot 20 OCP A is configured to operate at x16 bandwidth speed by default.

## Secondary riser blank configuration



Cable part number	Color	From	To
P73494-001	Orange	Secondary riser connector	MCIO OCP B-1 input port MCIO OCP B-2 input port

## Secondary riser cage configuration



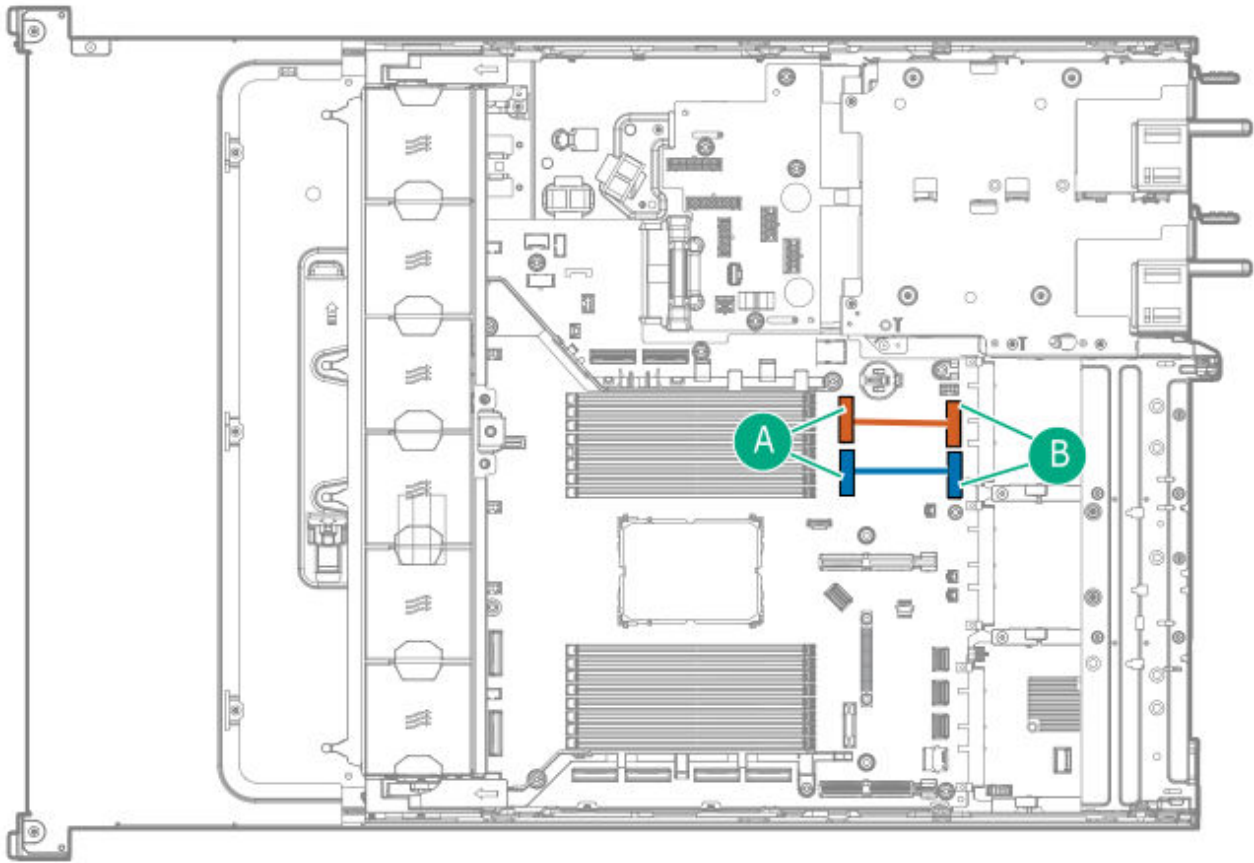
Cable part number	Color	From	To
P75507-001	Orange	M-XIO port 6	MCIO OCP B-1 input port
P75506-001	Blue	M-XIO port 4	MCIO OCP B-2 input port

## Rich I/O configuration



### IMPORTANT

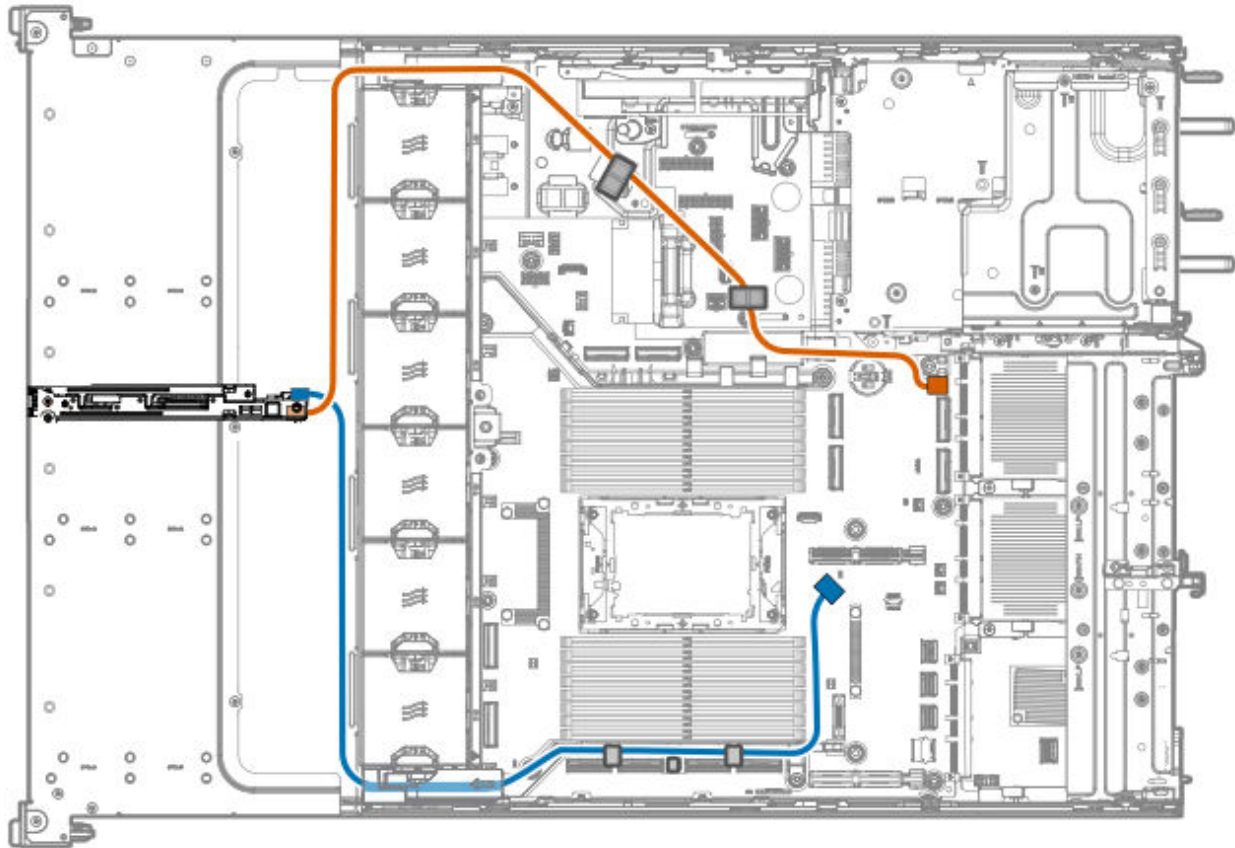
Servers that use Intel Xeon 6 65x1P/67x1P processors are considered rich I/O (RIO) configurations with 64 lanes of CXL 2.0 and up to 96 lanes of PCIe 5.0.



Cable part number	Color	From	To
P75591-001	Orange	M-XIO port 17	MCIO OCP B-1 input port
	Blue	M-XIO port 13	MCIO OCP B-2 input port

