Hewlett Packard
Enterprise

HPE ProLiant ML30 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

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- **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.

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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/56e165087d114284a98e8fcdbd9cee08/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	Air baffle spare part
2	Energy pack holder spare part
3	LFF drive blank spare part
4	Front bezel spare part
5	Cable management arm spare part [1]
6	Rack rails spare part [1]
7	Miscellaneous blank spare parts [1]

[1] Not shown

Subtopics

Miscellaneous plastic spare parts

Drive blank spare parts

Front bezel spare part

Miscellaneous blank spare parts

Cable management arm spare part

Rack rails spare part

Miscellaneous plastic spare parts

Customer self repair: **Mandatory**

Description	Spare part number
Air baffle	P66546-001
Energy pack holders	825640-001

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

- Removing and replacing the air baffle
- Removing and replacing the energy pack holders

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.

Front bezel spare part

Customer self repair: **Mandatory**

Description	Spare part number
Front bezel [1]	P66545-001

[1] This front bezel spare includes a new bezel key.

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

Miscellaneous blank spare parts

Customer self repair: **Mandatory**

Description	Spare part number
PCIe slot blank	P66548-001
Media bay blank	879518-001 [1]
iLO dedicated network port blank	P07883-001 [1]
Serial port blank	878510-001 [1]

[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 PCIe slot blank
- Removing and replacing the media bay blank
- Removing and replacing the iLO dedicated network port blank
- Removing and replacing the serial port blank

Cable management arm spare part

Customer self repair: **Mandatory**

Description	Spare part number
Cable management arm (CMA)	879160-001

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

Rack rails spare part

Customer self repair: **Mandatory**

Description	Spare part number
Server rack rails (left and right)	879448-001

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

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/0b97ea47cfbb42eda1489010d3082c44/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	Mainboard spare part
2	Power distribution board spare part
3	System battery spare part
4	Heatsink spare parts
5	DIMM spare parts
6	Pass-through board spare part
7	Processor spare parts [1]
8	Front I/O assembly spare part [1]
9	Fan spare parts [1]
10	LFF/SFF drive power cable spare parts [1]
11	RPS power distribution board spare part [1]
12	Power supply spare parts [1]
13	Power supply cable spare parts [1]
14	Miscellaneous system cable spare parts [1]

[1] Not shown

Subtopics

Power supply spare parts

Customer self repair: **Mandatory**

Description	Spare part number
HPE 350 W Gold Non-hot-plug Power Supply	P22004-001
HPE 350 W Platinum Non-hot-plug Power Supply	P48077-001
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 1000 W Flex Slot Titanium Hot-plug Power Supply	P44412-001

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

RPS power distribution board spare part

Customer self repair: **Mandatory**

Description	Spare part number
RPS power distribution board	P48076-001

For more information on the removal and replacement procedures, see Removing and replacing the RPS power distribution board .

Front I/O assembly spare part

Customer self repair: **Mandatory**

Description	Spare part number
Front I/O assembly	P66272-001

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

System board spare parts

Customer self repair: **Mandatory**

Description	Spare part number
Mainboard	P66549-001
Pass-through board	P66547-001
Power distribution board	P66550-001

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

- Mainboard replacement
- Removing and replacing the pass-through board
- Removing and replacing the power distribution board

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.

Heatsink spare parts

Customer self repair: **Optional**

Description	Spare part number
Standard heatsink	P66227-001
High performance heatsink [1]	P66228-001

1 A high performance heatsink is required for processors with a TDP value ≥ 95 W.

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-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 [1]	P65821-001
Intel Xeon E-2488, 3.20 GHz, 8C, 95 W [1]	P65818-001
Intel Pentium Gold G7400, 3.70 GHz, 2C, 46 W	P65826-001

1 A high performance heatsink is required for processors with a TDP value ≥ 95 W.

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

Fan spare parts

Customer self repair: **Mandatory**

Description	Spare part number
System fan	P66229-001
PCIe fan	P66230-001

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

- Removing and replacing the system fan
- Removing and replacing the PCIe fan

LFF/SFF drive power cable spare parts

Customer self repair: **Mandatory**

Description	Spare part number
4 LFF non-hot-plug drive power cable assembly	P07483-001
Non-hot-plug power supply drive power cable	P48080-001
Flex Slot power supply drive power cable	

Miscellaneous system cable spare parts

Customer self repair: **Mandatory**

Description	Spare part number
PCIe x4 signal cable (for expansion slots 3 and 4)	P62709-001
4-pin PDB to system board power cable	P63697-001

Power supply cable spare parts

Customer self repair: **Mandatory**

Description	Spare part number
Non-hot-plug power supply	—
24-pin power supply cable	P66541-001
Flexible Slot power supply	—
24-pin power supply cable	P66543-001
4-pin processor power cable	
Sideband cable	

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 .

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/3000c18a27a94b429643ca486ea9032b/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	Energy pack spare parts
2	iLO-M.2-serial module spare part
3	Serial port cable spare part
4	HPE NS204i-u Boot Device spare part
5	LFF drive backplane spare part
6	Drive backplane spare parts [1]
7	LFF/SFF drive controller cable spare parts [1]
8	Media device cable spare parts [1]
9	Storage controller spare parts [1]

[1] Not shown

Subtopics

Drive backplane spare parts

iLO-M.2-serial module spare part

Energy pack spare parts

Storage controller spare parts

Serial port cable spare part

Media device cable spare parts

LFF/SFF drive controller cable spare parts

HPE NS204i-u Boot Device spare parts

Drive backplane spare parts

Customer self repair: **Mandatory**

Description	Spare part number
4 LFF 12G x1 SAS/SATA UBM3 BC BP	P48075-001

Customer self repair: **Optional**

Description	Spare part number
8 SFF 12G x1 SAS/SATA UBM2 LP BP	P39777-001
8 SFF 12G x1 SAS UBM6 BC BP	P62067-001

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

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.

Energy pack spare parts

Customer self repair: **Mandatory**

Description	Spare part number
HPE Smart Storage Battery 96 W, 260 mm cable	878644-001
HPE Smart Storage Battery, 260 mm cable	P07474-001

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

Storage controller spare parts

Customer self repair: **Mandatory**

Description	Spare part number
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 a type-p storage controller.

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 .

Media device cable spare parts

Customer self repair: **Mandatory**

Description	Spare part number
Optical drive SATA-power Y-cable	P66542-001
LTO/RDX power extension cable	P31508-001
RDX drive USB port cable	P05073-001

LFF/SFF drive controller cable spare parts

Customer self repair: **Mandatory**

Description	Cable part number	Spare part number
4 LFF non-hot-plug drive: Onboard SlimSAS controller cable	P62714-001	P66540-001
4 LFF / 8 SFF hot-plug drive: Onboard SlimSAS cable (SFF port 2)	P63074-001	
8 SFF hot-plug drive: Onboard SlimSAS cable (port 1)	P62716-001	
4 LFF hot-plug drive: Type-p controller cable	P55530-001	P56042-001
8 SFF hot-plug drive: Type-p controller cable	P45301-001	P52803-001
Non-hot-plug power supply: 24-pin power supply cable	P62710-001	P66541-001
4-pin PDB to system board power cable	P63697-001	
Storage controller backup power cable	877850-001	878646-001

HPE NS204i-u Boot Device spare parts

Customer self repair: **Mandatory**

Description	Spare part number
Boot device cage assembly	P51341-001
M.2 SSD carrier	P59777-001
480 GB NVMe x4 RI M.2 2280 SSD	P69616-001
Boot device SlimSAS cable	P56479-001
Boot device power cable	P52811-001

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

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

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。


or


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 10.20 kg (22.5 lb). When all components are installed, the server can weigh up to 18.70 kg (41.20 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 10.20 kg (22.5 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, observe the following precautions:

- The leveling jacks are extended to the floor.
- The full weight of the rack rests on the leveling jacks.
- 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

Server data backup

Power down the server

Remove the server from the rack

Remove the front bezel

Remove the access panel

Remove the air baffle

Remove the PCIe blank retainer

Remove a media device

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/info/UEFI-manuals**).

- 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/ilo6**).
  - iLO license
  - Customer iLO user name, password, and DNS name
  - iLO configuration settings
- For servers managed by HPE GreenLake for Compute Ops Management , make sure that you have your HPE GreenLake account ID. For more information, see **HPE GreenLake for Compute Ops Management Getting Started Guide** .

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.

Remove the server from the rack

Prerequisites

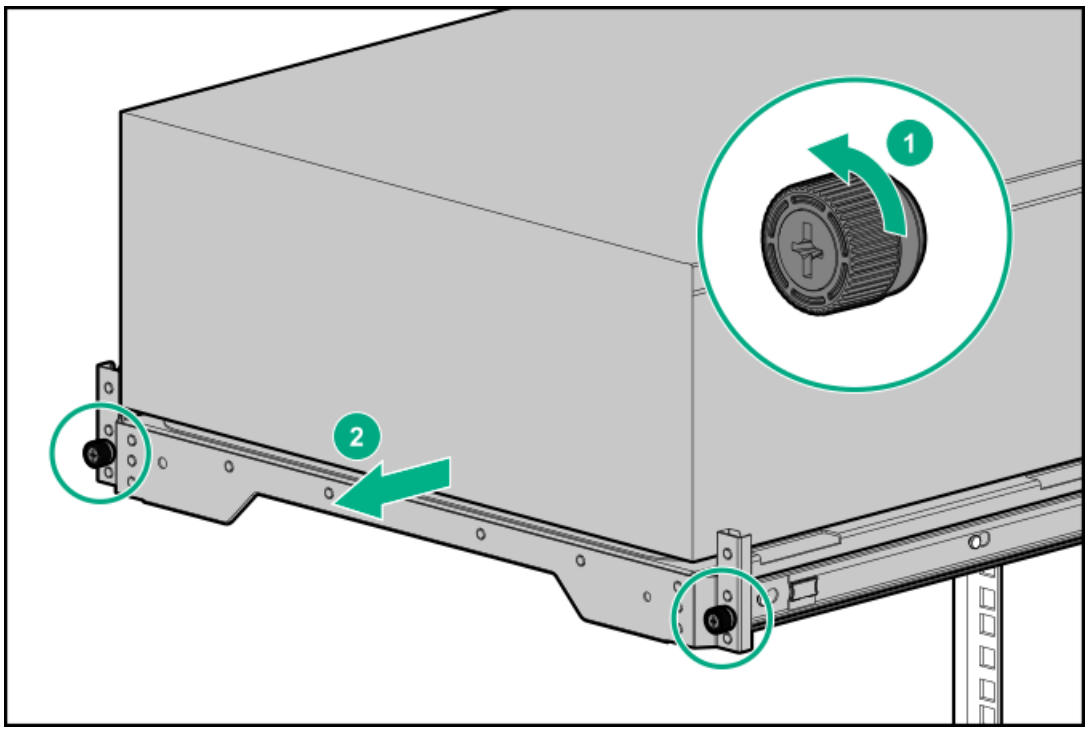
- Before you perform this procedure, review the:
  - Rack warnings and cautions
  - Server warnings and cautions
- A fully populated chassis is heavy. Hewlett Packard Enterprise recommends removing the external chassis components before removing the server from the rack.
- Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

Procedure

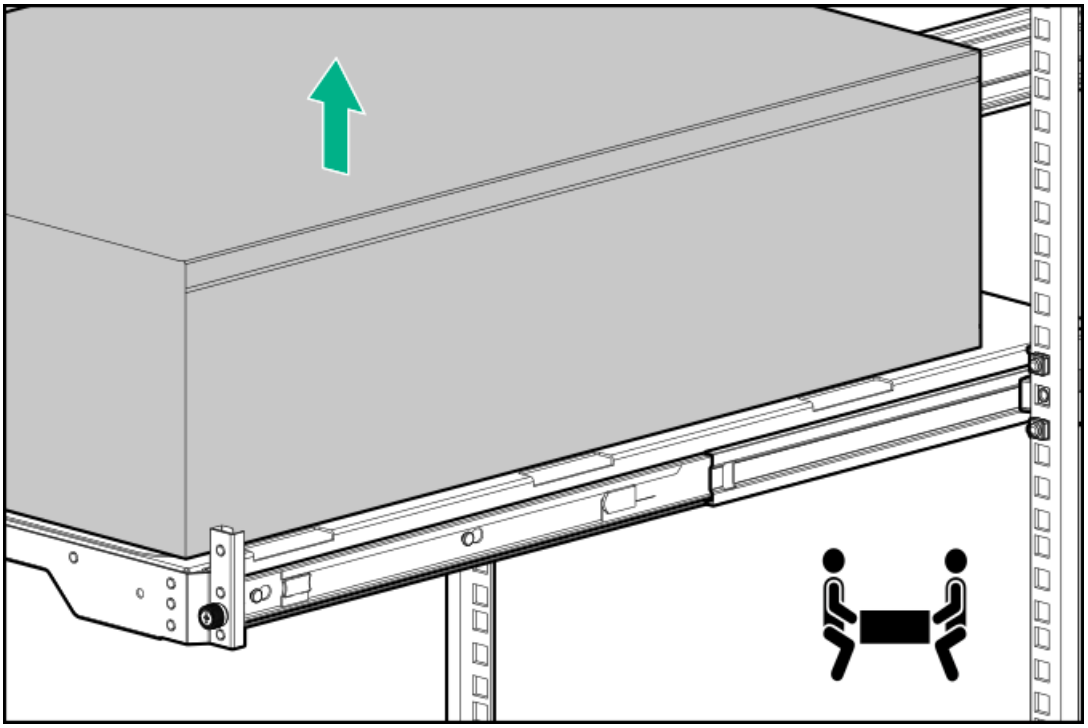
1. Power down the server.

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. If installed, unlock and remove the security padlock and/or the Kensington security lock.

   For more information, see the lock documentation.
5. Slide the server tray out of the rack:
   a. Loosen the server tray thumbscrews.
   b. Grasp the tray notch and slide the server out of the rack.



6. Remove the server from the tray.

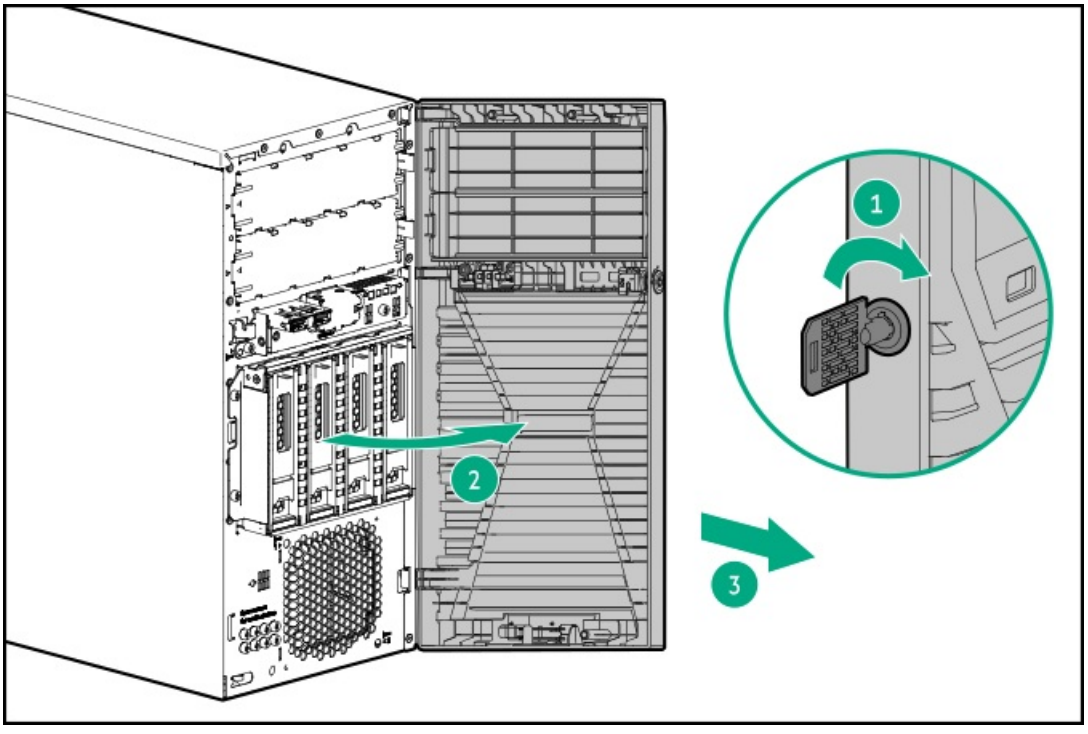


7. Place the server on a flat, level surface with the access panel facing up.

Remove the front bezel

Procedure

1. Unlock the front bezel.
2. Open the front bezel.
3. Pull the front bezel away from the chassis.



Remove the access panel

About this task

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

CAUTION:

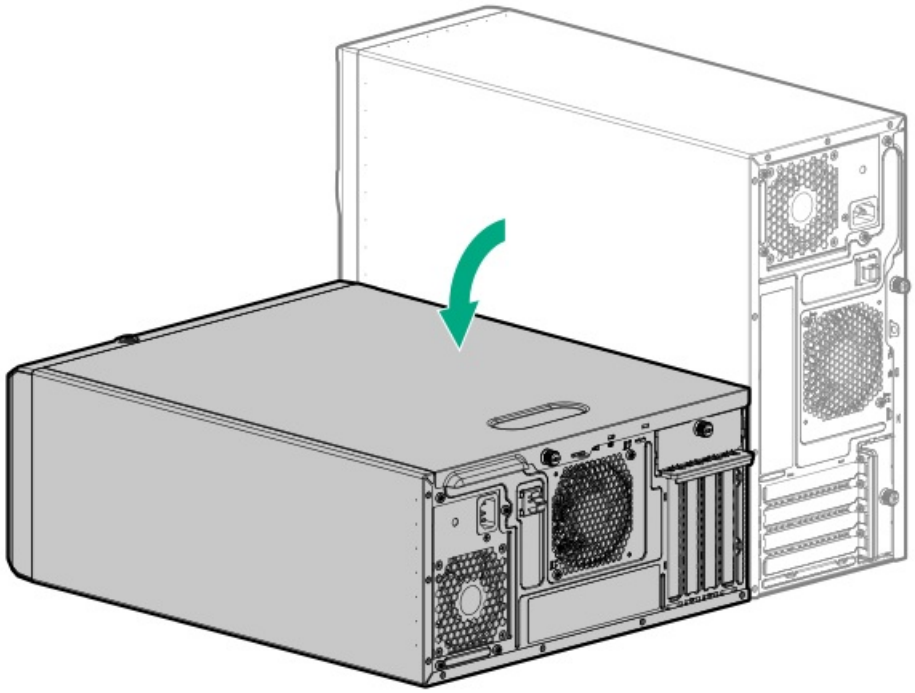
To prevent damage to electrical components, properly ground the server before beginning any installation, removal, or replacement procedure. Improper grounding can cause electrostatic discharge.

CAUTION:

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.

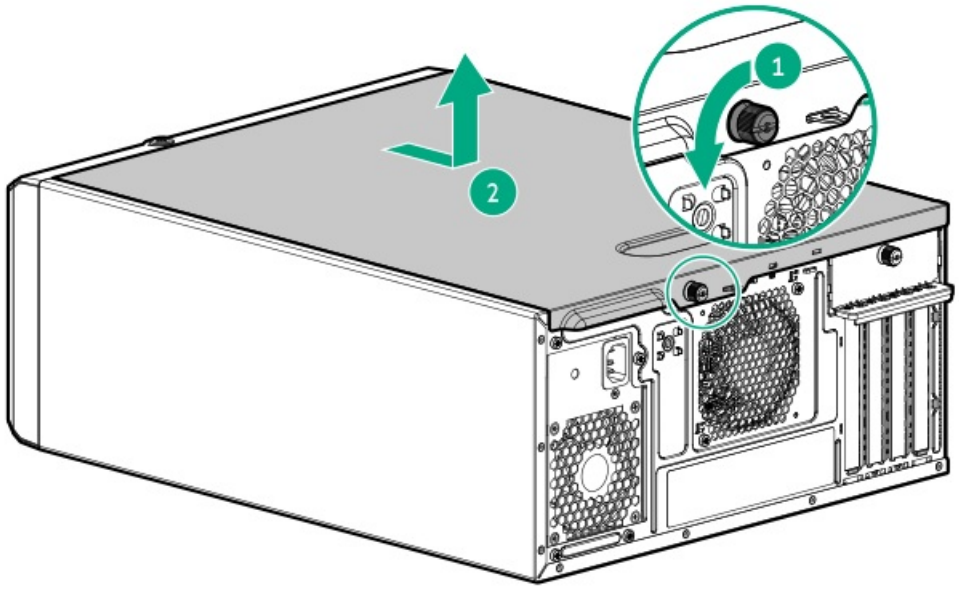
Procedure

1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



   - If the server is in rack mode, remove the server from the rack .
5. Remove the access panel:
   a. Loosen the access panel thumbscrew.

b. Slide the access panel toward the rear panel, and then lift it away from the chassis.



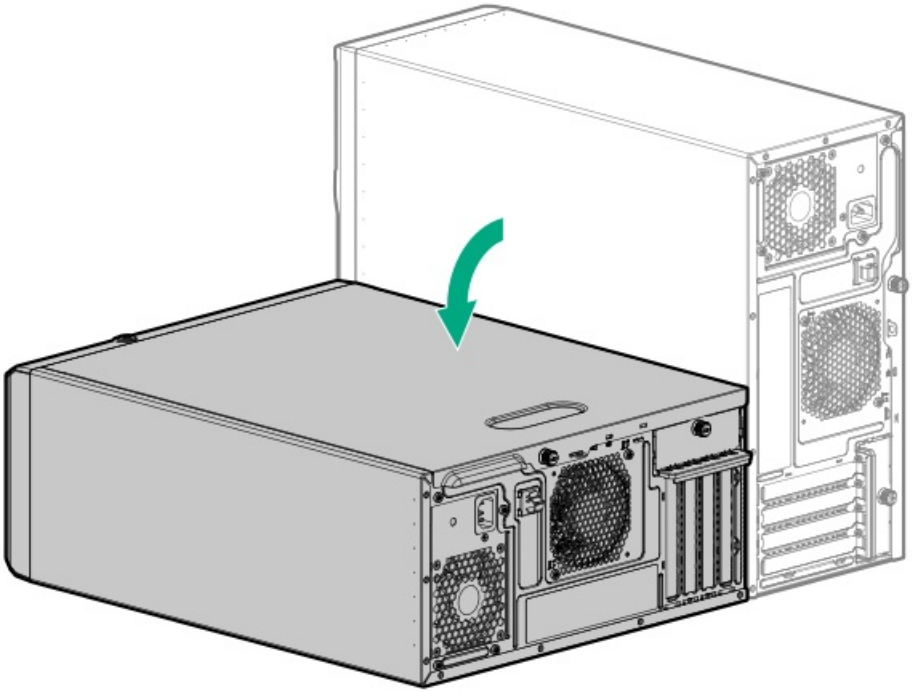
Remove the air baffle

About this task

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

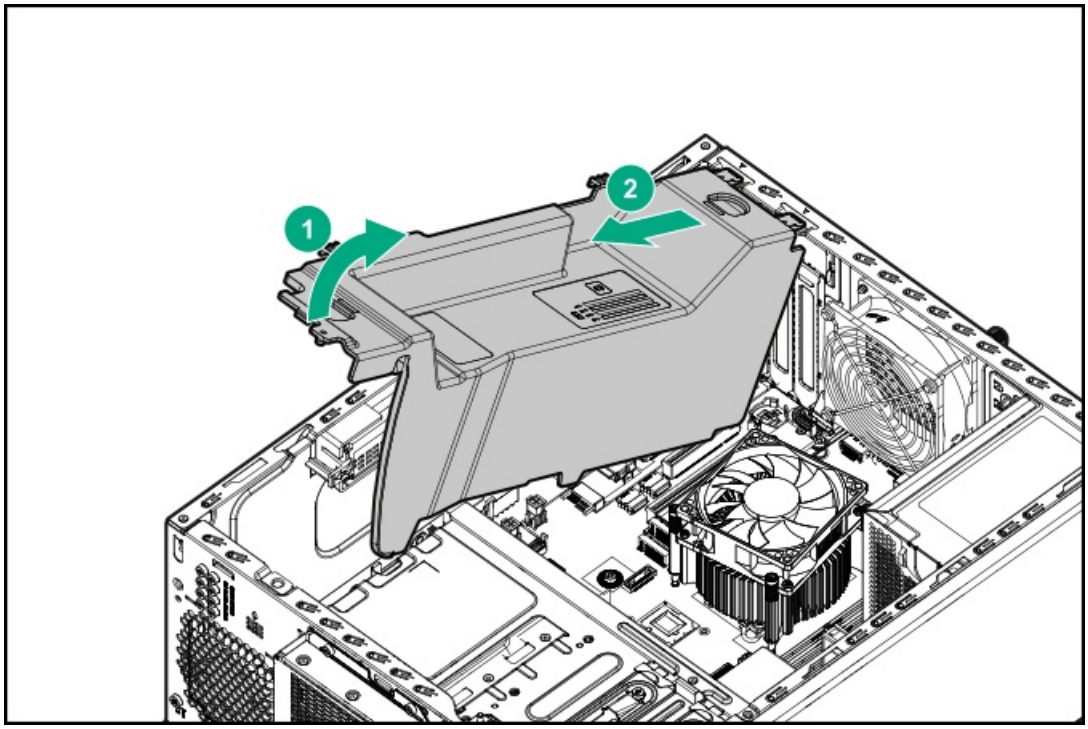
Procedure

1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



- If the server is in rack mode, remove the server from the rack .

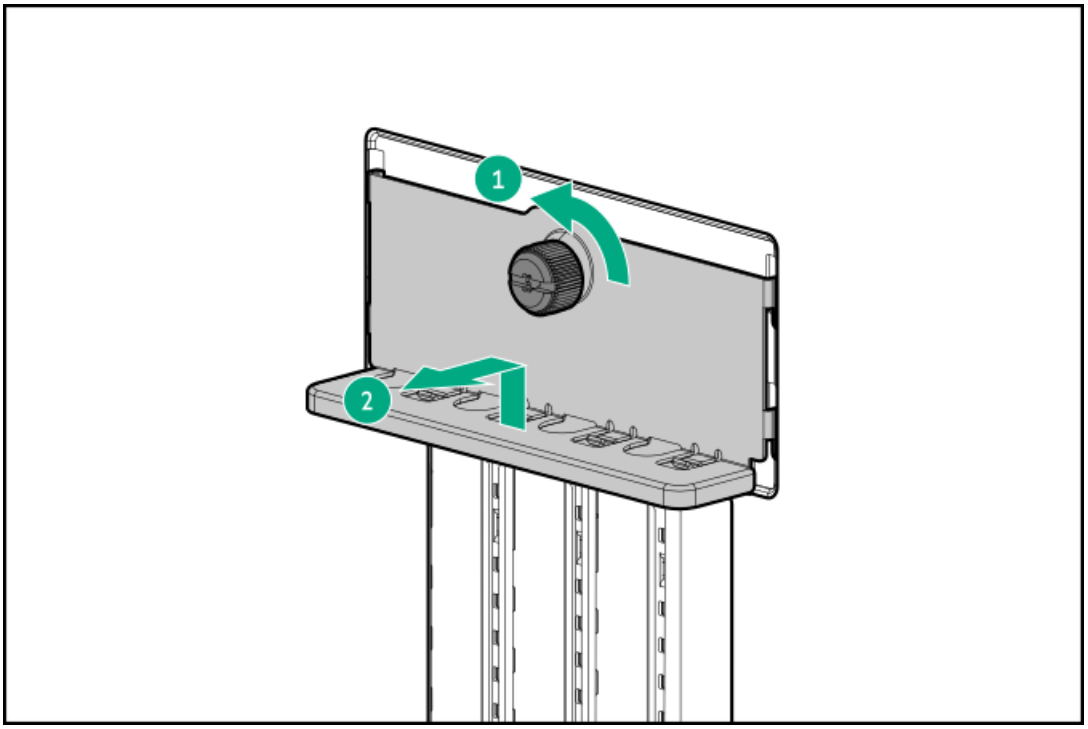
5. Remove the access panel.
6. Remove the air baffle:
   a. Lift the front end of the baffle from the chassis.
   b. Remove the baffle tabs from its rear chassis slots.



Remove the PCIe blank retainer

Procedure

1. Loosen the retainer thumbscrew.
2. Slide the retainer up, and then remove it from the chassis.



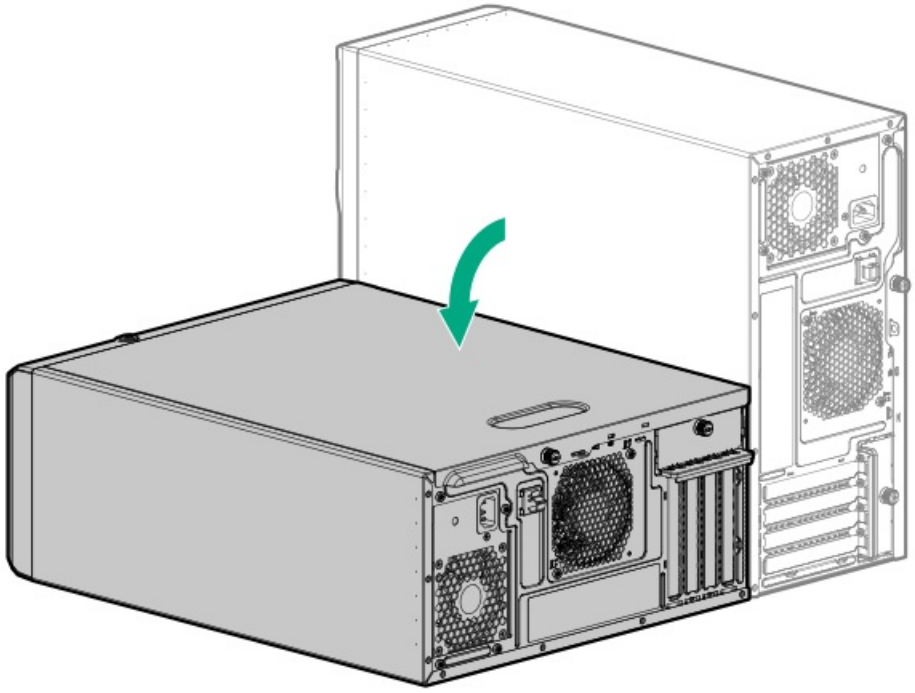
Remove a media device

About this task

For better access to internal components, some procedures require the removal of the media devices.

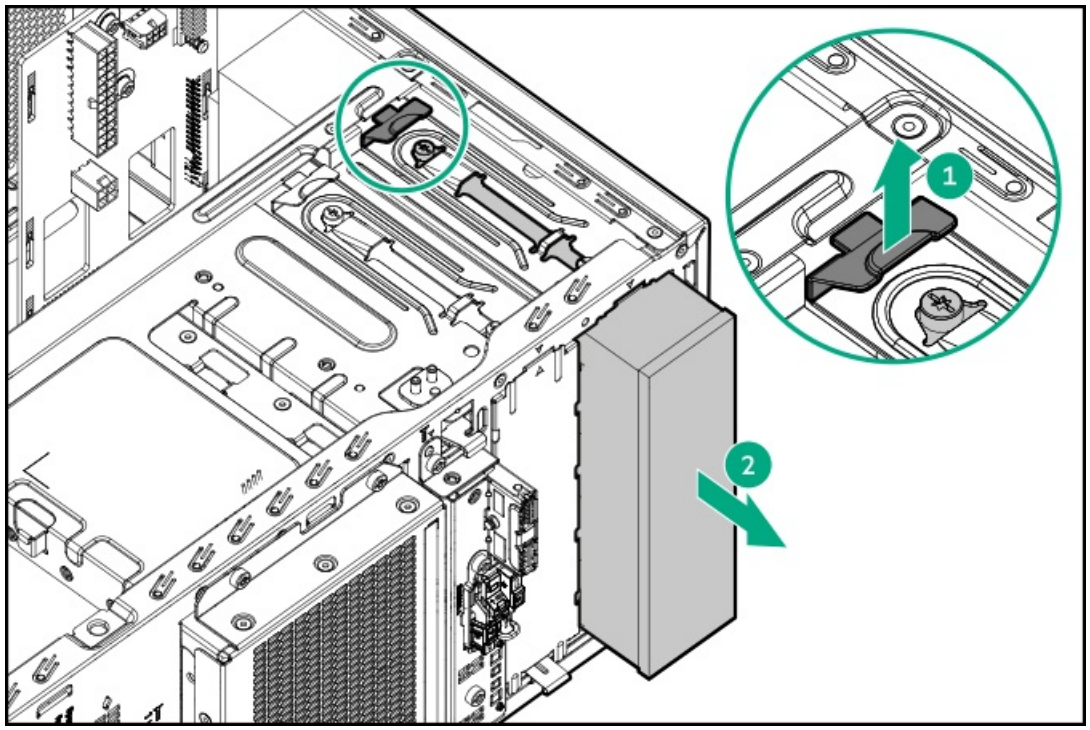
Procedure

1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



- If the server is in rack mode, remove the server from the rack .

5. Remove the front bezel.
6. Remove the access panel.
7. Disconnect all cables from the media device:
   - RDX backup system cabling
   - Optical drive cabling
8. Pull and hold the device release latch, and then slide the media device out of the bay.



Power up the server

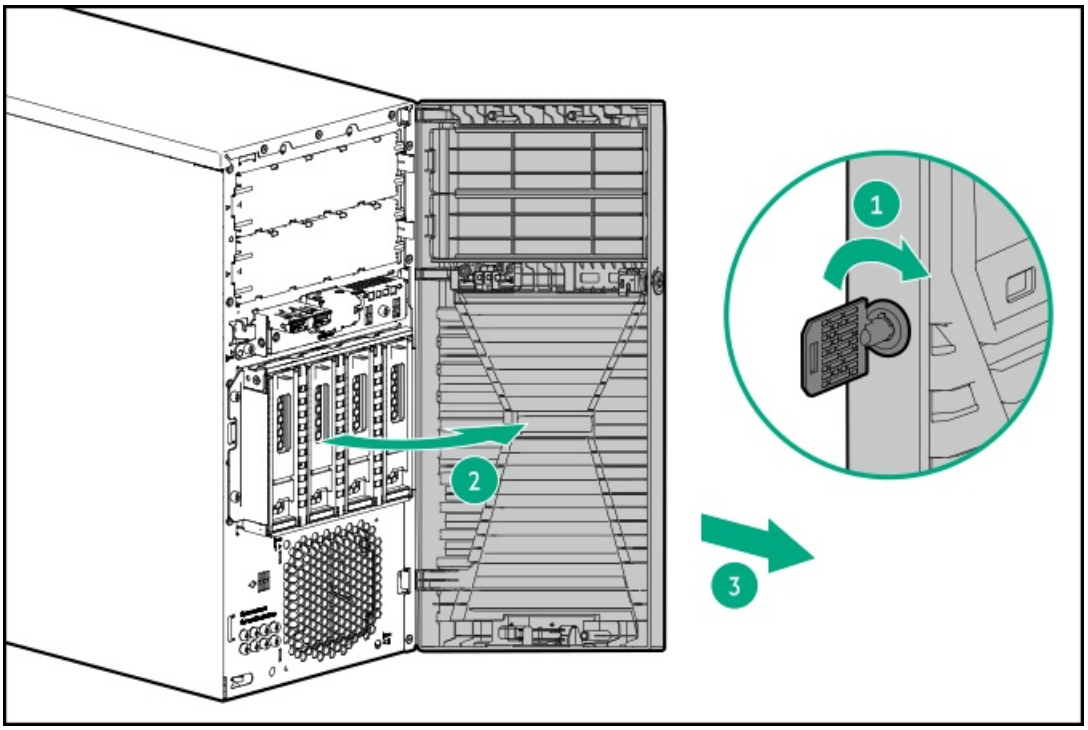
Procedure

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

Removing and replacing the front bezel

Procedure

1. Unlock the front bezel.
2. Open the front bezel.
3. Pull the front bezel away from the chassis.



Results

To replace the component, reverse the removal procedure.

Removing and replacing the cable management arm

About this task

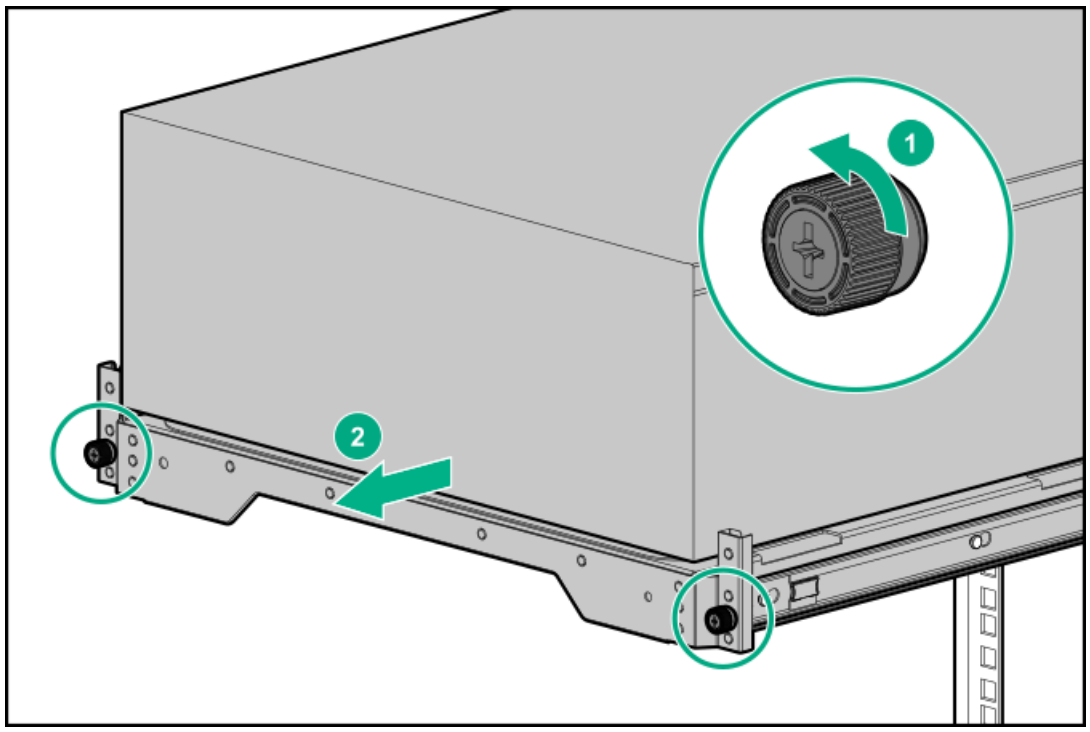
> **CAUTION:** Support the CMA during the removal/replacement procedure. Do not allow the CMA to hang by its own weight during the procedure.

