Hewlett Packard
Enterprise

HPE ProLiant DL20 Gen11 Server Maintenance and Service Guide

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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 Agrée 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 spedirà 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 component. 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 garantieservice 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.

Garantieservice "Parts Only"

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

Voor de Parts Only garantieservice 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費を全額負担し、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になります。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 융통성을 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 부품은 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

Hewlett Packard Enterprise 제한 보증에는 부품 제공 보증 서비스가 포함될 수 있습니다. 이러한 경우 Hewlett Packard Enterprise는 부품 제공 보증 서비스의 조건에 따라 교체 부품만을 무료로 제공합니다.

부품 제공 보증 서비스 제공 시 CSR 부품 교체는 의무 사항입니다. 사용자가 Hewlett Packard Enterprise에 이 부품의 교체를 요청할 경우 이 서비스에 대한 출장비 및 작업비가 청구됩니다.

Illustrated parts catalog

This chapter lists the hardware spare parts supported by the server.

Subtopics

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/0ba4317ecbec4fa1a64bc2baf131901b/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&ui_animations=0

Item	Description
1	Access panel spare part
2	Rack mounting hardware spare part
3	Front bezel spare part
4	Cable management arm *
5	Chassis ear spare parts *
6	SFF drive blank spare part *
7	LFF drive blank spare part *
8	Media bay blank *
9	Optical drive blank spare part *
10	Boot device bracket blank spare part *
11	External OCP blank spare part *
12	Power supply blank spare part *
13	Serial port blank spare part *
14	iLO dedicated network port blank spare part *

* Not shown

Subtopics

Access panel spare part

Customer self repair: **Mandatory**

Description	Spare part number
Access panel	P66808-001

For more information on the removal and replacement procedures, see Removing and replacing the access panel.

Rack mounting hardware spare part

Customer self repair: **Mandatory**

Description	Spare part number
Server rack rails (left and right)	P66810-001

For more information on the removal and replacement procedures, see Removing and replacing the friction rack rails.

Front bezel spare part

Customer self repair: **Mandatory**

Description	Spare part number
Front bezel	P60140-001

For more information on the removal and replacement procedures, see Removing and replacing the front bezel.

Cable management arm spare part

Customer self repair: **Mandatory**

Description	Spare part number
Cable management arm (CMA)	P38900-001

For more information on the removal and replacement procedures, see Removing and replacing the cable management arm.

Chassis ear spare parts

Customer self repair: **Mandatory**

Description	Spare part number
Left chassis ear for 2 LFF drive configuration	P74731-001
Left chassis ear for 4 SFF drive configuration	P74732-001
Right chassis ear	P74733-001

For more information on the removal and replacement procedures, see Removing and replacing a chassis ear.

Drive blank spare parts

Customer self repair: **Mandatory**

Description	Spare part number
LFF drive blank	827363-001
SFF drive blank	670033-001

For more information on the removal and replacement procedures, see Removing and replacing a drive blank.

Miscellaneous blank spare parts

Customer self repair: **Mandatory**

Description	Spare part number
• Media bay blank • iLO dedicated network port blank	P07883-001 [1]
• Boot device bracket blank • Optical drive blank	P66811-001
External OCP blank	P56489-001 [1]
Serial port blank	878510-001
Power supply blank	775423-001

[1] This is a miscellaneous blank spare kit; only the component blanks listed in this table are used in this server.

For more information on the removal and replacement procedures, see:

- Removing and replacing the media bay blank
- Removing and replacing the iLO dedicated network port blank
- Removing and replacing the boot device bracket blank
- Removing and replacing the optical drive blank
- Removing and replacing the external OCP slot blank
- Removing and replacing the serial port blank
- Removing and replacing a power supply blank

System 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/f25635400503470a98a999a001cc891a/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&ui_animations=0

Item	Description
1	Pass-through board (PTB) spare part
2	Fan spare part
3	Power distribution board (PDB) spare part
4	Flexible Slot power supply spare part
5	System battery spare part
6	Heatsink spare part
7	Processor spare parts
8	DIMM spare parts
9	Mainboard spare part
10	Front I/O assembly spare part*
11	Non-hot-plug power supply spare part*
12	Drive cable spare parts*
13	Miscellaneous cable spare parts*

*Now shown

Subtopics

System board spare parts

Customer self repair: **Optional**

Description	Spare part number
Mainboard	P66549-001
Mainboard (for China only)	P68374-001

Customer self repair: **Mandatory**

Description	Spare part number
Power distribution board (PDB)	P66807-001
Pass-through board (PTB)	P66547-001

For more information on the removal and replacement procedures, see:

- Mainboard replacement
- Removing and replacing the power distribution board (PDB)

- Removing and replacing the pass-through board (PTB)

Fan spare part

Customer self repair: **Mandatory**

Description	Spare part number
Fan	P66312-001

For more information on the removal and replacement procedures, see Removing and replacing a fan.

Power supply spare parts

Customer self repair: **Mandatory**

Description	Spare part number
Non-hot-plug power supplies	—
ATX 290 W Platinum Non-hot-plug Power Supply (94% efficiency)	P48436-001
Flexible Slot power supplies	—
HPE 500 W Flex Slot Platinum Hot-plug Low Halogen Power Supply	866729-001
HPE 800 W Flex Slot Titanium Hot-plug Low Halogen Power Supply	866793-001
HPE 800 W Flex Slot -48 VDC Hot-plug Low Halogen Power Supply	866728-001
HPE 1000 W Flex Slot Titanium Hot-plug Power Supply	P44412-001

For more information on the removal and replacement procedures, see Flexible Slot power supply replacement.

System battery spare part

Customer self repair: **Mandatory**

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

For more information on the removal and replacement procedures, see Removing and replacing the system battery.

Heatsink spare part

Customer self repair: **Optional**

Description	Spare part number
Heatsink	P66311-001

For more information on the removal and replacement procedures, see Heatsink replacement.

Processor spare parts

Customer self repair: **Optional**

Description	Spare part number
Intel Xeon E-2400 Series Processors	—
Intel Xeon E-2414, 2.60 GHz, 4C, 55 W	P65825-001
Intel Xeon E-2434, 3.40 GHz, 4C, 55 W	P65824-001
Intel Xeon E-2436, 2.90 GHz, 6C, 65 W	P65823-001
Intel Xeon E-2456, 3.30 GHz, 6C, 80 W	P65822-001
Intel Xeon E-2468, 2.60 GHz, 8C, 65 W	P65820-001
Intel Xeon E-2478, 2.80 GHz, 8C, 80 W	P65819-001
Intel Xeon E-2486, 3.50 GHz, 6C, 95 W	P65821-001
Intel Xeon E-2488, 3.20 GHz, 8C, 95 W	P65818-001
Intel Xeon 6300 Series Processors with Performance Cores (P-cores)	—
Intel Xeon 6315P, 2.80 GHz, 4C, 55 W	P77805-001
Intel Xeon 6325P, 3.50 GHz, 4C, 55 W	P77804-001
Intel Xeon 6333P, 3.10 GHz, 6C, 65 W	P77803-001
Intel Xeon 6337P, 3.50 GHz, 6C, 80 W	P77802-001
Intel Xeon 6349P, 3.60 GHz, 6C, 95 W	P77801-001
Intel Xeon 6353P, 2.70 GHz, 8C, 65 W	P77800-001
Intel Xeon 6357P, 3.00 GHz, 8C, 80 W	P77799-001
Intel Xeon 6369P, 3.30 GHz, 8C, 95 W	P77798-001
Intel Pentium Gold Processor	—
Intel Pentium Gold G7400, 3.70 GHz, 2C, 46 W	P65826-001

For more information on the removal and replacement procedures, see Processor replacement.

DIMM spare parts

Customer self repair: **Mandatory**

Description	Spare part number
16 GB, single-rank x8 PC5-4800B-E	P64633-001
32 GB, dual-rank x8 PC5-4800B-E	P64634-001

For more information on the removal and replacement procedures, see Removing and replacing a DIMM.

Front I/O assembly spare part

Customer self repair: **Mandatory**

Description	Spare part number
Front I/O assembly	P66809-001

For more information on the removal and replacement procedures, see Removing and replacing the front I/O assembly .

Miscellaneous cable spare parts

Customer self repair: **Mandatory**

Description	Cable PN	Spare PN
4-pin processor power cable	P63691-001	P66543-001 [1]
4-pin PDB to system board power cable	P63697-001	P66541-001 [1]
Power supply sideband cable	P63689-001	P66815-001

[1] This is a miscellaneous cable spare kit; only the cable listed in this table is used in this server.

Drive-optical drive cable spare parts

Customer self repair: **Mandatory**

Description	Cable PN	Spare PN
2 LFF non-hot-plug drive cable	P63686-001	P66812-001
2 LFF hot-plug drive cable [2]	P63692-001	
4 SFF hot-plug drive cable for system board connection	P63074-001	P66540-001 [3]
2 SFF hot-plug drive cable for system board connection	P63694-001	P66814-001
2 SFF hot-plug drive cable for type-p controller	P63696-001	
2 LFF/4 SFF hot-plug drive cable for type-o controller	P63698-001	P66817-001 [4]
2 SFF hot-plug drive cable for type-o controller	P63700-001	P66819-001
4 + 2 SFF hot-plug drive cable for single-port type-o controller	P63699-001	
2 LFF/4 SFF hot-plug drive cable for type-p controller	P63695-001	P66818-001
2 LFF hot-plug drive power cable [5] [6]	P63687-001	
4 SFF hot-plug drive power cable [7]	P63688-001	P66813-001
4 SFF to 2 SFF drive power cable	P06066-001	P07892-001 [3]
4 SFF optical drive SATA-power splitter cable to PTB	P63701-001	P66820-001
2LFF/4 SFF optical drive SATA-power splitter cable to mainboard	P63702-001	

1

This is a single multiconnector cable for drive and optical drive signal and power connections.

2 This is a single multiconnector cable for drive onboard controller and optical drive signal and power connections.

3 This is a miscellaneous cable spare kit; only the cable listed in this table is used in this server.

4 This is a miscellaneous cable spare kit; the external OCP cables in this cable spare kit are listed in External OCP cable spare part.

5 This is a splitter cable for drive and optical drive power connections.

6 This cable is used in the server with either a type-o or type-p controller installed.

7 This is a Y-cable for drive and optical drive power connections.

Server options

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/3717705f7cfc4424b917b994d1cbf358/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&ui_animations=0

Item	Description
1	SFF hot-plug drive For more information on the removal and replacement procedures, see Removing and replacing a hot-plug LFF/SFF drive.
2	Energy pack spare part
3	HPE NS204i-u Boot Device spare parts
4	4 SFF drive backplane spare part
5	Riser board spare part
6	iLO-M.2-serial module spare part
7	M.2 SSD For more information on the removal and replacement procedures, see Removing and replacing an M.2 SSD on the iLO-M.2-serial module.
8	Serial port cable spare part
9	LFF hot-plug drive* For more information on the removal and replacement procedures, see Removing and replacing a hot-plug LFF/SFF drive.
10	LFF non-hot-plug drive* For more information on the removal and replacement procedures, see Removing and replacing a non-hot-plug LFF drive.
11	Chassis intrusion detection switch spare part*
12	Storage controller spare parts*
13	2 LFF drive backplane spare part*
14	2 SFF drive backplane spare part*
15	Internal USB device* For more information on the removal and replacement procedures, see Removing and replacing an internal USB device.
16	Transceiver* For more information on the removal and replacement procedures, see Transceiver replacement.
17	External OCP cable spare part*

*Not shown

Subtopics

Energy pack spare part

Customer self repair: **Mandatory**

Description	Spare part number
HPE Smart Storage Battery 96 W, 145 mm cable	878643-001

For more information on the removal and replacement procedures, see Removing and replacing the energy pack.

HPE NS204i-u Boot Device spare parts

Customer self repair: **Mandatory**

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.

Description	Spare part number
Boot device cage assembly	P51341-001
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
Boot device cable kit, includes:	P66816-001

- Boot device signal splitter cable (cable PN: P63684-001)
- Boot device power cable (cable PN: P63685-001)

For more information on the removal and replacement procedures, see:

- Removing and replacing a boot device drive
- Removing and replacing the boot device cage

Drive backplane spare parts

Customer self repair: **Optional**

Description	Spare part number
2 LFF 12G x1 SAS UBM3 LP BP	P48430-001
4 SFF 12G x1 SAS UBM3 BC BP	P48431-001

Customer self repair: **Mandatory**

Description	Spare part number
2 SFF 24G x4 NVMe/SAS UBM3 BC BP	P39783-001

For more information on the removal and replacement procedures, see following:

- Removing and replacing the 2 LFF drive backplane
- Removing and replacing the 2 SFF drive backplane
- Removing and replacing the 4 SFF drive backplane

Riser board spare part

Customer self repair: **Mandatory**

Description	Spare part number
PCIe5 x16 riser board	P58505-001

For more information on the removal and replacement procedures, see Removing and replacing a riser board.

iLO-M.2-serial module spare part

Customer self repair: **Mandatory**

Description	Spare part number
iLO-M.2-serial module	P26371-001

For more information on the removal and replacement procedures, see Removing and replacing the iLO-M.2-serial module.

Serial port cable spare part

Customer self repair: **Mandatory**

Description	Spare part number
Serial port cable	P66544-001

For more information on the removal and replacement procedures, see Removing and replacing the serial port cable.

Chassis intrusion detection switch spare part

Customer self repair: **Mandatory**

Description	Spare part number
Chassis intrusion detection switch	P52442-001

For more information on the removal and replacement procedures, see Removing and replacing the chassis intrusion detection switch.

Storage controller spare parts

Customer self repair: **Optional**

Description	Spare part number
HPE Gen11 type-o controllers	—
HPE MR216i-o Gen11 controller	P47954-001
HPE MR408i-o Gen11 controller	P58543-001
HPE Gen11 type-p controllers	—
HPE MR216i-p Gen11 controller	P47953-001
HPE Gen10 type-p controller	—
HPE Smart Array E208e-p SR Gen10 Controller	836267-001

For more information on the removal and replacement procedures, see:

- Removing and replacing the type-o storage controller
- Removing and replacing the type-p storage controller

External OCP cable spare part

Customer self repair: **Mandatory**

Description	Cable PN	Spare PN
External OCP PCIe cable	P63683-001	P66817-001 [1]
External OCP sideband cable	P63690-001	

[1] This is a miscellaneous cable spare kit; The drive cable in this cable spare kit is listed in Drive-optical drive cable spare parts.

Removal and replacement procedures

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

Subtopics

Safety considerations

Before performing service procedures, review all the safety information.

Subtopics

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 ±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.

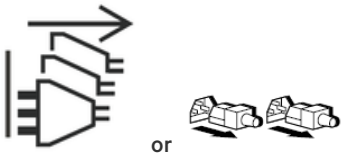
此符號表明表面或組件過熱。如果觸摸此表面，可能會造成人身傷害。警告：為了減少因組件過熱而造成人身傷害的危險，應等到表面降溫後再觸摸。

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 9.00 kg (19.84 lb). When all components are installed, the server can weigh up to 12.00 kg (26.46 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 9.00 kg (19.84 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 stabilized 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).
- The stabilizing feet are attached to the rack if it is a single-rack installation.
- The racks are coupled together in multiple rack installations.

WARNING

To reduce the risk of personal injury or equipment damage when unloading a rack:

- At least two people are needed to safely unload the rack from the pallet. An empty 42U rack can weigh as much as 115 kg (253 lb), can stand more than 2.1 m (7 ft) tall, and might become unstable when being moved on its casters.
- Never stand in front of the rack when it is rolling down the ramp from the pallet. Always handle the rack from both sides.

CAUTION

Always plan the rack installation so that the heaviest item is on the bottom of the rack. Install the heaviest item first, and continue to populate the rack from the bottom to the top.

CAUTION

Before installing the server in a rack, be sure to properly scope the limitations of the rack. Before proceeding with the installation, consider the following:

- You must fully understand the static and dynamic load carrying capacity of the rack and be sure that it can accommodate the weight of the server.
- Be sure sufficient clearance exists for cabling, installation and removal of the server, and movement of the rack doors.

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 all server data before installing or removing a hardware option, or performing a server maintenance or troubleshooting procedure.

CAUTION

Do not operate the server for long periods with the access panel open or removed. Operating the server in this manner results in improper airflow and improper cooling that can lead to thermal damage.

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

Remove the riser cage
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 6.
  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.

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.

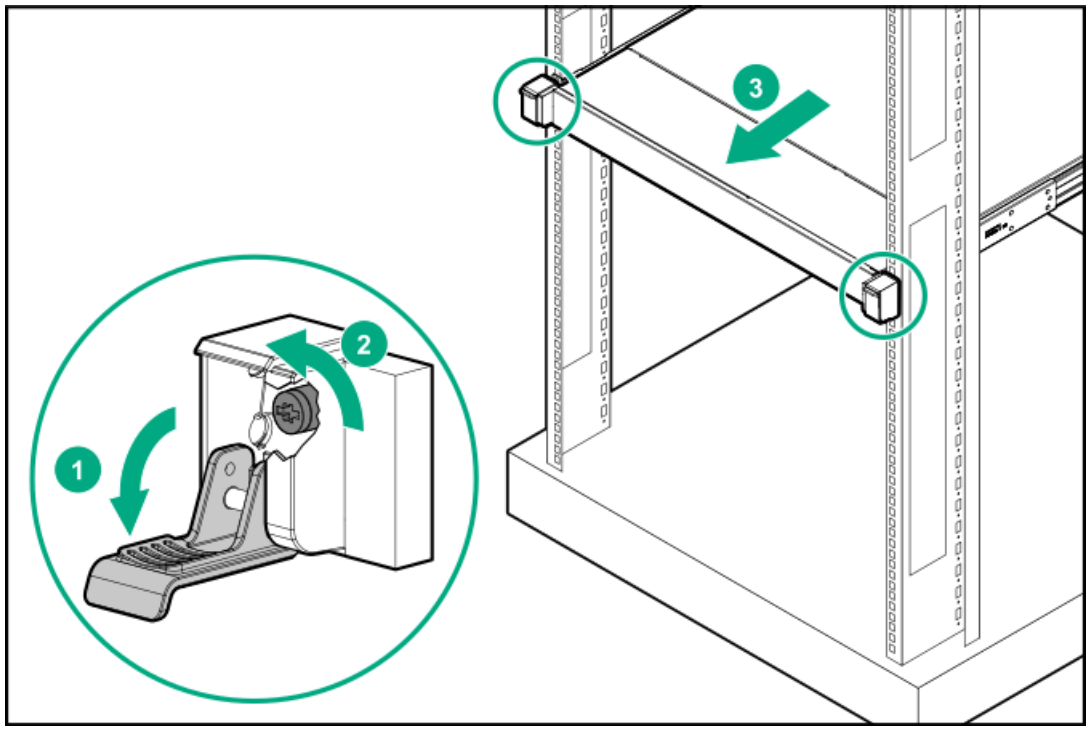
About this task

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

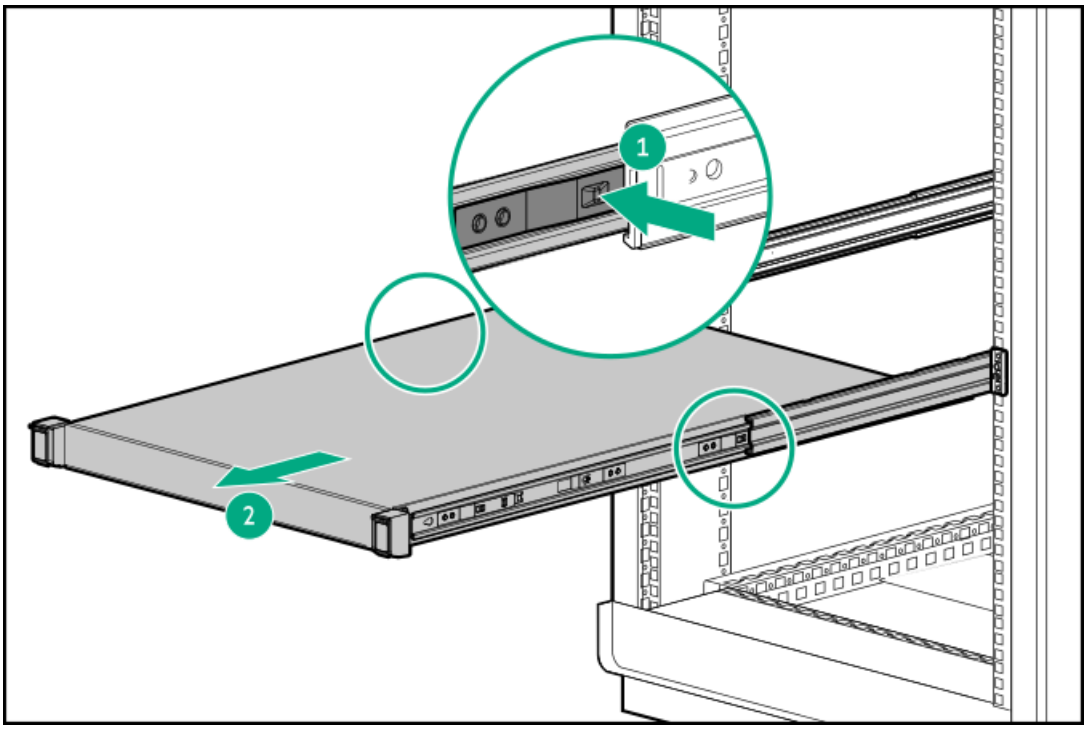
1. If needed, loosen the shipping screws, and then use the chassis ear latches to slide the server out of the rack until the rail-release latches are engaged.



2. Press and hold the rear-end rail-release latches, and then slide the server out of the rack until it is fully extended.

WARNING

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



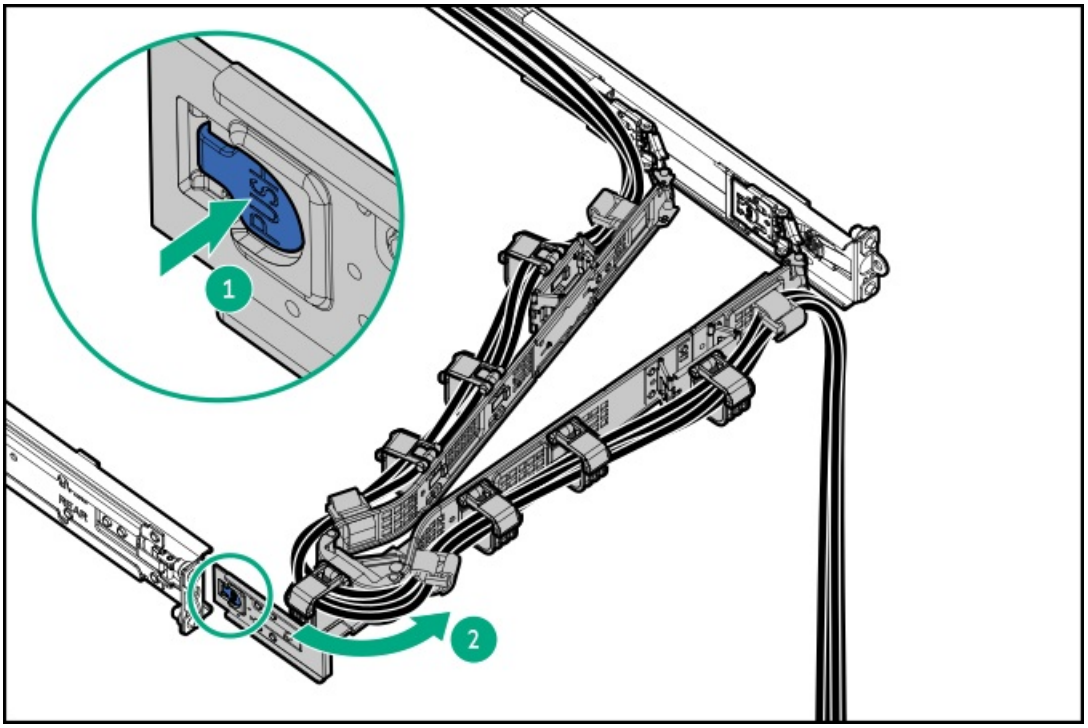
Remove the server from the rack

Prerequisites

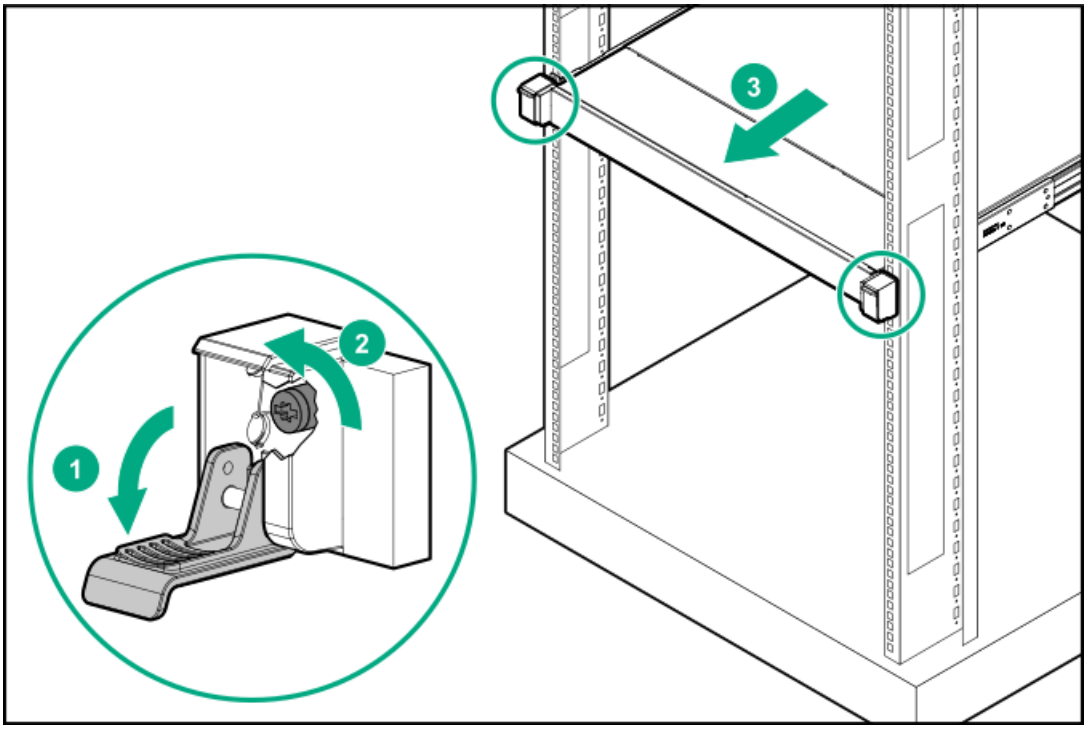
- Get help to lift and stabilize the server during removal from the rack. **If the server is installed higher than chest level, additional two people might be required to help remove the server:** One person to support the server weight, and the other two to slide the server out of the rack.
- Before 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.
- T-25 Torx screwdriver—This tool is required if the shipping screws located inside the chassis ears are secured.

Procedure

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



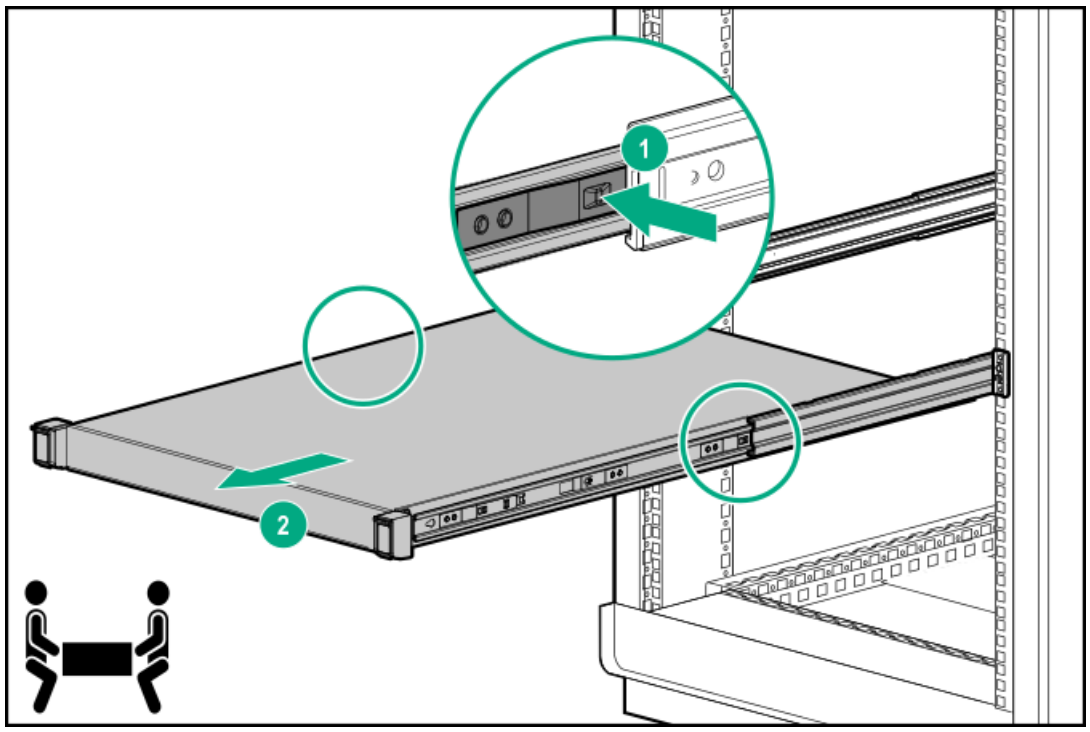
4. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. If needed, loosen the shipping screws, and then use the chassis ear latches to slide the server out of the rack until the front-end rail-release latches are engaged.



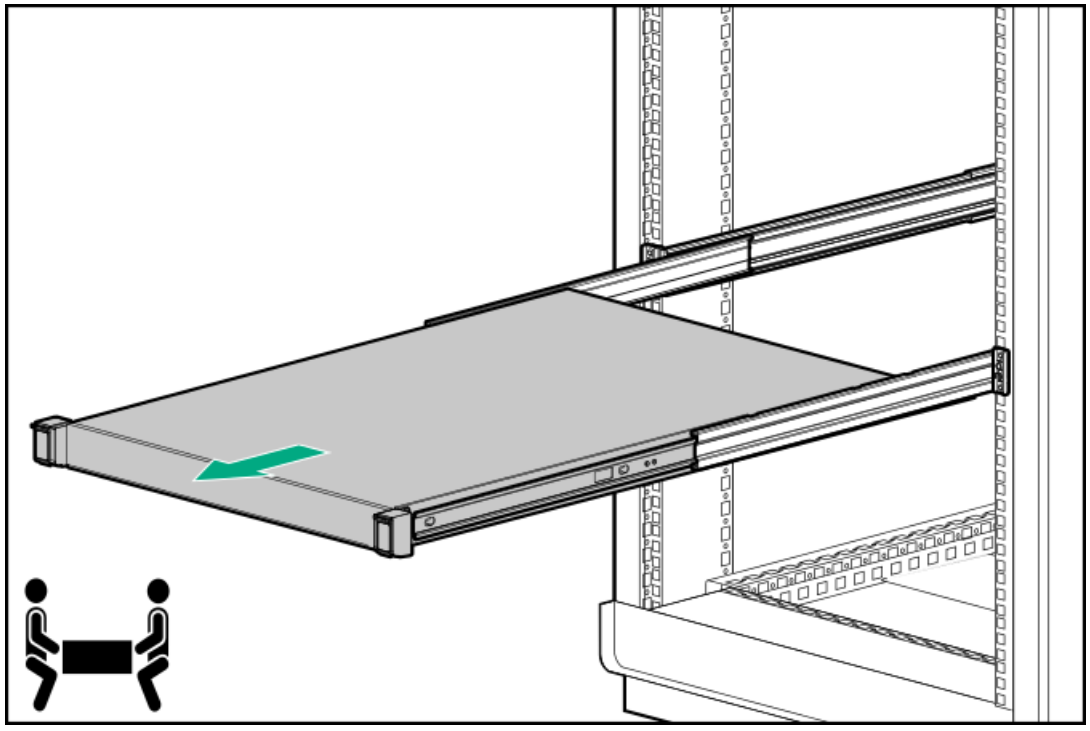
7. Press and hold the rear-end rail-release latches, and then slide the server out of the rack until it is fully extended.

WARNING

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



8. Slide the server completely out of the rack.



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

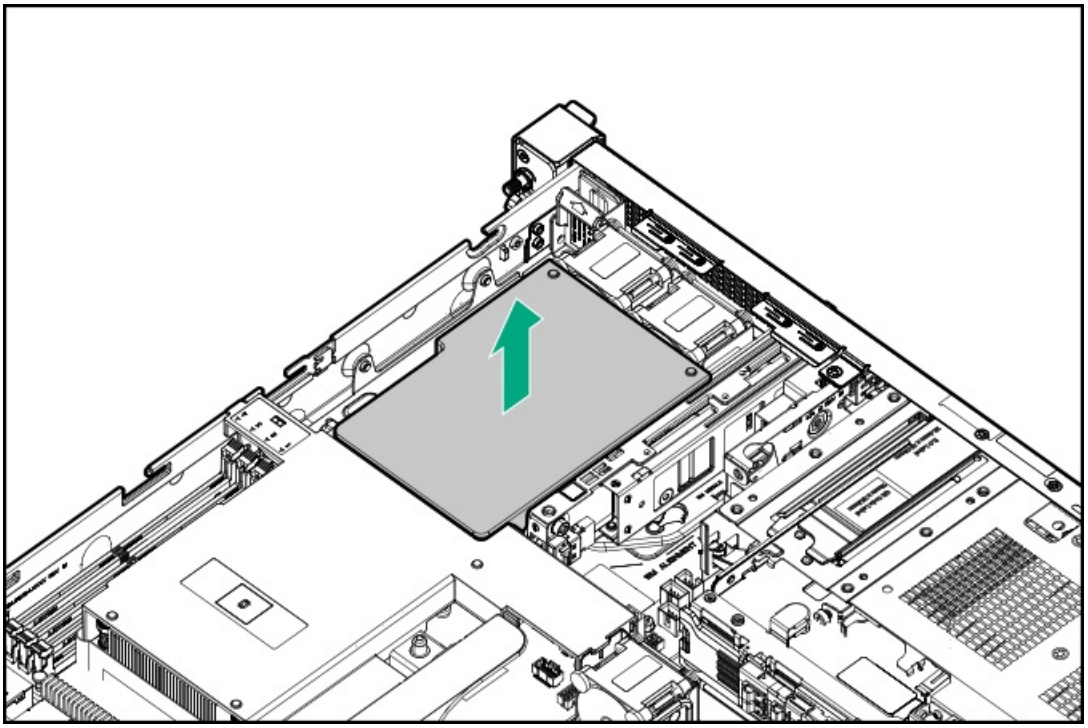
Remove the OCP air baffle

About this task

CAUTION
For proper cooling, do not operate the server without the access panel, baffles, 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. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the OCP air baffle.



Remove the OCP cage

Prerequisites

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

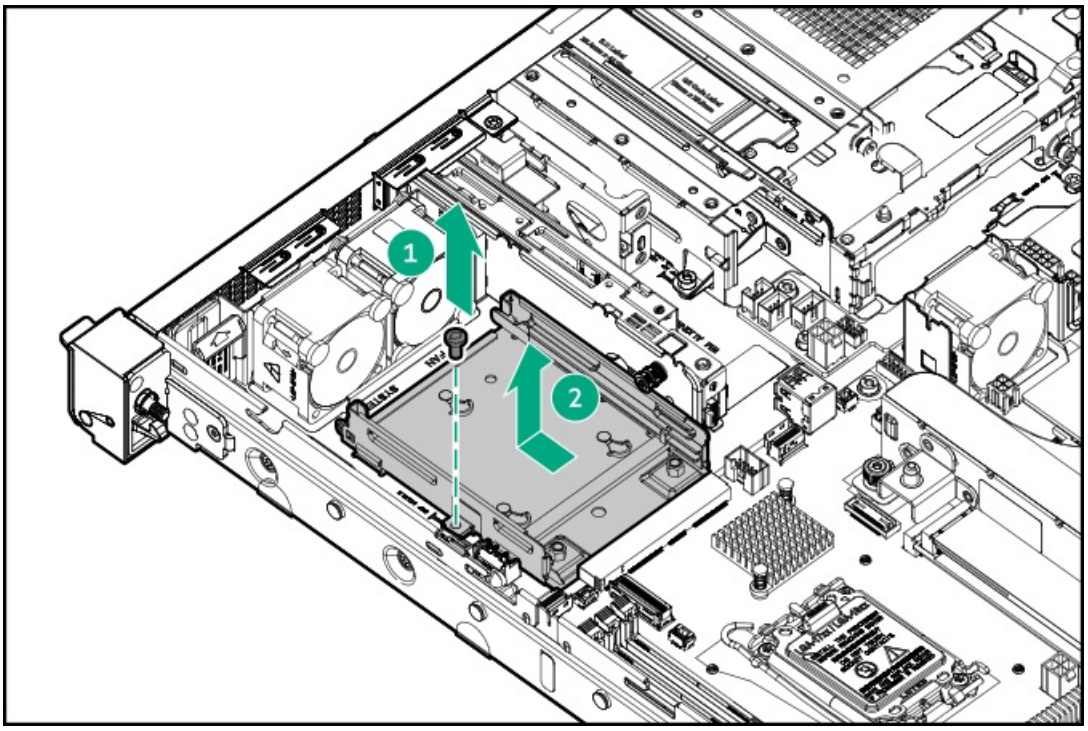
Procedure

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. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the OCP air baffle.
8. Remove the OCP cage.



Remove the processor air baffle

About this task

CAUTION

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

Procedure

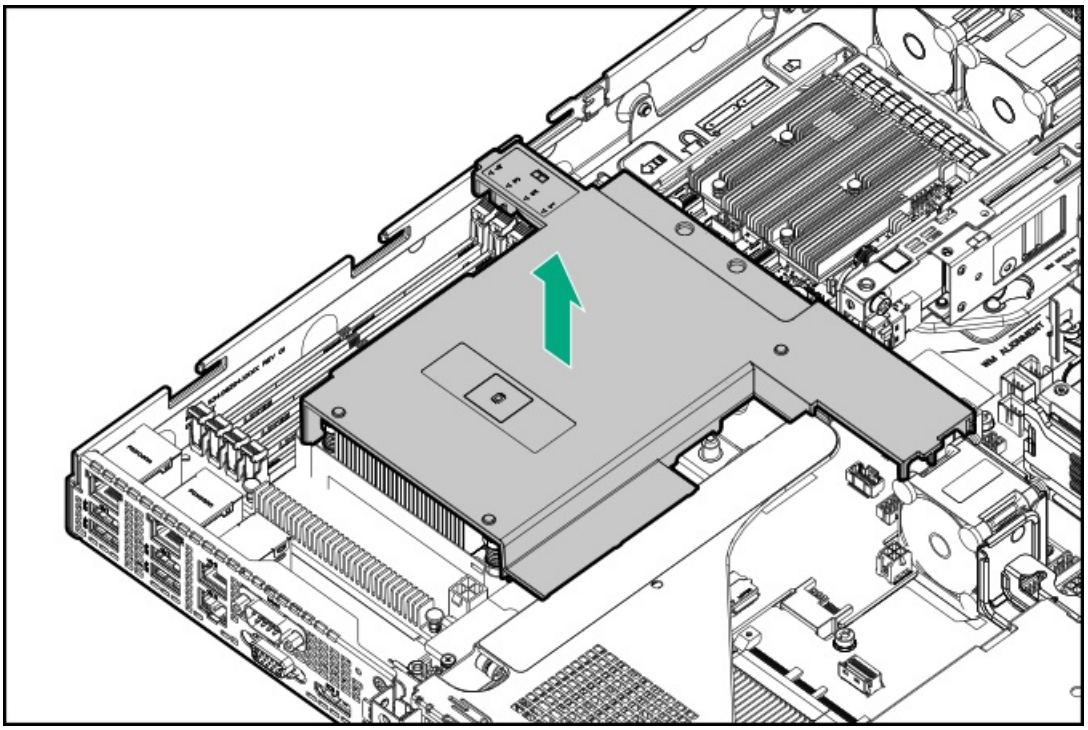
1. Power down the server.
2. Remove all power:

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. Remove the server from the rack.

5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the OCP air baffle.
8. Remove the processor air baffle.



Remove the riser cage

Prerequisites

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

About this task

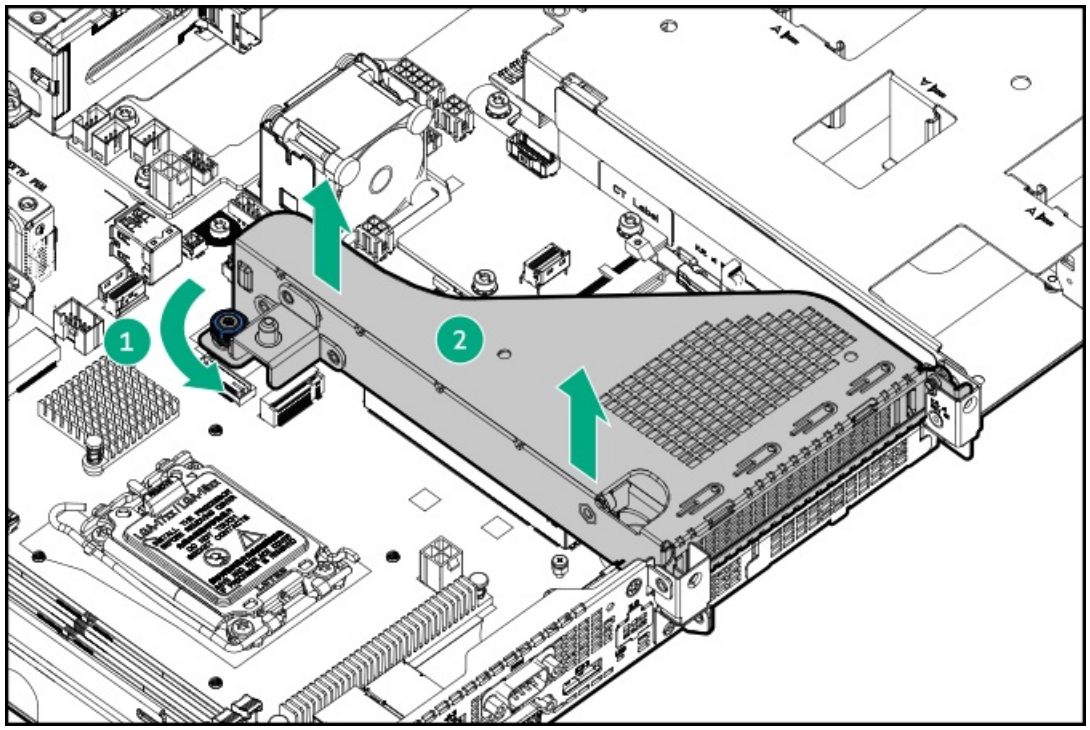
WARNING

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. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.

7. If an expansion card with internal cables is installed on the riser, disconnect the cables from the card.
8. Remove the riser cage:
   a. Loosen the riser cage thumbscrew.
   b. Lift the riser cage off the mainboard.



Power up the server

Procedure

- Press the Power On/Standby button.
- Use the virtual power button through iLO 6.

Removing and replacing the front bezel

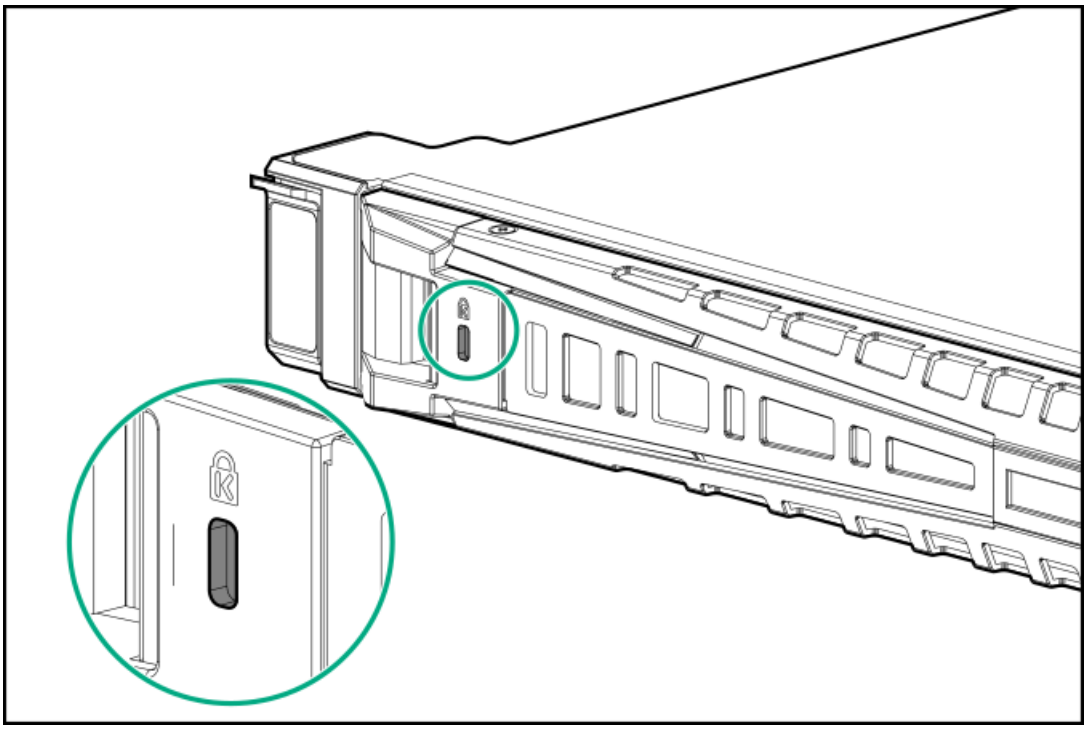
About this task

https://sketchfab.com/models/633ae658901b4017893f8dfd40e73d7f/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&am

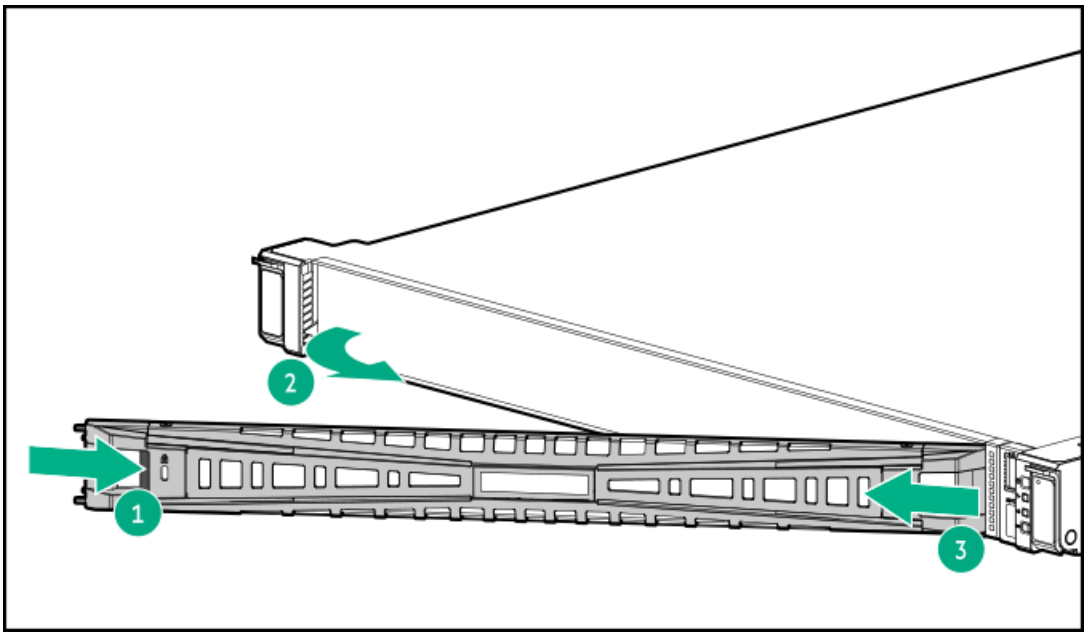
Procedure

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.

Drive replacement

Subtopics

Removing and replacing the optical drive blank

Removing and replacing a hot-plug LFF/SFF drive

About this task

- LFF drive

https://sketchfab.com/models/fe114b46b4e54307bbb7c8e512bdcbd0/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

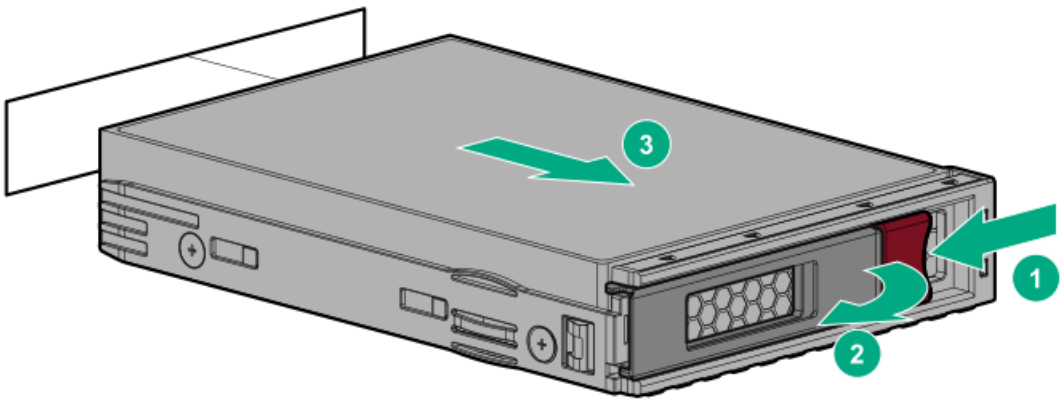
https://sketchfab.com/models/2d21243d5f194a5ea4d4c79657e77e74/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0&

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.

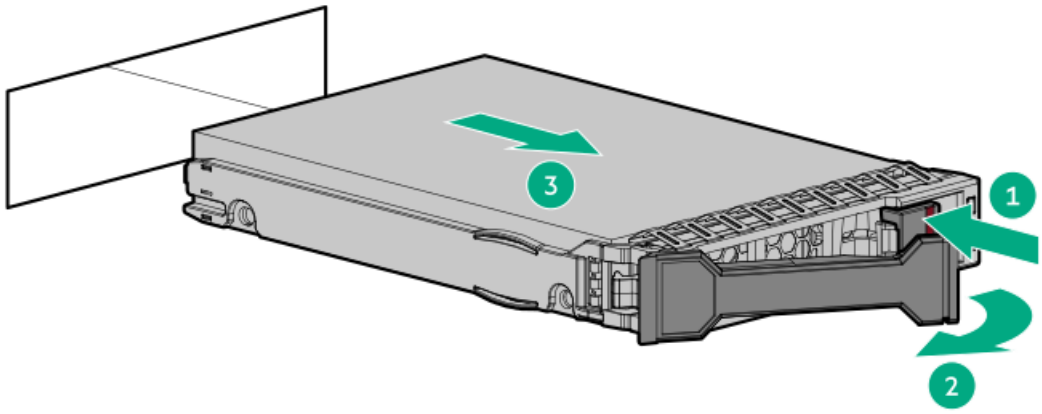
CAUTION
To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

Procedure

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



   - SFF drive



Results

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

Removing and replacing a non-hot-plug LFF drive

Prerequisites

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

- T-10 Torx screwdriver
- T-15 Torx screwdriver

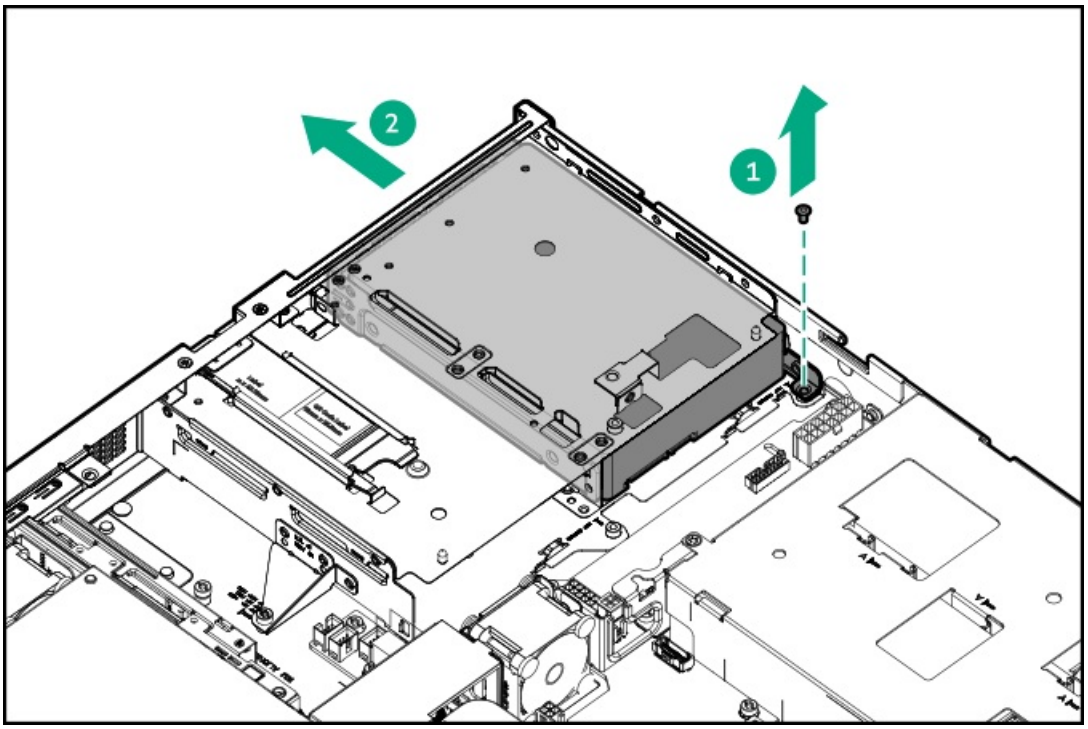
About this task

CAUTION

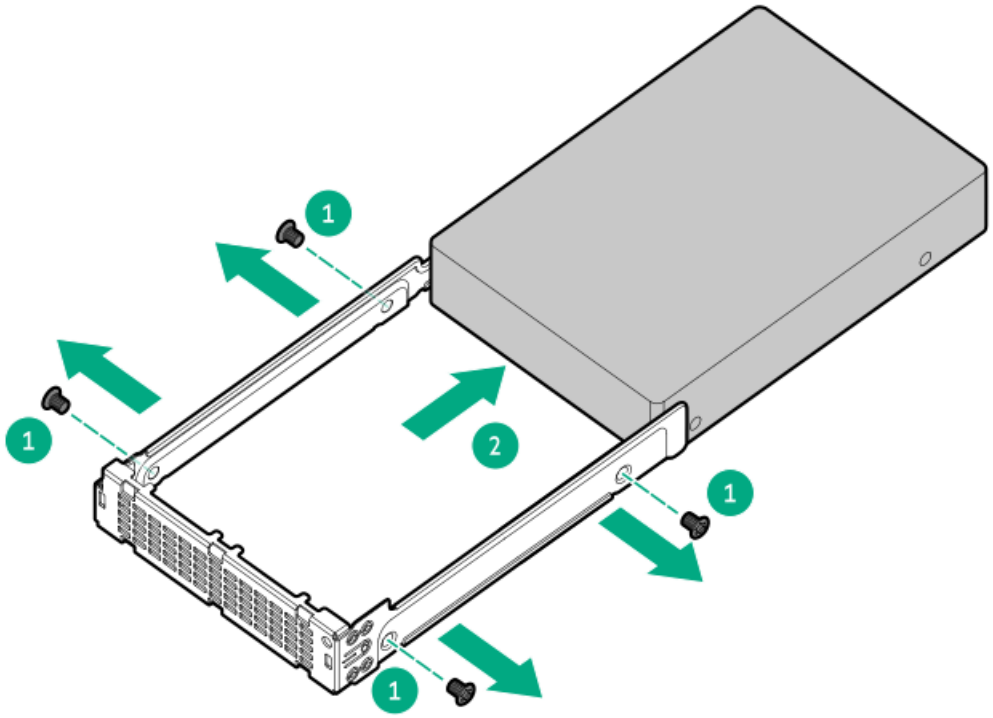
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

Procedure

1. Backup all server data on the drive.
2. If installed, remove the front bezel.
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. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. Disconnect all cables from the non-hot-plug drive.
10. Remove the non-hot-plug drive.



11. Remove the non-hot-plug drive from the drive carrier.



Results

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

Removing and replacing a drive blank

About this task

- LFF drive blank

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&

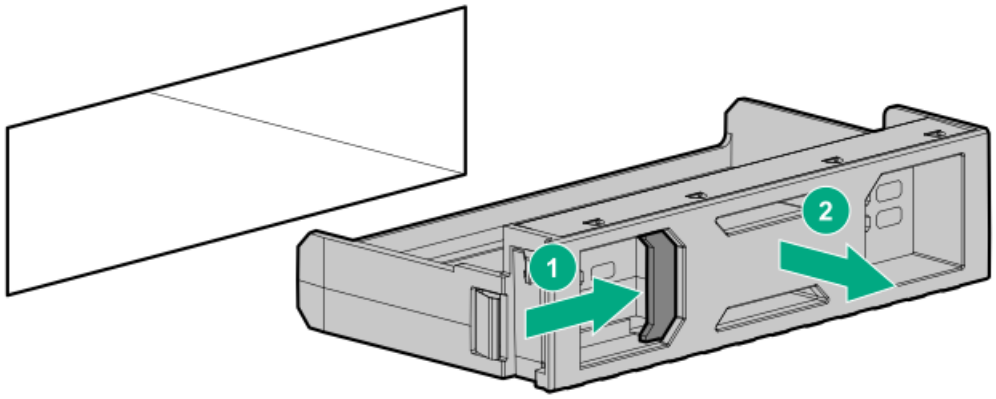
- SFF drive blank

https://sketchfab.com/models/f3af92d159ca4b5390387971 70e9428a/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&

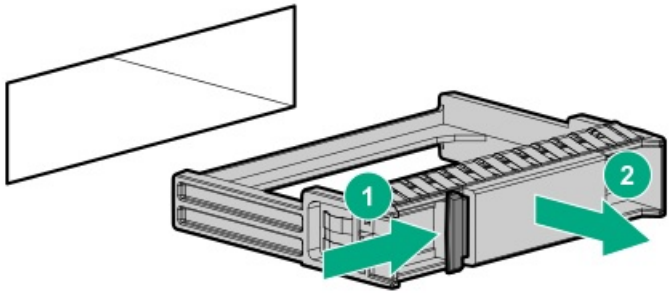
CAUTION
To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

Procedure

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



   - SFF drive blank



Results

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

Removing and replacing the optical drive blank

Prerequisites

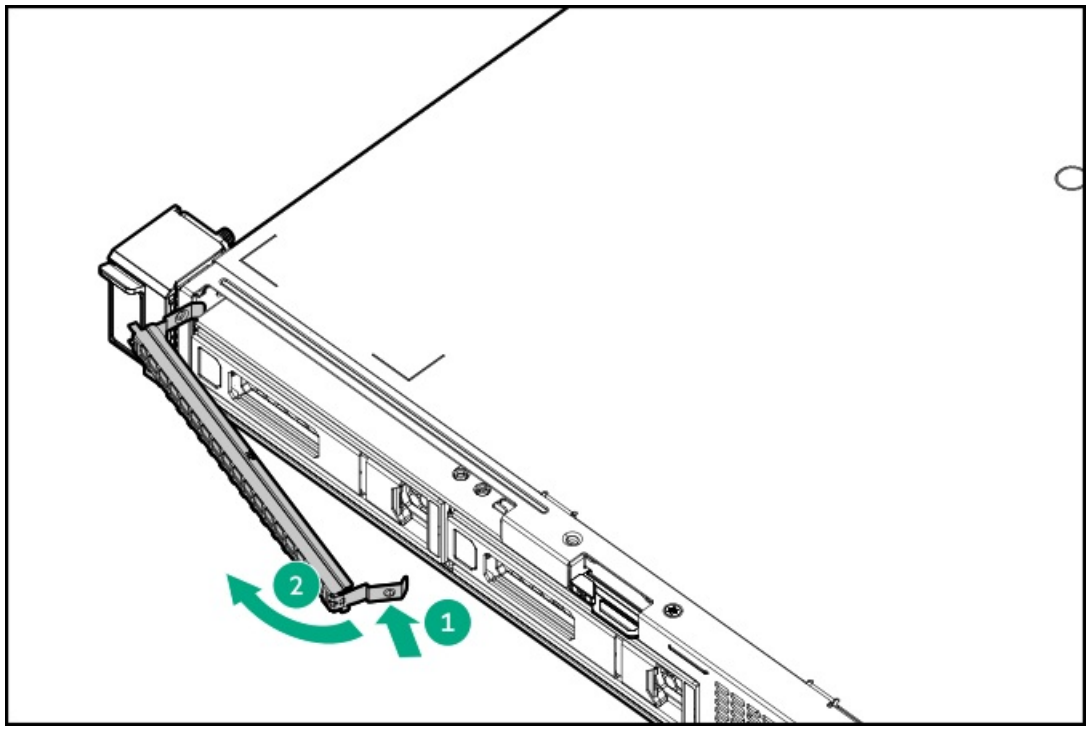
Before you perform this procedure, make sure that you have a spudger or any small prying tool available.

About this task

This procedure is only applicable in the LFF drive chassis.

Procedure

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



3. Immediately install the new optical drive blank.

Results

The replacement procedure is complete.

Flexible Slot 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

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

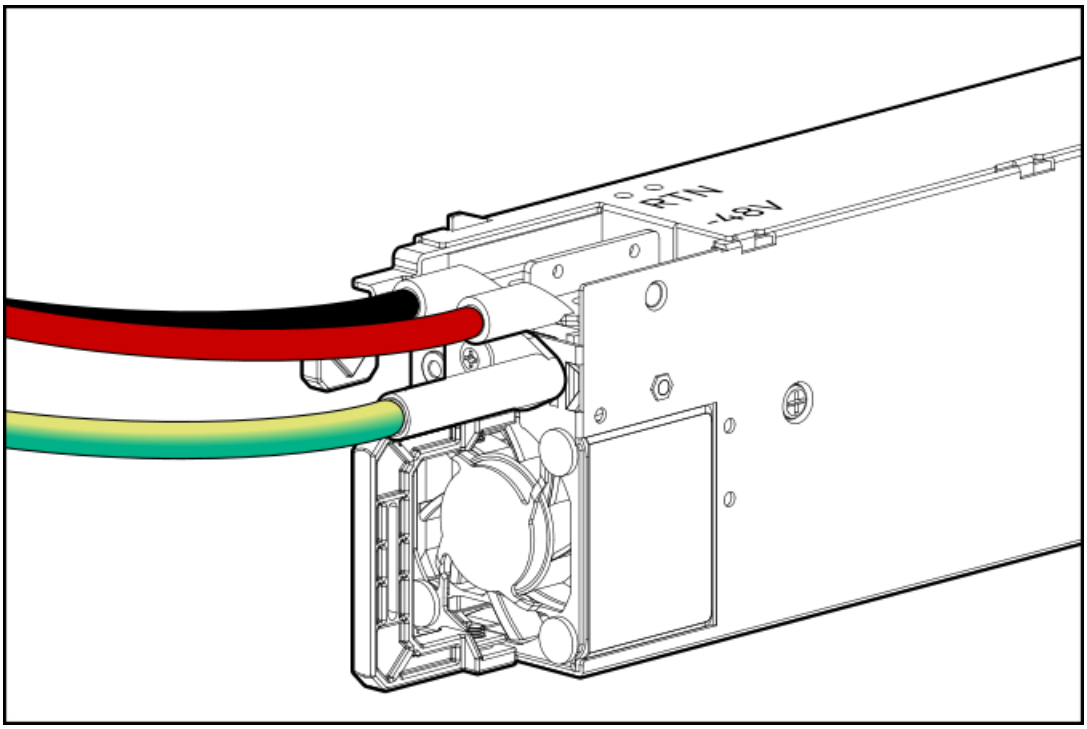
To reduce the risk of electric shock, be sure that the cable grounding kit is properly installed and connected to a suitable protective earth terminal before connecting the power source to the rack.

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



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

Removing and replacing an AC Flexible Slot power supply

Prerequisites

Before replacing a power supply, review the Power supply warnings and cautions.