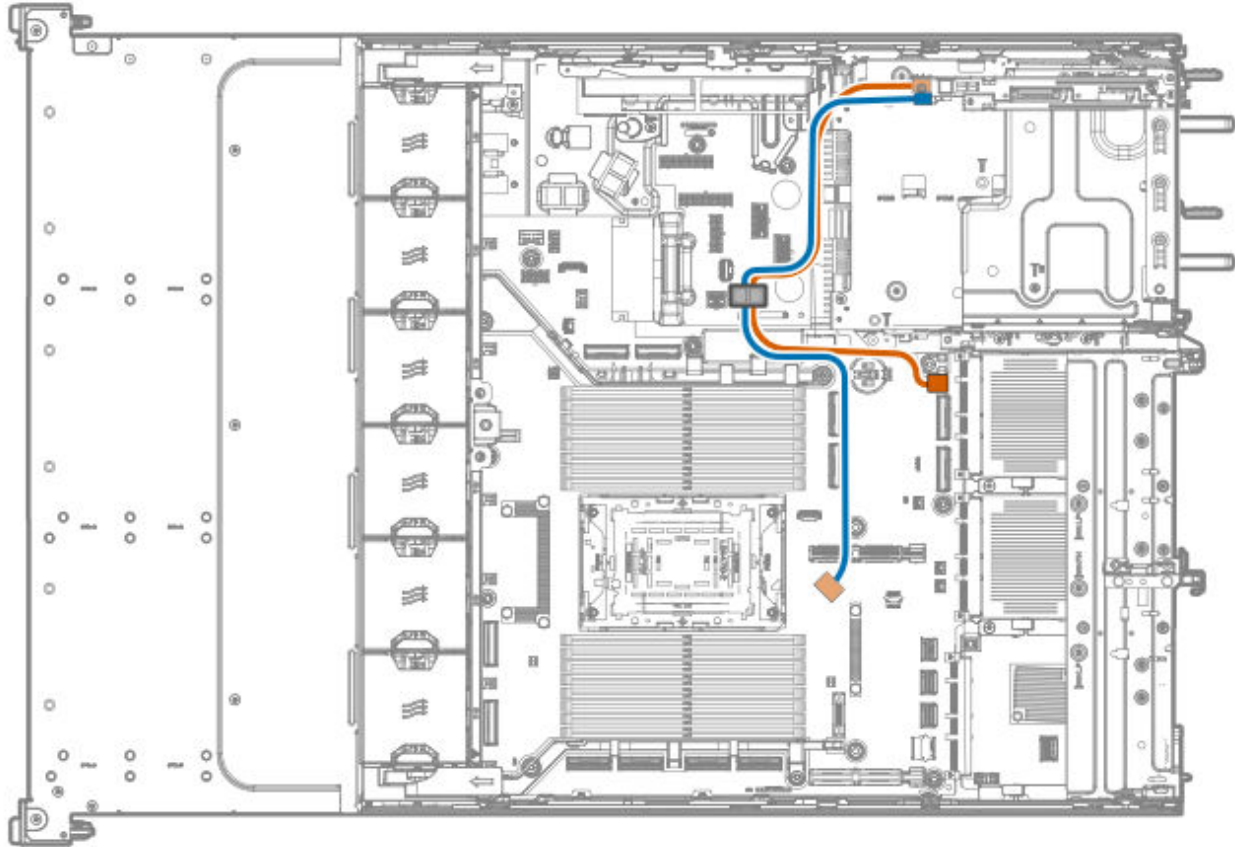
# HPE NS204i-u Boot Device V2 cabling

## Front HPE NS204i-u Boot Device V2



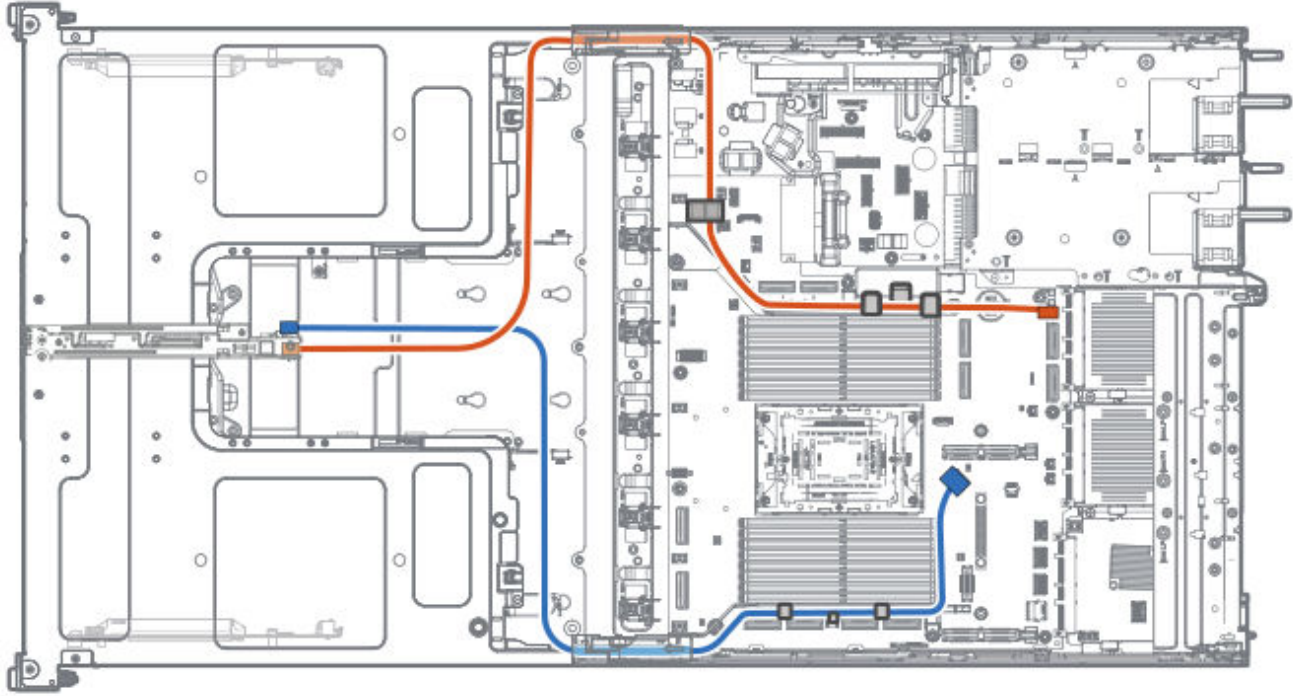
Cable part number	Cable color	From	To
P74729-001	Orange	HPE NS204i-u Boot Device V2	NS204i-u power connector
P74730-001	Blue		NS204i-u signal connector

## Rear HPE NS204i-u Boot Device V2



Cable part number	Cable color	From	To
P63720-001	Orange	HPE NS204i-u Boot Device V2	NS204i-u power connector
P72024-001	Blue		NS204i-u signal connector

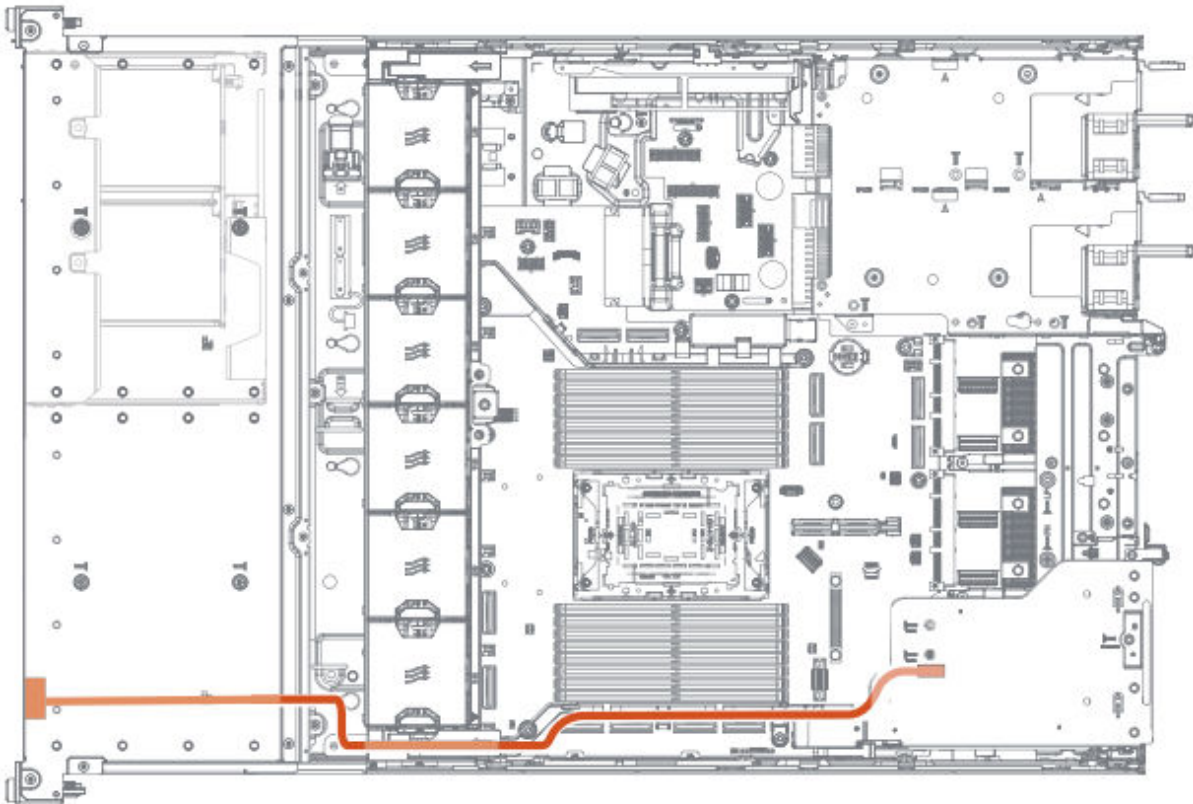
## GPU-optimized configuration



Cable part number	Cable color	From	To
P74729-001	Orange	HPE NS204i-u Boot Device V2	NS204i-u power connector
P74730-001	Blue		NS204i-u signal connector

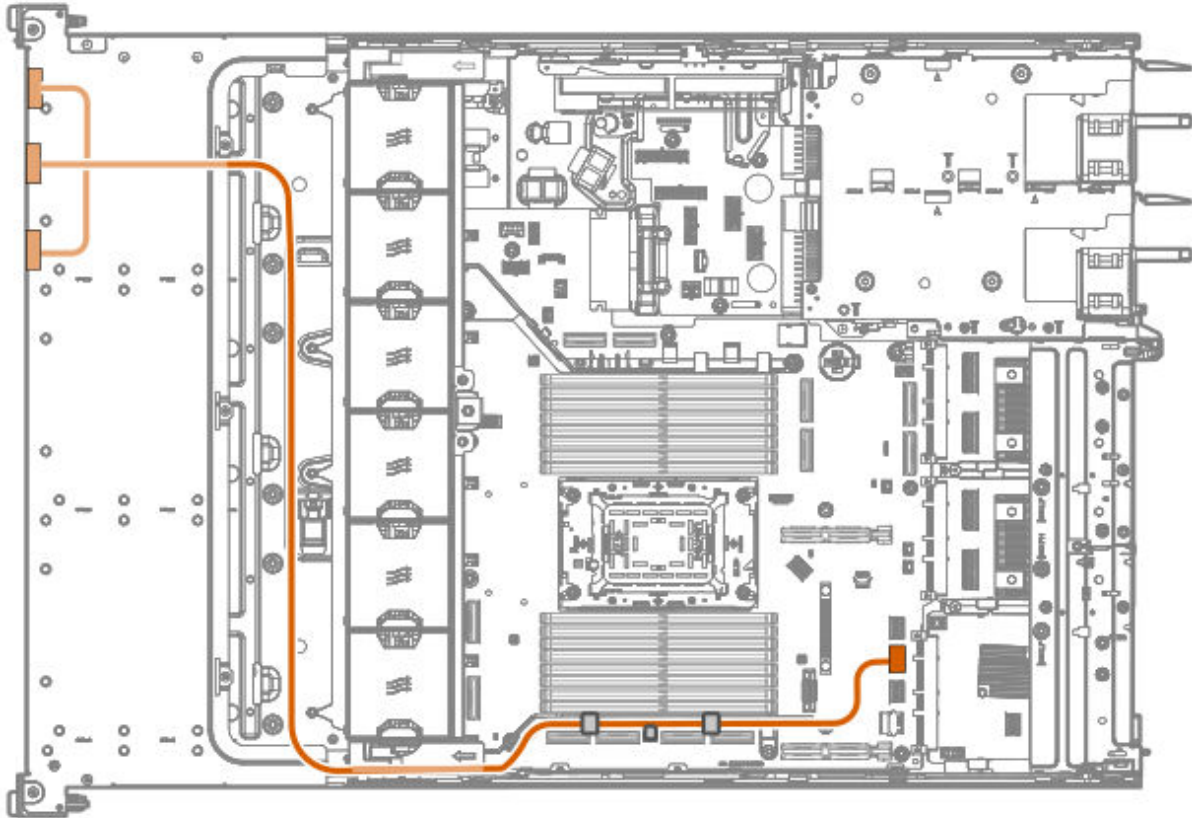
# Universal media bay cabling

## LFF drive configuration



Cable part number	Color	From	To
P75279-001	Orange	DisplayPort	USB 2.0 / DisplayPort cable connector

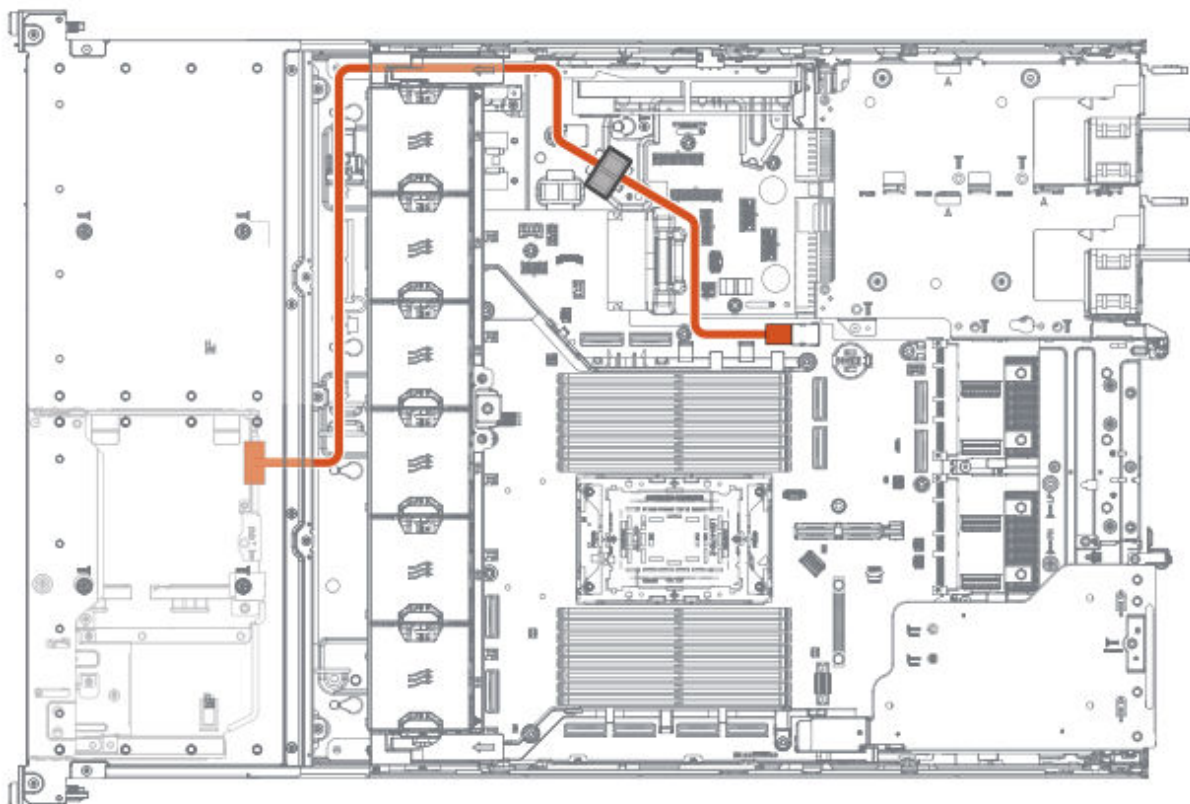
## SFF / E3.S drive configuration



Cable part number	Color	From	To
P75280-001	Orange	DisplayPort USB 2.0 ports	USB 2.0 / DisplayPort cable connector