Procedure

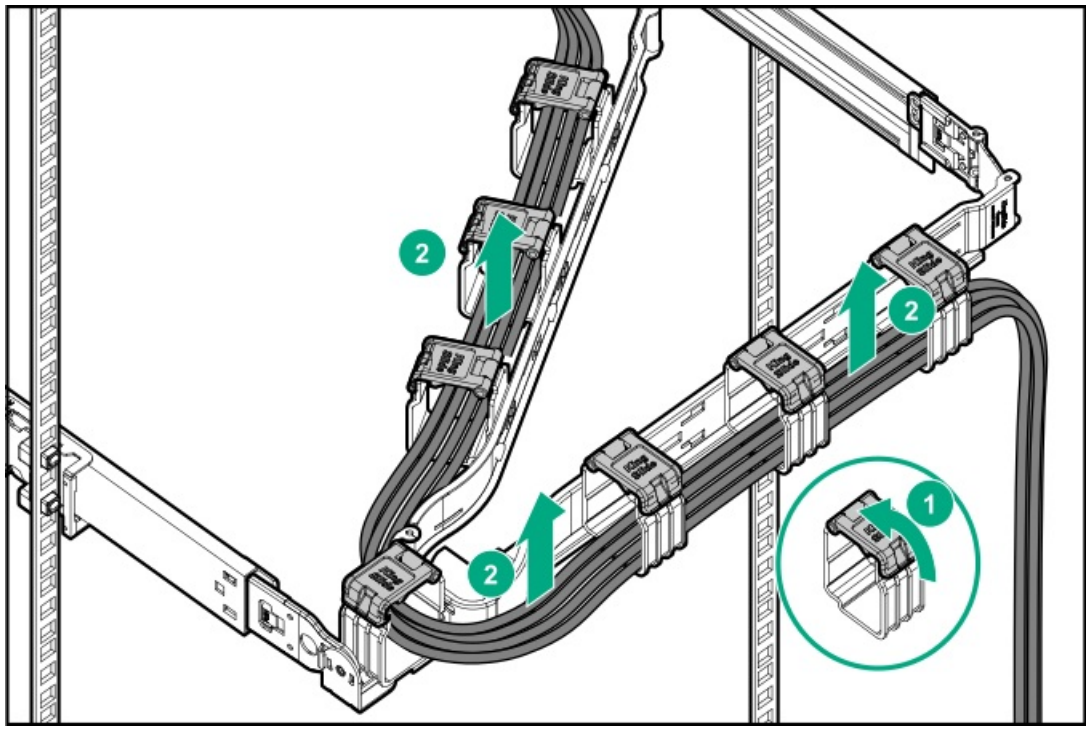
1. Slide the server tray out of the rack:

a. Loosen the server tray thumbscrews.

b. Grasp the tray notch to slide the server out of the rack.



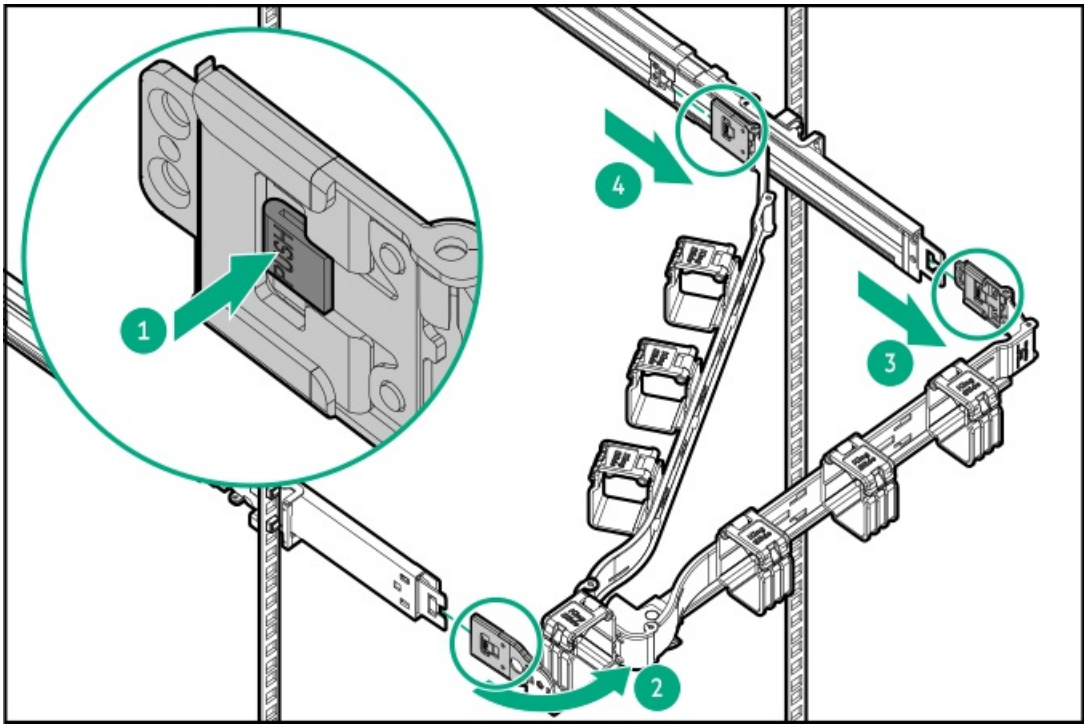
2. Open the cable clamps and remove the cables routed through the CMA.



3. Remove the CMA from the rack:

a. Press the latch on the outer rail of the right CMA and slide out the CMA arm.

b. Press the blue latch on the left inner and outer rails of the CMA , and then slide out the CMA.



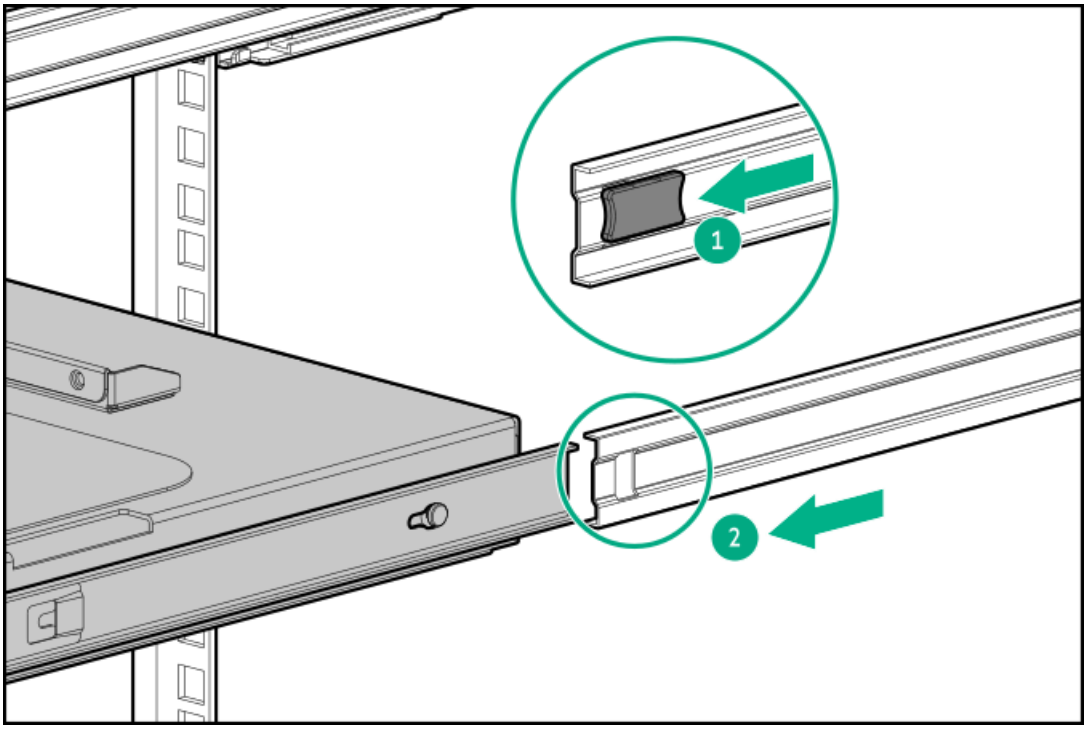
Results

To replace the component, reverse the removal procedure.

Removing and replacing the rack rails

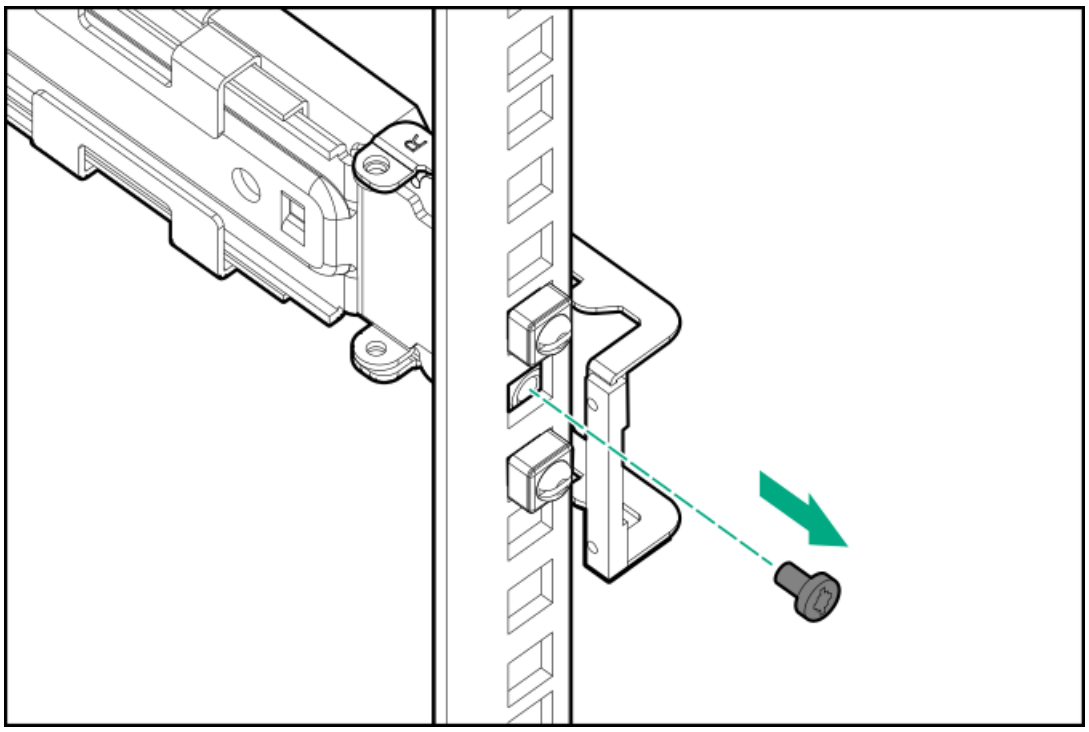
Procedure

1. Remove the server from the rack.
2. Slide and hold the white release tab in the direction shown, and slide out the server tray from the rack.



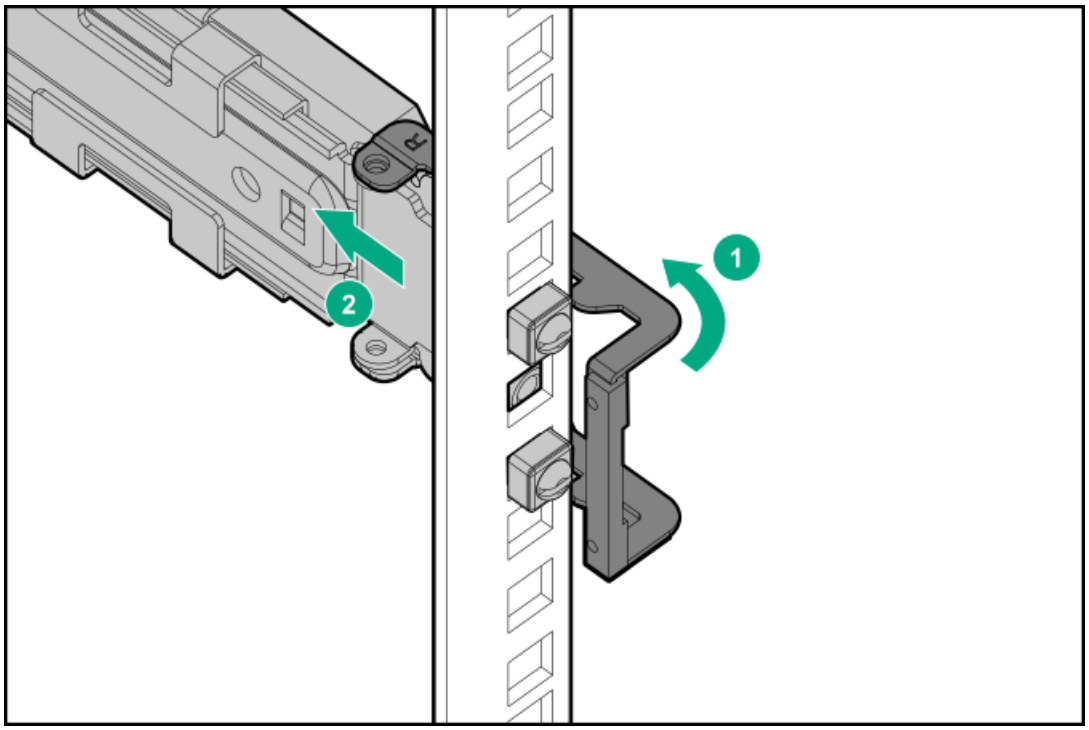
3. If you are replacing a rack mounting rail, do the following:

   a. If installed, remove the shipping screw from the rear rack column.



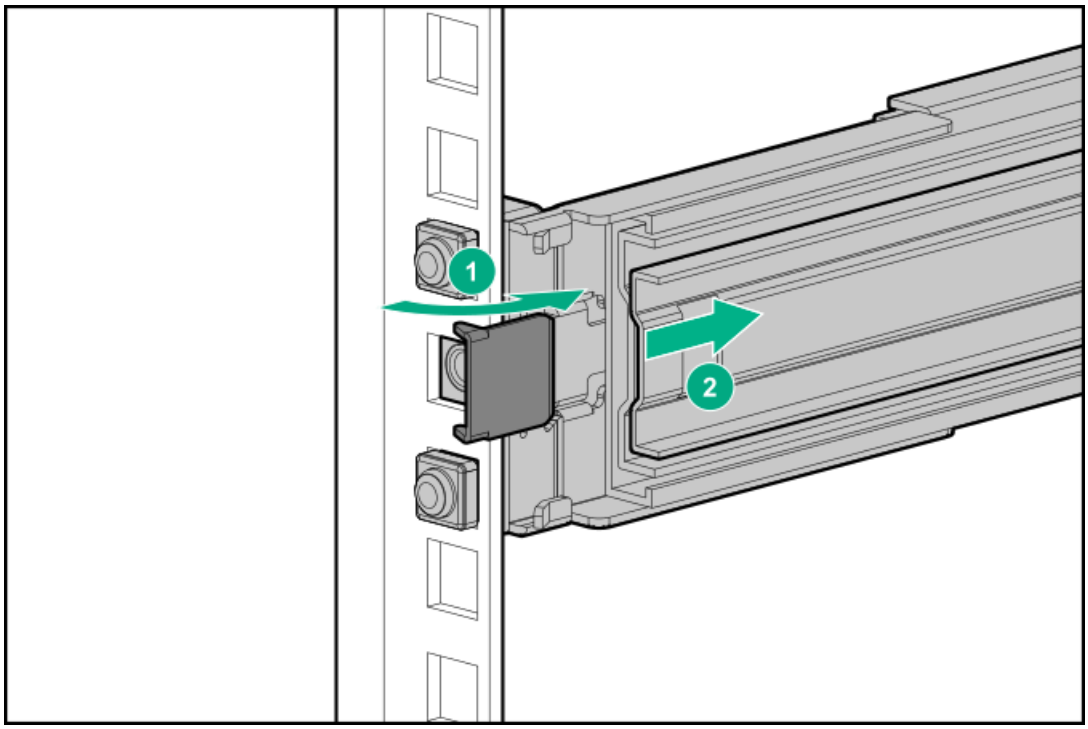
   b. Retract and hold the rear retention bracket.

   c. Slide out the rear end of the rail to disengage it from the rear rack column.

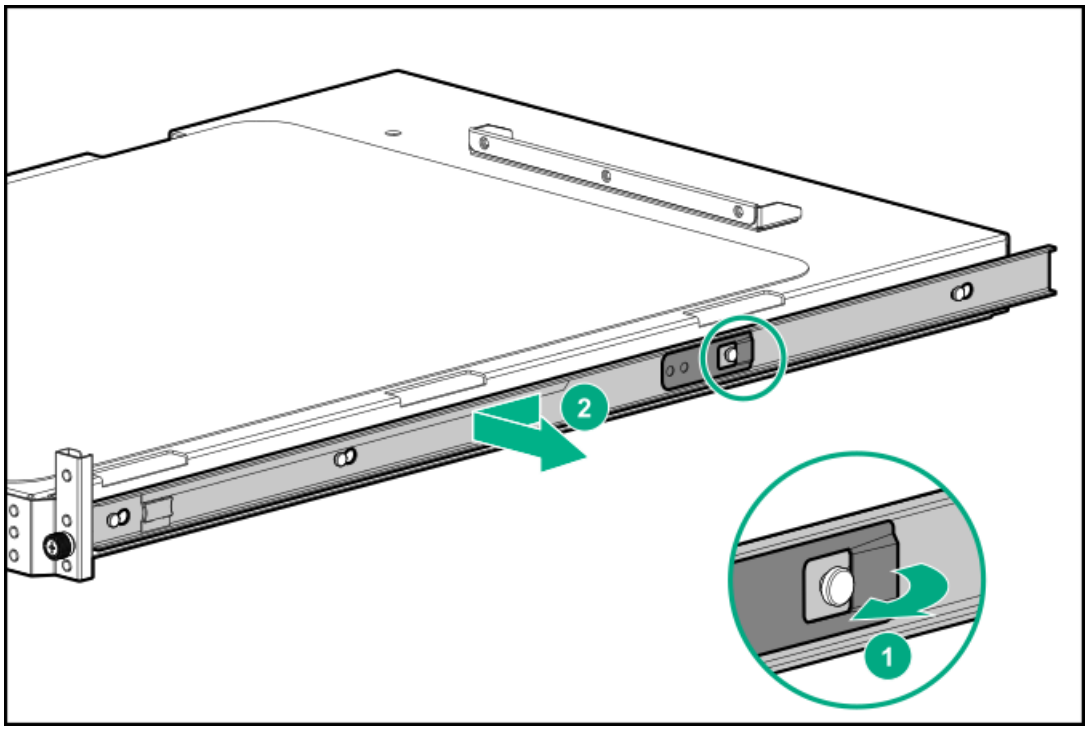


   d. Retract and hold the front retention bracket.

   e. Slide out the front end of the rail to disengage it from the front rack column.



4. If you are replacing a rack sliding rail, do the following:
   a. Slightly pull the rail latch to unlock the rail.
   b. Slide the rail towards the front to disengage it from the alignment pins on the server tray, and then remove the rail from the server tray.



Results

To replace the component, reverse the removal procedure.

Drive replacement

Subtopics

Removing and replacing a non-hot-plug LFF drive

Prerequisites

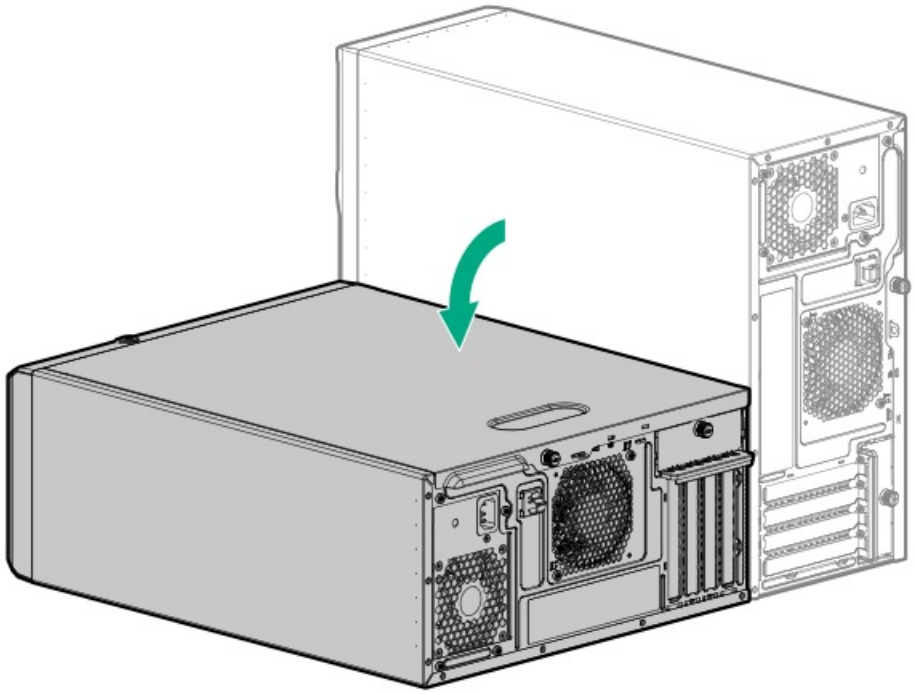
Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

About this task

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

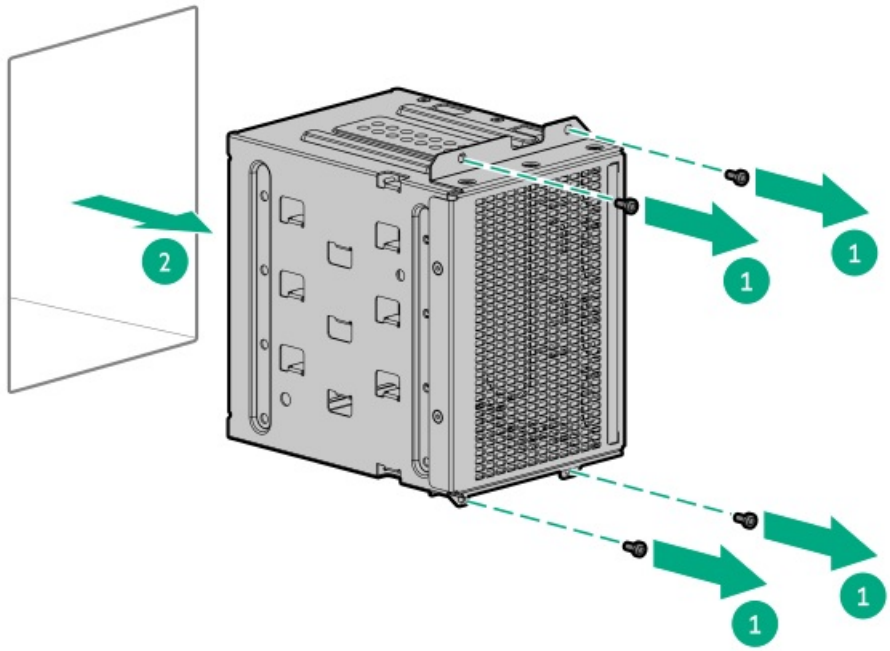
Procedure

1. Back up all server data on the drive .
2. Power down the server.
3. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.

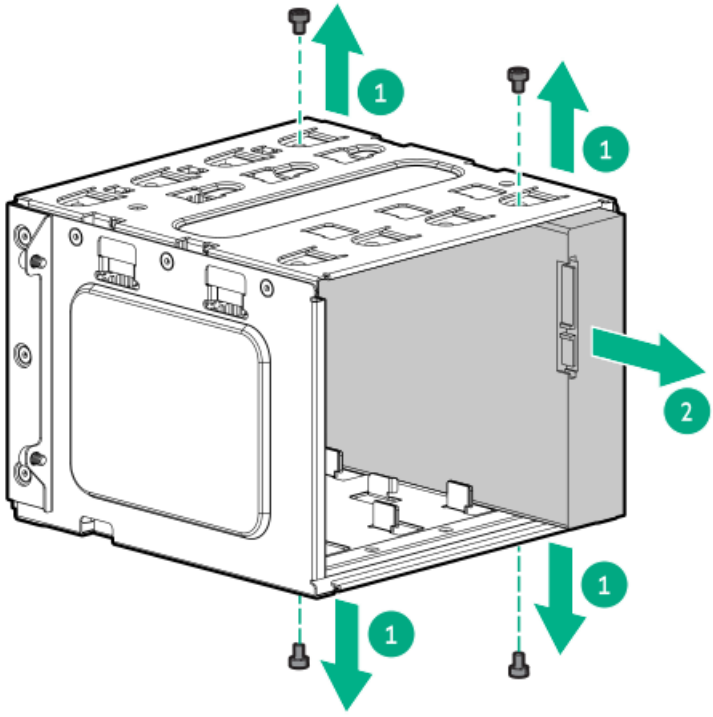


   - If the server is in rack mode, remove the server from the rack .

6. Remove the front bezel.
7. Remove the access panel.
8. Disconnect the power and SATA cables from the drive.
9. Remove the non-hot-plug drive cage.



10. Remove the non-hot-plug drive.



Results

To replace the component, reverse the removal procedure.

Removing and replacing a hot-plug LFF/SFF drive

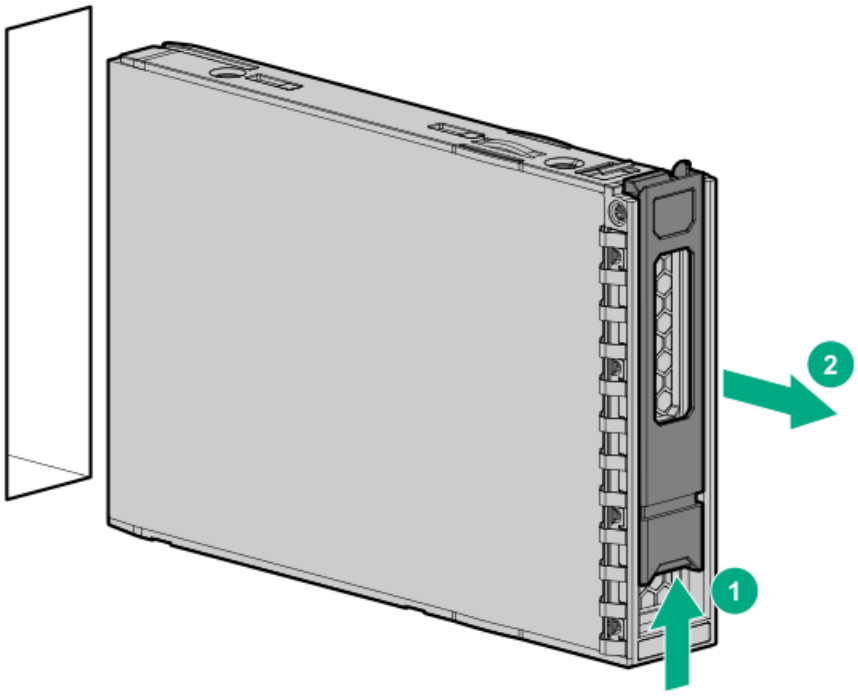
About this task

> **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.

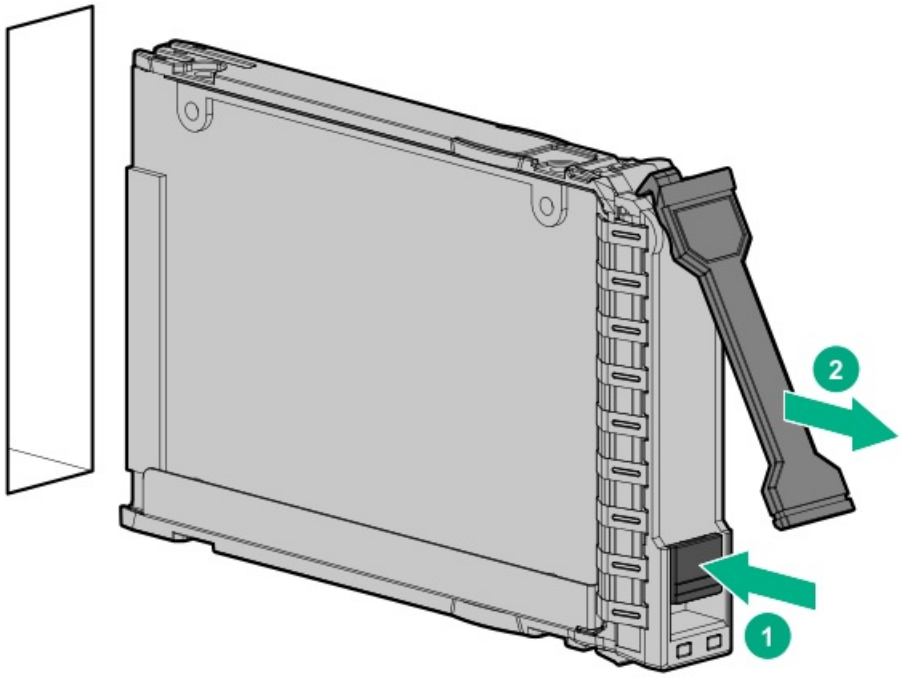
> **CAUTION:** To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

Procedure

1. Back up all server data on the drive .
2. Unlock and open the front bezel .
3. Remove the front bezel.
4. Observe the drive LED status and determine if the drive can be removed.
5. Remove the drive.
   - LFF drive



   - SFF drive



Results

To replace the component, reverse the removal procedure.

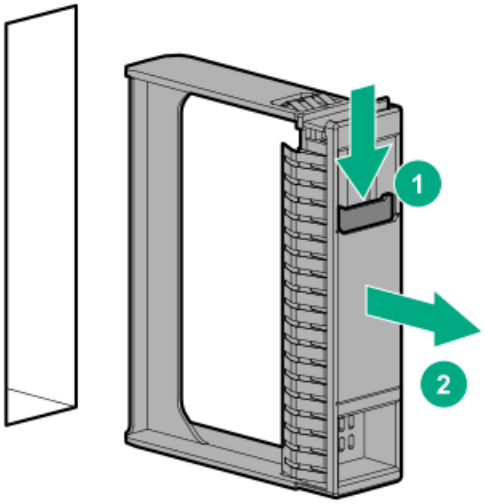
Removing and replacing a drive blank

About this task

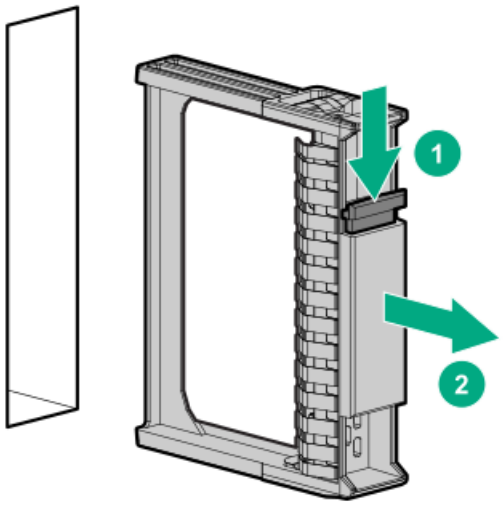
> **CAUTION:** To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

Procedure

1. Unlock and open the front bezel.
2. Remove the drive blank.
   - LFF drive blank



- SFF drive blank



Results

To replace the component, reverse the removal procedure.

Power supply replacement

Subtopics

Power supply warnings and cautions

Removing and replacing a Flexible Slot power supply

Removing and replacing a non-hot-plug power supply

Power supply warnings and cautions

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

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

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

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

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

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

Removing and replacing a Flexible Slot power supply

Prerequisites

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

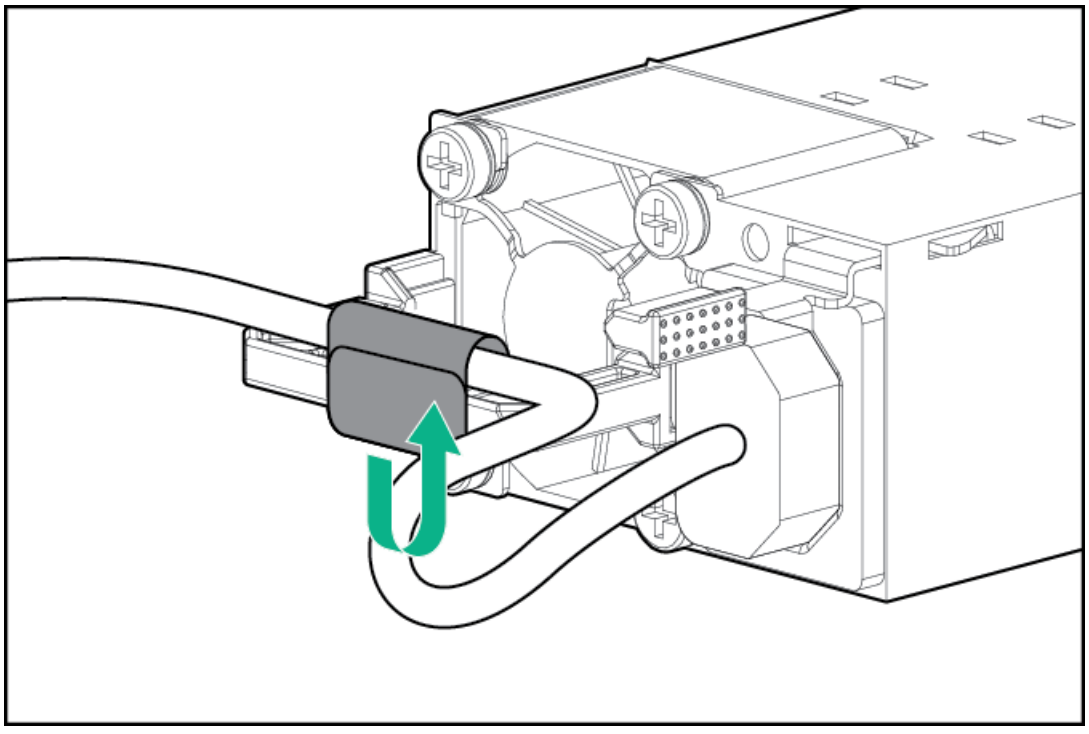
About this task

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.

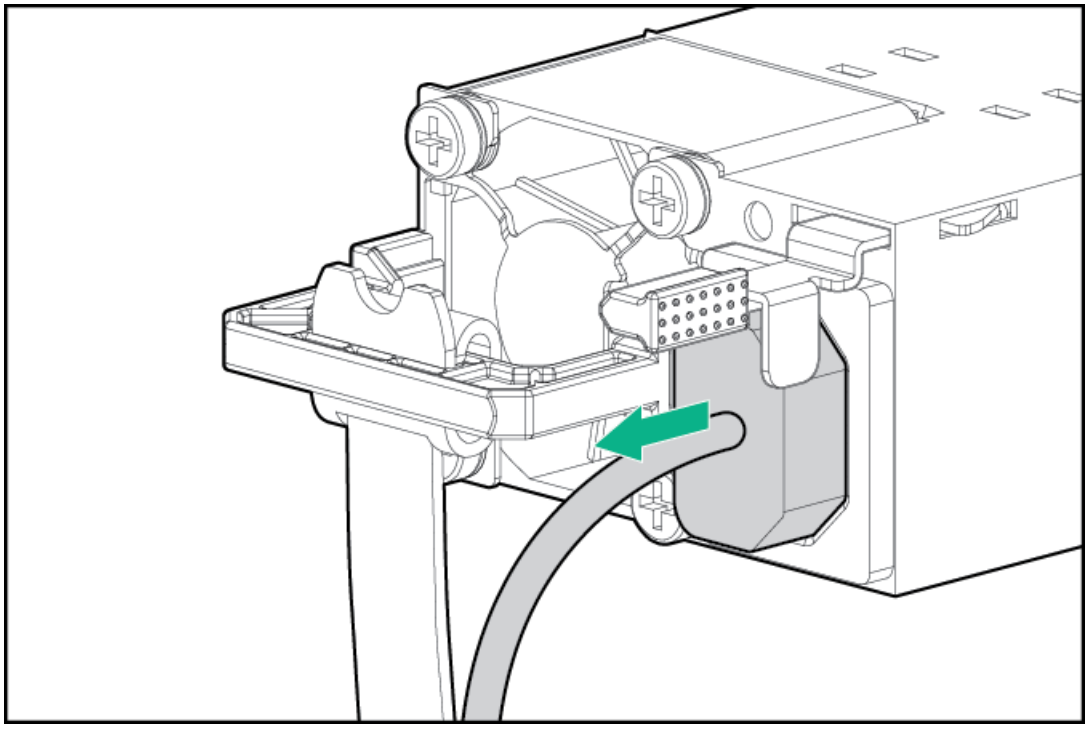
CAUTION: To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

Procedure

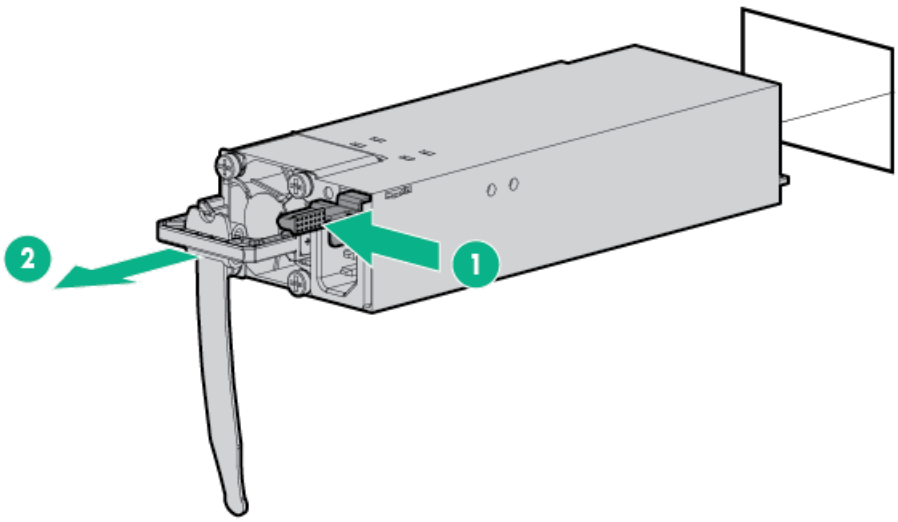
1. If the server is using a single power supply, remove all power from the server:
   a. Back up all server data.
   b. Power down the server.
   c. Disconnect the power cord from the power supply.
2. Remove the power supply:
   a. Release the power cord from the strain relief strap.



b. Disconnect the power cord from the power supply.



c. Press and hold the release lever, and then slide the power supply out of the bay.