About this task

https://sketchfab.com/models/ef1927dac07d4c40b5925173aacddb9a/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&ui_animations=0

WARNING

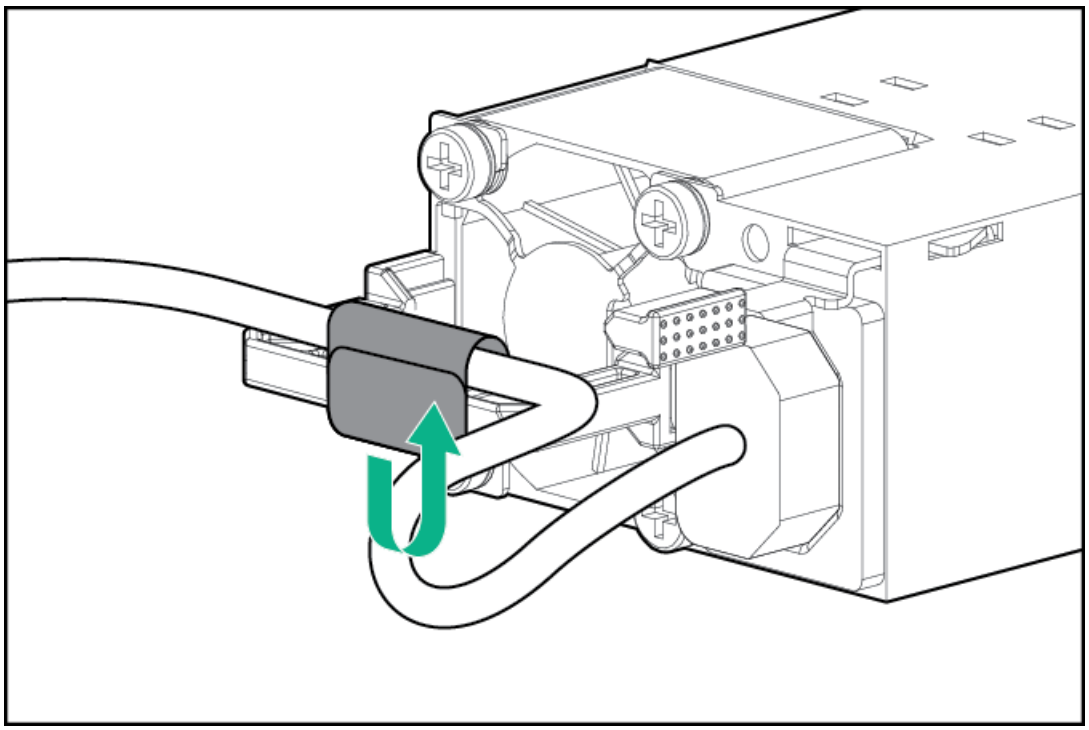
To reduce the risk of personal injury from hot surfaces, allow the power supply, power supply blank, or dual slot power supply adapter to cool before touching it.

CAUTION

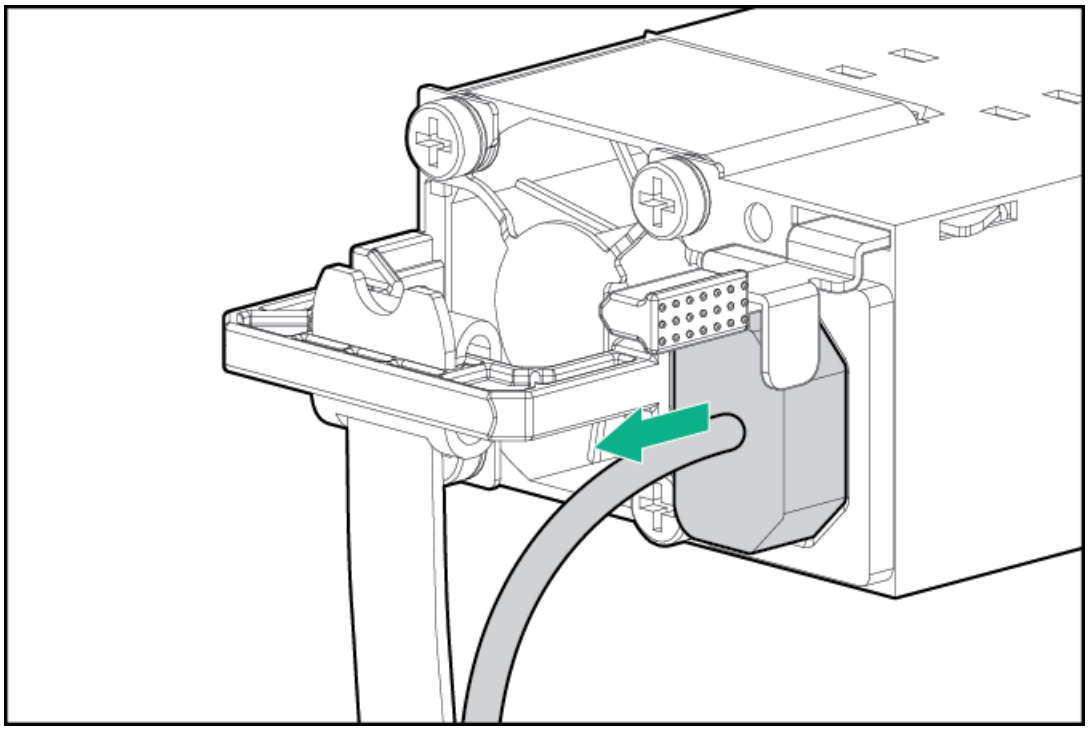
To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

Procedure

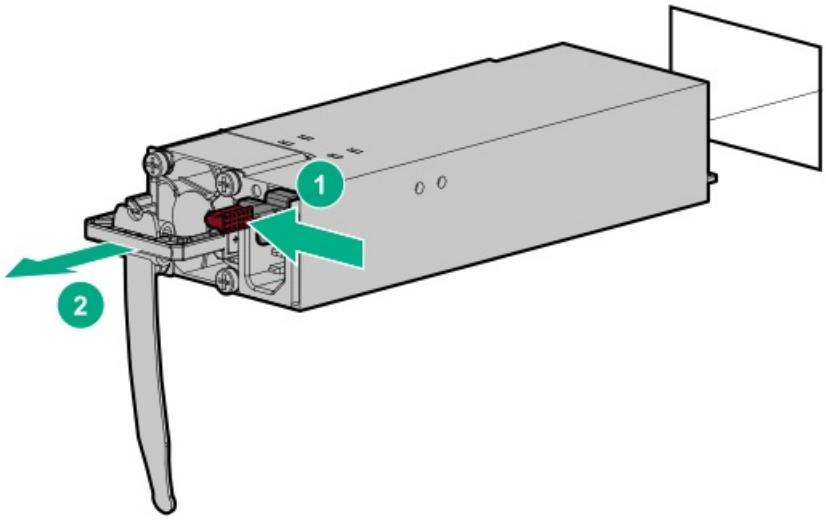
1. Power down the server.
2. To remove an AC power supply, do the following:
   a. Release the power cords, wires, and cables from the strain relief strap.



   b. Disconnect the power cord from the power supply.



   c. Remove the power supply.



Results

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

Removing and replacing a DC Flexible Slot 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

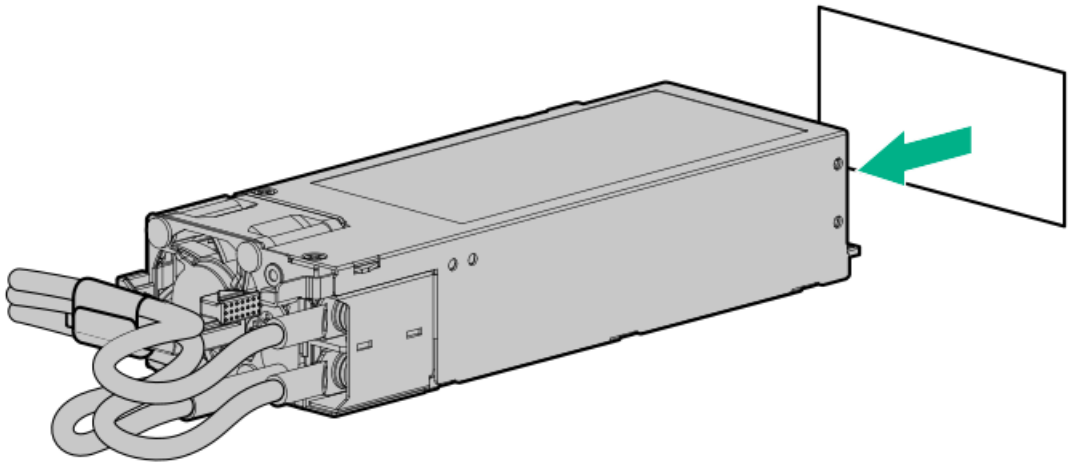
To reduce the risk of personal injury from hot surfaces, allow the power supply, power supply blank, or dual slot power supply adapter to cool before touching it.

CAUTION

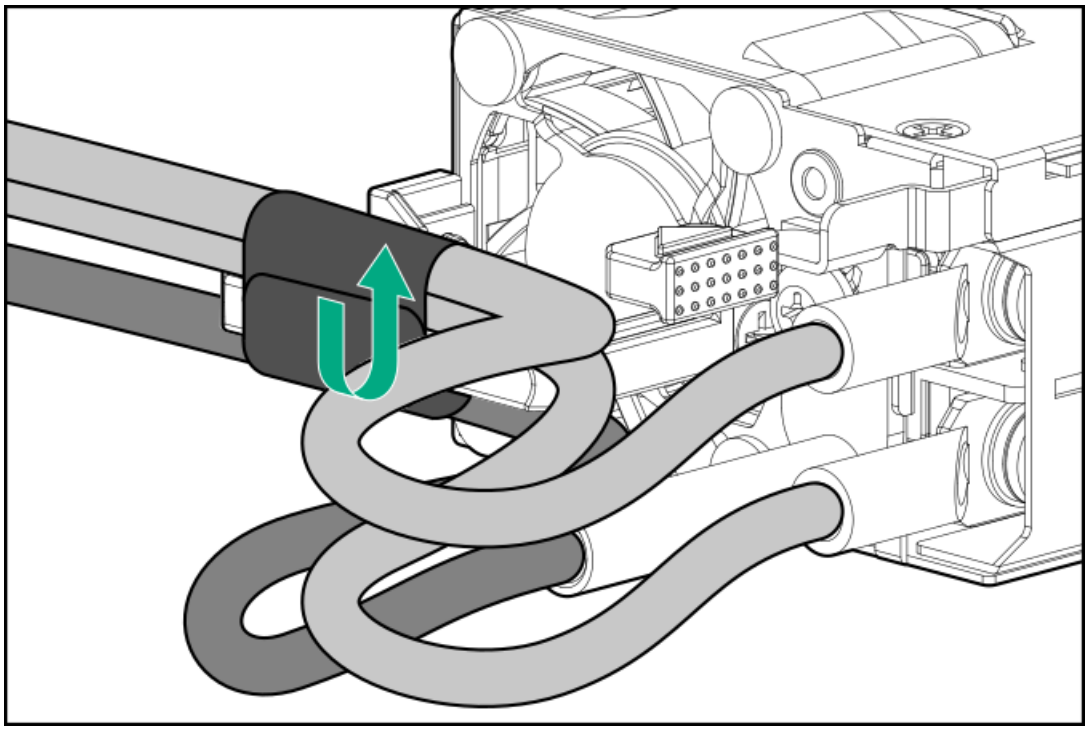
To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

Procedure

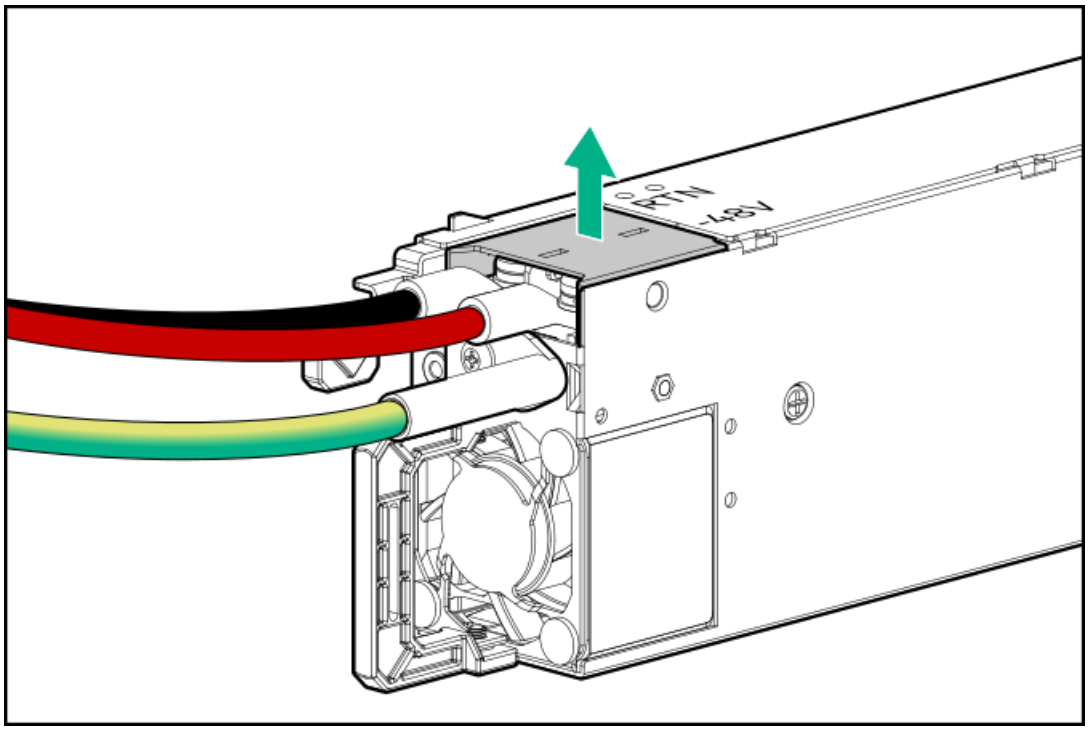
1. Power down the server.
2. To remove the DC power supply, do the following:
   a. Remove the power supply.



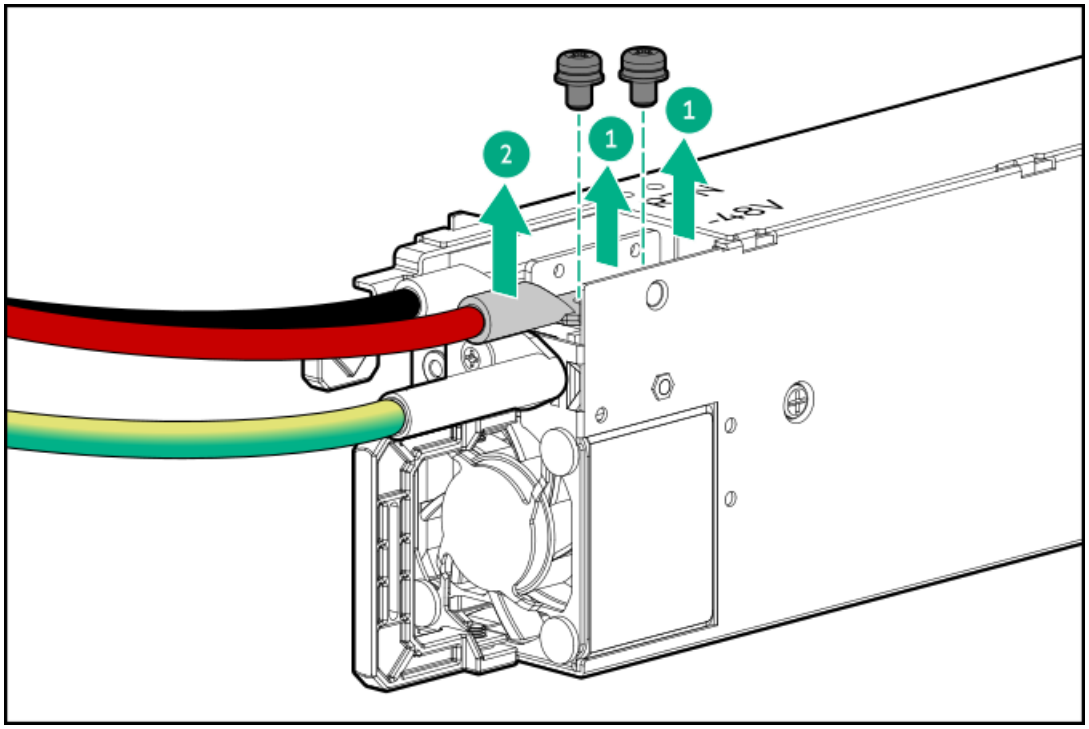
b. Release the ground, positive return, and negative input wires from the strain relief strap.



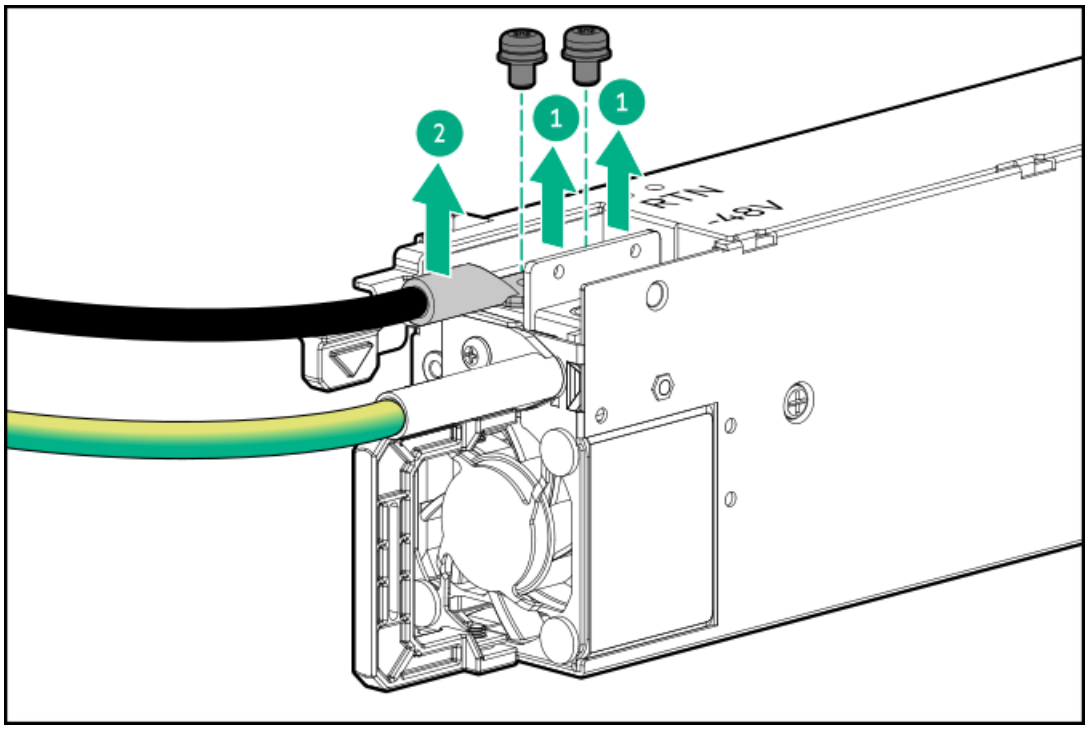
c. Remove the protective cover from the power supply.



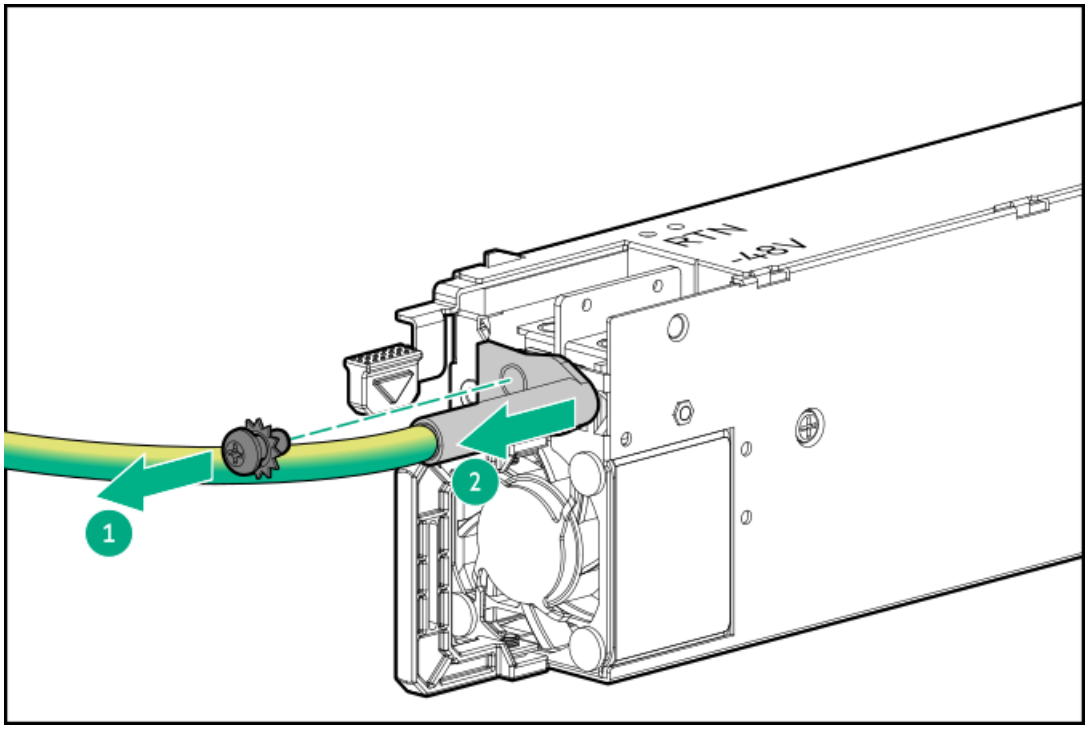
d. Remove the line wire (red) from the -48V slot on the DC power supply.



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



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

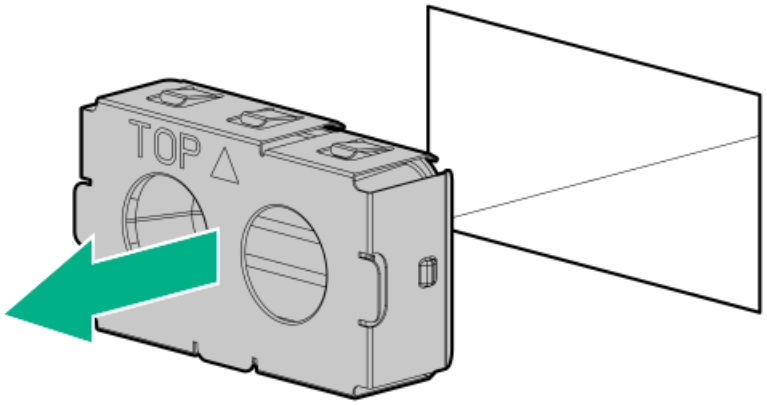
To reduce the risk of personal injury from hot surfaces, allow the power supply, power supply blank, or dual slot power supply adapter to cool before touching it.

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

1. Remove the power supply blank.



2. Immediately install the new power supply blank.

Results

The replacement procedure is complete.

Transceiver replacement

Subtopics

Transceiver warnings and cautions

WARNING

Fiber-optic transceivers and fiber-optic cables connected to transceivers emit laser light that can damage your eyes. To avoid eye injuries, avoid direct eye exposure to the beam from the fiber-optic transceiver or into the ends of fiber-optic cables when they are powered-up.

CAUTION

The presence of dust in transceiver ports can cause poor cable connectivity. To prevent dust from entering, install a dust plug in an unused transceiver port.

CAUTION

Supported transceivers can be hot-swapped—removed and installed while the server is powered-on. However, to prevent potential damage to the transceiver or the fiber-optic cable, disconnect the cable from the transceiver before hot-swapping it.

CAUTION

Do not remove and install transceivers more often than is necessary. Doing so can shorten the useful life of the transceiver.

IMPORTANT

When you replace a transceiver with another of a different type, the server might retain selected port-specific configuration settings that were configured for the replaced transceiver. Be sure to validate or reconfigure port settings as required.

Removing and replacing a transceiver

Prerequisites

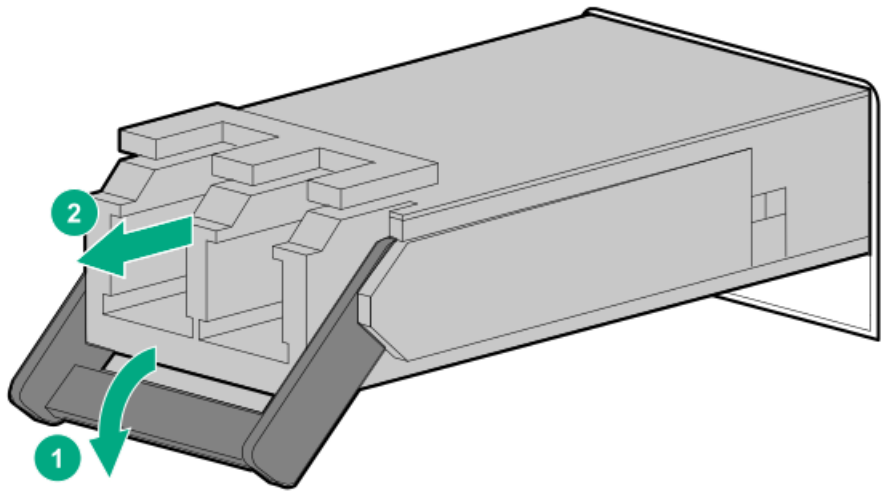
Before replacing a transceiver, review the following:

- Transceiver warnings and cautions
- Transceiver documentation for specific operational and cabling requirements

Procedure

1. Disconnect the network cable from the transceiver.
2. Slide the transceiver out of the network adapter port.

   See the transceiver documentation for model-specific release mechanism for removing the transceiver.



Results

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

Removing and replacing a chassis ear

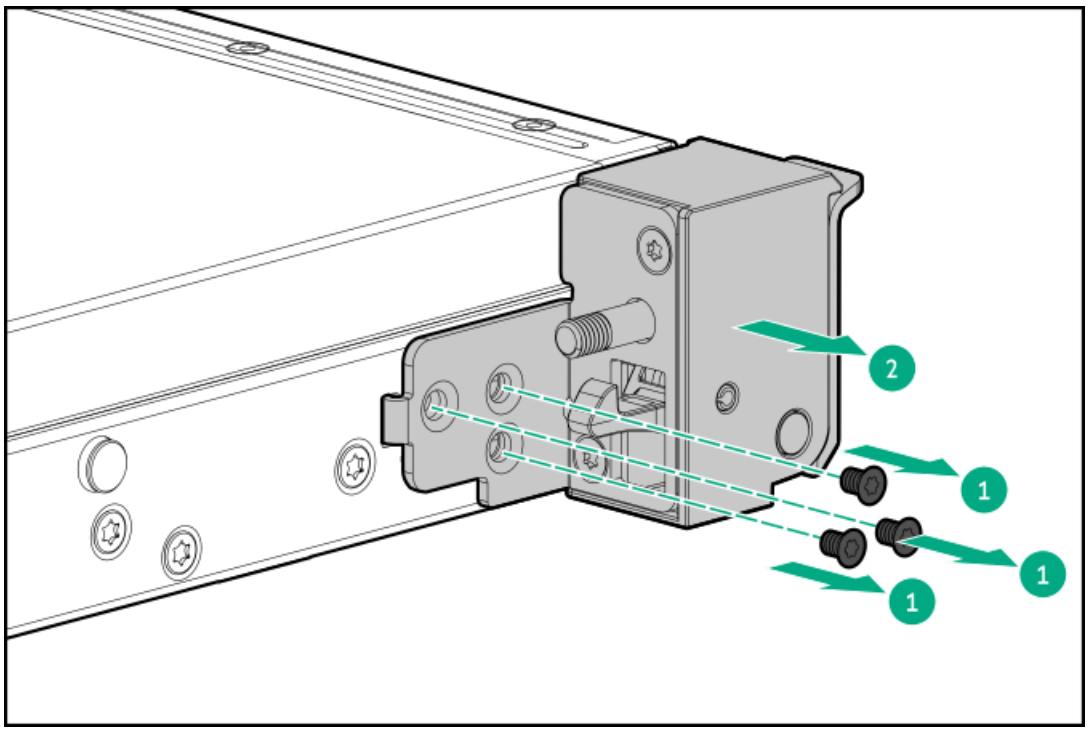
Prerequisites

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

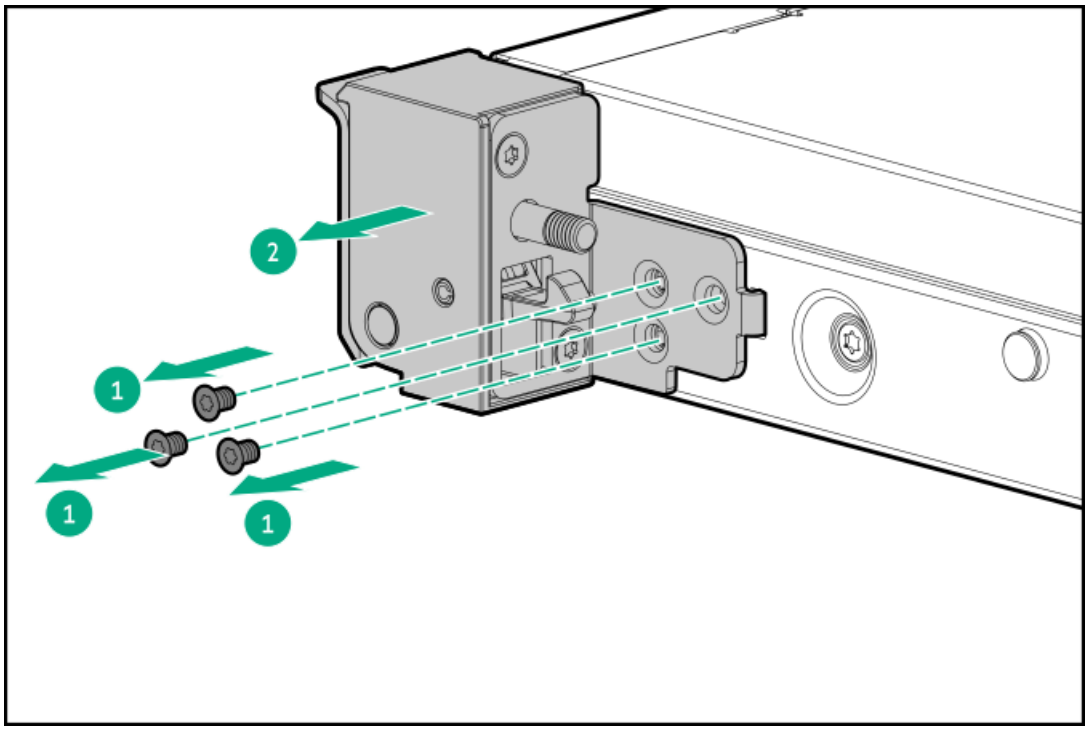
Procedure

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. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the chassis ear:
   a. Remove all screws.
   b. Disengage the ear from the chassis.

- Left ear



- Right ear



Results

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

Removing and replacing the cable management arm

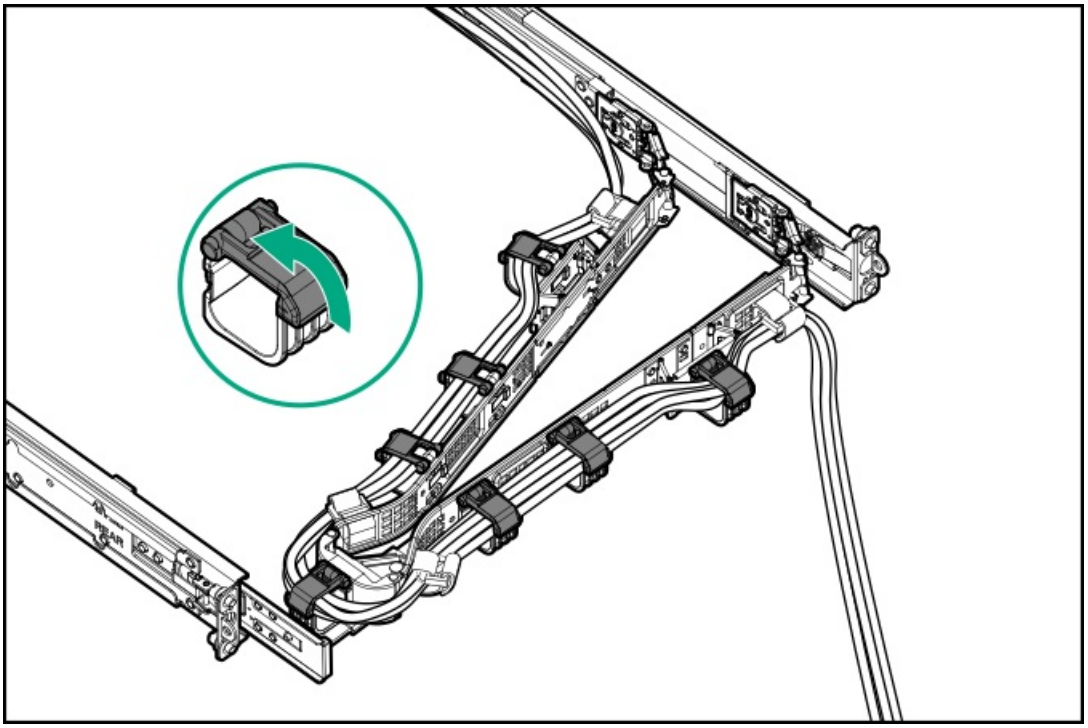
About this task

CAUTION

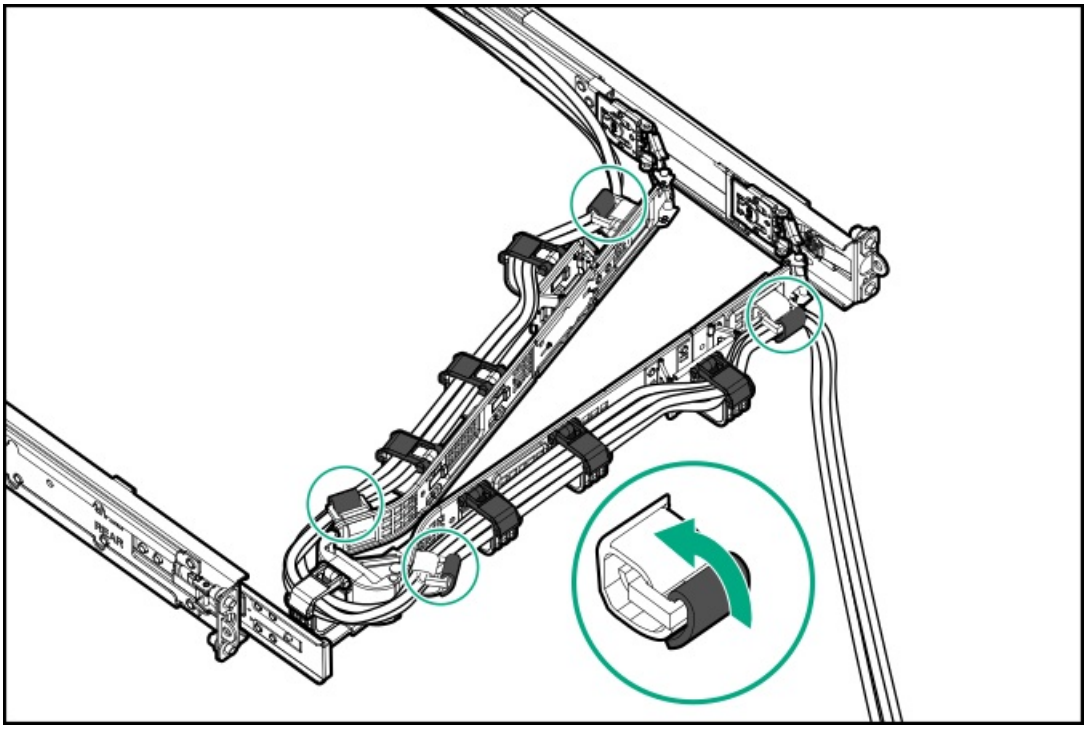
Support the CMA during the removal and replacement procedures. Do not allow the CMA to hang by its own weight during the procedure.

Procedure

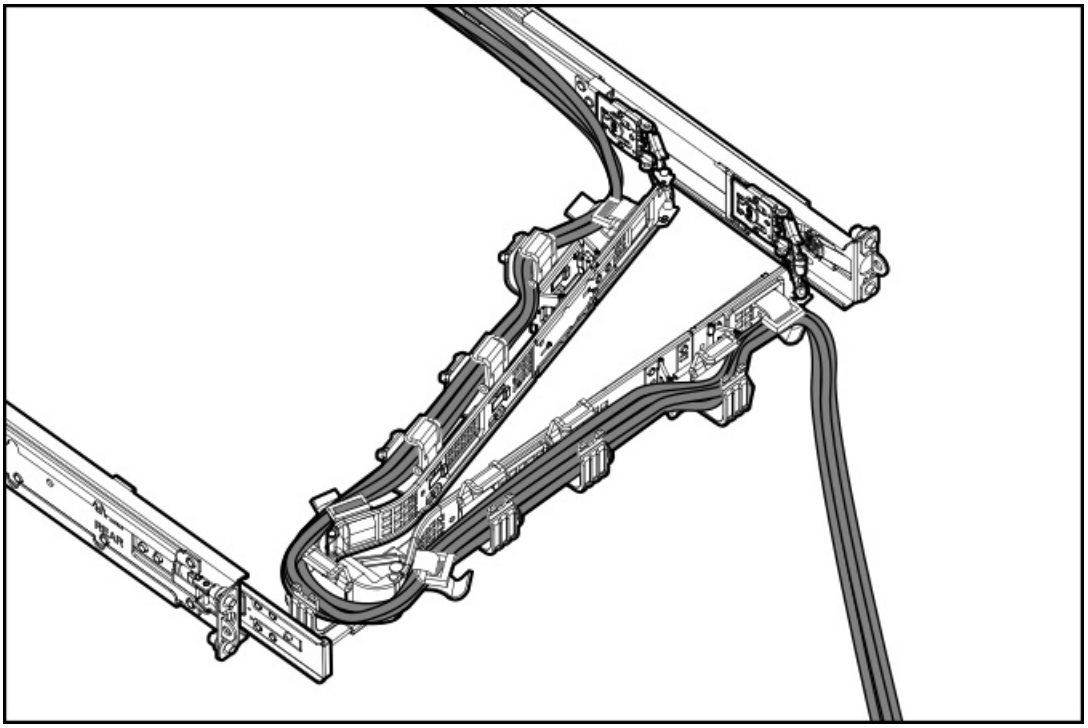
1. Open the cable clamps.



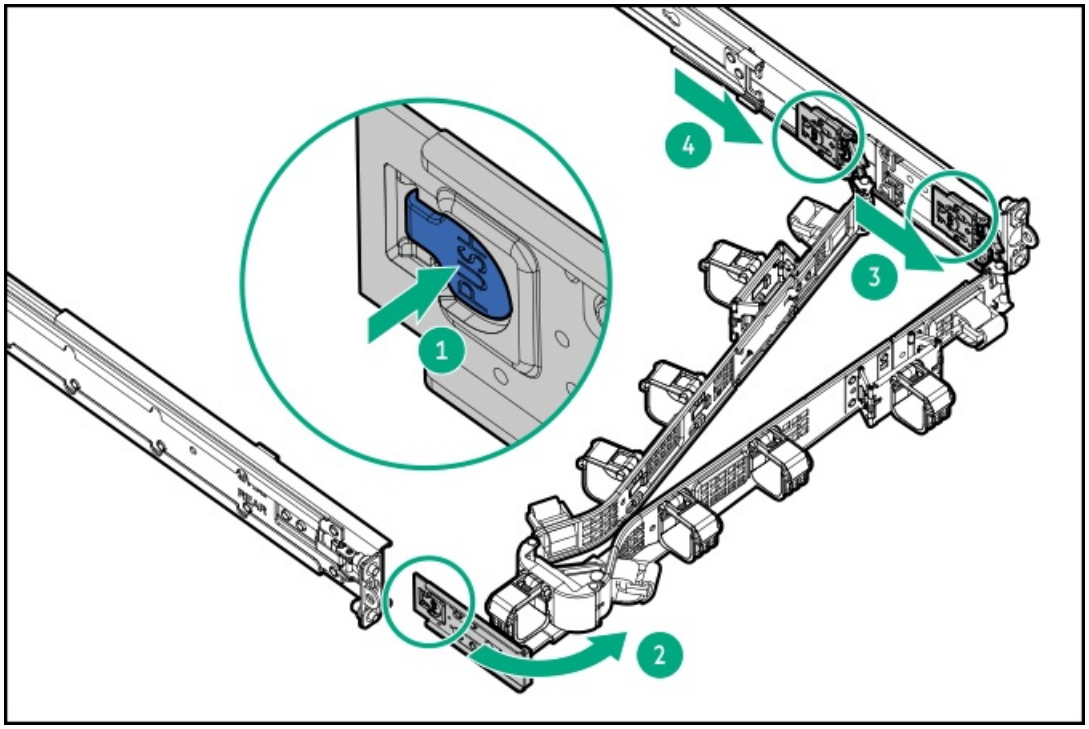
2. (Optional) If your CMA has cable straps, unwrap the straps.



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



4. Remove the cable management arm:
   a. Press and hold the blue **PUSH** button on the retention bracket.
   b. Swing the arm away from the mounting rail.
   c. Press and hold the blue **PUSH** buttons on the outer and inner tabs and detach from the rack rails.



Results

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

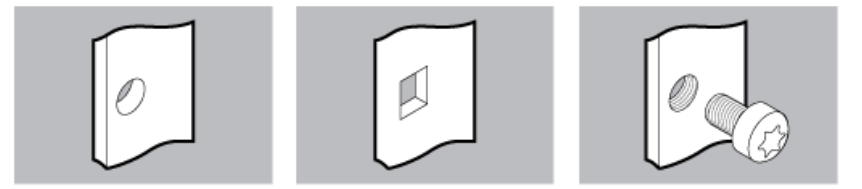
Rack rail replacement

Rack rail replacement

Subtopics

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.

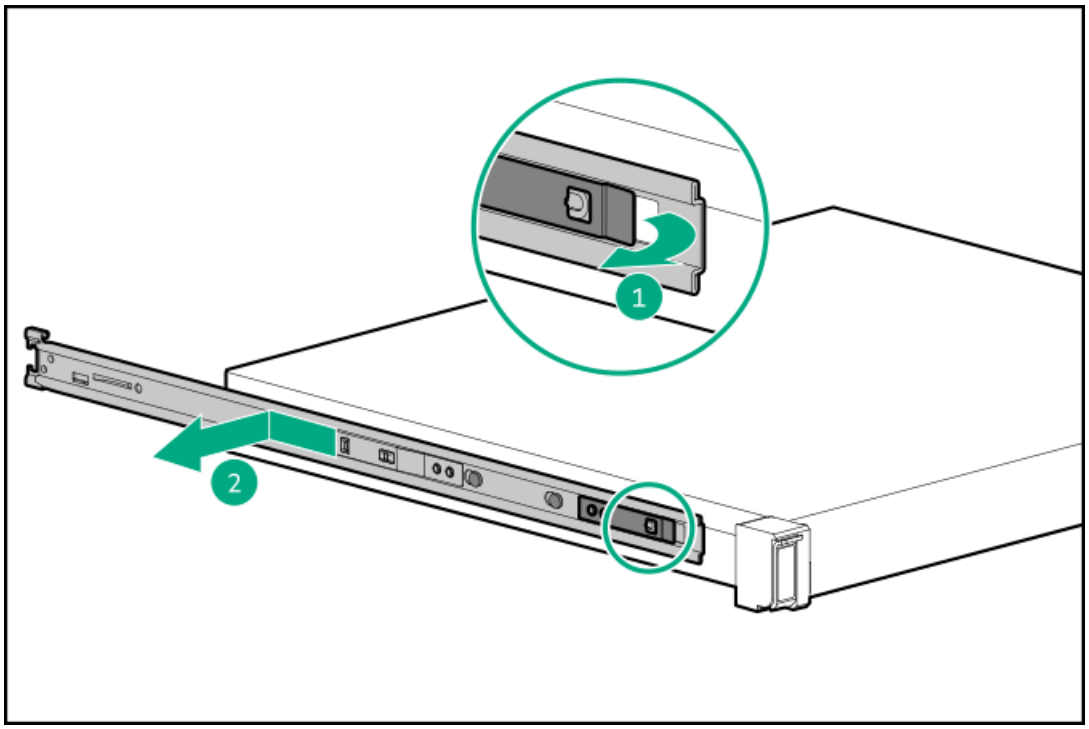
Removing and replacing the friction rack rails

Prerequisites

- Review the Rack warnings and cautions.
- If you are replacing the rack mounting rails from a threaded-hole rack, make sure that you have a T-25 Torx screwdriver available.

Procedure

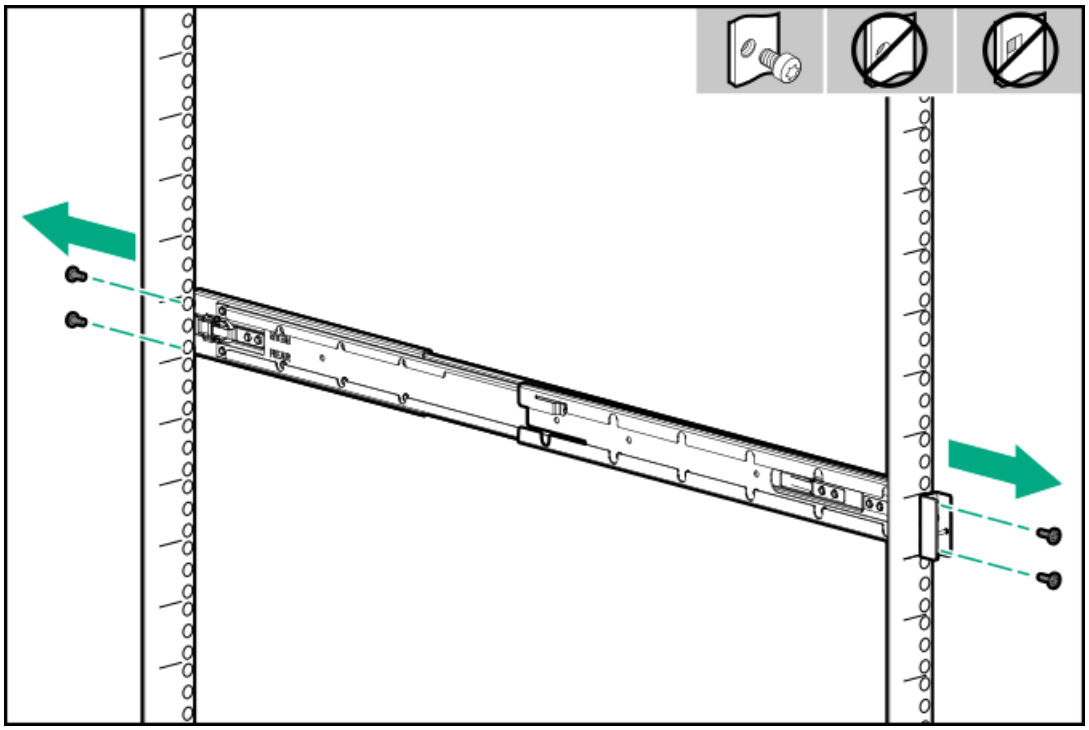
1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. If installed, remove the cable management arm.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
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.



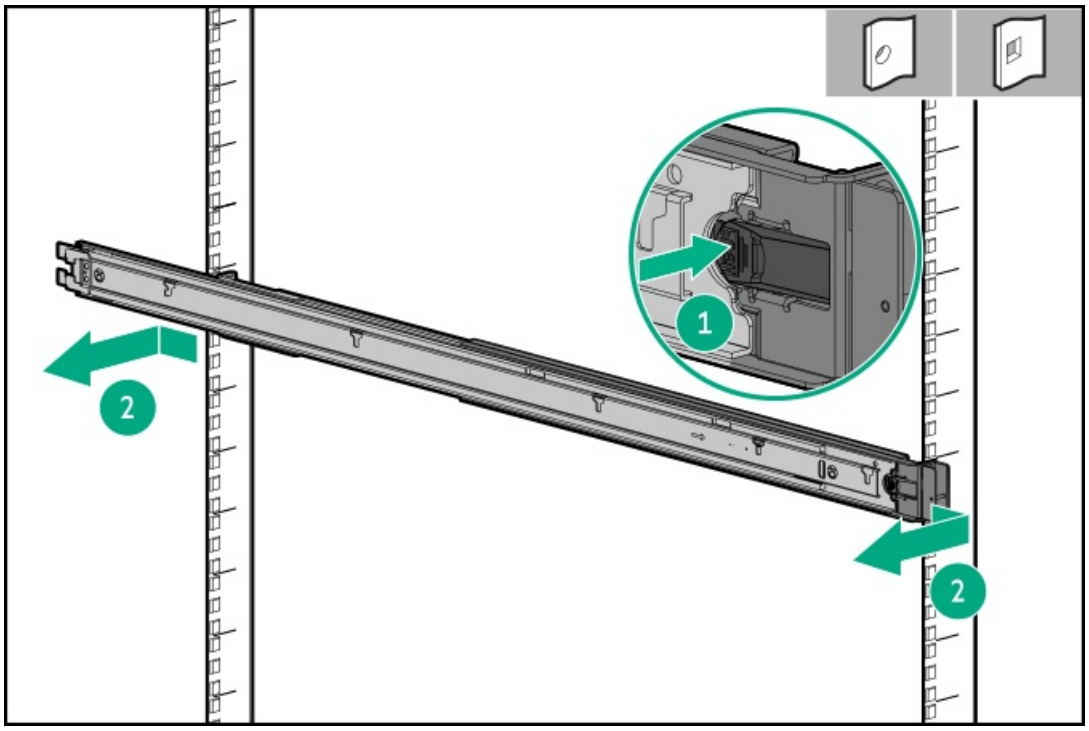
c. Repeat steps a and b to remove the other sliding rail.

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 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.

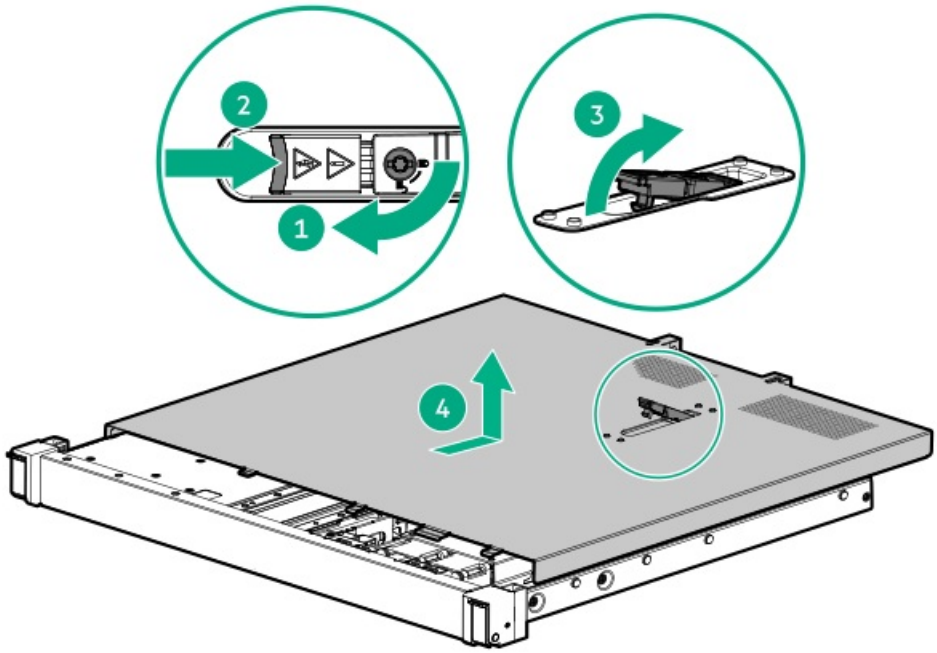
CAUTION

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

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. 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.

Optical drive replacement

Subtopics

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

Removing and replacing the optical drive from the LFF chassis

Prerequisites

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

About this task

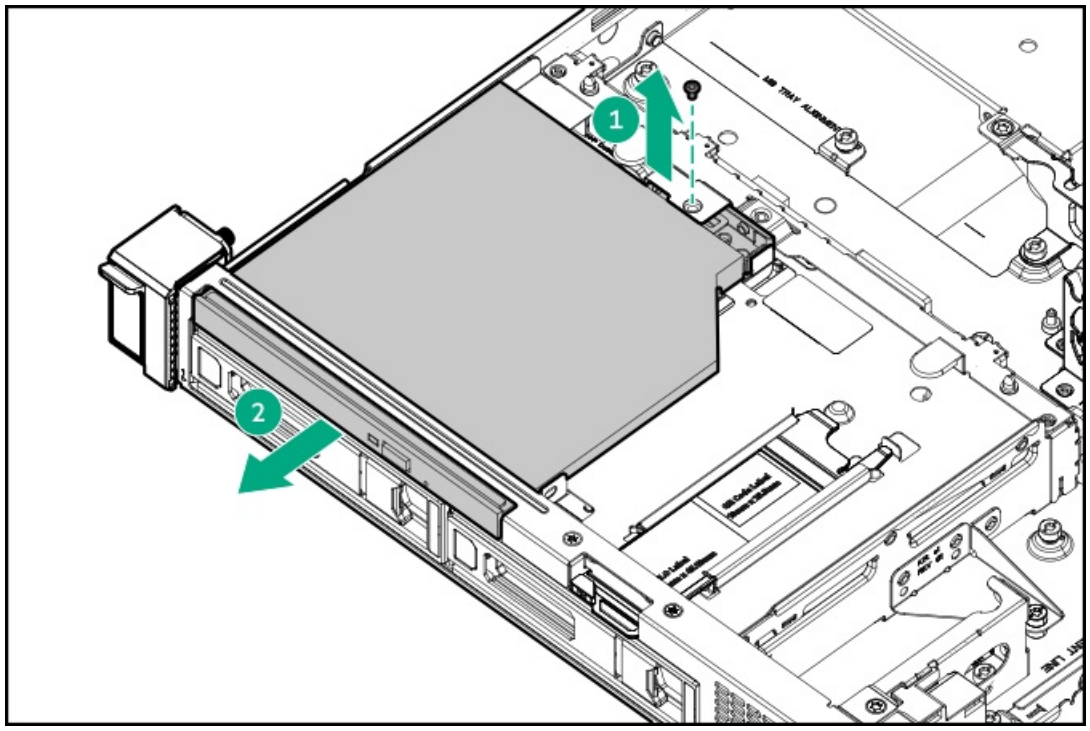
CAUTION
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

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. Verify that there is no disc in the optical drive bay.
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. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. Disconnect the SATA-power splitter cable from the optical drive.
10. Remove the optical drive from the bay.



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 T-10 Torx screwdriver available.

About this task

CAUTION

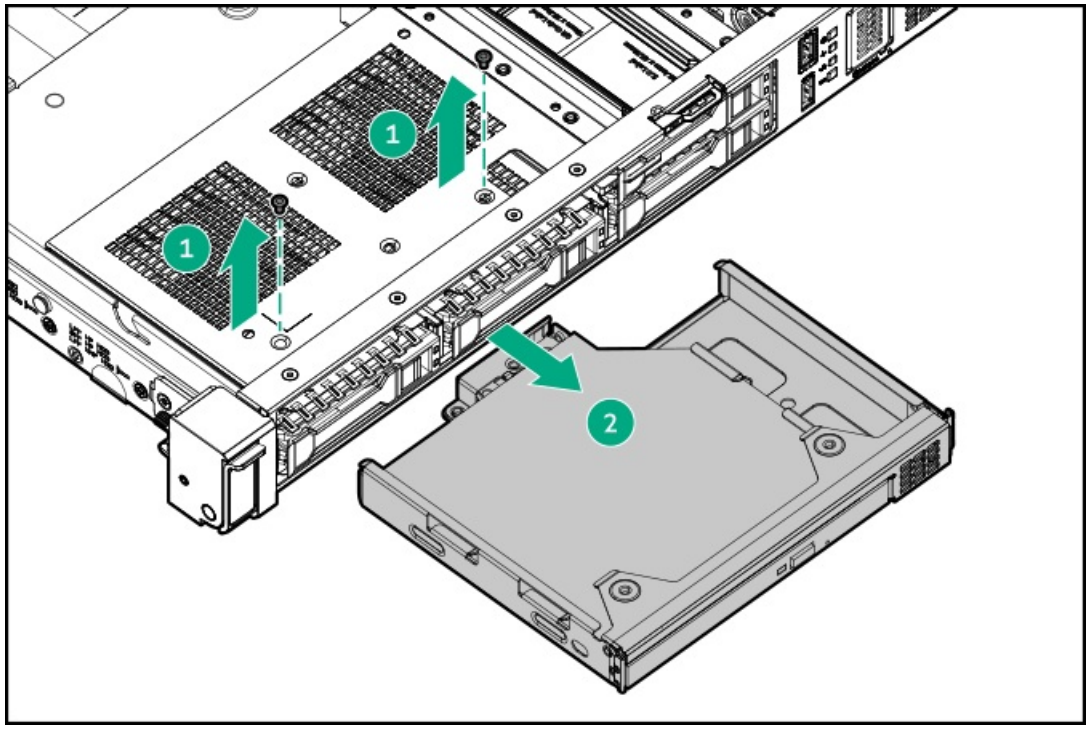
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

CAUTION

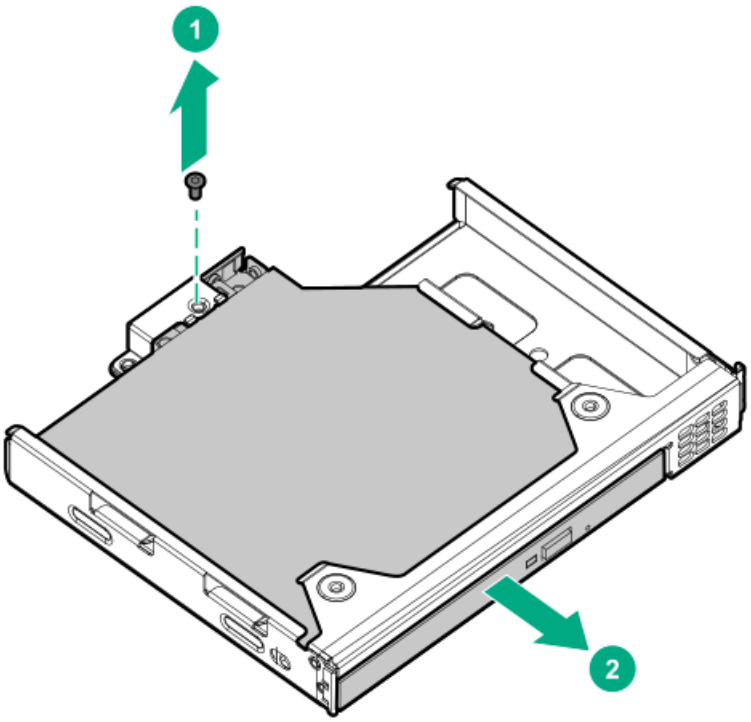
To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

Procedure

1. If installed, remove the front bezel.
2. Verify that there is no disc in the optical drive bay.
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. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. Disconnect the SATA-power splitter cable from the optical drive.
10. Remove the optical drive cage from the media bay.



11. Remove the optical drive from the cage.



Results

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

Removing and replacing the media bay blank

Prerequisites

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

About this task

This procedure is only applicable in the SFF drive chassis.

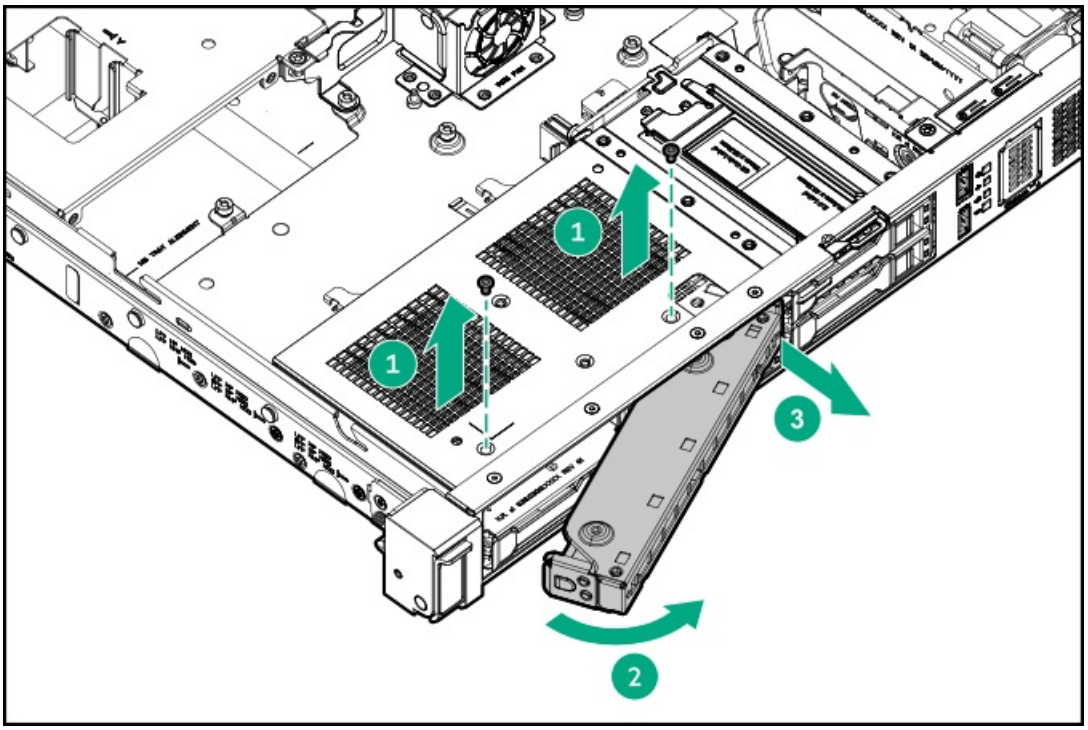
CAUTION

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. Remove the server from the rack.
5. Place the server on a flat, level work surface.

6. Remove the access panel.
7. Remove the media bay blank:
   a. Remove the media bay blank screws.
   b. Disengage the media bay blank.
   c. Remove the media bay blank.



Results

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

Removing and replacing the front I/O assembly

Prerequisites

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

About this task

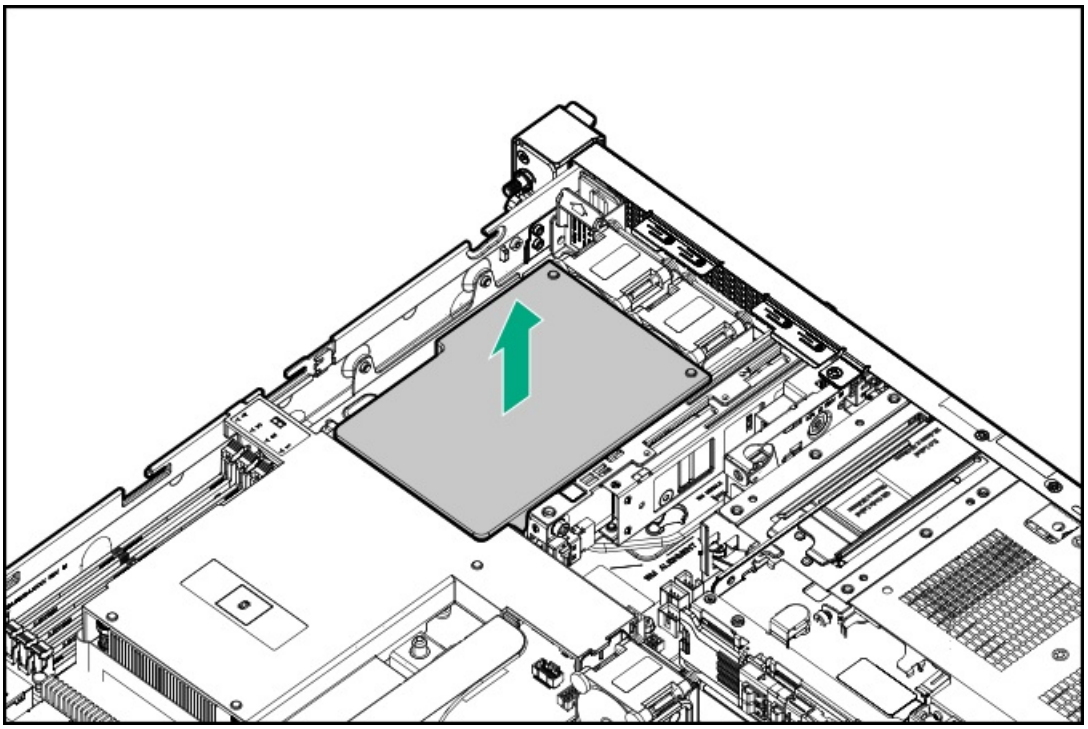
CAUTION

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.

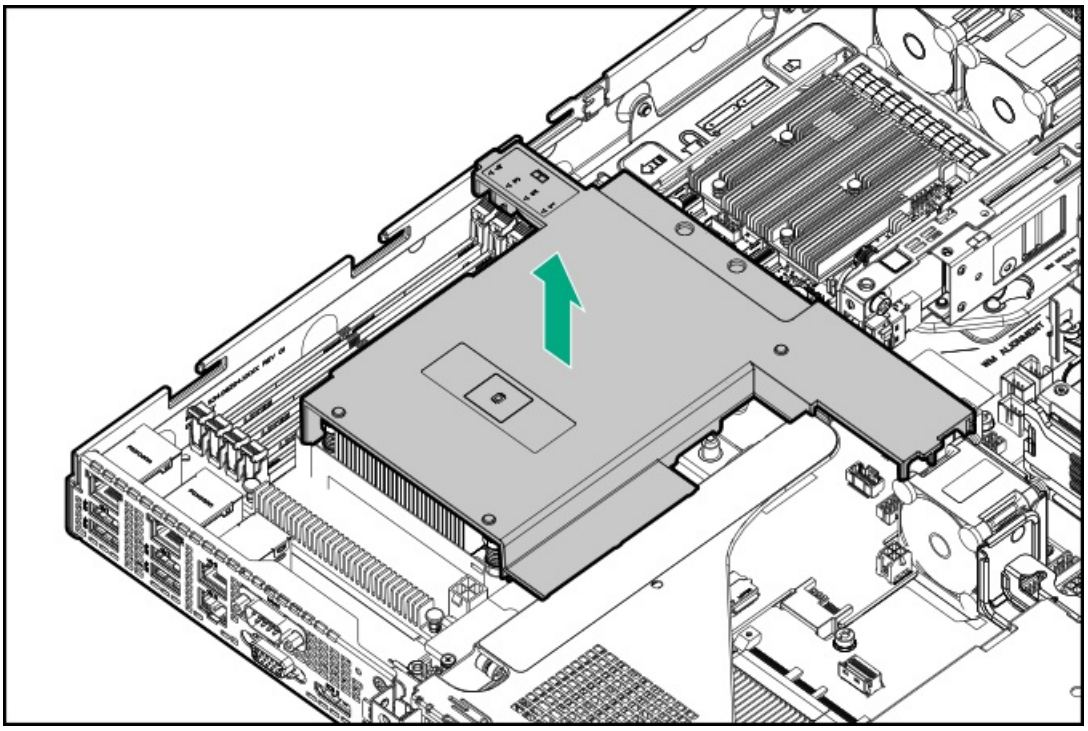
Procedure

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. Remove the access panel.
7. Remove the OCP air baffle.