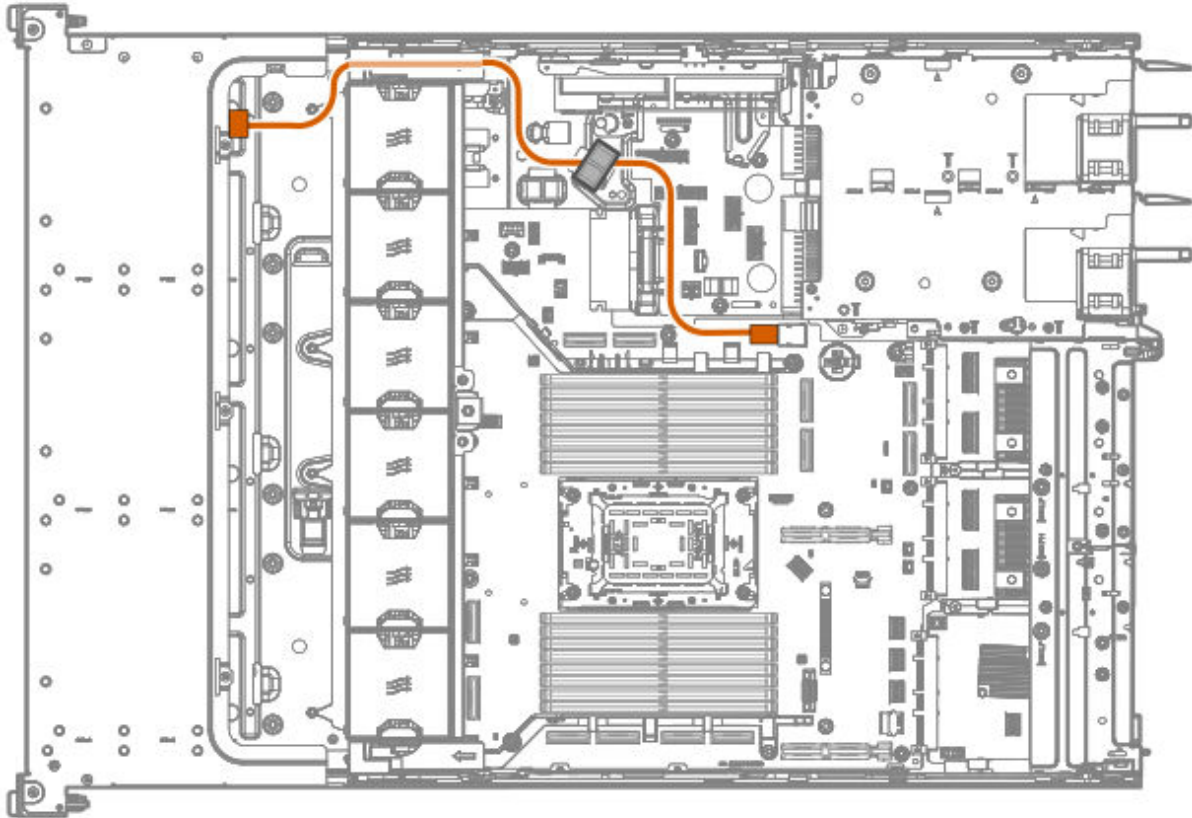
# Optical drive cabling

## LFF drive configuration



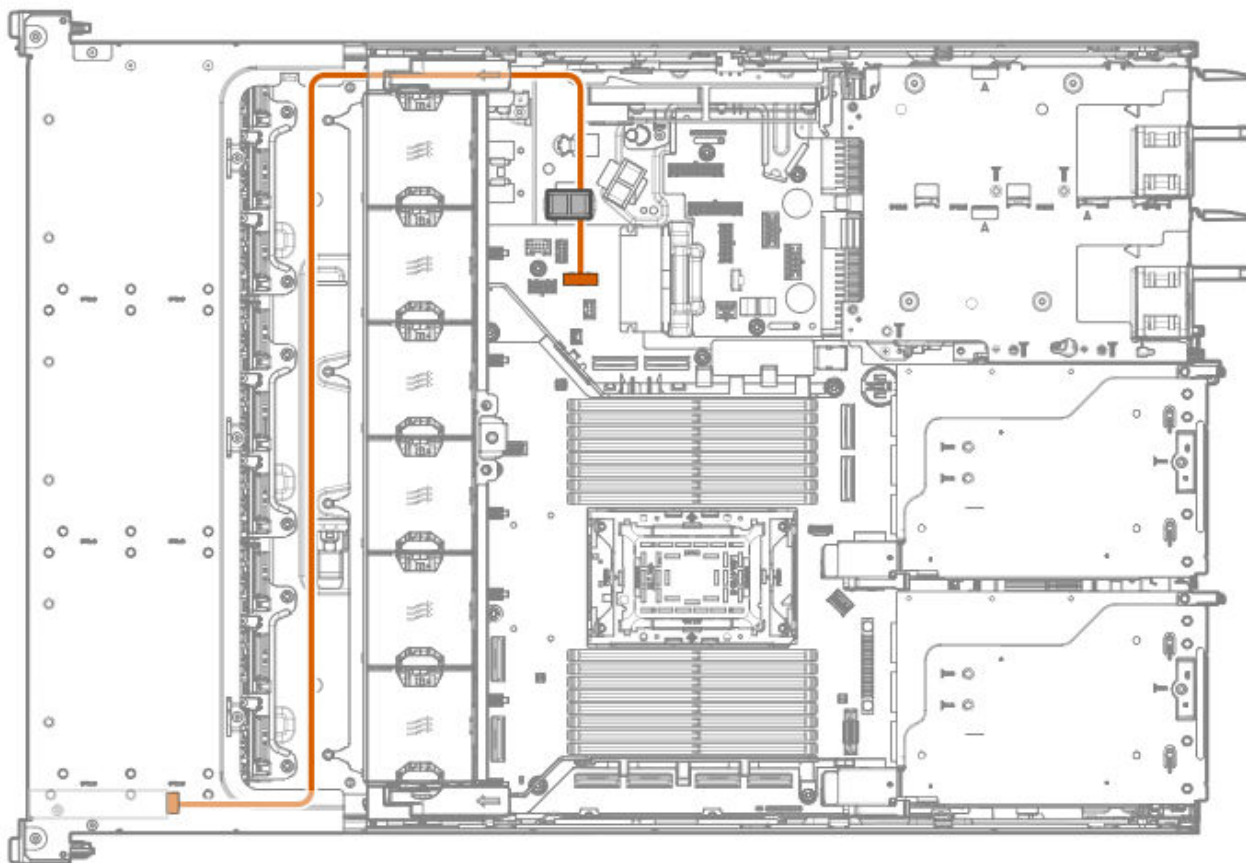
Cable part number	Color	From	To
P73776-002	Orange	Optical drive	USB 3.2 Gen 1 port

## SFF / E3.S drive configuration



Cable part number	Color	From	To
P73776-002	Orange	Optical drive	USB 3.2 Gen 1 port

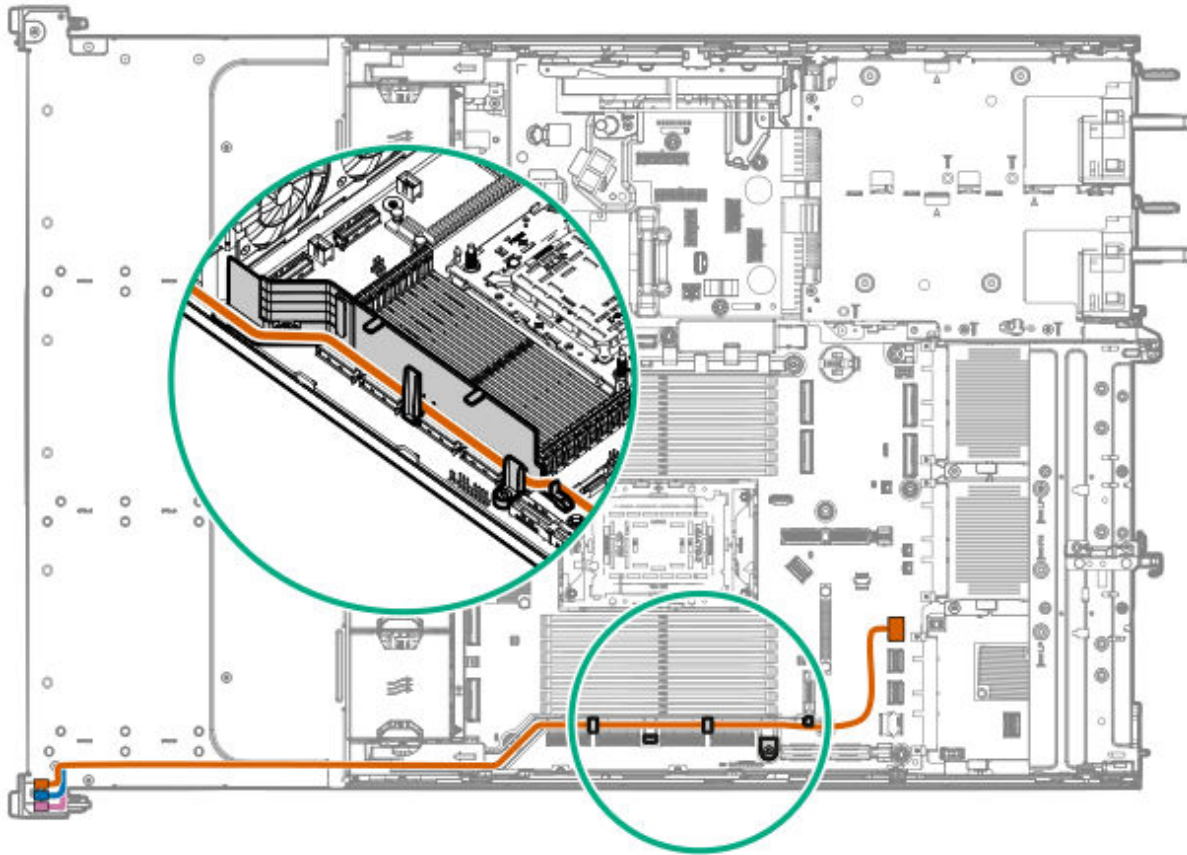
## System Insight Display cabling



Cable part number	Color	From	To
P48971-001	Orange	System Insight Display	SID connector