Results

To replace the component, reverse the removal procedure.

Removing and replacing a non-hot-plug power supply

Prerequisites

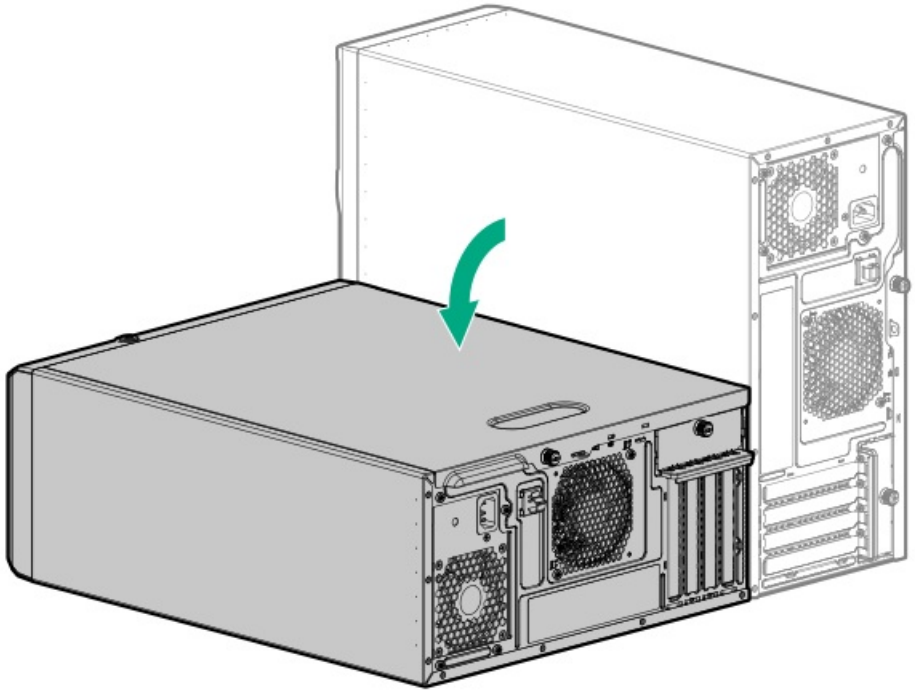
Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

About this task

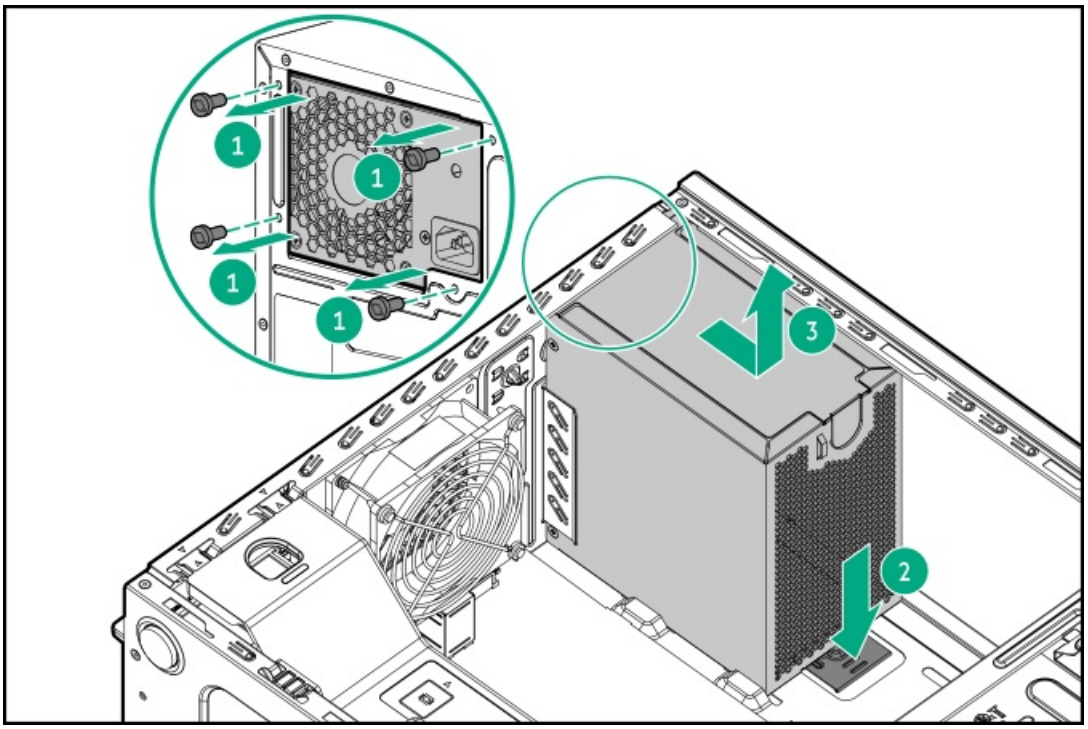
WARNING: To reduce the risk of personal injury from hot surfaces, allow the power supply and the power supply blank to cool before touching them.

Procedure

1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



   - If the server is in rack mode, remove the server from the rack.
5. Remove the access panel.
6. If installed, remove the air baffle.
7. Disconnect all non-hot-plug power supply cables.
8. Remove the non-hot-plug power supply:
   a. Remove the power supply screws.
   b. Press and hold the release latch, and then remove the power supply.



Results

To replace the component, reverse the removal procedure.

Drive backplane replacement

Subtopics

Removing and replacing the 4 LFF drive backplane

Removing and replacing the 8 SFF drive backplane

Removing and replacing the 4 LFF drive backplane

Prerequisites

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

About this task

CAUTION:

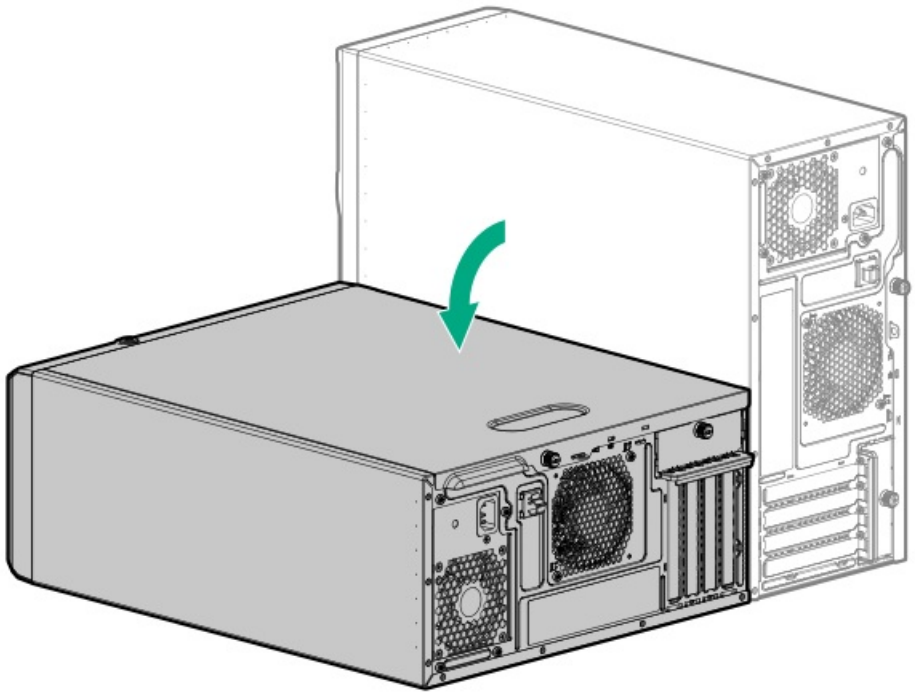
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

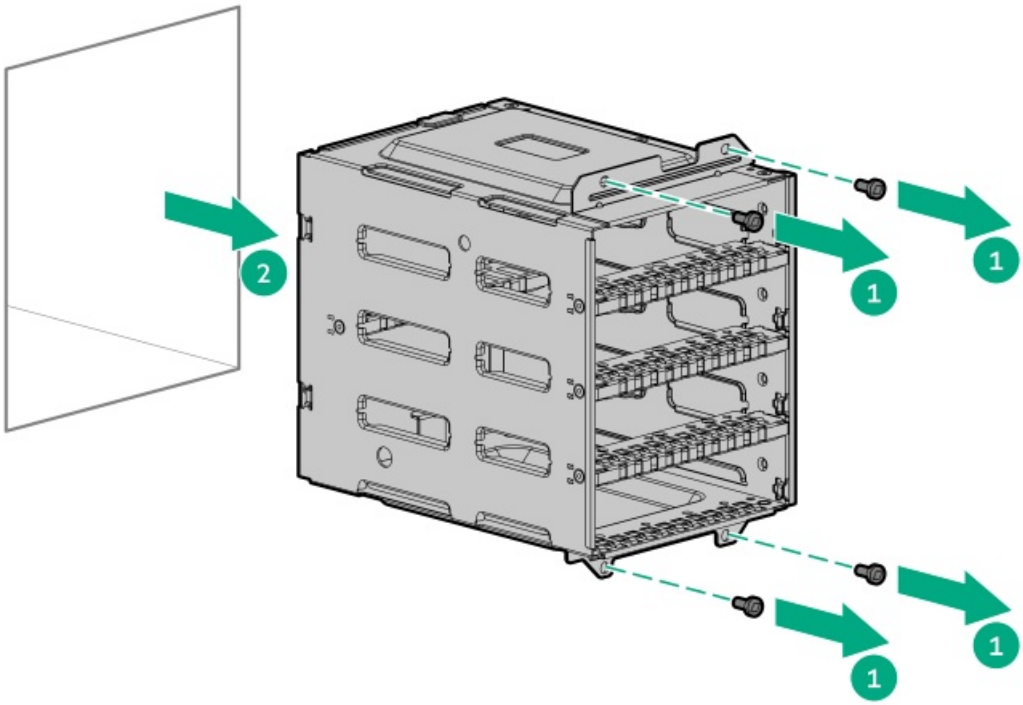
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

Procedure

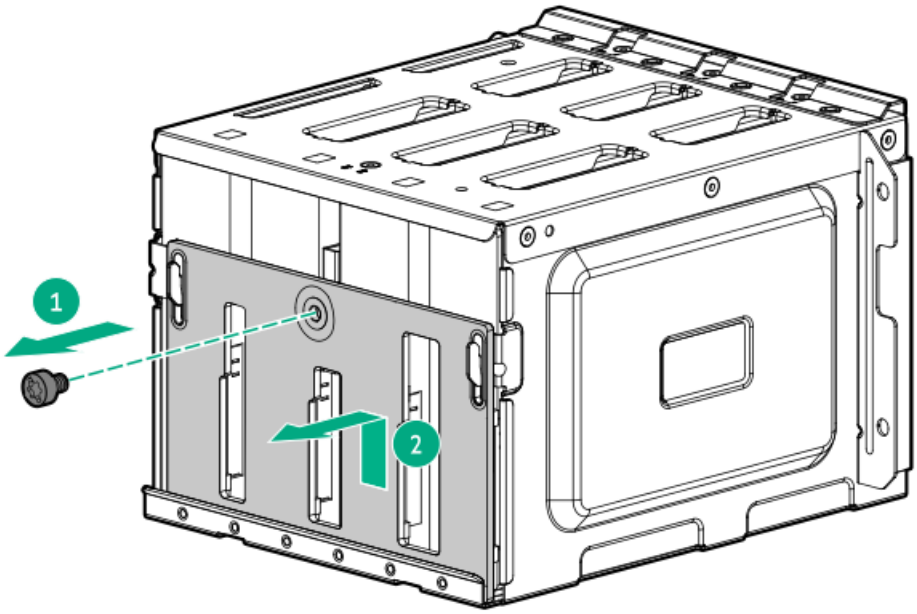
1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



   - If the server is in rack mode, remove the server from the rack.
5. Remove the front bezel.
6. Remove all drives.
7. Remove the access panel.
8. Disconnect the drive power and controller cables from the drive backplane.
9. Remove the 4 LFF drive cage.



10. Remove the 4 LFF drive backplane.



Results

To replace the component, reverse the removal procedure.

Removing and replacing the 8 SFF drive backplane

Prerequisites

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

About this task

CAUTION:

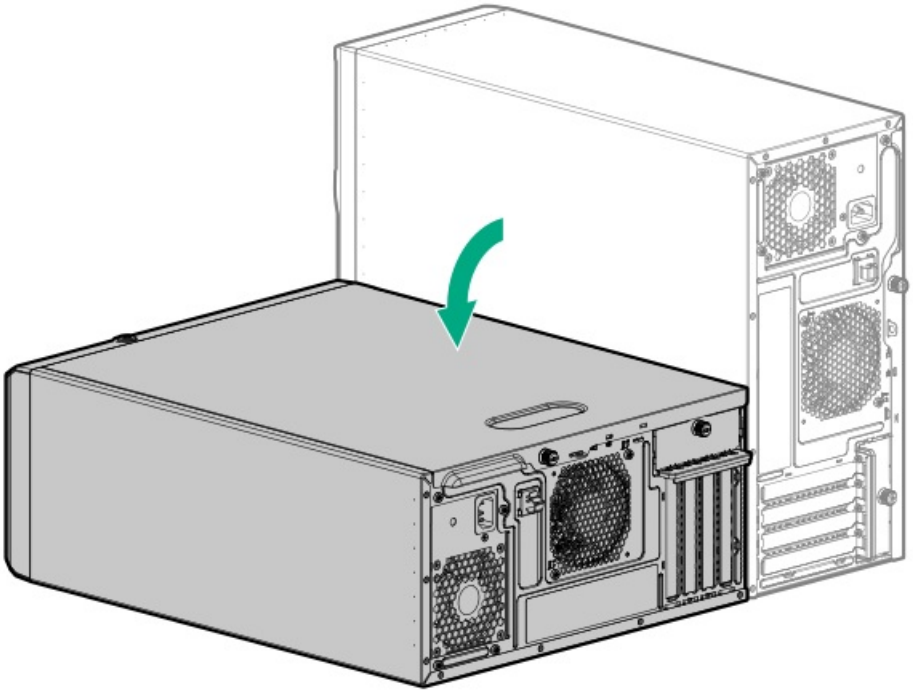
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

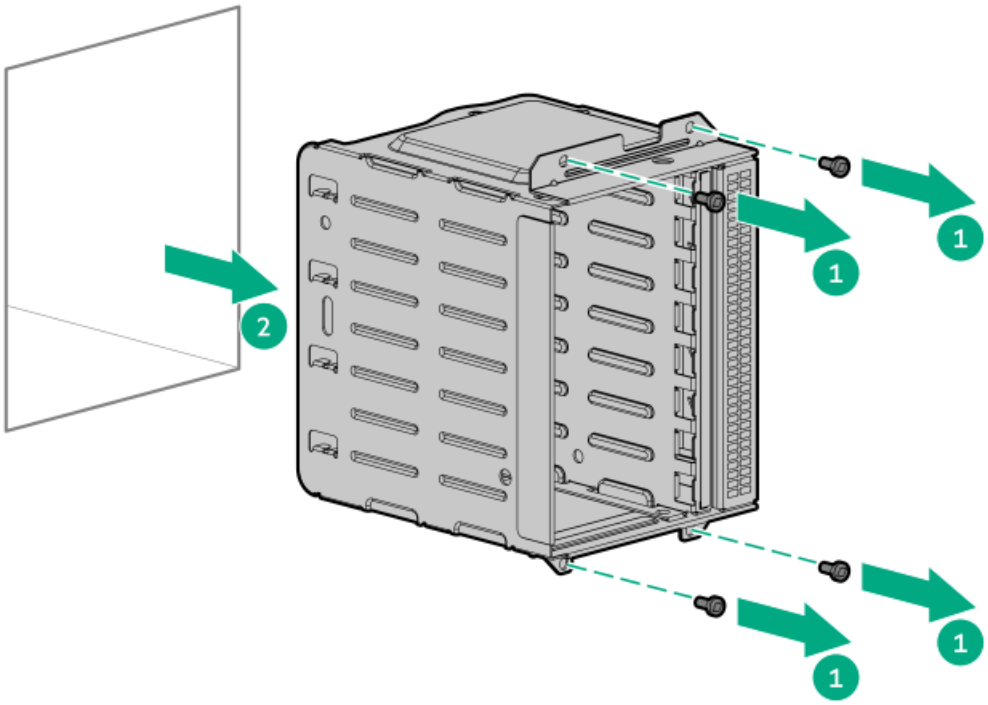
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

Procedure

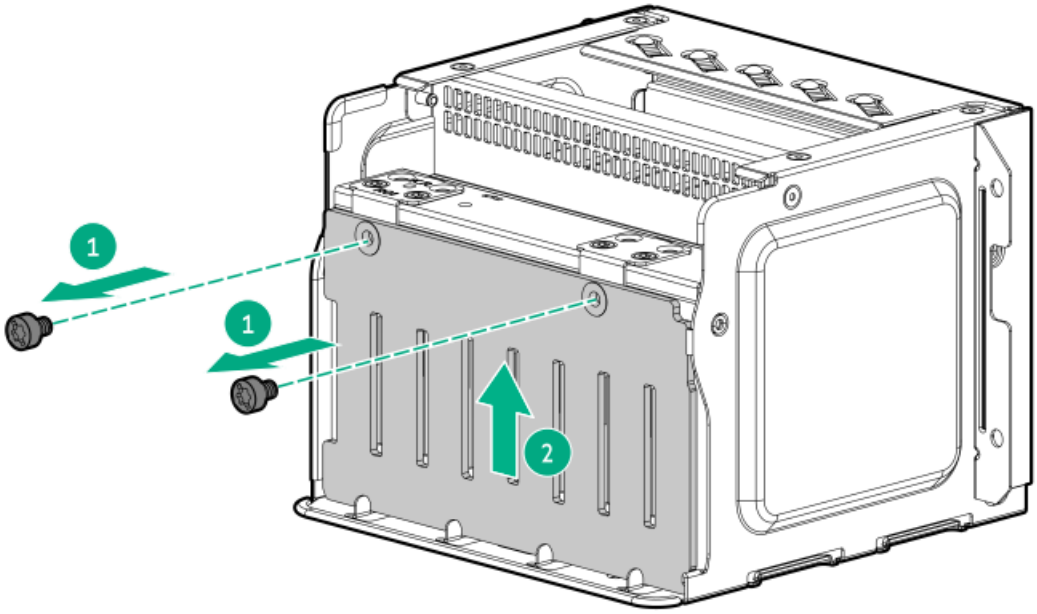
1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



   - If the server is in rack mode, remove the server from the rack.
5. Remove the front bezel.
6. Remove all drives.
7. Remove the access panel.
8. Disconnect the drive power and controller cables from the drive backplane.
9. Remove the 8 SFF drive cage.



10. Remove the 8 SFF drive backplane.



Results

To replace the component, reverse the removal procedure.

Media device replacement

Subtopics

Removing and replacing a USB RDX docking station

Removing and replacing an optical drive

Removing and replacing a USB RDX docking station

Prerequisites

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

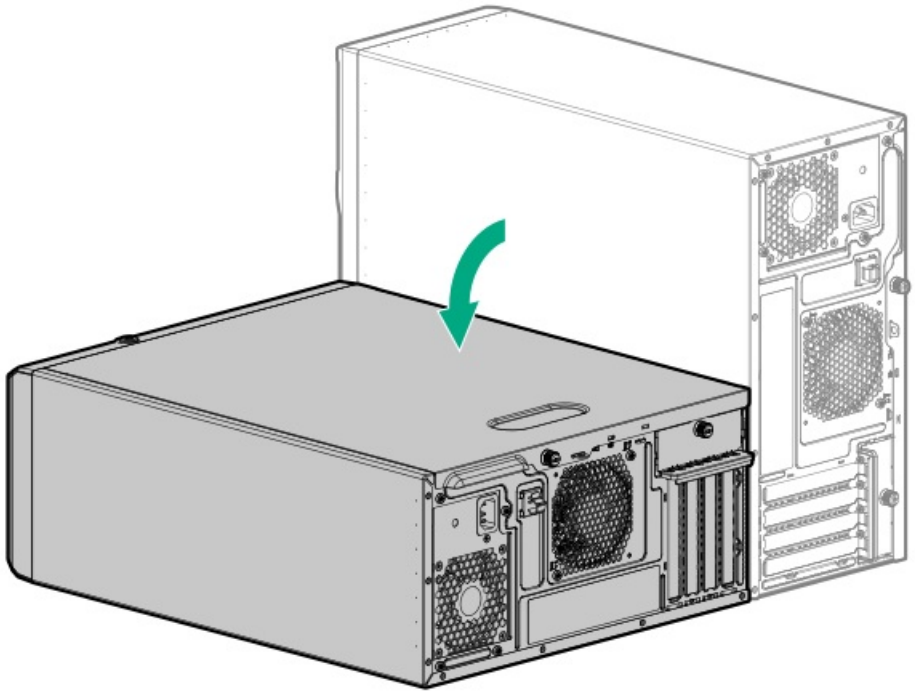
About this task

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

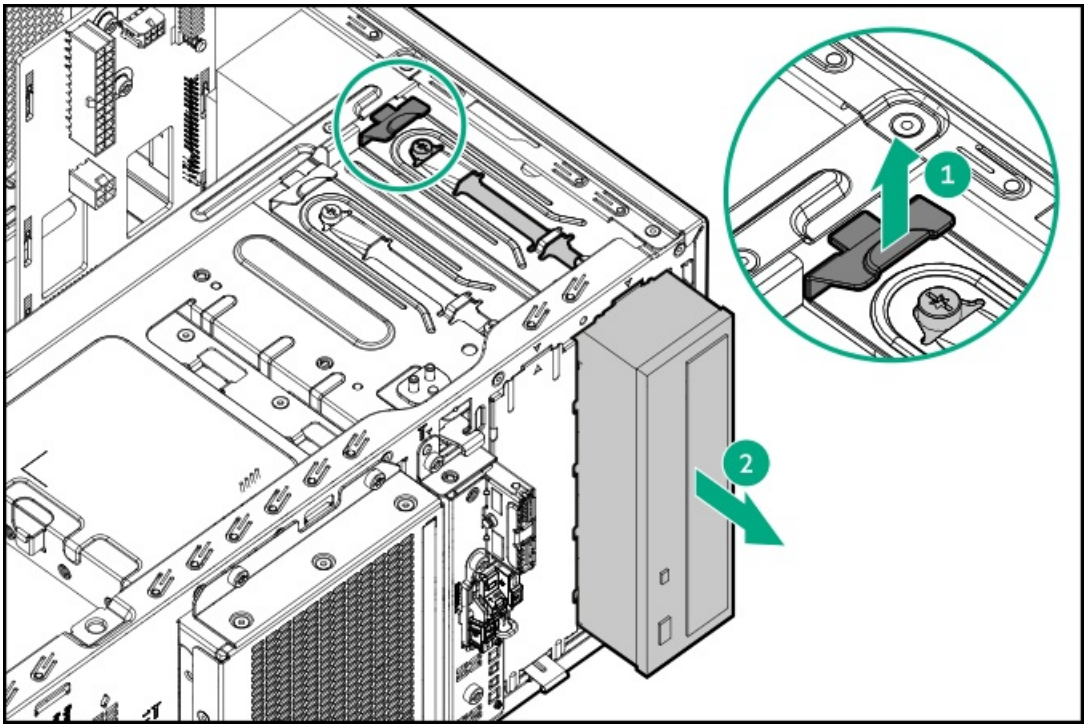
> **CAUTION:** To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

Procedure

1. Verify that there is no cartridge in the RDX docking station.
2. Power down the server.
3. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



   - If the server is in rack mode, remove the server from the rack.
6. Remove the front bezel.
7. Remove the access panel.
8. Disconnect the power and USB cables from the USB docking station.
9. Pull up and hold the release latch, and then remove the RDX docking station.



Results

To replace the component, reverse the removal procedure.

Removing and replacing an optical drive

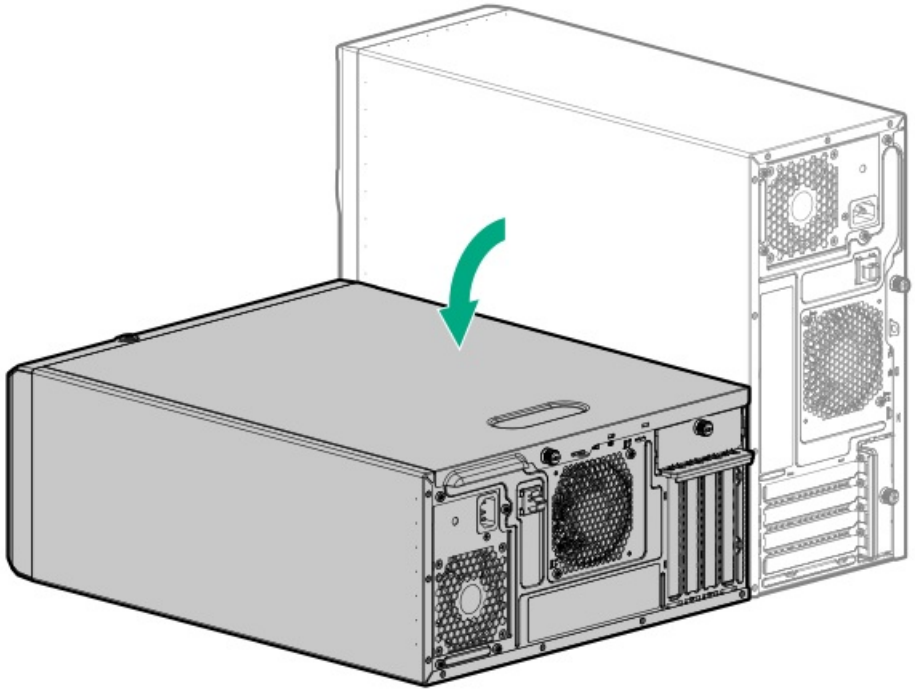
Prerequisites

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

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

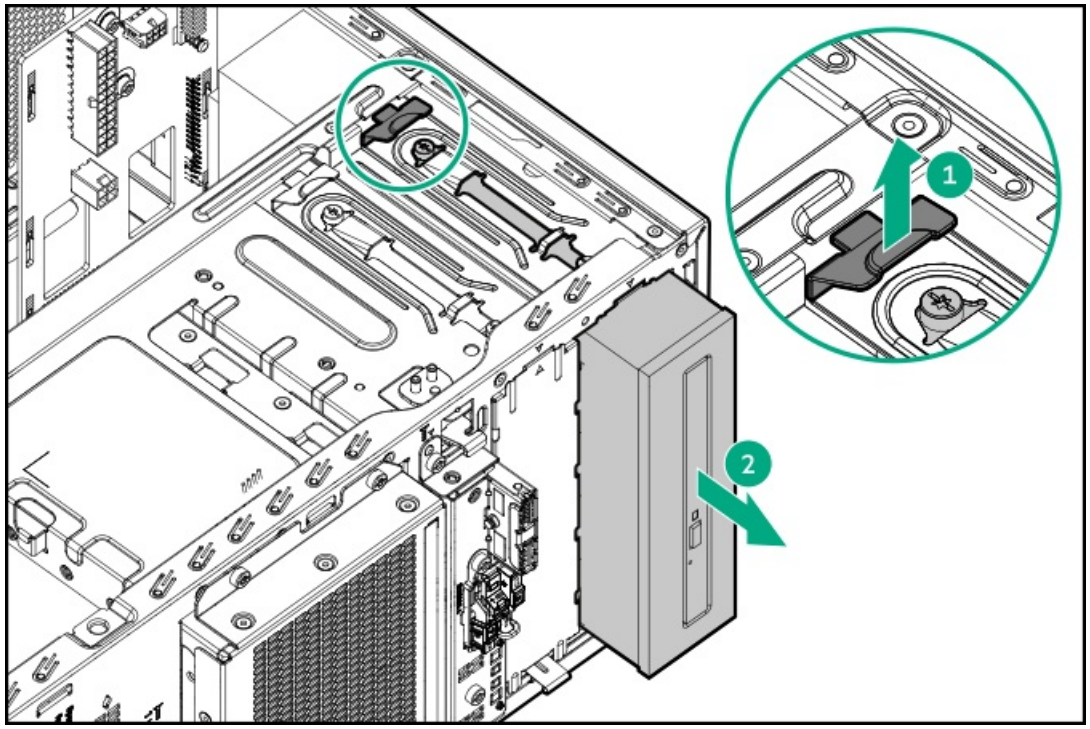
Procedure

1. Verify that there is no disc in the optical drive bay.
2. Power down the server.
3. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.

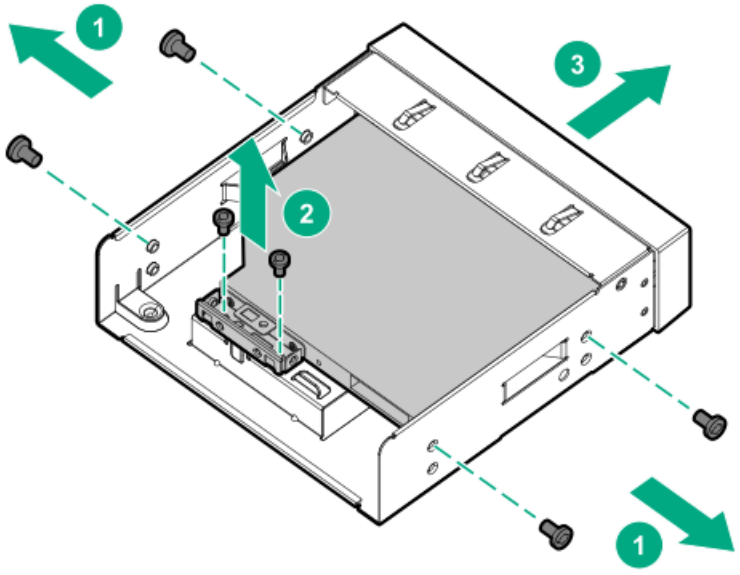


- If the server is in rack mode, remove the server from the rack .

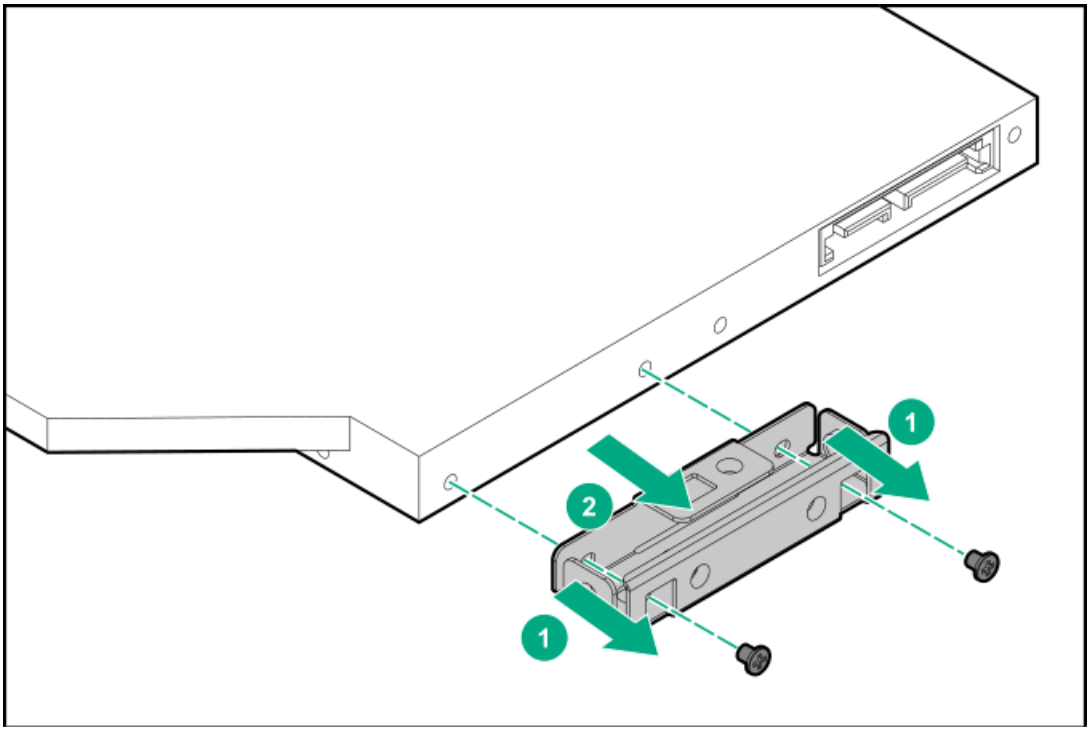
6. Remove the front bezel.
7. Remove the access panel.
8. Disconnect the SATA-power Y-cable from the optical drive .
9. Pull up and hold the release latch, and then remove the optical drive cage.



10. Remove the optical drive from its drive cage.



11. Remove the optical drive bracket.



Results

To replace the component, reverse the removal procedure.

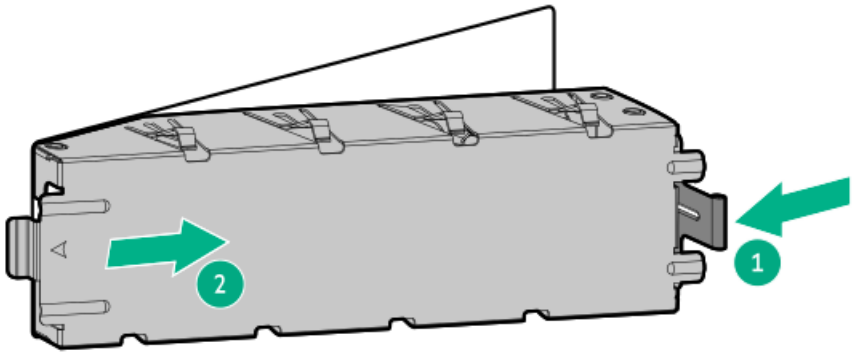
Removing and replacing the media bay blank

About this task

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

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. Unlock and open the front bezel.
5. Press and hold the latch, and then pull out the blank from the bay.



Results

To replace the component, reverse the removal procedure.

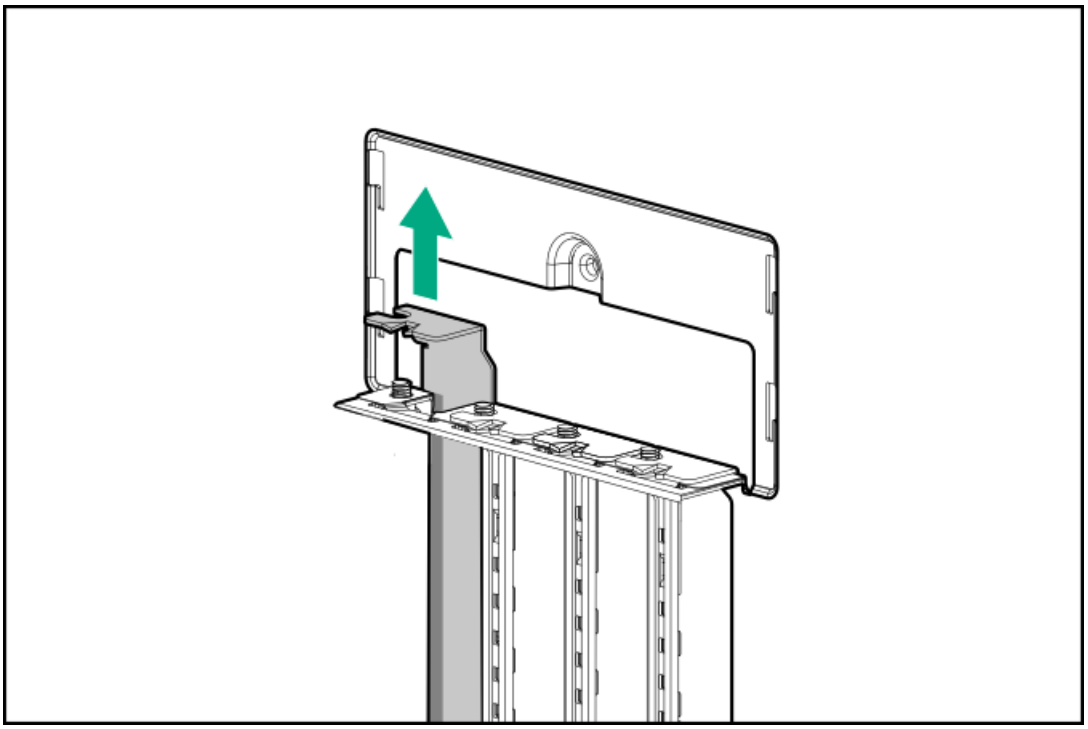
Removing and replacing the PCIe slot blank

About this task

> **CAUTION:**
> To prevent improper cooling and thermal damage, do not operate the server unless all PCIe slots have either an expansion slot cover or an expansion card installed.

Procedure

1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the PCIe blank retainer.
5. Remove the expansion slot blank.



Results

To replace the component, reverse the removal procedure.