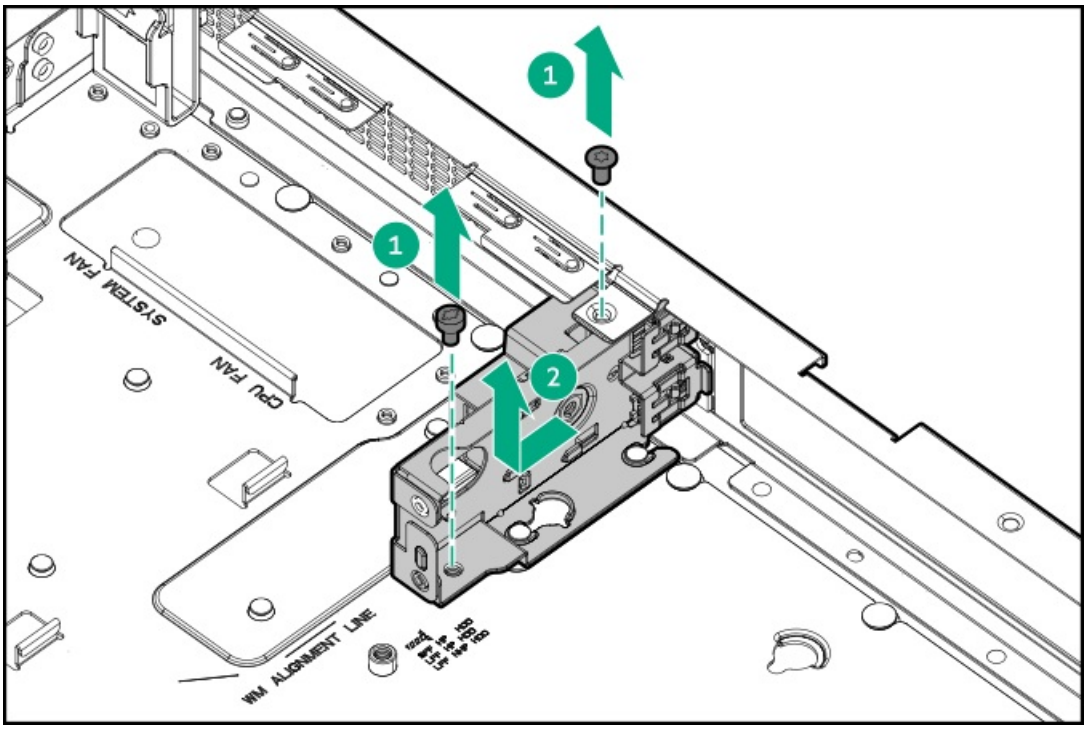


8. Remove the processor air baffle.



9. Disconnect the front I/O cable.
10. Remove the two screws, and then remove the front I/O assembly.

    For clarity, the mounted front I/O cables are not shown in the following image.



Results

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

Drive backplane replacement

Subtopics

Removing and replacing the 2 LFF drive backplane

Prerequisites

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

- T-10 Torx screwdriver
- T-15 Torx screwdriver

About this task

CAUTION

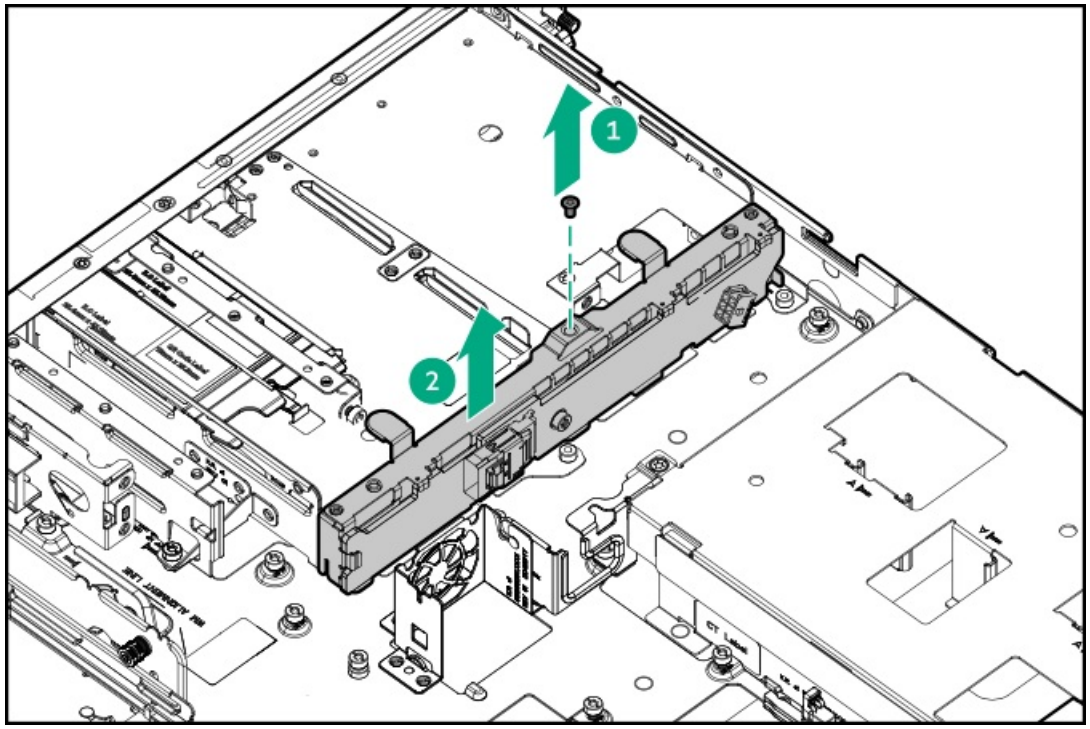
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

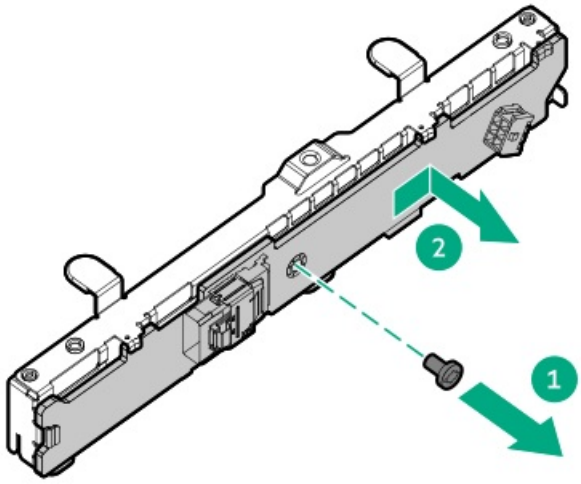
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

Procedure

1. 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. Remove the access panel.
7. Disconnect all cables from the drive backplane.
8. Remove all drives.
9. Remove the 2 LFF drive backplane bracket.



10. Remove the 2 LFF drive backplane from the bracket.



Results

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

Removing and replacing the 2 SFF 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.

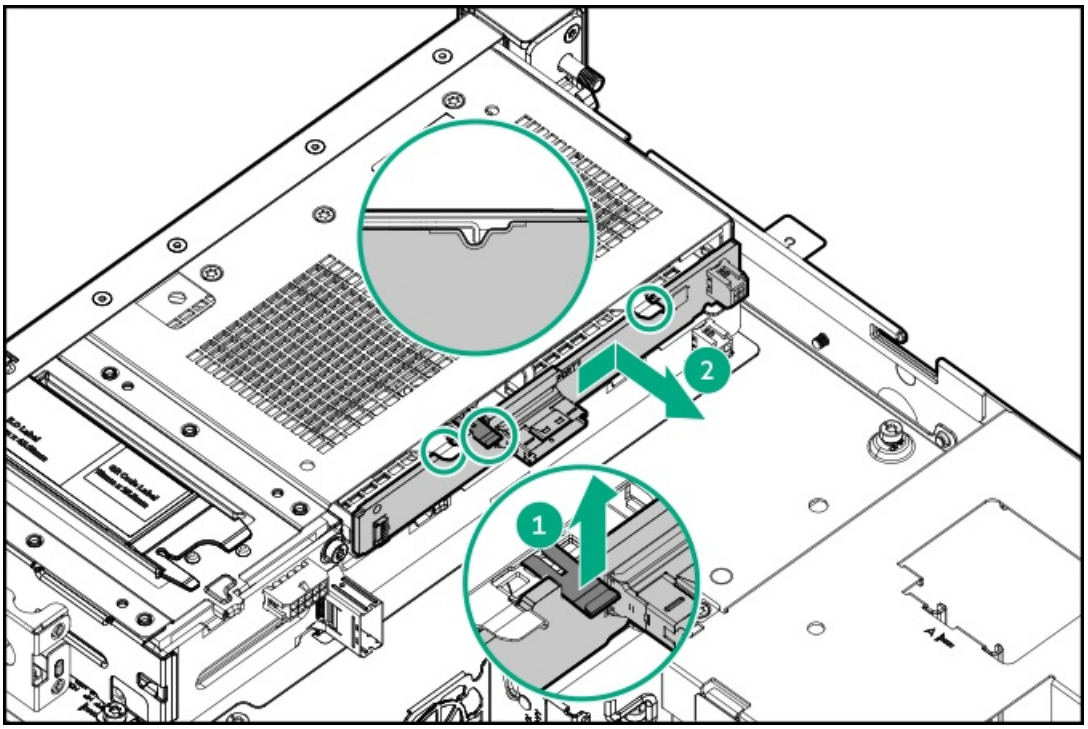
When installing the replacement component:

- 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. 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. Remove the access panel.

7. Disconnect all cables from the drive backplane.
8. Remove all drives.
9. Remove the 2 LFF drive backplane:
   a. Pull up and hold the release tab.
   b. Slide the backplane from the drive cage.



Results

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

Removing and replacing the 4 SFF drive backplane

About this task

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

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.

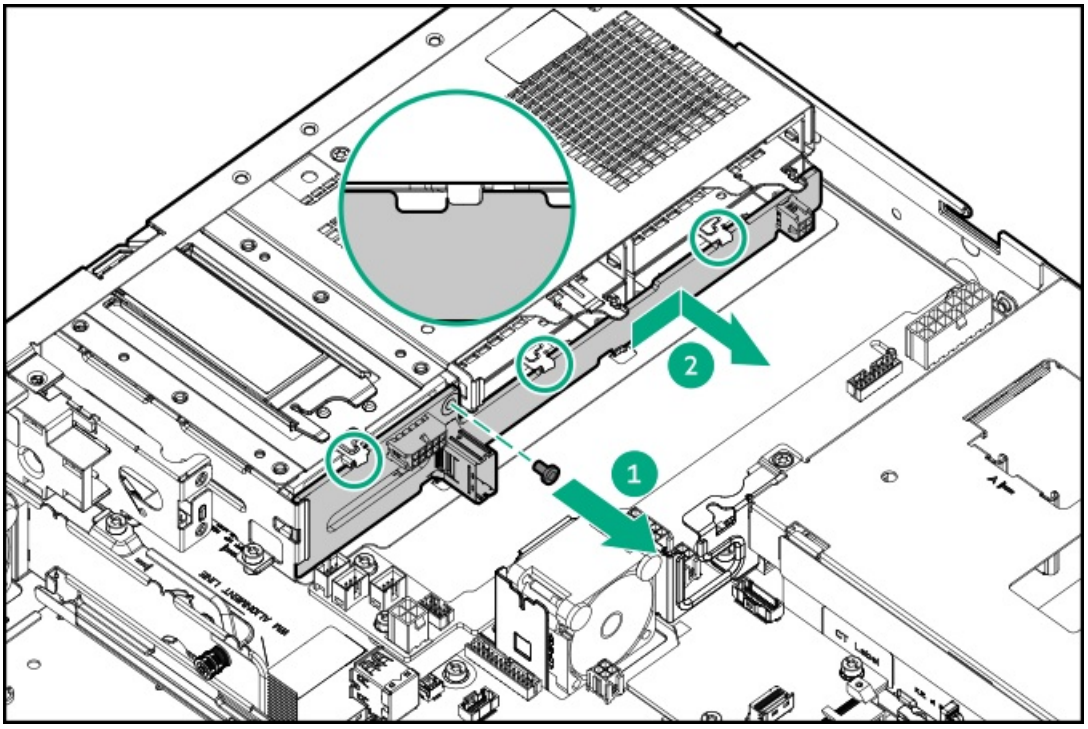
When installing the replacement component:

- 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. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Disconnect all cables from the drive backplane.
8. Remove all drives.
9. Remove the 4 SFF drive backplane.



Results

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

Removing and replacing a fan

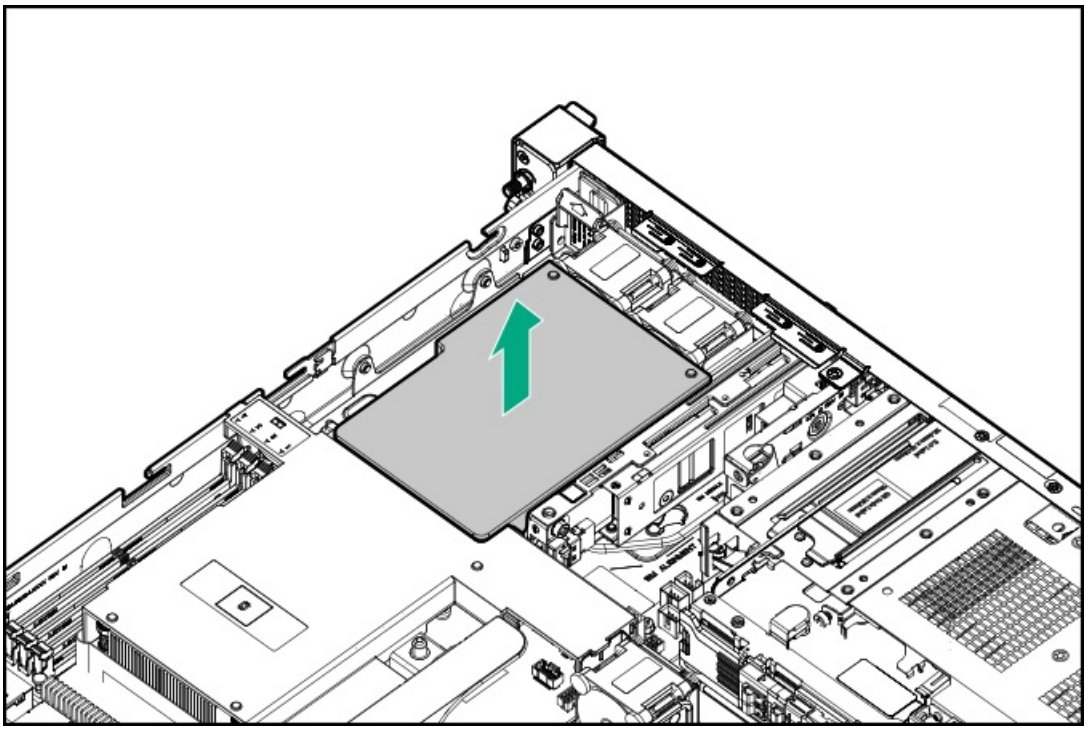
About this task

https://sketchfab.com/models/cf99a828aef54b5a86188cd73d44490b/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&

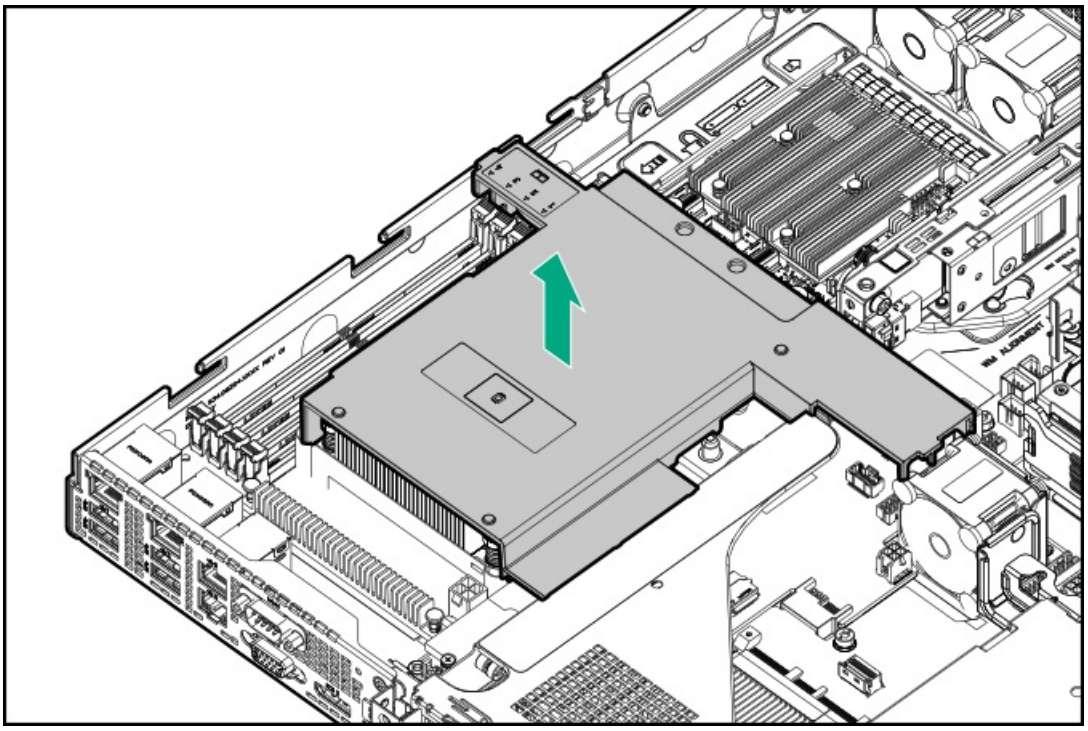
CAUTION
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

Procedure

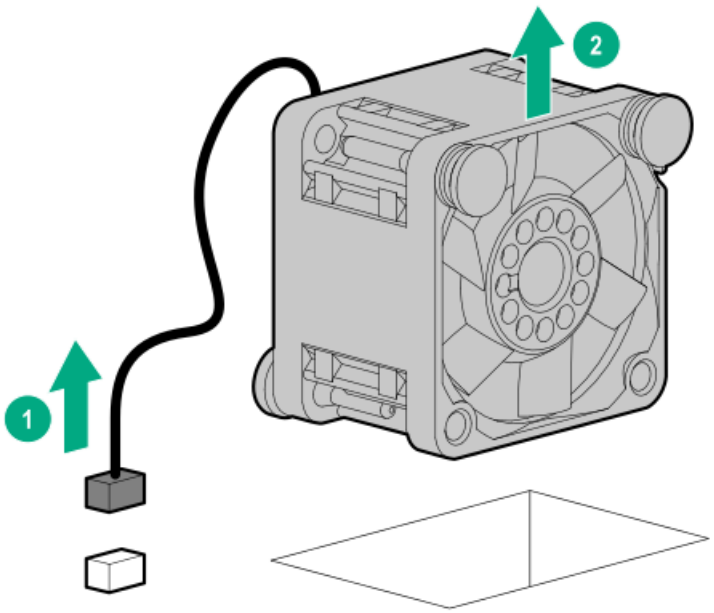
1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the OCP air baffle.



8. Remove the processor air baffle.



9. Remove the fan.



Results

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

HPE NS204i-u Boot Device replacement

Subtopics

Removing and replacing a boot device drive

Removing and replacing the boot device cage

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&

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.

CAUTION

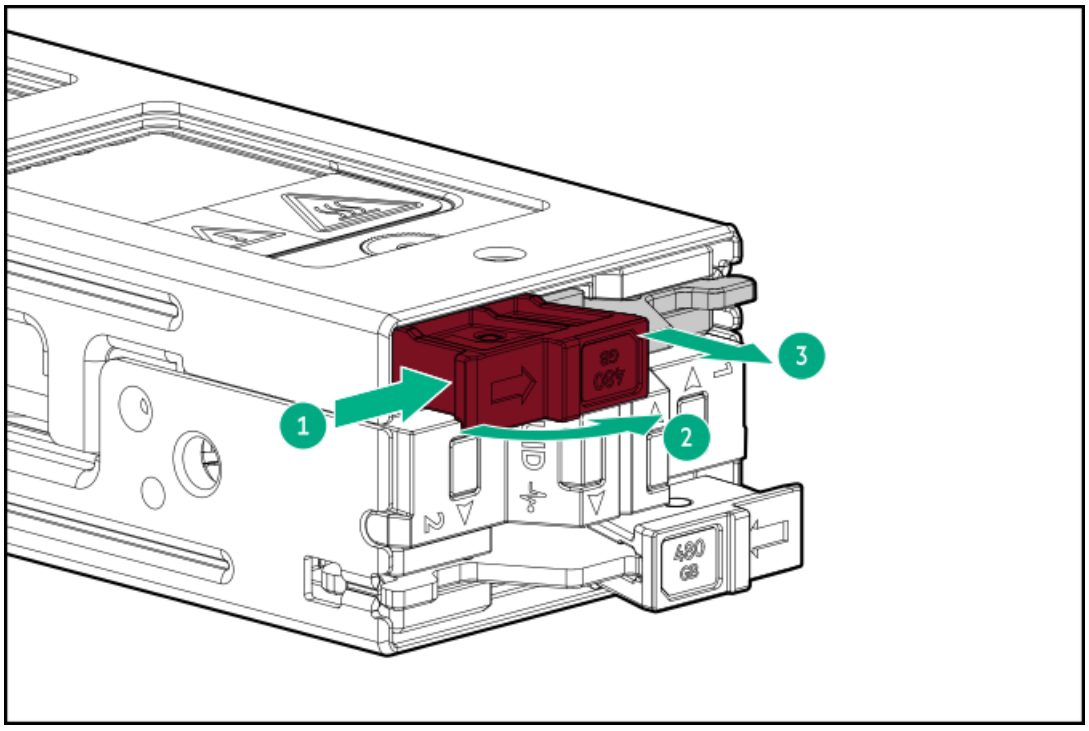
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

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.

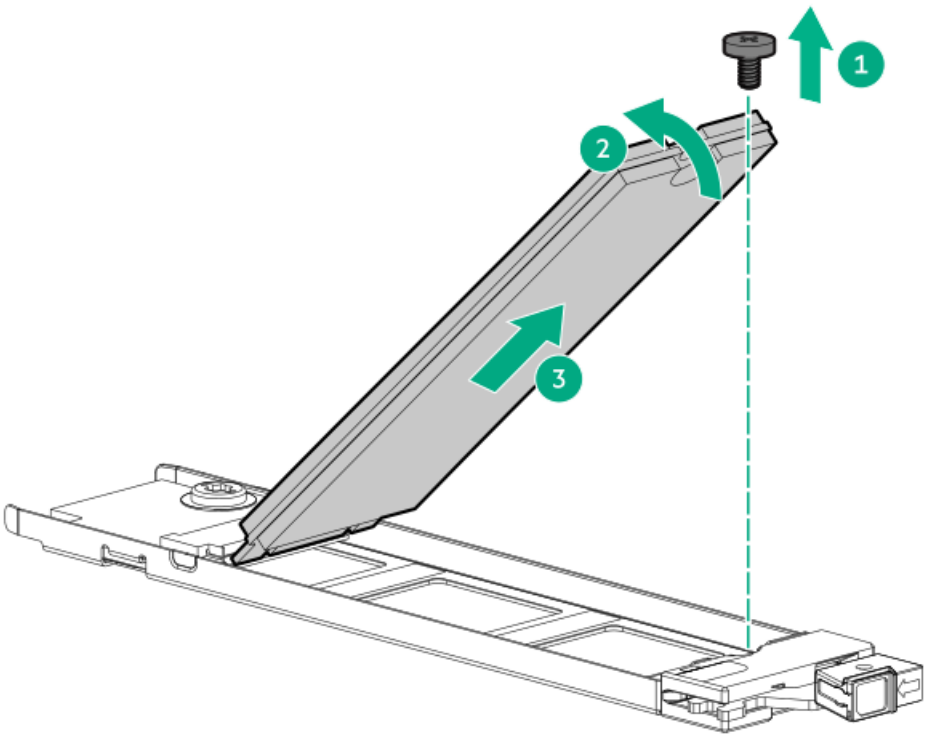
Procedure

1. Back up all server data.
2. If installed, remove the front bezel.
3. 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.

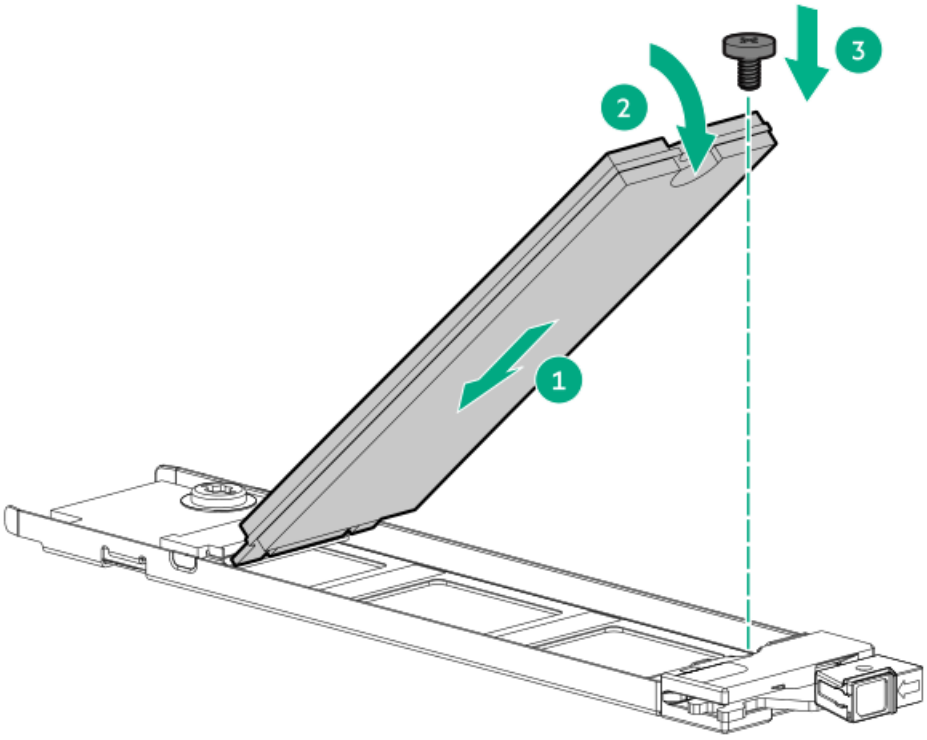
e. Tilt the SSD at a 45° angle, and then remove the failed SSD from the M.2 slot.



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.

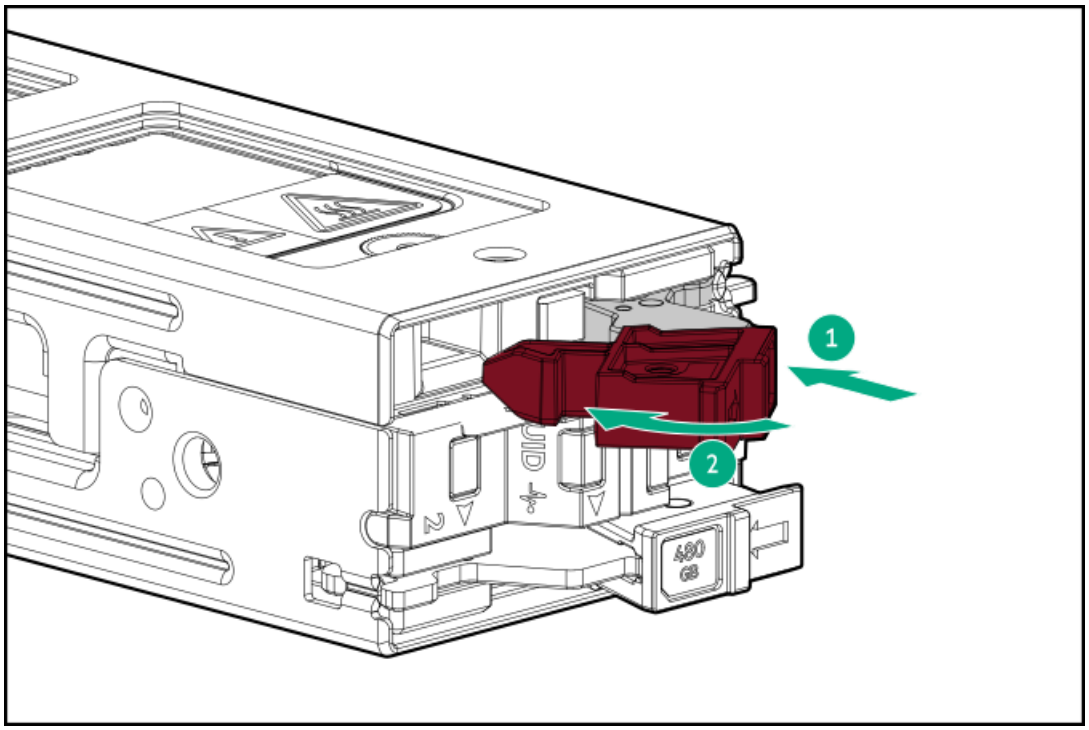


i. If closed, pivot the carrier latch to open.

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.

4. 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.

5. 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

6. If removed, install the front bezel.

Removing and replacing the boot device cage

Prerequisites

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

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

About this task

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.

CAUTION

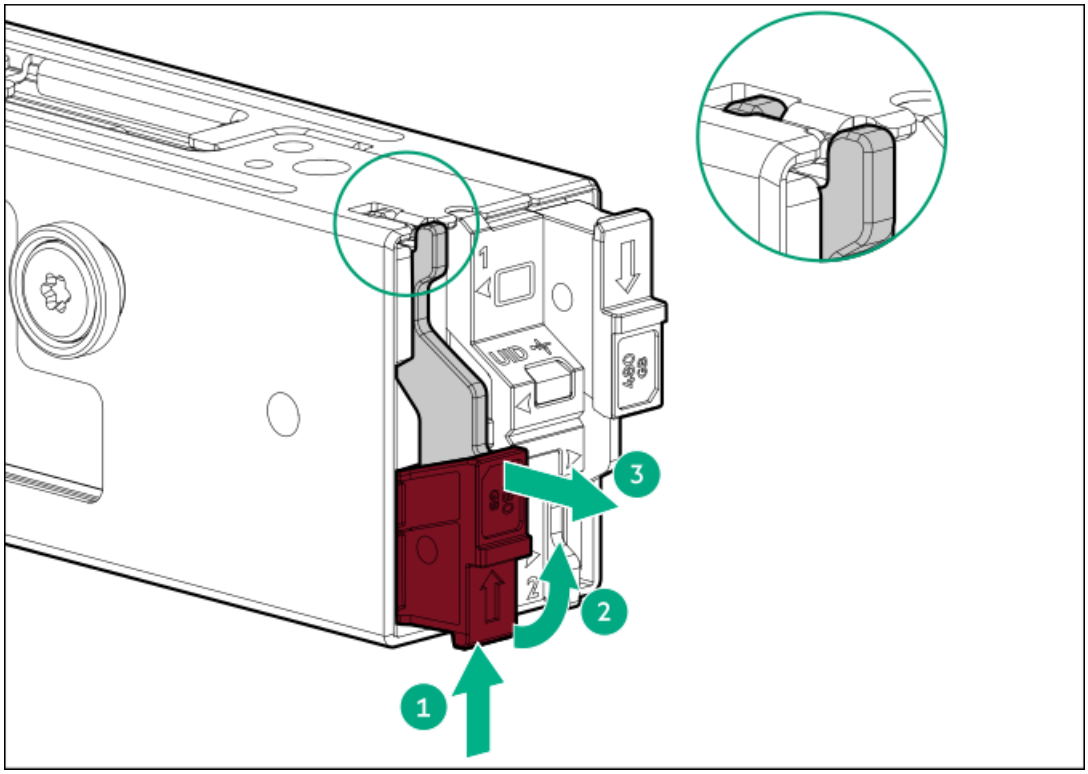
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

https://sketchfab.com/models/012423211a4e44c2be1b8bad57ce608f/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&

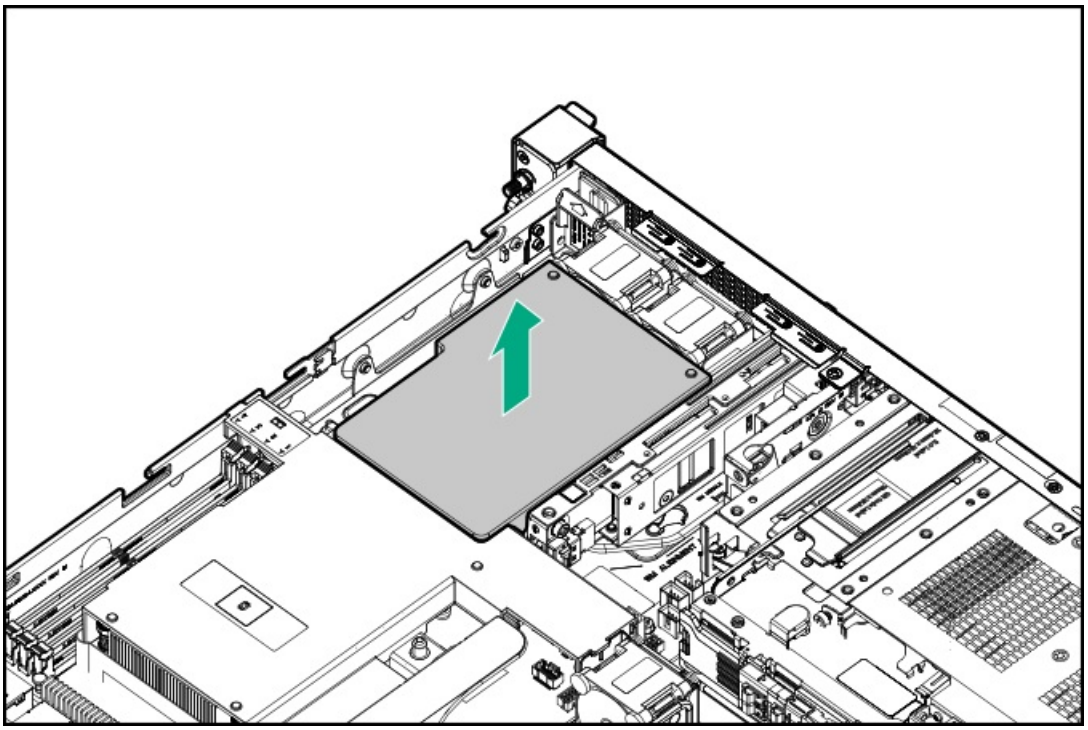
Procedure

1. Back up all server data.
2. If installed, remove the front bezel.
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.

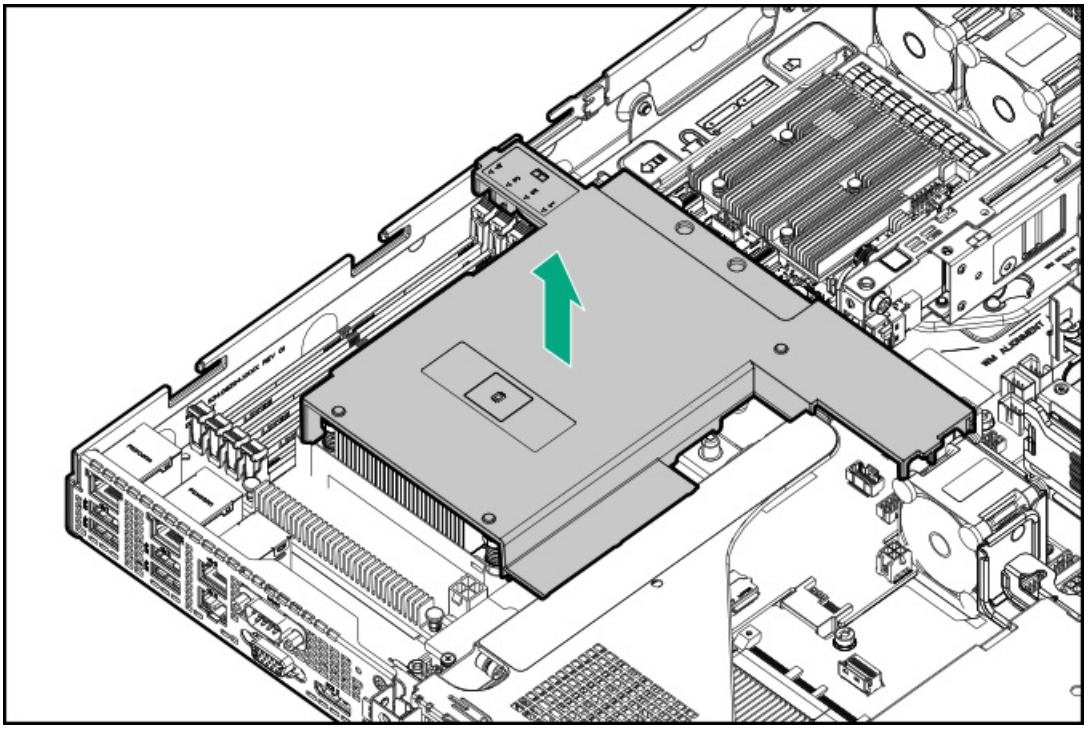
6. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the boot device carriers:
   a. Press and hold the carrier latch.
   b. Pivot the latch to open.
   c. Slide the carrier out from the boot device cage.



9. Remove the access panel
10. Remove the OCP air baffle.

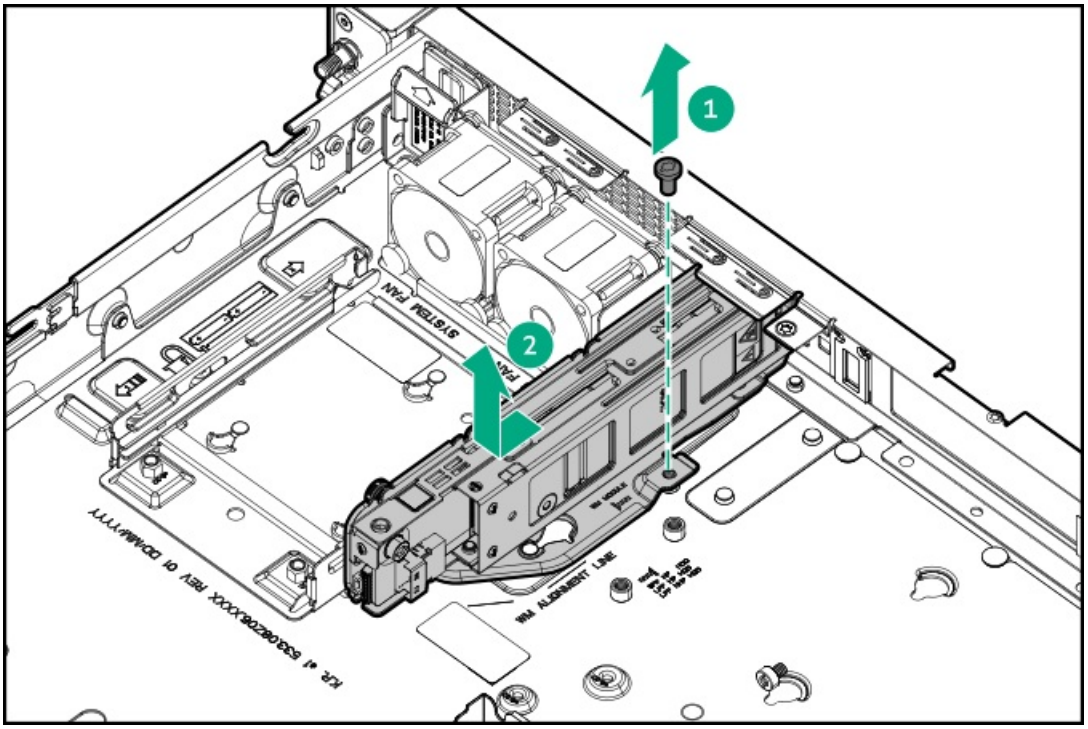


11. Remove the processor air baffle.

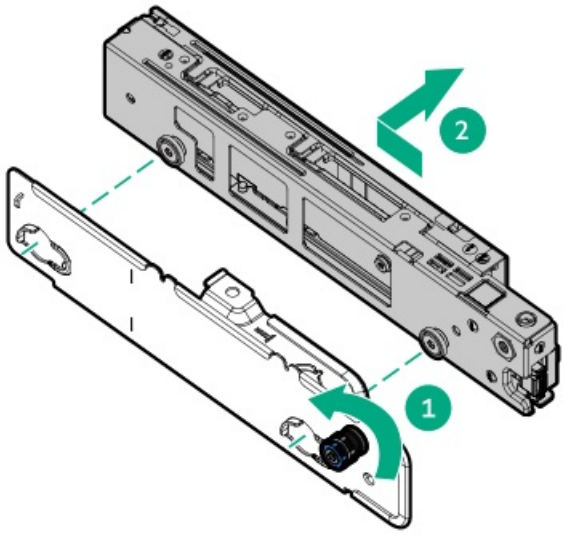


12. Disconnect the boot device signal and power cables from the PDB and mainboard .
13. Remove the boot device.

    For clarity, the connected power and signal cables are not shown in the following image.



14. Disconnect the signal and power cables from the boot device.
15. Remove the boot device bracket:
    a. Loosen the bracket thumbscrew.
    b. Remove the bracket from the boot device.



Results

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

Removing and replacing the boot device bracket blank

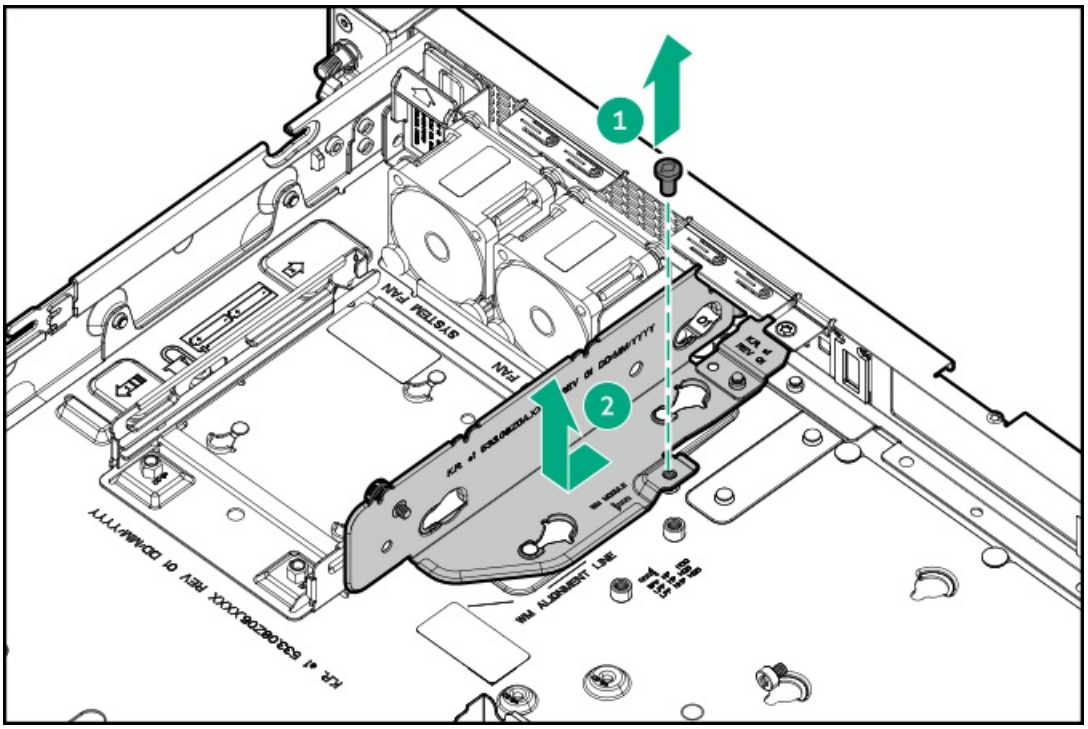
Prerequisites

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

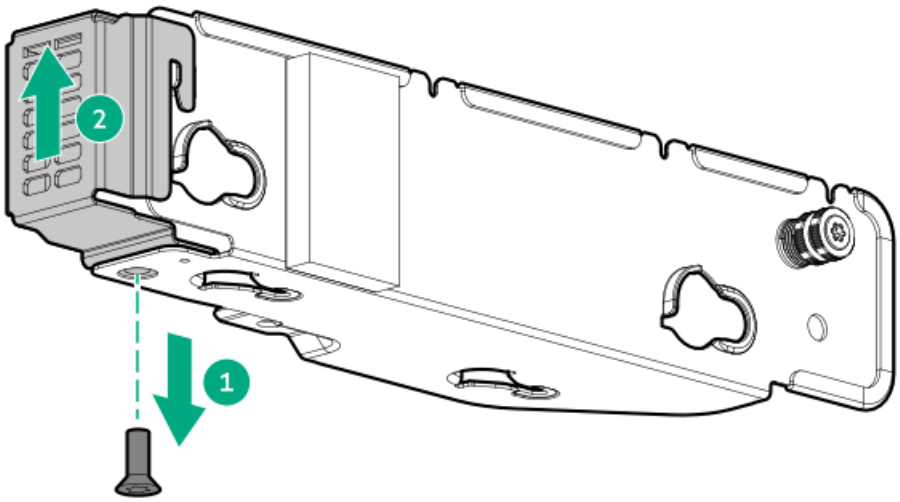
- T-15 Torx screwdriver
- T-10 Torx screwdriver

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. Remove the access panel.
7. Remove the boot device bracket from the server.



8. Remove the boot device bracket blank.



Results

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

Removing and replacing an internal USB device

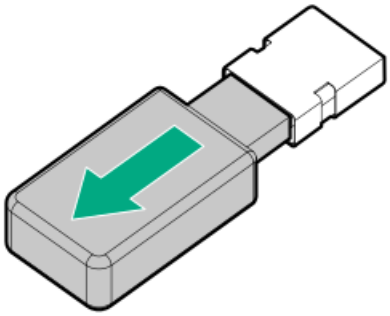
About this task

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. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Unplug the USB device from the USB port.



Results

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

Removing and replacing the type-o storage controller

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:

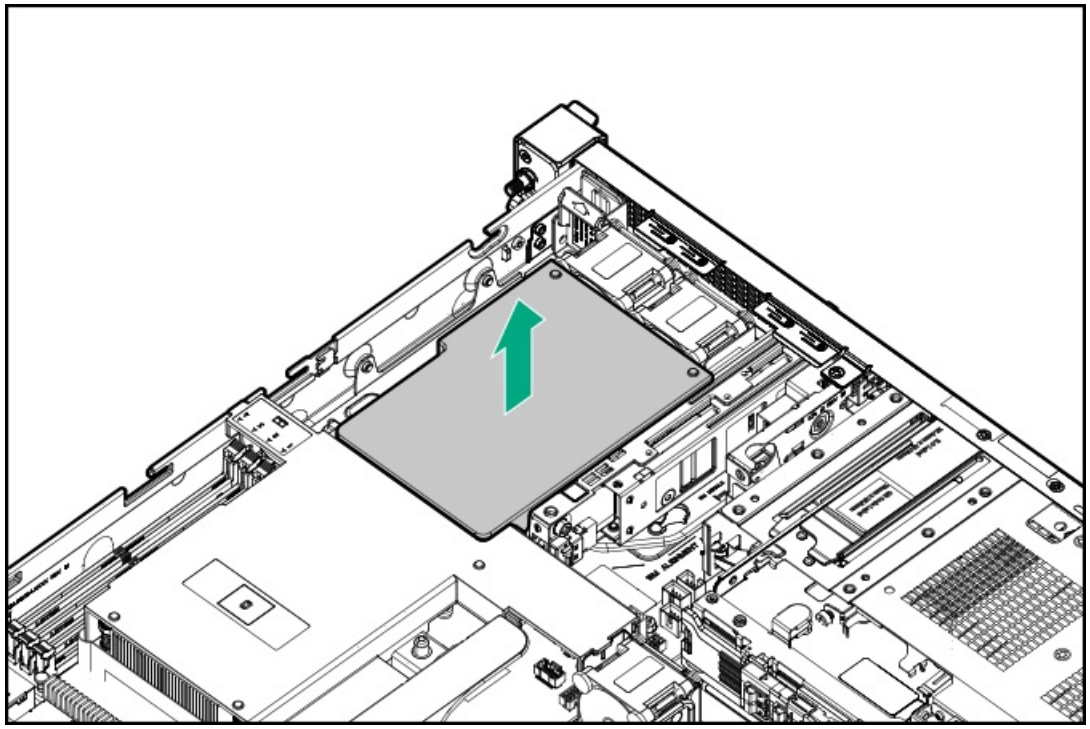
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

CAUTION

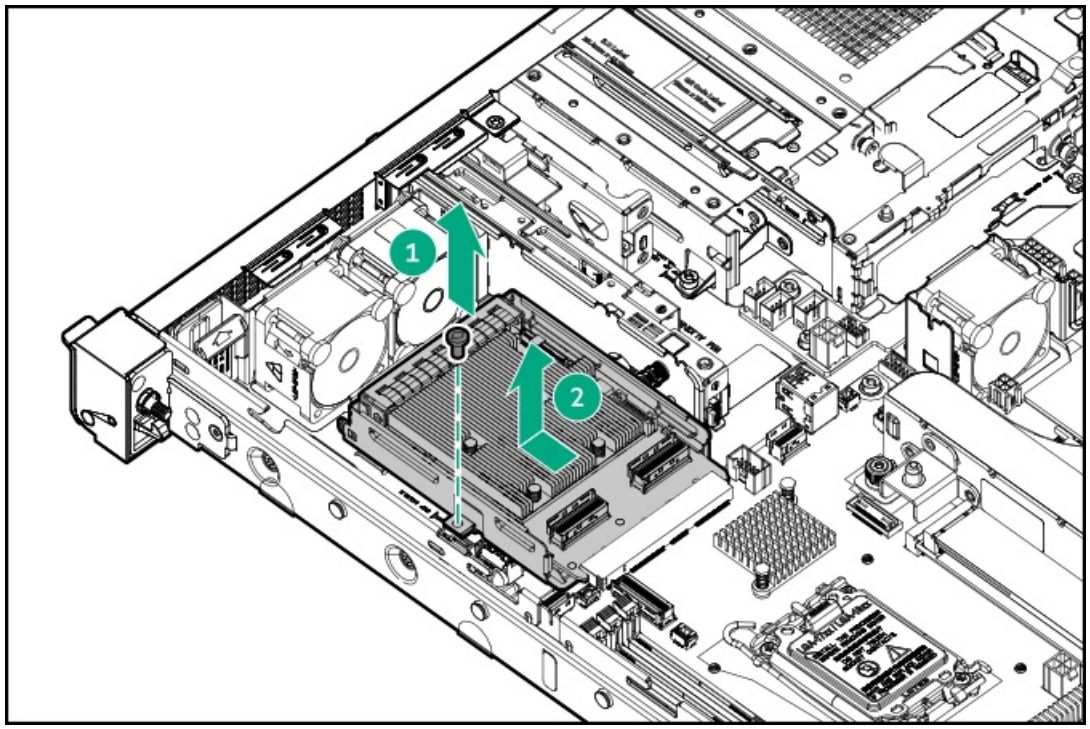
The port blank provides EMI shielding and helps maintain proper thermal status inside the server. Do not operate the server when a port blank is removed without the corresponding I/O port option installed.

Procedure

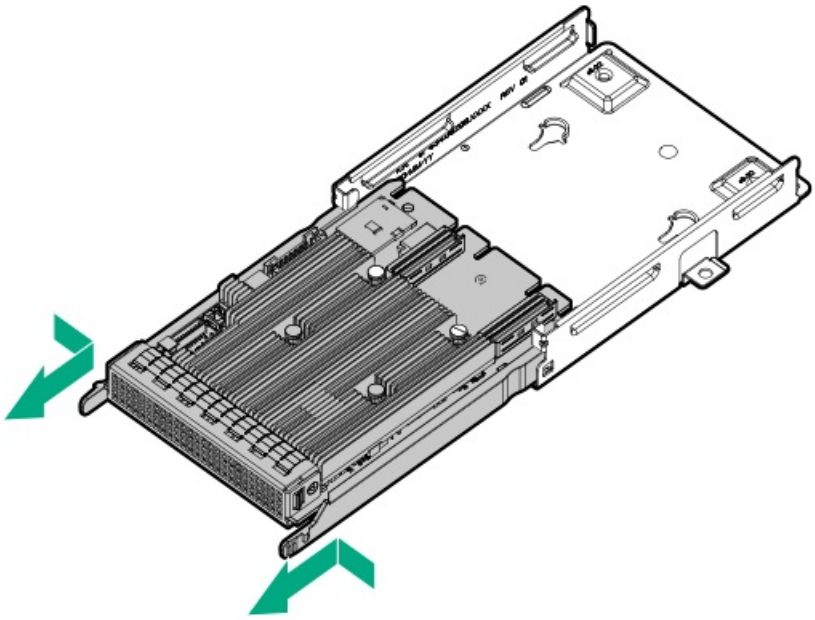
1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the OCP air baffle.



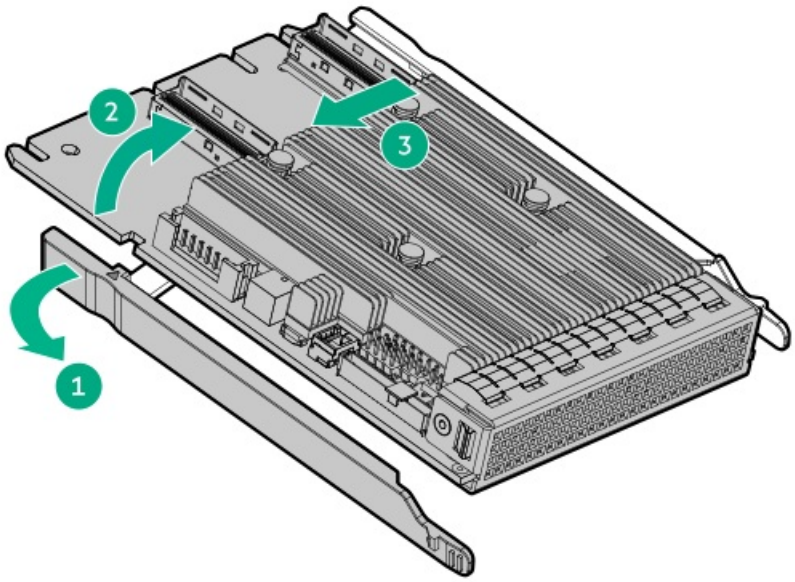
8. Disconnect the cables from the type-o controller.
9. Remove the OCP cage.



10. Remove the type-o controller from the OCP cage.



11. Remove the type-o controller from the rail.



Results

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

Removing and replacing the energy pack

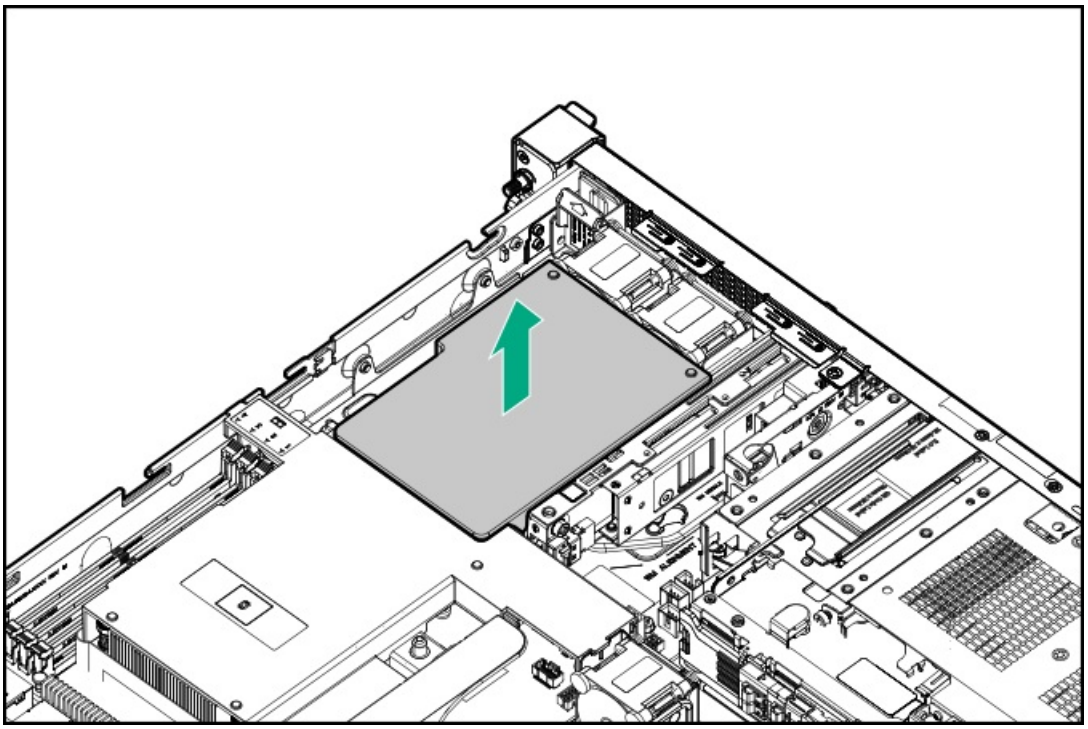
About this task

CAUTION

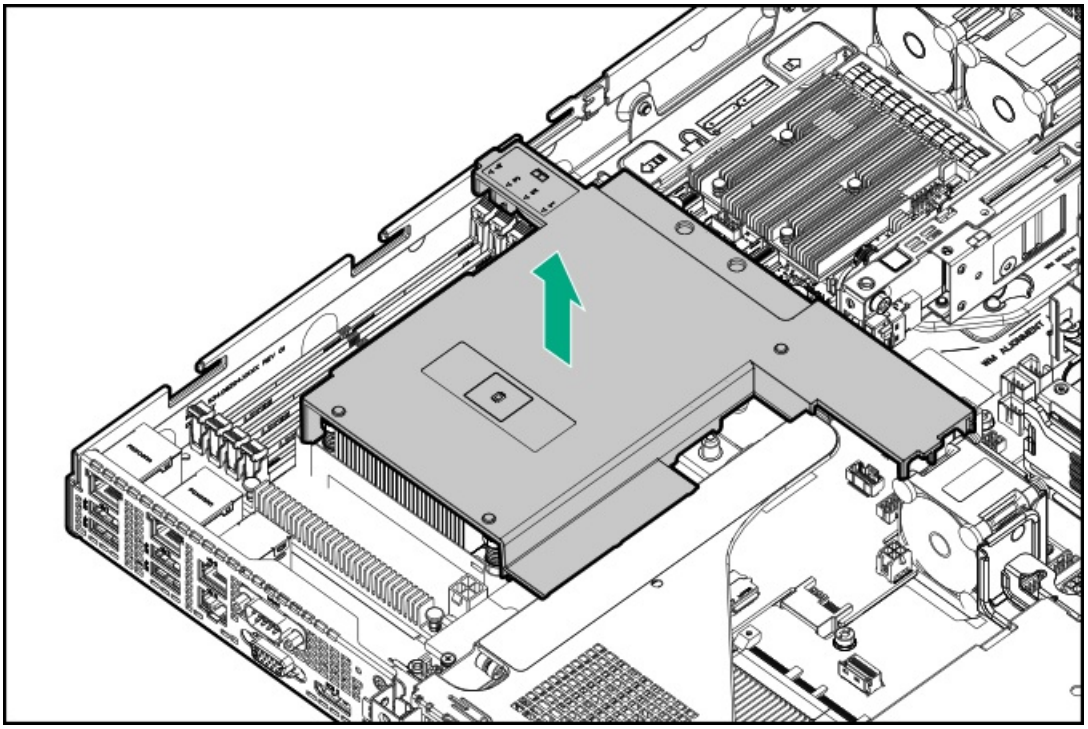
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

Procedure

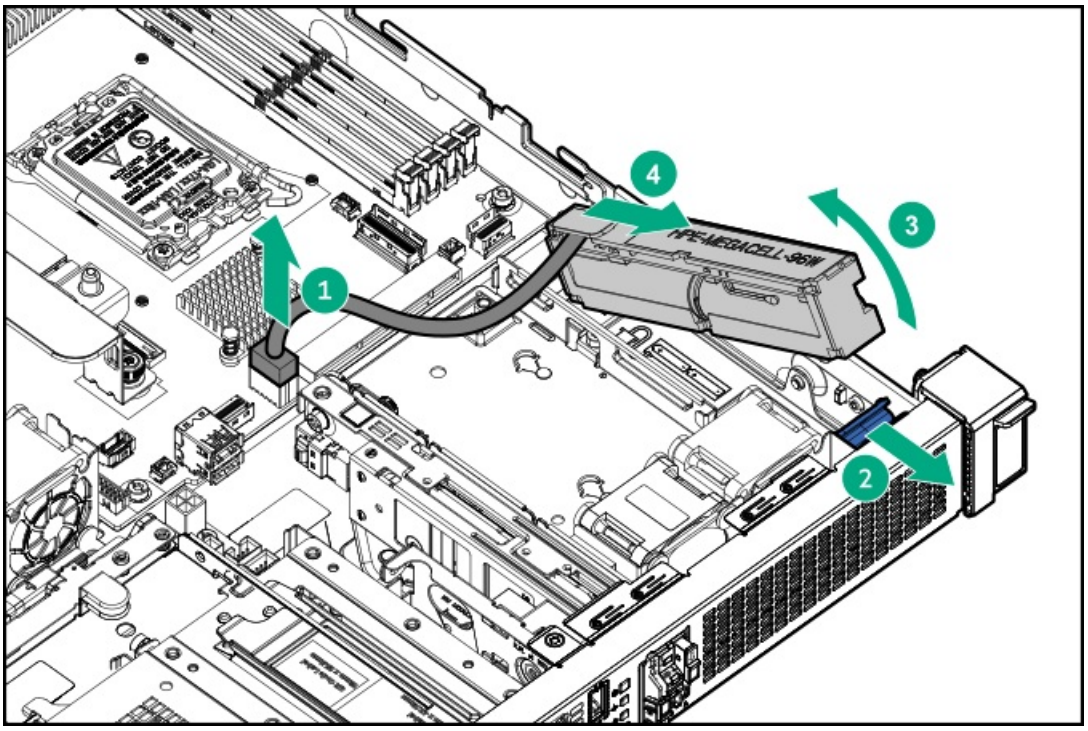
1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the OCP air baffle.



8. Remove the processor air baffle.



9. Remove the energy pack:
   a. Disconnect the energy pack cable.
   b. Press and hold the release latch.
   c. Lift one end of the energy pack and release it from the server.