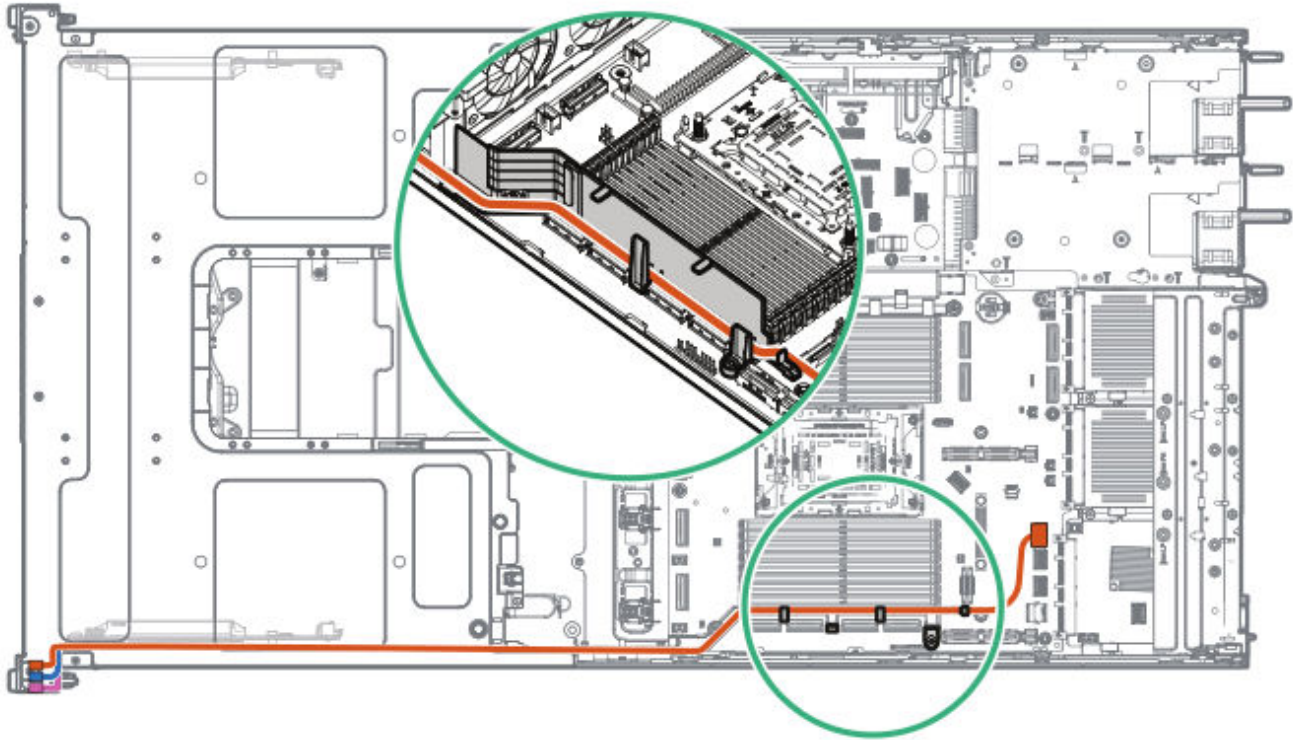
# Front I/O cabling

## LFF / SFF / E3.S drive configuration



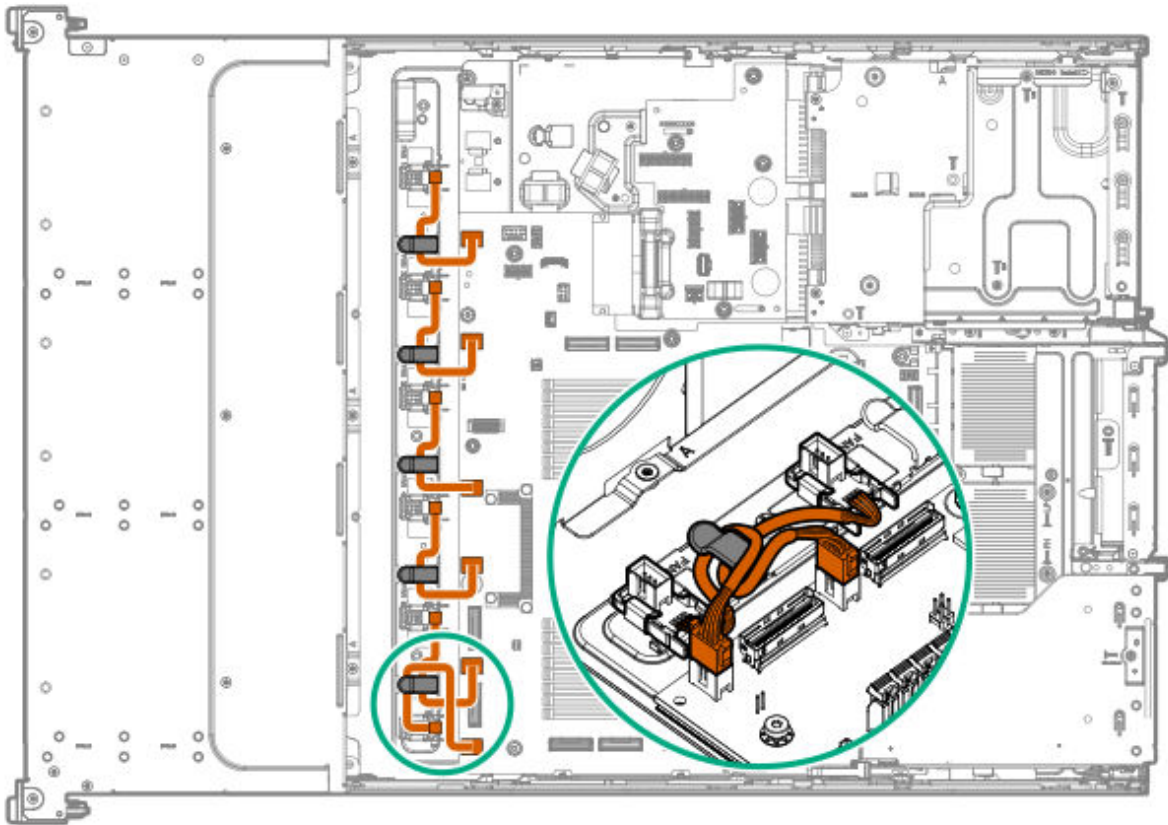
Cable part number	Color	From	To
P71909-002	Orange	Front LEDs and buttons	Front I/O connector
	Blue	USB 3.2 Gen 1 port	
	Pink	iLO service port	

## GPU-optimized configuration



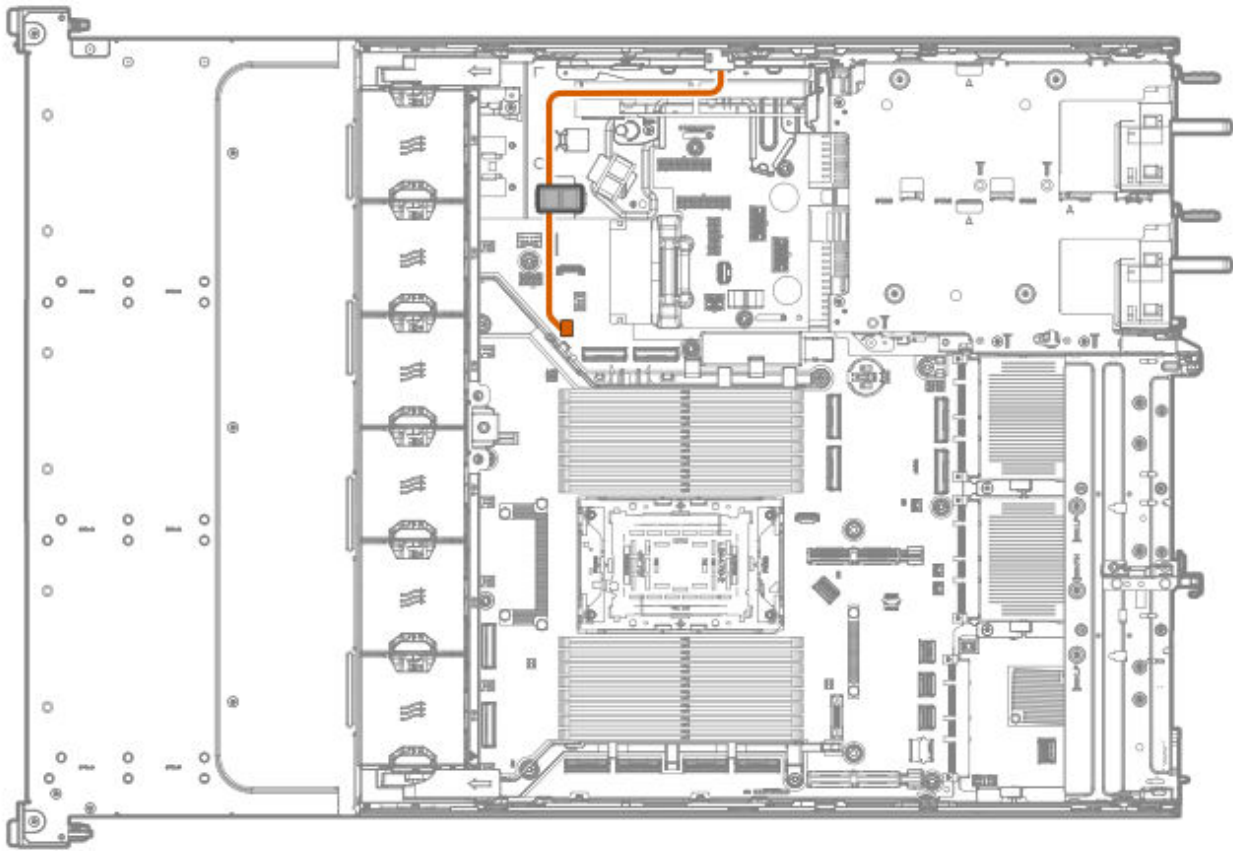
Cable part number	Color	From	To
P71909-002	Orange	Front LEDs and buttons	Front I/O connector
	Blue	USB 3.2 Gen 1 port	
	Pink	iLO service port	

## Fan cabling



Cable part number	Cable color	From	To
P71914-001	Orange	Fans 1 to 6	Fan connectors 1 to 6

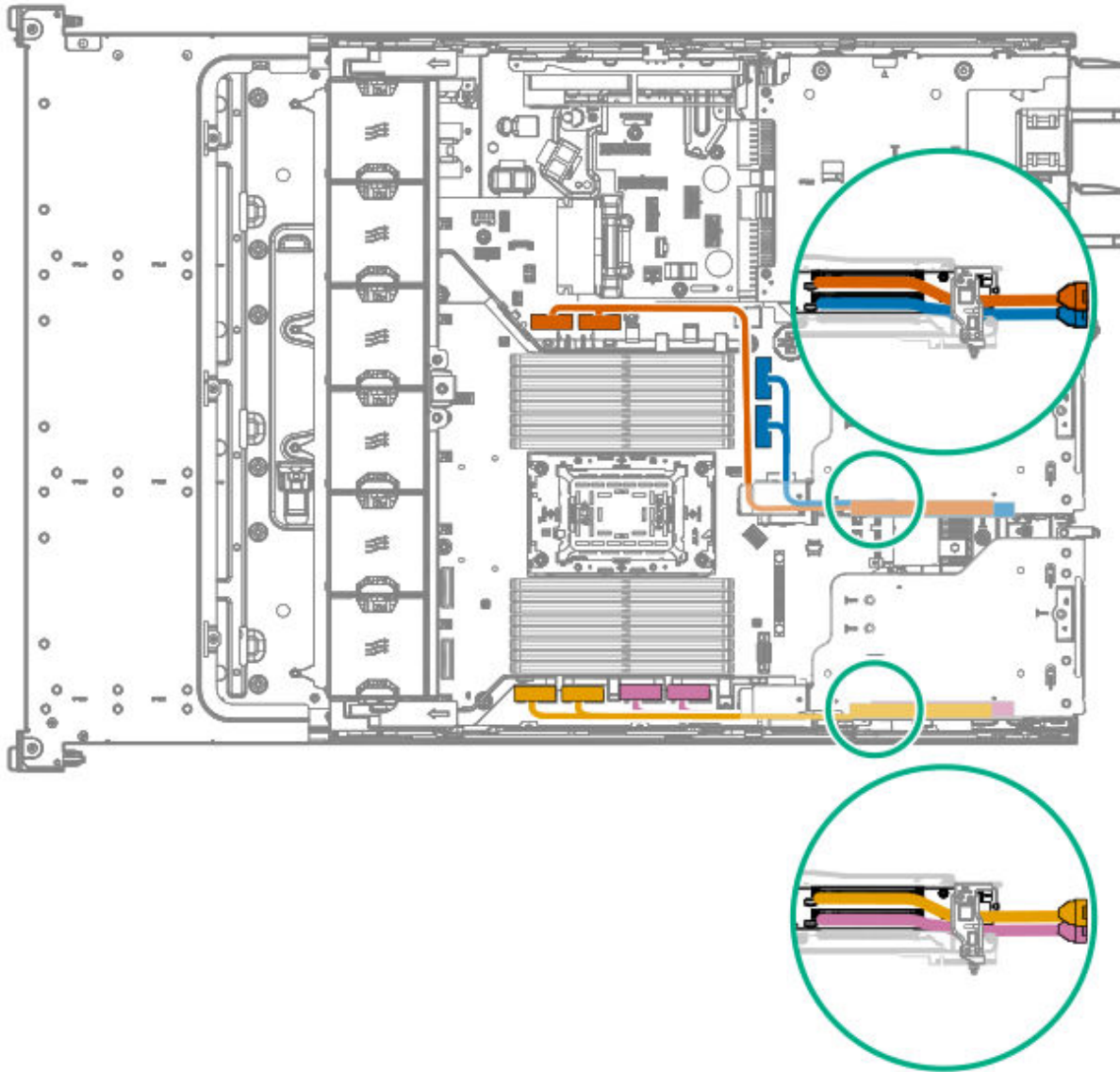
## Chassis intrusion detection switch cabling



Cable part number	Cable color	From	To
P54901-001	Orange	Chassis intrusion detection switch	Chassis intrusion detection switch connector