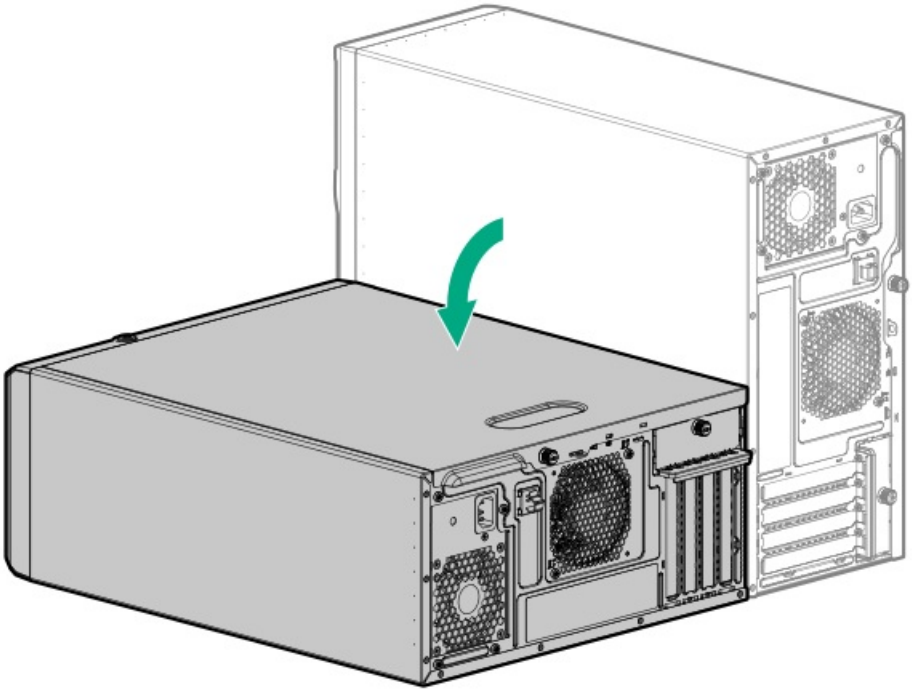
Removing and replacing the air baffle

About this task

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

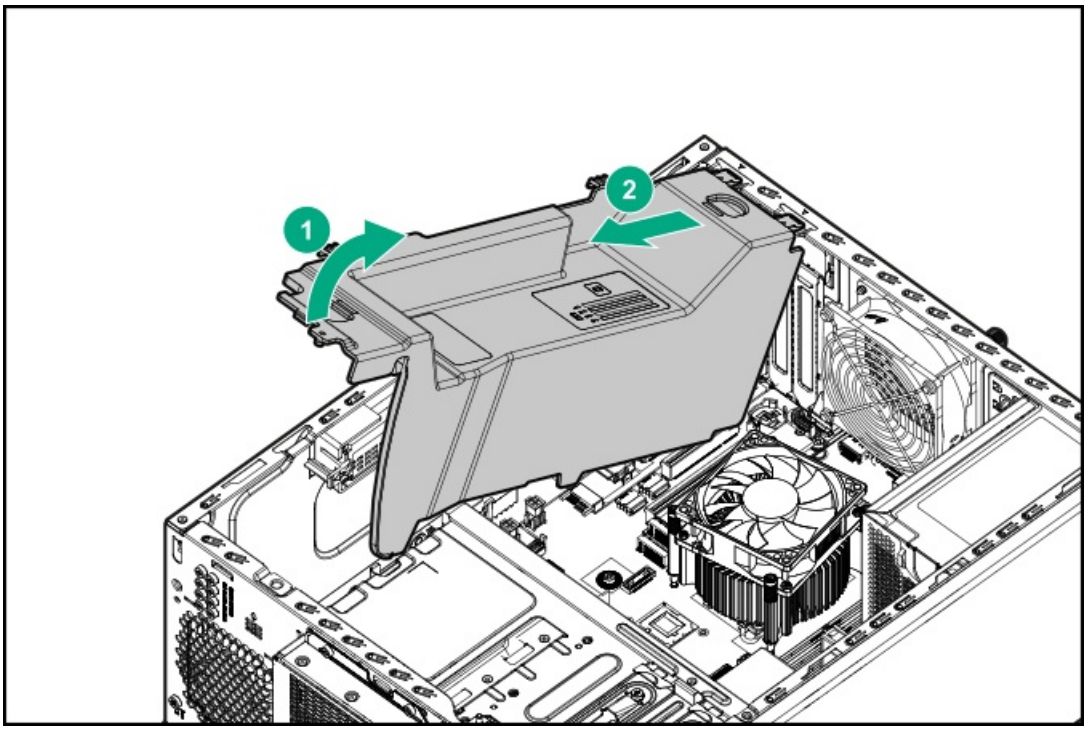
Procedure

1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



- If the server is in rack mode, remove the server from the rack .

5. Remove the access panel.
6. Remove the air baffle.



Results

To replace the component, reverse the removal procedure.

Fan replacement

Subtopics

Removing and replacing the PCIe fan

Prerequisites

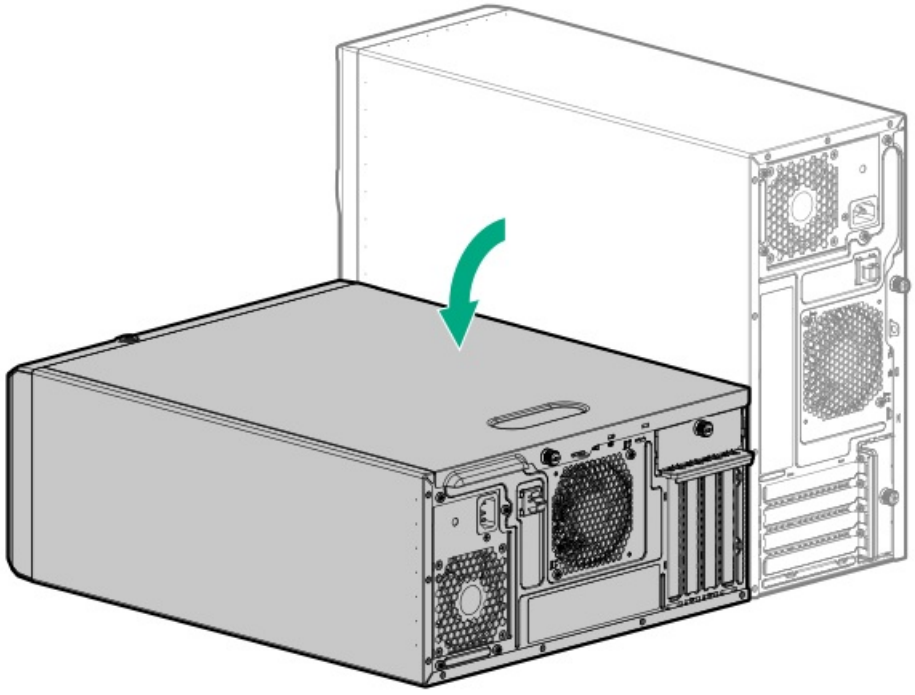
Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

About this task

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

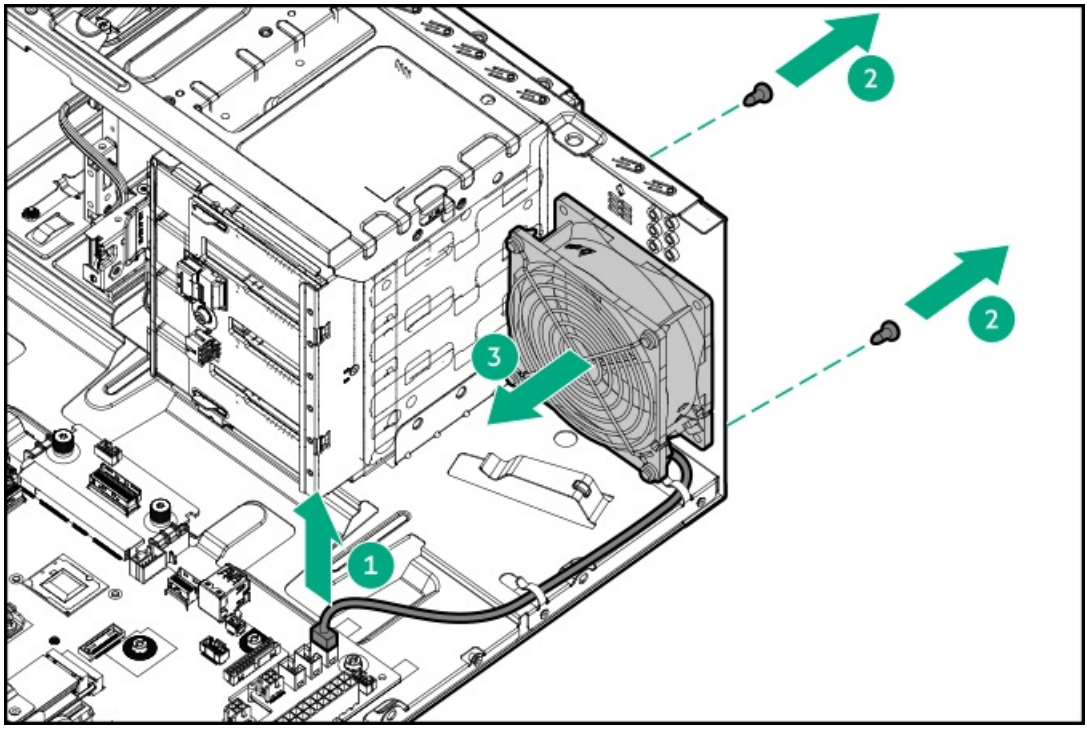
Procedure

1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



   - If the server is in rack mode, remove the server from the rack.
5. Remove the front bezel.
6. Remove the access panel.

7. Remove the air baffle.
8. If needed, disconnect any system cables that might be blocking access to the bottom side of the drive cage.
9. Remove the PCIe fan:
   a. Disconnect the fan cable.
   b. Remove the screws.
   c. Remove the fan from the chassis.



Results

To replace the component, reverse the removal procedure.

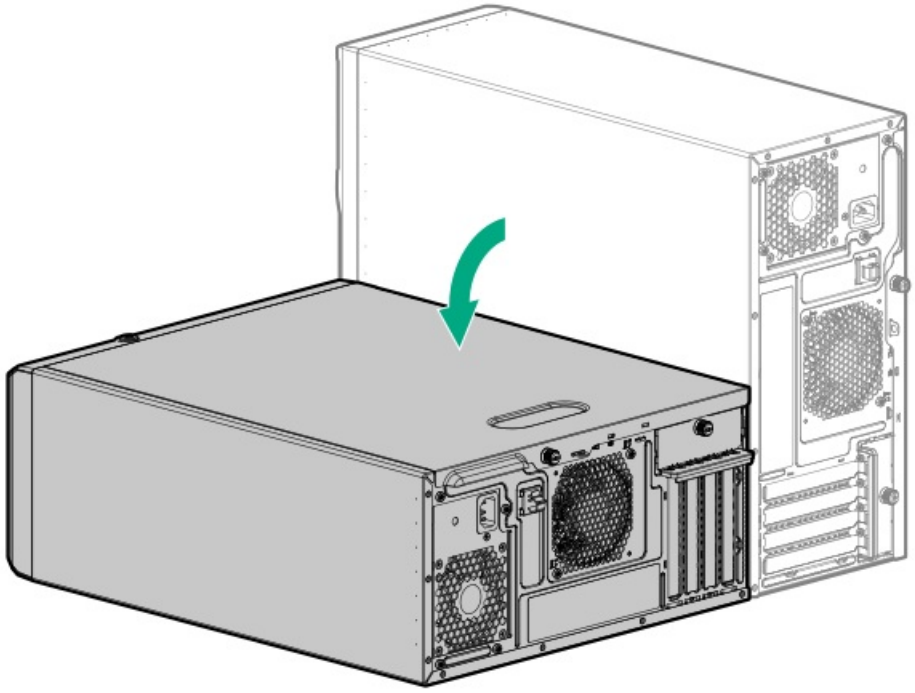
Removing and replacing the system fan

Prerequisites

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

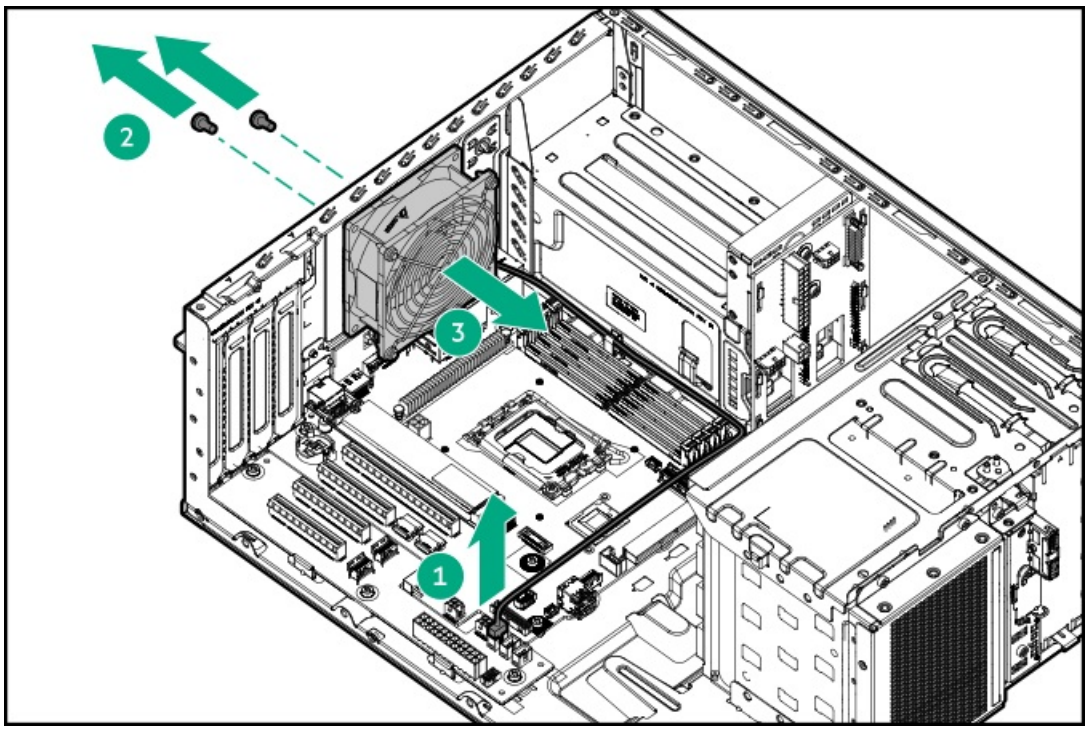
Procedure

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. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



- If the server is in rack mode, remove the server from the rack .

5. Remove the access panel.
6. Remove the system fan:
   a. Disconnect the fan cable.
   b. Remove the screws.
   c. Remove the fan.



Results

To replace the component, reverse the removal procedure.

DIMM replacement

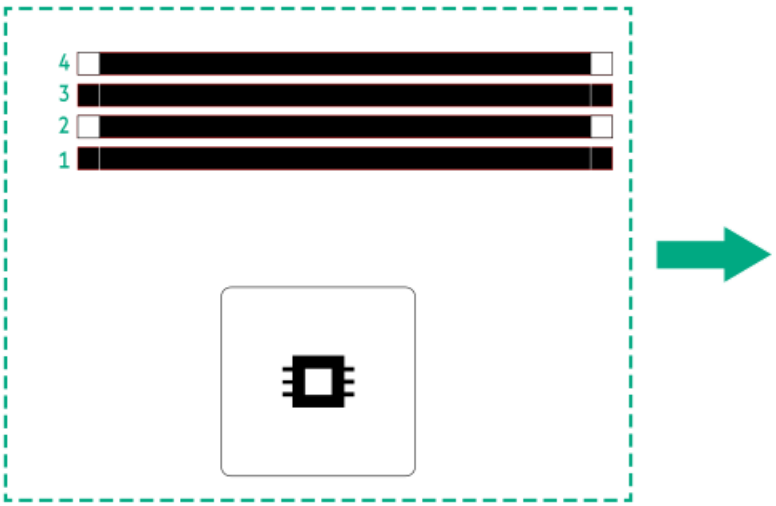
Subtopics

DIMM population information

Removing and replacing a DIMM

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

CAUTION:

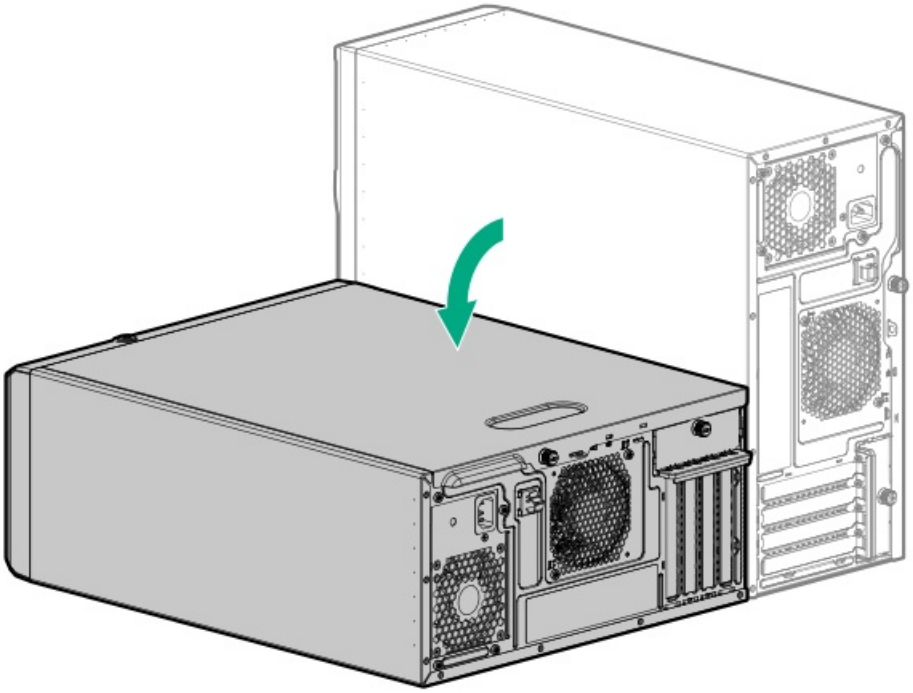
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

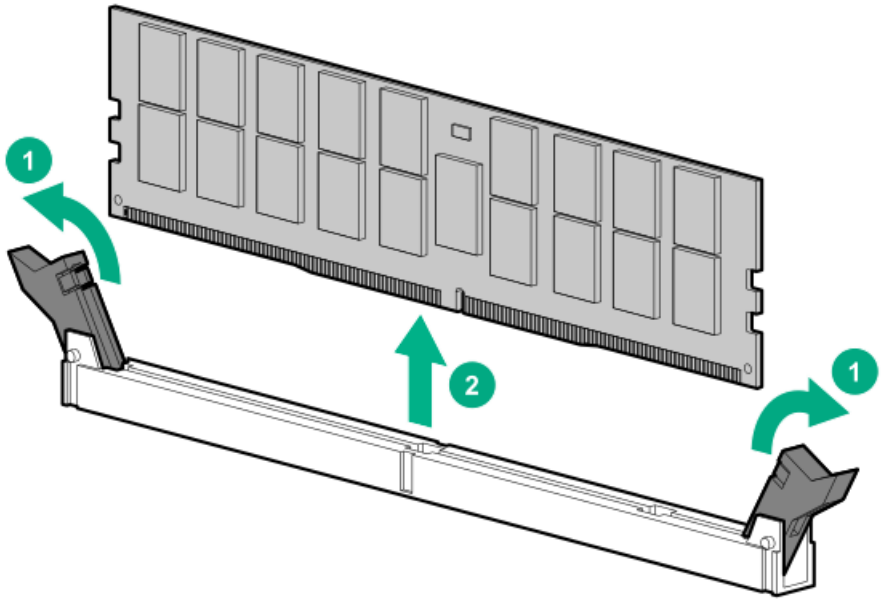
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

Procedure

1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



   - If the server is in rack mode, remove the server from the rack.
5. Remove the access panel.
6. Remove the DIMM.
   a. Open the DIMM slot latches.
   b. Lift the DIMM out of the slot.



Results

To replace the component, reverse the removal procedure.

Heatsink replacement

Subtopics

Removing the heatsink

Installing the heatsink

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 drives and the internal system components to cool before touching them.

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

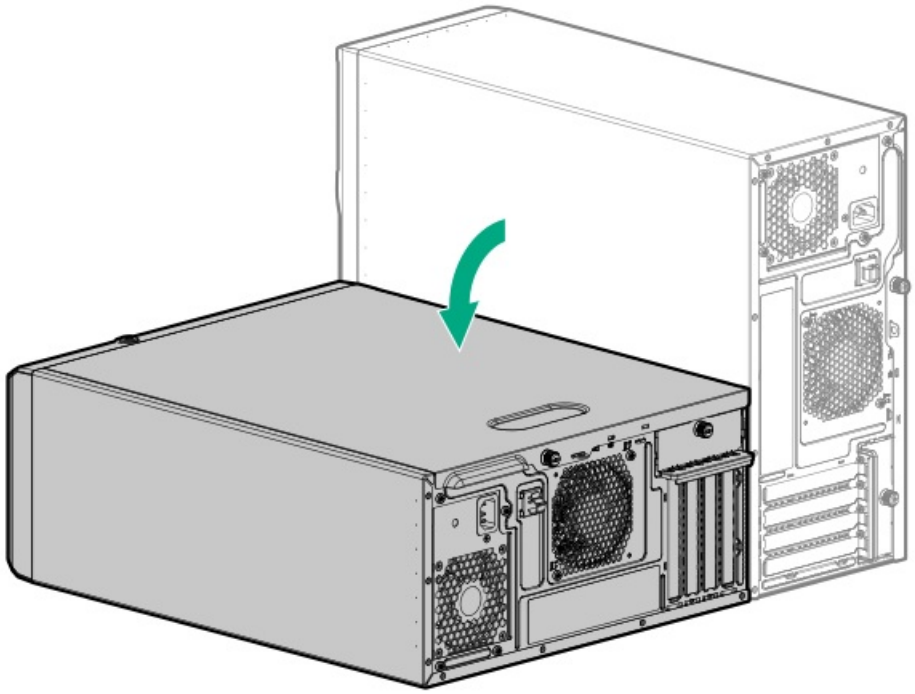
Procedure

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

b. Disconnect each power cord from the server.

3. Disconnect all peripheral cables from the server.
4. Do one of the following:

   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



   - If the server is in rack mode, remove the server from the rack .

5. Remove the access panel.
6. Allow the heatsink to cool.
7. Remove the heatsink:

CAUTION:

The heatsink fan does not have a fan guard. Be careful when removing or installing the heatsink to prevent finger injury.

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 the fan frame. Do not touch the heatsink fins.

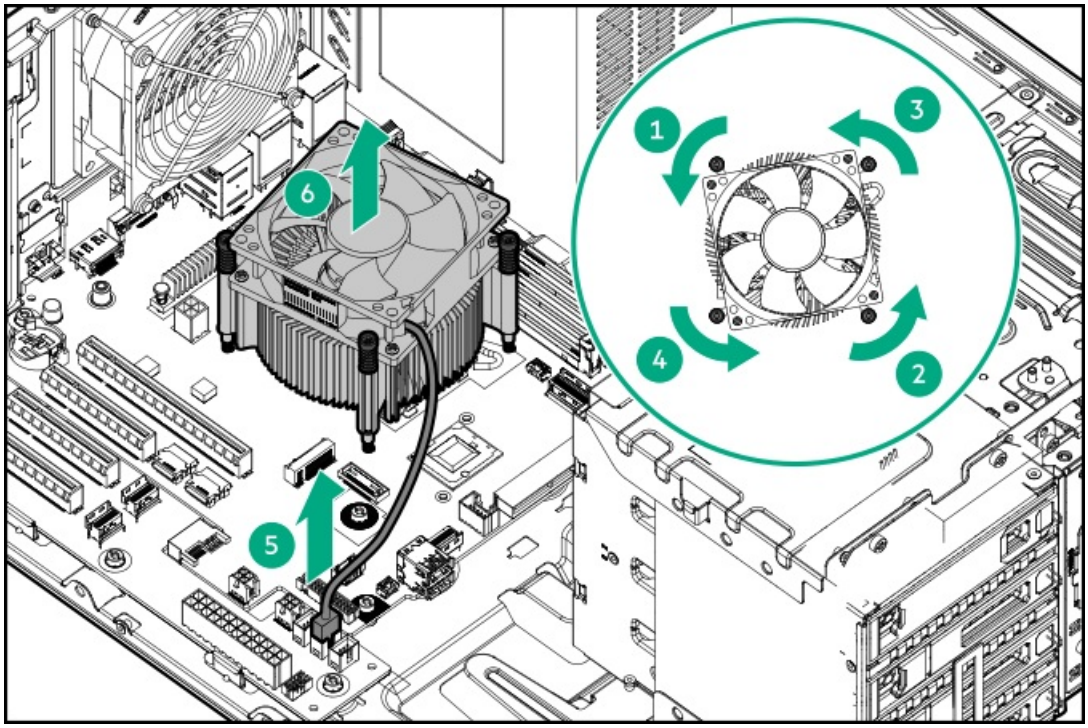
CAUTION:

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

a. Use a T-15 Torx screwdriver to loosen one pair of diagonally opposite screws, and then loosen the other pair of screws.

b. Disconnect the heatsink fan cable.

c. Lift the heatsink away from the system board.



8. Place the heatsink on a flat work surface with its contact side facing up.
9. Use an alcohol wipe to remove the existing thermal grease from the processor.

   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 drill bit available.

About this task

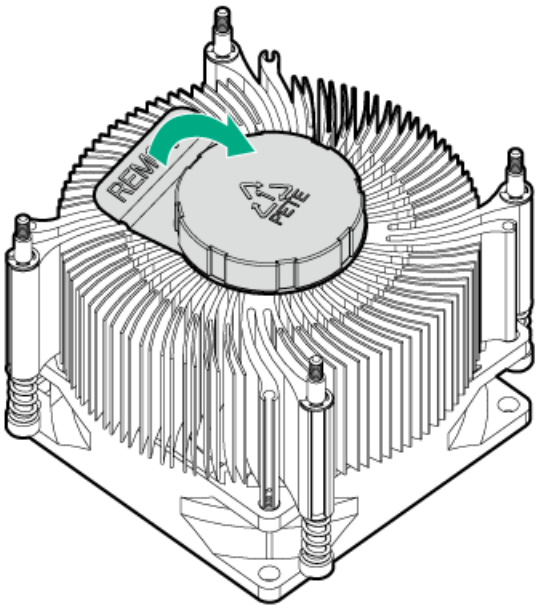
CAUTION: A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

Procedure

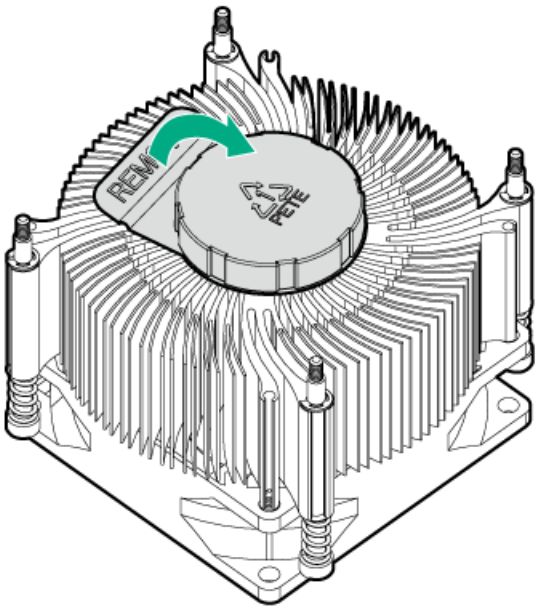
1. Use an alcohol wipe to remove the existing thermal grease from the processor.

   Allow the alcohol to evaporate before continuing.
2. Remove the thermal interface protective cover from the new heatsink.

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 the fan frame. Do not touch the heatsink fins.



3. Remove the thermal interface protective cover from the new heatsink.



4. Install the heatsink:

> **CAUTION:**
>
> The heatsink fan does not have a fan guard. Be careful when removing or installing the heatsink to prevent finger injury.

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.

CAUTION:

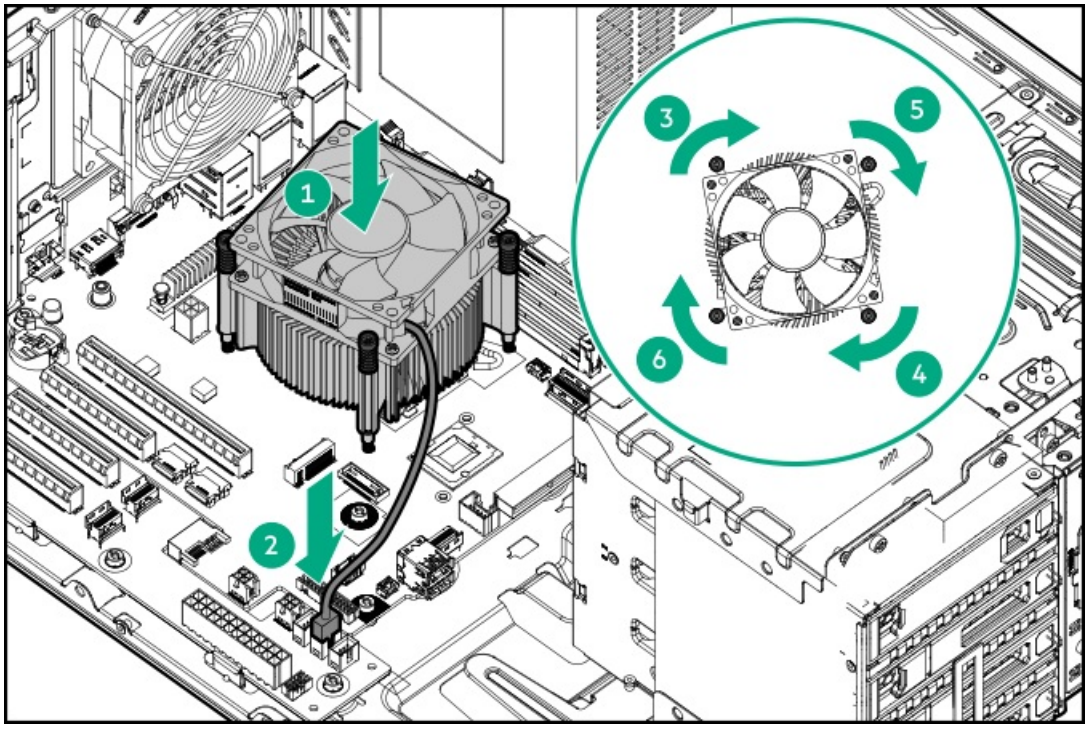
Heatsink screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the processor socket.

a. When using a torque screwdriver, set it to 0.68 N·m (6.0 lbf).

b. Position the heatsink on top of the processor, ensuring that it is properly seated.

c. Connect the heatsink fan cable.

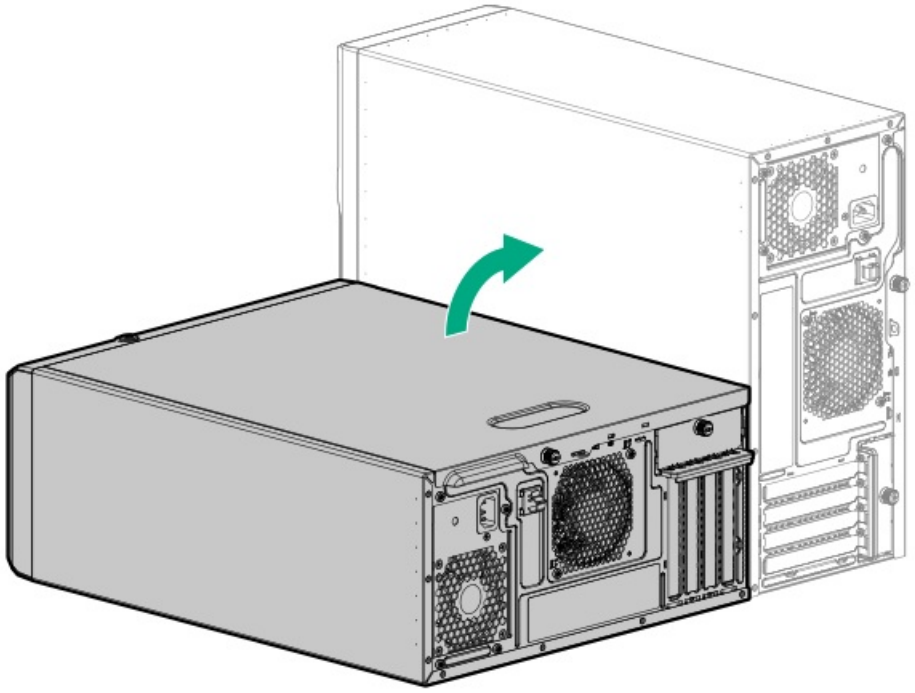
d. Tighten one pair of diagonally opposite screws halfway, and then tighten the other pair of screws.



5. Install the access panel.

6. Do one of the following:

   - Orient the server back in tower mode.



- Install the server into the rack.

7. Connect all peripheral cables to the server.
8. Connect each power cord to the server.
9. Connect each power cord to the power source.
10. Power up the server.

Results

The procedure is complete.

Processor replacement

Subtopics

Processor cautions

Removing the processor

Installing the processor

Reconfiguring the system date and time settings

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.

IMPORTANT:

After removing a processor from the system board, the server resets the date and time. For information on reconfiguring these settings, see Reconfiguring the system date and time settings .

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.

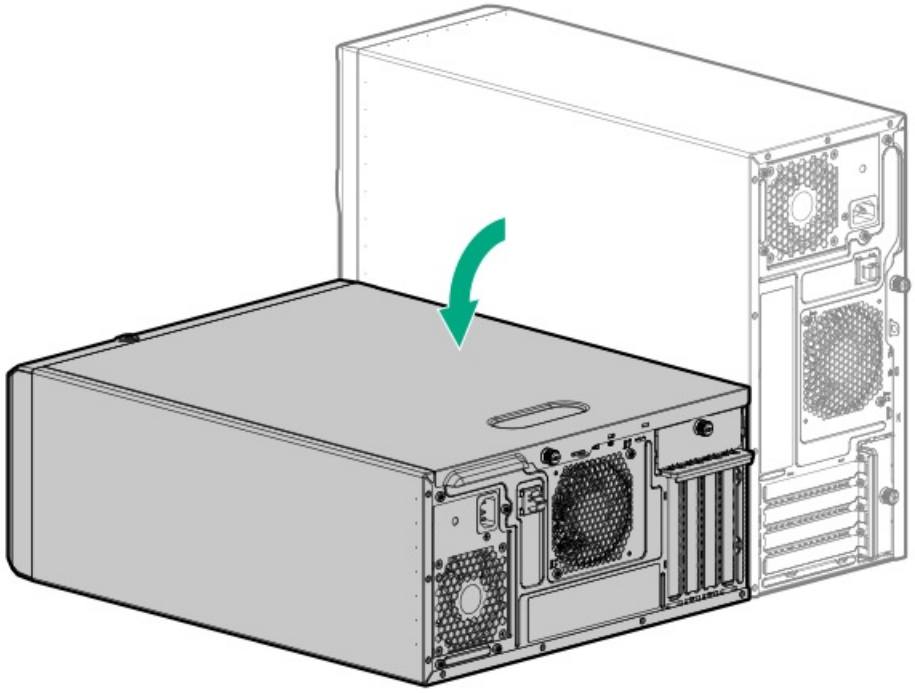
About this task

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. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



- If the server is in rack mode, remove the server from the rack .

5. Remove the access panel.
6. Allow the heatsink to cool.
7. Remove the heatsink:

CAUTION:

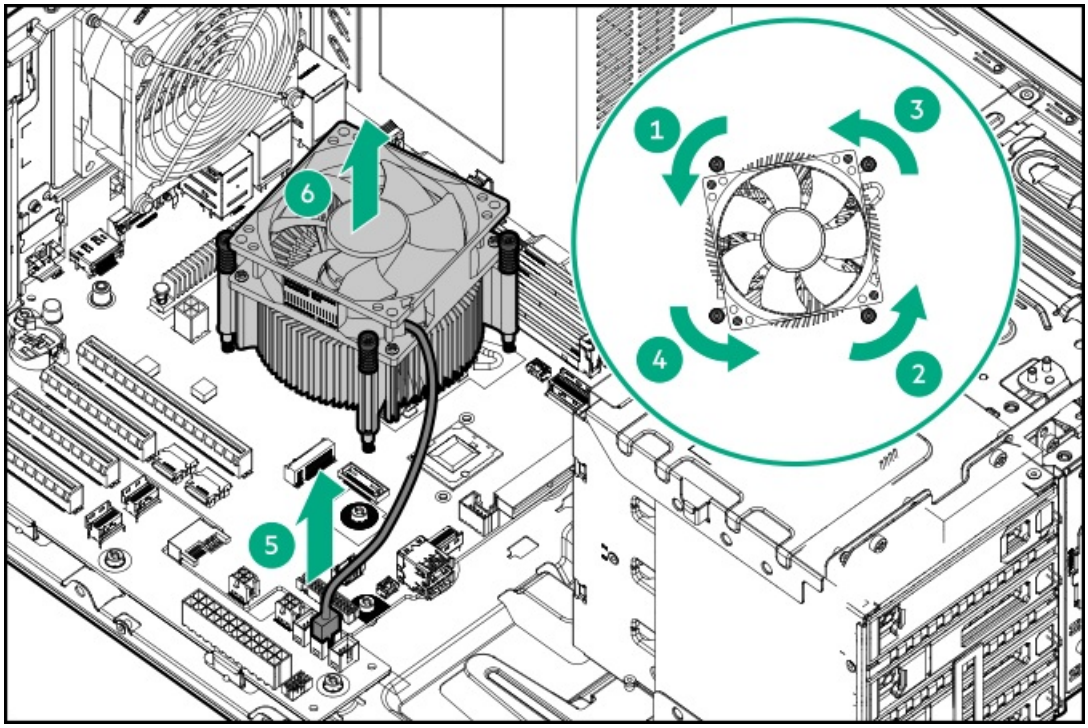
The heatsink fan does not have a fan guard. Be careful when removing or installing the heatsink to prevent finger injury.

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 the fan frame. Do not touch the heatsink fins.