Results

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

Removing and replacing the chassis intrusion detection switch

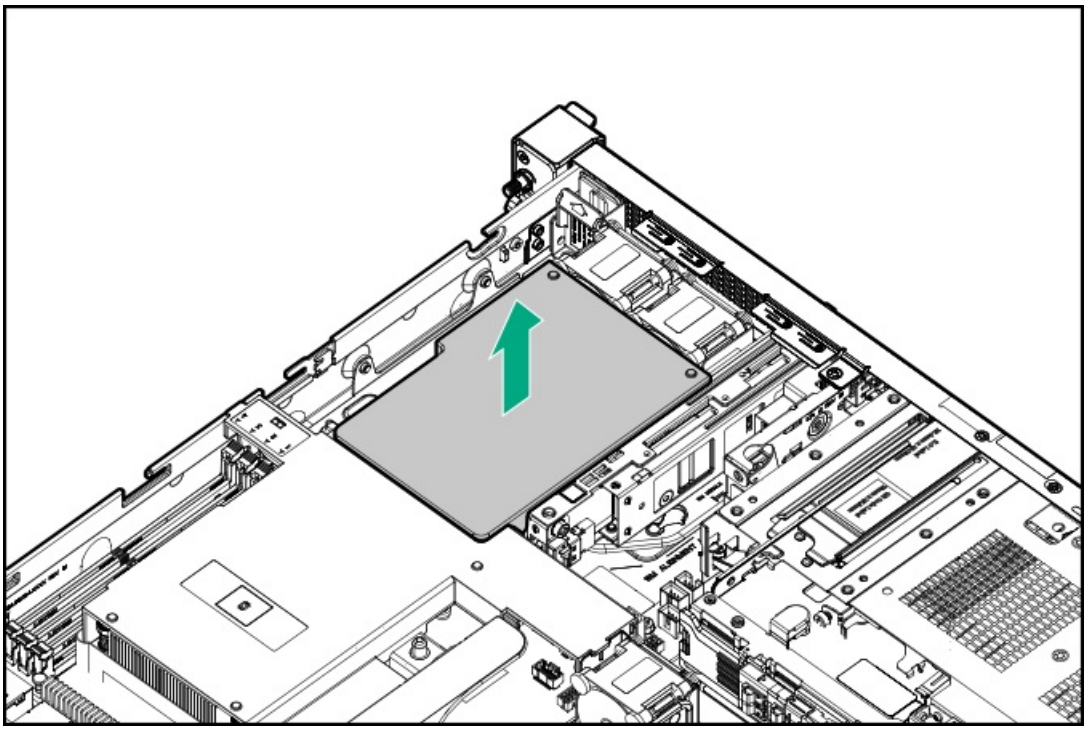
About this task

CAUTION

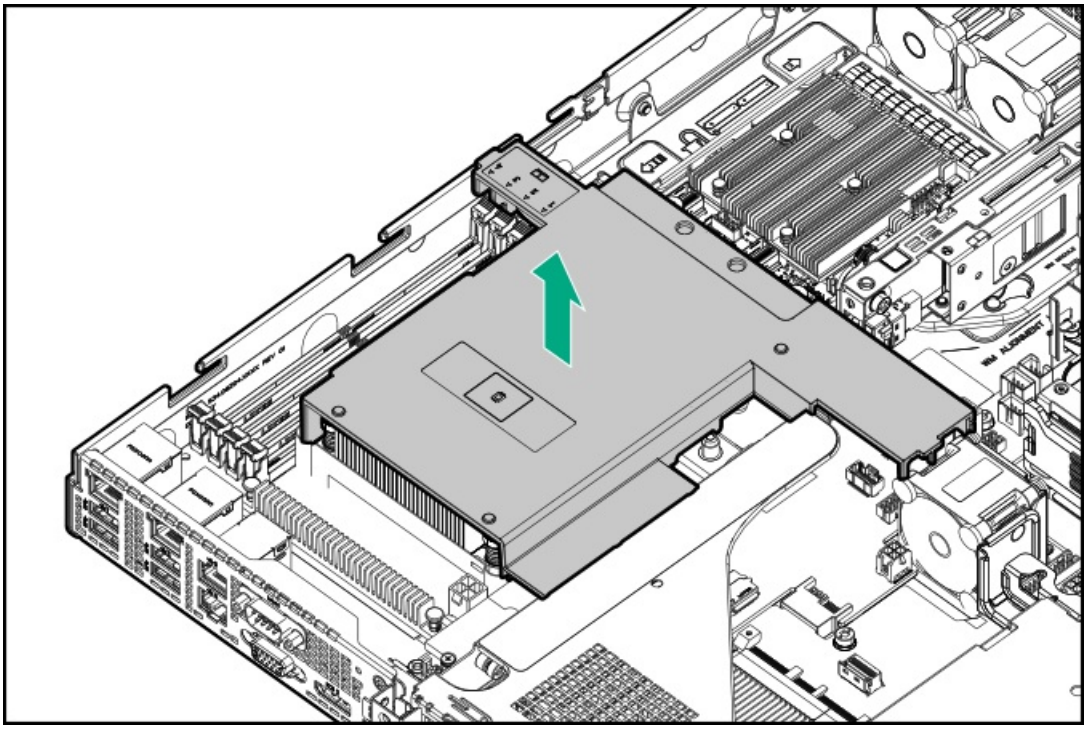
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

Procedure

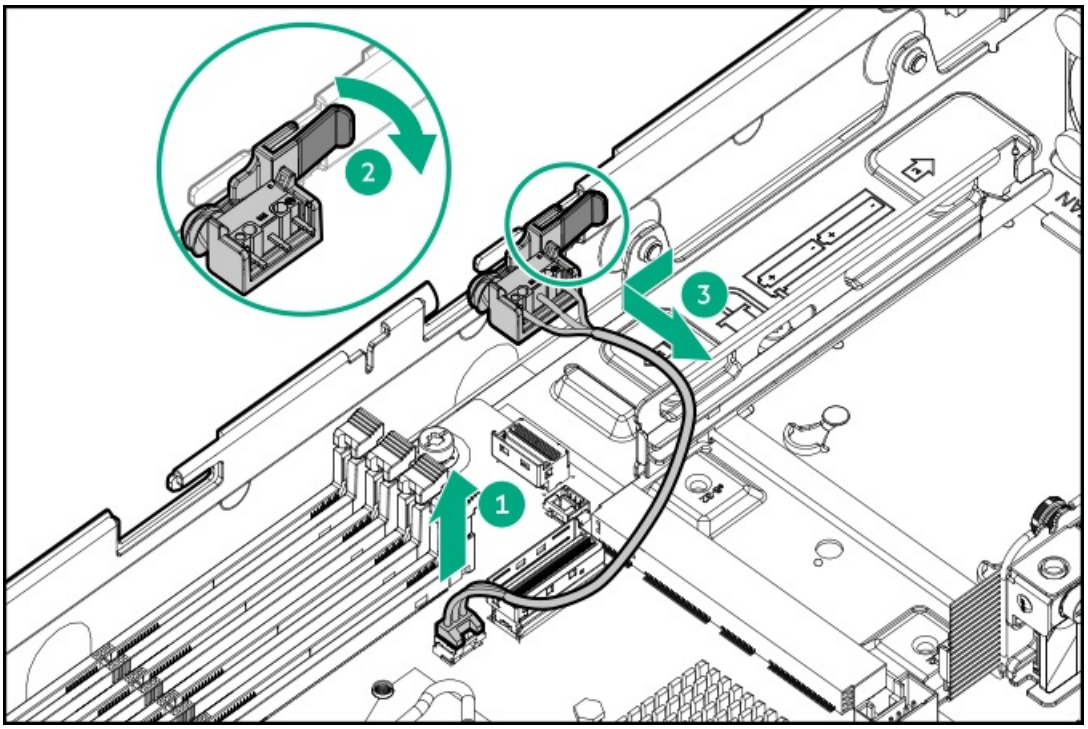
1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the OCP air baffle.



8. Remove the processor air baffle.



9. Remove the chassis intrusion detection switch:
   a. Disconnect the chassis intrusion detection switch cable from the mainboard.
   b. While carefully retracting the snap-in latch, pull out the tab from the chassis slot.



Results

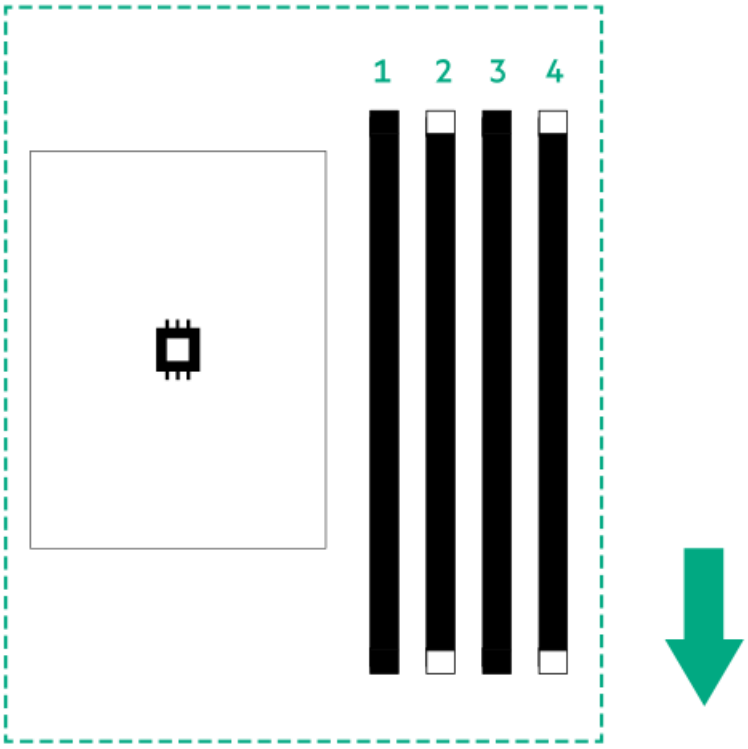
The removal procedure is complete. To replace the component, reverse this procedure.

DIMM replacement

Subtopics

DIMM population information

The arrow points to the front of the server.



Number of DIMM(s) to populate	Slot 1	Slot 2	Slot 3	Slot 4
1		✔		
2		✔		✔
4	✔	✔	✔	✔

For detailed DIMM population and memory speed information, see the relevant memory technical paper in:

https://www.hpe.com/docs/server-memory

Removing and replacing a DIMM

About this task

https://sketchfab.com/models/ec39e4183f8f410e93c8c34a1611b560/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

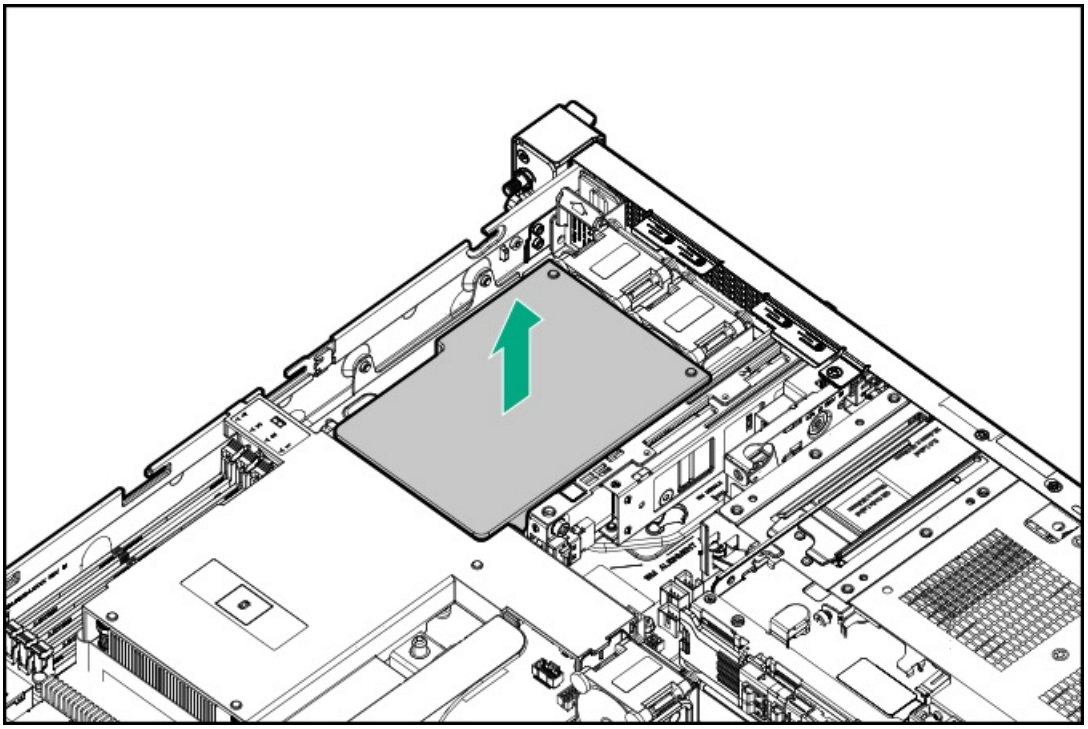
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

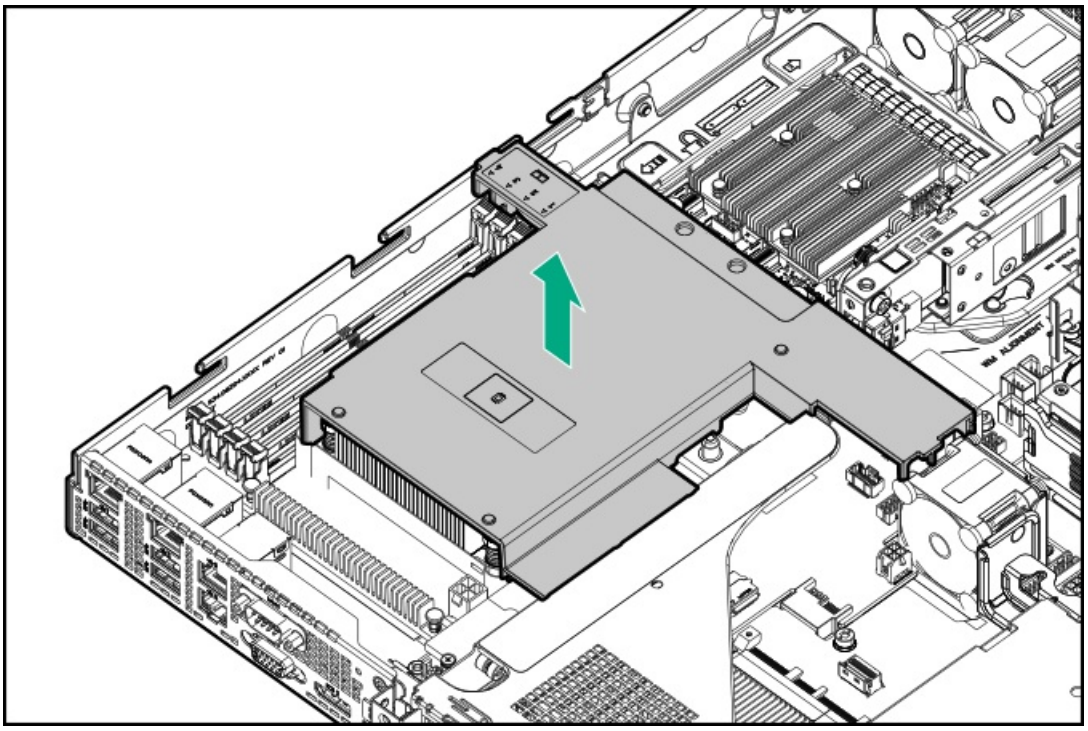
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

Procedure

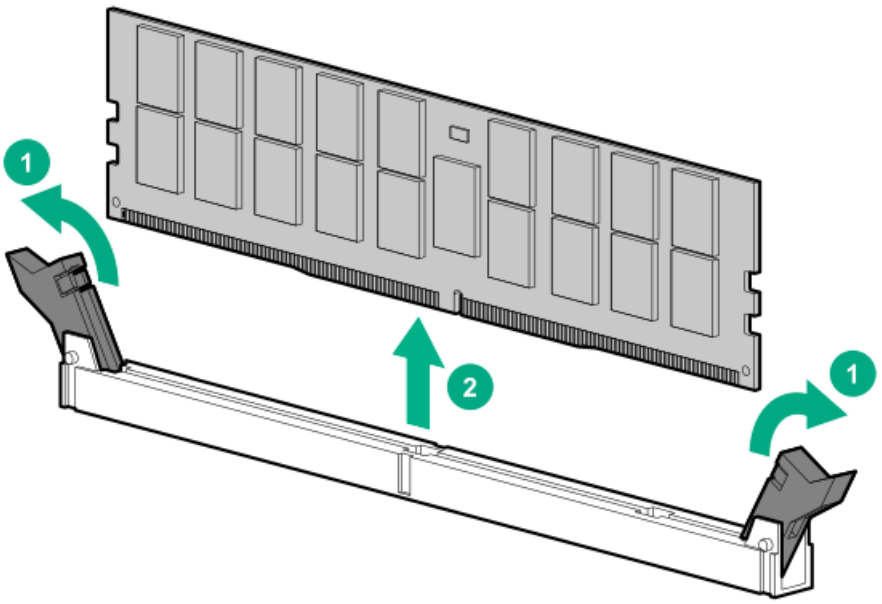
1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the OCP air baffle.
8. Remove the processor air baffle.
9. Remove the OCP air baffle.



10. Remove the processor air baffle.



11. Remove the DIMM.
    a. Open the DIMM slot latches.
    b. Lift the DIMM out of the slot.



Results

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

Removing and replacing the OCP NIC 3.0 adapter

About this task

https://sketchfab.com/models/ac02ab5a52f140faa5c7e7a4444f9683/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:

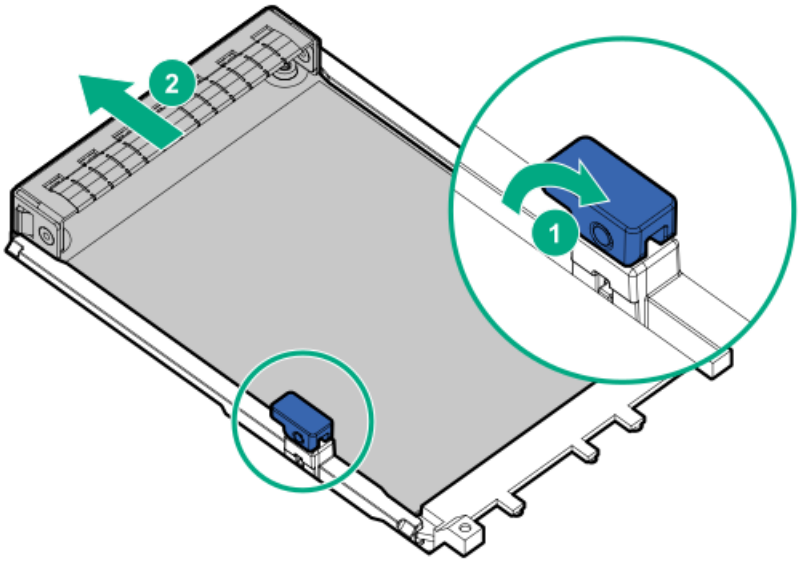
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

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. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the riser cage.
8. Remove the OCP NIC 3.0 adapter:
   a. Rotate the locking pin to the open (vertical) position.
   b. Slide the adapter out of the bay.



Results

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

Removing and replacing the external OCP slot blank

Prerequisites

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

About this task

CAUTION

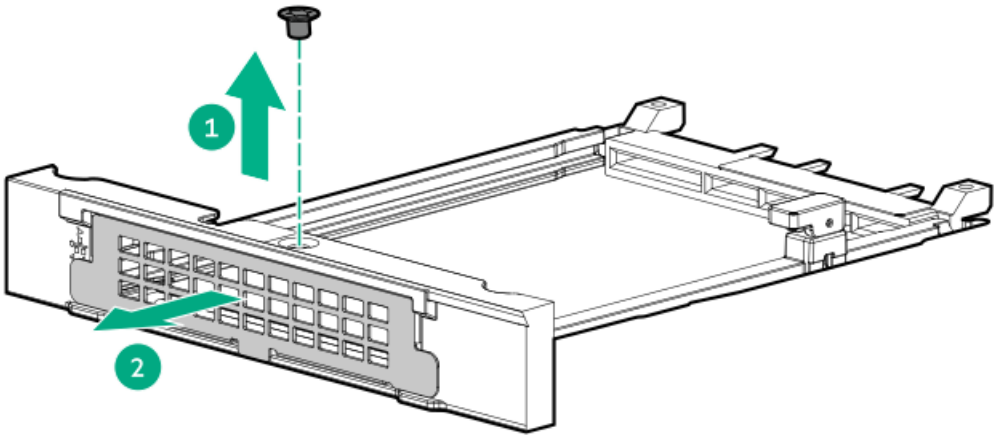
The port blank provides EMI shielding and helps maintain proper thermal status inside the server. Do not operate the server when a port blank is removed without the corresponding I/O port option installed.

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. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the riser cage.
8. Remove the OCP slot blank:
   a. Remove the blank screw.

b. Remove the blank.

   Retain the screw and blank for future use.



Results

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

Removing and replacing the serial port cable

Prerequisites

Before you perform this procedure, make sure that you have a hex screwdriver available.

About this task

CAUTION

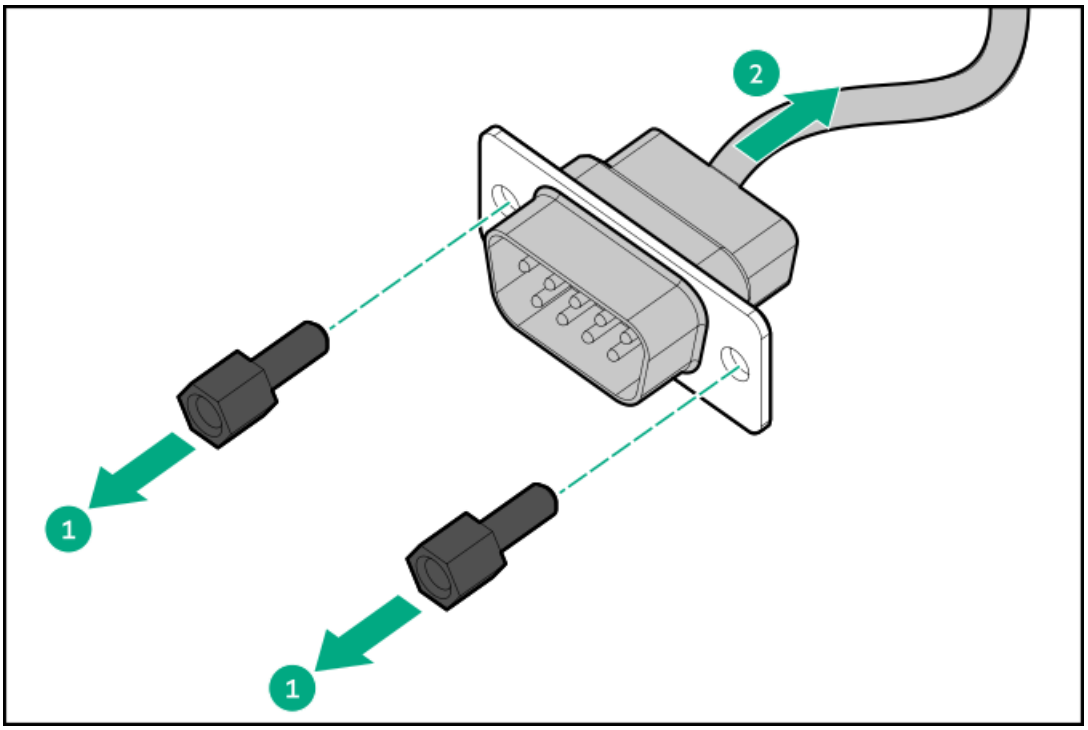
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

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. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Disconnect the serial port cable from the iLO-M.2-serial module.
8. Remove the serial port cable:

a. Remove the hex screws.

b. Remove the serial port from the rear panel.



Results

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

Removing and replacing the serial port blank

Prerequisites

Before you perform this procedure, make sure that you have a spudger or any small prying tool available.

About this task

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.

CAUTION

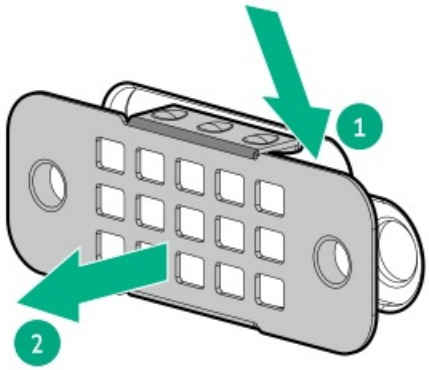
To prevent improper cooling and thermal damage, do not operate the server unless the serial port slot has either a serial port or a serial port blank installed.

Procedure

1. Remove the serial port blank:

   a. Detach the right side of the blank.

   b. Repeat step a on the left side to remove the blank.



2. Immediately install the new serial port blank.

Results

The replacement procedure is complete.

Removing and replacing an M.2 SSD on the iLO-M.2-serial module

Prerequisites

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

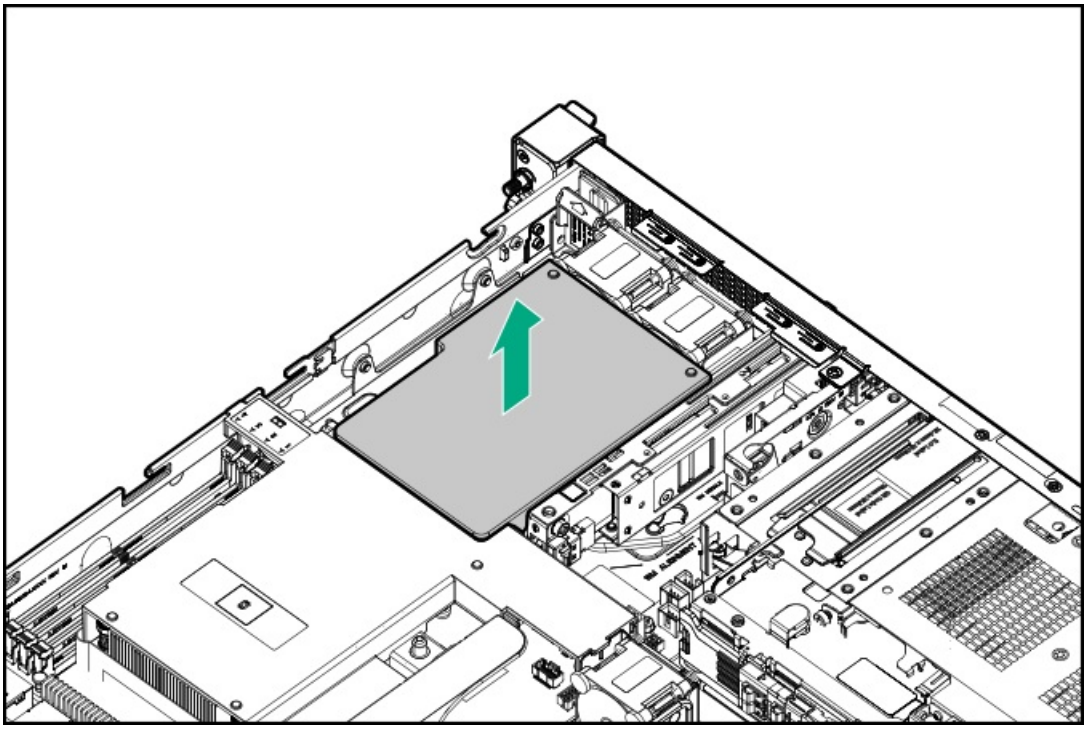
When installing the replacement component:

- 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.

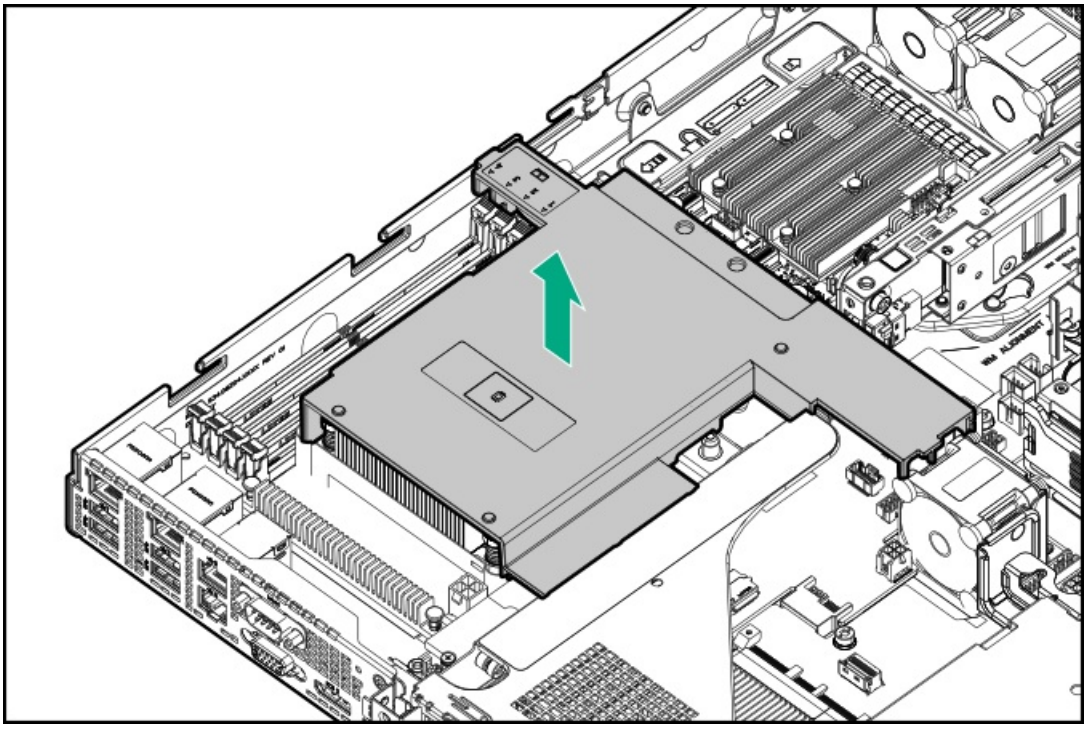
Procedure

1. Back up all server data on the M.2 SATA SSD .
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. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.

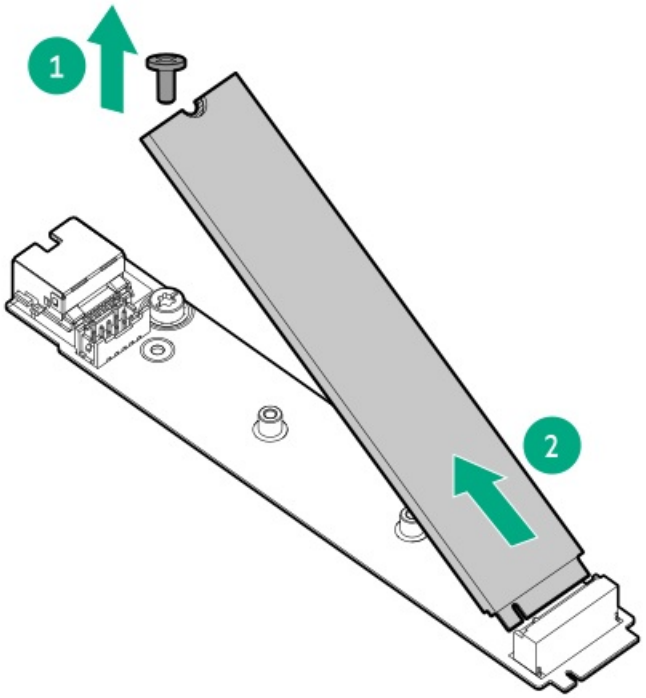
8. Remove the OCP air baffle.



9. Remove the processor air baffle.



10. Remove the M.2 SSD from the iLO-M.2-serial module.



Results

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

Removing and replacing the iLO-M.2-serial module

Prerequisites

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

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

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:

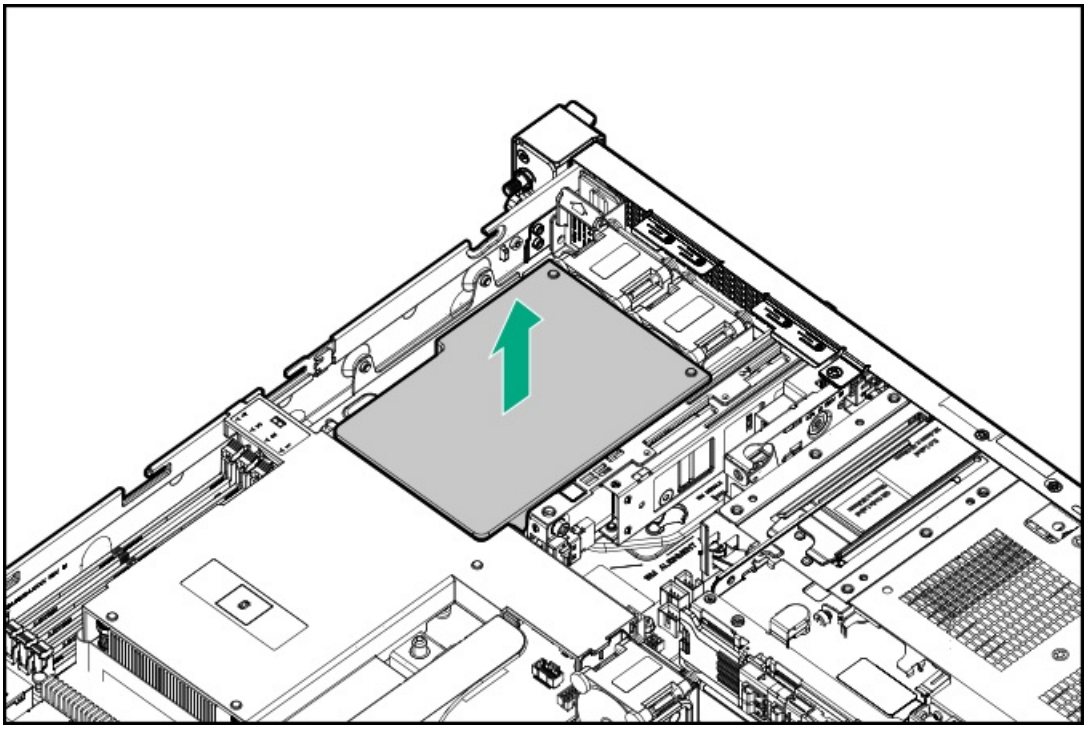
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

CAUTION

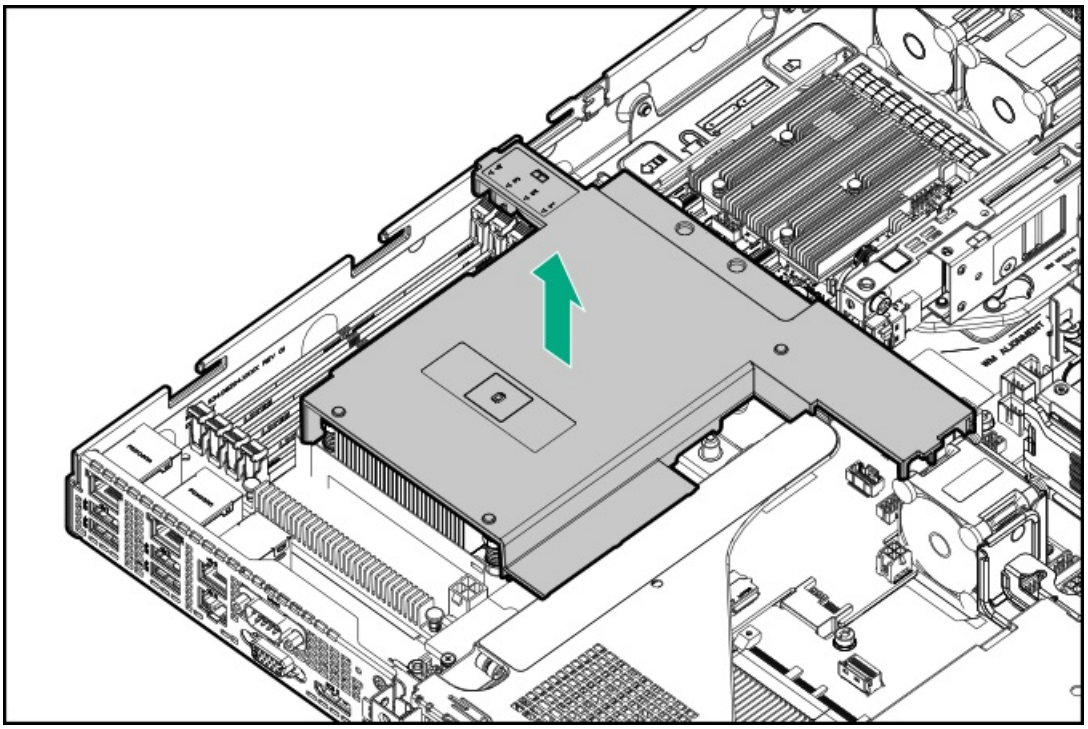
The port blank provides EMI shielding and helps maintain proper thermal status inside the server. Do not operate the server when a port blank is removed without the corresponding I/O port option installed.

Procedure

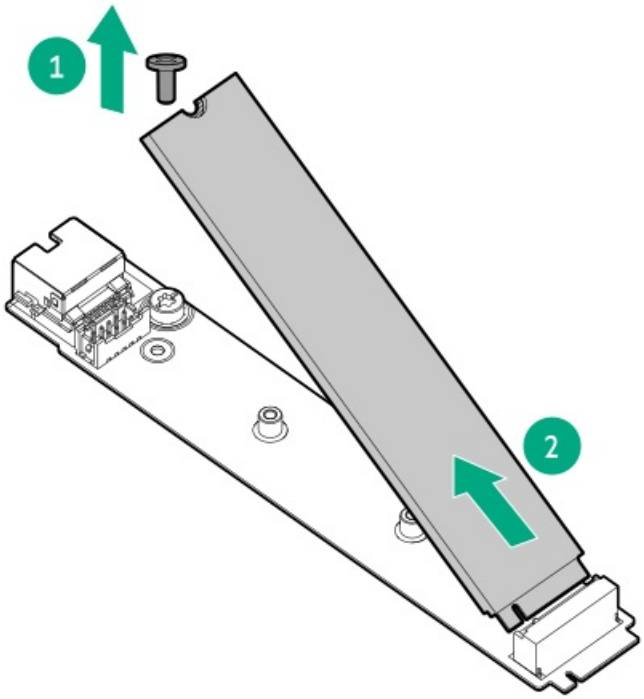
1. If the M.2 SSD is installed, back up all server data on the M.2 SATA SSD .
2. Power down the server.
3. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the OCP air baffle.



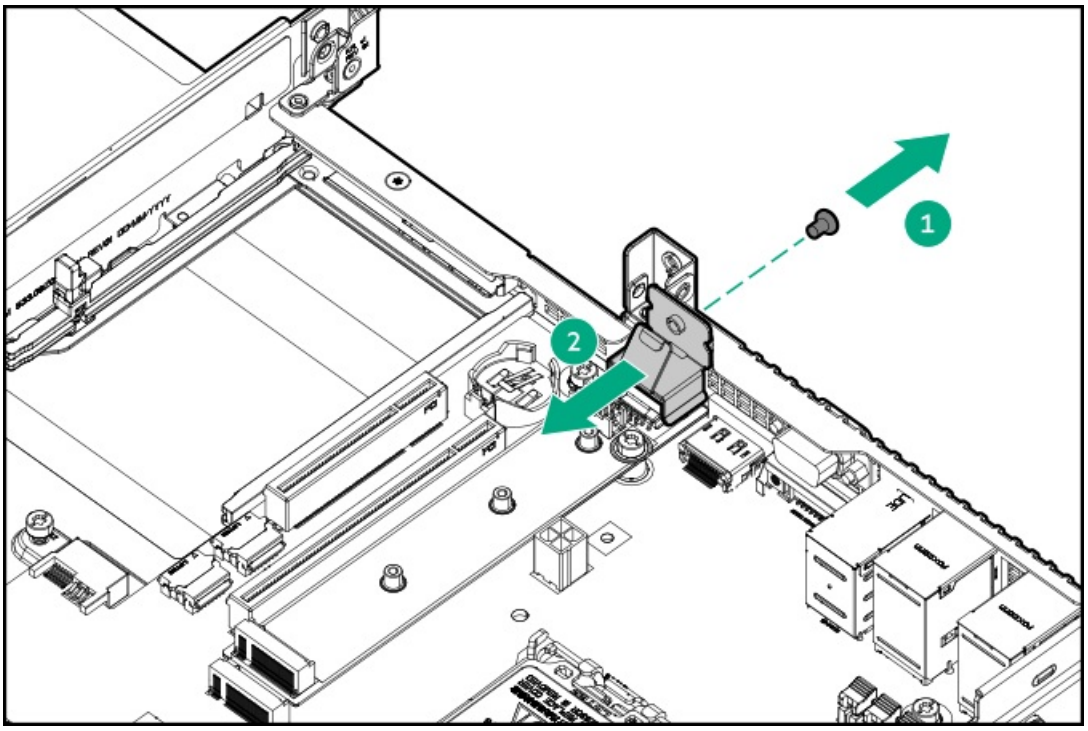
9. Remove the processor air baffle.



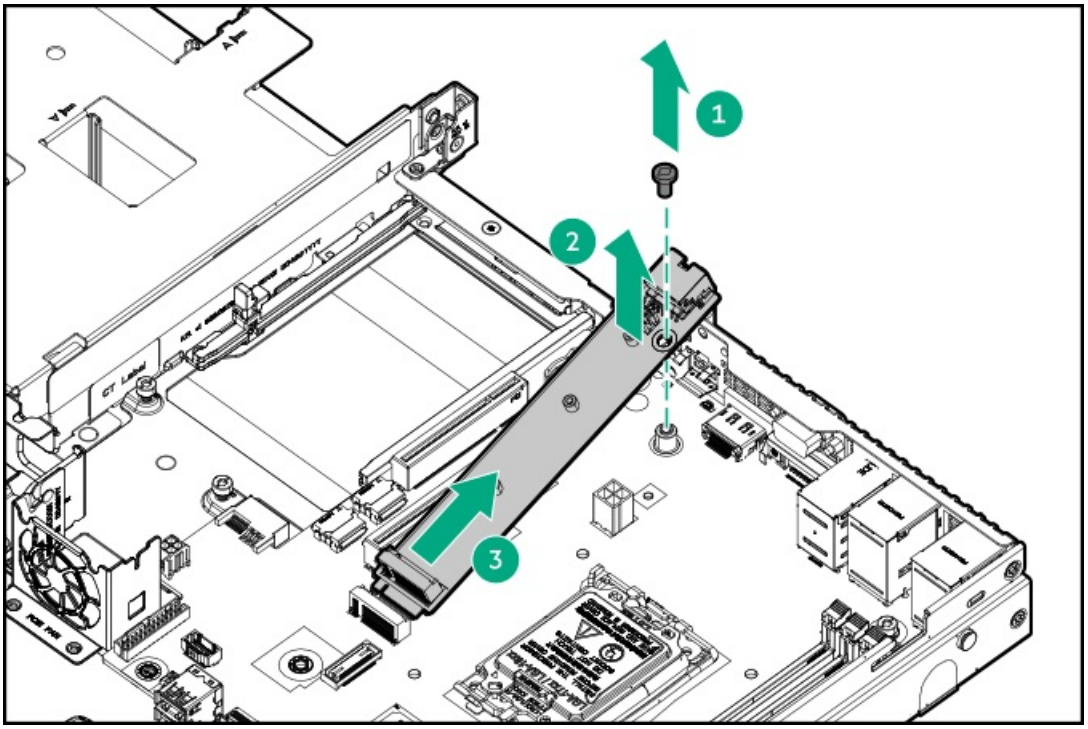
10. If installed, disconnect the serial port cable .
11. If installed, remove the M.2 SSD.



12. Remove the module stabilizer.



13. Remove the iLO-M.2-serial module.



Results

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

Removing and replacing the iLO dedicated network port blank

Prerequisites

Before you perform this procedure, make sure that you have a spudger or any small prying tool available.

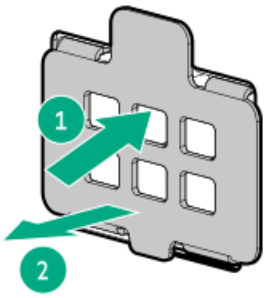
About this task

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. Remove the iLO dedicated network port blank:
   a. Use a spudger to pry the blank from the chassis.
   b. Remove the blank.



2. Immediately install the new iLO dedicated network port blank.

Results

The replacement procedure is complete.

Removing and replacing an expansion card

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 PCIe slots have either a riser slot blank or an expansion card installed.

CAUTION

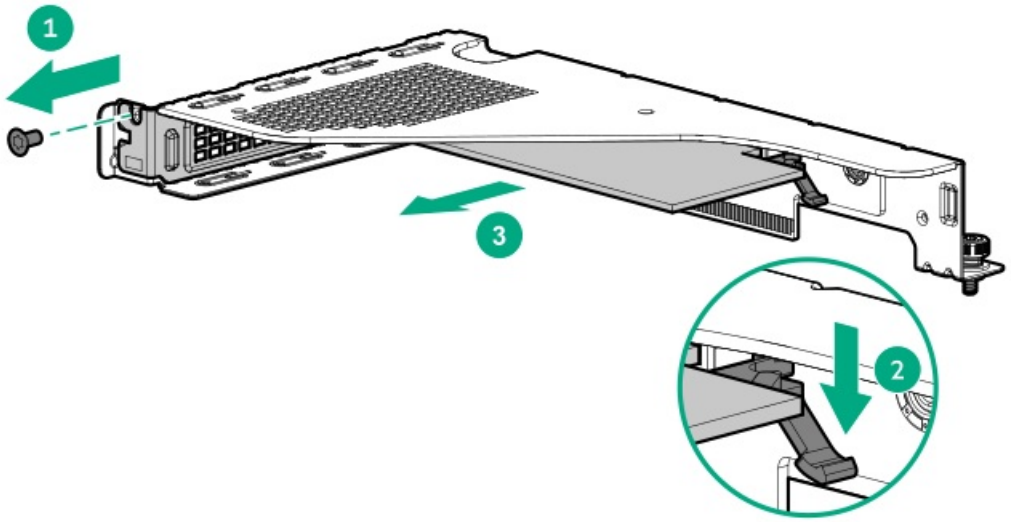
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

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. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Disconnect all cables connected to the expansion card.
8. Remove the riser cage.
9. Remove the expansion card:
   a. Remove the screw.
   b. Press and hold the release latch.
   c. Remove the expansion card.



Results

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

Removing and replacing a riser board

Prerequisites

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

About this task

CAUTION

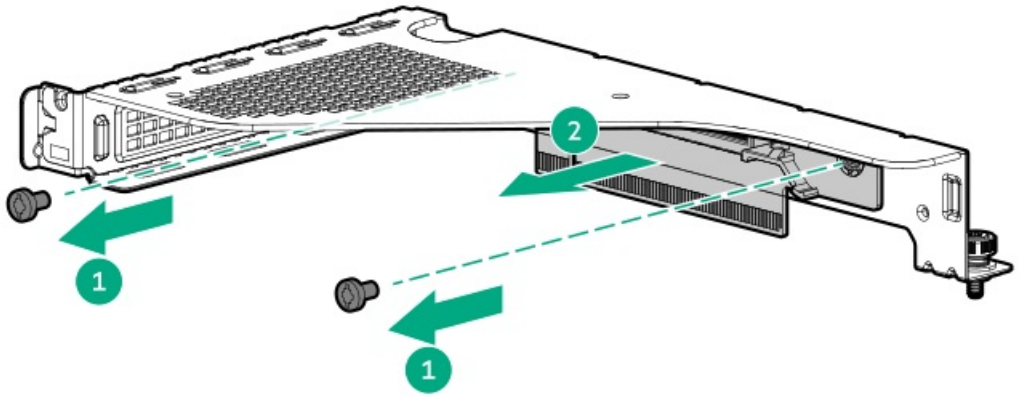
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

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. 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. Remove the access panel.
7. If installed, remove any expansion card from the riser.
8. Remove the riser board.



Results

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

Heatsink replacement

Subtopics

Removing the heatsink

Prerequisites

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

- T-15 Torx screwdriver
- Alcohol wipe

About this task

WARNING

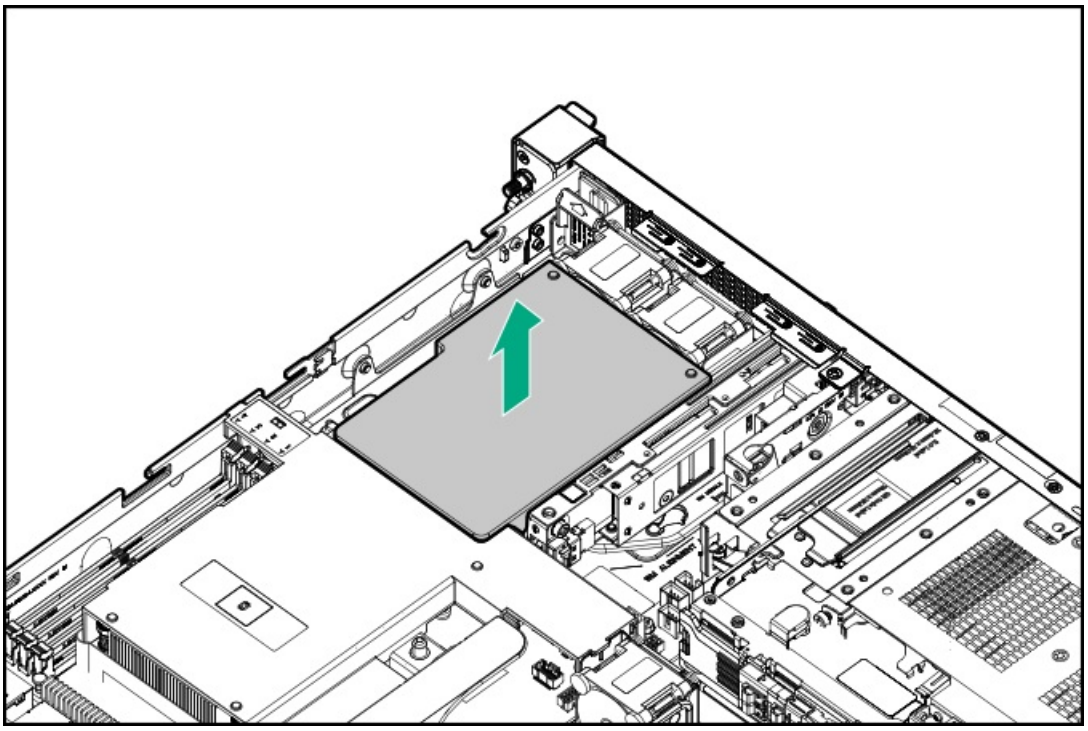
To reduce the risk of personal injury from hot surfaces, allow the internal system components to cool before touching them.

CAUTION

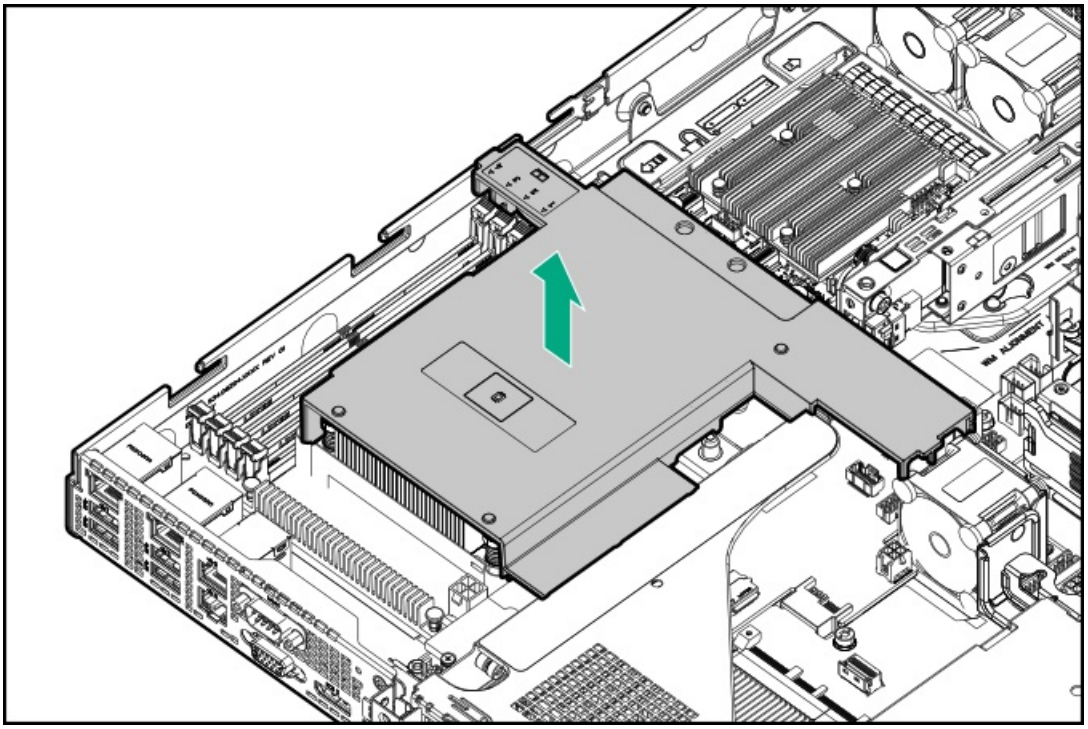
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

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. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the OCP air baffle.



8. Remove the processor air baffle.



9. Remove the DIMMs 1 and 2.
10. Allow the heatsink to cool.
11. **CAUTION**

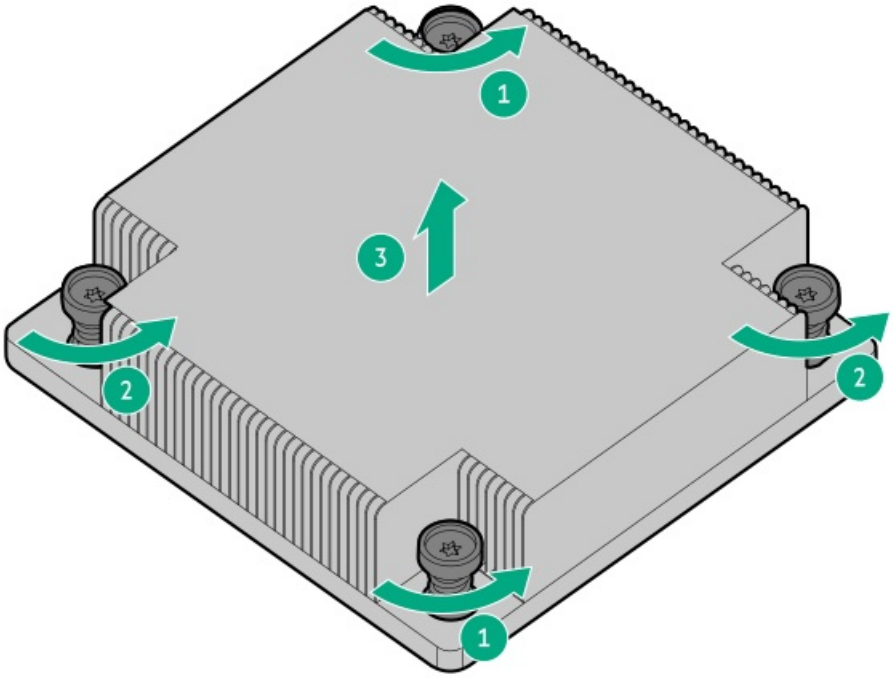
    To prevent mechanical damage or depositing oil on your hands or other contaminants to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

    Remove the heatsink:

    a. Loosen one pair of diagonally opposite screws halfway, then loosen the other pair of screws.

b. Completely loosen all screws in the same sequence.

c. Lift the heatsink away from the processor socket.



d. Place the heatsink on a flat work surface with its contact side facing upward.

12. Clean the old thermal grease from the processor with the alcohol wipe.

    Allow the alcohol to evaporate before continuing.

Installing the heatsink

Prerequisites

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

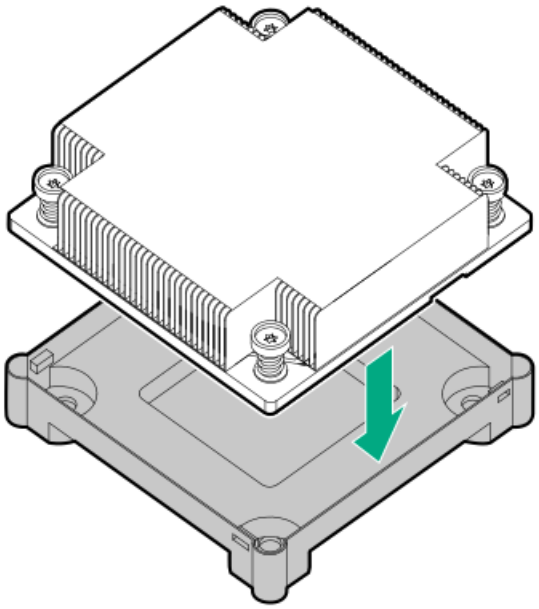
About this task

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. Remove the thermal interface protective cover from the heatsink.



2. **CAUTION**

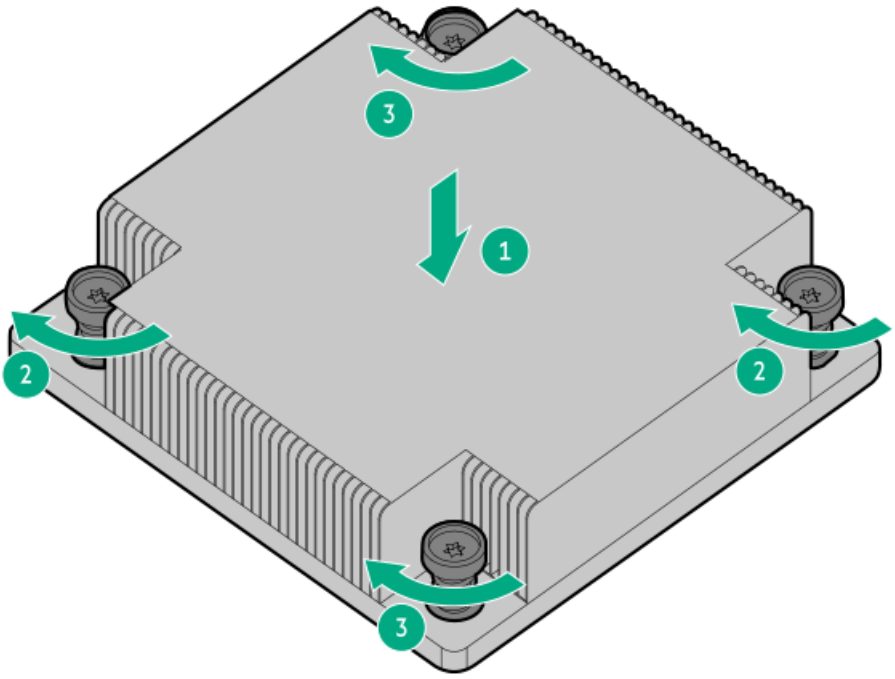
   To prevent mechanical damage or depositing oil on your hands or other contaminants to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

   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.

   Install the heatsink:

   a. When using a torque wrench to tighten the heatsink screws, set it to 0.67 N-m (6 in-lb).
   b. Note the **Front of server** text on the heatsink label to correctly orient the heatsink over the processor socket.
   c. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.
   d. Tighten one pair of diagonally opposite screws halfway, then tighten the other pair of screws.
   e. Finish the installation by completely tightening the screws in the same sequence.



3. Install the DIMMs 1 and 2.
4. Install the processor air baffle.
5. Install the OCP air baffle.
6. Install the access panel.
7. Install the server into the rack.
8. Connect all peripheral cables to the server.
9. Connect each power cord to the server.
10. Connect each power cord to the power source.
11. Power up the server.

Results

The replacement procedure is complete.

Processor replacement

Subtopics

Processor cautions
Removing the processor
Installing the processor

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

If installing a processor with a faster speed, update the system ROM before installing the processor.

To download the firmware and view installation instructions, see the **Hewlett Packard Enterprise Support Center website**.

CAUTION

THE CONTACTS ARE VERY FRAGILE AND EASILY DAMAGED. To avoid damage to the socket or processor, do not touch the contacts.

Removing the processor

Prerequisites

- Review the processor cautions.
- Before you perform this procedure, make sure that you have the following items available:
  - T-15 Torx screwdriver
  - Alcohol wipe
  - If you are not immediately installing the new processor, make sure that you have a processor socket dust cover.

About this task

WARNING

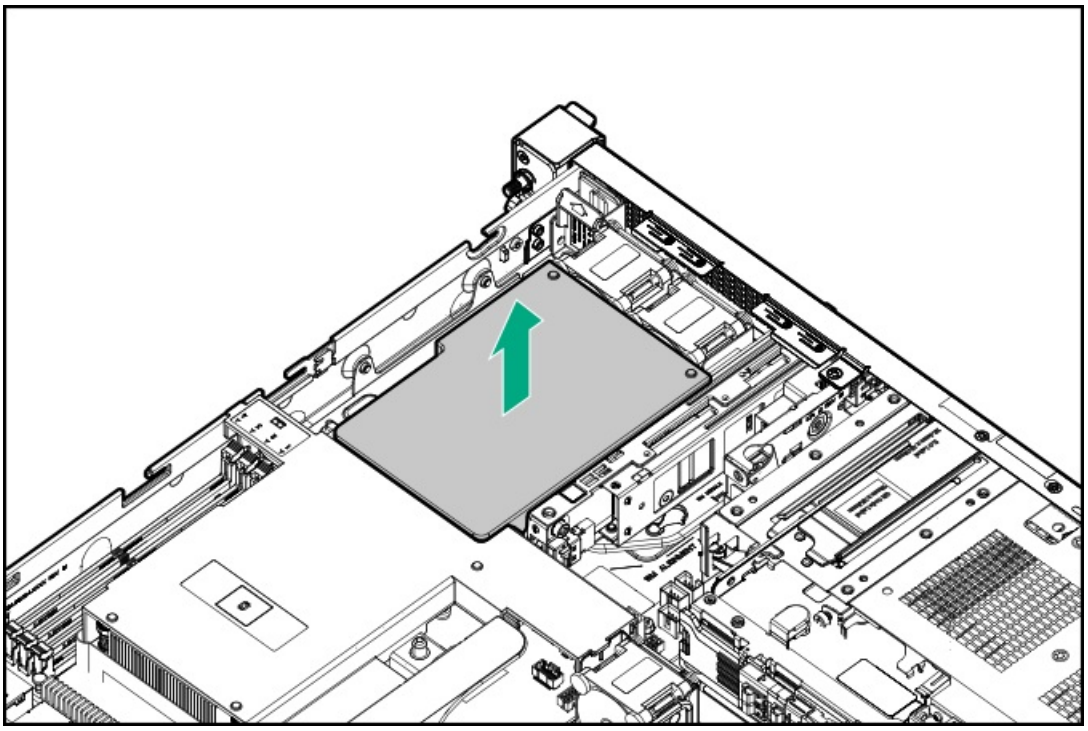
To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

CAUTION

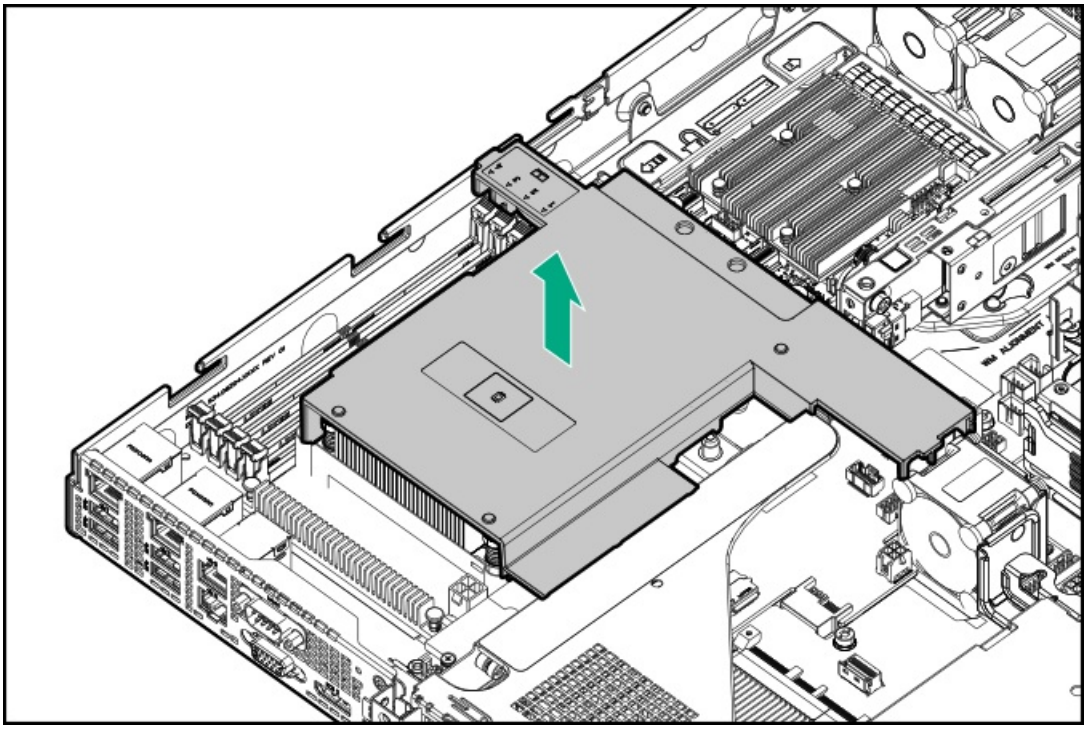
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

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. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the OCP air baffle.



8. Remove the processor air baffle.



9. Remove the DIMMs 1 and 2.
10. Allow the heatsink to cool.
11. **CAUTION**

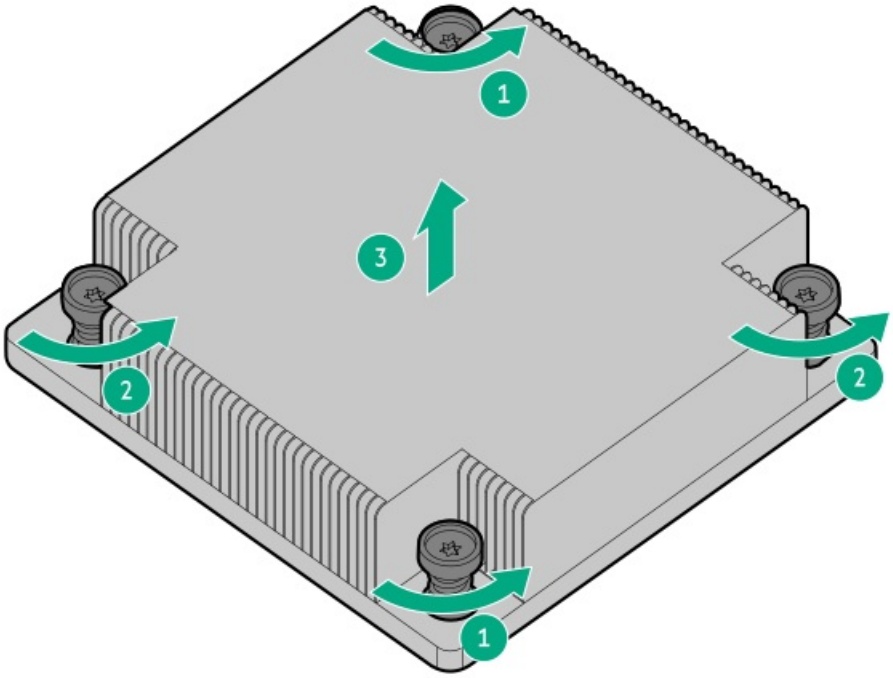
    To prevent mechanical damage or depositing oil on your hands or other contaminants to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

    Remove the heatsink:

    a. Loosen one pair of diagonally opposite screws halfway, then loosen the other pair of screws.

b. Completely loosen all screws in the same sequence.

c. Lift the heatsink away from the processor socket.



d. Place the heatsink on a flat work surface with its contact side facing upward.