# PCIe captive riser and power cabling

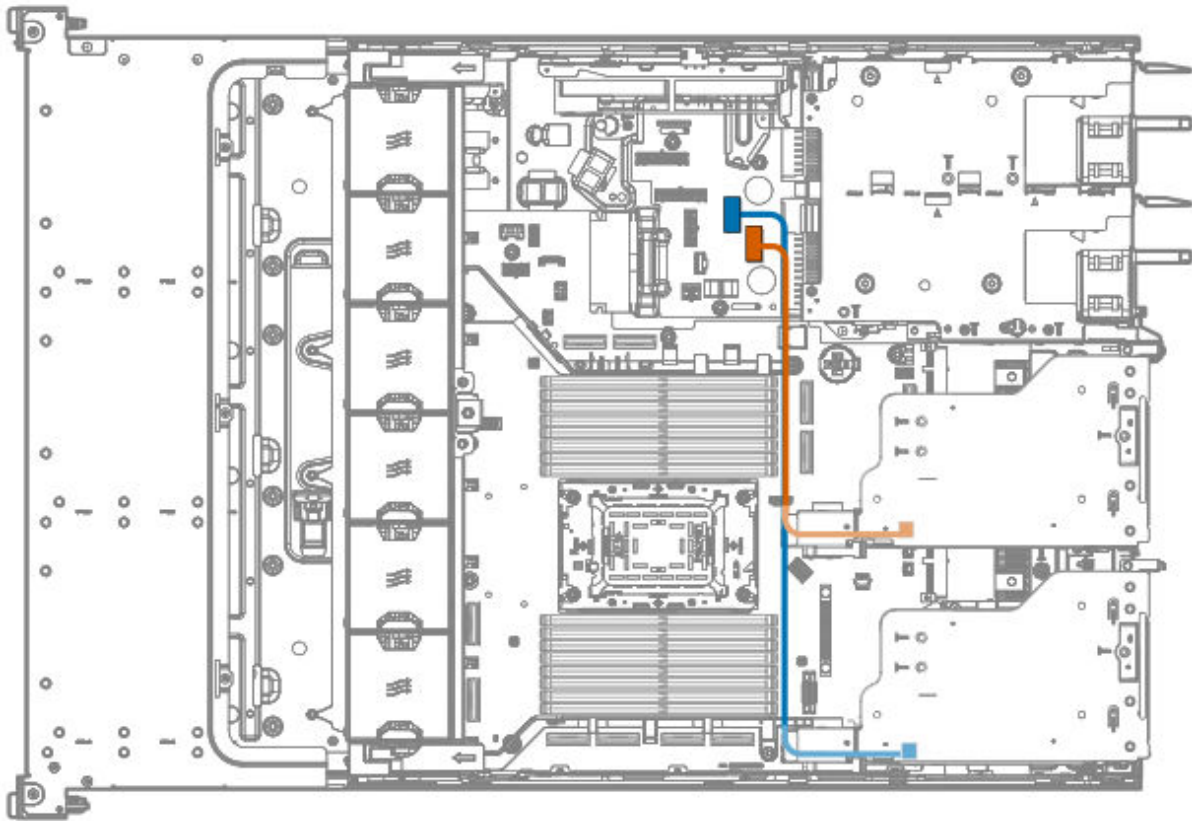
## PCIe captive riser cabling



Cable part number	Cable color	From	To
P71882-001	Orange	Slot 4	M-XIO port 6
			M-XIO port 4
	Blue	Slot 5	M-XIO port 17
			M-XIO port 13
	Gold	Slot 1	M-XIO port 7

Cable part number	Cable color	From	To
			M-XIO port 5
	Pink	Slot 2	M-XIO port 1
			M-XIO port 3

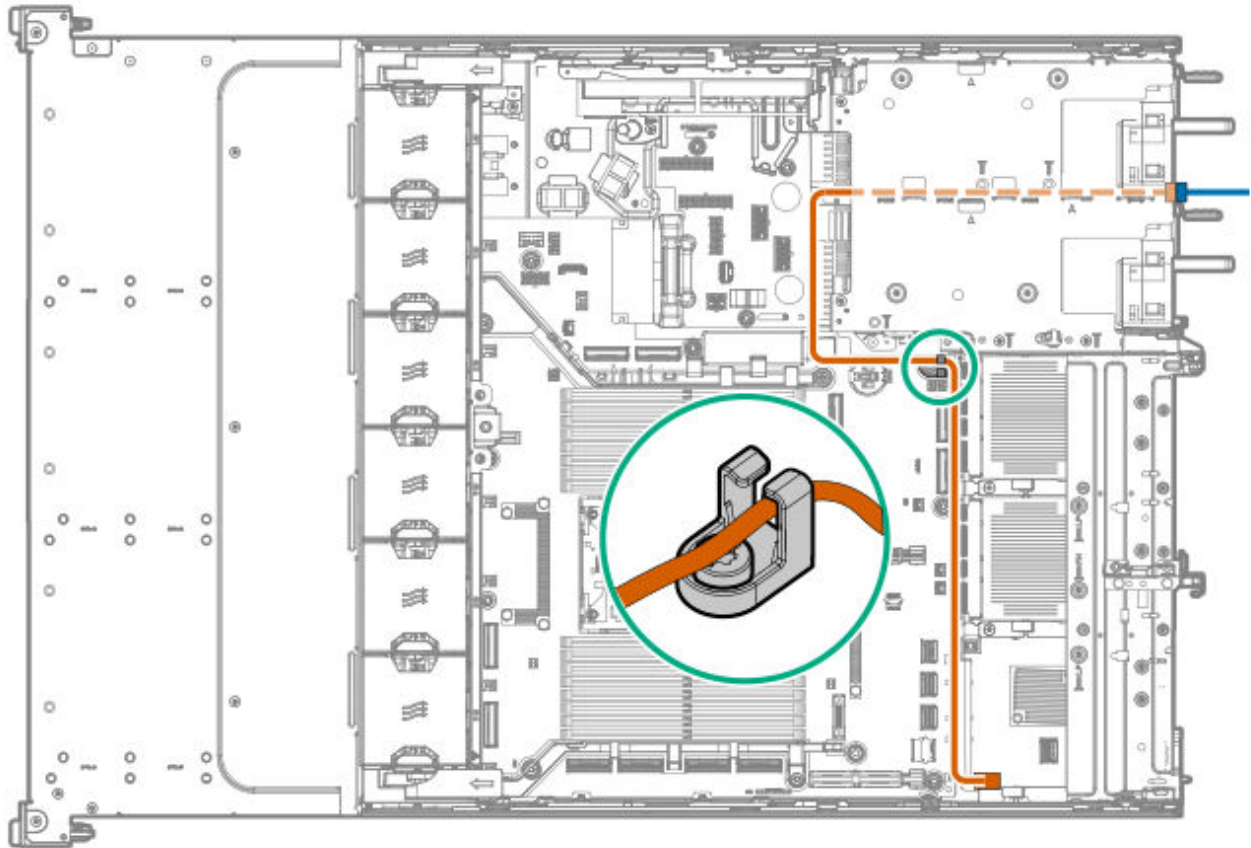
**PCIe captive riser power cabling**



Cable part number	Cable color	From	To
P75259-001	Orange	Slot 4	2 x 6 M-PIC power connector
		Slot 5	
P75255-001	Blue	Slot 1	2 x 6 M-PIC power connector
		Slot 2	

# Serial port cabling

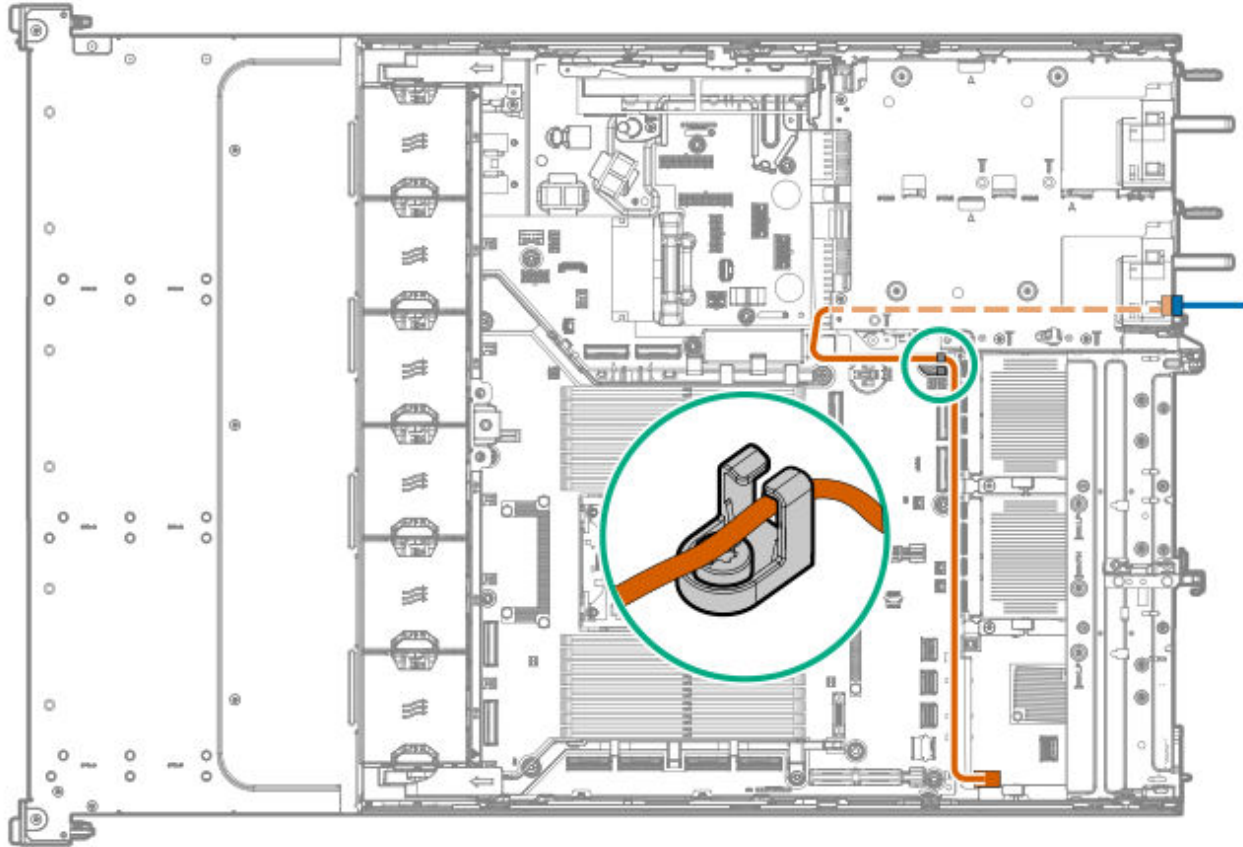
## 60-mm M-CRPS configuration



Cable part number	Cable color	From	To
P73744-001	Orange	Serial port cable connector <sup>1</sup>	ix port cable
P71826-001	Blue	ix port cable	Serial port dongle

<sup>1</sup> This port is located on the [HPE ProLiant Compute iLO 7 DC-SCM](#).