CAUTION:

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

a. Use a T-15 Torx screwdriver to loosen one pair of diagonally opposite screws, and then loosen the other pair of screws.
b. Disconnect the heatsink fan cable.
c. Lift the heatsink away from the system board.



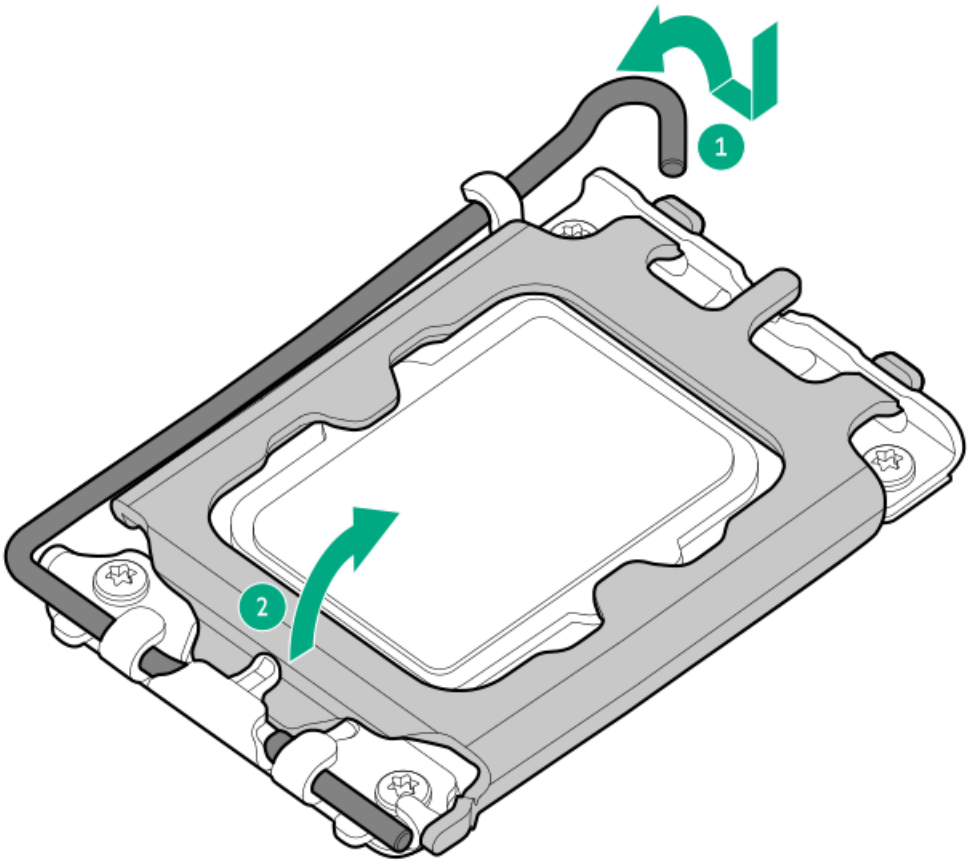
8. Use an alcohol wipe to remove the existing thermal grease from the heatsink and the top of the processor.

   Allow the alcohol to evaporate before continuing.

9. Open the processor load plate:

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

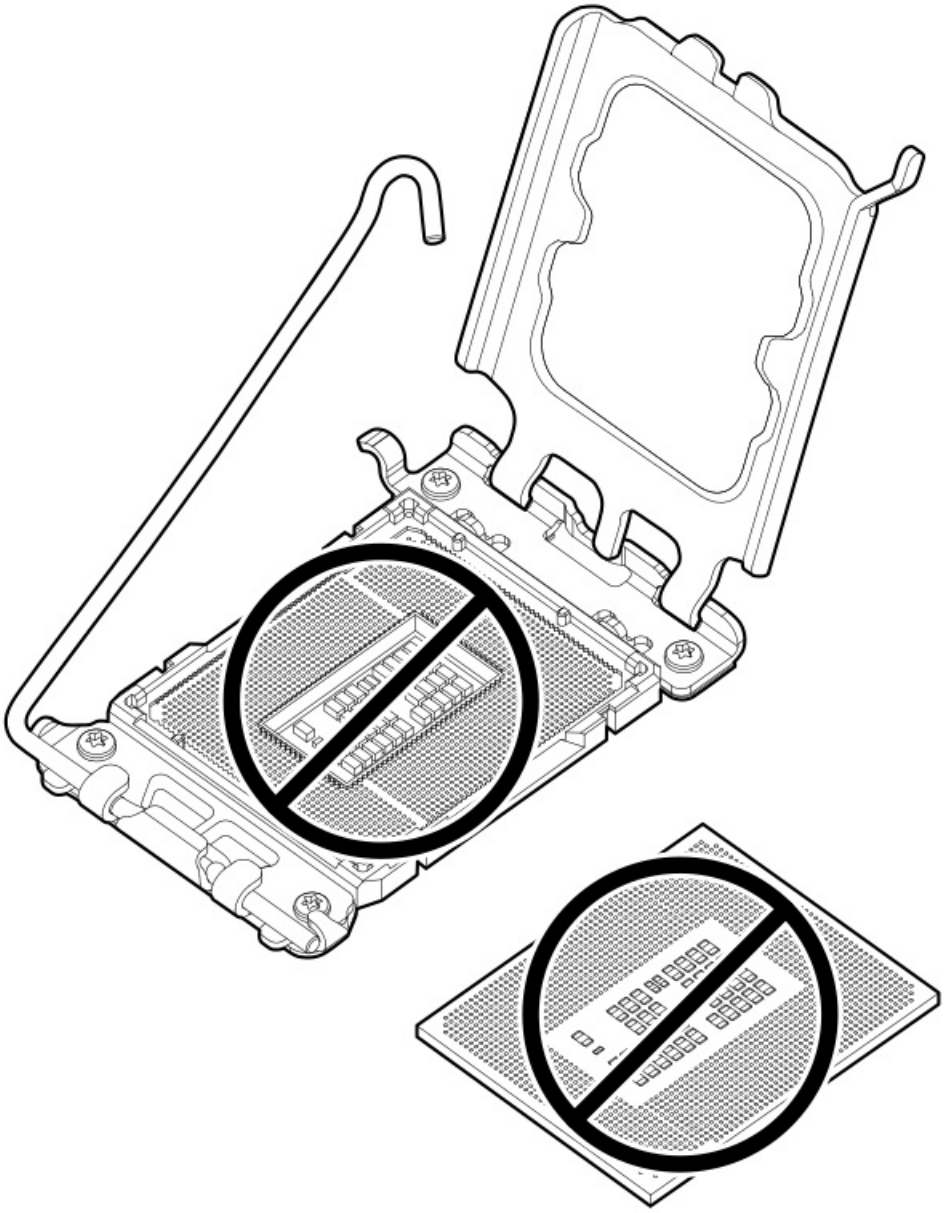
   b. Open the processor load plate.



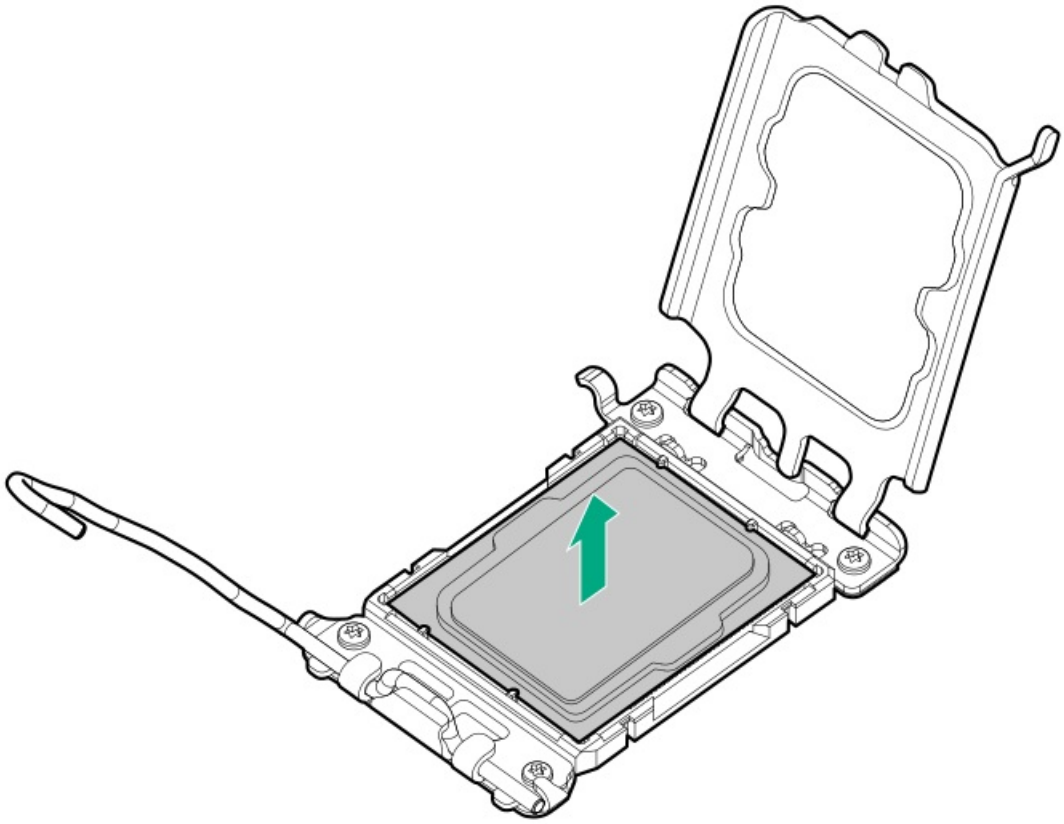
10. Do not touch the socket contacts or the bottom of the processor.

CAUTION:

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



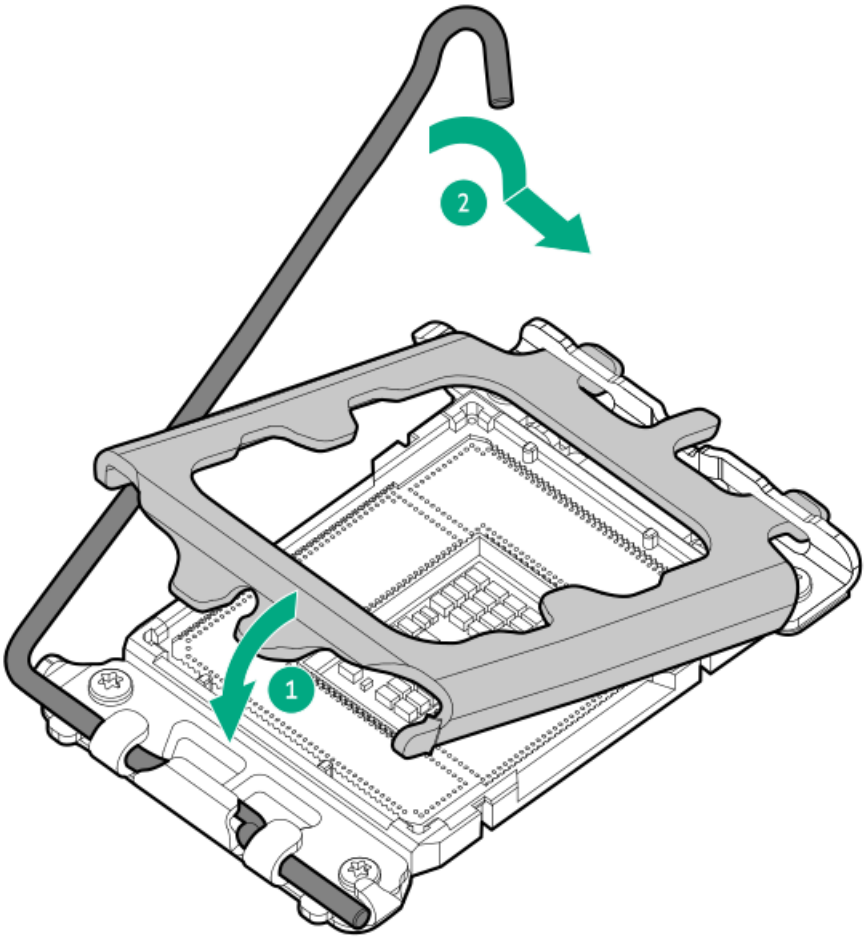
11. Hold the processor by the edges, and then lift it out of the socket.



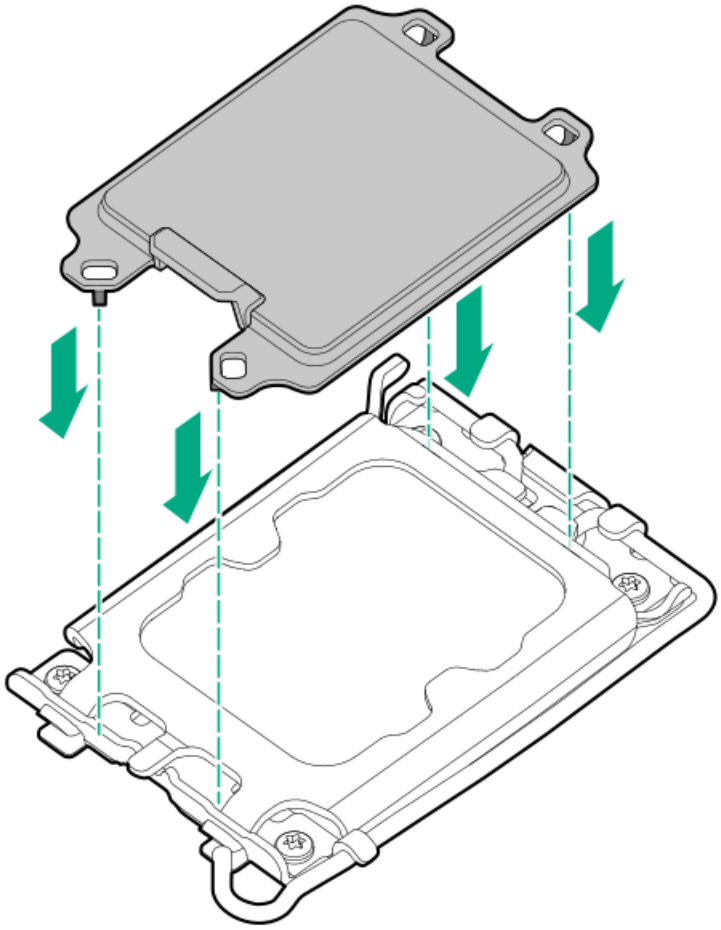
12. If you are not immediately installing the new processor, install the processor socket dust cover:

> **CAUTION:** Do not press down on the dust cover. Pressing down on the dust cover might damage the processor socket.

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

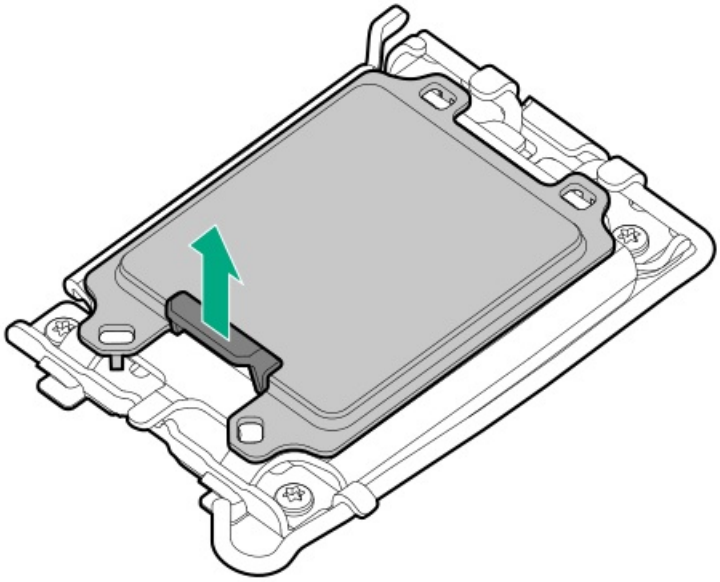
> **CAUTION:** A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

> **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.

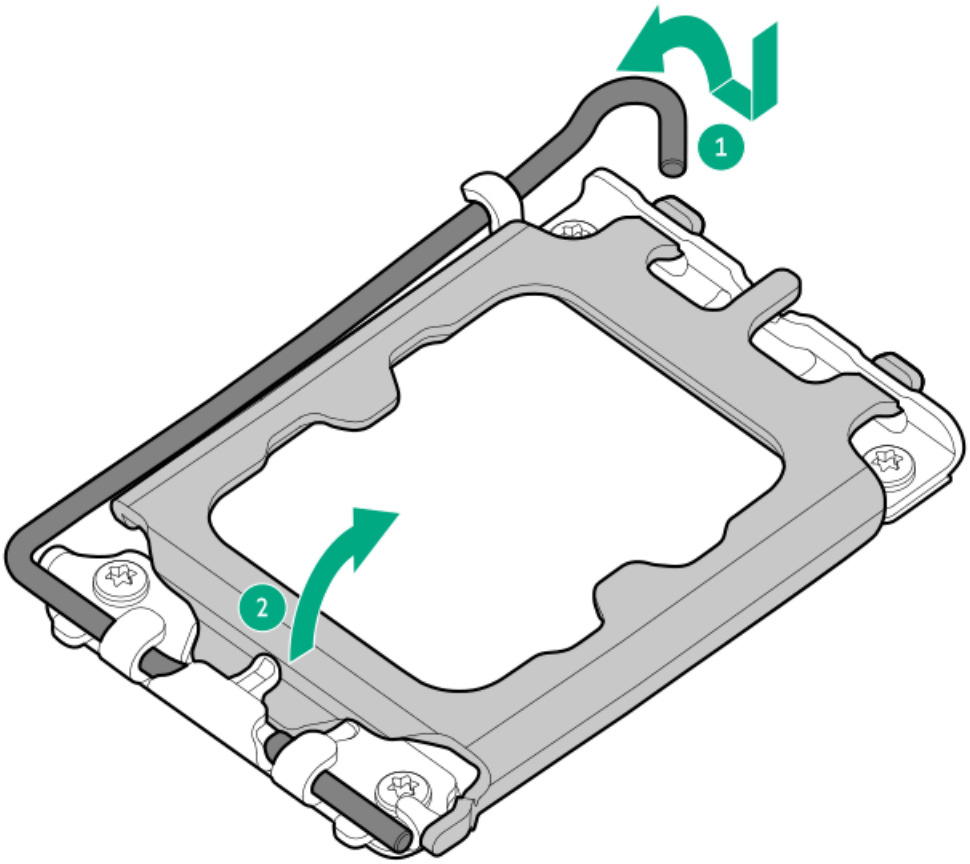
Procedure

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

   Retain the cover for future use.



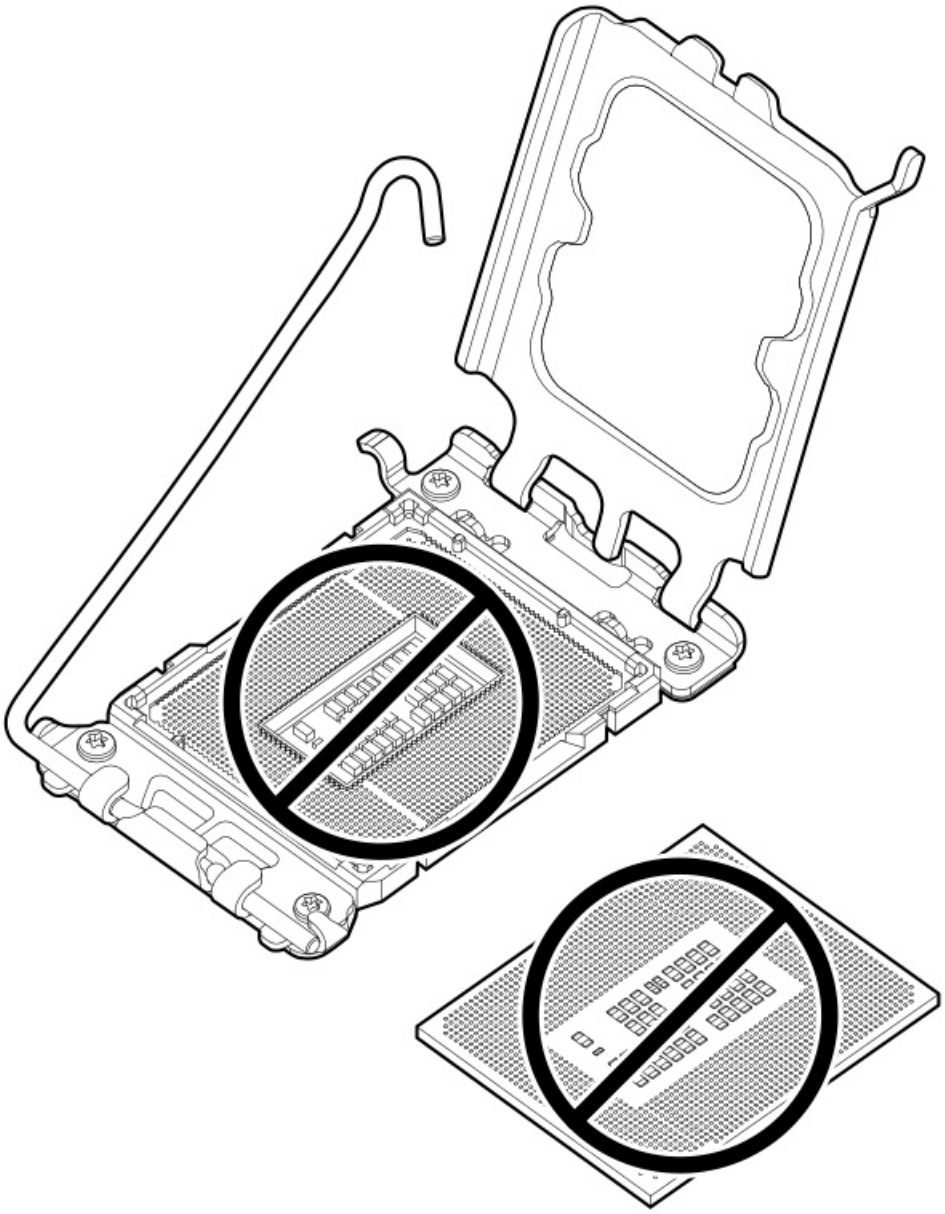
2. Open the processor load plate:
   a. Push the hinge lever down to unclamp it, and then pivot it to the fully open position.
   b. Open the processor load plate.



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

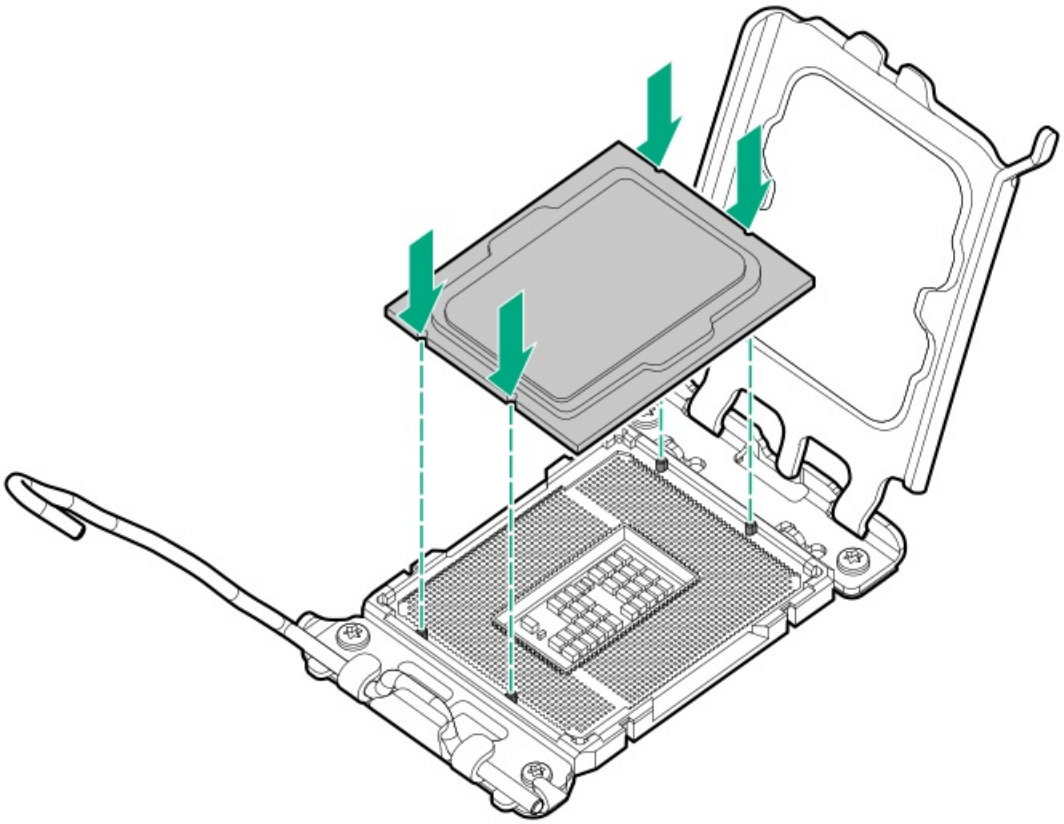
CAUTION:

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



4. 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.

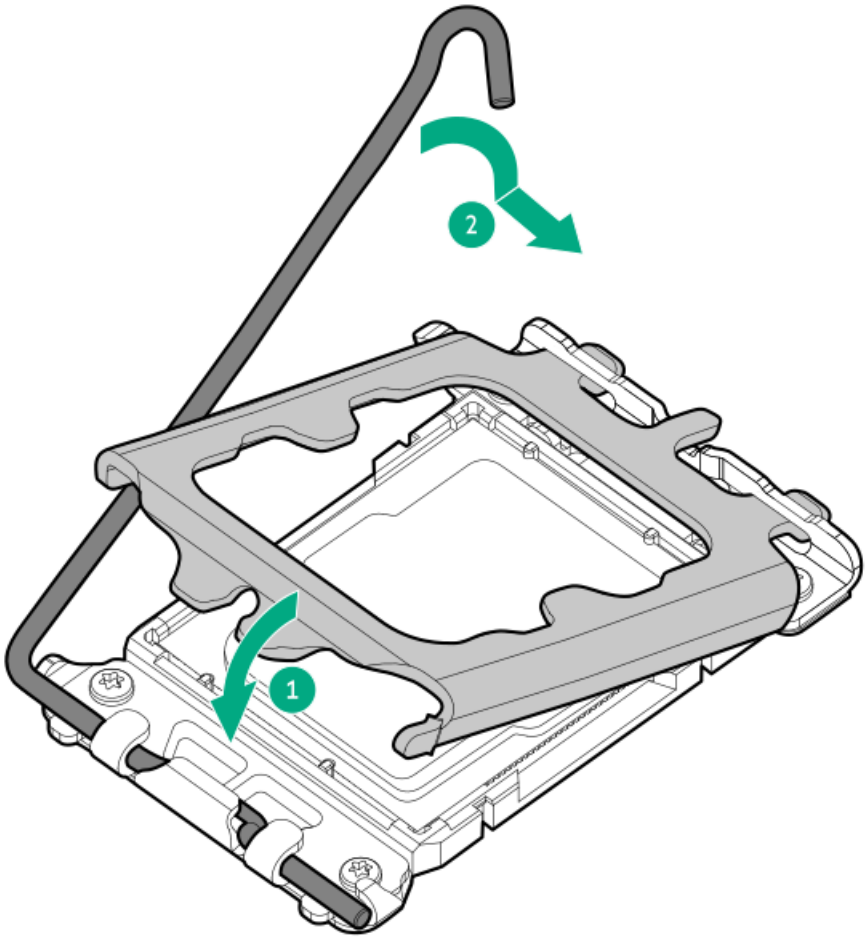
      Make sure that the processor is properly seated in the socket.



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

CAUTION:

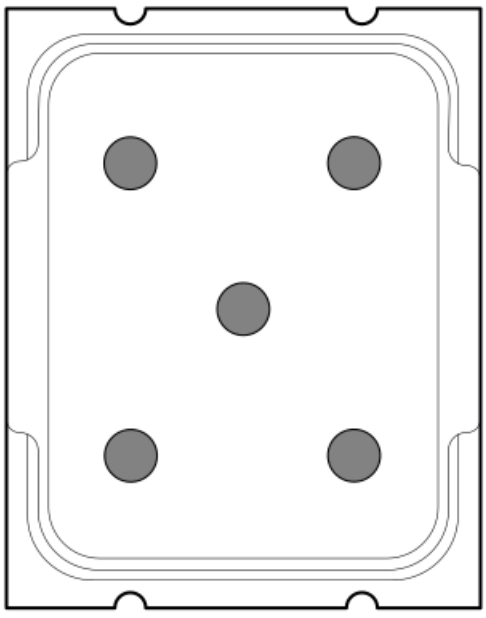
The processor load plate and hinge lever should close without resistance. Forcing to close these parts can damage the processor and the socket. This damage might require replacing the system board.



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. Install the heatsink:

CAUTION:

The heatsink fan does not have a fan guard. Be careful when removing or installing the heatsink to prevent finger injury.

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.

CAUTION:

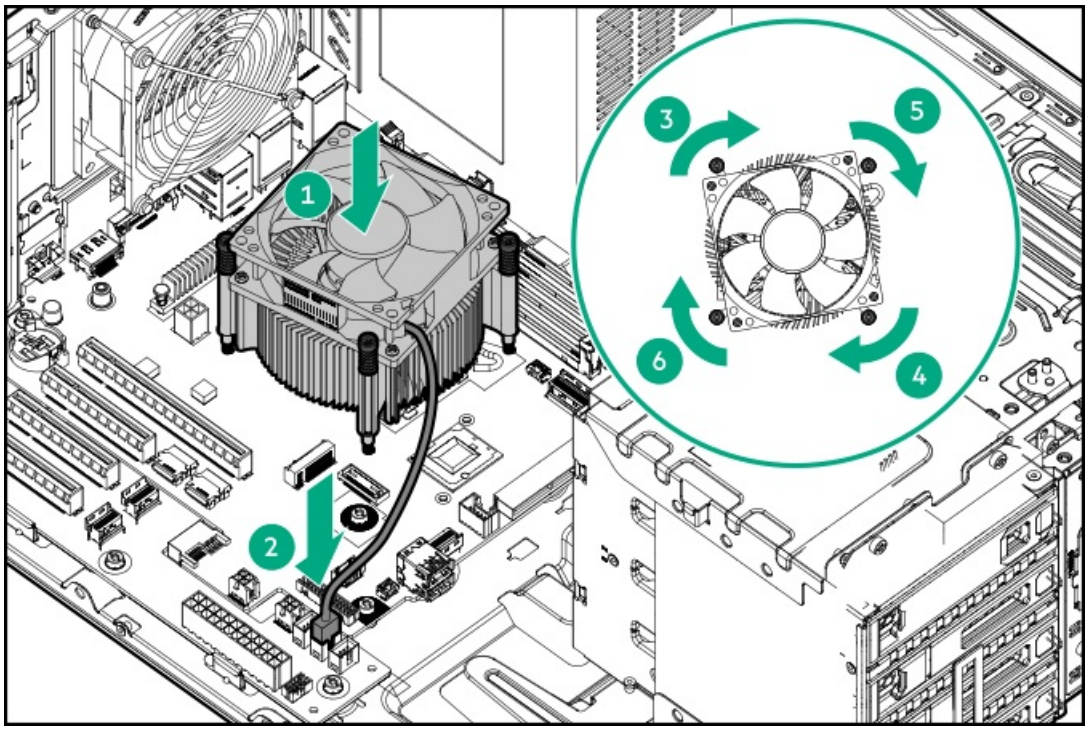
Heatsink screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the processor socket.

a. When using a torque screwdriver, set it to 0.68 N·m (6.0 lbf).

b. Position the heatsink on top of the processor, ensuring that it is properly seated.

c. Connect the heatsink fan cable.

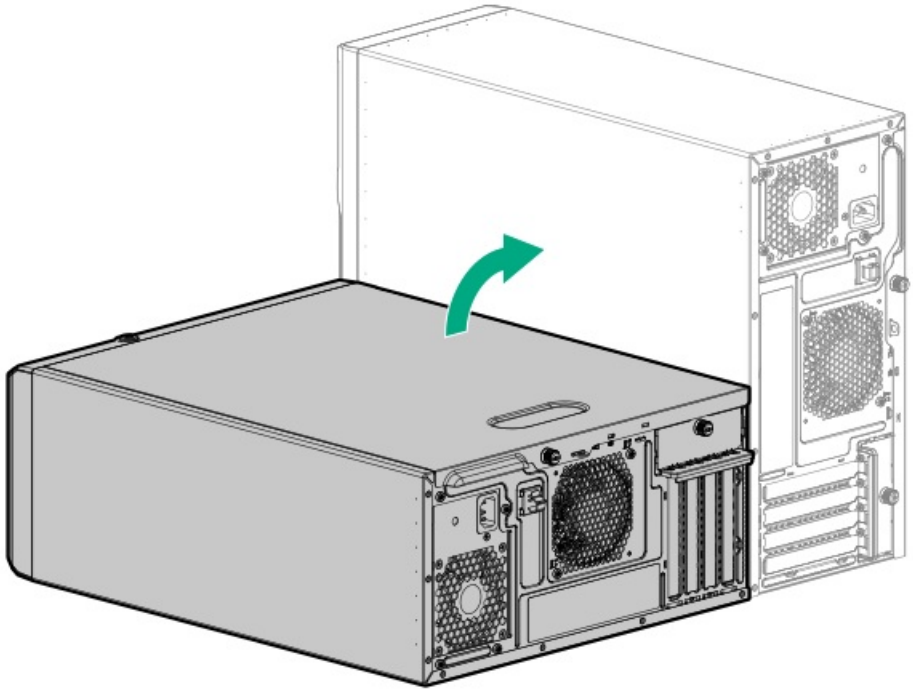
d. Tighten one pair of diagonally opposite screws halfway, and then tighten the other pair of screws.



8. Install the access panel.

9. Do one of the following:

   - Orient the server back in tower mode.



- Install the server into the rack.

10. Connect all peripheral cables to the server.
11. Connect each power cord to the server.
12. Connect each power cord to the power source.
13. Power up the server.
14. Reconfigure the system time and date settings .

Results

The procedure is complete.

Reconfiguring the system date and time settings

Procedure

1. Access the UEFI System Utilities. During POST, press **F9**.
2. From the System Utilities screen, select System Configuration > BIOS/Platform Configuration (RBSU) > Date and Time.
3. Select a setting, and then complete your entry.
   - Date (mm-dd-yyyy)—Enter the date in a month-day-year (mm-dd-yyyy) format.
   - Time (hh:mm:ss)—Enter the time in a 24-hour format (hh:mm:ss) format.
   - Hour Format—Select either a 12- or 24-hours format. (This setting is supported in Gen10 Plus and later servers.)
   - Time Format
     - Coordinated Universal Time (UTC) —Calculates the time stored in the hardware real-time clock (RTC) from the associated Time Zone setting.
     - Local Time—Removes the use of the Time Zone setting. This option is useful for addressing interaction issues in Windows operating systems set in legacy BIOS boot mode.

- Time Zone—Select the time zone for the system.
- Daylight Savings Time
  - Enabled—Adjusts the local time displayed by one hour for Daylight Savings Time.
  - Disabled—Does not adjust the local time displayed for Daylight Savings Time.

4. To confirm and save the settings, press **F12**.

   The server automatically reboots.

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

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

About this task

CAUTION:

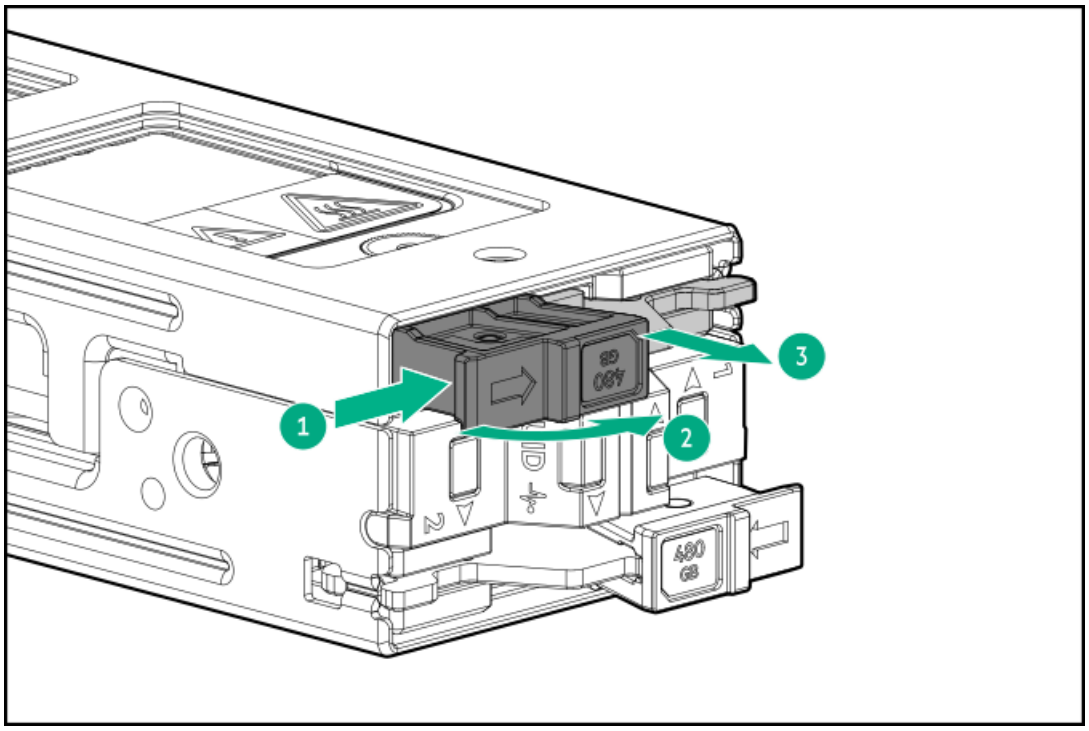
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

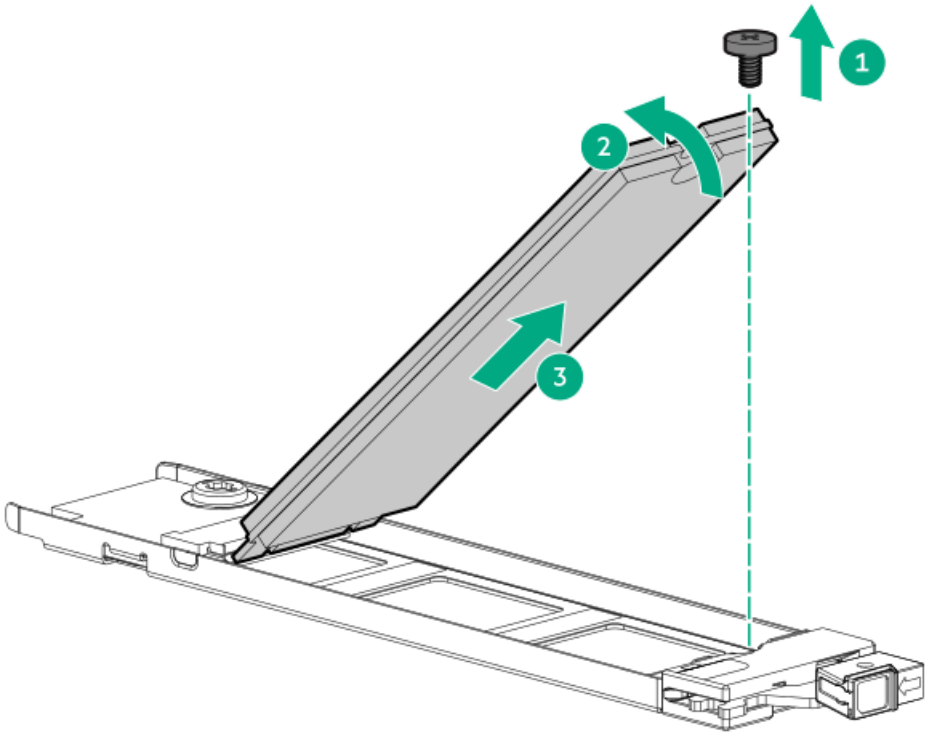
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

Procedure

1. Back up all server data.
2. Observe the drive LED status and determine if the drive can be removed .
3. Remove the boot device carrier:
   a. Press and hold the carrier latch.
   b. Pivot the latch to open.
   c. Slide the carrier out from the boot device cage.