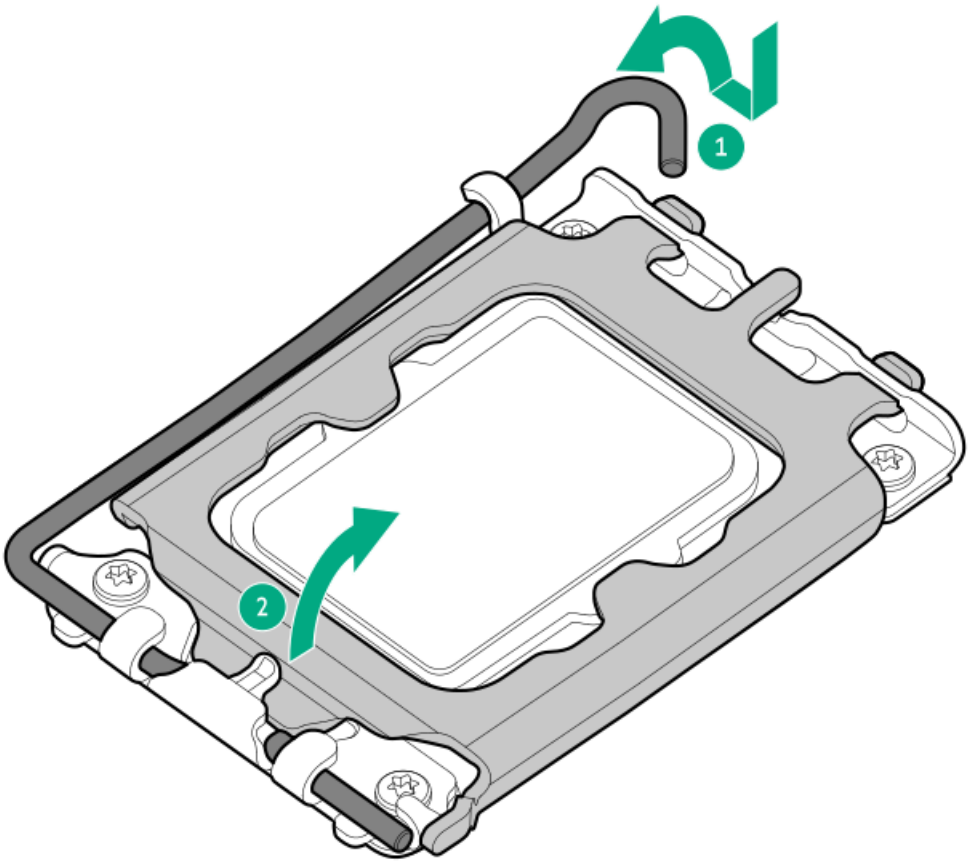
12. Use an alcohol wipe to remove the existing thermal grease from the heatsink and the top of the processor.

    Allow the alcohol to evaporate before continuing.

13. Open the processor load plate:

    a. Push the hinge lever down to unclamp it, and then pivot it to the fully open position.

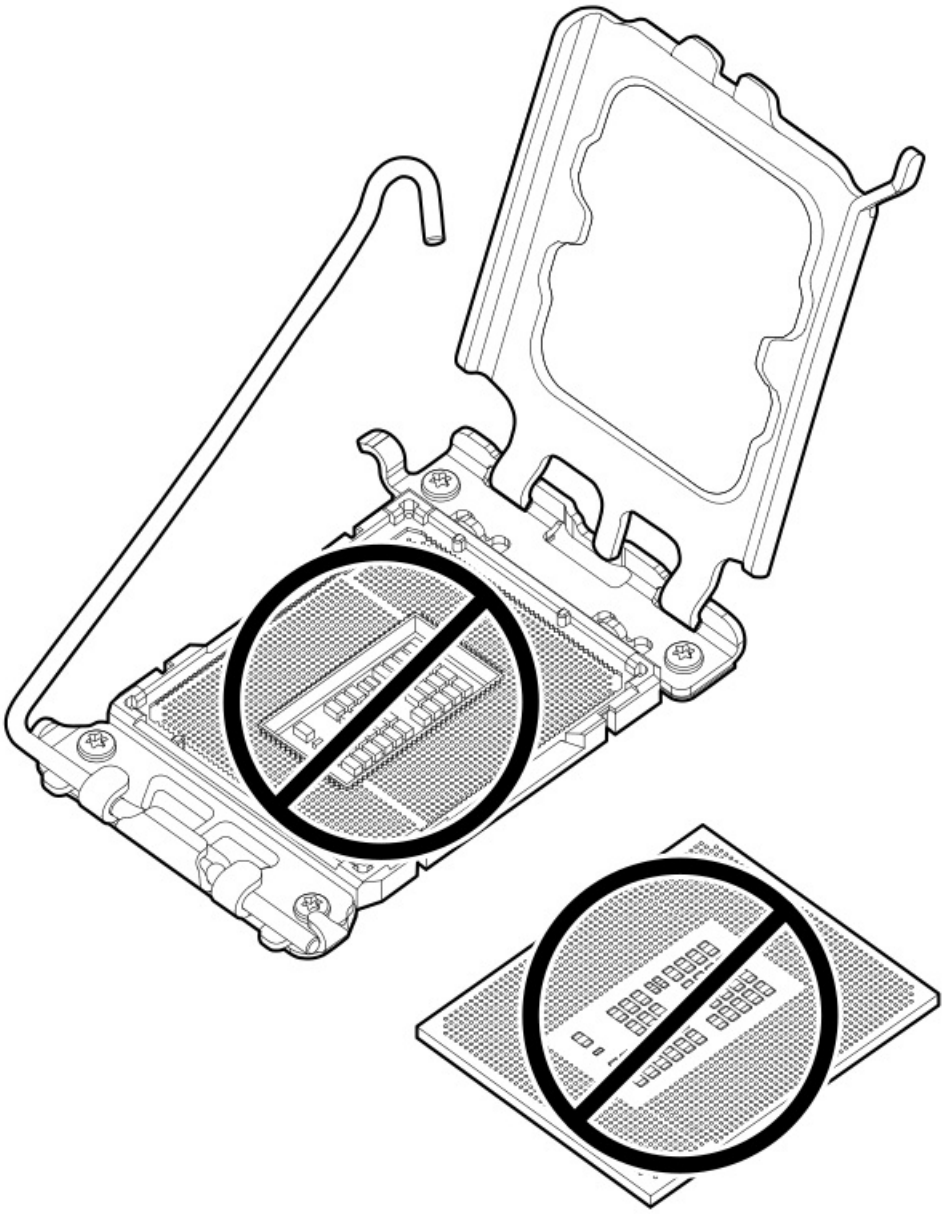
    b. Open the processor load plate.



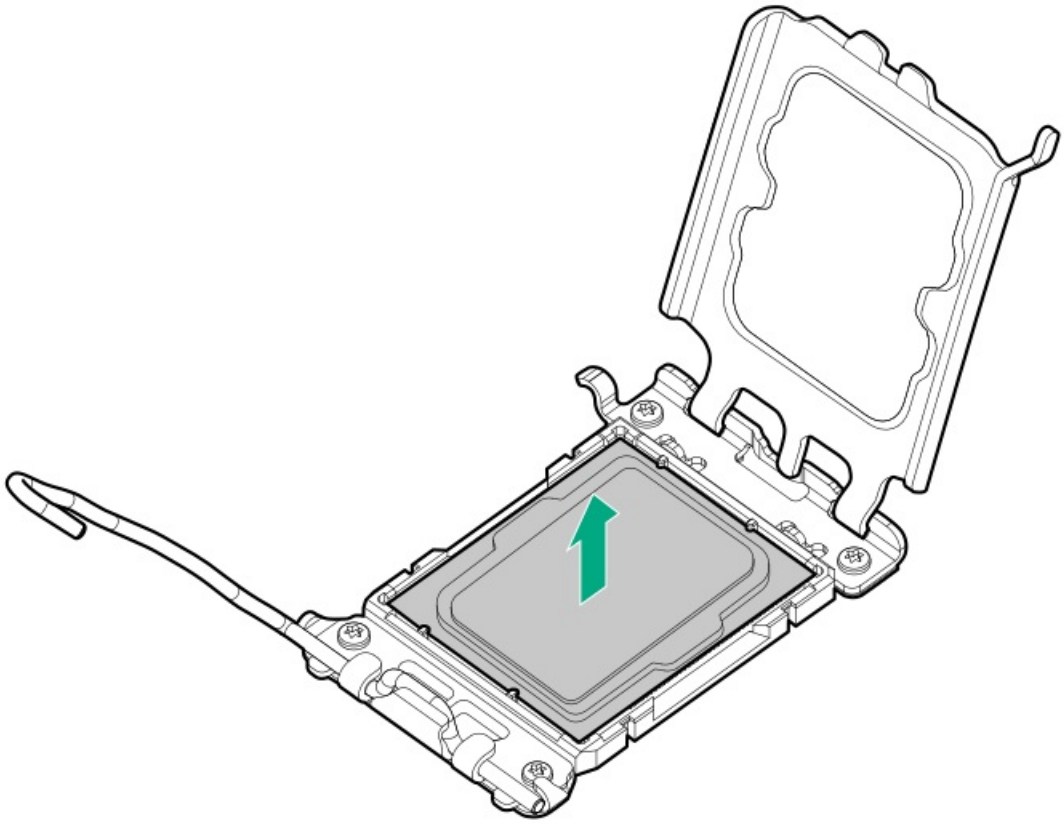
14. **CAUTION**

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.

Do not touch the socket contacts or the bottom of the processor.



15. Hold the processor by the edges, and then lift it out of the socket.

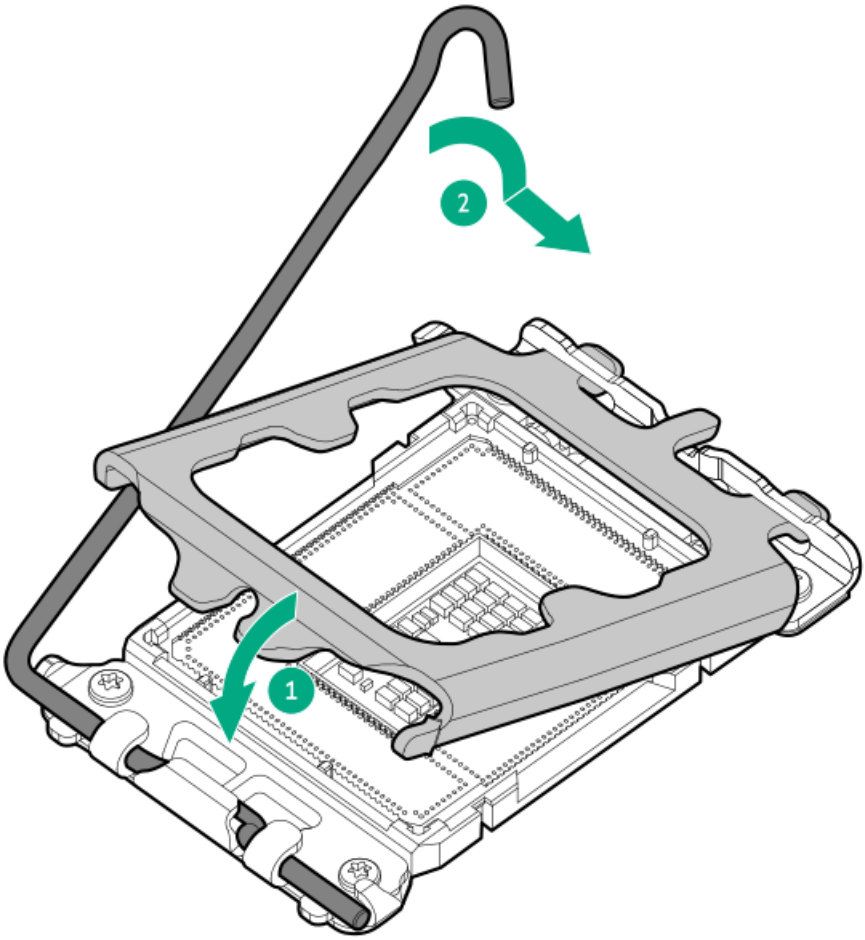


16. **CAUTION**

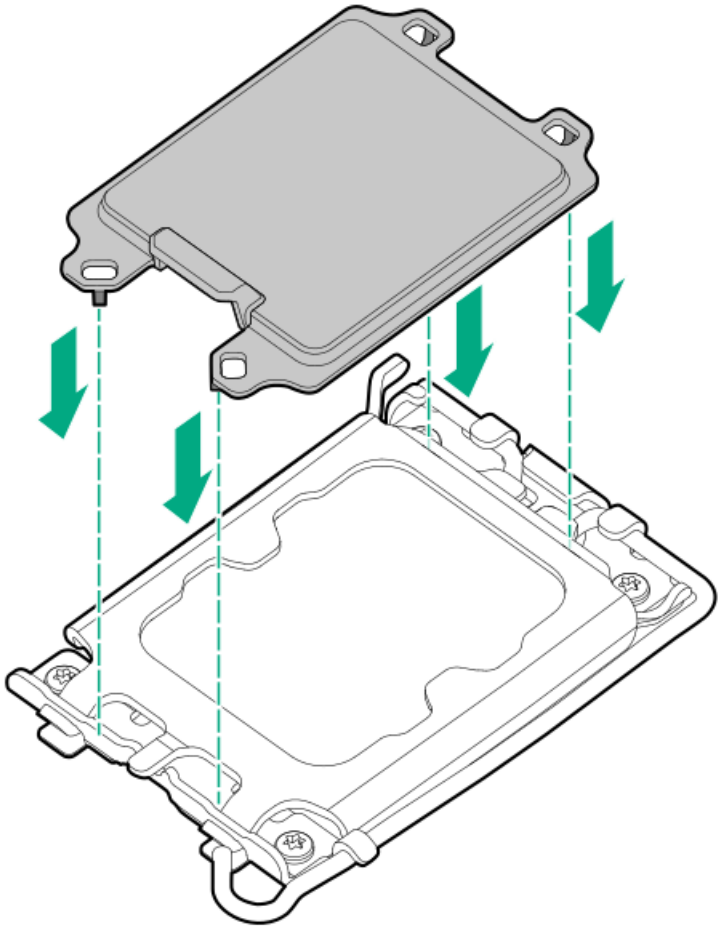
    Do not press down on the dust cover. Pressing down on the dust cover might damage the processor socket.

If you are not immediately installing the new processor, install the processor socket dust cover:

a. Close the processor load plate, and then engage the hinge lever.



b. Install the processor socket dust cover.



Installing the processor

Prerequisites

- Review the processor cautions.
- Before you perform this procedure, make sure that you have the following items available:
  - T-15 Torx screwdriver or a bit driver with T-15 Torx bit
  - 1.0 gm (0.5 ml) or two 0.5 gm (0.25 ml) of thermal grease

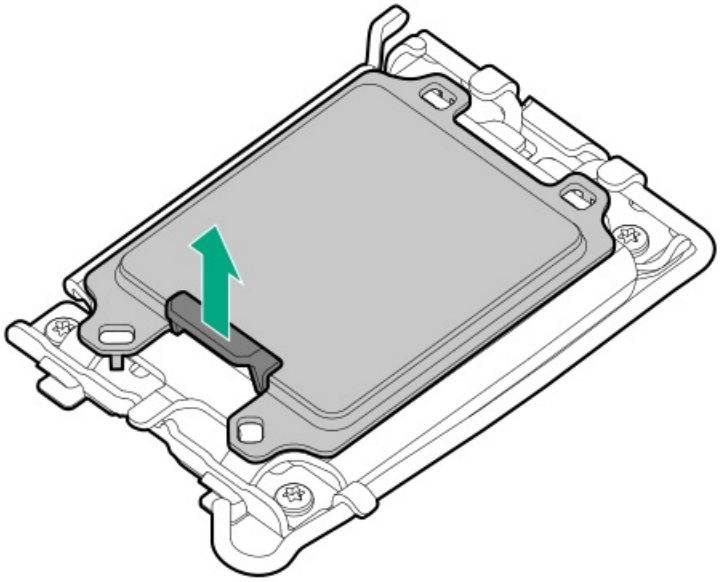
About this task

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.

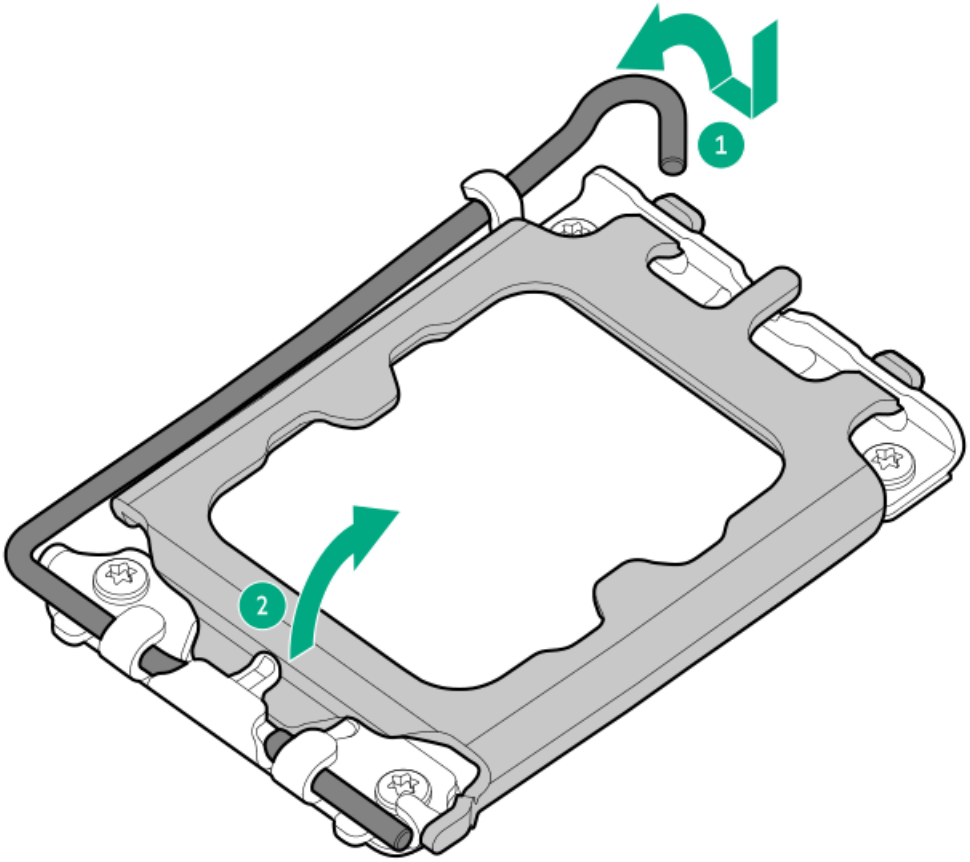
Procedure

1. If the processor dust socket cover is installed, remove it.

   Retain the cover for future use.



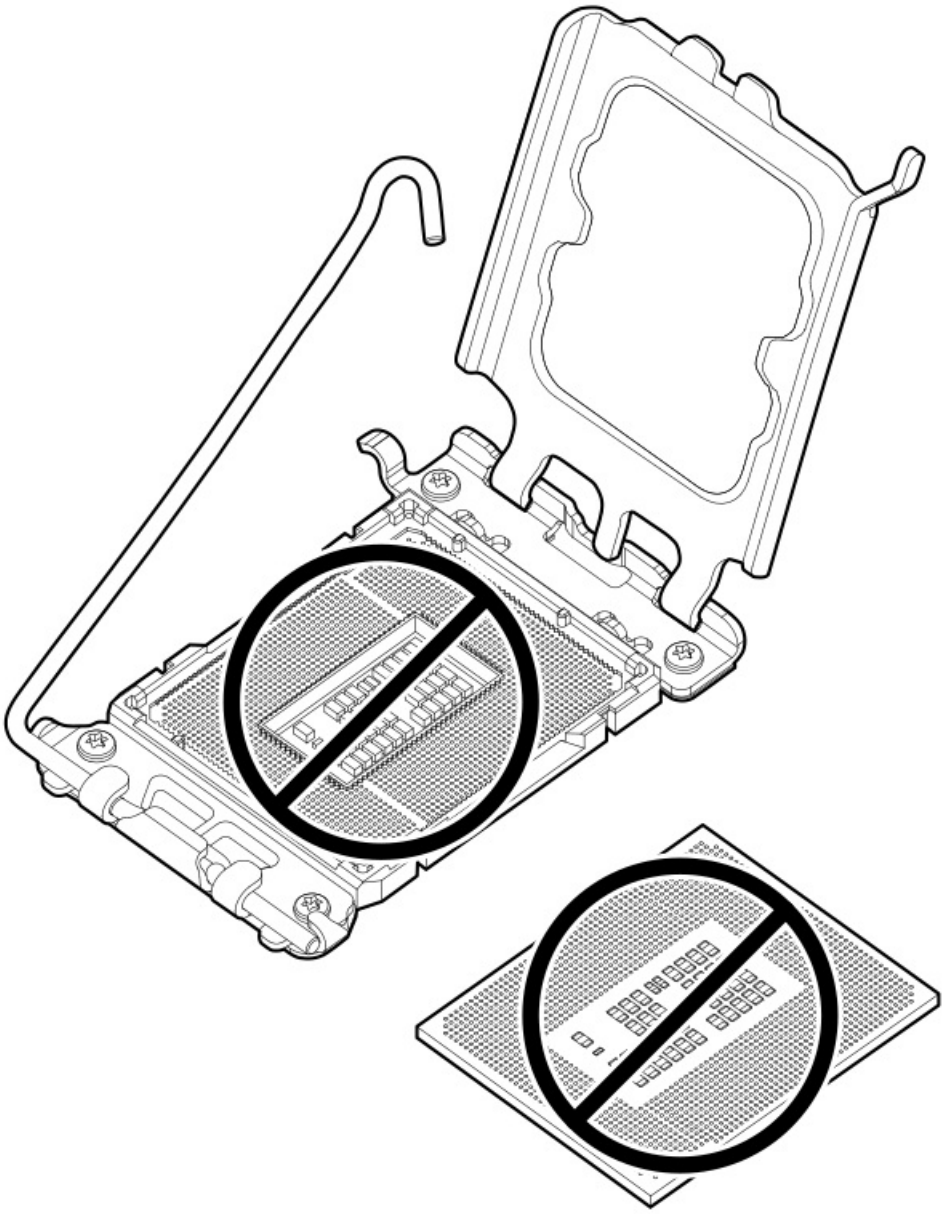
2. Open the processor load plate:
   a. Push the hinge lever down to unclamp it, and then pivot it to the fully open position.
   b. Open the processor load plate.



3. **CAUTION**

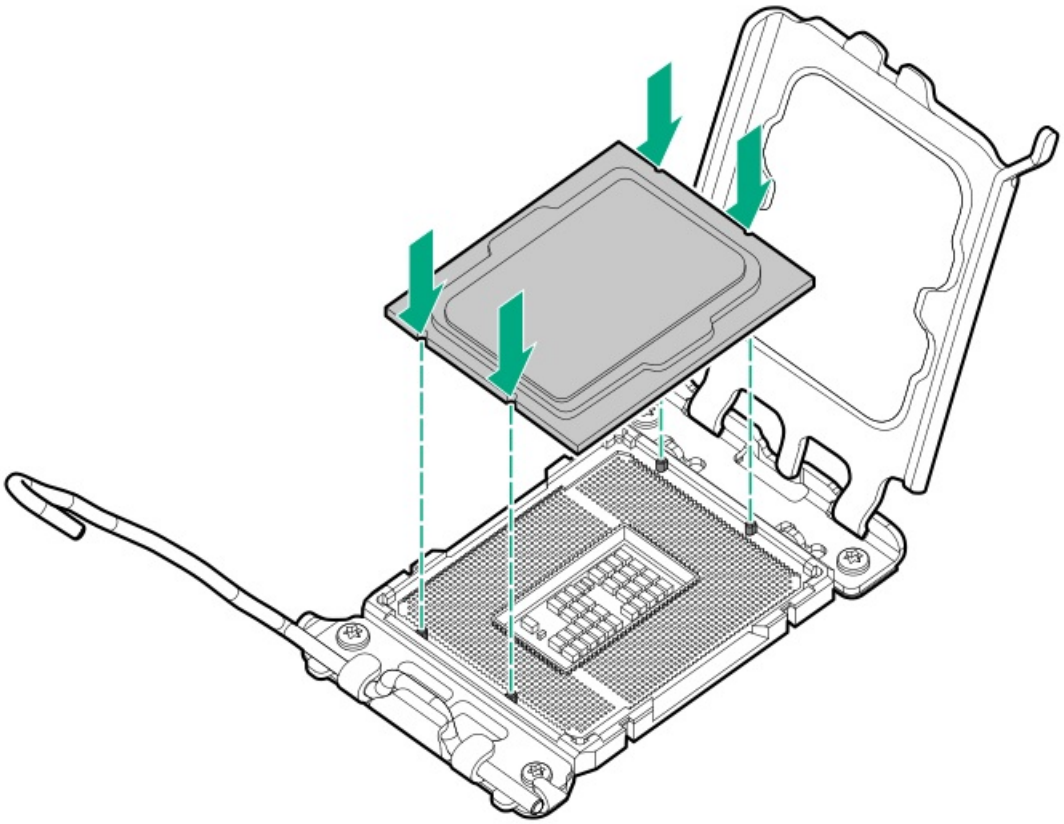
   THE PINS ON THE PROCESSOR SOCKET AND ON THE PROCESSOR ARE VERY FRAGILE AND EASILY DAMAGED. Any damage to them might require replacing the system board.

   Do not touch the socket contacts or the bottom of the processor.



4. Install the processor:
   a. Hold the processor by the edges and align the:
      - Socket notches with the processor notches
      - Pin 1 indicator on the processor and the socket
   b. Lower the processor straight down, without tilting or sliding the processor in the socket.

      Make sure that the processor is properly seated in the socket.



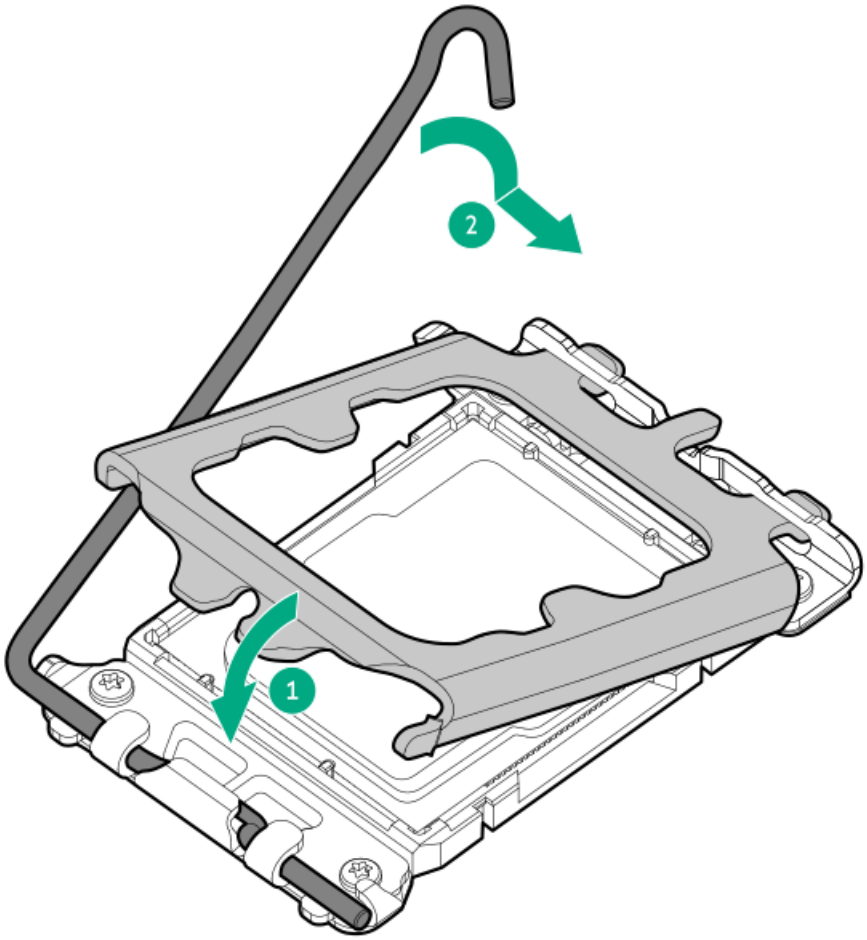
5. **CAUTION**

   The processor load plate and hinge lever should close without resistance. Forcing to close these parts can damage the processor and the socket. This damage might require replacing the system board.

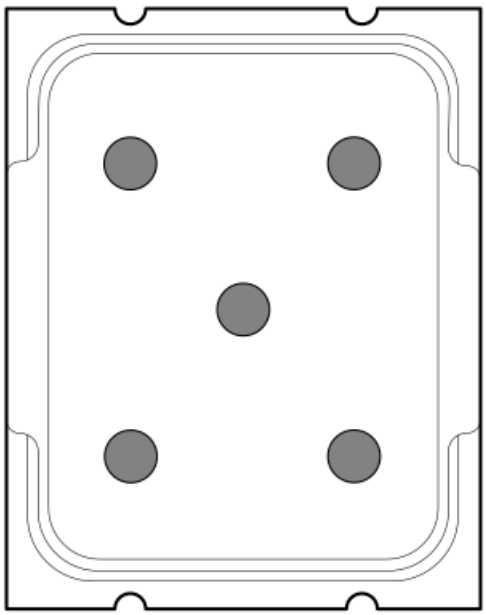
Close the processor load plate, and then engage the hinge lever.

CAUTION

The processor load plate and hinge lever should close without resistance. Forcing to close these parts can damage the processor and the socket. This damage might require replacing the system board.



6. Apply new thermal grease to the processor in the pattern shown in the following image to ensure even distribution. Use the full contents of the thermal grease syringe.



7. **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.

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.

Install the heatsink:

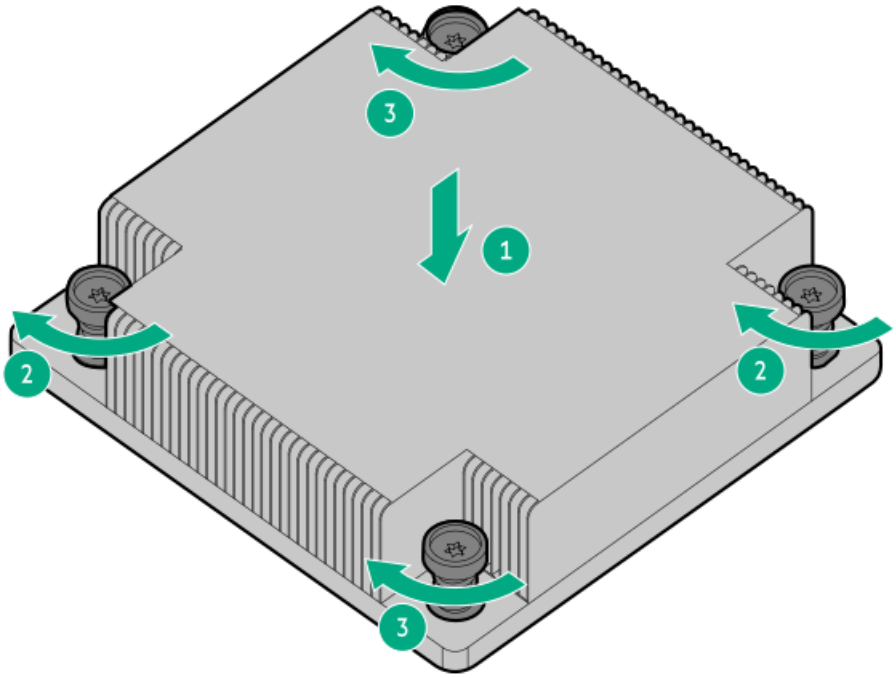
a. When using a torque wrench to tighten the heatsink screws, set it to 0.67 N-m (6 in-lb).

b. Note the **Front of server** text on the heatsink label to correctly orient the heatsink over the processor socket.

c. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.

d. Tighten one pair of diagonally opposite screws halfway, then tighten the other pair of screws.

e. Finish the installation by completely tightening the screws in the same sequence.



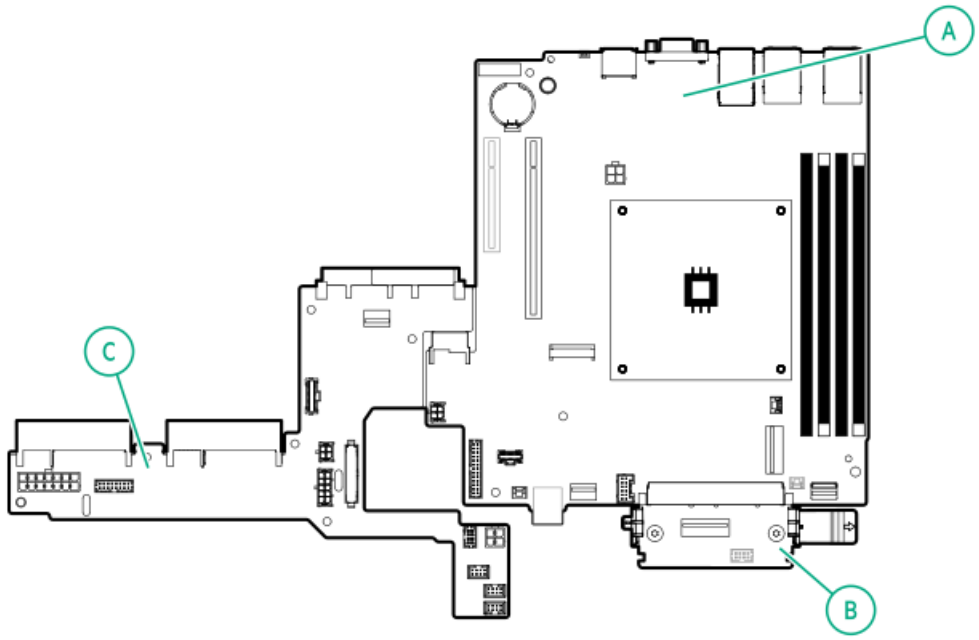
8. If removed, install the DIMMs 1 and 2.
9. Install the processor air baffle.
10. Install the OCP air baffle.
11. Install the access panel.
12. Install the server into the rack.
13. Connect all peripheral cables to the server.
14. Connect each power cord to the server.
15. Connect each power cord to the power source.
16. Power up the server.

Results

The replacement procedure is complete.

System board replacement

In this server, the system board consists of three individual PCAs.



Item	Board
A	Mainboard
B	Pass-through board (PTB)
C	Power distribution board (PDB)

Subtopics

Removing and replacing the pass-through board (PTB)
Removing and replacing the power distribution board (PDB)
Mainboard replacement

Removing and replacing the pass-through board (PTB)

Prerequisites

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

About this task

CAUTION

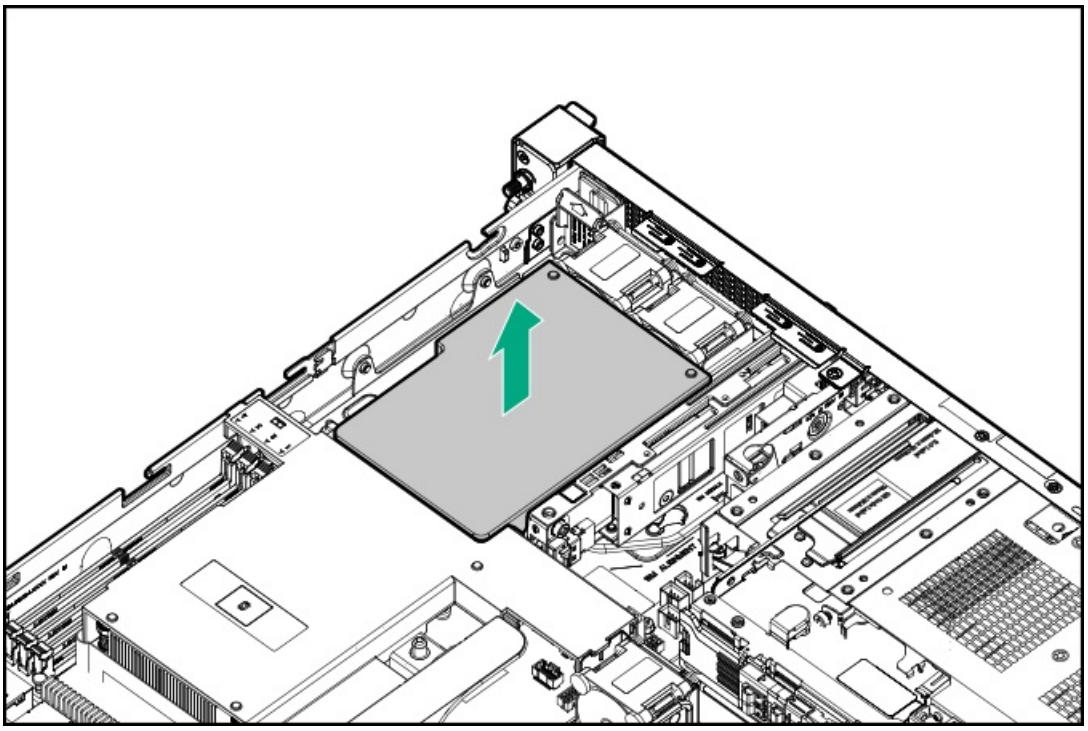
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

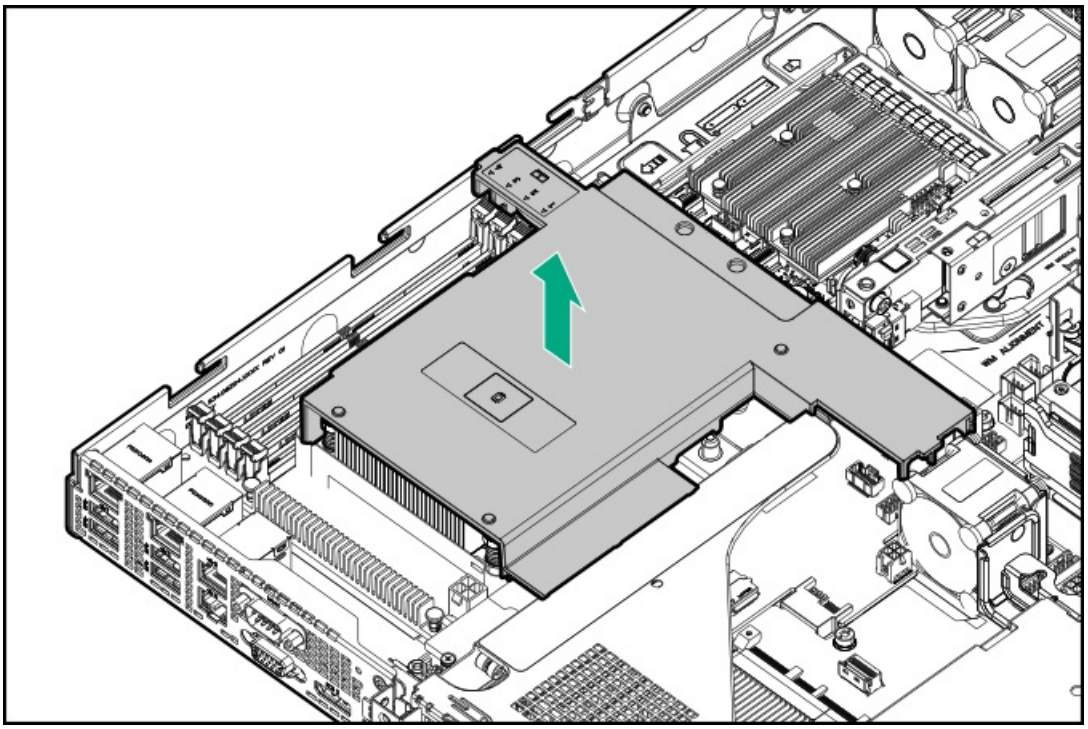
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

Procedure

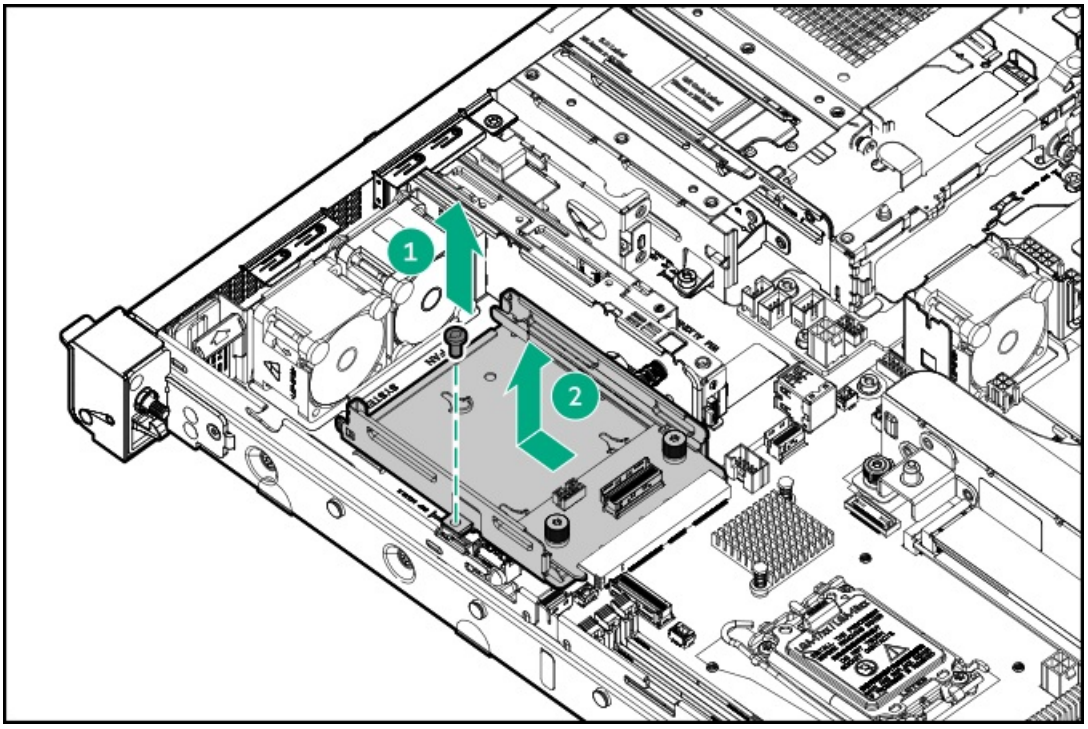
1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the OCP air baffle.



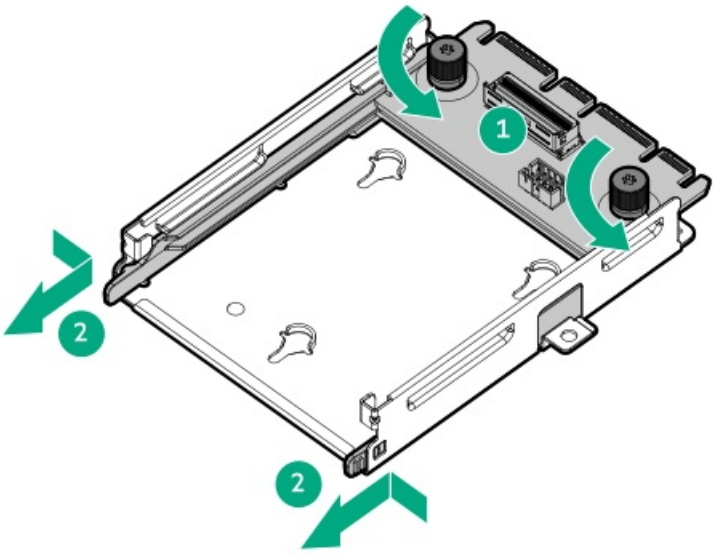
8. Remove the processor air baffle.



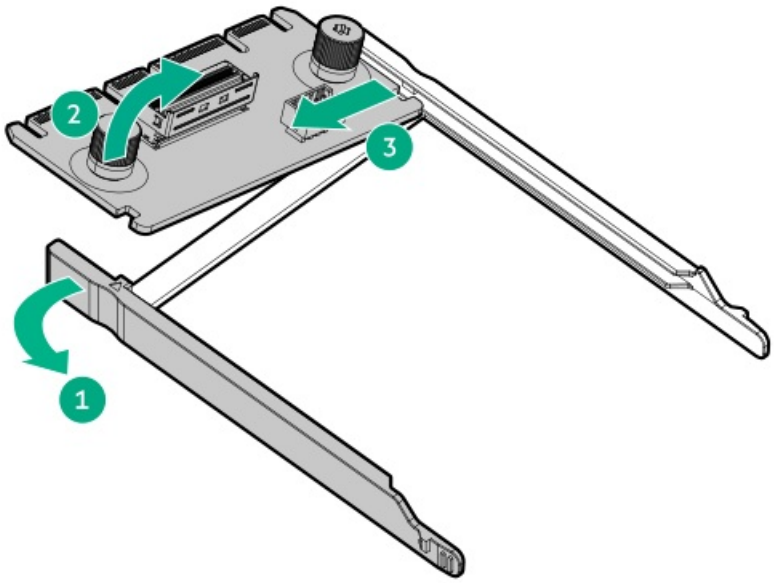
9. Disconnect the component cable from the PTB.
10. Remove the OCP cage.



11. Remove the PTB from the OCP cage.



12. Remove the PTB from the rail.



Results

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

Removing and replacing the power distribution board (PDB)

Prerequisites

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

- T-10 Torx screwdriver
- T-15 Torx screwdriver

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.

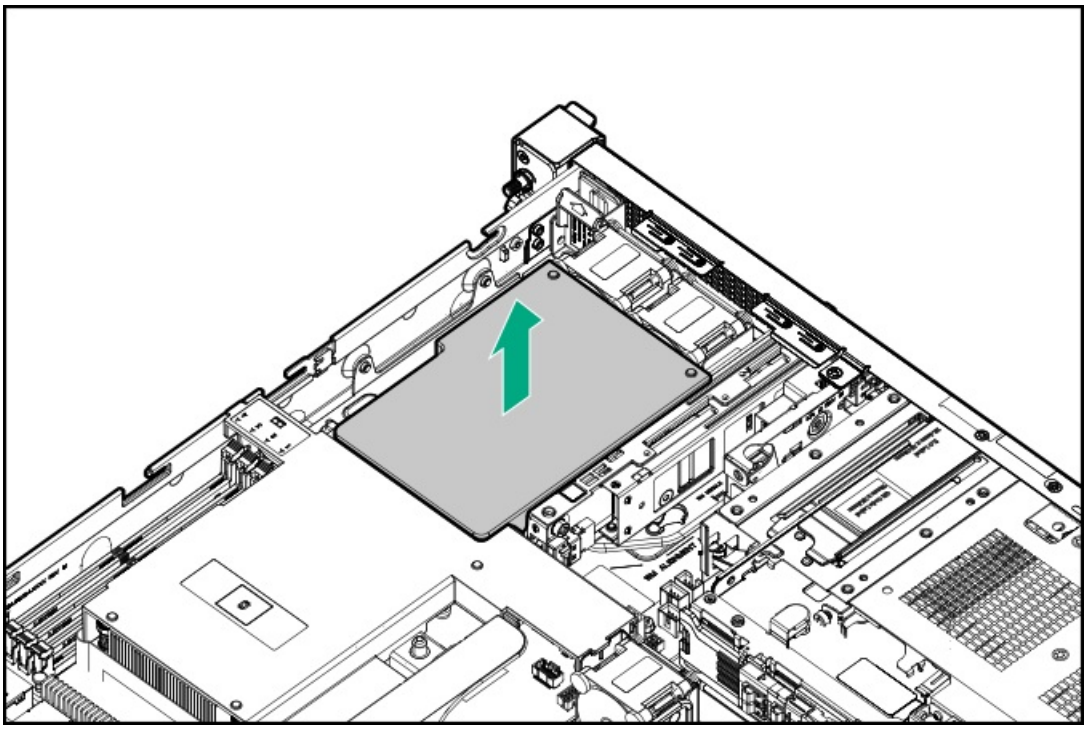
When installing the replacement component:

- 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.

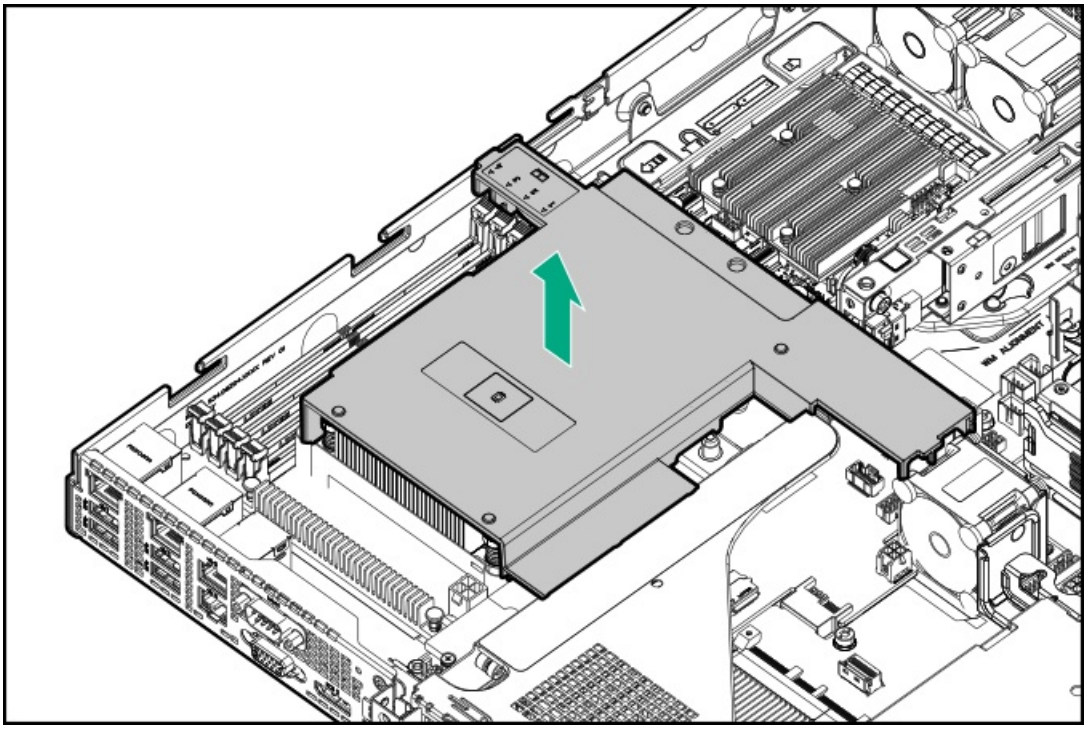
https://sketchfab.com/models/e54470054d634150a8f5ba4a4954b0a1/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0&

Procedure

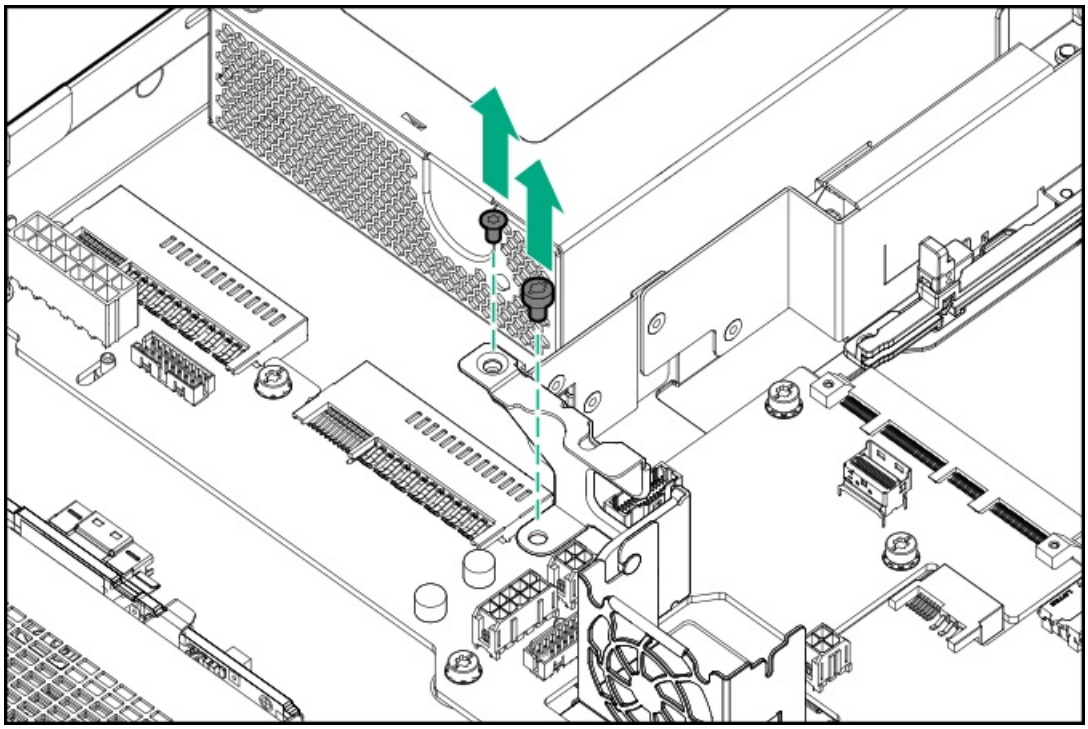
1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the Flexible Slot power supplies:
   - AC power supply
   - DC power supply
7. Remove the access panel.
8. Remove the OCP air baffle.



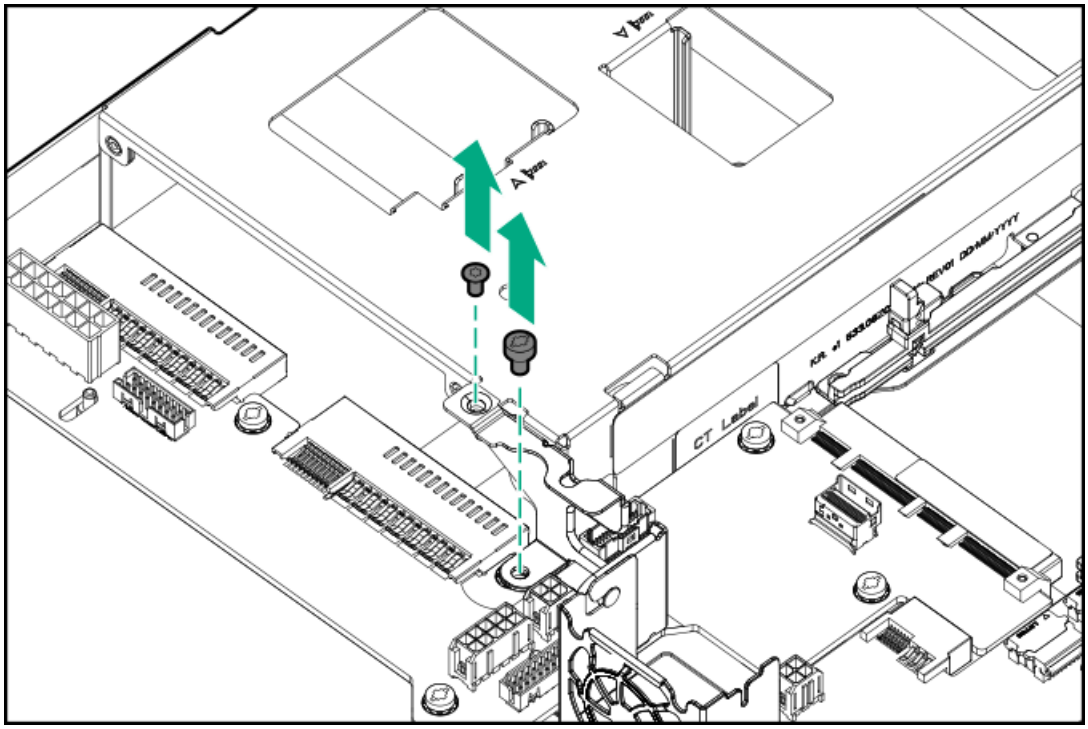
9. Remove the processor air baffle.



10. Disconnect all cables from the PDB.
11. Remove the PCIe fan.
12. Remove the riser cage.
13. If installed, remove the OCP adapter.
14. Remove the cable guard screws.
    - Server with the non-hot-plug power supply



- Server with the Flexible Slot power supply



15. **CAUTION**

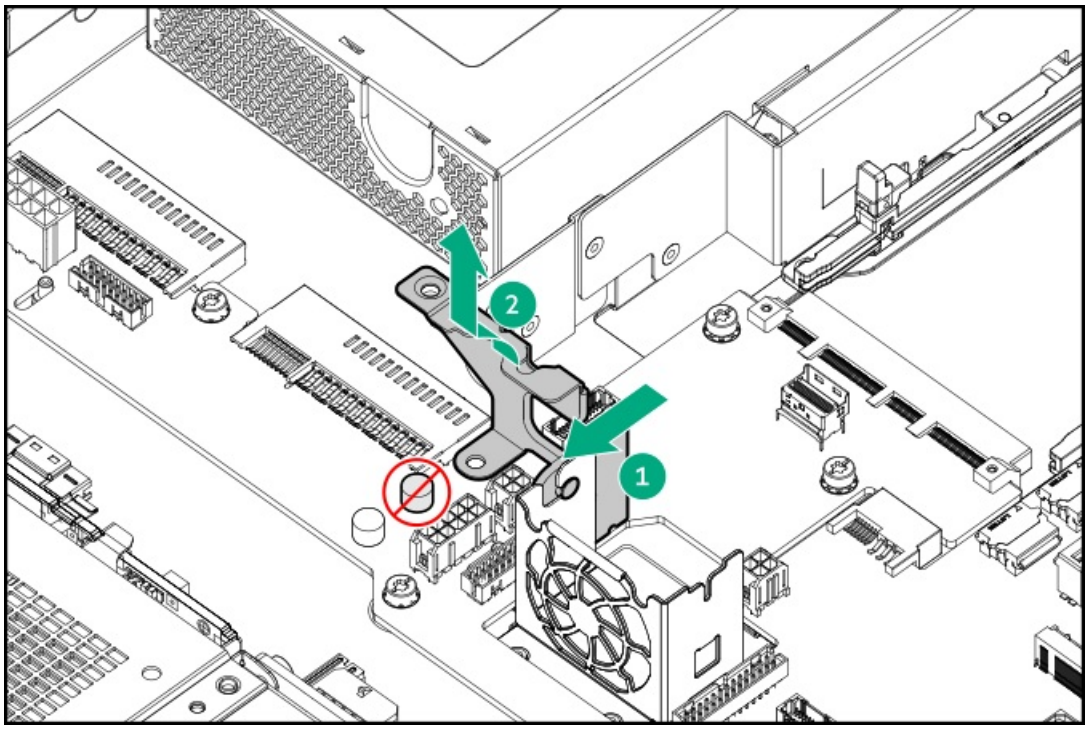
    When removing the cable guard, make sure that the fringe of the cable guard does not touch the capacitor in front.

Remove the cable guard.

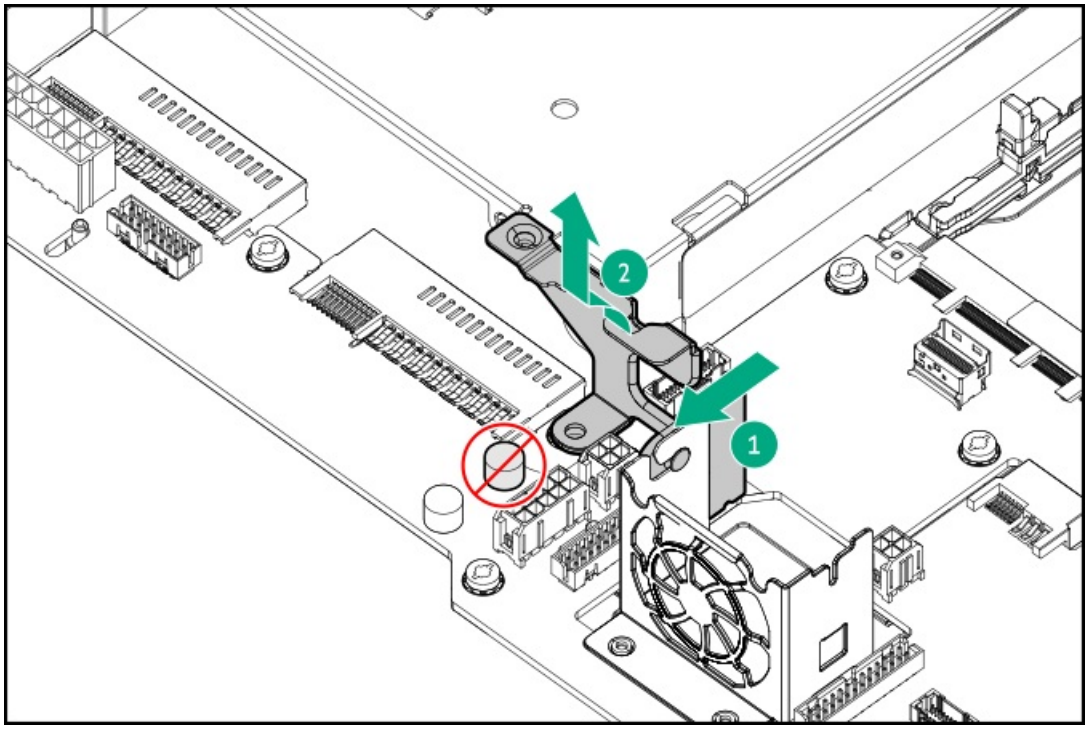
a. Push the cable guard in forward direction to the drive cage.

b. Tilt the cable guard away from the PCIe fan guard.

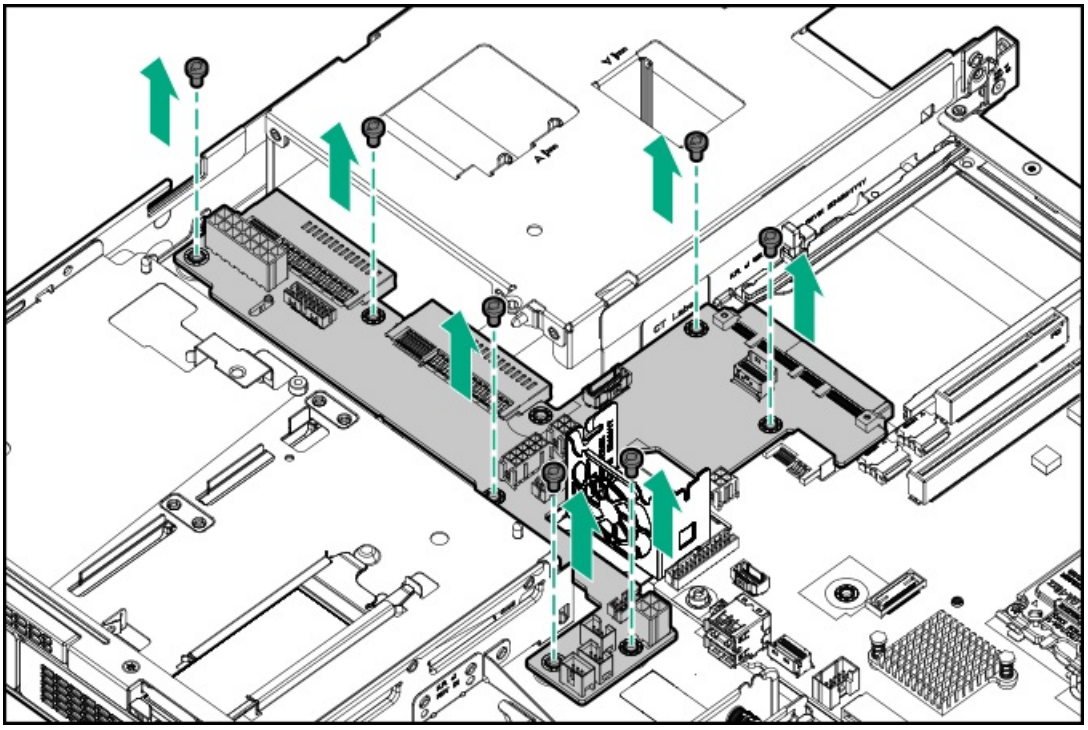
- Server with the non-hot-plug power supply



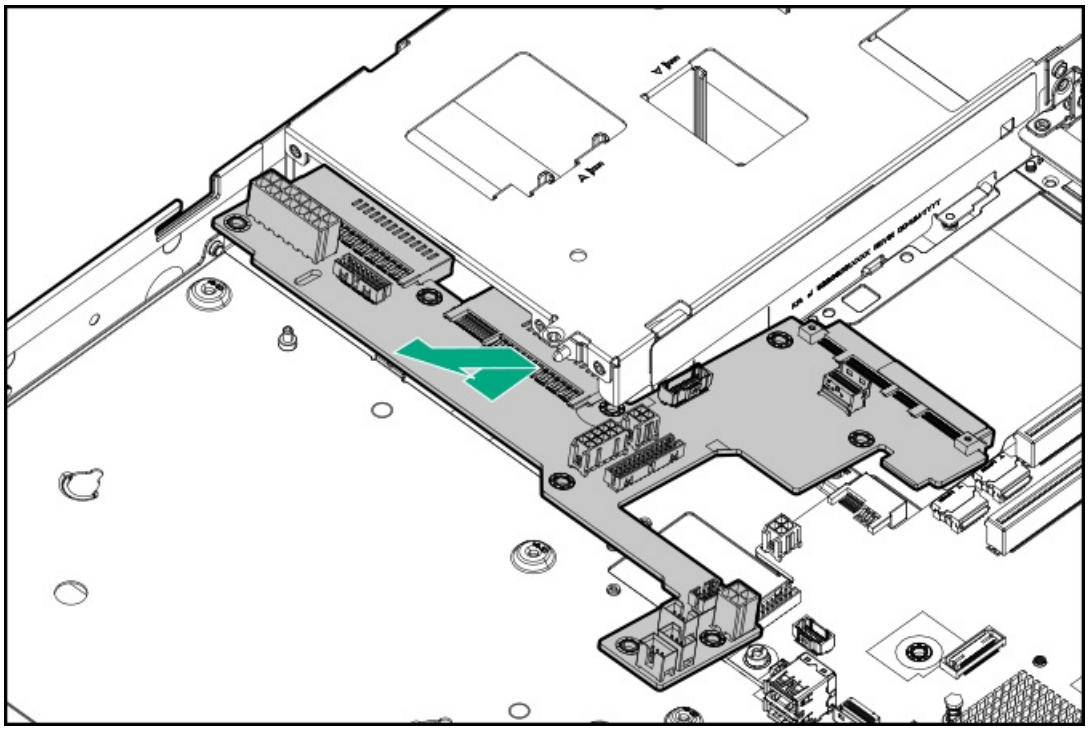
- Server with the Flexible Slot power supply



16. Remove the PDB screws.



17. Remove the PDB:
    a. Disconnect the PDB from the mainboard.
    b. Tilt the front end of PDB above the drive cage and slide it away from the server.