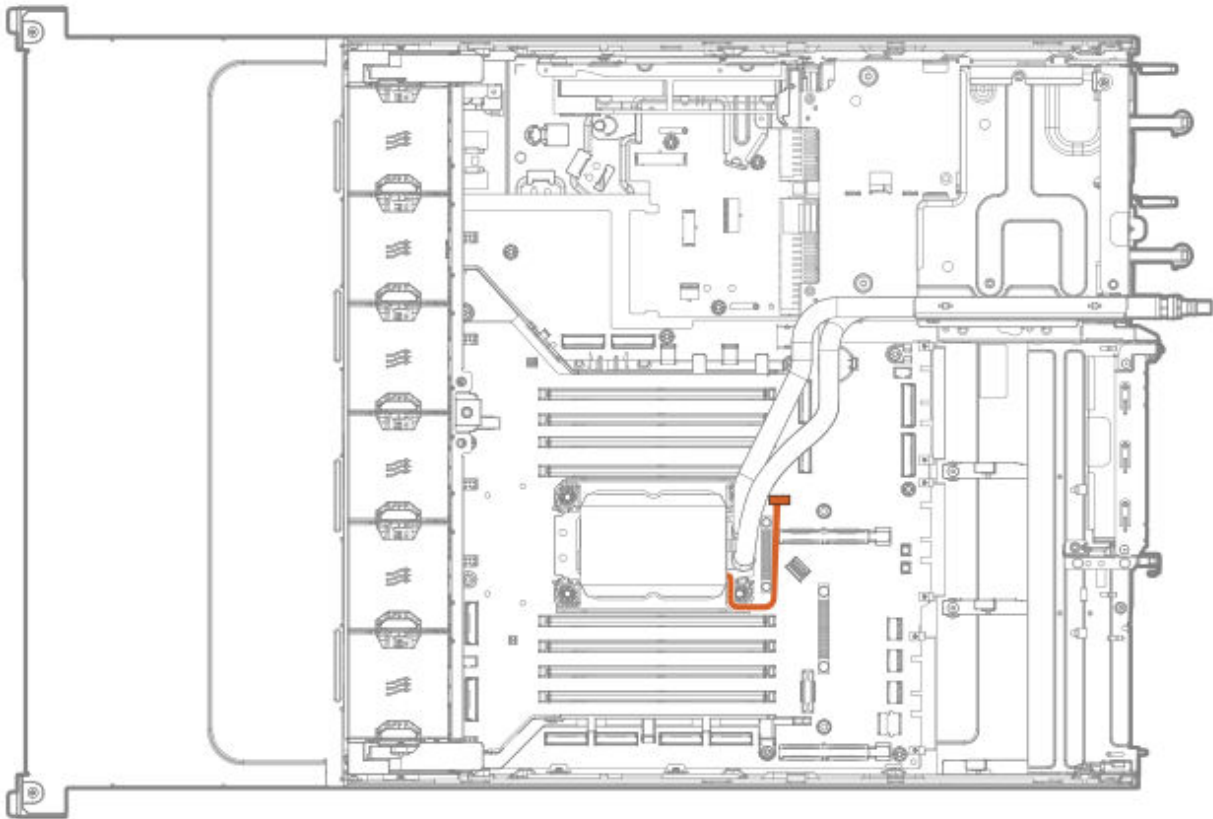
### 73.5-mm M-CRPS configuration



Cable part number	Cable color	From	To
P73744-001	Orange	Serial port cable connector <sup>1</sup>	iX port cable
P71826-001	Blue	iX port cable	Serial port dongle

<sup>1</sup> This port is located on the [HPE ProLiant Compute iLO 7 DC-SCM](#).

## DLC module cabling



Cable color	From	To
Orange	Direct liquid cooling module	Liquid cooling connector

## Configuration resources

Use the following resources to find documentation for configuring and managing your server.

- Some utilities might not apply to your server. For information about server compatibility with the products listed in this chapter, see the product QuickSpecs (<https://www.hpe.com/info/quickspecs>).
- Products ordered from HPE Factory Express might have already been configured with some or all the configurations in this chapter. To determine if any additional setup is required, see your HPE Factory Express order.

- For one-stop access to version-specific software and firmware documentation, including the latest product release notes, see this quick links page:

<https://www.hpe.com/support/hpeproductdocs-quicklinks>

## Subtopics

[Updating firmware or system ROM](#)

[Configuring the server](#)

[Configuring storage controllers](#)

[Deploying an OS](#)

[Configuring security](#)

[Server management](#)

[Managing Linux-based high performance compute clusters](#)

## Updating firmware or system ROM

To	Use
Download service packs	<ul style="list-style-type: none"> <li>• Service Pack for HPE ProLiant <a href="https://www.hpe.com/servers/spp/download">https://www.hpe.com/servers/spp/download</a></li> <li>• Get an overview of SPP and its ecosystem <a href="https://www.hpe.com/support/SPP-overview-views-en">https://www.hpe.com/support/SPP-overview-views-en</a></li> </ul>
Deploy service packs to a single server	Smart Update Manager <a href="https://www.hpe.com/support/hpesmartupdatemanager-quicklinks">https://www.hpe.com/support/hpesmartupdatemanager-quicklinks</a>
Deploy service packs to multiple servers	HPE OneView <a href="https://www.hpe.com/support/hpeoneview-quicklinks">https://www.hpe.com/support/hpeoneview-quicklinks</a>
Updating iLO or system firmware in a single server	iLO user guide <a href="https://www.hpe.com/support/hpeilodocs-quicklinks">https://www.hpe.com/support/hpeilodocs-quicklinks</a>

To	Use
<ul style="list-style-type: none"> <li>• Enable policy-based management of server or server group firmware for distributed server infrastructure</li> <li>• Monitor server compliance with a configured firmware baseline</li> <li>• Receive automatic iLO firmware updates</li> <li>• Receive baseline update alerts</li> </ul>	<p>HPE Compute Ops Management</p> <p><a href="https://www.hpe.com/support/hpe-gl-com-quicklinks">https://www.hpe.com/support/hpe-gl-com-quicklinks</a></p>

## Configuring the server

To configure	Use
Single server (GUI)	<ul style="list-style-type: none"> <li>• Intelligent Provisioning <a href="https://www.hpe.com/support/hpeintelligentprovisioning-quicklinks">https://www.hpe.com/support/hpeintelligentprovisioning-quicklinks</a></li> <li>• iLO remote console or web interface <a href="https://www.hpe.com/support/hpeilodocs-quicklinks">https://www.hpe.com/support/hpeilodocs-quicklinks</a></li> <li>• UEFI System Utilities <a href="https://www.hpe.com/support/hpeuefisystemutilities-quicklinks">https://www.hpe.com/support/hpeuefisystemutilities-quicklinks</a></li> <li>• HPE Compute Ops Management <a href="https://www.hpe.com/support/hpe-gl-com-quicklinks">https://www.hpe.com/support/hpe-gl-com-quicklinks</a></li> </ul>
Single server (scripting)	<ul style="list-style-type: none"> <li>• RESTful Interface Tool <a href="https://www.hpe.com/support/restfulinterface/docs">https://www.hpe.com/support/restfulinterface/docs</a></li> </ul>

## To configure

## Use

- Python iLO Redfish Library (python-ilorest-library)  
<https://github.com/HewlettPackard/python-ilorest-library>
- Scripting Tools for Windows Powershell  
<https://www.hpe.com/info/powershell/docs>
- iLO RESTful API  
<https://servermanagementportal.ext.hpe.com/>
- HPE Compute Ops Management API  
<https://developer.greenlake.hpe.com/>

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Multiple servers (either UI or scripting)

- HPE OneView <sup>1</sup>  
<https://www.hpe.com/support/hpeoneview-quicklinks>
- HPE Compute Ops Management  
<https://www.hpe.com/support/hpe-gl-com-quicklinks>
  - **Server settings:** Define server-specific parameters such as firmware baselines, and then apply them to server groups.
  - **Server groups:** Organize servers into custom-defined sets with associated server settings, and then apply group-specific policies to create a consistent configuration across the servers in the group.

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<sup>1</sup> For servers running HPE OneView, do not use another tool, such as iLO, to delete or change certain settings. For more information about using HPE OneView and iLO to manage the same server, see the iLO user guide at <https://www.hpe.com/support/hpeilodocs-quicklinks>.

# Configuring storage controllers

Controller type	Documentation
HPE MR controller user guides	<ul style="list-style-type: none"><li>• HPE MR Gen11 Controller User Guide <a href="https://hpe.com/support/MR-Gen11-UG">https://hpe.com/support/MR-Gen11-UG</a><ul style="list-style-type: none"><li>◦ MR Gen11 controller configuration: <a href="https://www.hpe.com/support/MR-Gen11-configuration">https://www.hpe.com/support/MR-Gen11-configuration</a></li><li>◦ MR Gen11 controller RAID creation: <a href="https://www.hpe.com/support/MR-Gen11-RAID-creation">https://www.hpe.com/support/MR-Gen11-RAID-creation</a></li></ul></li><li>• HPE MR932i-p PCIe SPDM PI Storage Controller User Guide <a href="https://hpe.com/support/MR932i-UG">https://hpe.com/support/MR932i-UG</a><ul style="list-style-type: none"><li>◦ MR932i-p controller configuration: <a href="http://www.hpe.com/support/MR932i-configuration">www.hpe.com/support/MR932i-configuration</a></li><li>◦ MR932i-p controller RAID creation: <a href="http://www.hpe.com/support/MR932i-RAID-creation">www.hpe.com/support/MR932i-RAID-creation</a></li></ul></li></ul>
HPE MR controller configuration guides	<ul style="list-style-type: none"><li>• HPE MR Storage Administrator User Guide <a href="https://www.hpe.com/support/MRSA">https://www.hpe.com/support/MRSA</a></li><li>• HPE StorCLI User Guide <a href="https://www.hpe.com/support/StorCLI">https://www.hpe.com/support/StorCLI</a></li><li>• HPE StorCLI2 User Guide <a href="https://www.hpe.com/support/StorCLI2">https://www.hpe.com/support/StorCLI2</a></li></ul>
Intel VROC for HPE Gen12	<ul style="list-style-type: none"><li>• Intel Virtual RAID on CPU for HPE User Guide <a href="https://www.hpe.com/support/VROC-UG">https://www.hpe.com/support/VROC-UG</a></li></ul>

## Controller type

## Documentation

- Intel VROC NVMe RAID quick installation:

<https://www.hpe.com/support/VROC-NVMe-RAID-installation>

OS-specific configuration guides:

- Intel Virtual RAID on CPU (Intel VROC) for Windows User Guide

[https://docs.graidtech.com/vroc/User\\_Guides/000094004\\_Intel\\_Virtual\\_RAID\\_on\\_CPU\\_Intel\\_VROC\\_User\\_Guide\\_for\\_Windows/](https://docs.graidtech.com/vroc/User_Guides/000094004_Intel_Virtual_RAID_on_CPU_Intel_VROC_User_Guide_for_Windows/)

- Intel Virtual RAID on CPU (Intel VROC) for Linux User Guide

[https://docs.graidtech.com/vroc/User\\_Guides/000094694\\_Intel\\_Virtual\\_RAID\\_on\\_CPU\\_Intel\\_VROC\\_User\\_Guide\\_for\\_Linux/](https://docs.graidtech.com/vroc/User_Guides/000094694_Intel_Virtual_RAID_on_CPU_Intel_VROC_User_Guide_for_Linux/)

- Intel Volume Management Device Driver for VMware ESXi User Guide

[https://docs.graidtech.com/vroc/User\\_Guides/000094787\\_Intel\\_Virtual\\_RAID\\_on\\_CPU\\_Intel\\_VROC\\_User\\_Guide\\_for\\_VMware\\_ESXi/](https://docs.graidtech.com/vroc/User_Guides/000094787_Intel_Virtual_RAID_on_CPU_Intel_VROC_User_Guide_for_VMware_ESXi/)

## Deploying an OS

For a list of supported operating systems, see the HPE Servers Support & Certification Matrices:

<https://www.hpe.com/support/Servers-Certification-Matrices>

### To

### See

Deploy an OS using HPE Compute Ops Management    HPE Compute Ops Management User Guide

<https://www.hpe.com/support/hpe-gl-com-quicklinks>

Deploy an OS using Intelligent Provisioning

Intelligent Provisioning user guide

To	See
	<a href="https://www.hpe.com/support/hpeintelligentprovisioning-quicklinks">https://www.hpe.com/support/hpeintelligentprovisioning-quicklinks</a>
Deploy an OS using iLO virtual media	iLO user guide <a href="https://www.hpe.com/support/hpeilodocs-quicklinks">https://www.hpe.com/support/hpeilodocs-quicklinks</a>
Configure the server to boot from a PXE server	UEFI System Utilities User Guide for HPE Compute servers <a href="https://www.hpe.com/support/UEFIGen12-UG-en">https://www.hpe.com/support/UEFIGen12-UG-en</a>
Configure the server to boot from a SAN	HPE Boot from SAN Configuration Guide <a href="https://www.hpe.com/info/boot-from-san-config-guide">https://www.hpe.com/info/boot-from-san-config-guide</a>

## Configuring security

To	See
Implement server security best practices.	<ul style="list-style-type: none"> <li>HPE Compute Security Reference Guide <a href="https://www.hpe.com/info/server-security-reference-en">https://www.hpe.com/info/server-security-reference-en</a></li> <li>HPE iLO 7 Security Technology Brief <a href="https://www.hpe.com/support/ilo7-security-en">https://www.hpe.com/support/ilo7-security-en</a></li> </ul>
Configure and use the Server Configuration Lock feature on HPE Trusted Supply Chain servers and other servers that have the Server Configuration Lock feature enabled.	Server Configuration Lock User Guide for HPE ProLiant servers and HPE Synergy <a href="https://www.hpe.com/info/server-config-lock-UG-en">https://www.hpe.com/info/server-config-lock-UG-en</a>