4. Remove the SSD from the boot device carrier:
   a. Remove the SSD mounting screw.
   b. Tilt the SSD at a 45° angle, and then carefully remove the SSD from the M.2 slot.



Results

To replace the component, reverse the removal procedure.

Removing and replacing the boot device cage

Prerequisites

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

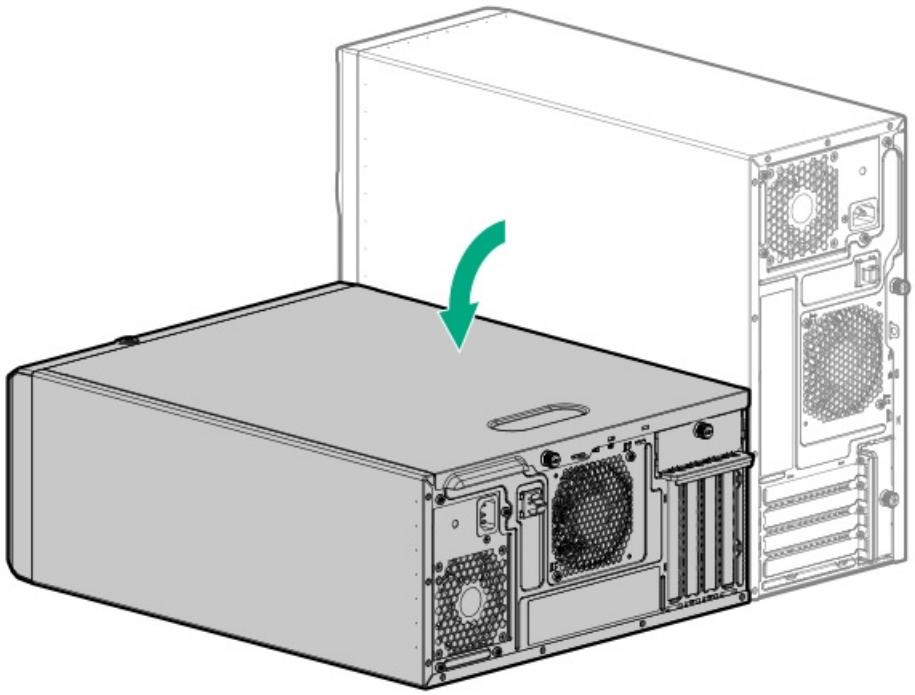
About this task

> **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.

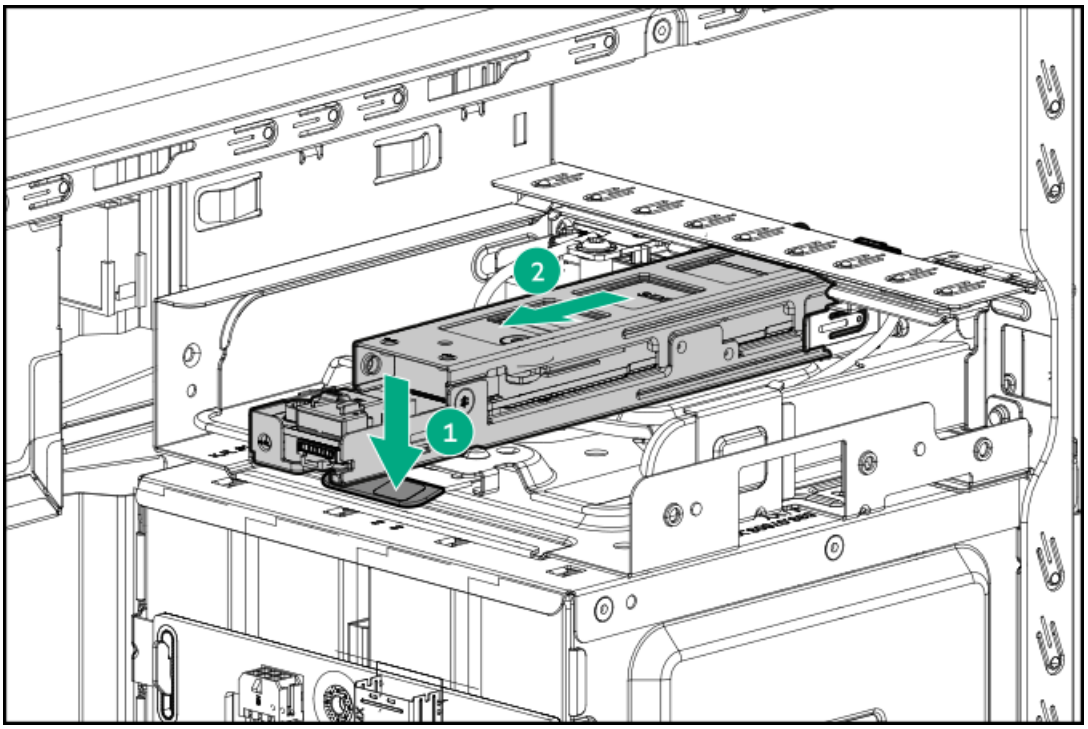
https://sketchfab.com/models/d43e62577dbd4cea9c3f31cc7c276bff/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0

Procedure

1. Unlock and open the front bezel.
2. Remove the boot device carriers.
3. Power down the server.
4. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



   - If the server is in rack mode, remove the server from the rack.
7. Remove the access panel.
8. Disconnect the signal and power cables from the boot device.
9. Press and hold the lever, and then remove the boot device.



Results

To replace the component, reverse the removal procedure.

Removing and replacing an expansion card

Prerequisites

Before you perform this procedure, make sure that you have a T-15 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 an expansion slot cover 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:

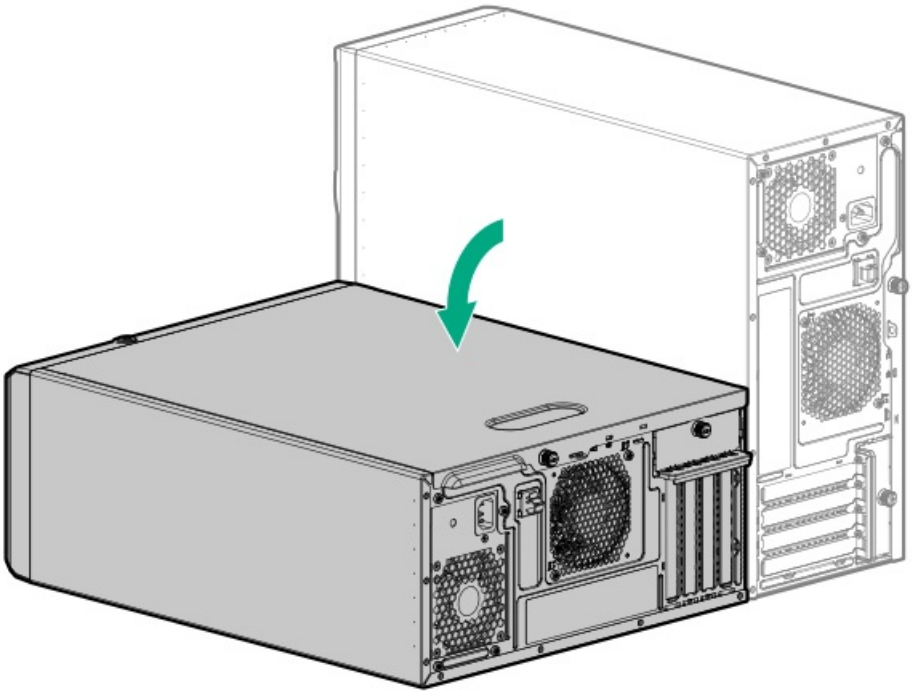
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

Procedure

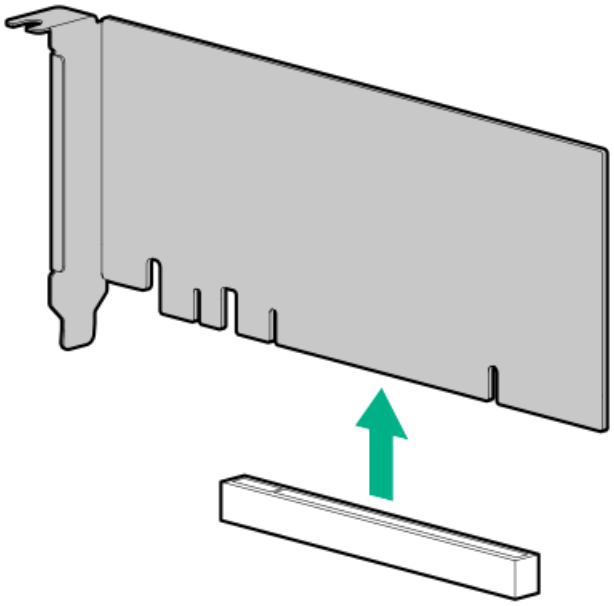
1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.

b. Disconnect each power cord from the server.

3. Disconnect all peripheral cables from the server.
4. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



   - If the server is in rack mode, remove the server from the rack.
5. Remove the access panel.
6. If installed, remove the air baffle.
7. Disconnect any internal cables that are connected to the expansion card.
8. Remove the PCIe blank retainer.
9. Remove the expansion card.



Results

To replace the component, reverse the removal procedure.

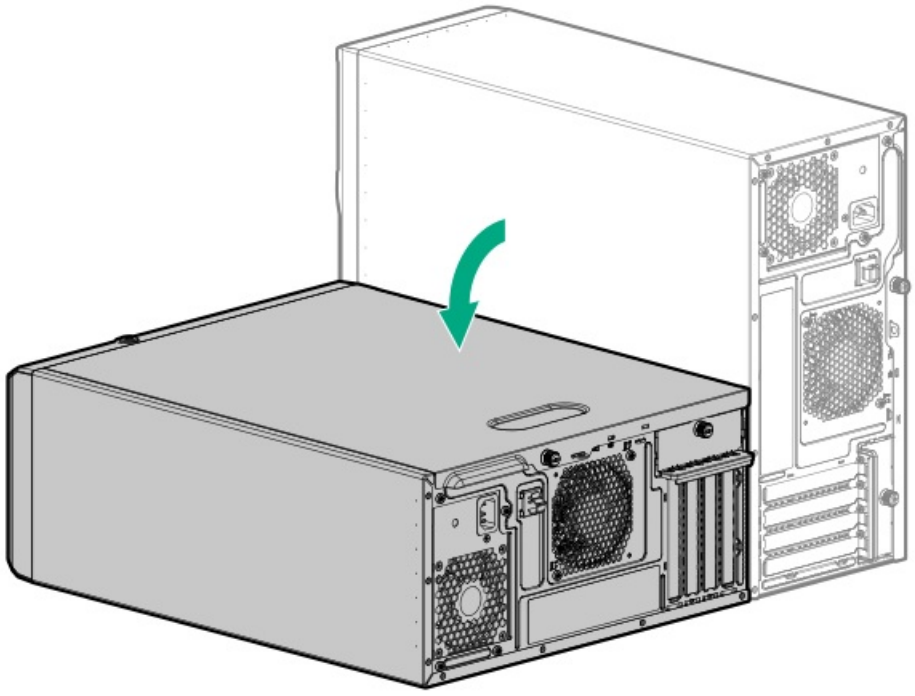
Removing and replacing the energy pack

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.

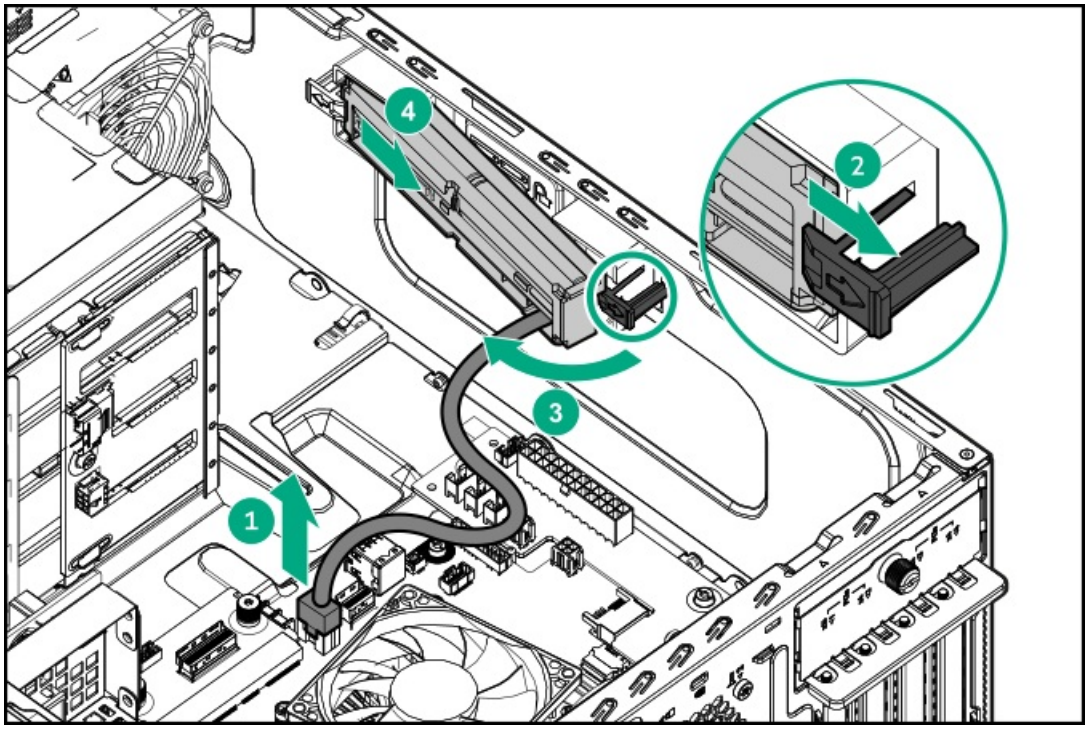
Procedure

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. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



   - If the server is in rack mode, remove the server from the rack.
5. Remove the access panel.
6. If installed, remove the air baffle.
7. Remove the energy pack:
   a. Disconnect the energy pack cable.
   b. Press and hold the rear latch, and then lift the rear end of the energy pack from the holder.

c. Remove the energy pack from the holder.



Results

To replace the component, reverse the removal procedure.

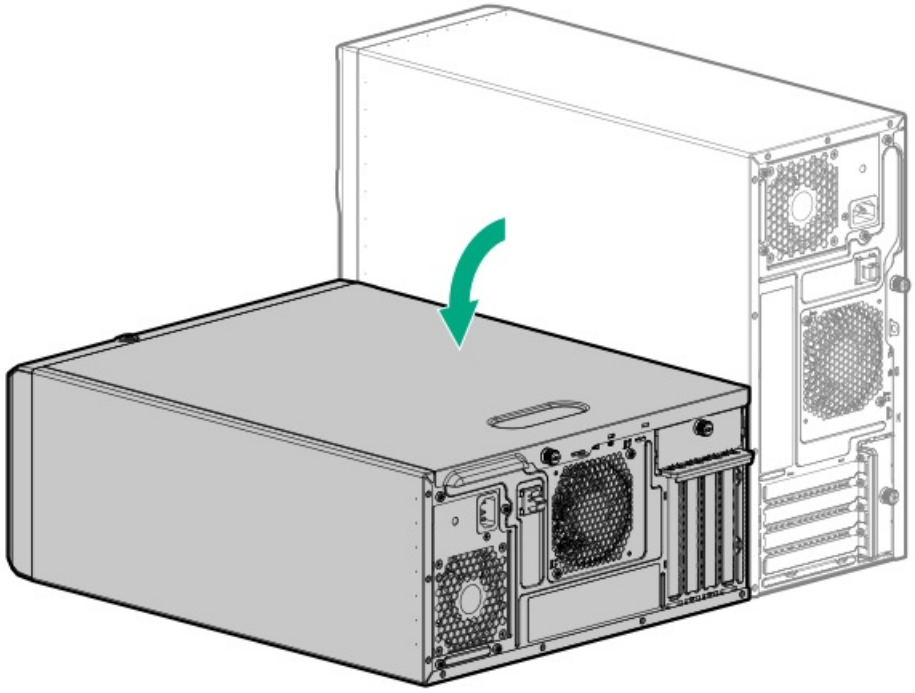
Removing and replacing the energy pack holders

About this task

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

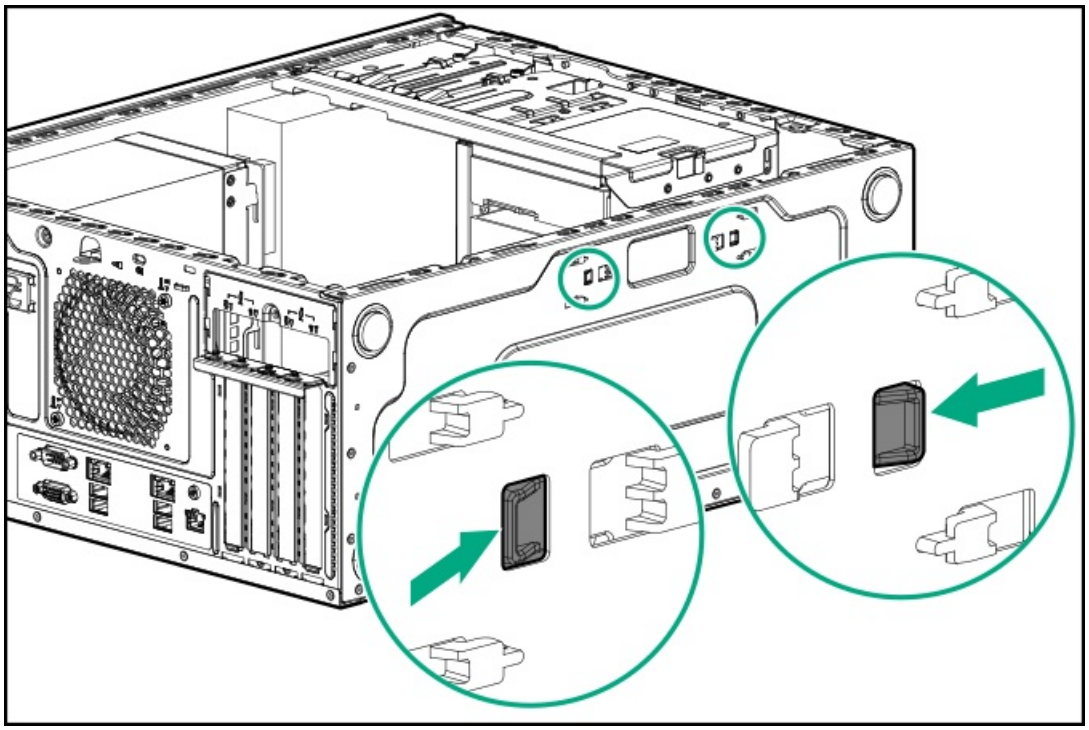
Procedure

1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.

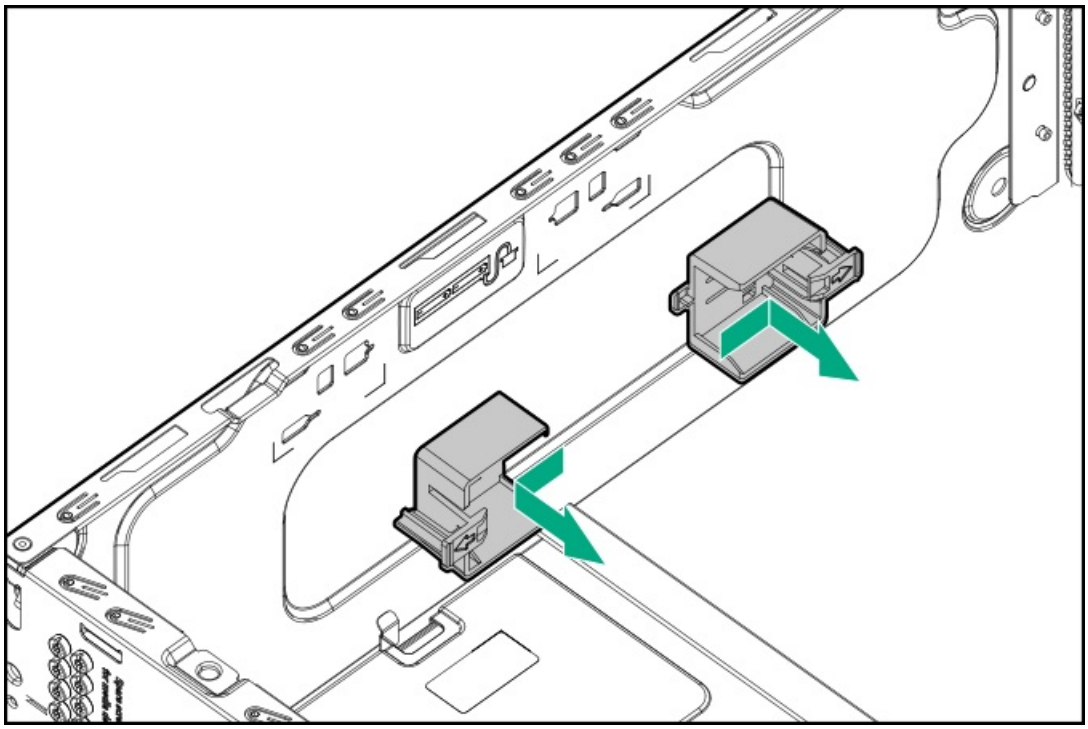


- If the server is in rack mode, remove the server from the rack.

5. Remove the access panel.
6. If installed, remove the air baffle.
7. If installed, remove the energy pack.
8. Remove the energy pack holders:
   a. Push the latches to release the holders from the chassis.



   b. Remove the energy pack holders from the chassis.



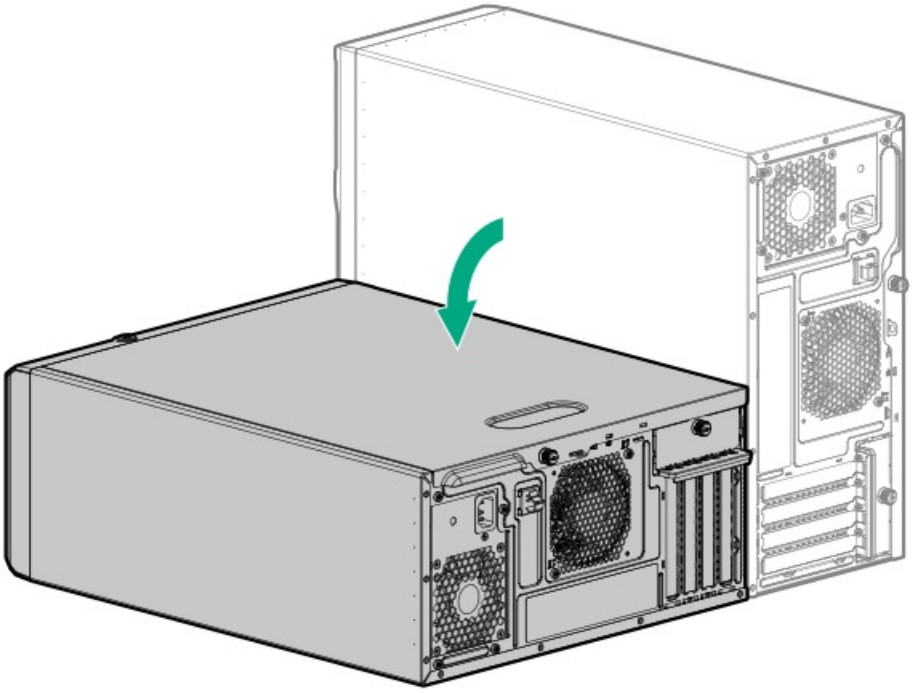
Results

To replace the component, reverse the removal procedure.

Removing and replacing an internal USB device

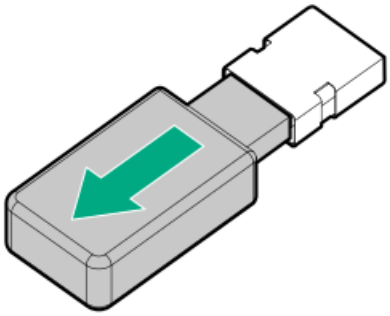
Procedure

1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



- If the server is in rack mode, remove the server from the rack.

5. Remove the access panel.
6. If installed, remove the air baffle.
7. Unplug the USB device from the USB port.



Results

To replace the component, reverse the removal procedure.

Removing and replacing the front I/O assembly

Prerequisites

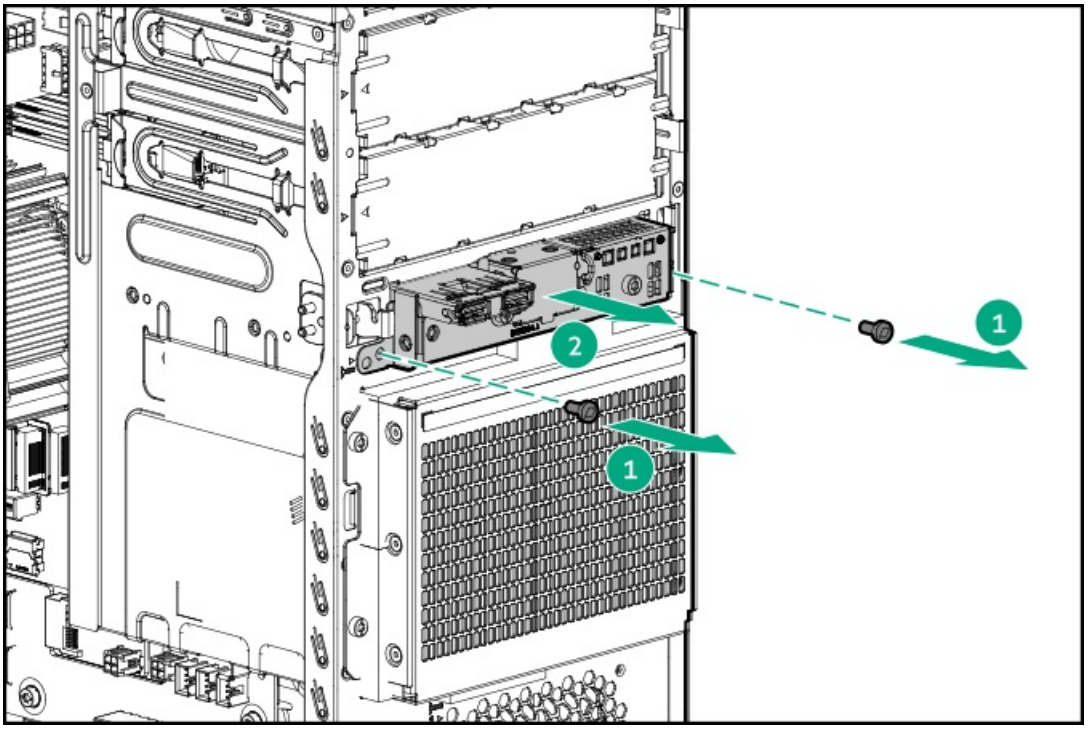
Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

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 front bezel.
5. Remove the access panel.
6. Disconnect the front I/O cable .
7. Remove the two screws, and then remove the front I/O assembly.



Results

To replace the component, reverse the removal procedure.

Removing and replacing an M.2 SSD

Prerequisites

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

About this task

CAUTION:

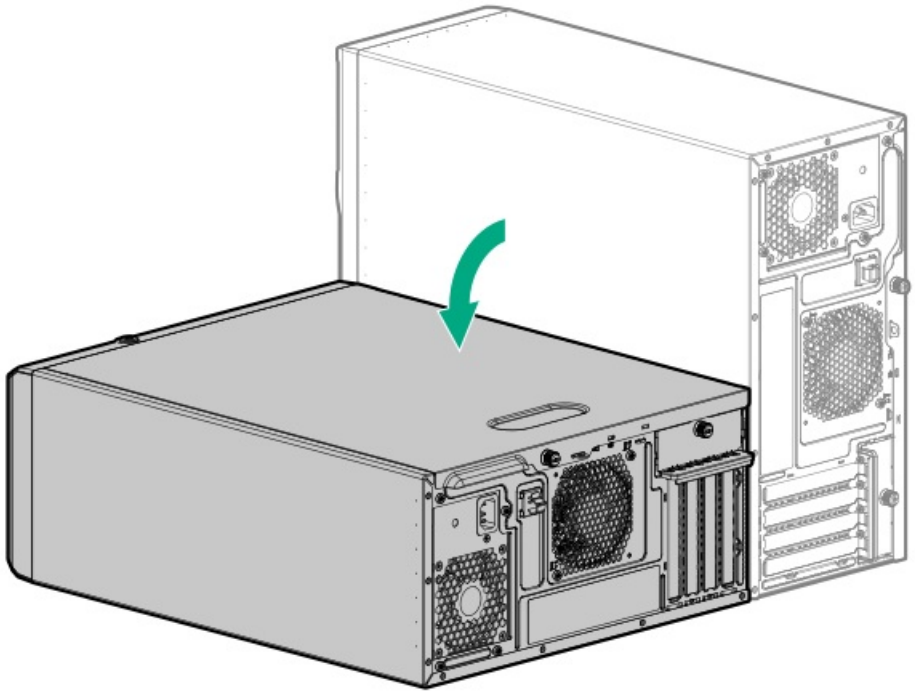
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

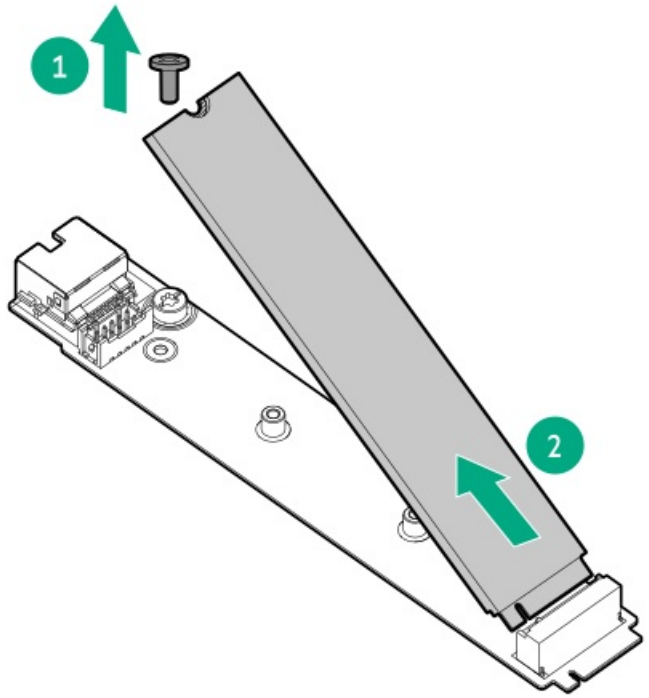
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

Procedure

1. Back up all server data on the M.2 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. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



   - If the server is in rack mode, remove the server from the rack.
6. Remove the access panel.
7. If installed, remove the air baffle.
8. Remove the M.2 SSD from the iLO-M.2-serial module.



Results

To replace the component, reverse the removal procedure.

Removing and replacing the serial port cable

Prerequisites

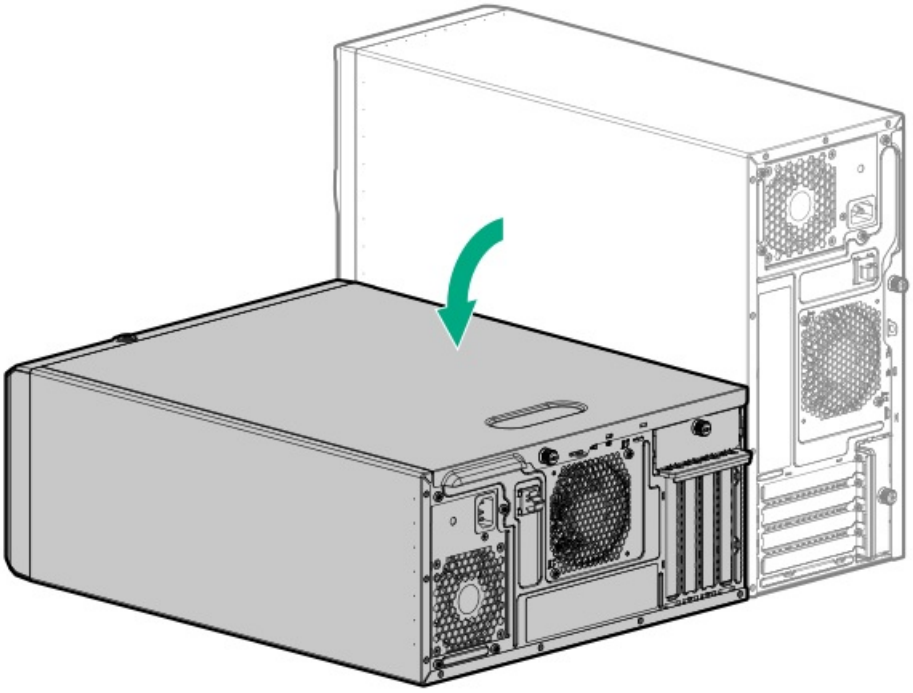
Before you perform this procedure, make sure that you have a hex screwdriver available.

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.

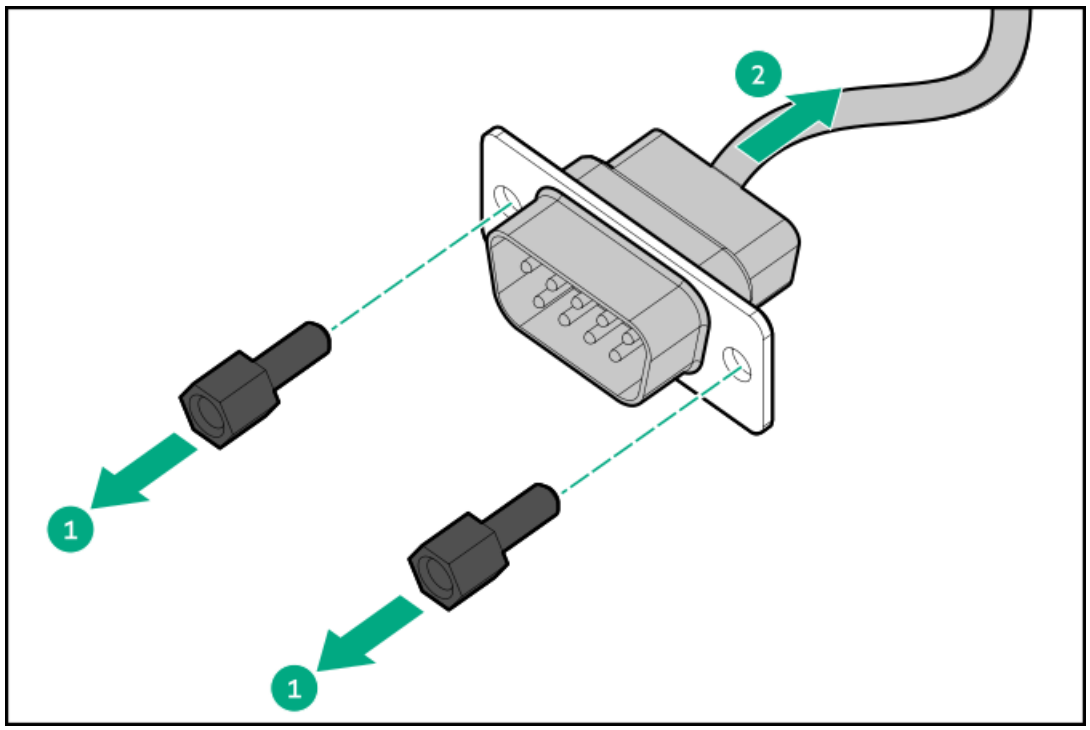
Procedure

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. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



- If the server is in rack mode, remove the server from the rack.

5. Remove the access panel.
6. If installed, remove the air baffle.
7. Disconnect the serial port cable.
8. Remove the serial port cable:
   a. Remove the hex screws.
   b. Remove the serial port from the rear panel.



Results

To replace the component, reverse the removal 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:

- Phillips No. 1 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.