Results

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

Mainboard replacement

Subtopics

Removing the mainboard

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-15 Torx screwdriver
  - Hex screwdriver—This tool is required only if the serial port option is installed.
  - Alcohol wipe

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
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.

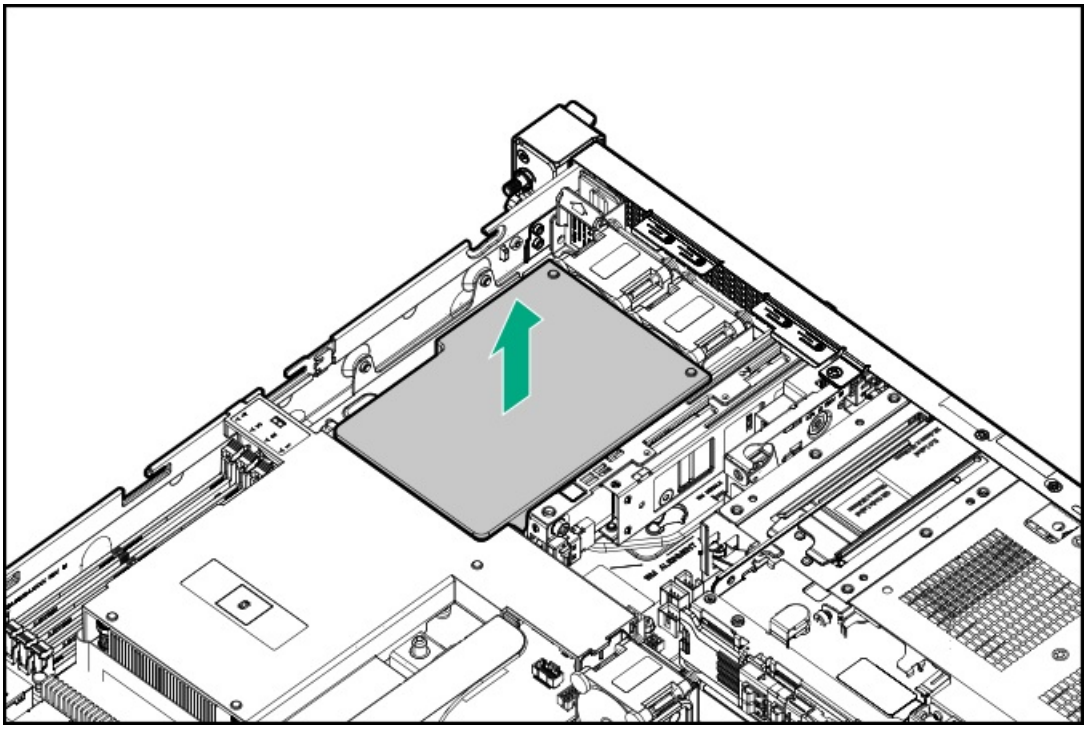
When installing the replacement component:

- 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.

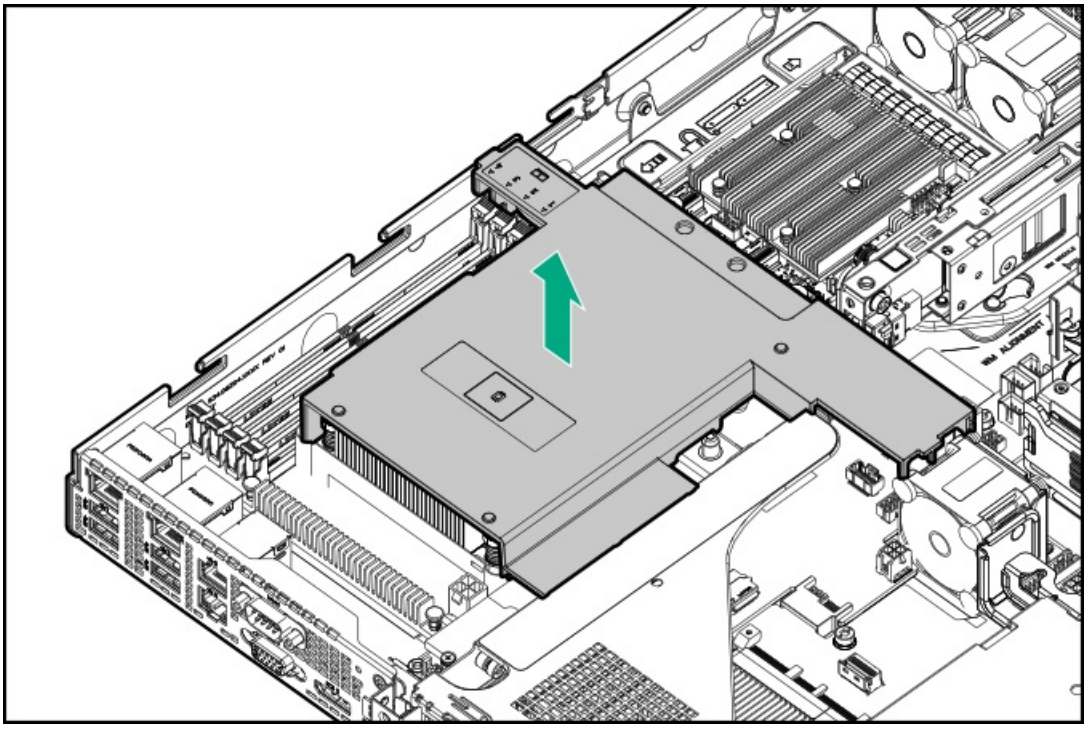
Procedure

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. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.

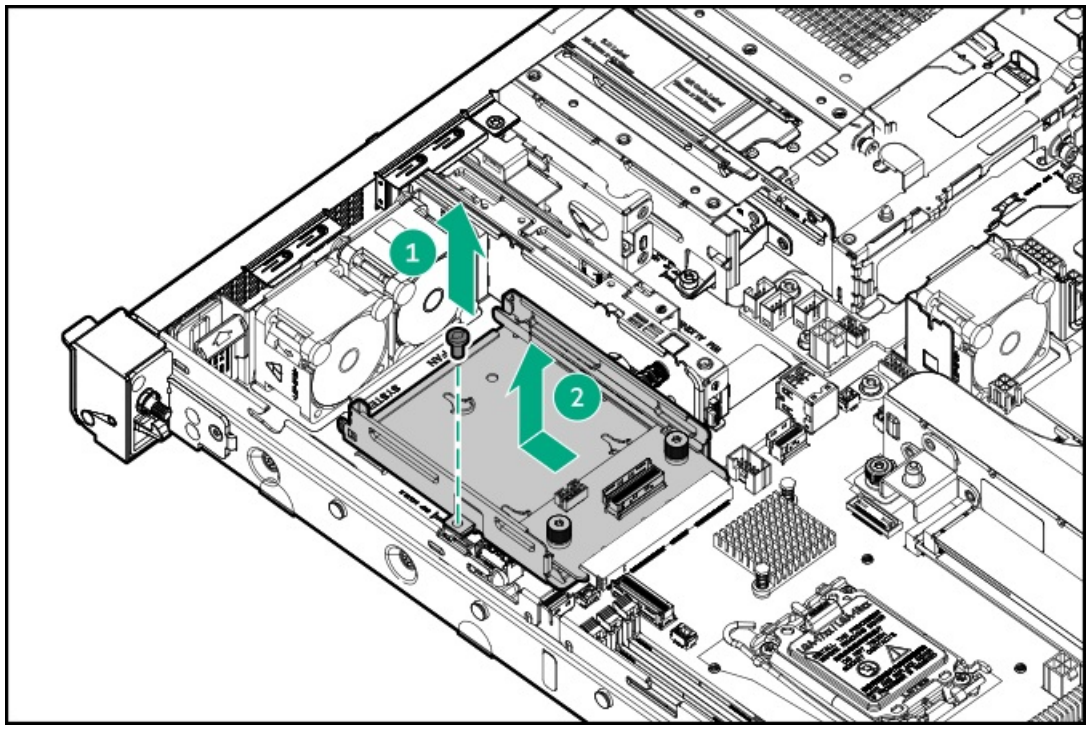
7. Remove the OCP air baffle.



8. Remove the processor air baffle.



9. Allow all internal system components to cool before continuing.
10. Disconnect all cables from the PDB and mainboard.
11. If a type-o controller or PTB is installed, remove the OCP cage.



12. Remove the following components:
    - PCIe fan
    - Riser cage
    - DIMMs
13. If installed, remove the following components:
    - Serial port cable
    - iLO-M.2-serial module
    - Internal USB device
14. Allow the heatsink to cool.
15. **CAUTION**

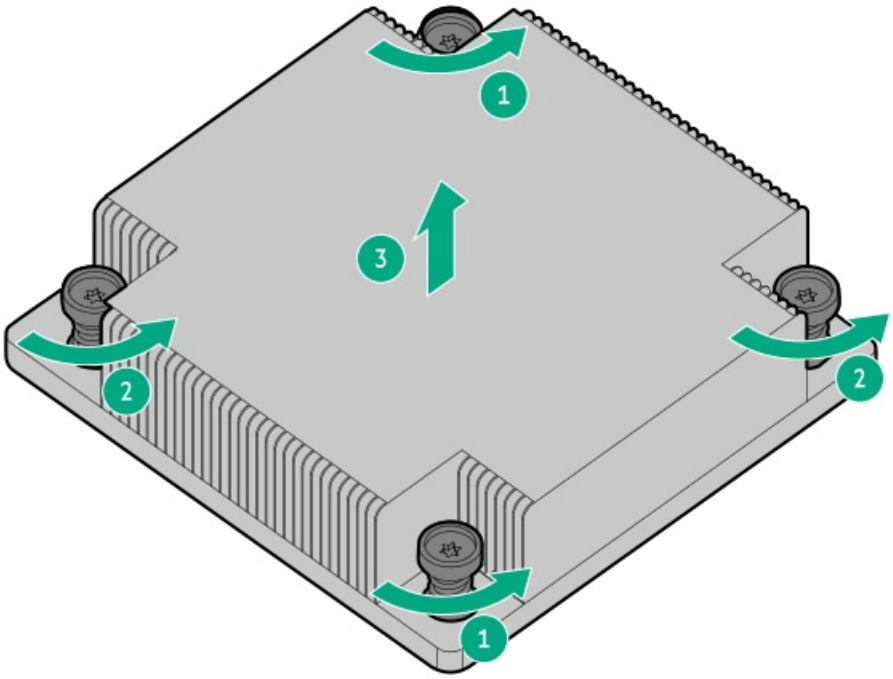
    To prevent mechanical damage or depositing oil on your hands or other contaminants to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

    Remove the heatsink:

    a. Loosen one pair of diagonally opposite screws halfway, then loosen the other pair of screws.

    b. Completely loosen all screws in the same sequence.

    c. Lift the heatsink away from the processor socket.



d. Place the heatsink on a flat work surface with its contact side facing upward.

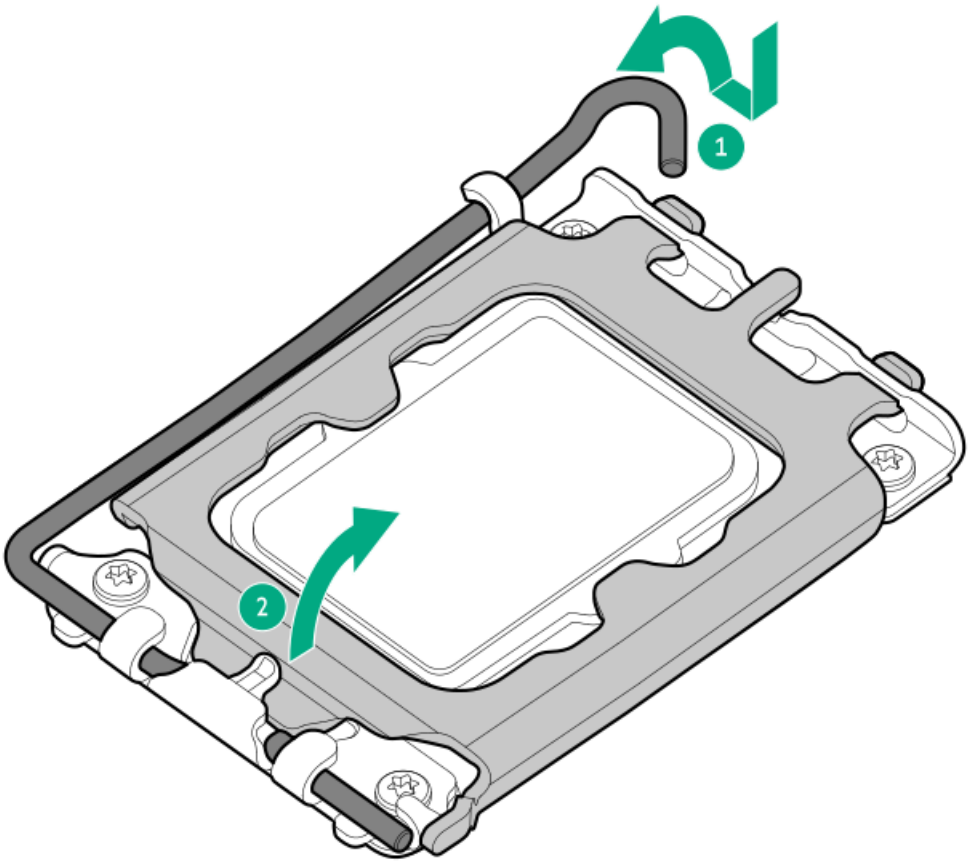
16. Use an alcohol wipe to remove the existing thermal grease from the heatsink and the top of the processor.

    Allow the alcohol to evaporate before continuing.

17. Open the processor load plate:

    a. Push the hinge lever down to unclamp it, and then pivot it to the fully open position.

    b. Open the processor load plate.

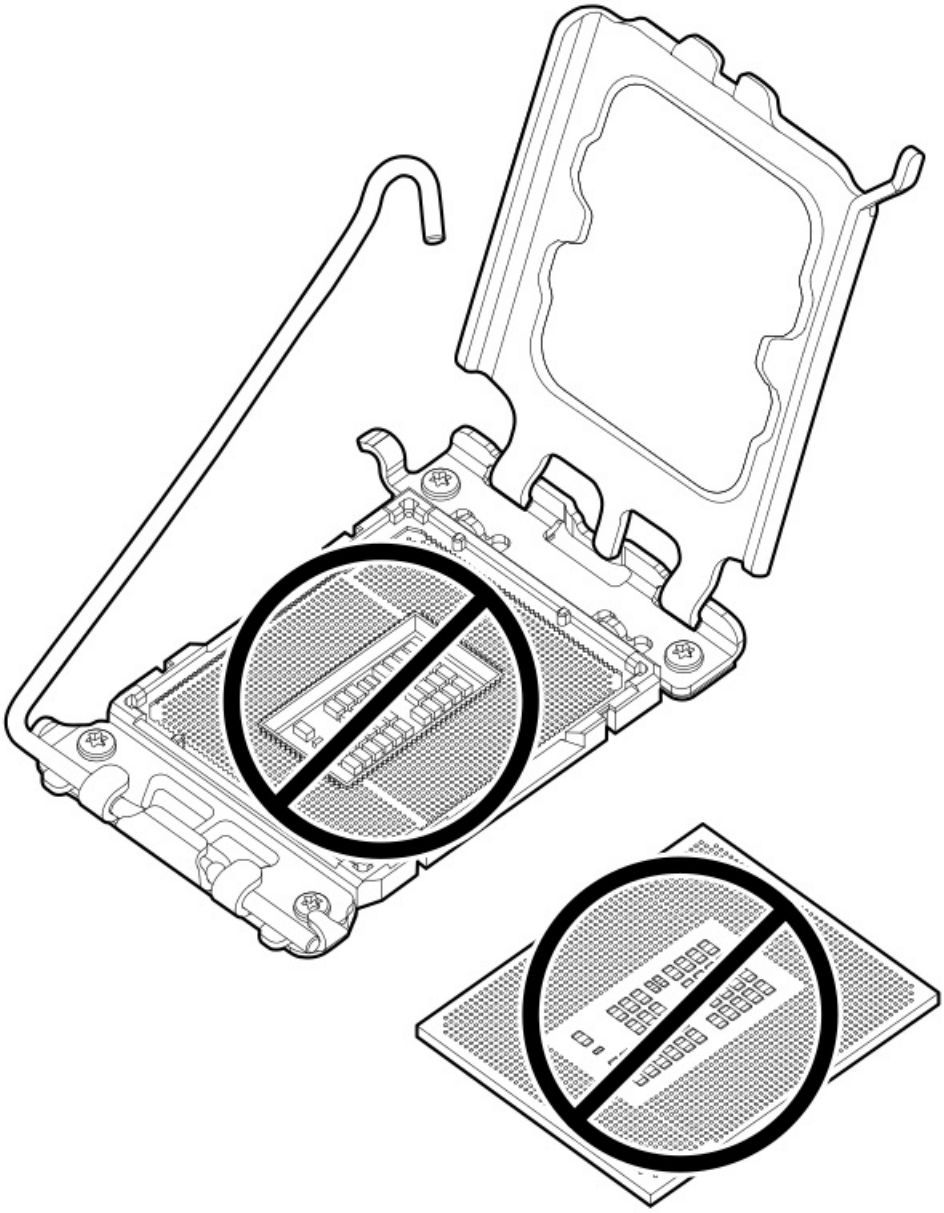


18.

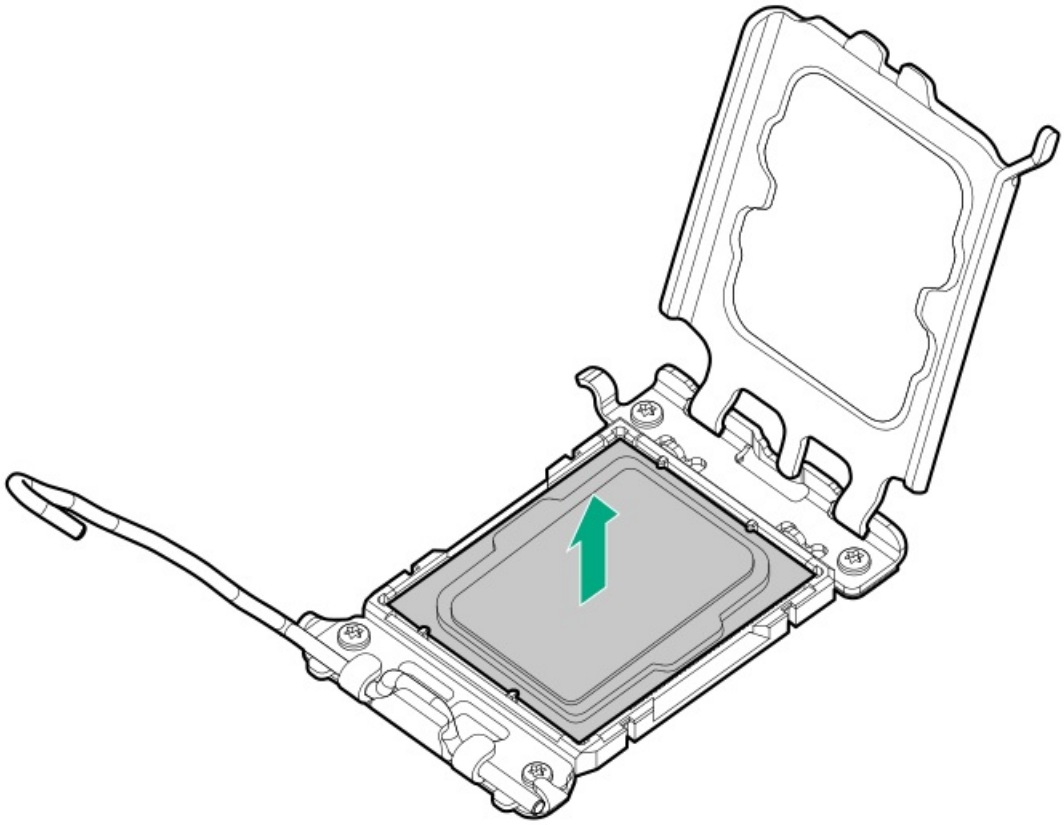
CAUTION

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.

Do not touch the socket contacts or the bottom of the processor.



19. Hold the processor by the edges, and then lift it out of the socket.

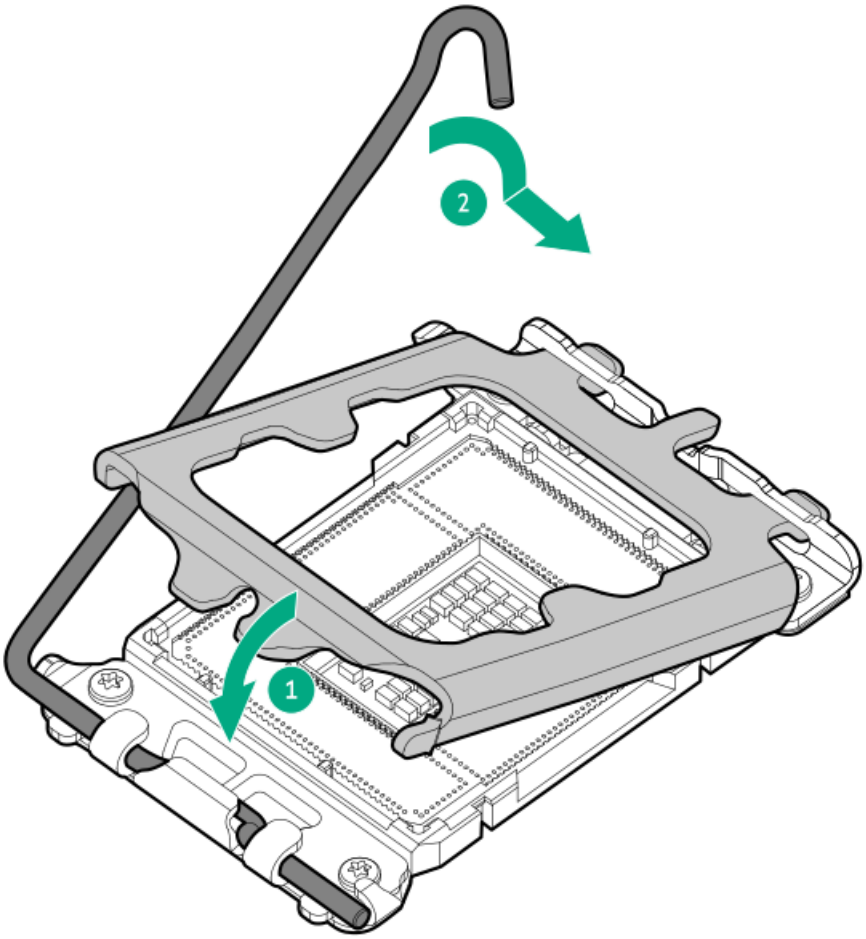


20. **CAUTION**

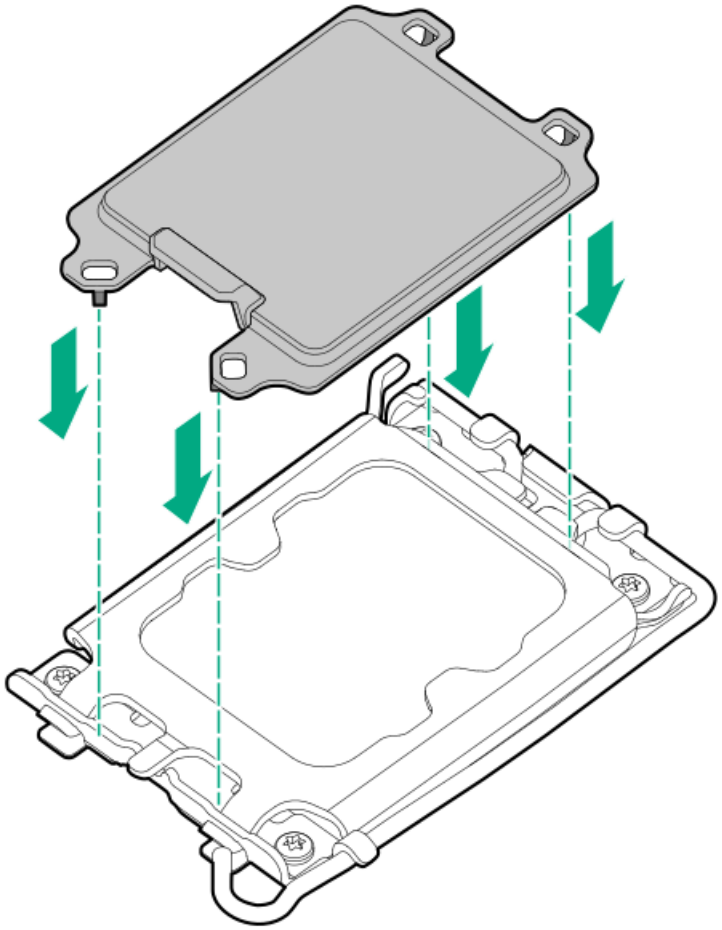
    Do not press down on the dust cover. Pressing down on the dust cover might damage the processor socket.

If you are not immediately installing the new processor, install the processor socket dust cover:

a. Close the processor load plate, and then engage the hinge lever.

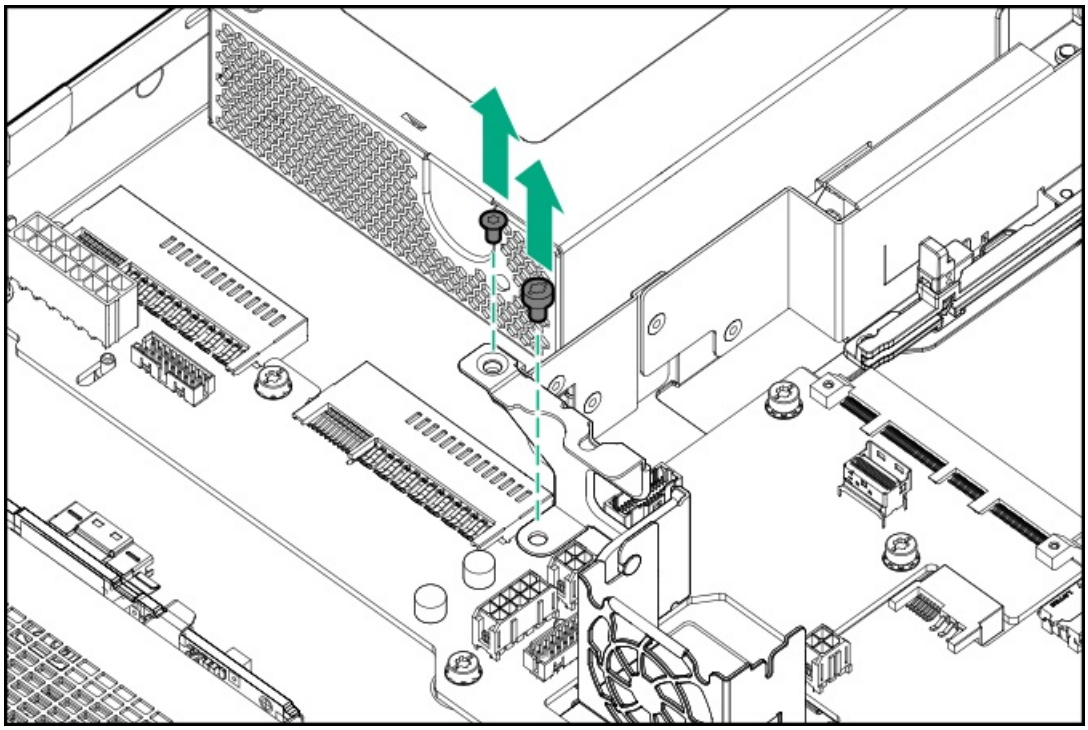


b. Install the processor socket dust cover.

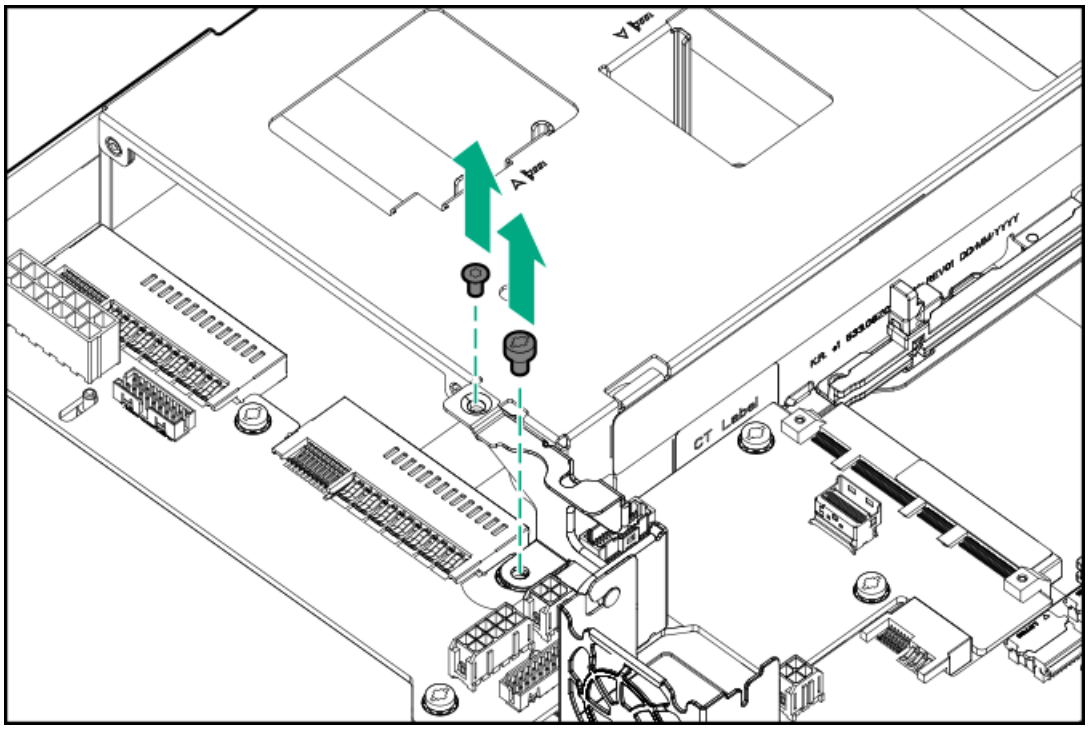


21. Remove the cable guard screws.

- Server with the non-hot-plug power supply



- Server with the Flexible Slot power supply



22. **CAUTION**

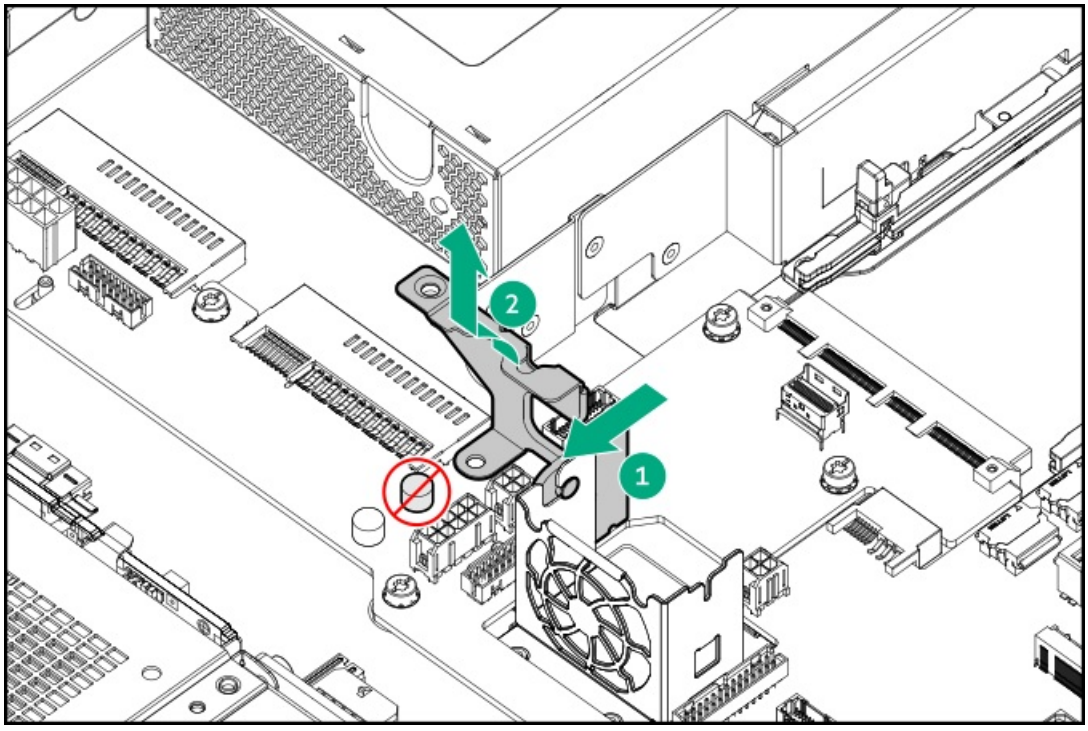
When removing the cable guard, make sure that the fringe of the cable guard does not touch the capacitor in front.

Remove the cable guard.

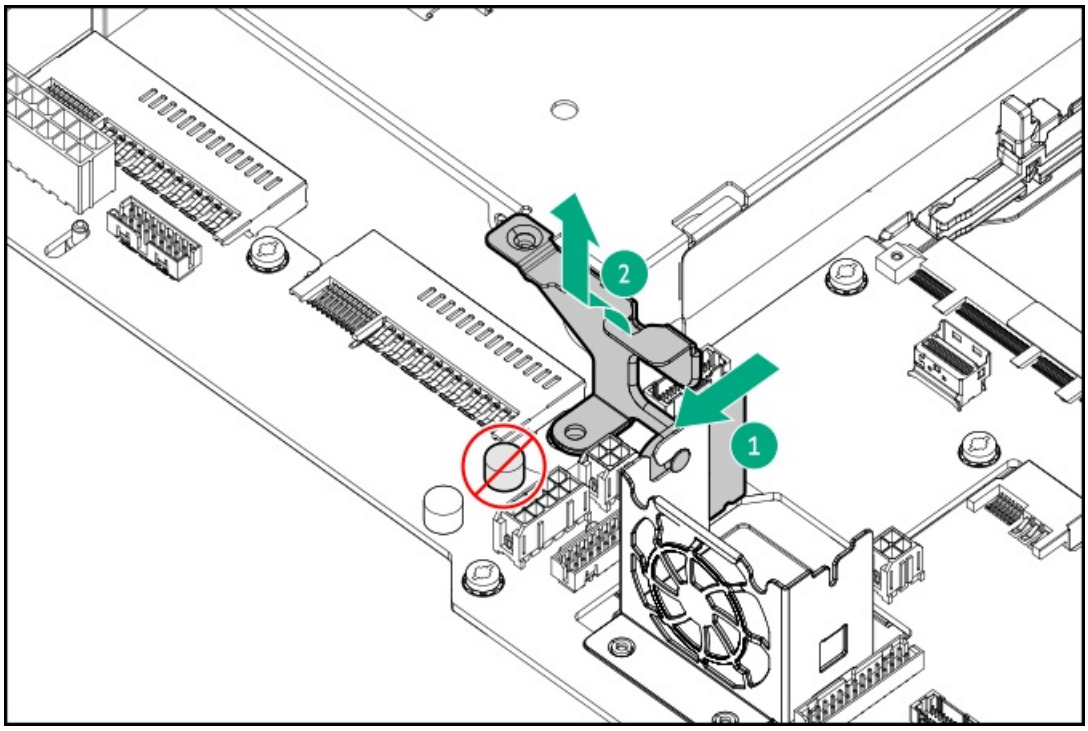
a. Push the cable guard in forward direction to the drive cage.

b. Tilt the cable guard away from the PCIe fan guard.

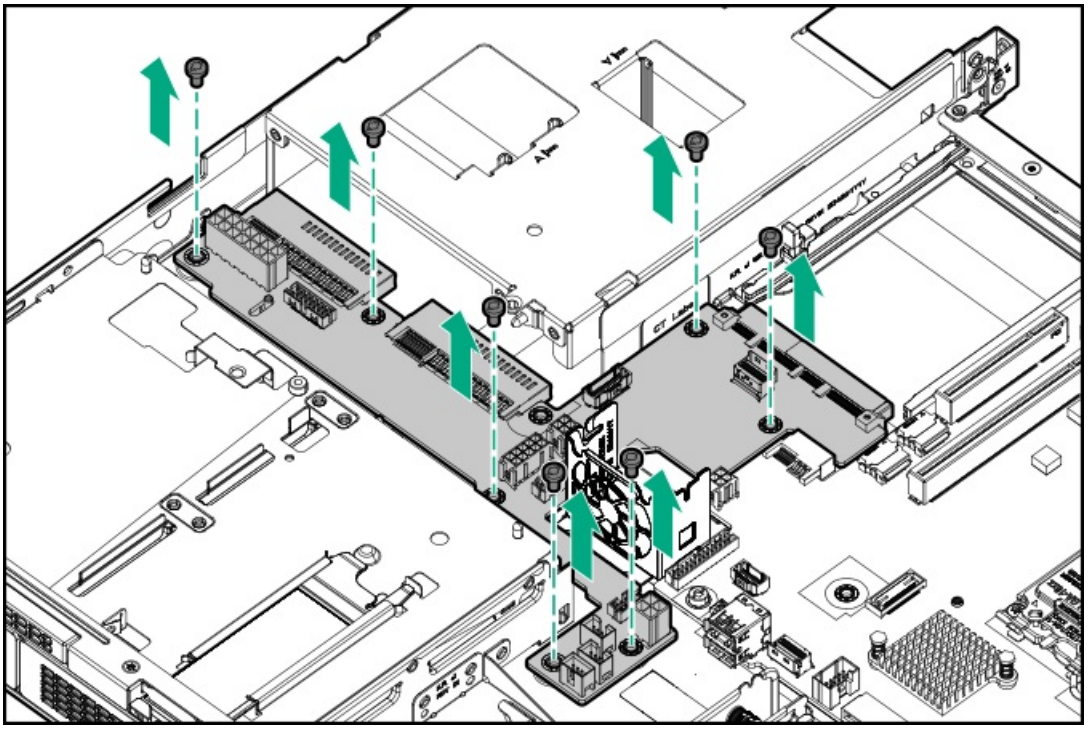
- Server with the non-hot-plug power supply



- Server with the Flexible Slot power supply



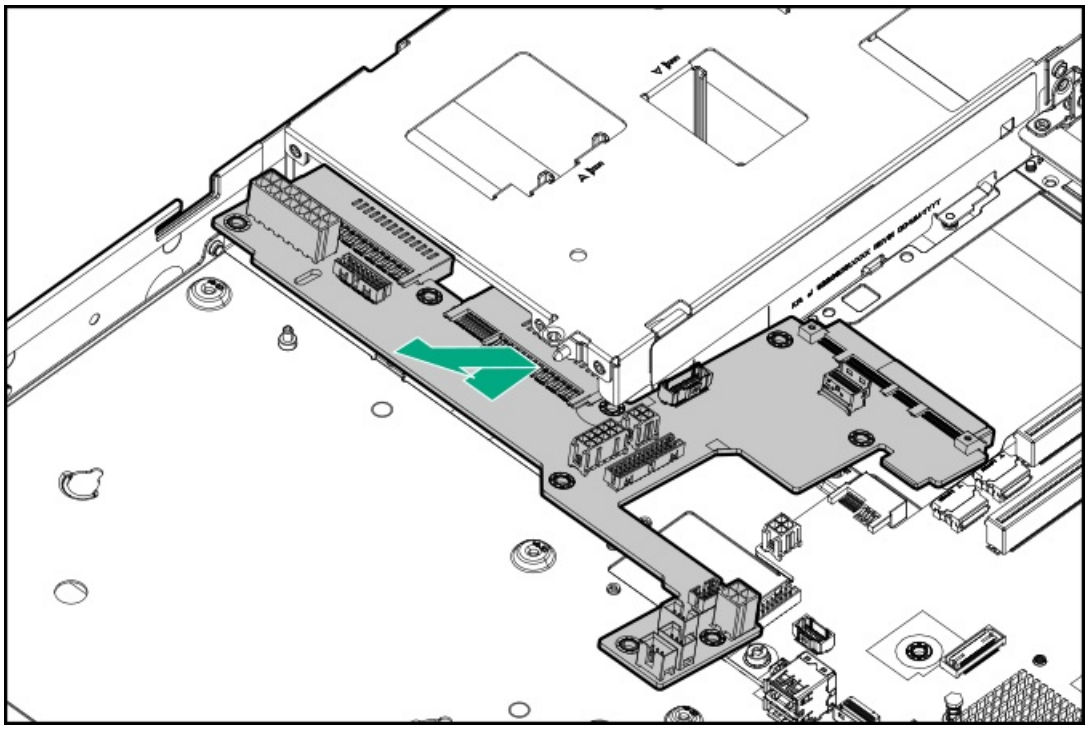
23. Remove the PDB screws.



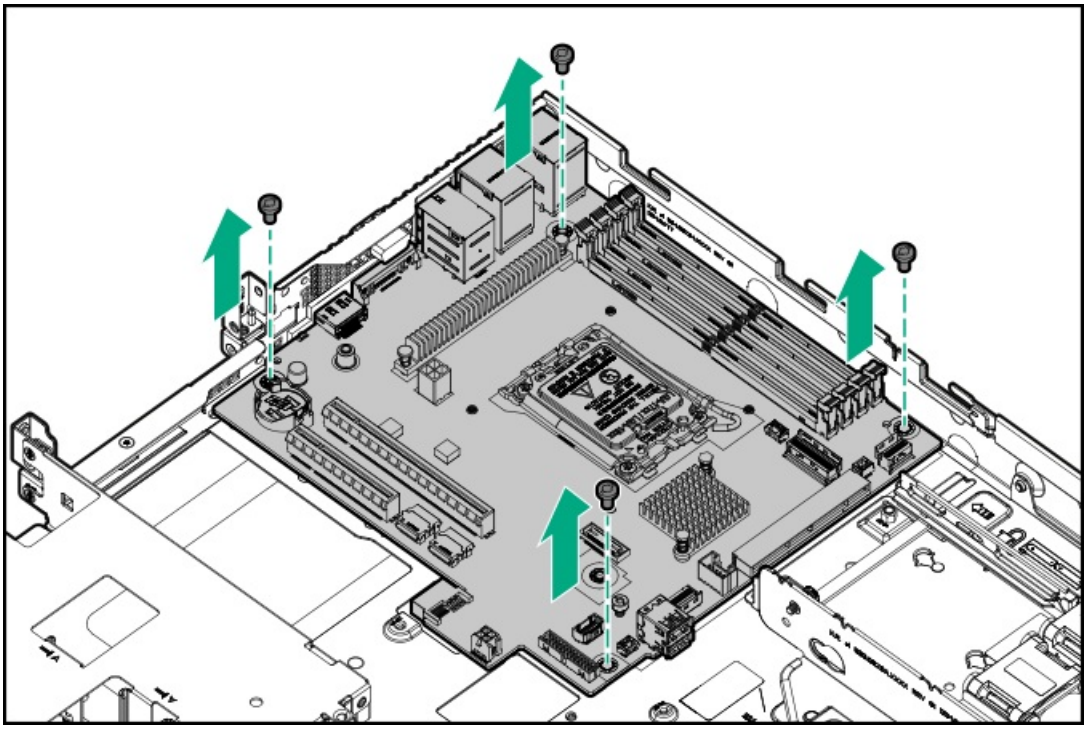
24. Remove the PDB:

    a. Disconnect the PDB from the mainboard.

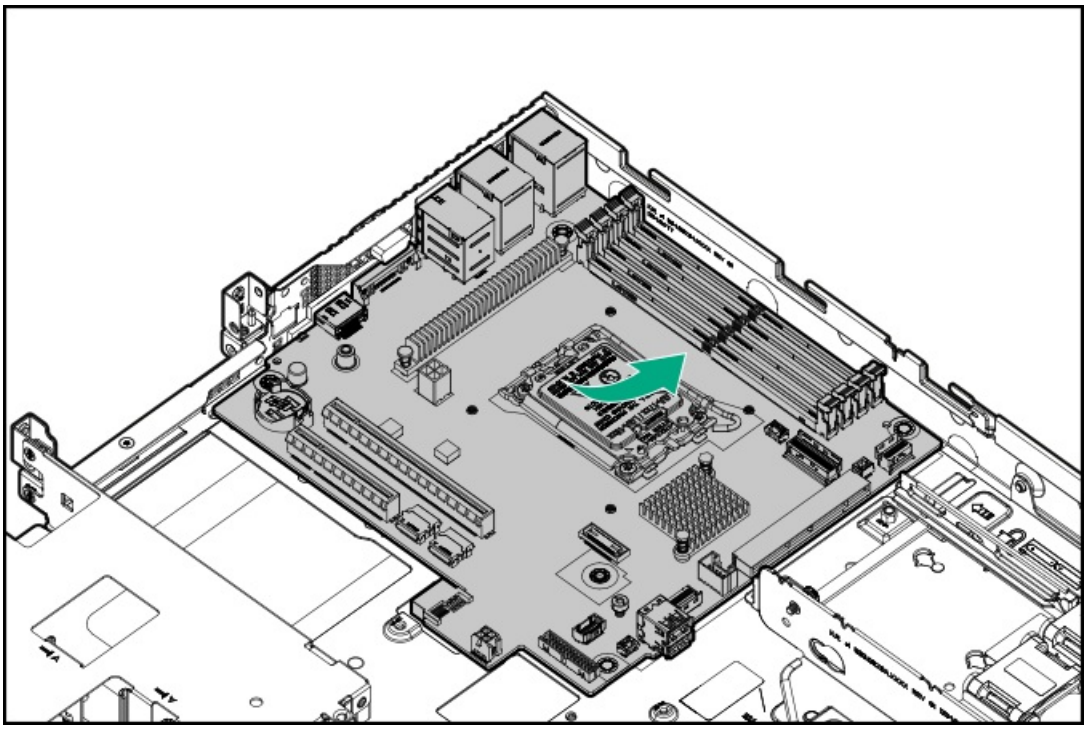
    b. Tilt the front end of PDB above the drive cage and slide it away from the server.



25. Remove the mainboard screws.



26. Lift the mainboard in upward direction from the front side, and then slide the mainboard away from the server.



Installing the mainboard

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:

- T-15 Torx screwdriver
- 1.0 gm (0.5 ml) or two 0.5 gm (0.25 ml) of thermal grease
- Hex screwdriver—This tool is required only if the serial port cable is installed.

About this task

CAUTION

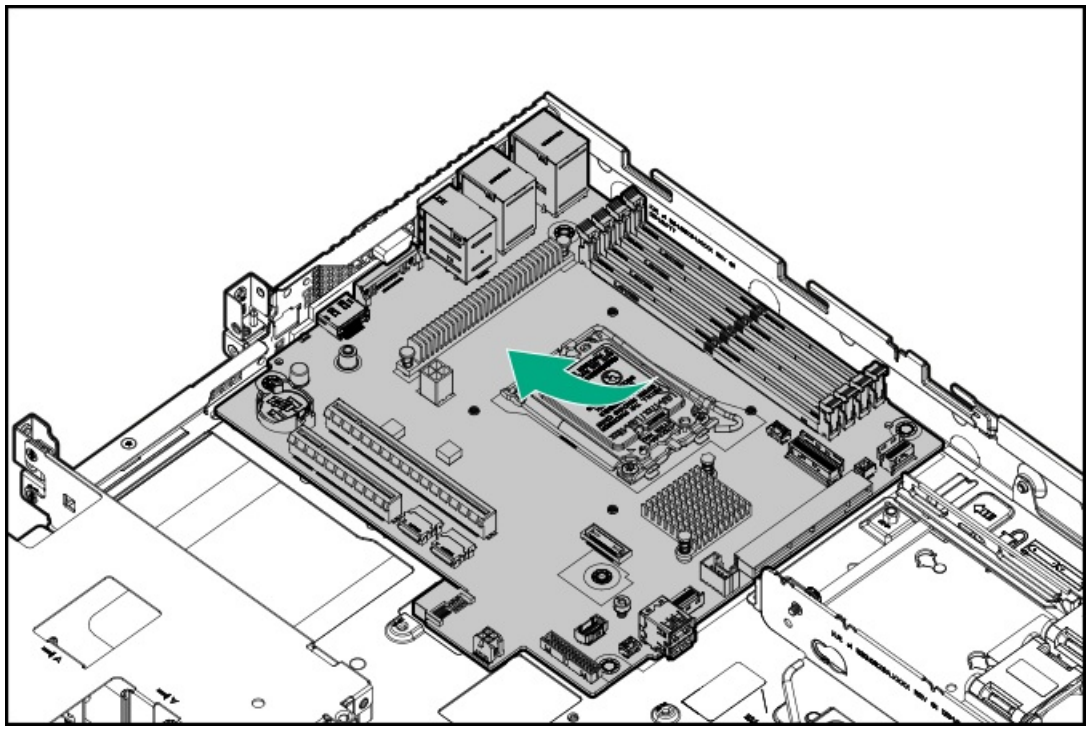
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

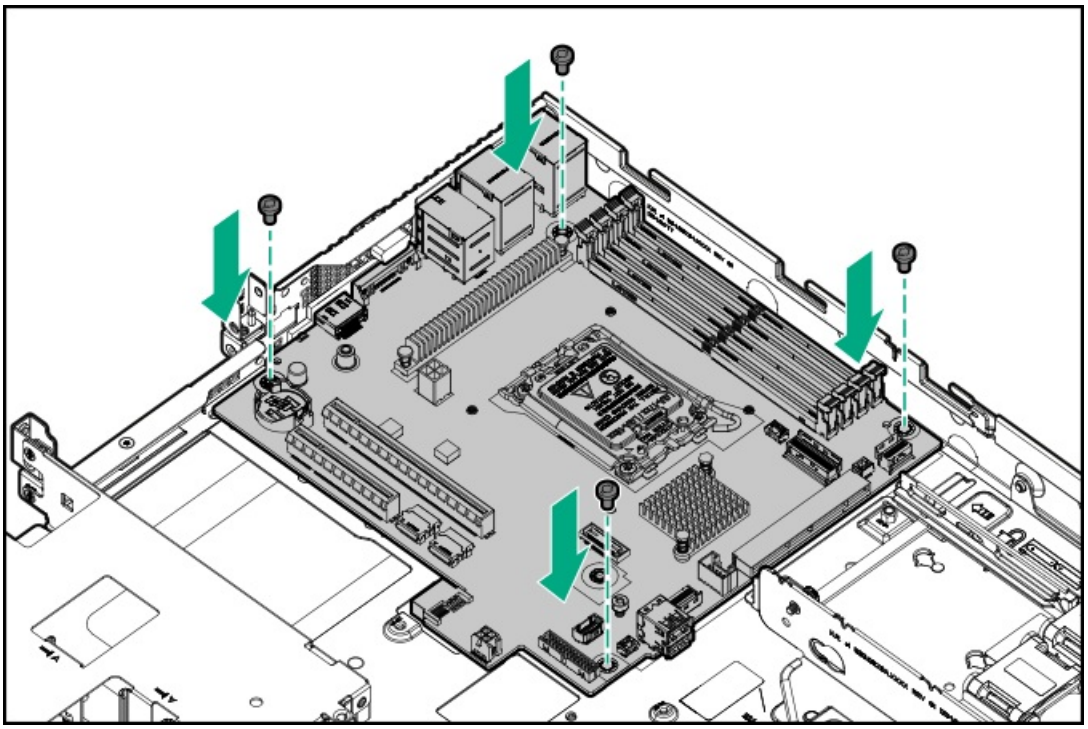
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

Procedure

1. Slide the mainboard towards the rear panel to attach it to the rear panel.

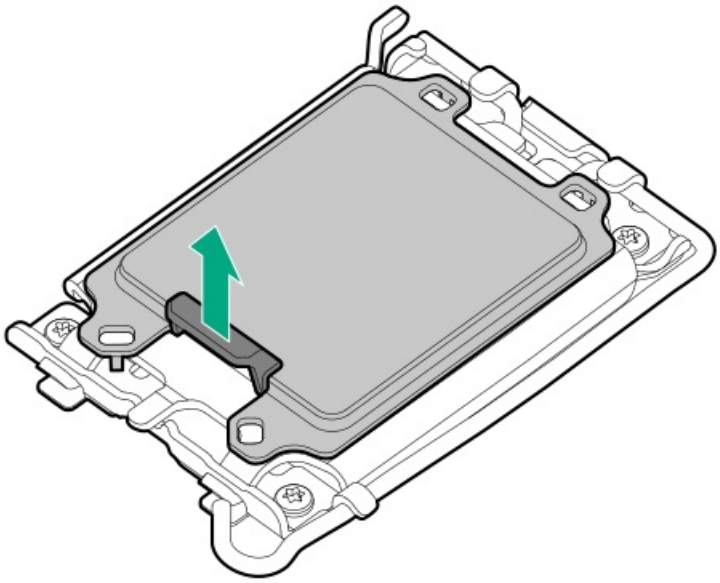


2. Install the mainboard screws.

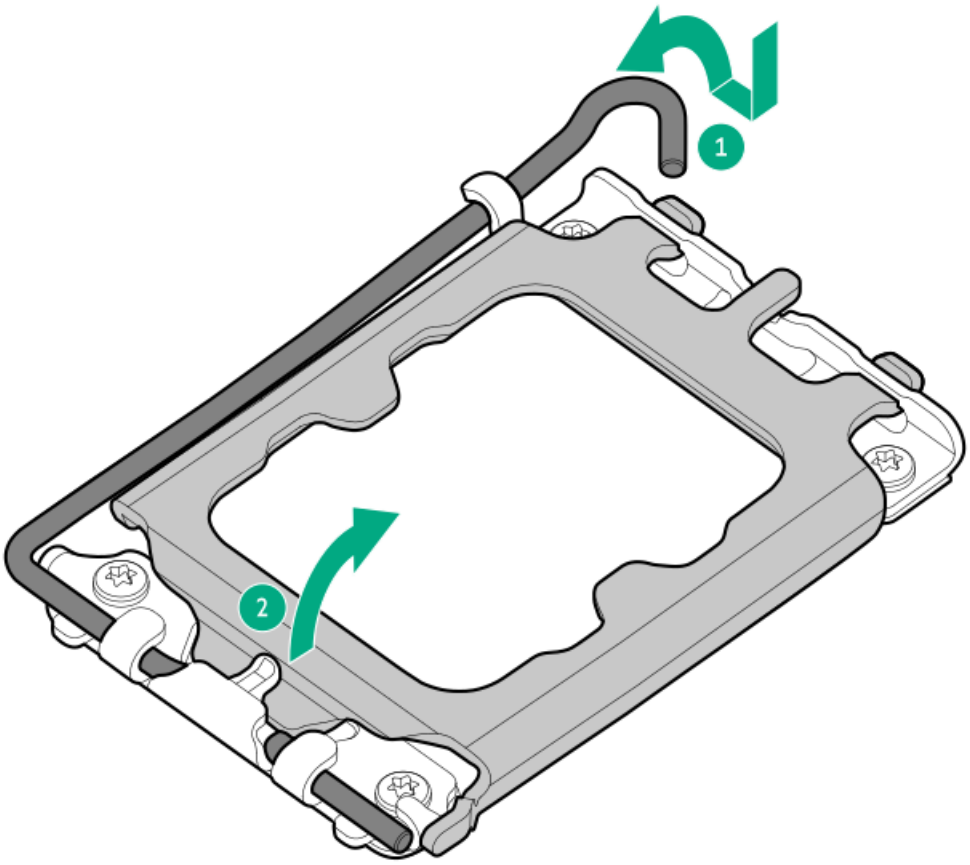


3. Remove the dust cover from the processor socket.

   Retain the cover for future use.



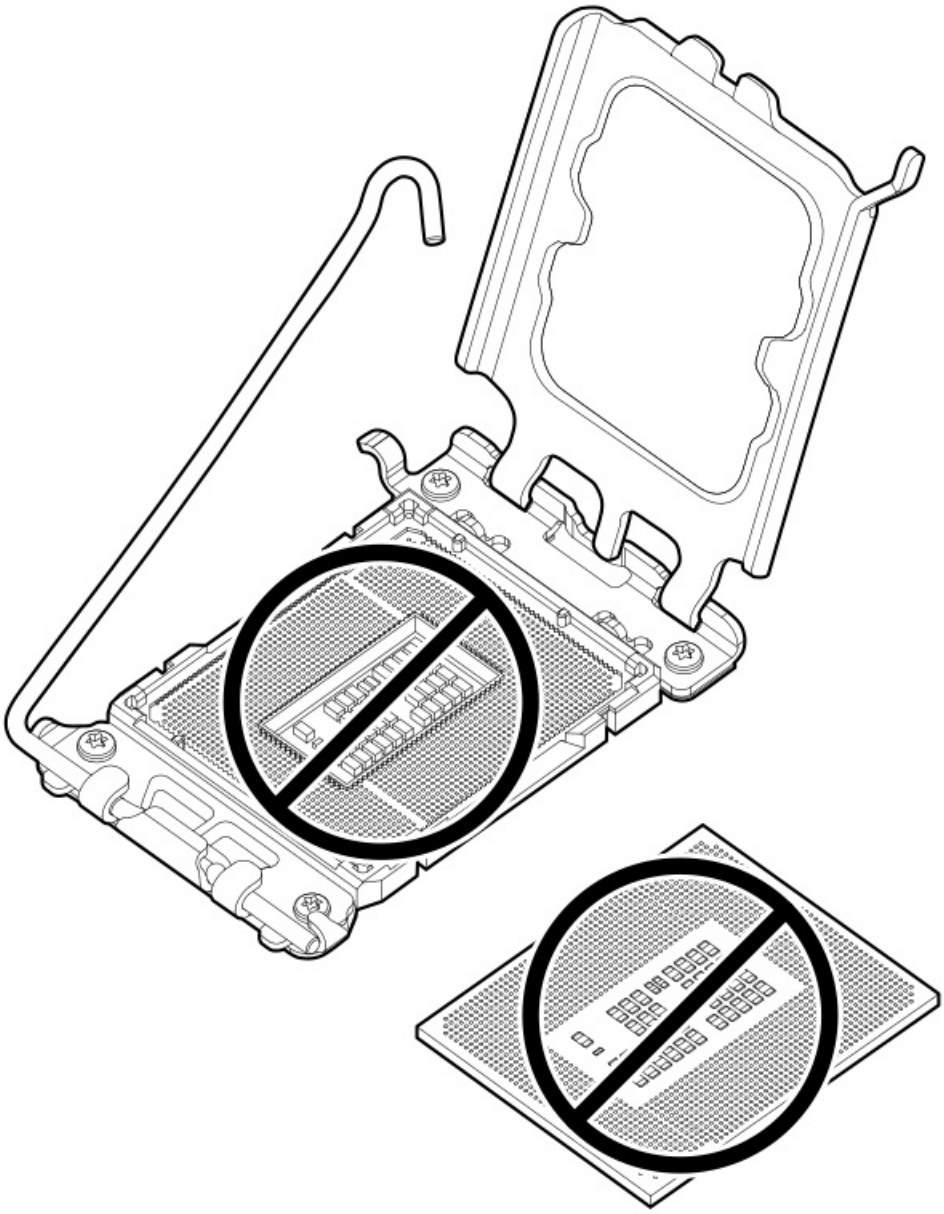
4. Open the processor load plate:
   a. Push the hinge lever down to unclamp it, and then pivot it to the fully open position.
   b. Open the processor load plate.



5. **CAUTION**

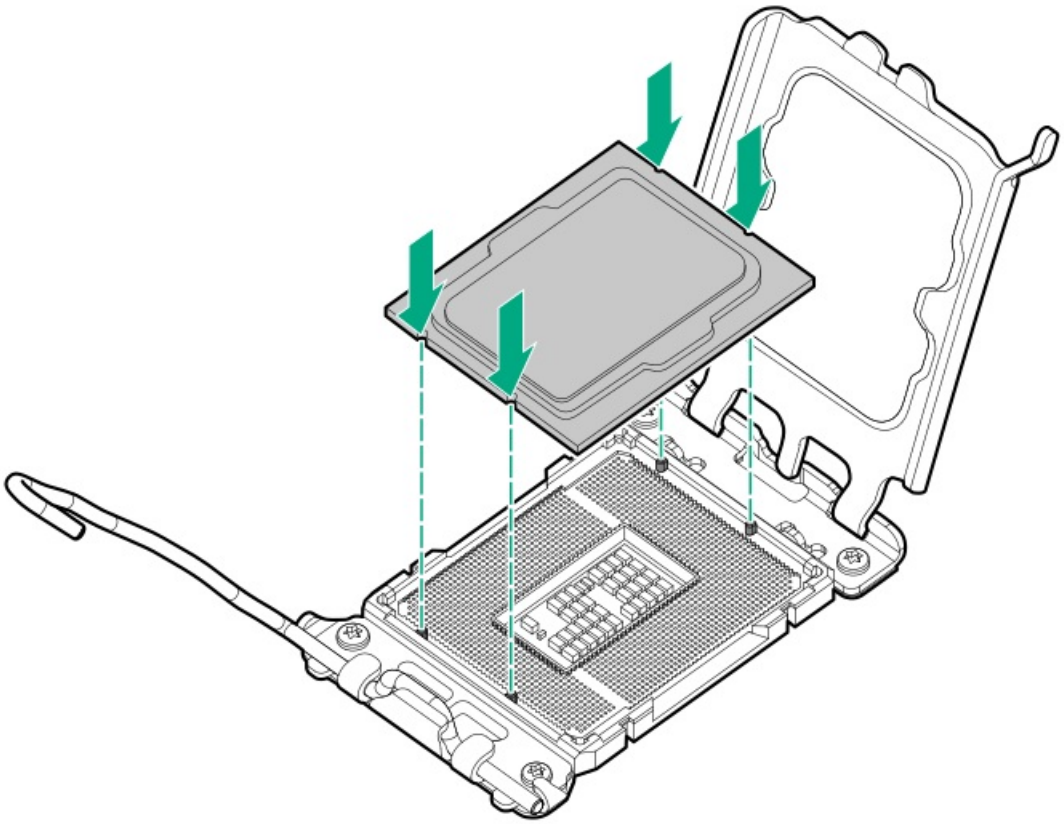
   THE PINS ON THE PROCESSOR SOCKET AND ON THE PROCESSOR ARE VERY FRAGILE AND EASILY DAMAGED. Any damage to them might require replacing the system board.

   Do not touch the socket contacts or the bottom of the processor.



6. Install the processor:
   a. Hold the processor by the edges and align the:
      - Socket notches with the processor notches
      - Pin 1 indicator on the processor and the socket
   b. Lower the processor straight down, without tilting or sliding the processor in the socket.

      Make sure that the processor is properly seated in the socket.



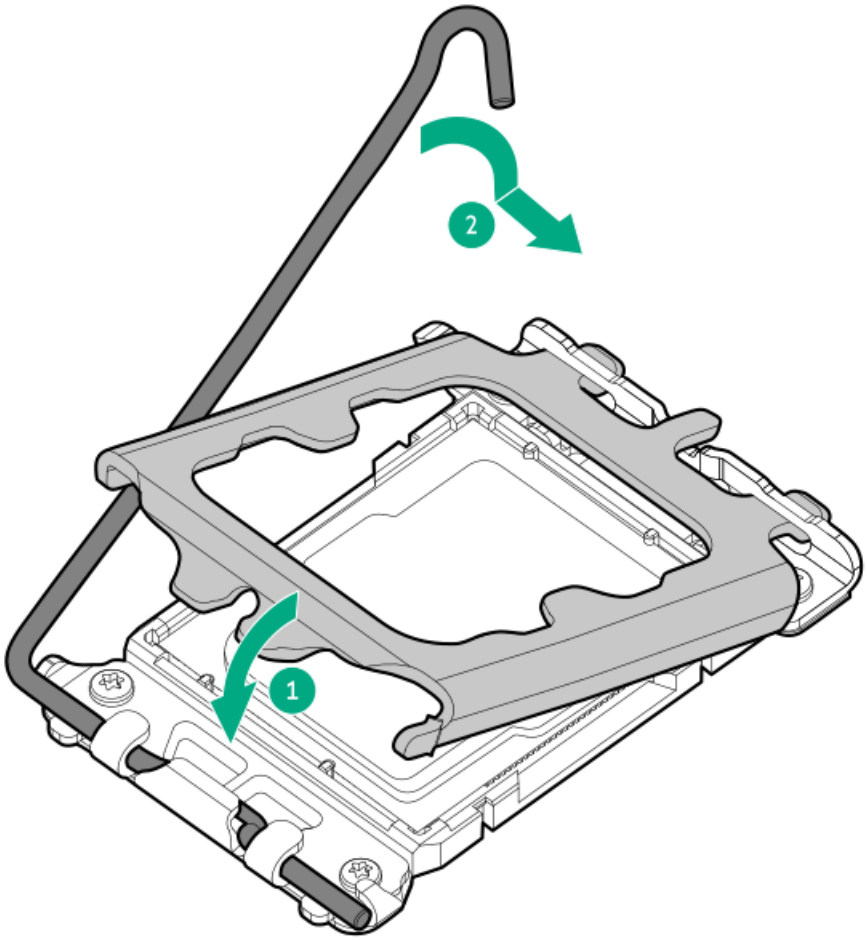
7. **CAUTION**

   The processor load plate and hinge lever should close without resistance. Forcing to close these parts can damage the processor and the socket. This damage might require replacing the system board.