## Server management

To monitor	See
Single server	HPE iLO <a href="https://www.hpe.com/support/hpeilodocs-quicklinks">https://www.hpe.com/support/hpeilodocs-quicklinks</a>
Multiple servers	HPE OneView <a href="https://www.hpe.com/support/hpeoneview-quicklinks">https://www.hpe.com/support/hpeoneview-quicklinks</a>
Single or multiple servers	HPE Compute Ops Management <a href="https://www.hpe.com/support/hpe-gl-com-quicklinks">https://www.hpe.com/support/hpe-gl-com-quicklinks</a>

## Managing Linux-based high performance compute clusters

To	Use
Provision, manage, and monitor clusters.	HPE Performance Cluster Manager <a href="https://www.hpe.com/support/hpcm_manuals">https://www.hpe.com/support/hpcm_manuals</a>
Optimize your applications.	HPE Performance Analysis Tools <a href="https://www.hpe.com/info/perftools">https://www.hpe.com/info/perftools</a>
Optimize software library for low latency and high bandwidth, both on-node and off-node, for point-to-point and collective communications.	HPE Cray Programming Environment User Guide <a href="https://www.hpe.com/info/cray-pe-user-guides">https://www.hpe.com/info/cray-pe-user-guides</a>

## Safety, warranty, and regulatory information

### Subtopics

**Regulatory information**

**Warranty information**

## Regulatory information

To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center:

**<https://www.hpe.com/support/Safety-Compliance-EnterpriseProducts>**

### Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

**<https://www.hpe.com/info/reach>**

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

**<https://www.hpe.com/info/ecodata>**

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

**<https://www.hpe.com/info/environment>**

### Subtopics

**[Notices for Eurasian Economic Union](#)**

**[Turkey RoHS material content declaration](#)**

**[Ukraine RoHS material content declaration](#)**

## Notices for Eurasian Economic Union



### Manufacturer and Local Representative Information

**Manufacturer information:**

Hewlett Packard Enterprise Company, 1701 E Mossy Oaks Road, Spring, TX 77389 U.S.

**Local representative information Russian:**

- **Russia**  
ООО "Хьюлетт Паккард Энтерпрайз", Российская Федерация, 125171, г. Москва, Ленинградское шоссе, 16А, стр.3, Телефон: +7 499 403 4248 Факс: +7 499 403 4677
- **Kazakhstan**  
ТОО «Хьюлетт-Паккард (К)», Республика Казахстан, 050040, г. Алматы, Бостандыкский район, проспект Аль-Фараби, 77/7, Телефон/факс: + 7 727 355 35 50

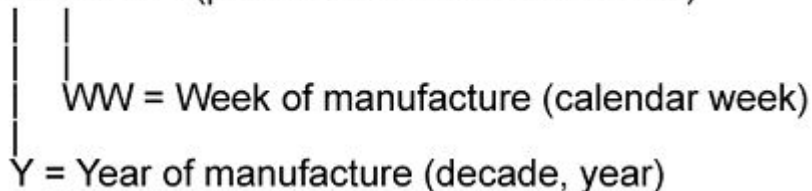
**Local representative information Kazakh:**

- **Russia**  
ЖШС "Хьюлетт Паккард Энтерпрайз", Ресей Федерациясы, 125171, Мәскеу, Ленинград тас жолы, 16А блок 3, Телефон: +7 499 403 4248 Факс: +7 499 403 4677
- **Kazakhstan**  
ЖШС «Хьюлетт-Паккард (К)», Қазақстан Республикасы, 050040, Алматы к., Бостандык ауданы, Әл-Фараби даңғылы, 77/7, Телефон/факс: +7 727 355 35 50

**Manufacturing date:**

The manufacturing date is defined by the serial number.

CCSYWWZZZZ (product serial number format)



If you need help identifying the manufacturing date, contact [tre@hpe.com](mailto:tre@hpe.com).

## Turkey RoHS material content declaration

Türkiye Cumhuriyeti: AEEE Yönetmeliğine Uygundur

# Ukraine RoHS material content declaration

Обладнання відповідає вимогам Технічного регламенту щодо обмеження використання деяких небезпечних речовин в електричному та електронному обладнанні, затвердженого постановою Кабінету Міністрів України від 3 грудня 2008 № 1057

## Warranty information

To view the warranty information for your product, see the [warranty check tool](#).

## Specifications

Provides environmental, mechanical, and power supply specifications for the server.

### Subtopics

[Environmental specifications](#)

[Mechanical specifications](#)

[Power supply specifications](#)

## Environmental specifications

Specifications	Value
<b>Temperature range</b>	—
Operating	10°C to 35°C (50°F to 95°F)
Nonoperating	-30°C to 60°C (-22°F to 140°F)
<b>Relative humidity (noncondensing)</b>	—
Operating	8% to 90%

<b>Specifications</b>	<b>Value</b>
	28°C (82.4°F) maximum wet bulb temperature, noncondensing
Nonoperating	5% to 95% 38.7°C (101.7°F) maximum wet bulb temperature, noncondensing
<b>Altitude</b>	—
Operating	3050 m (10,000 ft) This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1,500 ft/min).
Nonoperating	9144 m (30,000 ft) Maximum allowable altitude change rate is 457 m/min (1,500 ft/min).

### Standard operating support

10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1,000 ft) above sea level to a maximum of 3,050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change might be limited by the type and number of options installed.

System performance under standard operating support might be reduced if operating above 30°C (86°F) or with a faulty fan installed.

### Extended ambient operating support

For approved hardware configurations, the supported system inlet range is extended to be:

- 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2,953 ft) to a maximum of 3050 m (10,000 ft).
- 40°C to 45°C (104°F to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3,050 m (10,000 ft).

The approved hardware configurations for this system are listed in the Extended Ambient Temperature Guidelines for Gen12 Servers:

<https://www.hpe.com/support/ASHRAEGen12>

## Mechanical specifications

Specification	Value
<b>Dimensions</b>	—
Height	8.75 cm (3.45 in)
Depth	LFF drive configuration: 65.61 cm (25.83 in) SFF/E3.S drive configuration: 63.95 cm (25.18 in) GPU-optimized configuration: 83.71 cm (32.96 in)
Width	44.80 cm (17.64 in)
<b>Weight, approximate values—LFF drive configuration</b>	—
Minimum <sup>1</sup>	18.98 kg (41.84 lb)
Maximum <sup>2</sup>	32.88 kg (72.49 lb)
<b>Weight, approximate values—SFF drive configuration</b>	—
Minimum <sup>1</sup>	17.60 kg (38.80 lb)
Maximum <sup>3</sup>	30.90 kg (68.12 lb)
<b>Weight, approximate values—E3.S drive configuration</b>	—
Minimum <sup>1</sup>	17.40 kg (38.36 lb)
Maximum <sup>4</sup>	30.71 kg (67.70 lb)
<b>Weight, approximate values—GPU-optimized configuration</b>	—
Minimum <sup>5</sup>	26.50 kg (58.42 lb)
Maximum <sup>6</sup>	36.30 kg (80.03 lb)

<sup>1</sup> The minimum configuration includes 1 drive, 1 processor, 1 power supply, 1 standard heatsink, 1 DIMM, 1 type-p storage controller, and 6 standard fans.

<sup>2</sup> The maximum configuration includes 12 drives, 1 processor, 2 power supplies, 1 high performance heatsink, 16 DIMMs, 1 type-p storage controller, and 6 high performance fans.

<sup>3</sup> The maximum configuration includes 24 drives, 1 processor, 2 power supplies, 1 high performance heatsink, 16 DIMMs, 1 type-p storage controller, and 6 high performance fans.

<sup>4</sup> The maximum configuration includes 36 drives, 1 processor, 2 power supplies, 1 high performance heatsink, 16 DIMMs, 1 type-p storage controller, and 6 high performance fans.

<sup>5</sup> The minimum configuration includes 1 single-width GPU, 1 drive, 1 processor, 1 power supply, 1 standard heatsink, 1 DIMM, 1 type-p storage controller, and 6 standard fans.

<sup>6</sup> The maximum configuration includes 4 double-width GPUs, 12 drives, 1 processor, 2 power supplies, 1 high performance heatsink, 16 DIMMs, 1 type-p storage controller, and 6 high performance fans.

## Power supply specifications

Depending on the installed options and the regional location where the server was purchased, the server can be configured with one of the following power supplies. For detailed power supply specifications, see the QuickSpecs on the [Hewlett Packard Enterprise website](#).

### Subtopics

[HPE 800 W M-CRPS Platinum Hot-plug Power Supply](#)

[HPE 1000 W M-CRPS Titanium Hot-plug Power Supply](#)

[HPE 1300 W M-CRPS -48 VDC Hot-plug Power Supply](#)

[HPE 1500 W M-CRPS Titanium Hot-plug Power Supply](#)

[HPE 2200 W M-CRPS -48 VDC Hot-plug Power Supply](#)

[HPE 2400 W M-CRPS Titanium Hot-plug Power Supply](#)

[HPE 3200 W M-CRPS Titanium Hot-plug Power Supply](#)

## HPE 800 W M-CRPS Platinum Hot-plug Power Supply

Specification	Value
Energy efficiency certification	80 Plus Platinum, 94%
<b>Input requirements</b>	—
Rated input voltage	Low-line input voltage: 100 VAC to 120 VAC High-line input voltage: 200 VAC to 240 VAC 240 VDC for China
Rated input frequency	50 Hz to 60 Hz
Rated input current	8 A at 100 VAC to 120 VAC 5 A at 200 VAC to 240 VAC
Maximum rated input power	723 W at 100 VAC 717 W at 110 VAC 713 W at 120 VAC 864 W at 200 VAC 863 W at 208 VAC

<b>Specification</b>	<b>Value</b>
	861 W at 230 VAC
	860 W at 240 VAC
	861 W at 240 VDC
BTUs per hour	2466 at 100 VAC
	2447 at 110 VAC
	2433 at 120 VAC
	2949 at 200 VAC
	2946 at 208 VAC
	2938 at 230 VAC
	2935 at 240 VAC
	2939 at 240 VDC
<b>Power supply output</b>	—
Rated steady-state power	Low-line input voltage: 650 W at 100 VAC to 120 VAC High-line input voltage: 800 W at 200 VAC to 240 VAC input
Maximum peak power	650 W at 100 VAC to 120 VAC 800 W at 200 VAC to 240 VAC input
<b>Dimensions</b>	—
Height	40.00 mm (1.57 in)
Depth	185.00 mm (7.28 in)
Width	60.00 mm (2.36 in)

## HPE 1000 W M-CRPS Titanium Hot-plug Power Supply

<b>Specification</b>	<b>Value</b>
Energy efficiency certification	80 Plus Titanium, 96%
<b>Input requirements</b>	—
Rated input voltage	Low-line input voltage: 100 VAC to 120 VAC

<b>Specification</b>	<b>Value</b>
	High-line input voltage: 200 VAC to 240 VAC 240 VDC for China
Rated input frequency	50 Hz to 60 Hz
Rated input current	10 A at 100 VAC 6 A at 200 VAC
Maximum rated input power	800 W at 100 VAC 1000 W at 200 VAC
BTUs per hour	3044 at 100 VAC 3680 at 200 VAC
<b>Power supply output</b>	—
Rated steady-state power	Low-line input voltage: 800 W at 100 VAC to 120 VAC High-line input voltage: 1000 W at 200 VAC to 240 VAC input
Maximum peak power	800 W at 100 VAC to 120 VAC 1000 W at 200 VAC to 240 VAC input
<b>Dimensions</b>	—
Height	40.00 mm (1.57 in)
Depth	185.00 mm (7.28 in)
Width	60.00 mm (2.36 in)

## HPE 1300 W M-CRPS -48 VDC Hot-plug Power Supply

<b>Specification</b>	<b>Value</b>
<b>Input requirements</b>	—
Rated input voltage	-48 VDC to -60 VDC
Rated input frequency	DC input
Rated input current	37 A at -40 VDC