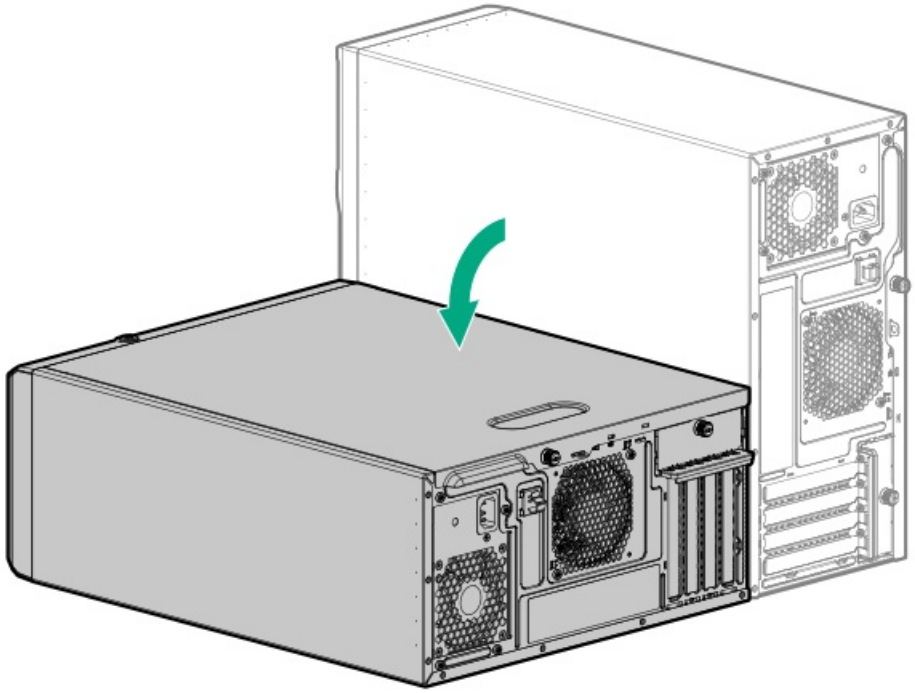
CAUTION:

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.

https://sketchfab.com/models/bc3c72bfbf664857a5910fa40bc966ca/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0

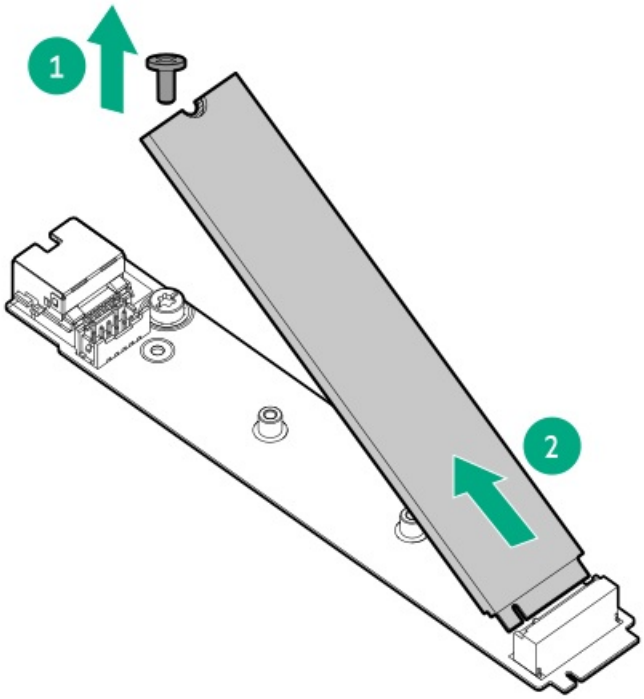
Procedure

1. If the M.2 serial module is installed, back up all server data on the M.2 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. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.

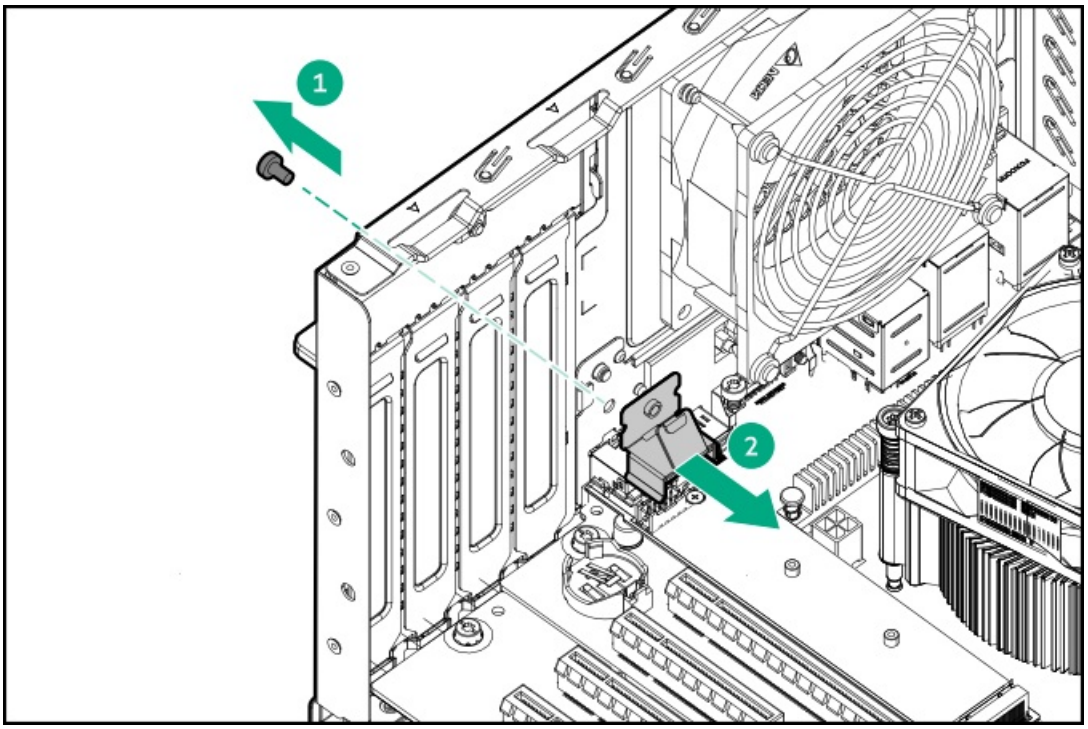


- If the server is in rack mode, remove the server from the rack.

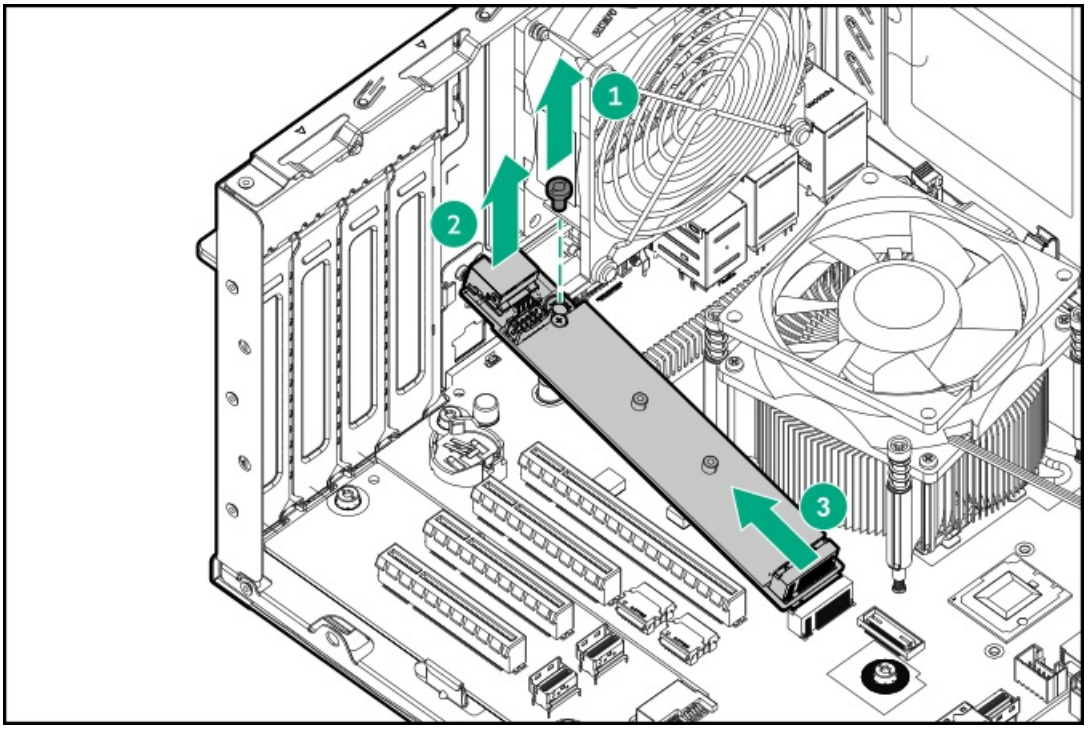
6. Remove the access panel.
7. If installed, remove the air baffle.
8. Disconnect the serial port cable.
9. Remove the M.2 SSD from the iLO-M.2-serial module.



10. Remove the module stabilizer.



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



Results

To replace the component, reverse the removal procedure.

Removing and replacing the serial port blank

Prerequisites

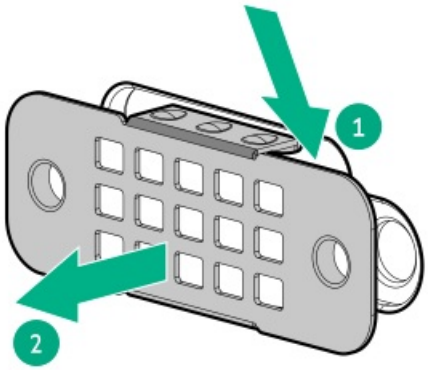
Before you perform this procedure, make sure that you have a spudger or any small prying tool available.

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.

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 serial port blank:
   a. Use a plastic spudger to pry the blank from the rear panel.
   b. Remove the blank.



Results

To replace the component, reverse the removal 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.

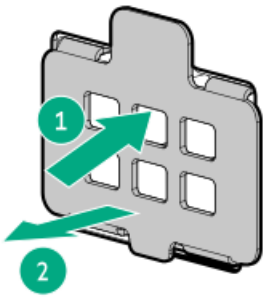
About this task

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



Results

To replace the component, reverse the removal procedure.

Removing and replacing the RPS power distribution board

Prerequisites

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

About this task

CAUTION:

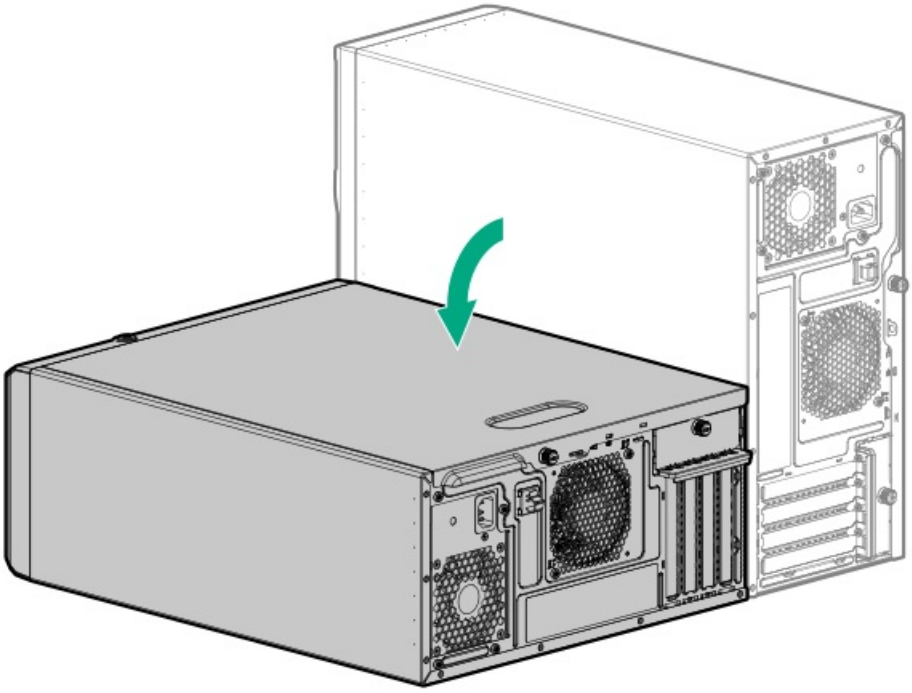
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

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.

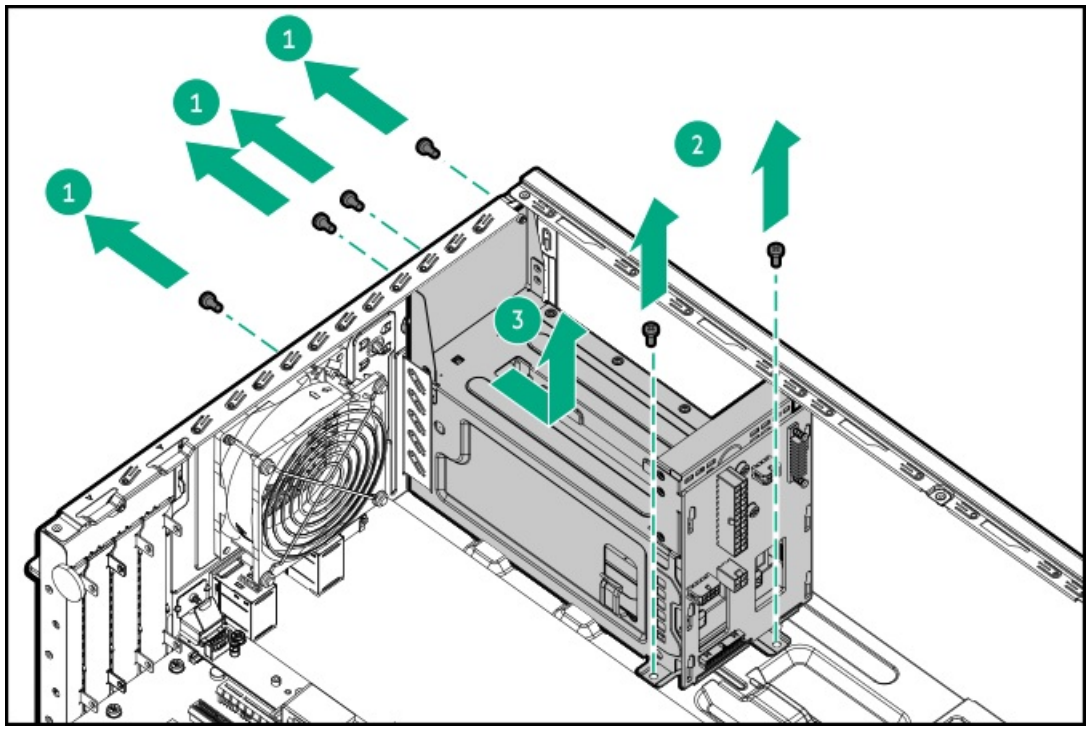
Procedure

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. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.

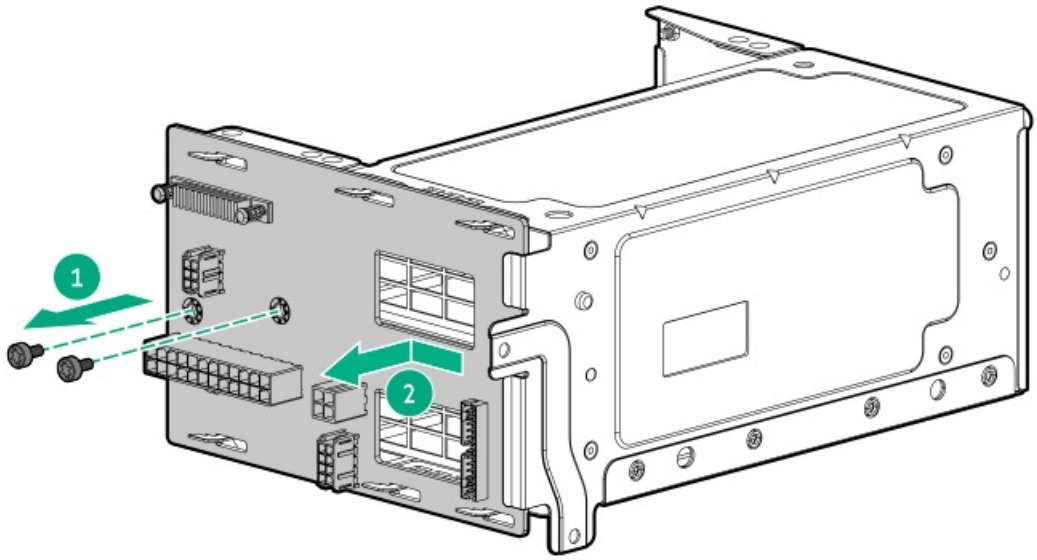


- If the server is in rack mode, remove the server from the rack.

5. Remove the access panel.
6. If installed, remove all media devices.
7. Remove all power supplies.
8. Disconnect all cables from the RPS power distribution board.
9. Remove the RPS cage.



10. Remove the RPS power distribution board.



Results

To replace the component, reverse the removal procedure.

System battery replacement

If the server no longer automatically displays the correct date and time, then replace the battery that provides power to the real-time clock. Under normal use, battery life is 5–10 years.

Subtopics

System battery information

Removing and replacing the system battery

System battery information

The server contains an internal lithium manganese dioxide, a vanadium pentoxide, or an alkaline battery that provides power to the real-time clock.

WARNING: If this battery is not properly handled, a risk of fire or burning exists. To reduce the risk of personal injury:

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

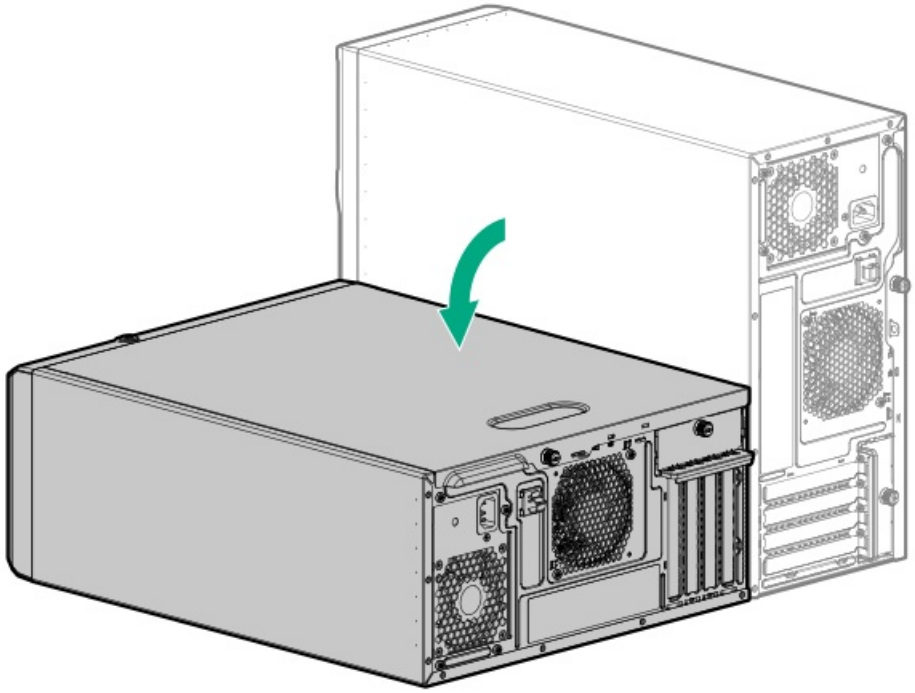
Removing and replacing the system battery

About this task

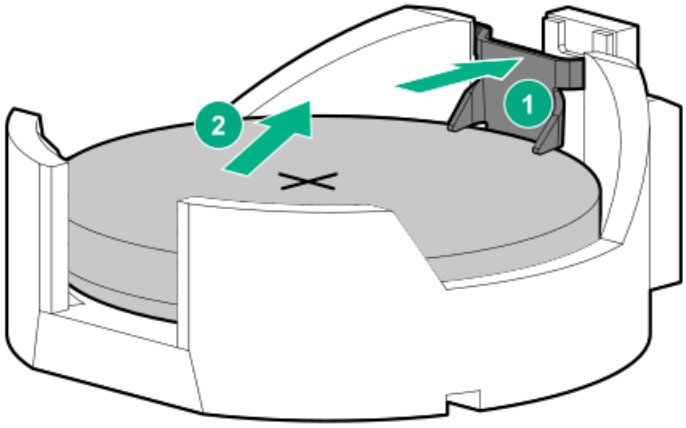
IMPORTANT: After replacing the system battery and applying power, wait for 10 minutes before powering on the server. This lead time is required for the server to reset and reinitialize the iLO configuration settings stored in SRAM.

Procedure

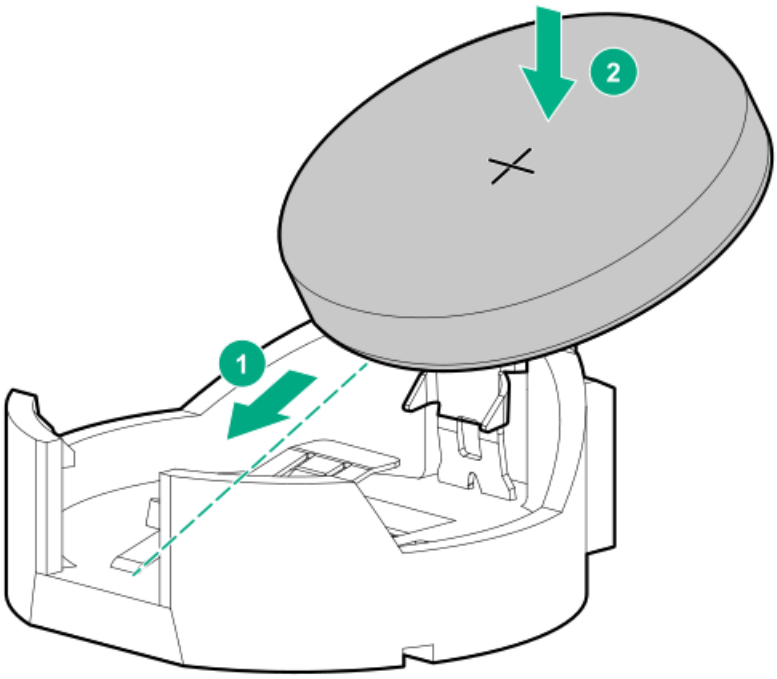
1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



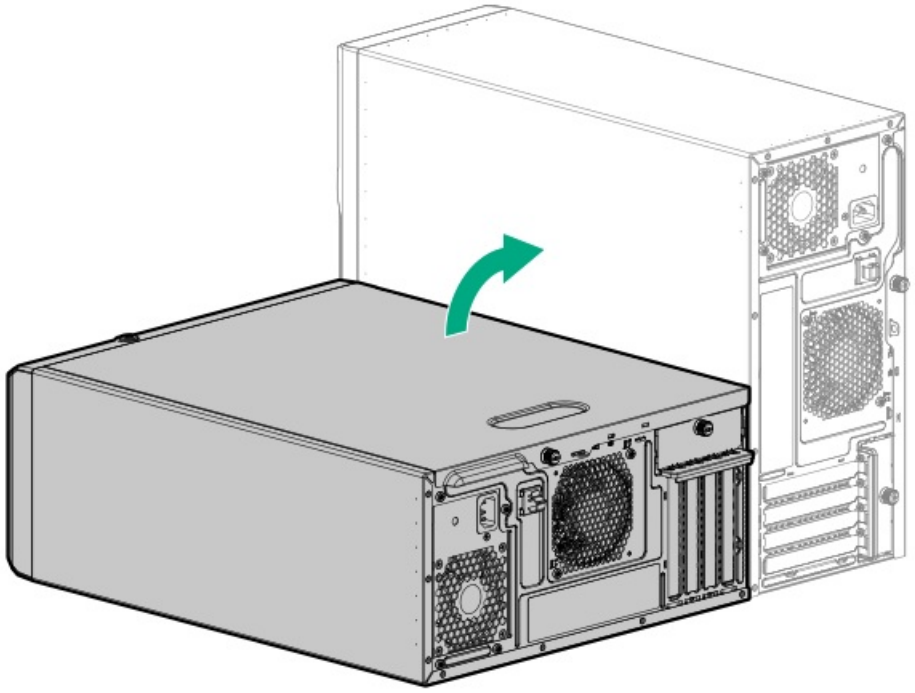
   - If the server is in rack mode, remove the server from the rack.
5. Remove the access panel.
6. If installed, remove the air baffle.
7. Locate the battery on the system board.
8. If an expansion card is installed in expansion slots 1 and 2, remove the card.
9. Remove the system battery:
   a. Use a 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 air baffle.
12. Install the access panel.
13. Do one of the following:
    - Orient the server back in tower mode.



- 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/ilo6**.

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.

Removing and replacing the pass-through board

Prerequisites

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

About this task

CAUTION:

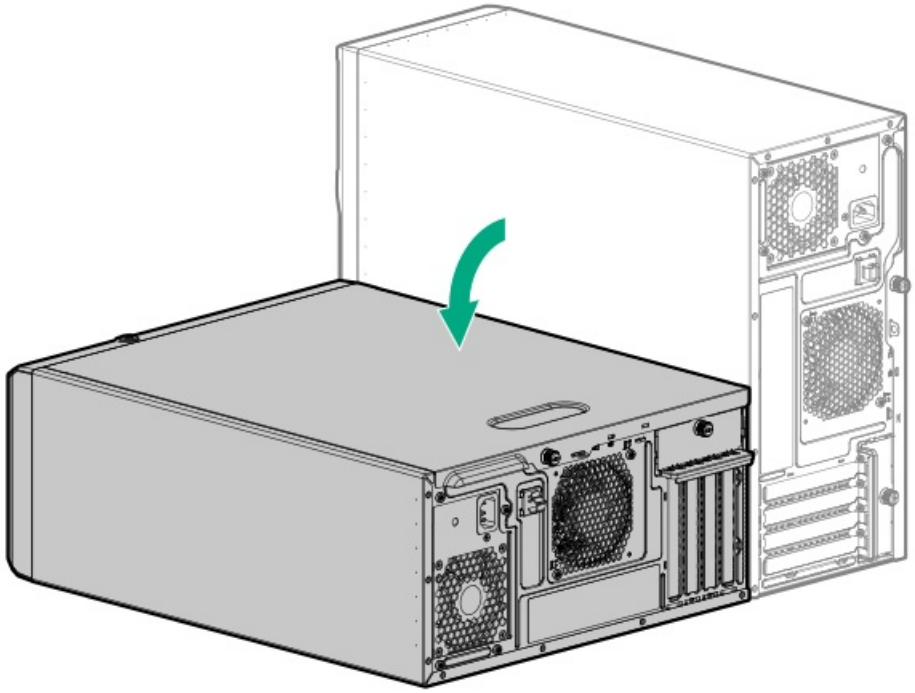
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

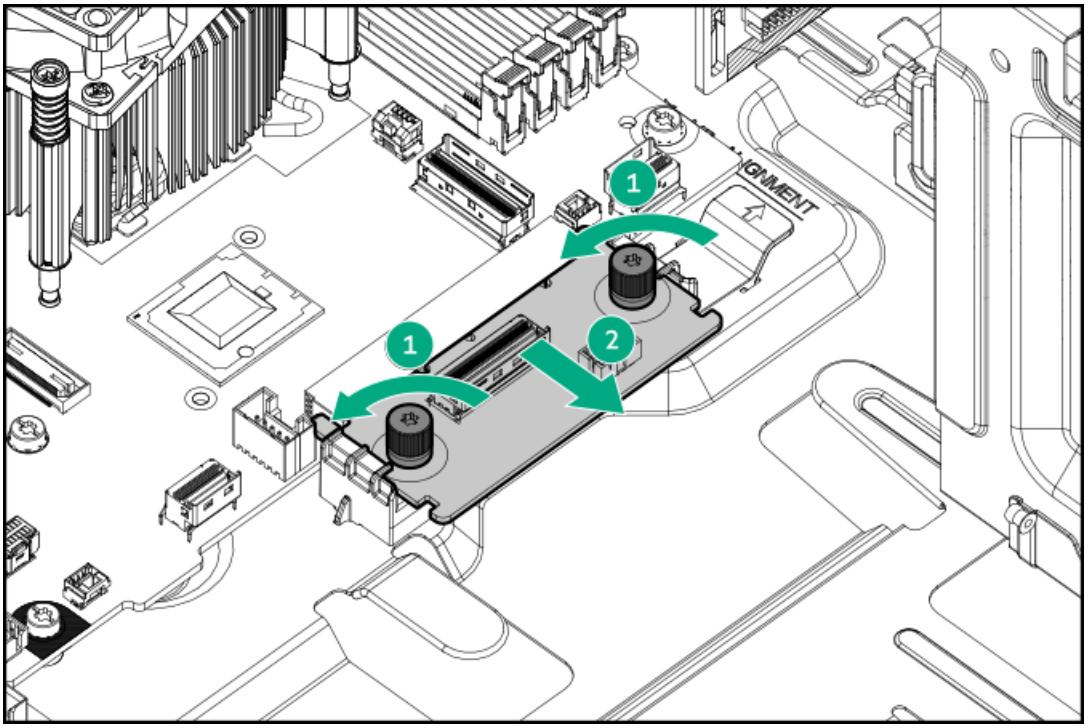
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

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. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



   - If the server is in rack mode, remove the server from the rack.
5. Remove the access panel.
6. Disconnect the component cable from the pass-through board.
7. Remove the pass-through board.



Results

To replace the component, reverse the removal procedure.

Removing and replacing the system power distribution 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.

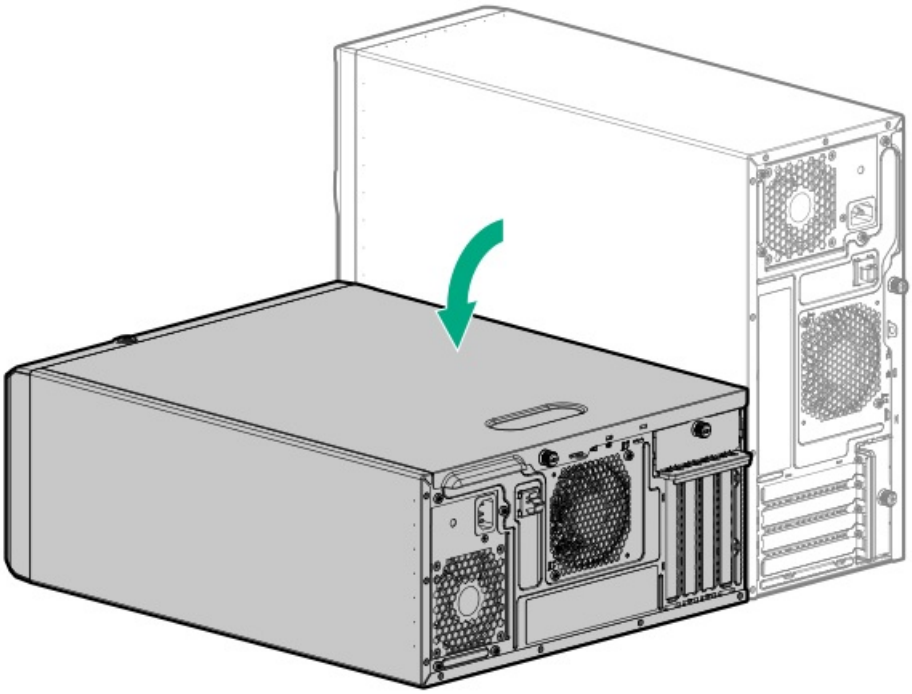
When installing the replacement component:

- 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

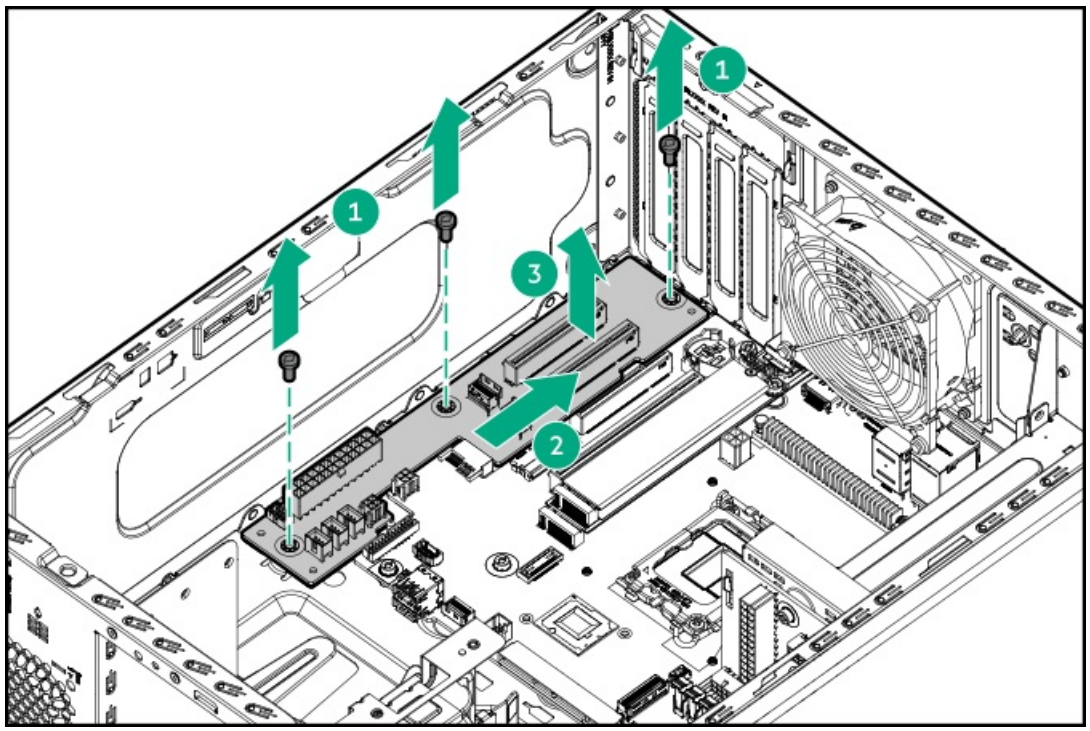
1. Power down the server.
2. Remove all power:
   a. Disconnect each power cord from the power source.
   b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Do one of the following:

- If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



- If the server is in rack mode, remove the server from the rack.

5. Remove the access panel.
6. If installed, remove the air baffle.
7. Disconnect all cables from the system power distribution board.
8. If expansion cards are installed in expansion slots 3 and 4, remove the cards.
9. Remove the system power distribution board.



Results

To replace the component, reverse the removal procedure.

Mainboard replacement

Subtopics

Removing the mainboard

Installing the mainboard

Re-entering the server serial number and product ID

Removing the mainboard

Prerequisites

- 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 cable 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:

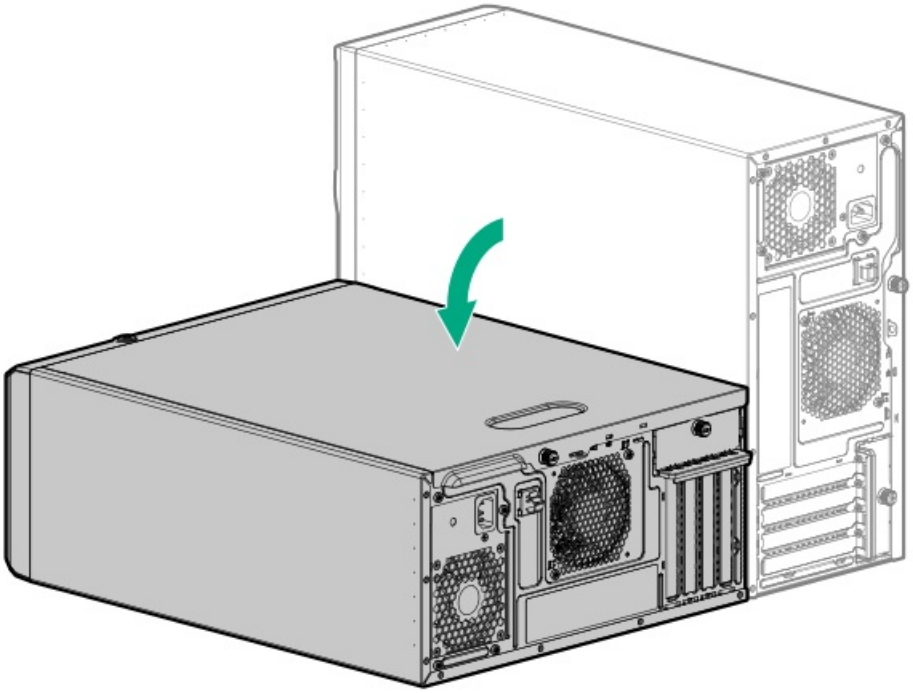
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

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.

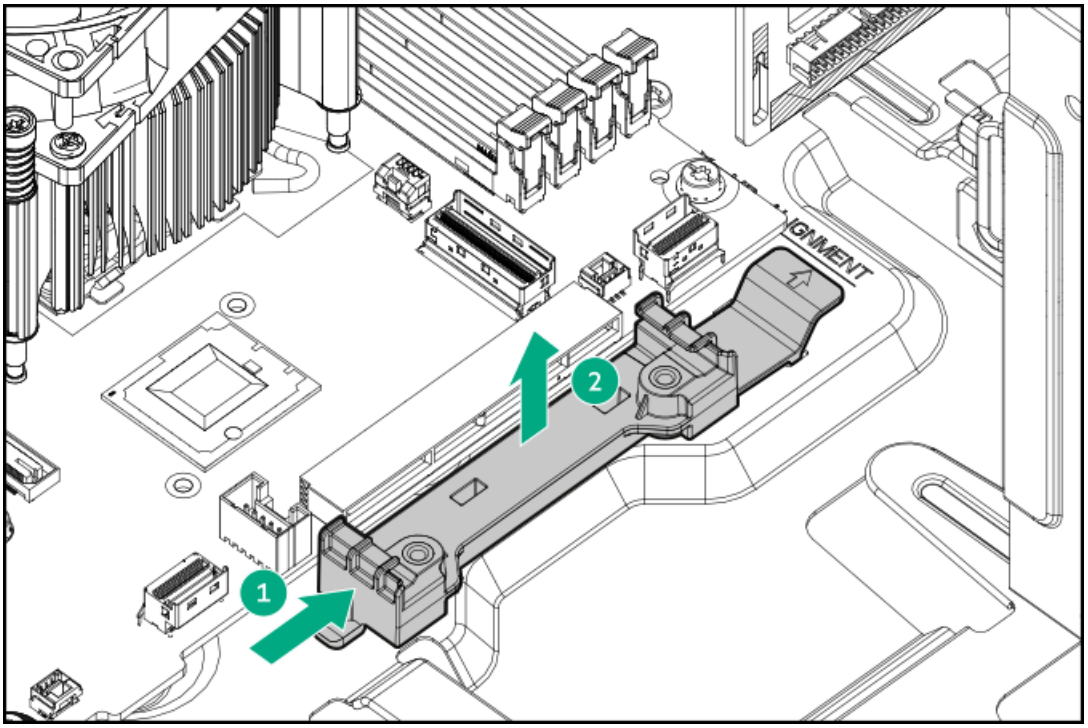
Procedure

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. Do one of the following:
   - If the server is in tower mode, place the server on a flat, level surface with the access panel facing up.