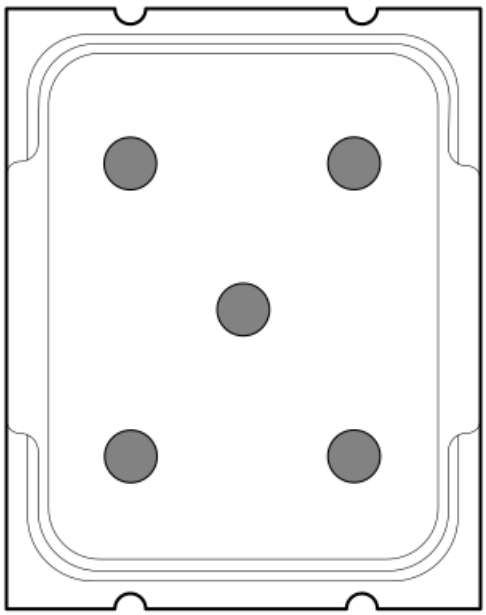
Close the processor load plate, and then engage the hinge lever.

CAUTION

The processor load plate and hinge lever should close without resistance. Forcing to close these parts can damage the processor and the socket. This damage might require replacing the system board.



8. Apply new thermal grease to the processor in the pattern shown in the following image to ensure even distribution. Use the full contents of the thermal grease syringe.



9. **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.

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.

Install the heatsink:

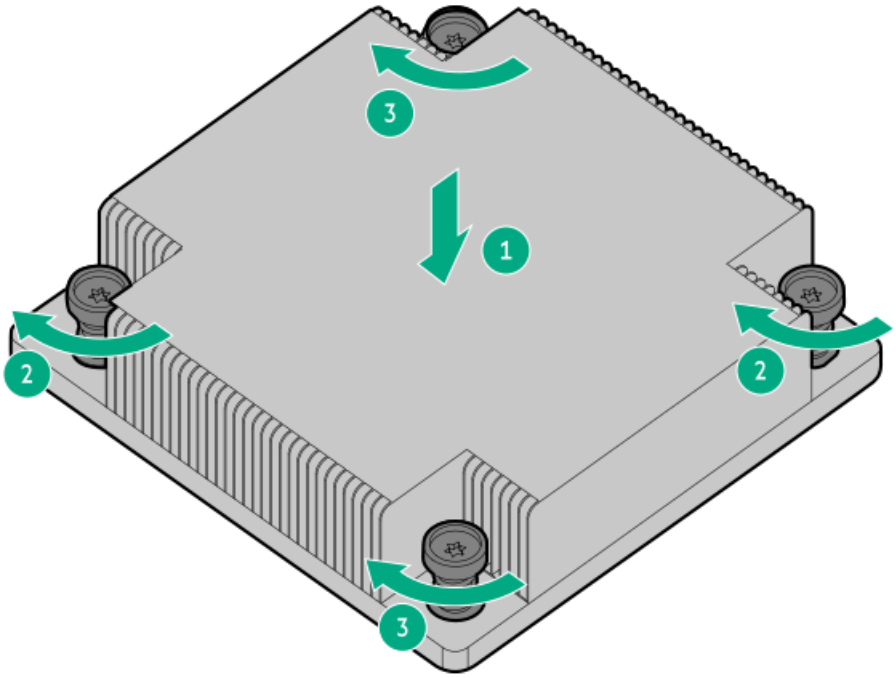
a. When using a torque wrench to tighten the heatsink screws, set it to 0.67 N-m (6 in-lb).

b. Note the **Front of server** text on the heatsink label to correctly orient the heatsink over the processor socket.

c. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.

d. Tighten one pair of diagonally opposite screws halfway, then tighten the other pair of screws.

e. Finish the installation by completely tightening the screws in the same sequence.



10. Install the PDB.
11. Install the cable guard.
12. Install all removed component and cables.
13. Install the access panel.
14. Install the server into the rack.
15. Connect all peripheral cables to the server.
16. Connect each power cord to the server.
17. Connect each power cord to the power source.
18. Power up the server.
19. 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.

20. Re-enter any Secure Boot Keys that were previously added in the Secure Boot configuration.
21. Re-entering the server serial number and product ID.
22. 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 removal procedure is complete. To replace the component, reverse this procedure.

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

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 small flat-bladed, nonconductive 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_color=01a982&ui_theme=dark&autostart=1&camera=0&

IMPORTANT

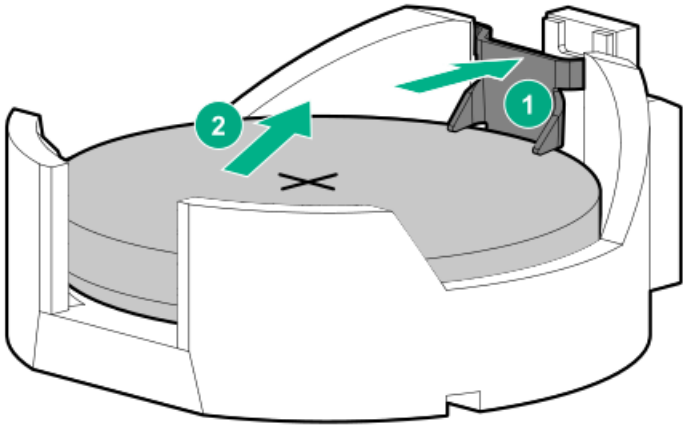
After replacing the system battery and applying power, wait for 10 minutes before powering on the server. This lead time is required for the server to reset and reinitialize the iLO configuration settings stored in SRAM.

Procedure

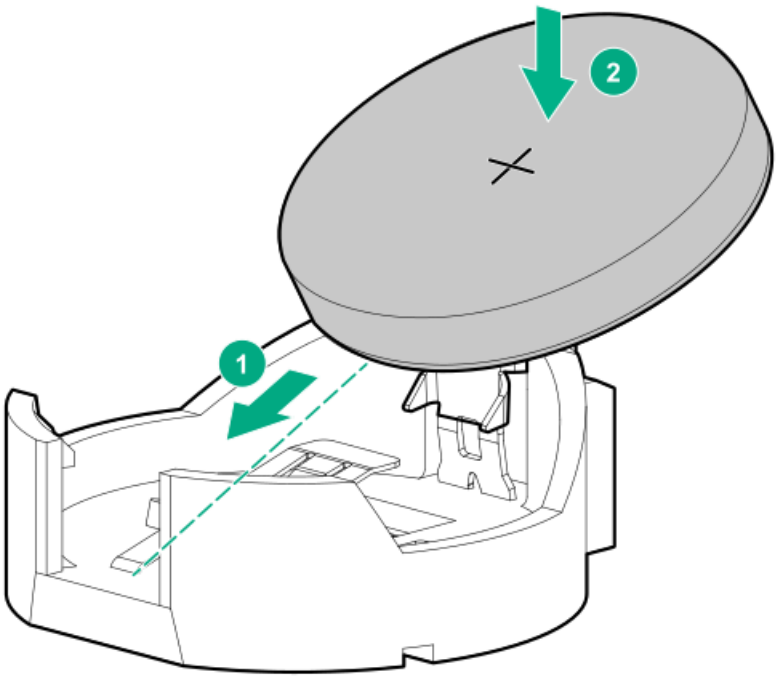
1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.

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. Remove the access panel.
7. Remove the riser cage.
8. Locate the battery on the mainboard.
9. 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.



10. 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.



11. Install the riser cage.
12. Install the access panel.
13. Install the server into the rack.
14. Connect all peripheral cables to the server.
15. Connect each power cord to the server.
16. Connect each power cord to the power source.
17. 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**.

18. Power up the server.
19. Properly dispose of the old battery.

    For more information about proper battery disposal, contact an authorized reseller or an authorized service provider.

Results

The replacement procedure is complete.

Troubleshooting

Subtopics

NMI functionality
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.

Troubleshooting resources

Troubleshooting resources are available for HPE Gen11 server products in the following documents:

- Troubleshooting Guide for HPE ProLiant Gen11 servers provides procedures for resolving common problems and comprehensive courses of action for fault isolation and identification, issue resolution, and software maintenance.

  https://www.hpe.com/info/gen11-troubleshooting

- Integrated Management Log Messages for HPE ProLiant Gen10, Gen10 Plus, and Gen11 servers and HPE Synergy provides IML messages and associated troubleshooting information to resolve critical and cautionary IML events.

  https://www.hpe.com/info/Troubleshooting-IML-en

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	• Service Pack for ProLiant (SPP) https://www.hpe.com/servers/spp/download • Get an overview of SPP and its ecosystem https://www.hpe.com/support/SPP-overview-videos-en
Deploy service packs to a single server	Smart Update Manager (SUM) https://www.hpe.com/support/hpesmartupdatemanager-quicklinks
Deploy service packs to multiple servers	HPE OneView https://www.hpe.com/support/hpeoneview-quicklinks
Updating iLO or system firmware in a single server or multiple servers	HPE iLO https://www.hpe.com/support/hpeilodocs-quicklinks
• Enable policy-based management of server or server group firmware for distributed server infrastructure • Monitor server compliance with a configured firmware baseline • Receive automatic iLO firmware updates • Receive baseline update alerts	HPE Compute Ops Management https://www.hpe.com/support/hpe-gl-com-quicklinks

Configuring the server

To configure	Use
Single server (GUI)	• Intelligent Provisioning https://www.hpe.com/support/hpeintelligentprovisioning-quicklinks • iLO remote console or web interface https://www.hpe.com/support/hpeilodocs-quicklinks • UEFI System Utilities https://www.hpe.com/support/hpeuefisystemutilities-quicklinks • HPE Compute Ops Management https://www.hpe.com/support/hpe-gl-com-quicklinks
Single server (scripting)	• RESTful Interface Tool https://www.hpe.com/support/restfulinterface/docs • 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/
Multiple servers (either UI or scripting)	• HPE OneView [1] 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.

[1] 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 SR Gen10 controllers	• HPE Smart Array SR Controller Gen10 User Guide https://www.hpe.com/support/SR-Gen10-UG • SR Gen10 controller RAID creation: https://www.hpe.com/support/SR-RAID-creation
HPE MR Gen11 controllers	• HPE MR Gen11 Controller User Guide https://hpe.com/support/MR-Gen11-UG • MR Gen11 controller configuration: https://www.hpe.com/support/MR-Gen11-configuration • MR Gen11 controller RAID creation: https://www.hpe.com/support/MR-Gen11-RAID-creation Configuration guides: • HPE MR Storage Administrator User Guide https://www.hpe.com/support/MRSA • HPE StorCLI User Guide https://www.hpe.com/support/StorCLI
Intel VROC for HPE Gen11	• Intel Virtual RAID on CPU for HPE User Guide https://hpe.com/support/VROC-Gen11-UG • Intel VROC SATA RAID quick installation: https://www.hpe.com/support/VROC-SATA-RAID-installation OS-specific configuration guides: • Intel Virtual RAID on CPU (Intel VROC) for Windows User Guide https://www.intel.com/content/dam/support/us/en/documents/memory-and-storage/338065_Intel_VROC_UserGuide_Windows.pdf • Intel Virtual RAID on CPU (Intel VROC) for Linux User Guide https://www.intel.com/content/dam/support/us/en/documents/memory-and-storage/linux-intel-vroc-userguide-333915.pdf • Intel Volume Management Device Driver for VMware ESXi User Guide https://www.intel.com/content/dam/support/us/en/documents/memory-and-storage/ESXi-Intel-VROC-UserGuide.pdf
Storage controller documents library	https://www.hpe.com/support/hpestoragecontrollerdocs-quicklinks

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 https://www.hpe.com/support/hpeintelligentprovisioning-quicklinks
Deploy an OS using iLO virtual media	iLO user guide https://www.hpe.com/support/hpeilodocs-quicklinks
Configure the server to boot from a PXE server	UEFI System Utilities User Guide for HPE ProLiant Gen11 Servers and HPE Synergy https://www.hpe.com/support/UEFIGen11-UG-en
Configure the server to boot from a SAN	HPE Boot from SAN Configuration Guide https://www.hpe.com/info/boot-from-san-config-guide

Configuring security

To	See
Implement server security best practices.	• HPE Compute Security Reference Guide https://www.hpe.com/info/server-security-reference-en • HPE iLO 6 Security Technology Brief https://www.hpe.com/support/ilo6-security-en
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 https://www.hpe.com/info/server-config-lock-UG-en

Server management

To monitor	See
Single server	HPE iLO https://www.hpe.com/support/hpeilodocs-quicklinks
Multiple servers	HPE OneView https://www.hpe.com/support/hpeoneview-quicklinks
Single or multiple servers	HPE Compute Ops Management https://www.hpe.com/support/hpe-gl-com-quicklinks

Managing Linux-based high performance compute clusters

To	Use
Provision, manage, and monitor clusters.	HPE Performance Cluster Manager https://www.hpe.com/support/hpcm_manuals
Optimize your applications.	HPE Performance Analysis Tools https://www.hpe.com/info/perftools
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 https://www.hpe.com/info/cray-pe-user-guides

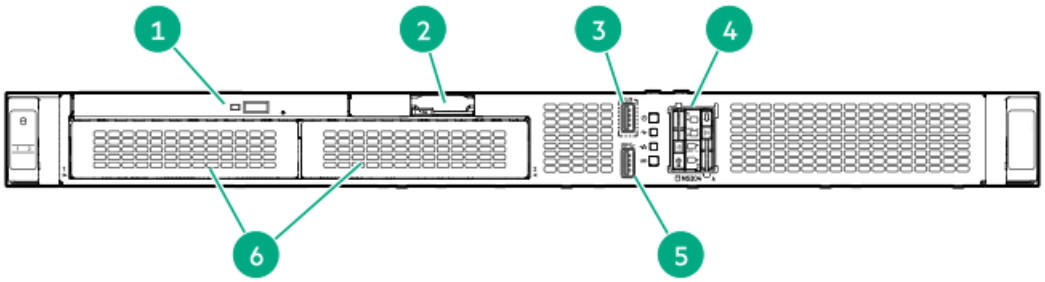
Component identification

This chapter describes the external and internal server features and components.

Subtopics

Front panel components

2 LFF non-hot-plug drive model

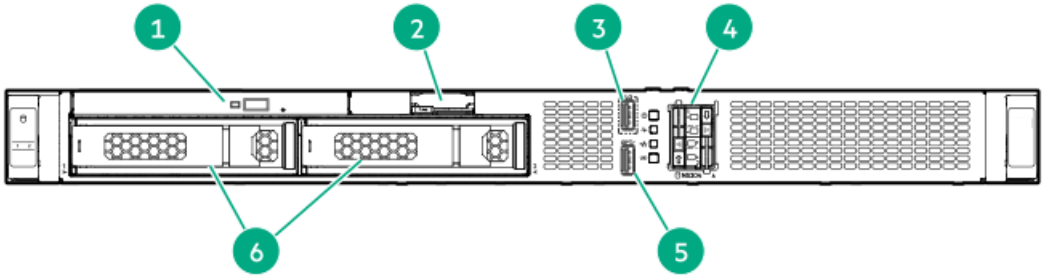


Item	Description
1	Optical drive (optional)
2	Serial number/iLO information pull tab [1]
3	iLO service port
4	HPE NS204i-u Boot Device (optional)
5	USB 3.2 Gen1 port
6	2 LFF non-hot-plug drive cage [2]

1 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.

2 The 2 LFF non-hot-plug drive cage supports SATA drives.

2 LFF hot-plug drive model

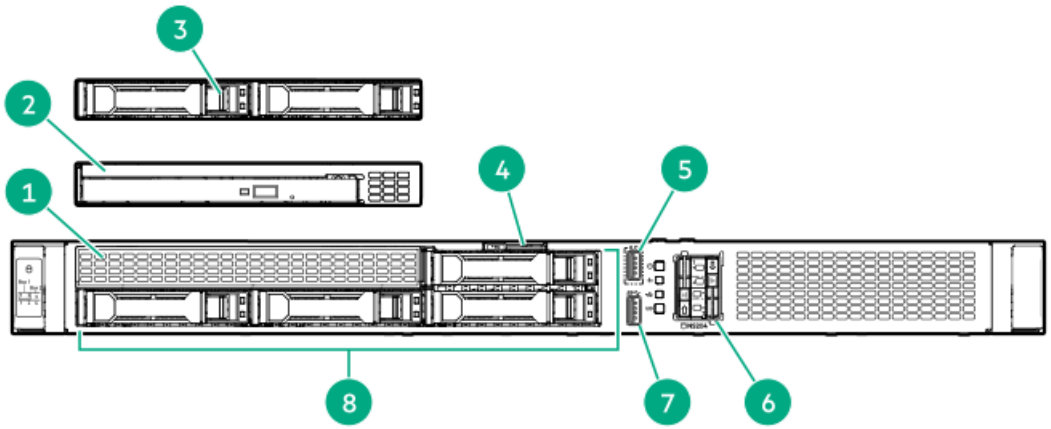


Item	Description
1	Optical drive (optional)
2	Serial number/iLO information pull tab [1]
3	iLO service port
4	HPE NS204i-u Boot Device (optional)
5	USB 3.2 Gen1 port
6	2 LFF hot-plug drives [2]

1 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.

2 The 2 LFF drive bays support SAS or SATA drives.

4 + 2 SFF hot-plug drive model



Item	Description
1	Media bay [1]
2	Optical drive (optional)
3	2 SFF hot-plug drive cage (optional) [2]
4	Serial number/iLO information pull tab [3]
5	iLO service port
6	HPE NS204i-u Boot Device (optional)
7	USB 3.2 Gen1 port
8	4 SFF hot-plug drives [4]

1 The media bay supports the optical drive cage or the 2 SFF drive cage option.
2 The 2 SFF drive cage supports SAS, SATA, or U.3 NVMe drives .
3 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.
4 The 4 SFF drive bays support SAS or SATA drives .

Subtopics

iLO Service Port

iLO Service Port

The Service Port is a USB port with the label **iLO** on supported servers and compute modules.

To find out if your server or compute module supports this feature, see the server specifications document at the following website: **https://www.hpe.com/info/quickspecs**.

The Service Port is a USB port with the label **iLO** on the front of the server.

To find out if your server supports this feature, see the server specifications document at the following website: **https://www.hpe.com/info/quickspecs**.

When you have physical access to a server, you can use the Service Port to do the following:

- Download the Active Health System Log to a supported USB flash drive.

  When you use this feature, the connected USB flash drive is not accessible by the host operating system.

- Connect a client (such as a laptop) with a supported USB to Ethernet adapter to access the following:
  - iLO web interface
  - Remote console

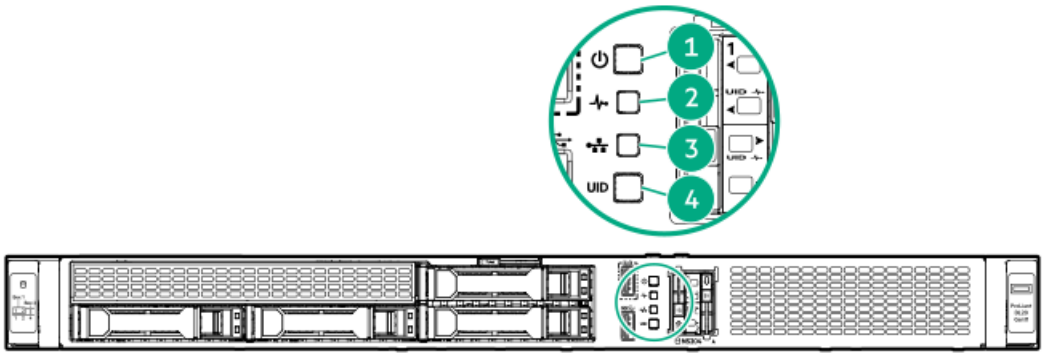
- iLO RESTful API
- CLI

When you use the iLO Service Port:

- Actions are logged in the iLO event log.
- The server UID flashes to indicate the Service Port status.

  You can also retrieve the Service Port status by using a REST client and the iLO RESTful API.
- You cannot use the Service Port to boot any device within the server, or the server itself.
- You cannot access the server by connecting to the Service Port.
- You cannot access the connected device from the server.

Front panel LEDs and buttons



Item	LED	Status	Definition
1	Power On/Standby button and system power LED [1]	Solid green	System on
		Flashing green	Performing power-on sequence
		Solid amber	System in standby
		Off	No power present [2]
2	Health LED [1]	Solid green	Normal
		Flashing green	iLO is rebooting
		Flashing amber	System degraded [3]
		Flashing red	System critical [3]
3	NIC status LED [1]	Solid green	Linked to network
		Flashing green	Network active
		Off	No network activity
4	UID button/LED [1]	Solid blue	Activated
		Flashing blue	• 1 flash per second = Remote management or firmware upgrade in progress • 4 flashes per second = iLO manual reboot sequence initiated • 8 flashes per second = iLO manual reboot sequence in progress
		Off	Deactivated

1 When all LEDs flash simultaneously, a power fault has occurred. For more information, see Front panel LED power fault codes.
2 Facility power is not present, power cord is not attached, no power supplies are installed, or power supply failure has occurred.
3 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.

Subtopics

Server UID LED

The UID LED can be used to help an on-site technician quickly identify or locate a particular server when it is deployed in a dense rack with other equipment. It can also be used to identify if a remote management, firmware upgrade, or reboot sequence is in progress.

Viewing the Server Health Summary

Prerequisites

- An external monitor is connected.
- In the iLO web interface, the Show Server Health on External Monitor feature is enabled on the Access Settings page.

About this task

If the server does not power on, use the UID button to display the iLO Server Health Summary screen on an external monitor. This function works when the server is powered on or off.

For more information, see the iLO troubleshooting guide on the Hewlett Packard Enterprise website.

Procedure

1. Press and release the UID button.

   CAUTION

   Be sure to press and release the UID button. Pressing the UID button at any time for more than five seconds will initiate a graceful iLO reboot or a hardware iLO reboot. Data loss or NVRAM corruption might occur during a hardware iLO reboot.

   The Server Health Summary screen displays on the external monitor.

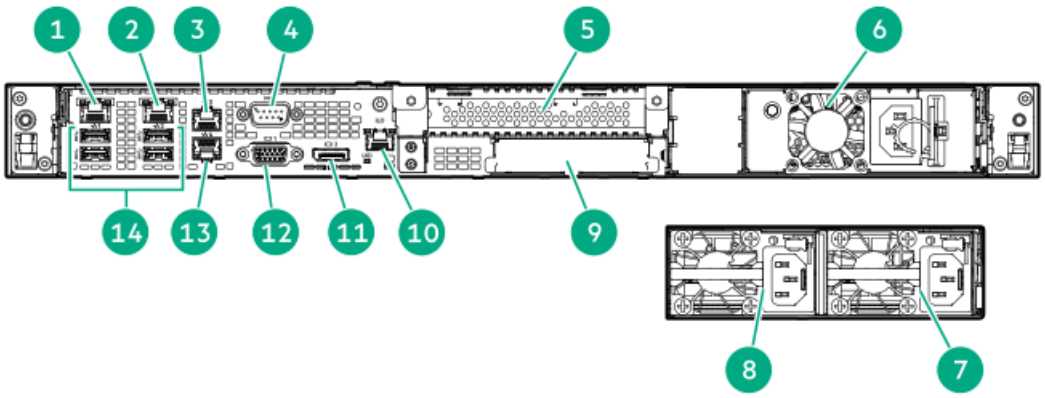
2. Press the UID button again to close the Server Health Summary screen.

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.

Subsystem	LED behavior
System board	1 flash
Processor	2 flashes
Memory	3 flashes
Riser board PCIe slots	4 flashes
FlexibleLOM	5 flashes
Storage controller	6 flashes
System board PCIe slots	7 flashes
Power backplane	8 flashes
Storage backplane	9 flashes
Power supply	10 flashes
PCIe expansion cards installed in riser board	11 flashes
Chassis	12 flashes
GPU card	13 flashes

Rear panel components



Item	Description
1	NIC 1 / iLO shared port (1 GbE)
2	NIC port 2 (1 GbE)
3	NIC port 3 (1 GbE)
4	Serial port (optional)
5	Slot 1 PCIe5 x16 (16, 8, 4, 1)
6	ATX non-hot-plug power supply
7	Flexible Slot power supply 1
8	Flexible Slot power supply 2 (optional)
9	OCP 15 PCIe5 x4
10	iLO dedicated network port (optional)
11	DisplayPort 1.1a
12	VGA port
13	NIC port 4 (1 GbE)
14	USB 3.2 Gen1 ports (4) [1]

1 When the server is in standby mode, these USB ports will have no power. Connected devices will not charge nor be able to wake the server from standby mode.

Subtopics

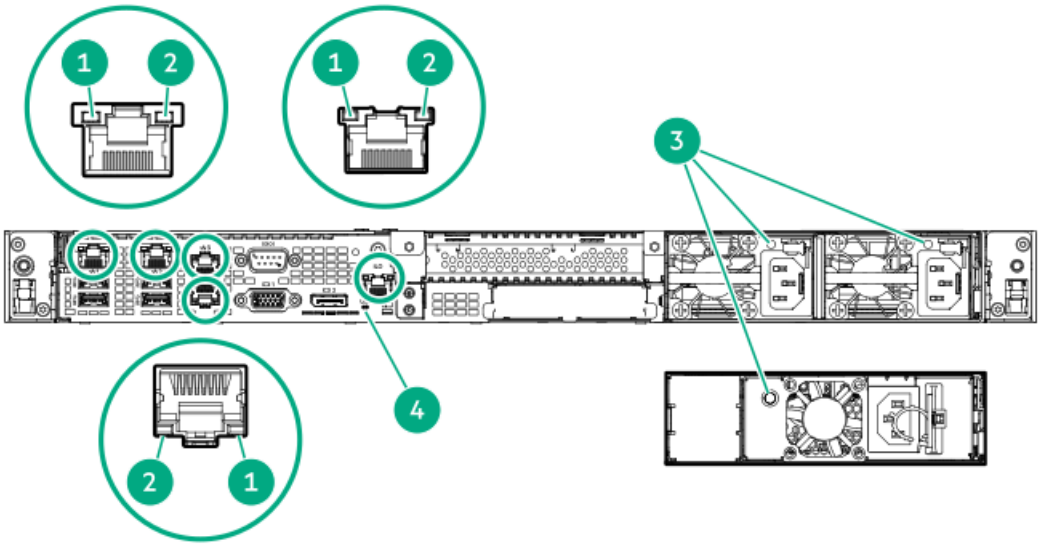
Display device setup

The server supports both VGA port and DisplayPort 1.1a. Before connecting a display device, observe following:

- Display output modes:
  - 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.

Rear panel LEDs



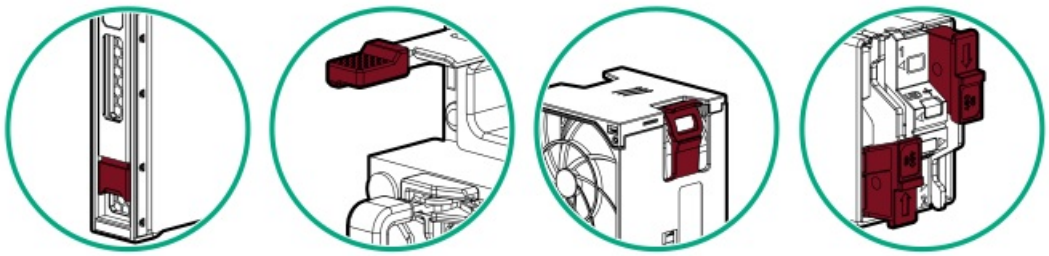
Item	LED	Status	Definition
1	NIC/iLO link	Solid green	Network link speed is 1000 Mb/s.
		Solid amber	Network link speed is 10/100 Mb/s.
		Off	No network link
2	NIC/iLO activity	Flashing green	Network active
		Off	No network activity
3	Power supply	Solid green	The power supply is operating normally
		Off	One or more of the following conditions exists: • Power is unavailable • Power supply failure • Power supply is in standby mode • Power supply error
4	UID	Solid blue	Activated
		Flashing blue	• 1 flash per second—Remote management or firmware upgrade in progress • 4 flashes per sec—iLO manual reboot sequence initiated • 8 flashes per sec—iLO manual reboot sequence in progress
		Off	Deactivated

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

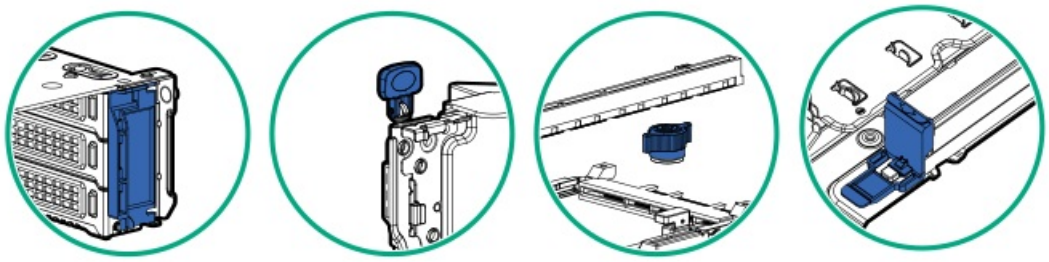


Hot-plug red indicates hot-pluggable components. These components can be removed and installed while the system is running, and doing so will not result in a system shutdown.

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



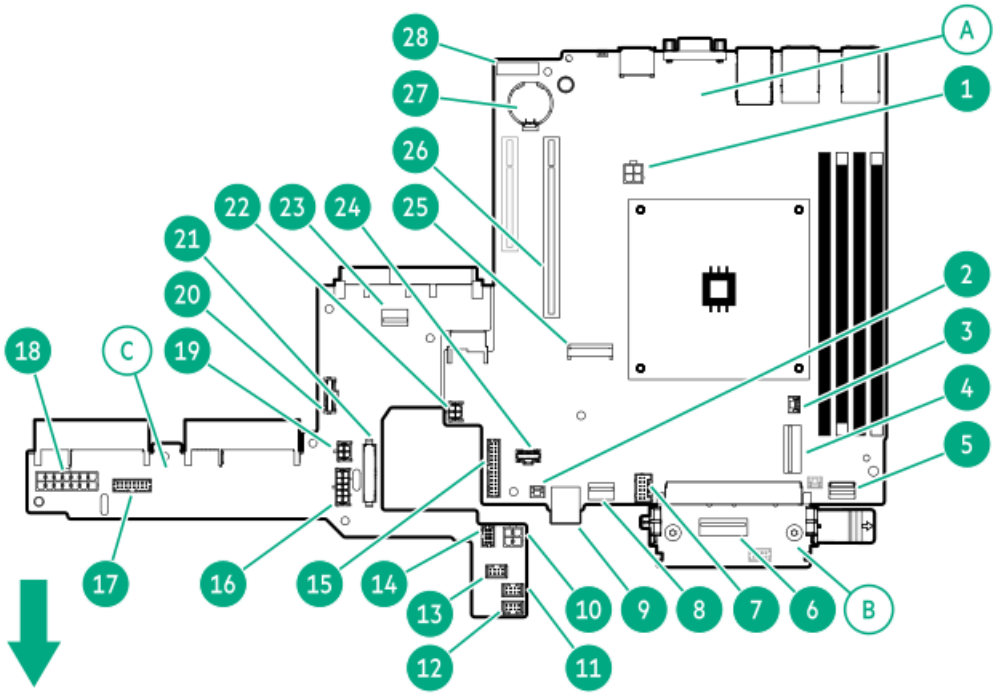
Touchpoint blue indicates cold-pluggable components. These components require a system shutdown. Failure to do so might result in system failure or data loss. Cold-pluggable components might also indicate touchpoints on non-electrical components.

Component examples:

- Storage devices
- Fan cages
- System boards
- Energy packs

System board components

The arrow points to the front of the server.



The system board comprises three individual printed circuit assemblies (PCA):

Item	Board
A	Mainboard
B	Pass-through board (PTB) [1]
C	Power distribution board (PDB)

[1] The PTB is connected to Slot 14 internal OCP PCIe4 x4. The Slot 15 external OCP PCIe4 x4 is accessible from the rear panel.

Item	Description
1	4-pin processor power connector
2	Storage controller backup power connector
3	Chassis intrusion detection switch connector
4	SlimSAS x8 port 1
5	Front I/O & USB 3.2 Gen 1 & iLO service port connector
6	SlimSAS x8 port 3 [1]
7	Energy pack connector
8	SlimSAS x4 port 2
9	Stacked, internal dual USB 3.2 Gen 2 ports
10	4-pin processor power connector
11	System fan connector
12	Processor fan connector
13	PCIe fan connector
14	NS204i-u power connector
15	Mainboard: Power supply sideband connector
16	Drive backplane power connector
17	ATX sideband connector
18	14-pin ATX power supply connector
19	PDB: System power connector
20	PTB: Slot 15 external OCP sideband connector
21	PDB: Power supply sideband connector
22	Mainboard: System power connector
23	SlimSAS x4 port
24	Mainboard: Slot 15 external OCP sideband connector
25	M.2 slot 1 [2]
26	Slot 1 PCIe5 x16
27	System battery
28	System maintenance switch

[1] For a SATA device
[2] This M.2 slot does not support direct SSD installation. This slot instead supports the iLO-M.2 serial module option, which supports NVMe SSDs.

Subtopics

System maintenance switch descriptions

Position	Default	Function
S1 [1]	Off	• Off—iLO 6 security is enabled. • On—iLO 6 security is disabled.
S2	Off	Reserved
S3	Off	Reserved
S4	Off	Reserved
S5 [1]	Off	• Off—Power-on password is enabled. • On—Power-on password is disabled.
S6 [1, 2, 3]	Off	• Off—No function • On—Restore default manufacturing settings
S7	Off	Reserved
S8	Off	Reserved
S9	Off	Reserved
S10	Off	Reserved
S11	Off	Reserved
S12	Off	Reserved

1 To access the redundant ROM, set S1, S5, and S6 to On.
2 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.
3 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.

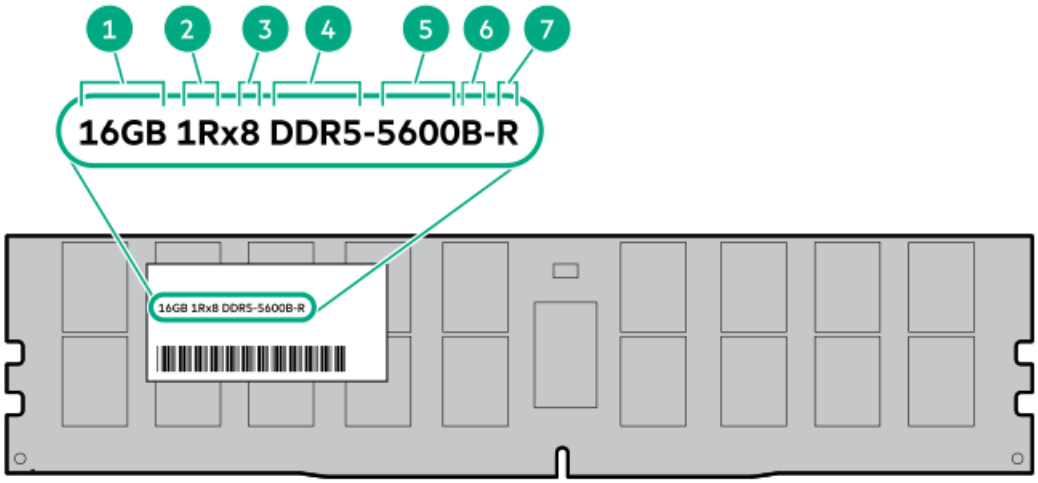
DIMM label identification

The label contains information about the DIMM. For additional information about DIMMs, including:

- Memory speeds and server-specific DIMM population rules
- Product features, specifications, options, configurations, and compatibility

See the website:

https://www.hpe.com/docs/server-memory

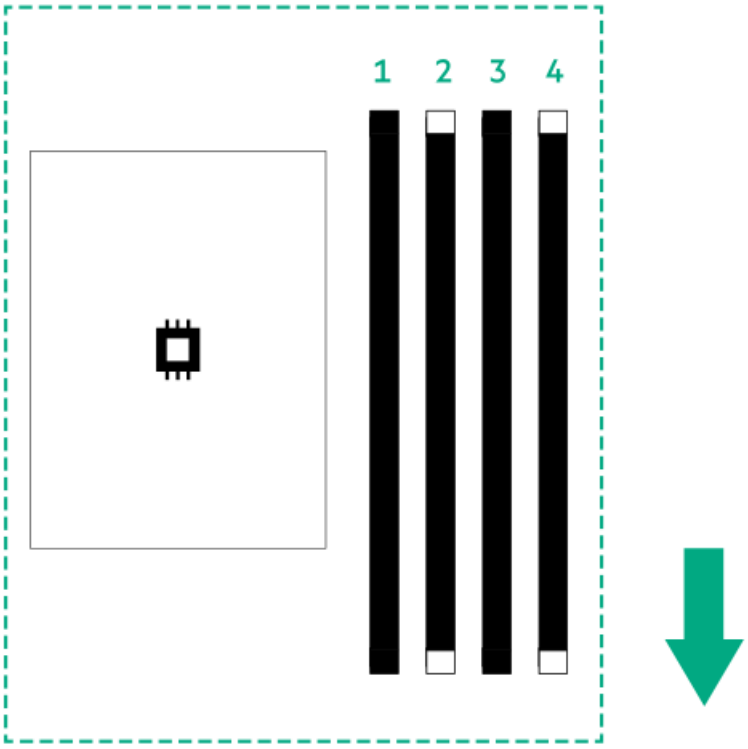


Item	Description	Example
1	Capacity [1]	16 GB 32 GB 64 GB 96 GB 128 GB 256 GB
2	Rank	1R—Single rank 2R—Dual rank 4R—Quad rank 8R—Octal rank
3	Data width on DRAM	x4—4-bit x8—8-bit
4	Memory generation	PC5—DDR5
5	Maximum memory speed [1]	4800 MT/s 5600 MT/s 6400 MT/s
6	CAS latency	B—42-42-42 B—50-42-42 (for 128 GB and 256 GB capacities)
7	DIMM type	E—UDIMM (unbuffered with ECC) R—RDIMM (registered)

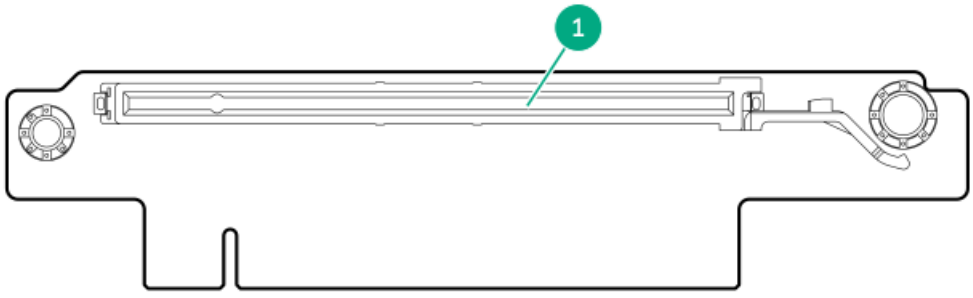
1 The maximum memory speed and capacity is a function of the memory type, memory configuration, and processor model.

DIMM slot numbering

The arrow points to the front of the server.

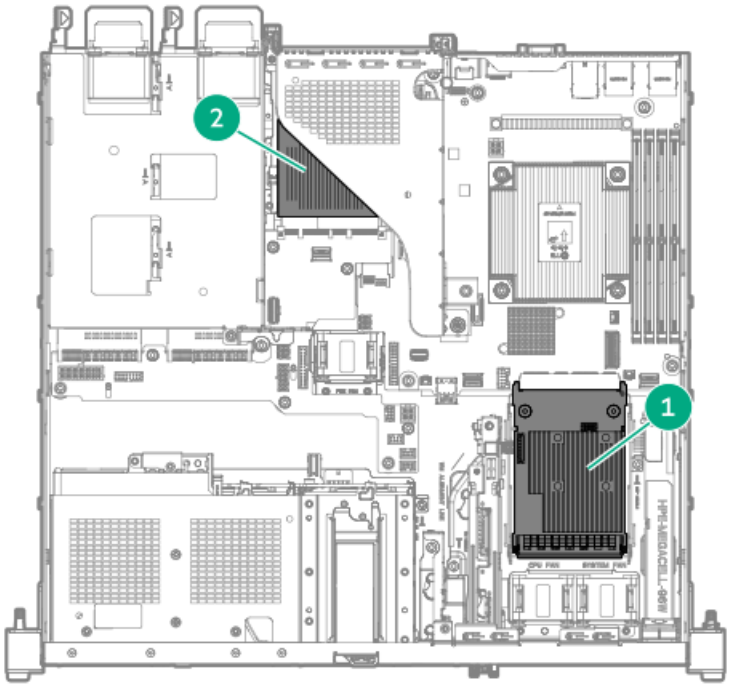


Riser board component



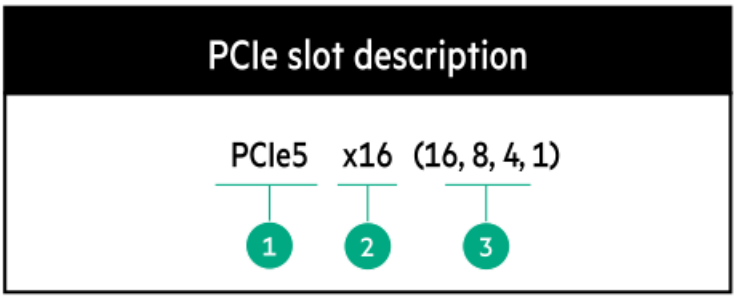
Slot number	Slot type	Slot power	Supported form factors
1	PCIe5 x16 (16, 8, 4, 1)	75 W	• Full-height, half-length • Half-height, half-length (low-profile)

OCP slot population rules



Item	Slot number and description	Supported expansion options
1	Slot 14 OCP PCIe5 x4 (internal OCP)	Type-o storage controller
2	Slot 15 OCP PCIe5 x4 (external OCP)	OCP NIC 3.0 adapter

PCIe5 slot description



Item	Description	Definition
1	PCI Express version	Each PCIe version corresponds to a specific data transfer rate between the processor and peripheral devices. Generally, a version update corresponds to an increase in transfer rate. • PCIe 1.x • PCIe 2.x • PCIe 3.x • PCIe 4.x • PCIe 5.x The PCIe technology is under constant development. For the latest information, see the **PCI-SIG website**.
2	Physical connector link width	PCIe devices communicate through a logical connection called an interconnect or link. At the physical level, a link is composed of one or more lanes. The number of lanes is written with an x prefix with x16 being the largest size in common use. • x1 • x2 • x4 • x8 • x16
3	Negotiable link width	These numbers correspond to the maximum link bandwidth supported by the slot.

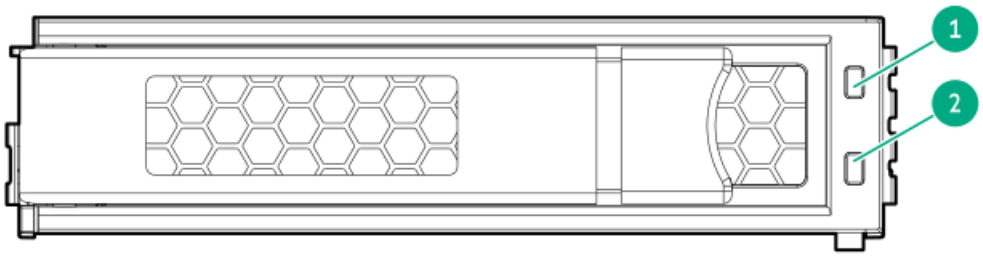
HPE Basic Drive LED definitions

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.

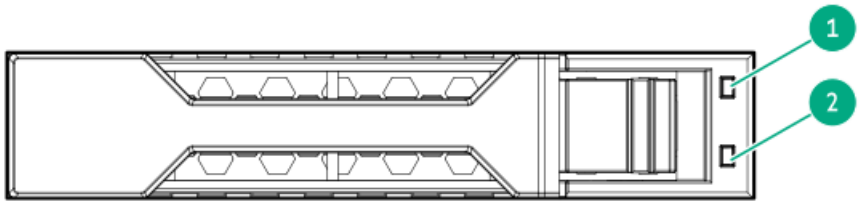
LFF low-profile drive carrier

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 SAS, SATA, or 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: • Rebuilding or performing a RAID • Performing a stripe size migration • Performing a capacity expansion • Performing a logical drive extension • Erasing • Spare part activation
		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.

Drive bay numbering

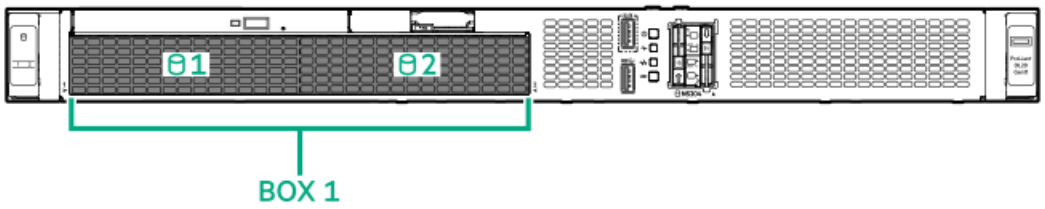
CAUTION

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.

2 LFF non-hot-plug drive bay numbering

- SATA drives are supported.

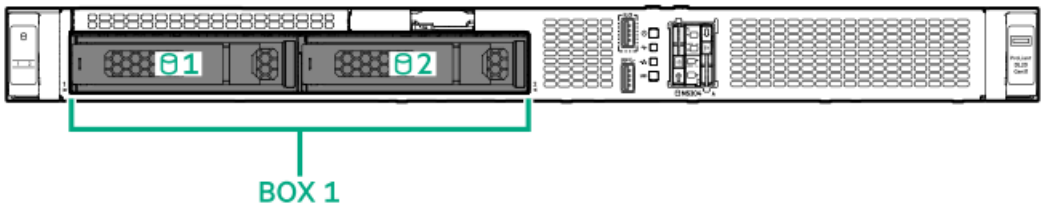
- Onboard connection for the Intel VROC SATA RAID support is through the SlimSAS x4 port 2.



2 LFF hot-plug drive bay numbering

- The 2 LFF hot-plug drive box uses the 2 LFF 12G x1 SAS UBM3 LP BP drive backplane.

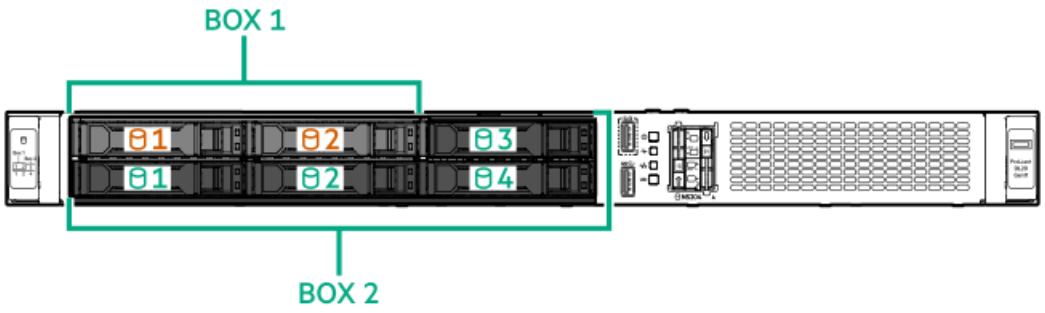
  For more information on the drive backplane description, see Drive backplane naming.
- SAS or SATA drives are supported.
- Onboard connection for the Intel VROC SATA RAID support is through the SlimSAS x4 port 2.



4 + 2 SFF hot-plug drive bay numbering

- The following drive backplanes are supported in 4 + 2 SFF hot-plug drive configuration:
  - Box 1: 2 SFF 24G x4 NVMe/SAS UBM3 BC BP
  - Box 2: 4 SFF 12G x1 SAS UBM3 BC BP

  For more information on the drive backplane description, see Drive backplane naming.
- Box 1 supports SAS, SATA, or U.3 NVMe drives .
- Box 1 for the Intel VROC SATA RAID support is through the SlimSAS x8 port 3.
- Box 2 supports SAS or SATA drives .
- Box 2 for the Intel VROC SATA RAID support is through SlimSAS x4 port 2.

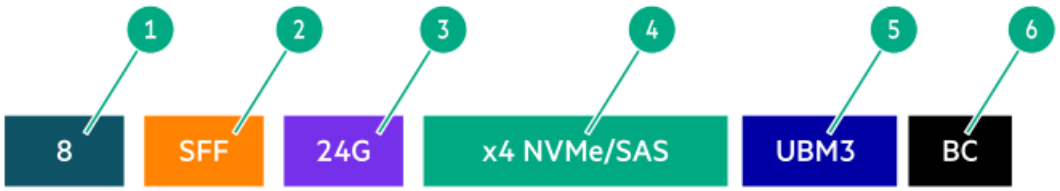


Drive backplane naming

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:

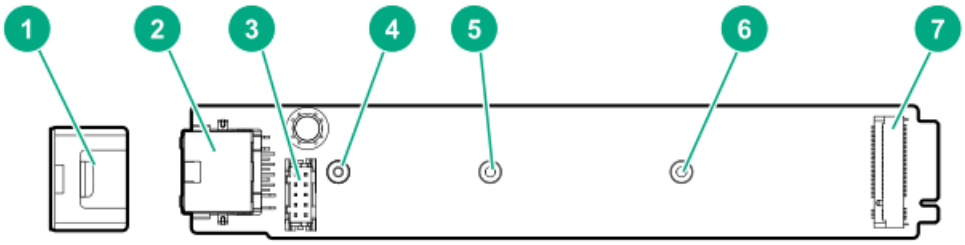
- Drive backplane support, see Drive bay numbering.
- Drive backplane cabling, see Storage cabling.



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 [1]
		x4 NVMe/SAS—U.3 NVMe, SAS, or SATA [2]
		x4 NVMe—NVMe [3]
		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

1 Tri-mode controller support for x1 U.3 NVMe, SAS, and SATA drives. System board connection supports SATA drives only.
2 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.
3 CPU direct attach or tri-mode controller support for x4 NVMe drives.

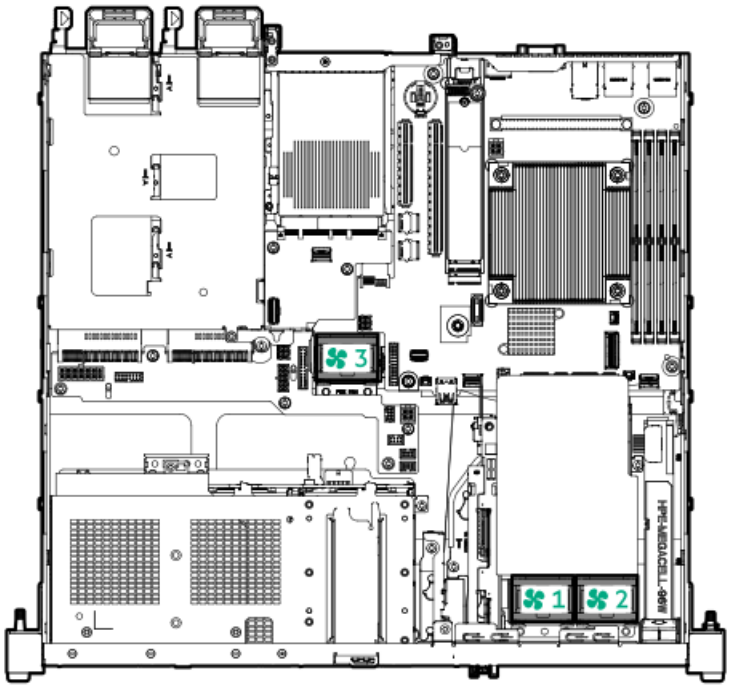
iLO-M.2-serial module components



Item	Description
1	Module stabilizer
2	iLO dedicated network port
3	Serial port cable connector
4	Standoff for the M.2 22110 SSD
5	Standoff for the M.2 2280 SSD
6	Standoff for the M.2 2242 SSD [1]
7	M.2 slot

[1] Not for use in this server

Fan numbering



Fan number	Description
1	Processor fan
2	System fan
3	PCIe fan

Fan mode behavior

The server supports nonredundant fan mode. If a fan fails or is missing, the following behaviors are exhibited:

- The health LED flashes red.
- The operating system performs a graceful shutdown.

Trusted Platform Module 2.0

The Trusted Platform Module 2.0 (TPM) is a hardware-based system security feature that securely stores artifacts used to authenticate the platform. These artifacts can include passwords, certificates, and encryption keys.

The TPM 2.0 is embedded on the server system board.

The TPM 2.0 is supported with specific operating system support such as Microsoft Windows Server 2012 R2 and later. For more information about operating system support, see the product QuickSpecs on the Hewlett Packard Enterprise website (**https://www.hpe.com/info/quickspecs**). For more information about Microsoft Windows BitLocker Drive Encryption feature, see the Microsoft website (**https://www.microsoft.com**).

Subtopics

Trusted Platform Module 2.0 guidelines

CAUTION

- Always observe the TPM guidelines in this section. Failure to follow these guidelines can cause hardware damage or halt data access.
- If you do not follow procedures for modifying the server and suspending or disabling the TPM in the OS, an OS that is using TPM might lock all data access. This includes updating system or option firmware, replacing hardware such as the system board and drives, and modifying TPM OS settings.
- Changing the TPM mode after installing an OS might cause problems, including loss of data.

- Use the UEFI System Utilities to configure the TPM. From the System Utilities screen, select System Configuration > BIOS/Platform Configuration (RBSU) > Server Security > Trusted Platform Module options. For more information, see the UEFI user guide:

  https://www.hpe.com/support/hpeuefisystemutilities-quicklinks

- When using the Microsoft Windows BitLocker Drive Encryption feature, always retain the recovery key or password. The recovery key or password is required to enter Recovery Mode after BitLocker detects a possible compromise of system integrity.
- HPE is not liable for blocked data access caused by improper TPM use. For operating instructions, see the documentation for the encryption technology feature provided by the operating system.

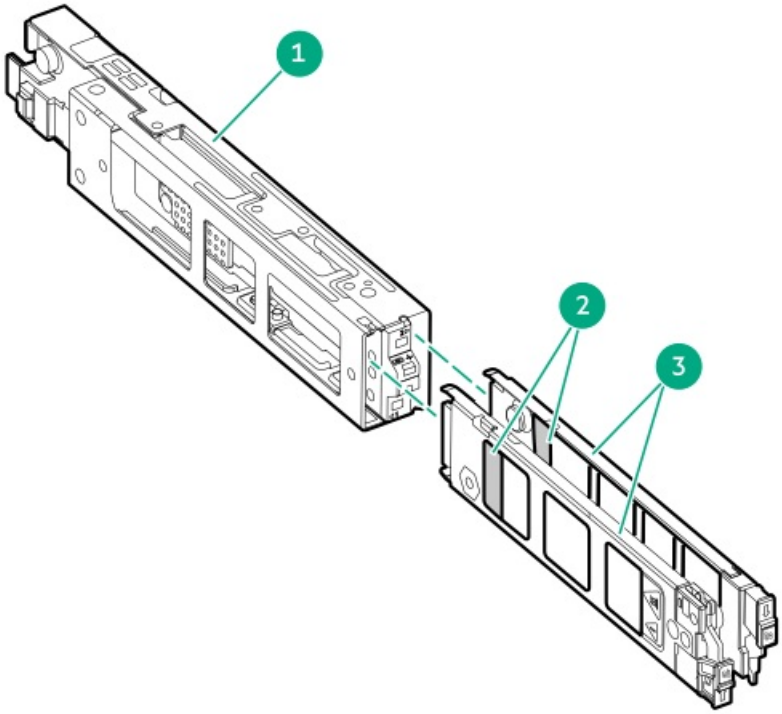
BitLocker recovery key/password retention guidelines

The recovery key/password is generated during BitLocker setup, and can be saved and printed after BitLocker is enabled. When using BitLocker, always retain the recovery key/password. The recovery key/password is required to enter Recovery Mode after BitLocker detects a possible compromise of system integrity.

To help ensure maximum security, observe the following guidelines when retaining the recovery key/password:

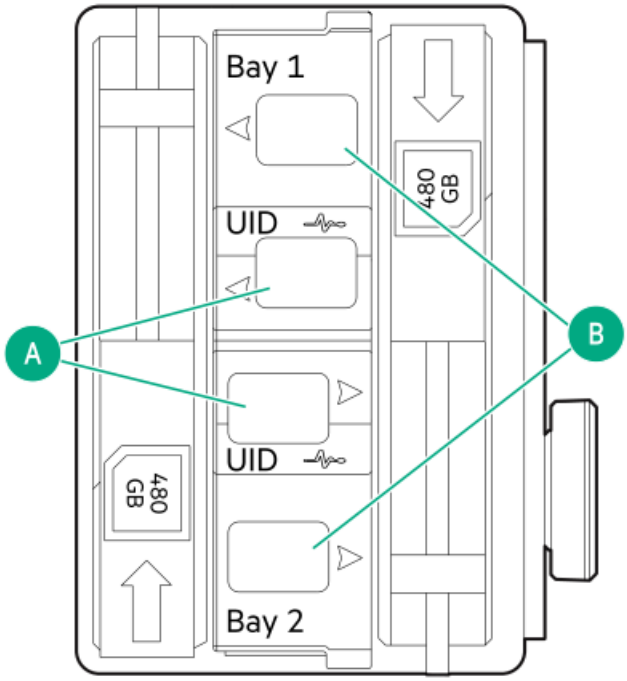
- Always store the recovery key/password in multiple locations.
- Always store copies of the recovery key/password away from the server.
- Do not save the recovery key/password on an encrypted drive.

HPE NS204i-u Boot Device components



Item	Description
1	Boot device cage
2	M.2 slots
3	Boot device carriers

HPE NS204i-u Boot Device 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.
		Flashing green (one flash per second)	Drive is doing one of the following: • Rebuilding or performing a RAID • Erasing
		Flashing green (4 flashes per second)	Drive is operating normally and has activity.
		Off	Drive is not configured by a RAID controller.

Cabling

This chapter includes cabling guidelines and diagrams for internal component cabling.

Subtopics

Cabling guidelines

Observe the following:

> **NOTE**
> The colors in the cabling diagrams are for illustration purposes only.

- 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

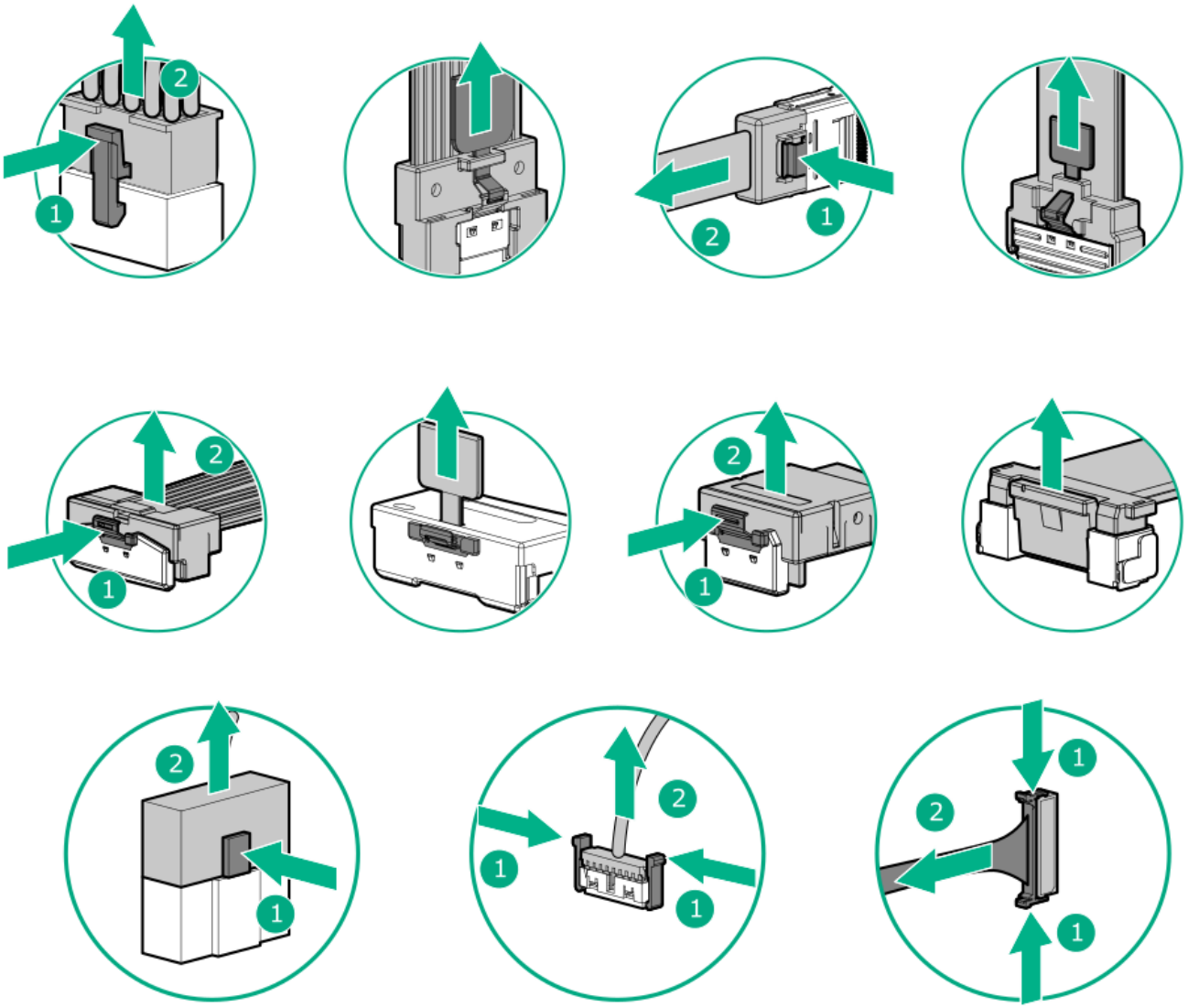
- Note the port labels on the PCA components. Not all these components are used by all servers:
  - System board ports
  - Drive and power supply backplane ports
  - Expansion board ports (controllers, retimers, adapters, expanders, risers, and similar boards)
- Note the label near each cable connector. 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.
- 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.
- To prevent component damage and potential signal interference, make sure that all cables are in their appropriate routing position before installing a new component and before closing up the server after hardware installation/maintenance.

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.

Cabling diagrams

Observe the following:

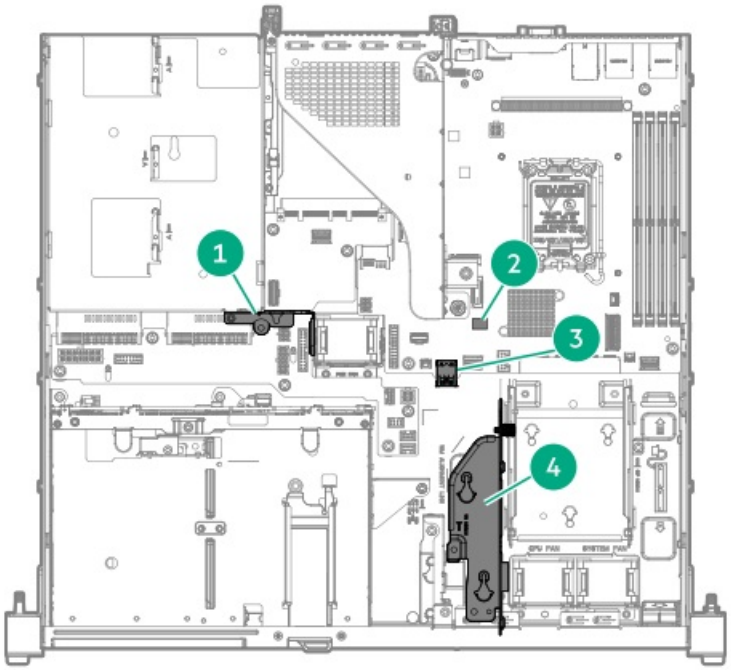
- Before cabling components, see the Cabling guidelines.
- Use the cable part number or search feature to find your diagram.