<b>Specification</b>	<b>Value</b>
Maximum rated input power	<ul style="list-style-type: none"> <li>• 1447 W at 40 VDC</li> <li>• 1435 W at -48 VDC</li> <li>• 1417 W at -72 VDC</li> </ul>
BTUs per hour	<ul style="list-style-type: none"> <li>• 4916 at -40 VDC</li> <li>• 4880 at -48 VDC</li> <li>• 4819 at -72 VDC</li> </ul>
<b>Power supply output</b>	—
Rated steady-state power	1300 W
Maximum peak power	1300 W at -48 VDC to -60 VDC
<b>Dimensions</b>	—
Height	40.00 mm (1.57 in)
Depth	185.00 mm (7.28 in)
Width	60.00 mm (2.36 in)

## HPE 1500 W M-CRPS Titanium Hot-plug Power Supply

<b>Specification</b>	<b>Value</b>
Energy efficiency certification	80 Plus Titanium, 96%
<b>Input requirements</b>	—
Rated input voltage	Low-line input voltage: 100 VAC to 110 VAC Low-line input voltage: 110 VAC to 120 VAC High-line input voltage: 200 VAC to 240 VAC 240 VDC for China
Rated input frequency	50 Hz to 60 Hz
Rated input current	12 A at 100 VAC 12 A at 110 VAC

<b>Specification</b>	<b>Value</b>
	9 A at 200 VAC
Maximum rated input power	1000 W at 100 VAC 1100 W at 110 VAC 1500 W at 200 VAC
BTUs per hour	3792 at 100 VAC 5560 at 200 VAC
<b>Power supply output</b>	—
Rated steady-state power	Low-line input voltage: 1000 W at 100 VAC to 110 VAC Low-line input voltage: 1100 W at 110 VAC to 120 VAC High-line input voltage: 1500 W at 200 VAC to 240 VAC input
Maximum peak power	1000 W at 100 VAC to 110 VAC 1100 W at 110 VAC to 120 VAC 1500 W at 200 VAC to 240 VAC input
<b>Dimensions</b>	—
Height	40.00 mm (1.57 in)
Depth	185.00 mm (7.28 in)
Width	60.00 mm (2.36 in)

## HPE 2200 W M-CRPS -48 VDC Hot-plug Power Supply

<b>Specification</b>	<b>Value</b>
<b>Input requirements</b>	—
Rated input voltage	-48 VDC to -60 VDC
Rated input frequency	DC input
Rated input current	62.5 A at -40 VDC

Specification	Value
Maximum rated input power	<ul style="list-style-type: none"> <li>• 2420 W at -40 VDC</li> <li>• 2393 W at -48 VDC</li> <li>• 2260 W at -72 VDC</li> </ul>
BTUs per hour	<ul style="list-style-type: none"> <li>• 8258 at -40 VDC</li> <li>• 8163 at -48 VDC</li> <li>• 8052 at -72 VDC</li> </ul>
<b>Power supply output</b>	—
Rated steady-state power	2200 W
Maximum peak power	2200 W at -48 VDC to -60 VDC
<b>Dimensions</b>	—
Height	40.00 mm (1.57 in)
Depth	185.00 mm (7.28 in)
Width	73.50 mm (2.89 in)

## HPE 2400 W M-CRPS Titanium Hot-plug Power Supply

Specification	Value
Energy efficiency certification	80 Plus Titanium, 96%
<b>Input requirements</b>	—
Rated input voltage	Low-line input voltage: 100 VAC to 127 VAC High-line input voltage: 200 VAC to 240 VAC 240 VDC for China
Rated input frequency	50 Hz to 60 Hz
Rated input current	14.5 A at 100 to 127 VAC 14.5 A at 200 to 240 VAC
Maximum rated input power	1290 W at 100 VAC

<b>Specification</b>	<b>Value</b>
	1279 W at 120 VAC
	1275 W at 127 VAC
	2551 W at 200 VAC
	2549 W at 208 VAC
	2541 W at 230 VAC
	2539 W at 240 VAC
	2541 W at 240 VDC
BTUs per hour	4403 at 100 VAC
	4364 at 120 VAC
	4349 at 127 VAC
	8705 at 200 VAC
	8696 at 208 VAC
	8671 at 230 VAC
	8662 at 240 VAC
	8672 at 240 VDC
<b>Power supply output</b>	—
Rated steady-state power	Low-line input voltage: 1200 W at 100 VAC to 127 VAC High-line input voltage: 2400 W at 200 VAC to 240 VAC input
Maximum peak power	1200 W at 100 VAC to 127 VAC 2400 W at 200 VAC to 240 VAC input
<b>Dimensions</b>	—
Height	40.00 mm (1.57 in)
Depth	185.00 mm (7.28 in)
Width	73.50 mm (2.89 in)

# HPE 3200 W M-CRPS Titanium Hot-plug Power Supply

Specification	Value
Energy efficiency certification	80 Plus Titanium, 96%
<b>Input requirements</b>	—
Rated input voltage	100 VAC to 127 VAC 200 VAC to 240 VAC 240 VDC for China
Rated input frequency	50 Hz to 60 Hz
Rated input current	16 A at 100 VAC to 127 VAC 16 A at 200 VAC to 240 VAC
Maximum rated input power	1504 W at 100 VAC 1727 W at 120 VAC 1723 W at 127 VAC 3100 W at 200 VAC 3207 W at 208 VAC 3433 W at 230 VAC 3429 W at 240 VAC 3436 W at 240 VDC
BTUs per hour	5132 at 100 VAC 5894 at 120 VAC 5878 at 127 VAC 10577 at 200 VAC 10941 at 208 VAC 11713 at 230 VAC 11699 at 240 VAC 11724 at 240 VDC
<b>Power supply output</b>	—
Rated steady-state power	1600 W at 100 VAC to 127 VAC 3200 W at 200 VAC to 240 VAC input

<b>Specification</b>	<b>Value</b>
Maximum peak power	1600 W at 100 VAC to 127 VAC 3200 W at 200 VAC to 240 VAC
<b>Dimensions</b>	—
Height	40.00 mm (1.57 in)
Depth	185.00 mm (7.28 in)
Width	73.50 mm (2.89 in)

## Websites

Websites provide links to HPE tools, resources, and product documentation.

### General websites

Single Point of Connectivity Knowledge (SPOCK) Storage compatibility matrix

<https://www.hpe.com/storage/spock>

Product white papers and analyst reports

<https://www.hpe.com/us/en/resource-library>

For additional websites, see [Support and other resources](#).

### Product websites

HPE ProLiant Compute DL340 Gen12 Server user documents

<https://www.hpe.com/info/dl340gen12-docs>

## Support and other resources

- [Accessing Hewlett Packard Enterprise Support](#)
- [Accessing updates](#)
- [Remote support](#)
- [Warranty information](#)

- [Regulatory information](#)
- [Documentation feedback](#)

### Subtopics

**[Accessing Hewlett Packard Enterprise Support](#)**

**[HPE product registration](#)**

**[Accessing updates](#)**

**[Remote support](#)**

**[Documentation feedback](#)**

## Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:

**<https://www.hpe.com/info/assistance>**

- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:

**<https://www.hpe.com/support/hpesc>**

### Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

## HPE product registration

To gain the full benefits of the Hewlett Packard Enterprise Support Center and your purchased support services, add your contracts and products to your account on the HPESC.

- When you add your contracts and products, you receive enhanced personalization, workspace alerts, insights through the dashboards, and easier management of your environment.
- You will also receive recommendations and tailored product knowledge to self-solve any issues, as well as streamlined case creation for faster time to resolution when you must create a case.

To learn how to add your contracts and products, see <https://www.hpe.com/info/add-products-contracts>.

## Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
- To download product updates:

### Hewlett Packard Enterprise Support Center

<https://www.hpe.com/support/hpesc>

### My HPE Software Center

<https://www.hpe.com/software/hpesoftwarecenter>

- To subscribe to eNewsletters and alerts:

<https://www.hpe.com/support/e-updates>

- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page:

<https://www.hpe.com/support/AccessToSupportMaterials>



### IMPORTANT

Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Account set up with relevant entitlements.

## Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which initiates a fast and accurate resolution based on the service level of your product. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

### HPE Get Connected

<https://www.hpe.com/services/getconnected>

### HPE Tech Care Service

<https://www.hpe.com/services/techcare>

### HPE Complete Care Service

<https://www.hpe.com/services/completecure>

## Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, click the **Feedback** button on the page of an opened document on the Hewlett Packard Enterprise Support Center portal (<https://www.hpe.com/support/hpesc>). Use this feature to send any errors, suggestions, or comments. This process captures all document information.

## Appendix I: Server coolant spill response

### Subtopics

[Eye and skin protection](#)

[Server coolant leak](#)

## Eye and skin protection

The coolant used in the liquid cooling module is a mixture of purified water and ethylene glycol with additional additives for corrosion resistance. Observe the following when cleaning up a coolant leak:

- The coolant might cause slight temporary eye irritation.
  - To prevent any accidental eye contact with the coolant, use safety glasses with side shields.
  - If eye contact occurs, immediately flush eye with plenty of water. If any discomfort persists, seek medical attention.
- The coolant might cause slight temporary skin irritation.
  - Use hand protection in the form of chemically resistant gloves when cleaning up coolant leak.
  - If gloves are not worn, wash hands with plenty of water after cleanup.

## Server coolant leak

### Symptom

A spill or leak of the electrically conductive server coolant is detected by iLO and the server has shut down automatically.

### Cause

The supply hose of the liquid cooling module is damaged.

### Action

#### Preparing for coolant leak cleanup

1. Have the following items ready for the coolant leak cleanup:
  - Dry paper towels or any absorbent material intended for cleaning up a chemical spill
  - Container to collect the leaked coolant
  - Dry cleanroom wipes
  - Deionized water
2. Read the following safety information:
  - [Rack warnings and cautions](#)
  - [Server warnings and cautions](#)

### Assessing the spill

3. Inspect the server room first and determine if the spill has spread to other servers in the same rack.

### Removing the server

4. If the server uses a DLC cold plate module, disconnect the DLC hoses from the rack manifolds.
5. If installed, open the cable management arm.

6.  **WARNING**



To reduce the risk of electric shock, make sure that you use the necessary safety equipment compliant with local occupational health and safety code when disconnecting the power cords.

Remove all power:

- a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
7. Disconnect all peripheral cables from the server.
  8. Remove the server from the rack.
  9. Place the server on a flat, level work surface.

### Locating the spill point

10. Observe proper eye and skin protection.
11. Remove the access panel.
12. Look for any potential contact between the coolant and any of the internal cables and components, especially power connectors.
13. Locate the spill point.
14. Cover the spill point with a dry absorbent material.

### Cleaning up the coolant leak

15. Remove the leaky liquid cooling module. Avoid pushing out more coolant during removal.
16. Remove the system board.
17. If the leak has made it to the system board or the chassis, do the following:
  - a. Use a dry absorbent material to clean the coolant leak.

24.
  - b. Wring the absorbed coolant into a container.
  - c. Lightly dampen a cleanroom wipe with deionized water. Wring out any excess water, and gently wipe over areas with coolant residue.
  - d. Ensure that there is no more visible colored coolant or liquid residue.
  - e. Dry the system board in a 70°C environment for at least 8 hours.
  - f. Confirm that the system board is completely dry before reinstallation.
18. Follow the procedure in the server maintenance and service guide to reinstall the system board.
19. Repeat steps 11–18 on other servers affected by the spill.

### Handling waste

20. Fill the container with tap water and dispose of the residue in accordance with local safety requirements.
21. Use plenty of fresh water to clean the container used to collect the leaked coolant.
22. Dispose of used absorbent material and paper towels in accordance with local safety requirements.

### Replacing damaged components

23.



#### **WARNING**

#### **Water and electricity combined pose a significant safety hazard.**

Hardware electrical components that have been in contact with the spilled coolant might be damaged.

To ensure a functional and safe server operation, identify and replace all damaged components.

### Restoring system operation



#### **IMPORTANT**

After the spill is properly cleaned up, do not rush to power on the system immediately. Instead, leave the system in Standby Mode first and observe the front panel LEDs after connecting the power cables.

Verify if the system power LED is illuminated. If not, replace the system board.

25. In the iLO web interface or RESTful API, clear the coolant leakage status.

For the detailed procedure, see the iLO 7 user guide (<https://www.hpe.com/support/hpeilodocs-quicklinks>).

26. If the server uses a DLC cold plate module, reconnect the DLC hoses to the rack manifolds.
27. Power on the server.

If the system fails to boot, replace the system board.