Component cabling	Cable part number

Component cabling	Cable part number
Drive storage controller cabling	—
2 LFF non-hot-plug drive cable	P63686-001
2 LFF hot-plug drive onboard SATA cable	P63692-001
4 SFF hot-plug drive onboard SATA cable	P63074-001
4 + 2 SFF hot-plug drive onboard SATA cables	• P63074-001 • P63694-001
2 LFF hot-plug drive controller cable: Type-o controller	P63698-001
2 LFF hot-plug drive controller cable: Type-p controller	P63695-001
4 SFF hot-plug drive controller cable: Type-o controller	P63698-001
4 SFF hot-plug drive controller cable: Type-p controller	P63695-001
4 + 2 SFF hot-plug drive controller cable: One-port type-o controller	P63699-001
4 + 2 SFF hot-plug drive controller cable: Two-port type-o controller	P63698-001 P63700-001
4 + 2 SFF hot-plug drive controller cable: Type-p controller cabling	P63695-001 P63696-001
Drive power cable	—
2 LFF hot-plug drive power cable	P63687-001
4 SFF hot-plug drive power cable	P63688-001
4 + 2 SFF hot-plug drive power cable	P63688-001 P06066-001
Storage controller backup cabling	877850-001
Optical drive cabling	—
Optical drive cable in the 2 LFF non-hot-plug drive cable	P63686-001
Optical drive cable in the 2 LFF hot-plug drive cable: Drive onboard controller	P63692-001
Optical drive cable in the 2 LFF hot-plug drive cable: Type-o or type-p controller	• P63702-001 • P63687-001
Optical drive cable in the 4 SFF hot-plug drive cable: Drive onboard controller	• P63701-001 • P63688-001
Optical drive cable in the 4 SFF hot-plug drive cable: Type-o or type-p controller	• P63702-001 • P63688-001
HPE NS204i-u Boot Device cabling	—
HPE NS204i-u Boot Device power cable	P63685-001
HPE NS204i-u Boot Device signal cable	P63684-001
External OCP cabling	—
External OCP PCIe cable	P63683-001
External OCP sideband cable	P63690-001
Chassis intrusion detection switch cabling	P47751-001

Component cabling	Cable part number
Serial port cabling	P63693-001
Miscellaneous cabling	—
Front I/O cable	P63681-001
4-pin processor power cable	P63691-001
Power supply sideband cable	P63689-001
4-pin PDB to system board power cable	P63697-001

Internal cabling management



Item	Description
1	Cable guard
2	Inductor
3	Stacked internal USB ports
4	HPE NS204i-u Boot Device bracket

Storage cabling

Subtopics

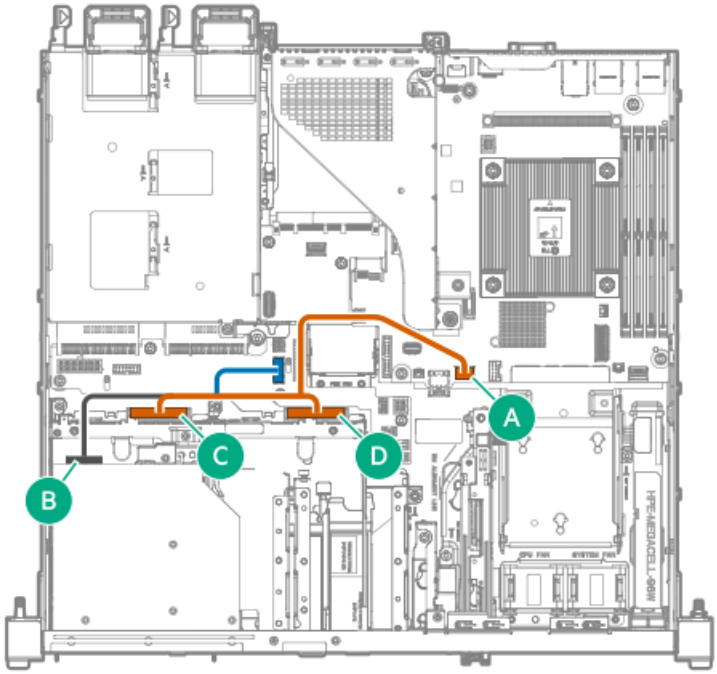
- Storage controller cabling
- Drive power cabling
- Energy pack cabling
- Storage controller backup power cabling

Storage controller cabling

Subtopics

2 LFF non-hot-plug drive cabling

The 2 LFF non-hot-plug drive configuration uses a preinstalled single multiconnector cable for the drive-optical drive signal and power connections.

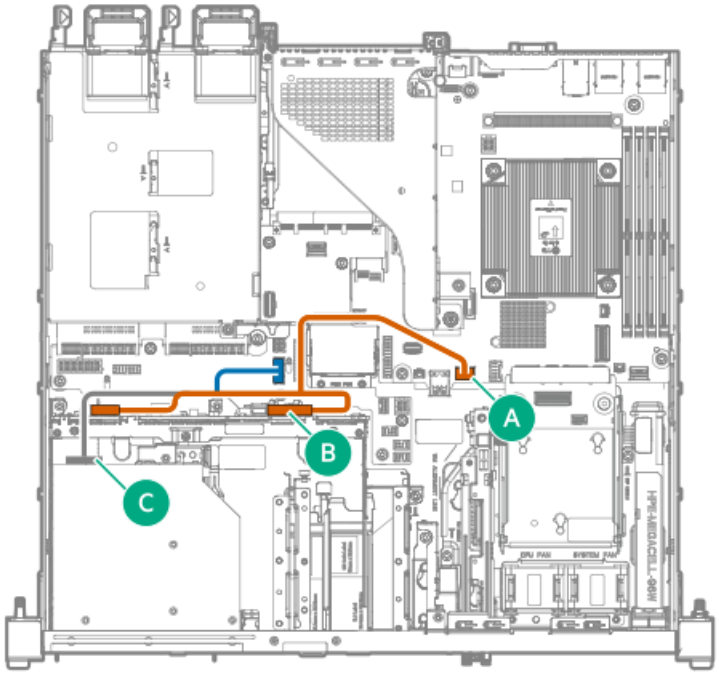


Cable part number	Color	From	To
P63686-001	Orange	• Drive 1 port • Drive 2 port	SlimSAS x4 port 2
	Blue	—	Drive backplane power connector

2 LFF hot-plug drive cabling

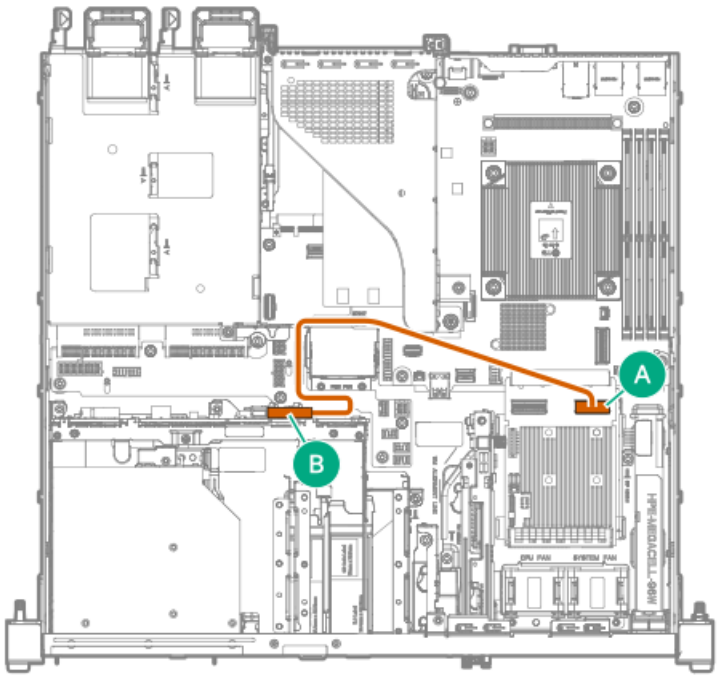
2 LFF drive: Onboard SATA cabling

The 2 LFF hot-plug drive configuration uses a preinstalled single multiconnector cable for the drive-optical drive signal and power connections.



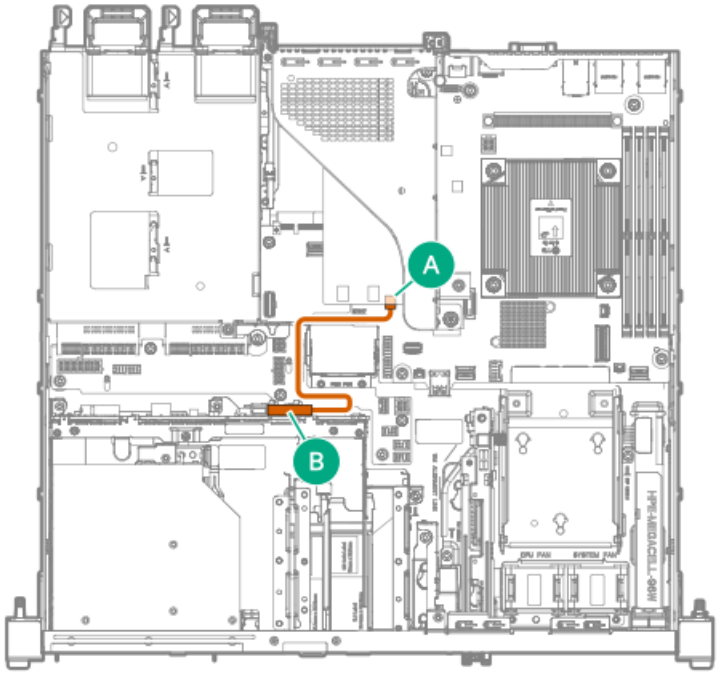
Cable part number	Color	From	To
P63692-001	Orange	• Drive box 1 MiniSAS port • Drive box 1 power connector	SlimSAS x4 port 2
	Blue	—	Drive backplane power connector

2 LFF drive: Type-o controller cabling



Cable part number	Color	From	To
P63698-001	Orange	Drive box 1 MiniSAS port	Type-o controller port 2

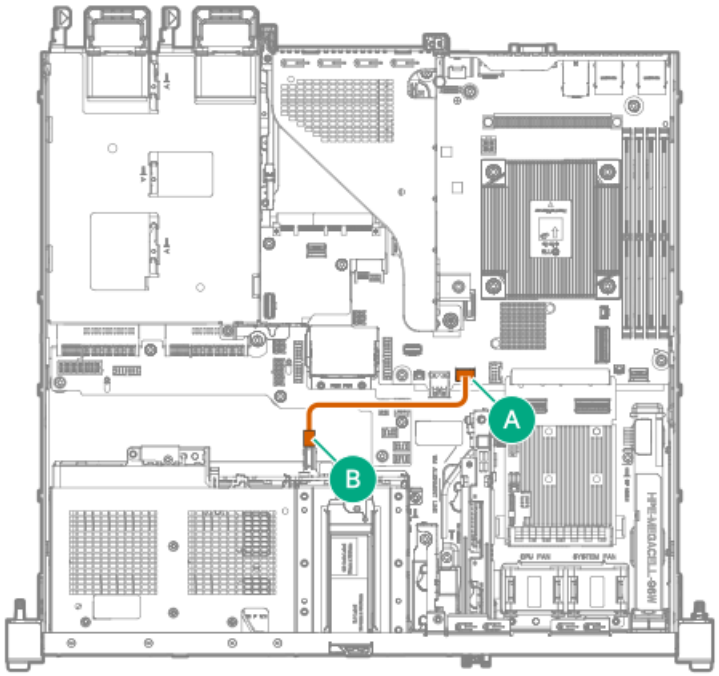
2 LFF drive: Type-p controller cabling



Cable part number	Color	From	To
P63695-001	Orange	Drive box 1 MiniSAS port	Type-p controller port 2

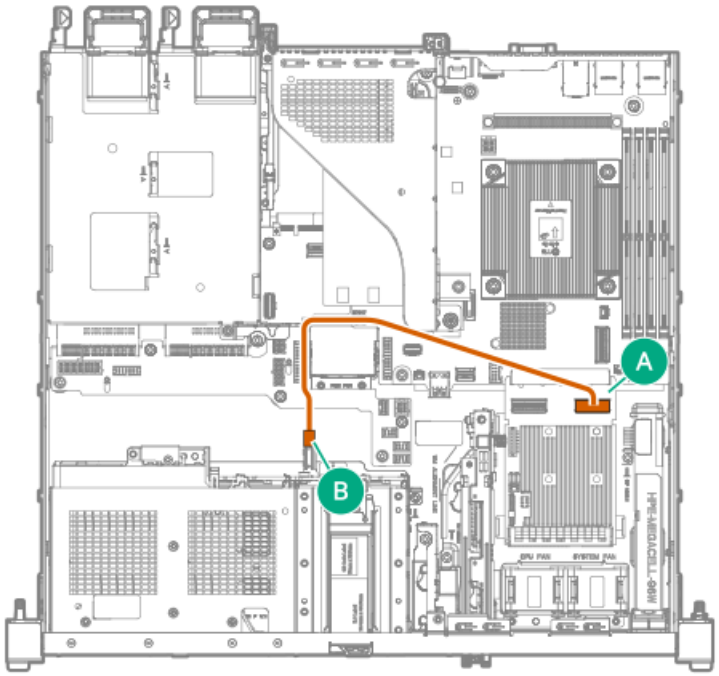
4 SFF hot-plug drive cabling

4 SFF drive: Onboard SATA cabling



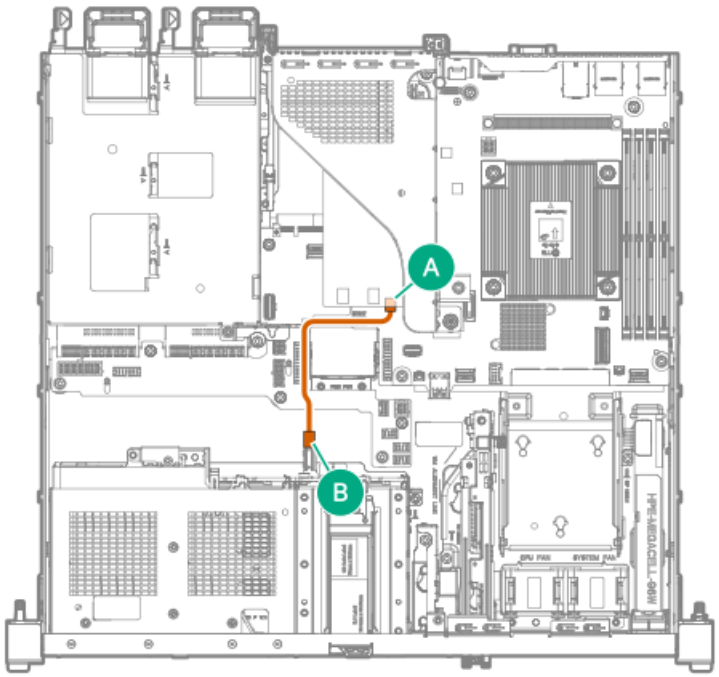
Cable part number	Color	From	To
P63074-001	Orange	Drive box 2 MiniSAS port	SlimSAS x4 port 2

4 SFF drive: Type-o controller cabling



Cable part number	Color	From	To
P63698-001	Orange	Drive box 2 MiniSAS port	Type-o controller port 2

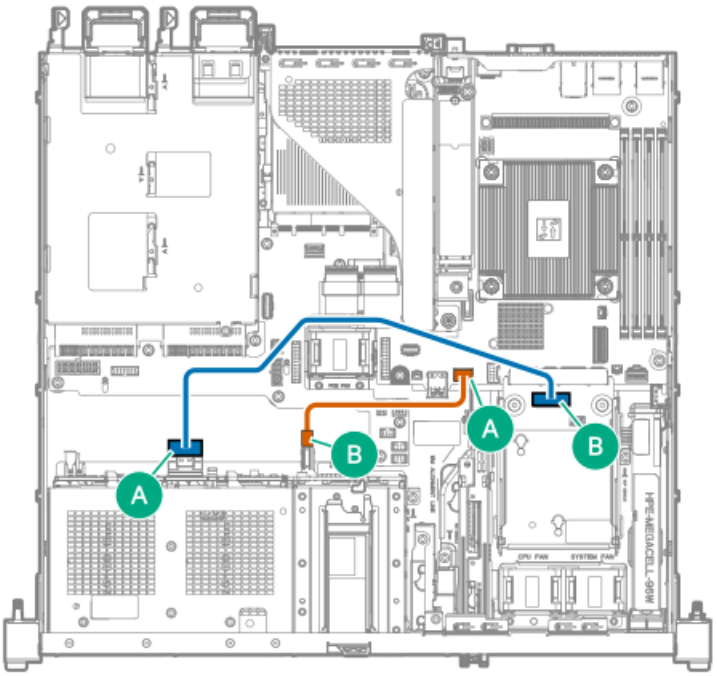
4 SFF drive: Type-p controller cabling



Cable part number	Color	From	To
P63695-001	Orange	Drive box 2 MiniSAS port	Type-p controller port 2

4 + 2 SFF hot-plug drive cabling

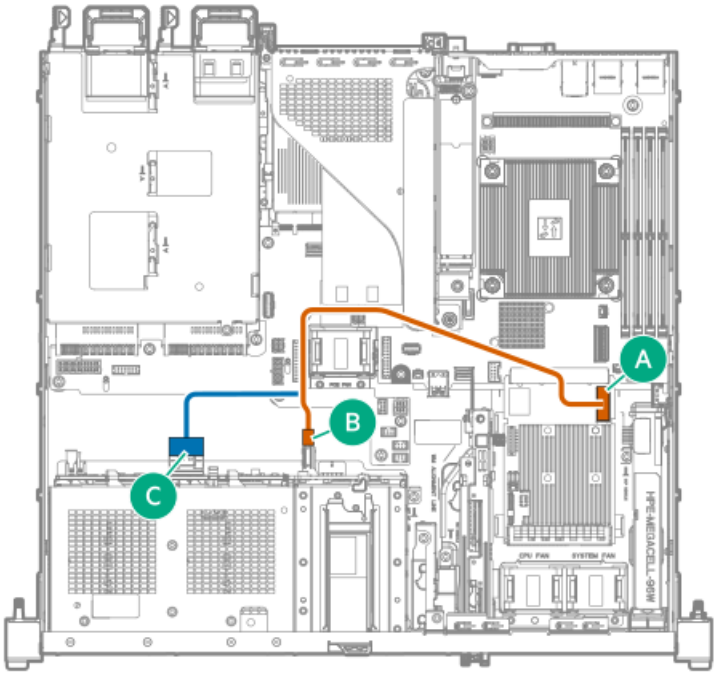
4 + 2 SFF drive: Onboard SATA cabling



Cable part number	Color	From	To
P63074-001	Orange	Drive box 2 MiniSAS port	SlimSAS x4 port 2
P63694-001	Blue	Drive box 1 port 1	SlimSAS x8 port 3

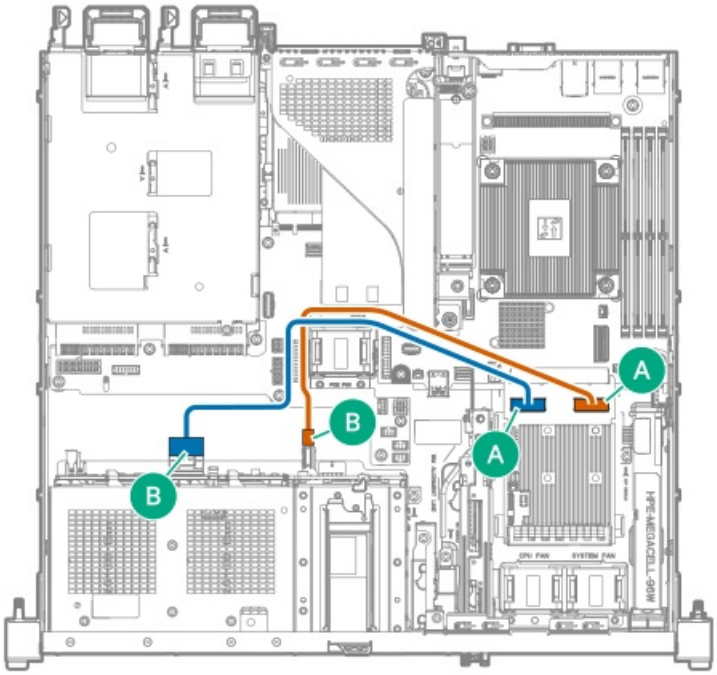
4 + 2 SFF drive: Type-o controller cabling

- Single-port type-o controller



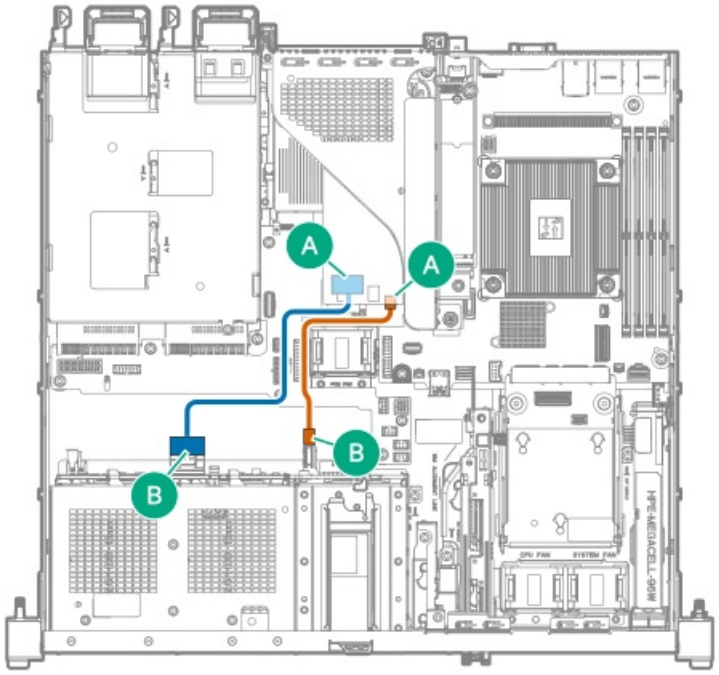
Cable part number	Color	From	To
P63699-001	Orange	Drive box 2 MiniSAS port	Type-o controller port 1
	Blue	Drive box 1 port 1	

- Dual-port type-o controller



Cable part number	Color	From	To
P63698-001	Orange	Drive box 2 MiniSAS port	Type-o controller port 2
P63700-001	Blue	Drive box 1 port 1	Type-o controller port 1

4 + 2 SFF drive: Type-p controller cabling



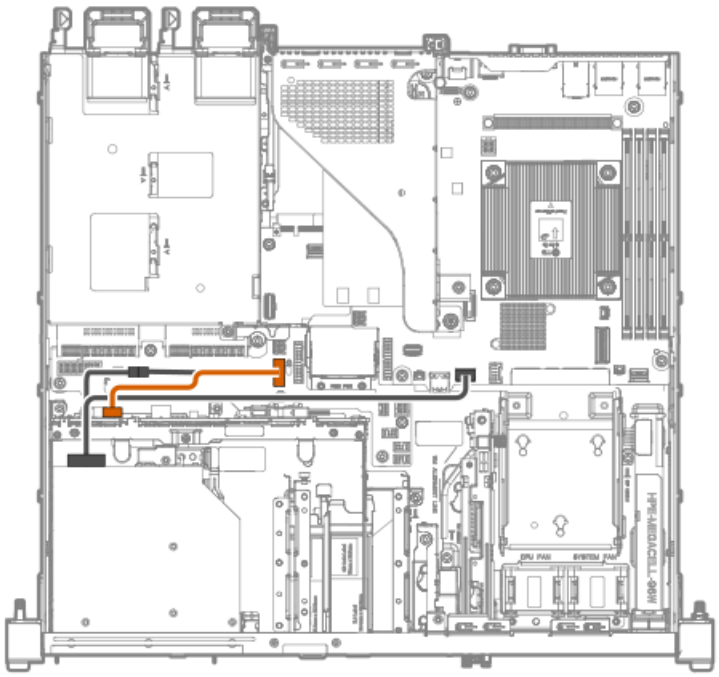
Cable part number	Color	From	To
P63695-001	Orange	Drive box 2 MiniSAS port	Type-p controller port 2
P63696-001	Blue	Drive box 1 port 1	Type-p controller port 1

Drive power cabling

Some drive power cables are either preinstalled in the server or structured under the relevant storage controller cable option kit.

2 LFF hot-plug drive

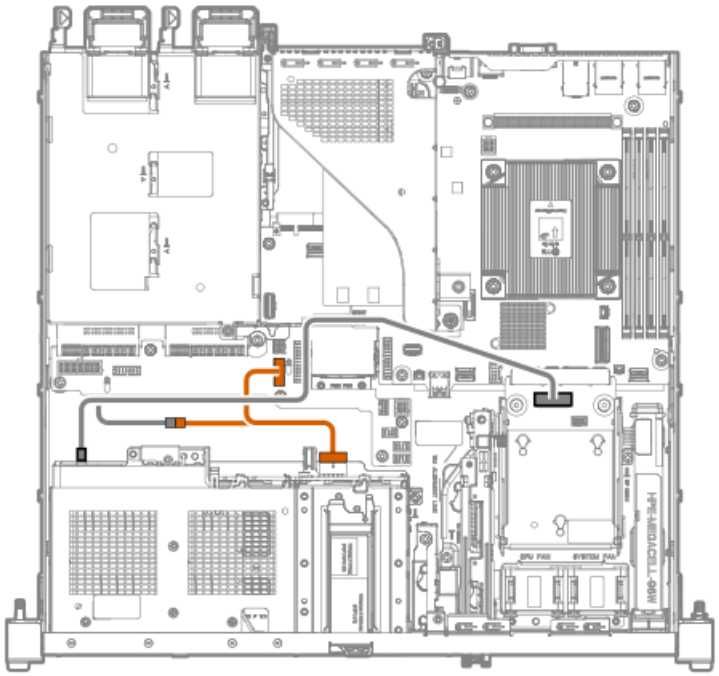
This splitter cable is used for drive and optical drive power connections when a type-o or type-p controller is installed.



Cable part number	Color	From	To
P63687-001	Orange	Drive box 1 power connector	Drive backplane power connector

4 SFF hot-plug drive

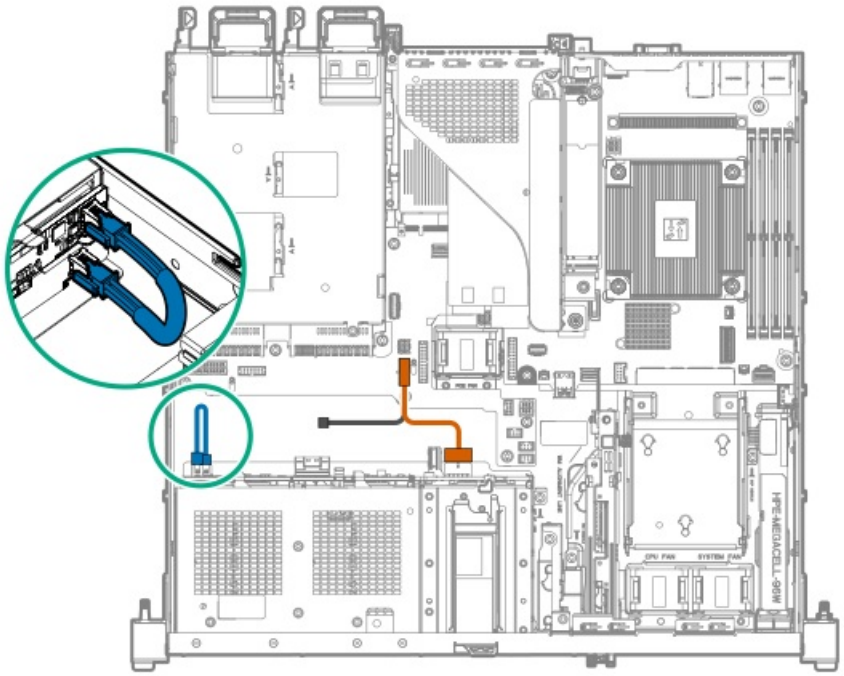
This Y-cable is used for drive and optical drive power connections.



Cable part number	Color	From	To
P63688-001	Orange	• Drive box 2 10-pin power connector (BP PWR CONN 1) • Optical drive cable	Drive backplane power connector (HDD PWR 2)

1 The enclosed text is the label on the drive power cable connector to the drive backplane.
2 The enclosed text is the marker on the drive power cable connector to the mainboard.

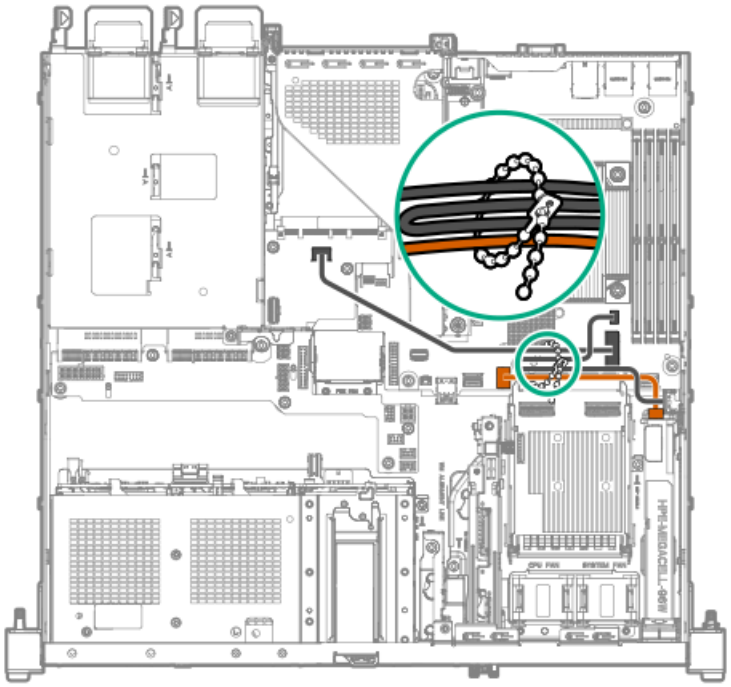
4 + 2 SFF hot-plug drive



Cable part number	Color	From	To
P63688-001	Orange	Drive box 2 10-pin power connector (BP PWR CONN 1)	Drive backplane power connector (HDD PWR 2)
P06066-001	Blue	Drive box 2 4-pin power connector	Drive box 1 power connector

1 The enclosed text is the label on the drive power cable connector to the drive backplane.
2 The enclosed text is the marker on the drive power cable connector to the mainboard.

Energy pack cabling



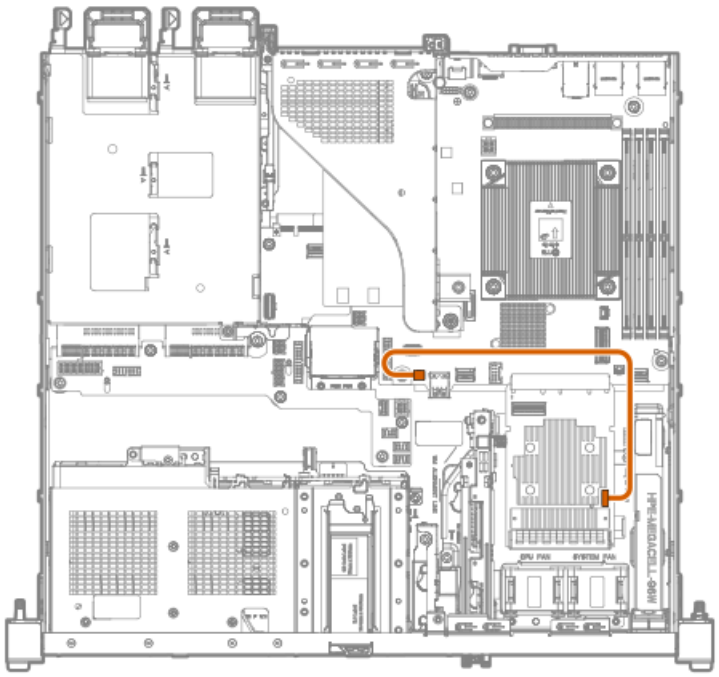
Storage controller backup power cabling

The exact route of the storage controller backup power cabling will depend on:

- The riser slot where the controller is installed
- The location of the storage controller backup power connector on the controller

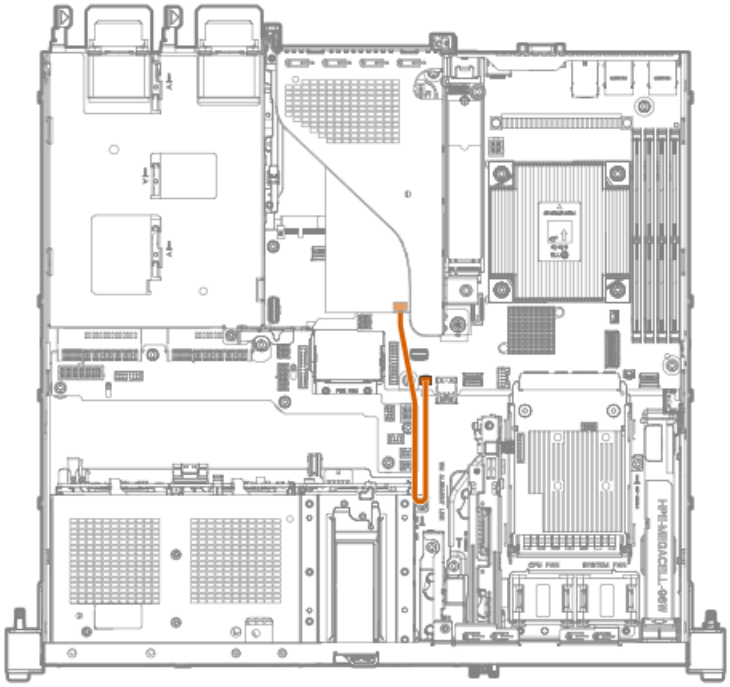
Use the following diagrams for reference only.

Type-o storage controller



Color	From	To
Orange	Type-o controller	Storage controller backup power connector

Type-p storage controller

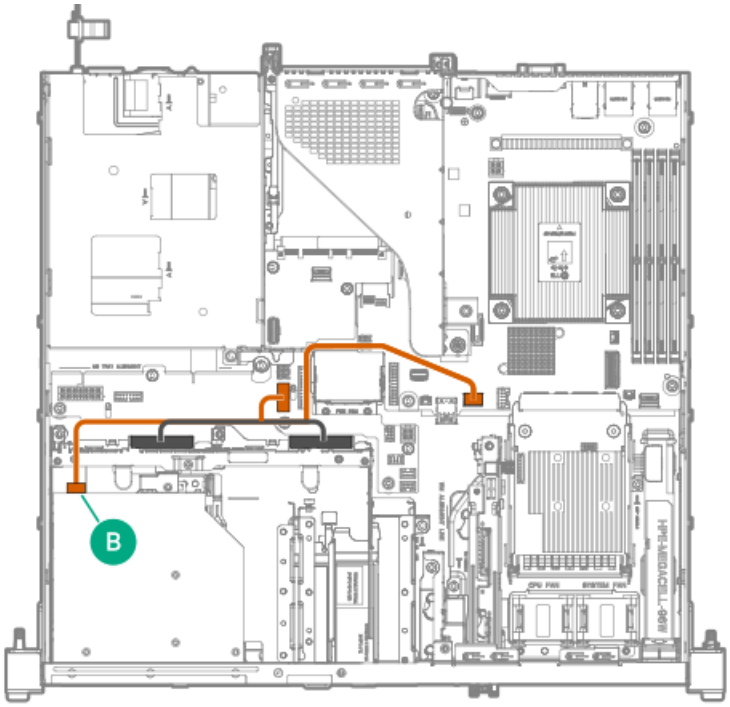


Cable part number	Color	From	To
877850-001	Orange	Type-p controller	Storage controller backup power connector

Optical drive cabling

2 LFF non-hot-plug drive configuration

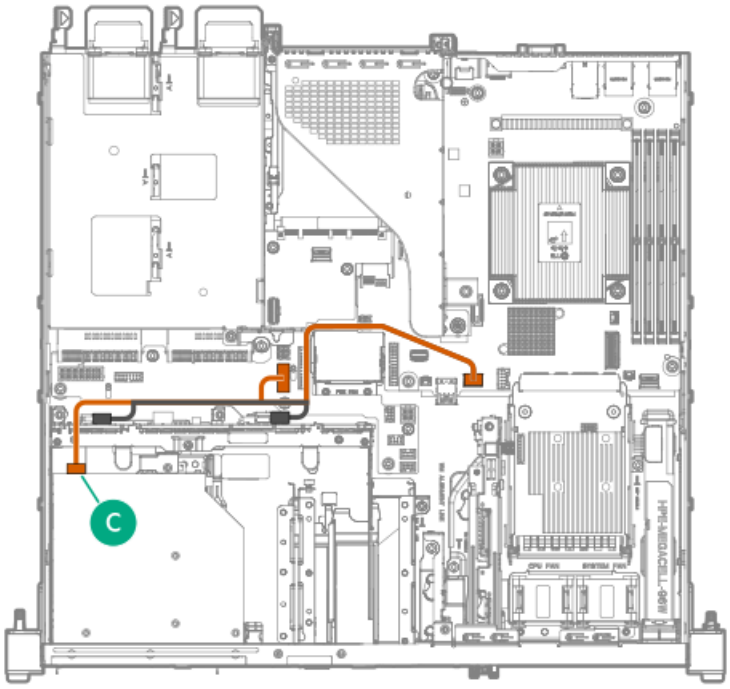
In the 2 LFF non-hot-plug drive configuration, the optical drive and non-hot-plug drives use a preinstalled single multiconnector cable for signal and power connections.



Cable part number	Color	From	To
P63686-001	Orange	Optical drive	• SlimSAS x4 port 2 • Drive backplane power connector

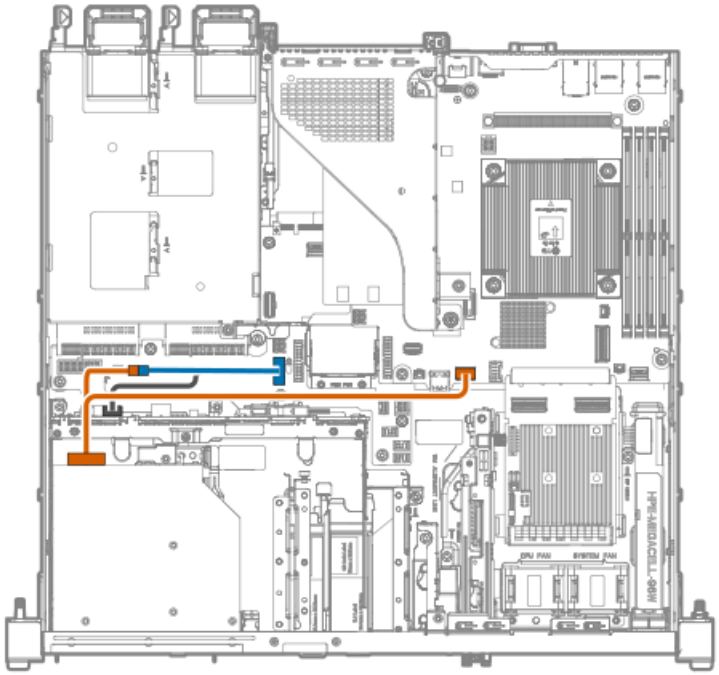
2 LFF hot-plug drive configuration: Drive onboard controller

In the 2 LFF hot-plug drive configuration, the optical drive and hot-plug drives use a preinstalled single multiconnector cable for signal and power connections.



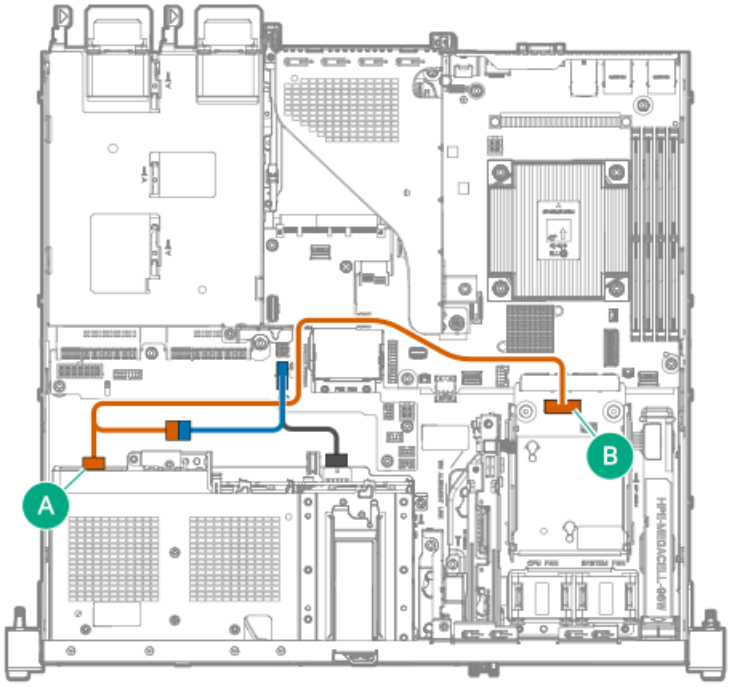
Cable part number	Color	From	To
P63692-001	Orange	Optical drive	• SlimSAS x4 port 2 • Drive backplane power connector

2 LFF hot-plug drive configuration: Type-o or type-p controller



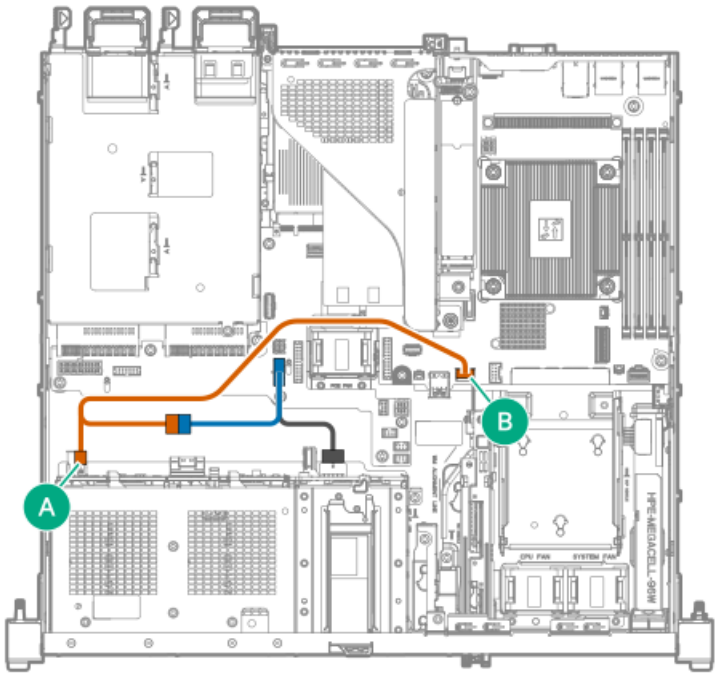
Cable part number	Color	From	To
P63702-001	Orange	Optical drive	• SlimSAS x4 port 2 • Drive power cable
P63687-001	Blue	Optical cable	Drive backplane power connector

4 SFF hot-plug drive configuration: Drive onboard controller



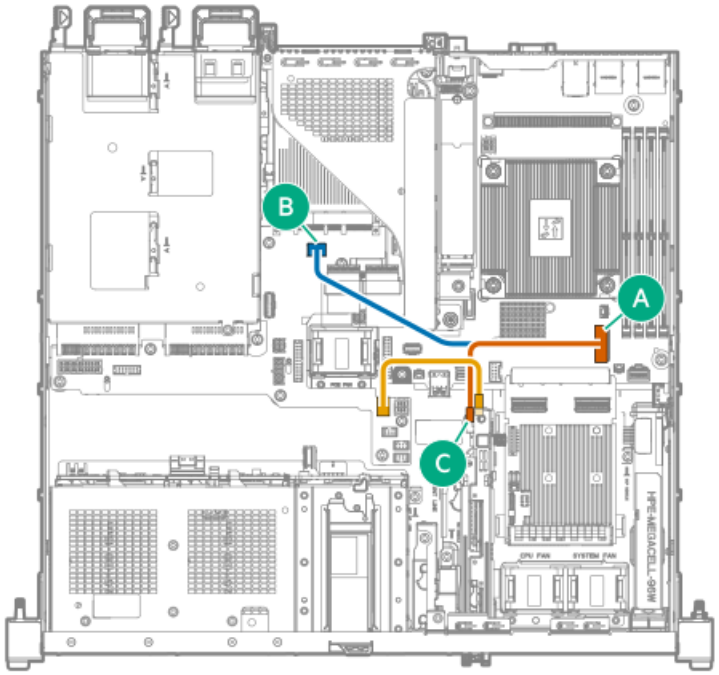
Cable part number	Color	From	To
P63701-001	Orange	Optical drive	• SlimSAS x8 port 3 • Drive power cable
P63688-001	Blue	Drive box 2 power connector	• Drive backplane power connector • Optical drive cable

4 SFF hot-plug drive configuration: Type-o or type-p controller



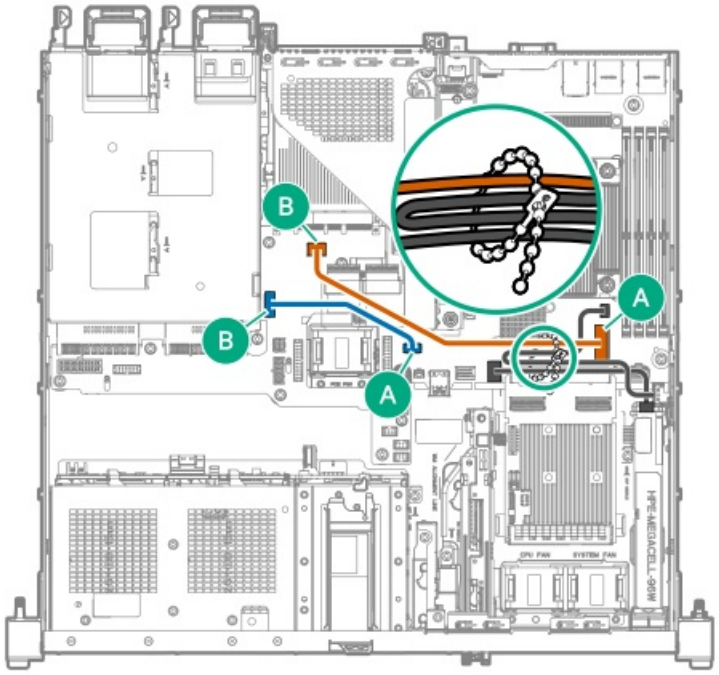
Cable part number	Color	From	To
P63702-001	Orange	Optical drive	• SlimSAS x4 port 2 • Drive power cable
P63688-001	Blue	Optical cable	Drive backplane power connector

HPE NS204i-u Boot Device cabling



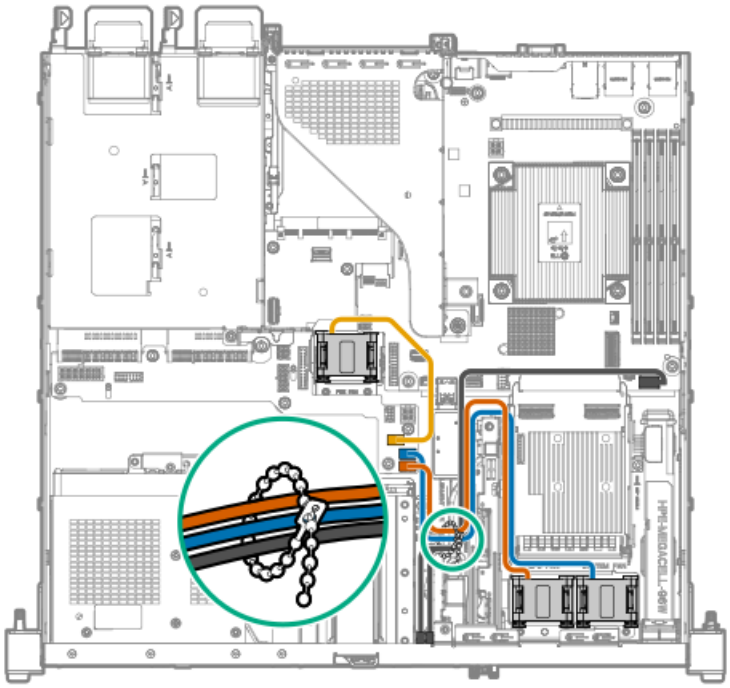
Cable part number	Color	From	To
P63684-001	Orange	Boot device signal connector	SlimSAS x8 port 1
	Blue		SlimSAS x4 port
P63685-001	Gold	Boot device power connector	NS204i-u power connector

External OCP enablement cabling



Cable part number	Color	From	To
P63683-001	Orange	SlimSAS x8 port 1	SlimSAS x4 port
P63690-001	Blue	PTB: Slot 15 external OCP sideband connector	Mainboard: Slot 15 external OCP sideband connector

Fan cabling



Cable part number	Color	From	To
P63538-001	Orange	Processor fan	Processor fan connector
	Blue	System fan	System fan connector
	Gold	PCIe fan	PCIe fan connector

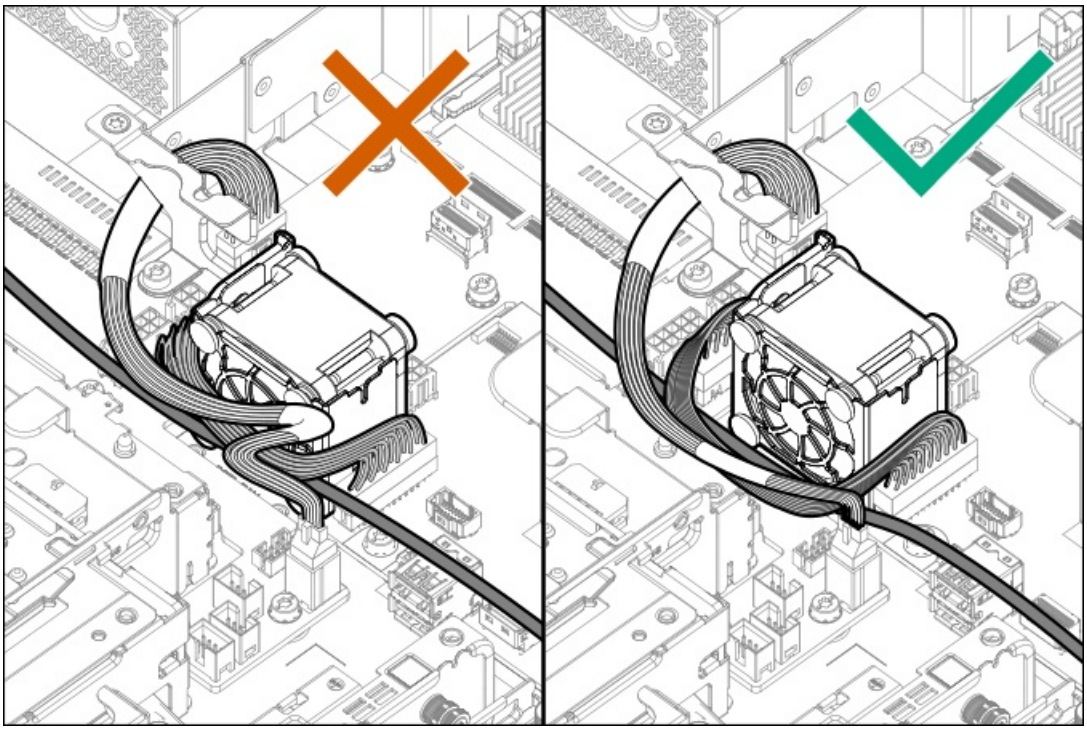
Subtopics

Cable routing in front of the PCIe fan

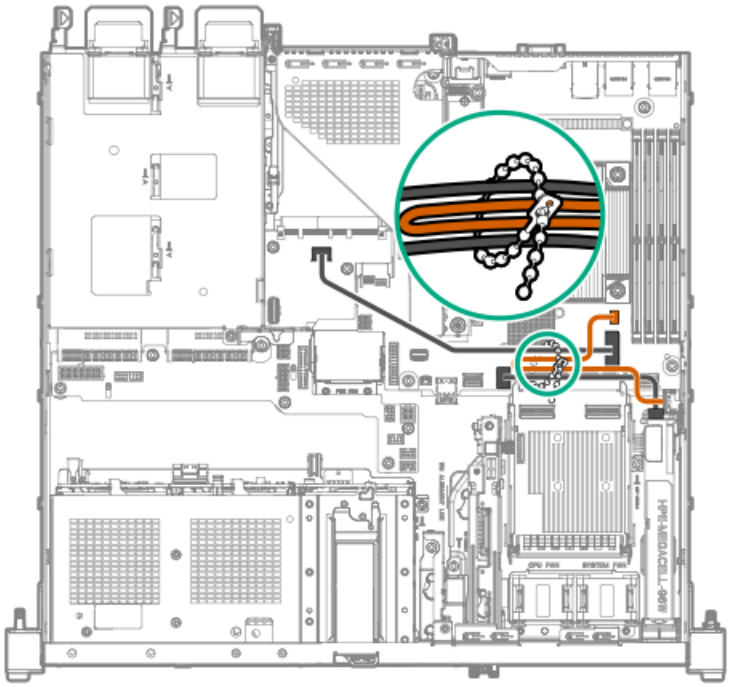
Cable routing in front of the PCIe fan

CAUTION

To prevent the cables in front of PCIe fan from blocking the fan airflow, route the cables beneath the PCIe fan outlet.

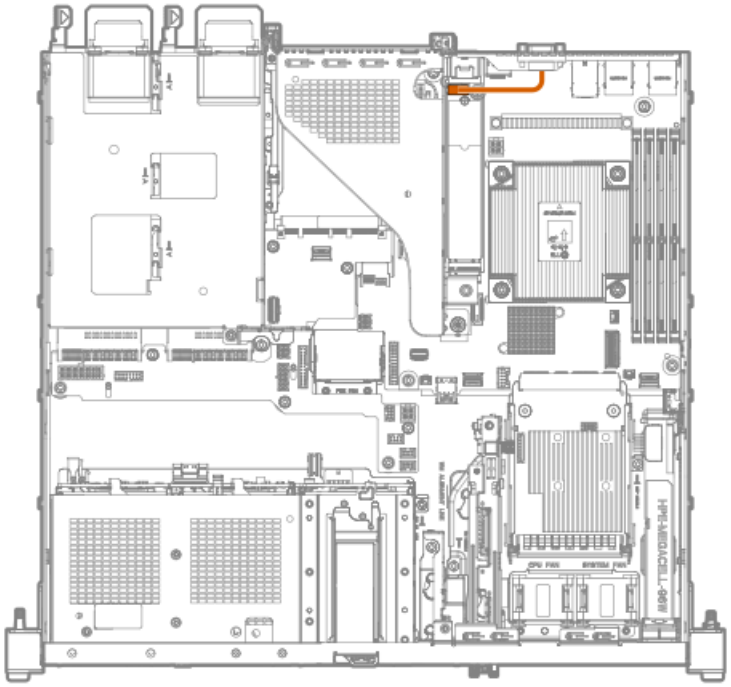


Chassis intrusion detection switch cabling



Cable part number	Color	From	To
P47751-001	Orange	Chassis intrusion detection switch	Chassis intrusion detection switch connector

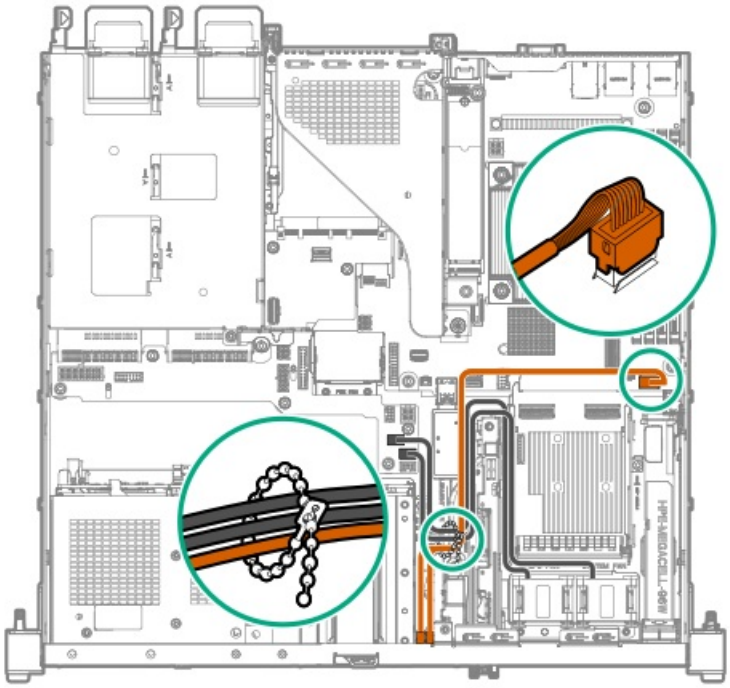
Serial port cabling



Cable part number	Color	From	To
P63693-001	Orange	Serial port	D89 connector on the iLO-M.2-serial module

Front I/O cabling

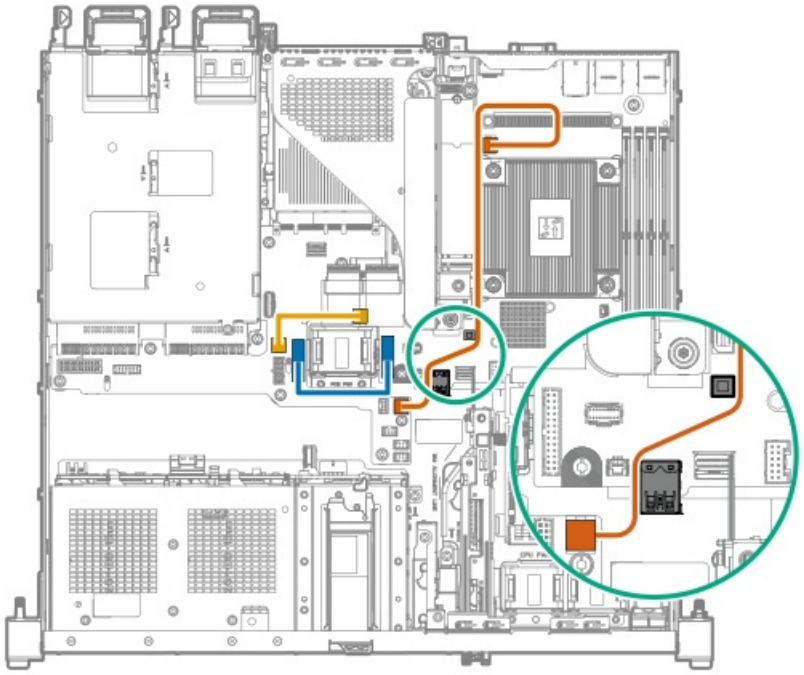
Front I/O cables are preinstalled in the server.



Cable part number	Color	From	To
P63681-001	Orange	• iLO service port • USB 3.2 Gen1 port	Front I/O & USB 3.2 Gen 1 & iLO service port connector

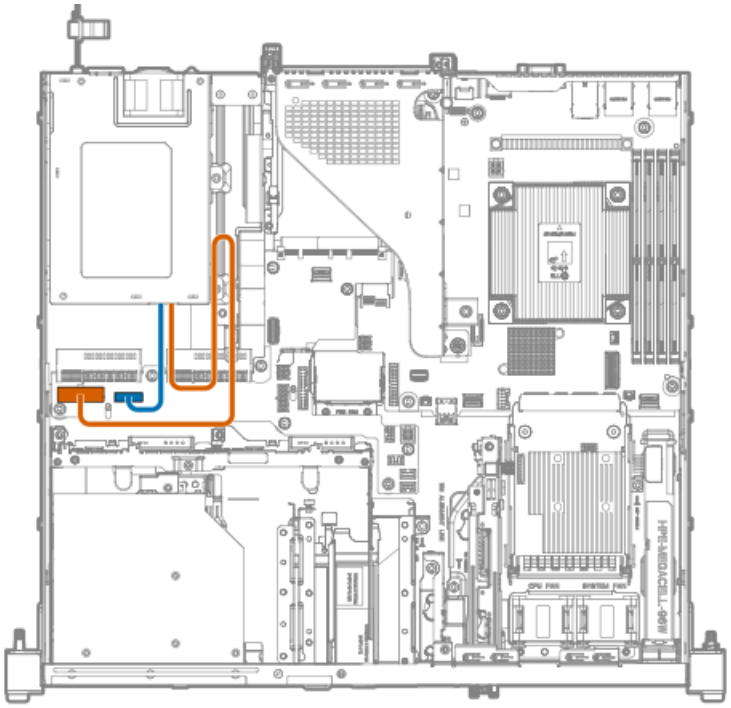
System power cabling

The power cables that connect the PDB to the mainboard are preinstalled in the server.



Cable part number	Color	From	To
P63691-001	Orange	4-pin processor power connector	4-pin processor power connector
P63689-001	Blue	Mainboard: Power supply sideband connector	PDB: Power supply sideband connector
P63697-001	Gold	Mainboard: System power connector	PDB: System power connector

Non-hot-plug power supply cabling



Color	Description	From	To
Orange	ATX power supply sideband cable	Non-hot-plug power supply	ATX sideband connector
Blue	14-pin power supply cable		14-pin power supply connector

Specifications

Subtopics

Environmental specifications

Specifications	Value
Temperature range	—
Operating	10°C to 35°C (50°F to 95°F)
Nonoperating	-30°C to 60°C (-22°F to 140°F)
Relative humidity (noncondensing)	—
Operating	8% to 90% 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
Altitude	—
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 may be limited by the type and number of options installed.

System performance during standard operating support might be reduced if operating above 30°C (86°F).

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 Gen11 HPE ProLiant servers:

https://www.hpe.com/support/ASHRAEGen11

Mechanical specifications

Specification	Value
Dimensions	—
Height	4.28 cm (1.69 in)
Depth	38.74 cm (15.25 in)
Width	43.46 cm (17.11 in)
Weight, approximate values	—
Minimum	9.00 kg (19.84 lb)
Maximum	12.00 kg (26.46 lb)

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

ATX 290 W Non-hot-plug Power Supply (92% efficiency)

Specification	Value
Input requirements	—
Rated input voltage	100 VAC to 240 VAC
Rated input frequency	50 Hz to 60 Hz
Rated input current	5.5 A
Maximum rated input power	331 W at 115 VAC 330 W at 230 VAC
Efficiency	No less than 88% at 100% load No less than 92% at 50% load No less than 88% at 20% load
Power supply output	—
Rated steady-state power	290 W
Maximum peak power	366 W
Rated output power	290 W

ATX 290 W Platinum Non-hot-plug Power Supply (94% efficiency)

Specification	Value
Input requirements	—
Rated input voltage	100 VAC to 240 VAC
Rated input frequency	50 Hz to 60 Hz
Rated input current	5.5 A
Rated input power	331 W at 115 VAC 319 W at 230 VAC
Efficiency	At 230 VAC, 50 Hz: No less than 91% at 100% load No less than 94% at 50% load No less than 90% at 20% load No less than 80% at 10% load At 115 VAC, 60 Hz: No less than 87.6% at 100% load No less than 89.7% at 50% load No less than 87.2% at 20% load No less than 80.8% at 10% load
Power supply output	—
Rated steady-state power	290 W
Maximum peak power	366 W
Rated output power	290 W

HPE 500 W Flex Slot Platinum Hot-plug Low Halogen Power Supply

HPE 500 W Flex Slot Platinum Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	100 VAC to 240 VAC 240 VDC for China
Rated input frequency	50 Hz to 60 Hz Not applicable to 240 VDC
Rated input current	5.8 A at 100 VAC 2.8 A at 200 VAC 2.4 A at 240 VDC for China
Maximum rated input power	580 W at 100 VAC 560 W at 200 VAC 558 W at 240 VDC for China
BTUs per hour	1999 at 100 VAC 1912 at 200 VAC 1904 at 240 VDC for China
Power supply output	—
Rated steady-state power	500 W at 100 VAC to 127 VAC input 500 W at 100 VAC to 240 VAC input 500 W at 240 VDC input for China
Maximum peak power	500 W at 100 VAC to 127 VAC input 500 W at 100 VAC to 240 VAC input 500 W at 240 VDC input for China

HPE 800 W Flex Slot Titanium Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	200 VAC to 240 VAC 240 VDC for China
Rated input frequency	50 Hz to 60 Hz Not applicable to 240 VDC
Rated input current	4.35 A at 200 VAC 3.62 A at 240 VAC 3.62 A at 240 VDC for China
Maximum rated input power	867 W at 200 VAC 848 W at 240 VAC 848 W at 240 VDC for China
BTUs per hour	2905 at 200 VAC 2893 at 240 VAC 2893 at 240 VDC for China
Power supply output	—
Rated steady-state power	800 W at 200 VAC to 240 VAC input 800 W at 240 VDC input for China
Maximum peak power	800 W at 200 VAC to 240 VAC input 800 W at 240 VDC input for China

HPE 800 W Flex Slot -48 VDC Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	-40 VDC to -72 VDC -48 VDC nominal input
Rated input current	24.0 A at -40 VDC input 18.2 A at -48 VDC input, nominal input 12.0 A at -72 VDC input
Rated input power	874 W at -40 VDC input 865 W at -48 VDC input, nominal input 854 W at -72 VDC input
Rated input power (BTUs per hour)	2983 at -40 VDC input 2951 at -48 VDC input, nominal input 2912 at -72 VDC input
Power supply output	—
Rated steady-state power	800 W at -40 VDC to -72 VDC
Maximum peak power	800 W at -40 VDC to -72 VDC
Maximum peak power	800 W at -40 VDC to -72 VDC input

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.

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 of 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.

HPE 1000 W Flex Slot Titanium Hot-plug Power Supply

Specification	Value
Input requirements	—
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	11.3 A at 100 VAC 6.1 A at 200 VAC
Maximum rated input power	1130 W at 100 VAC 1090 W at 200 VAC
BTUs per hour	3764 at 100 VAC 3629 at 200 VAC
Power supply output	—
Rated steady-state power	1000 W at 100 VAC to 127 VAC 1000 W at 200 VAC to 240 VAC input
Maximum peak power	1000 W at 100 VAC to 127 VAC 1000 W at 200 VAC to 240 VAC

Websites

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 DL20 Gen11 Server user documents

https://www.hpe.com/info/dl20gen11-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

- 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

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/completecare

Warranty information

To view the warranty information for your product, see the warranty check tool.

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

Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, use the Feedback button and icons (at the bottom of an opened document) on the Hewlett Packard Enterprise Support Center portal (**https://www.hpe.com/support/hpesc**) to send any errors, suggestions, or comments. This process captures all document information.