- If the server is in rack mode, remove the server from the rack.

5. Remove the access panel.
6. If installed, remove the air baffle.
7. Allow all internal system components to cool before continuing.
8. Disconnect all cables from the expansion cards and the system board.
9. Remove the system fan.
10. Disconnect the PCIe fan cable.
11. Remove all DIMMs.
12. If installed, remove the following components:
    - Pass-through board
    - Internal USB device
    - Expansion cards
    - Energy pack
    - Energy pack holders
    - Serial port cable
    - iLO-M.2-serial module
13. Remove the system power distribution board.
14. Remove the pass-through board rail.



15. Remove the heatsink:

> **CAUTION:**
>
> The heatsink fan does not have a fan guard. Be careful when removing or installing the heatsink to prevent finger injury.

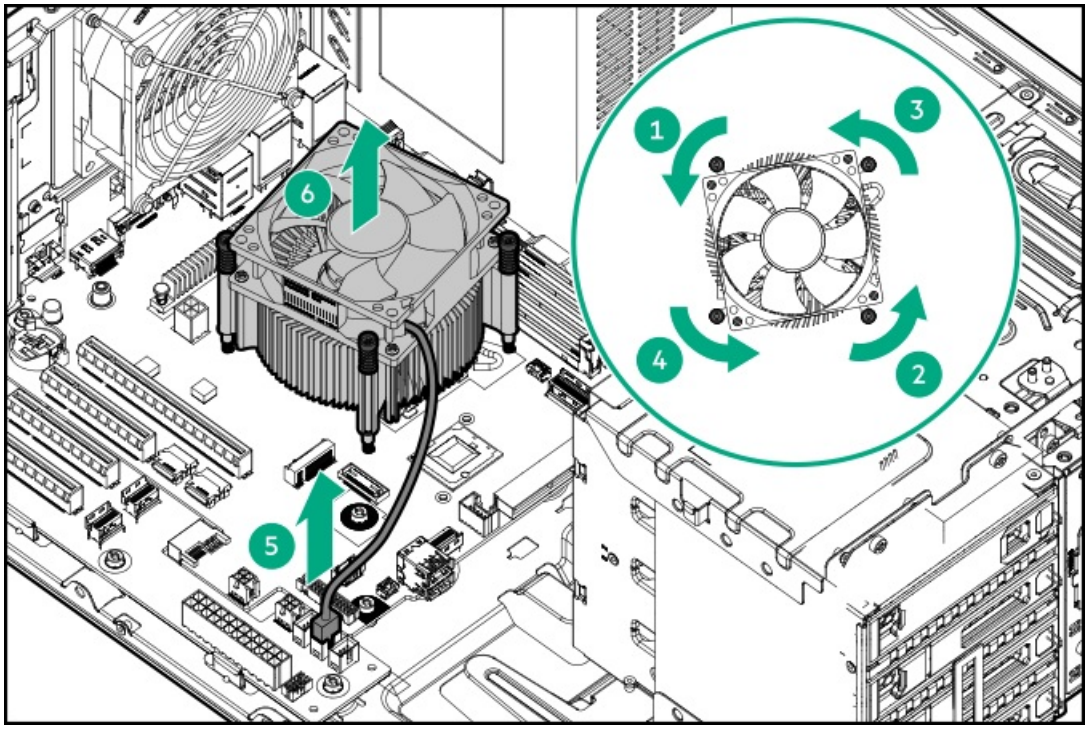
> **CAUTION:** To prevent mechanical damage or depositing oil on your hands or other contaminants to the heatsink contact surface, hold the heatsink only by the edge of the fan frame. Do not touch the heatsink fins.

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

a. Use a T-15 Torx screwdriver to loosen one pair of diagonally opposite screws, and then loosen the other pair of screws.

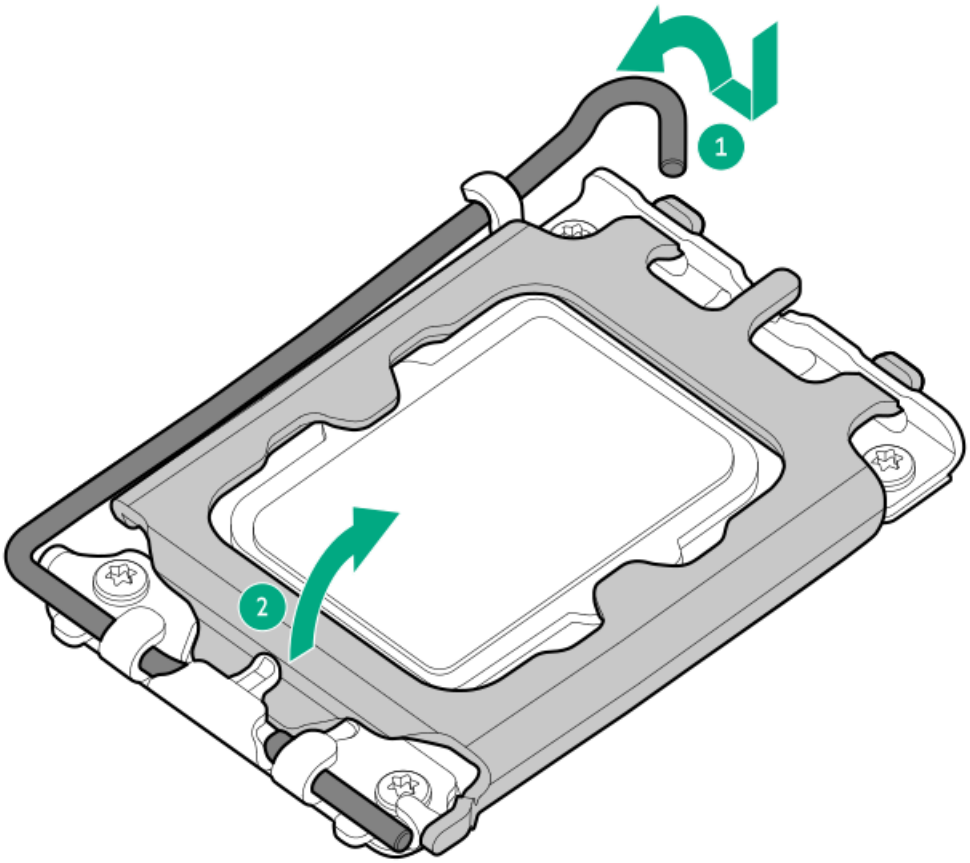
b. Disconnect the heatsink fan cable.

c. Lift the heatsink away from the system board.



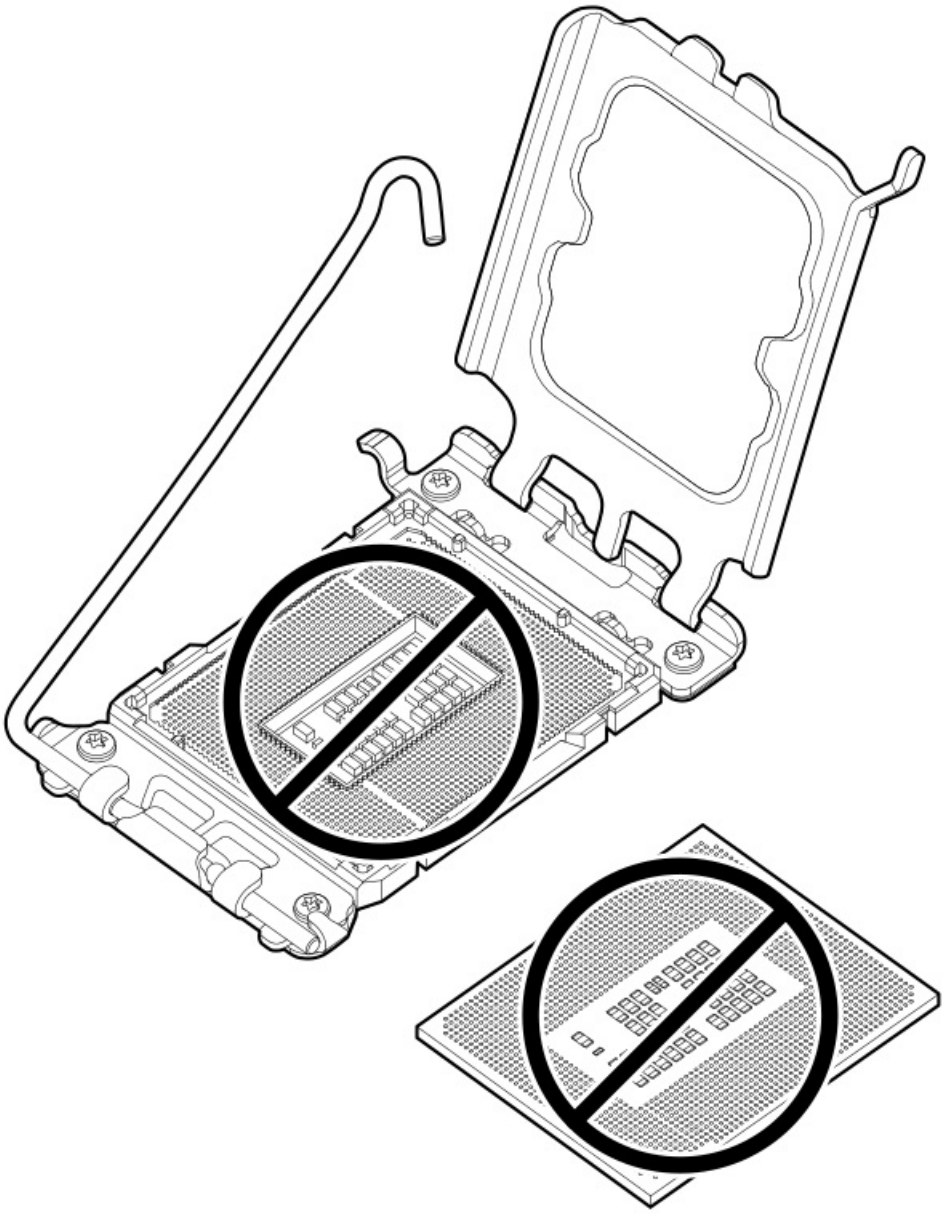
16. Remove the processor.
17. Use an alcohol wipe to remove the existing thermal grease from the heatsink and the top of the processor.

    Allow the alcohol to evaporate before continuing.
18. 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.

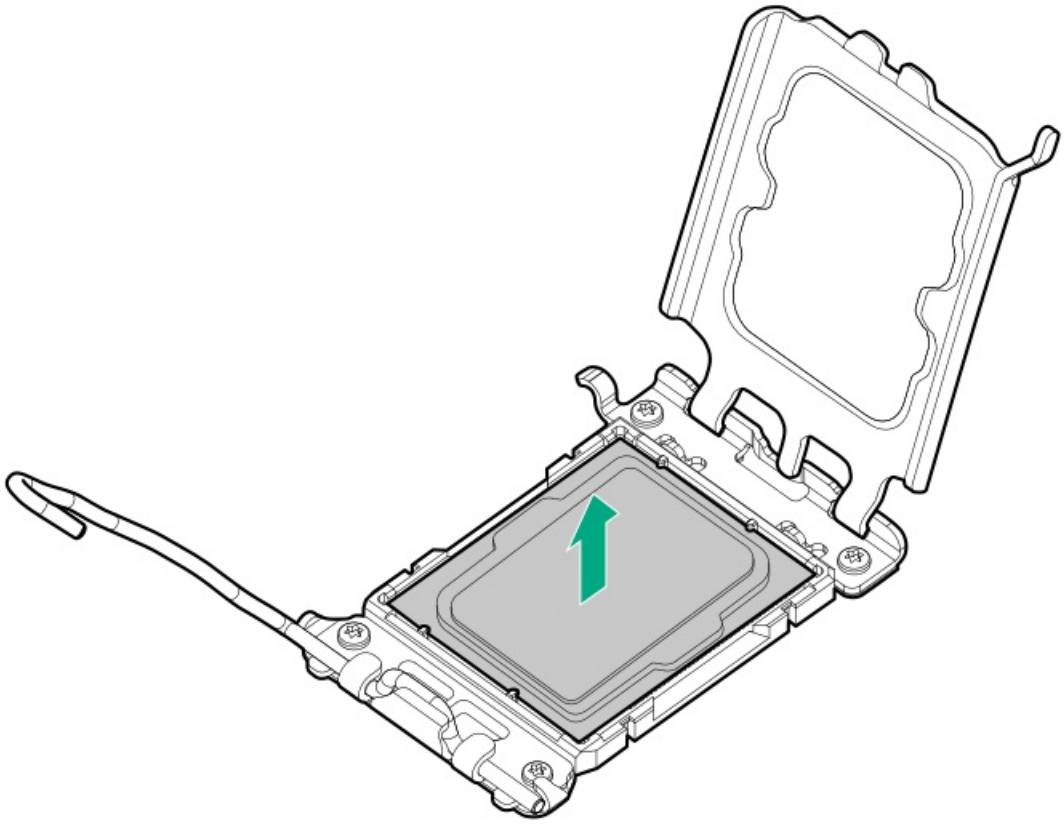


19. Do not touch the socket contacts or the bottom of the processor.

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



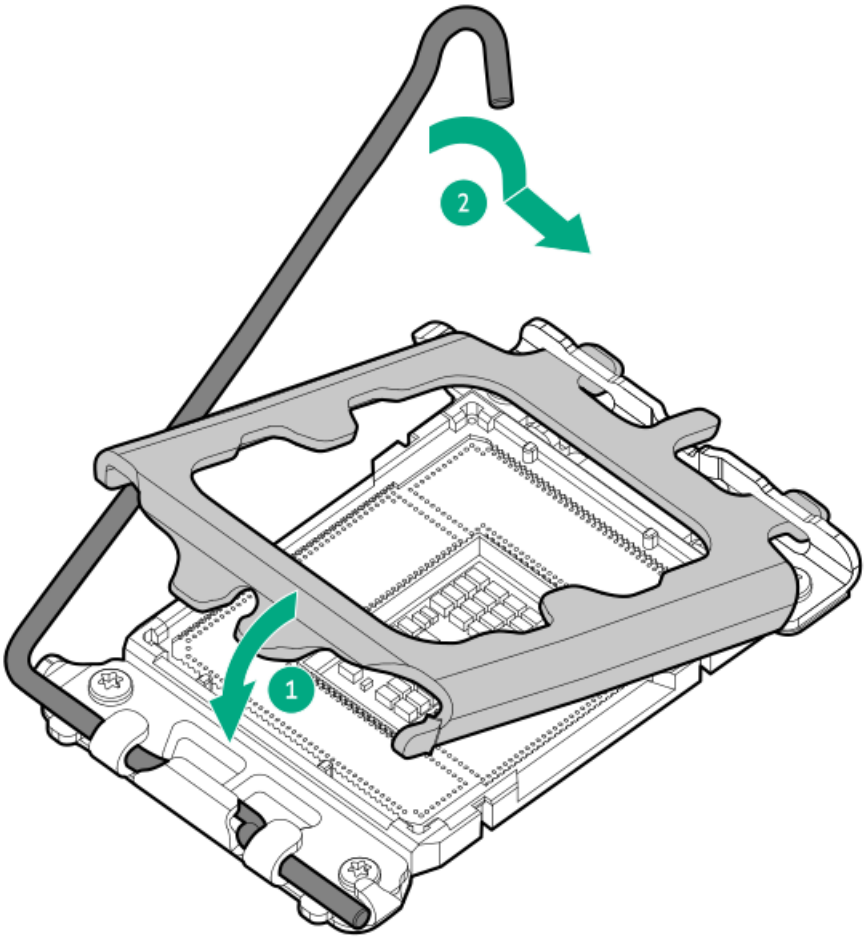
20. Hold the processor by the edges, and then lift it out of the socket.



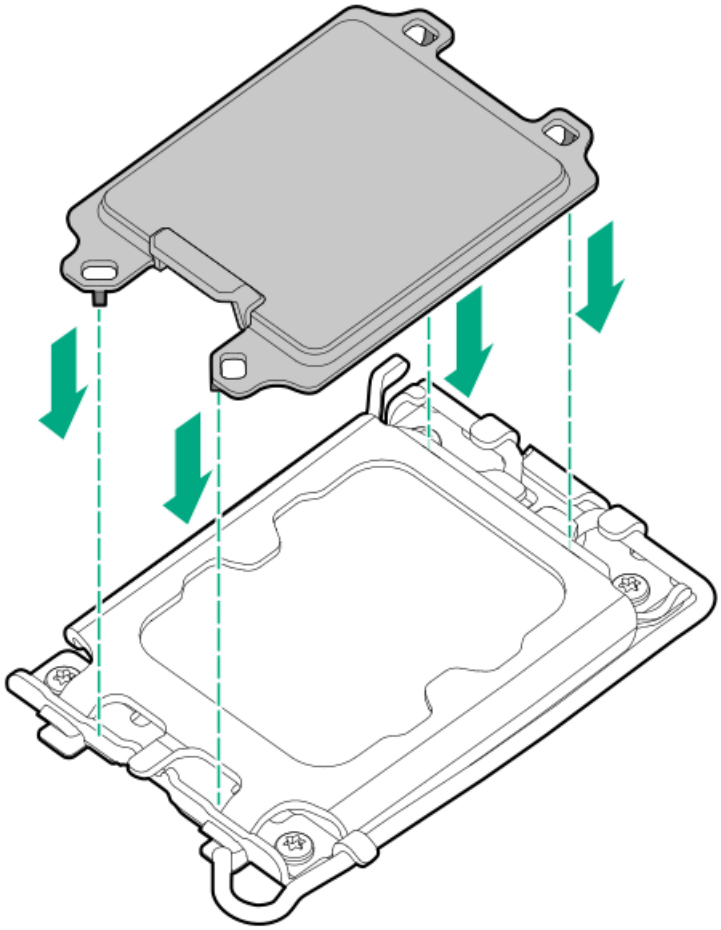
21. If you are not immediately installing the new processor, install the processor socket dust cover:

> **CAUTION:** Do not press down on the dust cover. Pressing down on the dust cover might damage the processor socket.

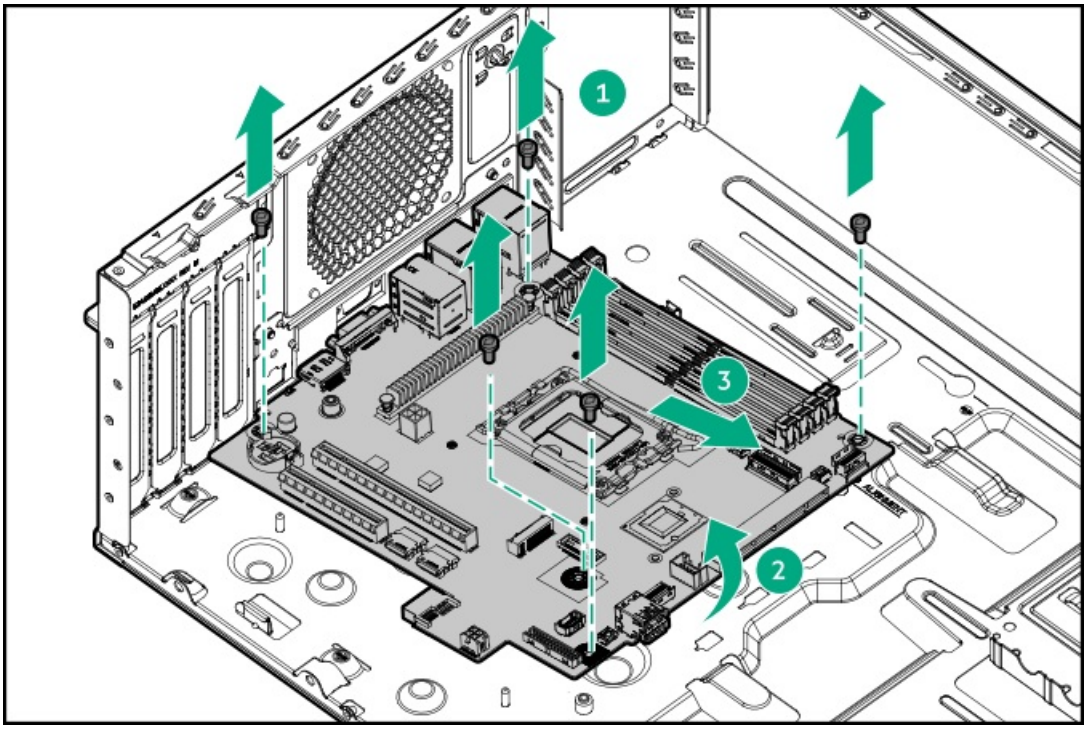
a. Close the processor load plate, and then engage the hinge lever.



b. Install the processor socket dust cover.



22. Remove the screws, and then remove the mainboard.



Installing the mainboard

Prerequisites

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 to be installed.

About this task

CAUTION:

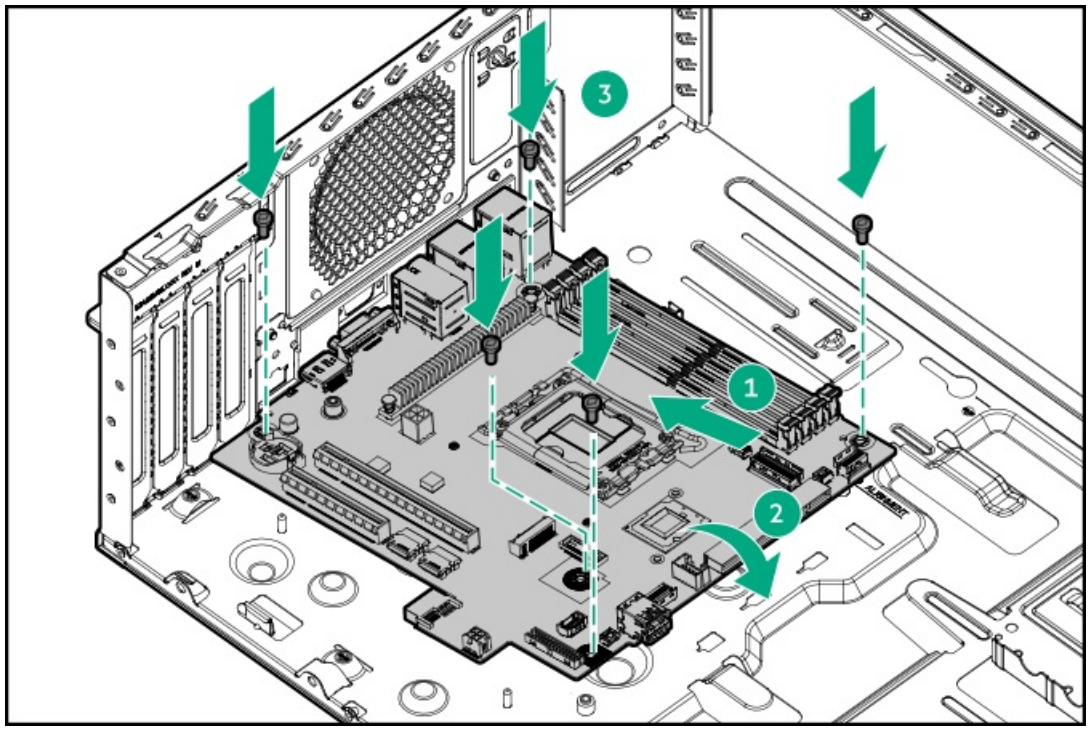
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

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.

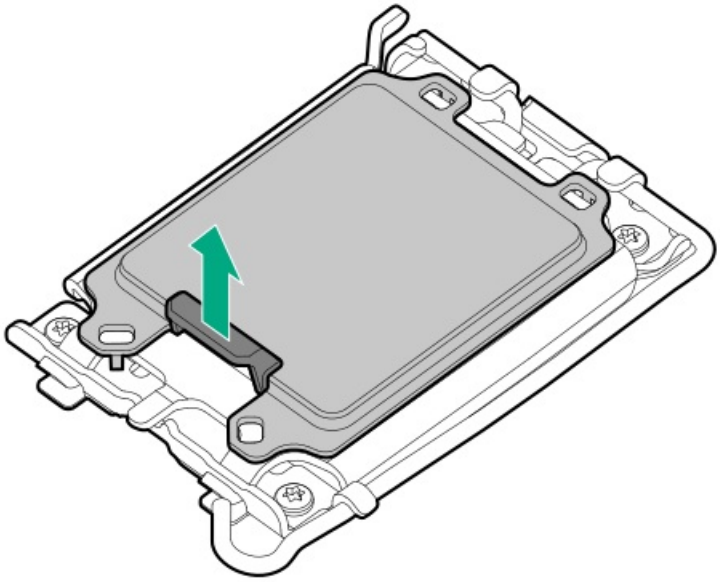
Procedure

1. Install the mainboard, and then secure it with the screws.

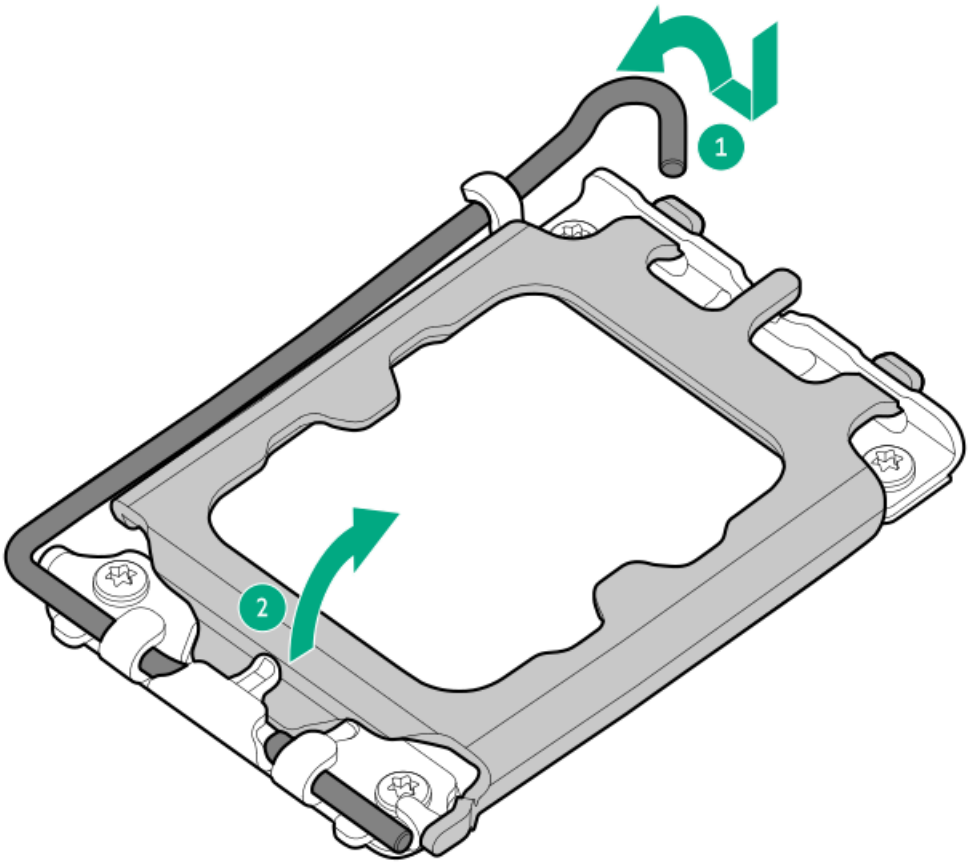


2. Remove the dust cover from the processor socket.

   Retain the cover for future use.



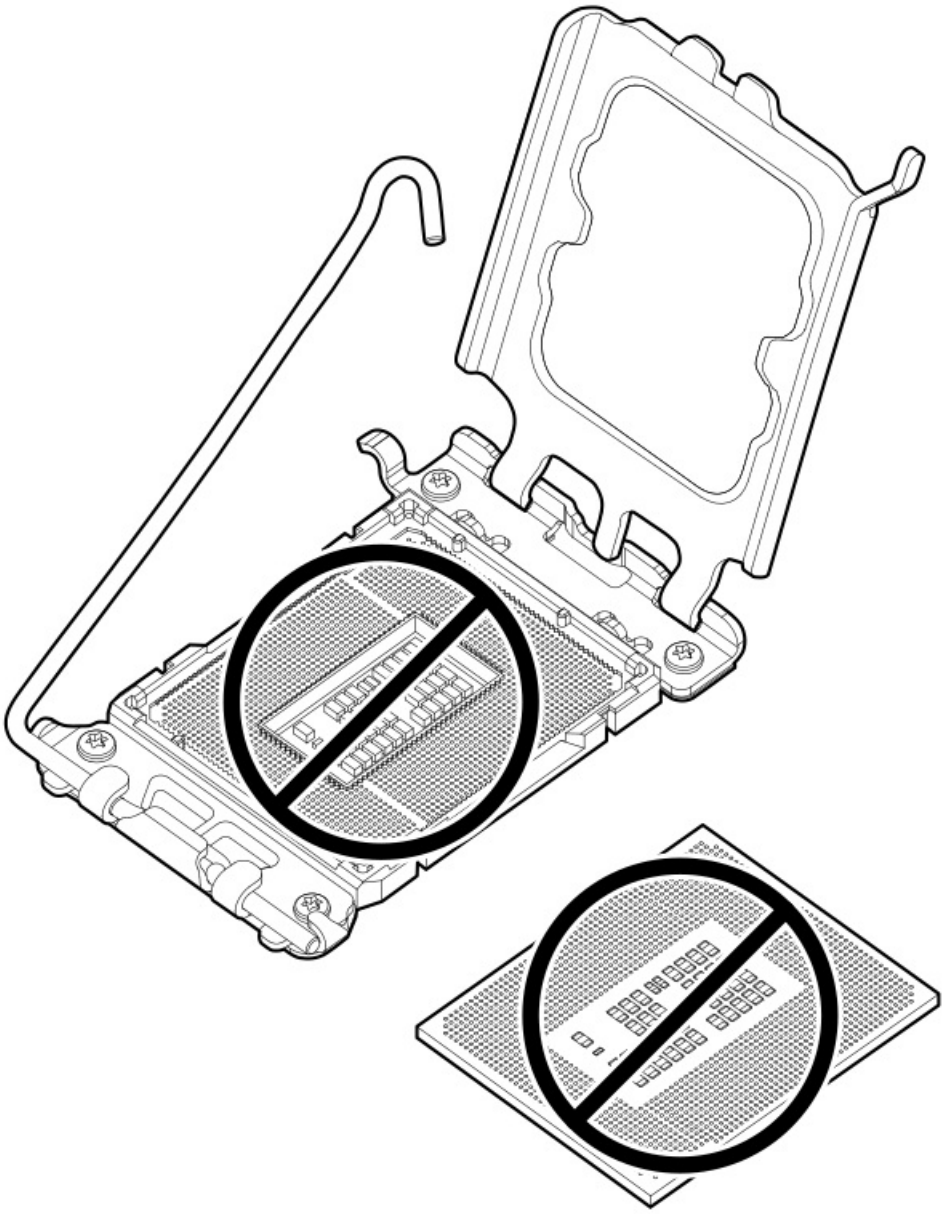
3. Open the processor load plate:
   a. Push the hinge lever down to unclamp it, and then pivot it to the fully open position.
   b. Open the processor load plate.



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

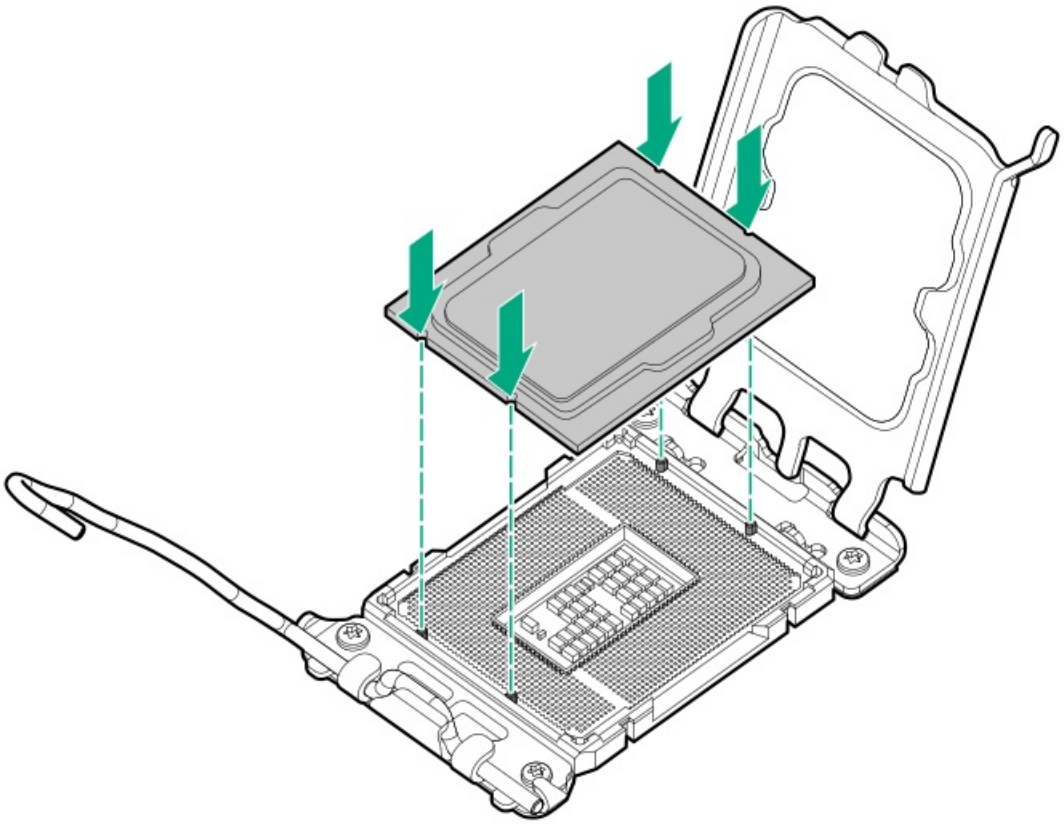
CAUTION:

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



5. 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.



6. Install the heatsink:

> **CAUTION:**
>
> The heatsink fan does not have a fan guard. Be careful when removing or installing the heatsink to prevent finger injury.

> **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.

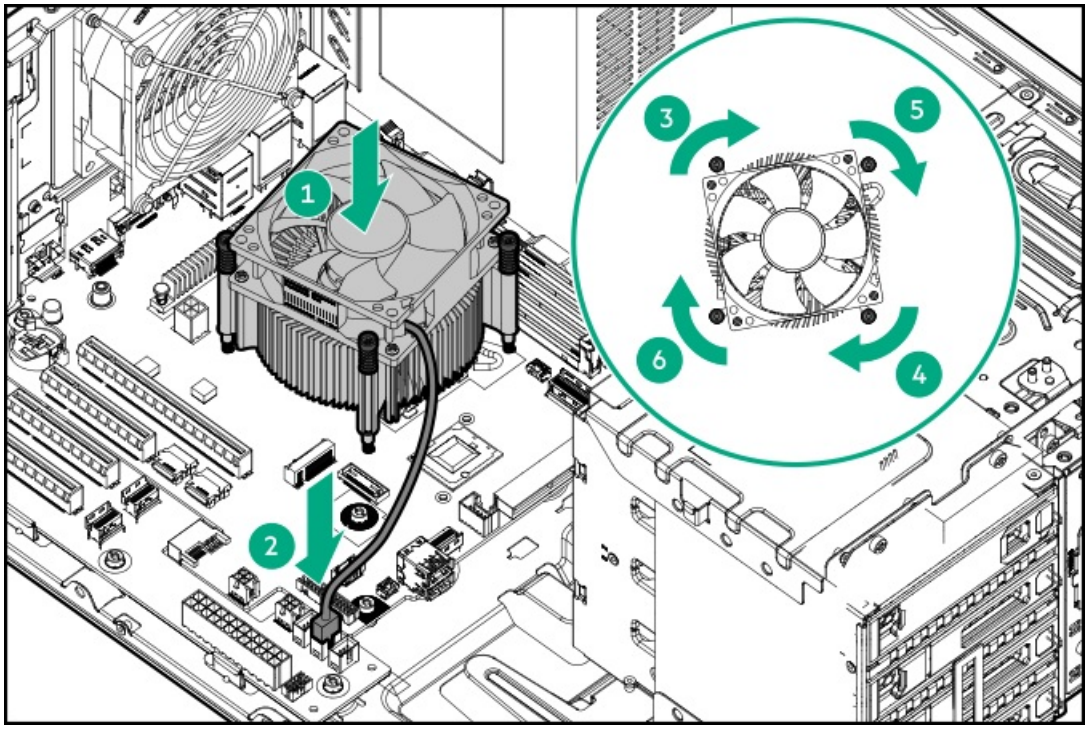
> **CAUTION:**
>
> Heatsink screws must be tightened and loosened in alternating sequence. Do not overtighten the screws as this might damage the system board or the processor socket.

a. When using a torque screwdriver, set it to 0.68 N·m (6.0 lbf).

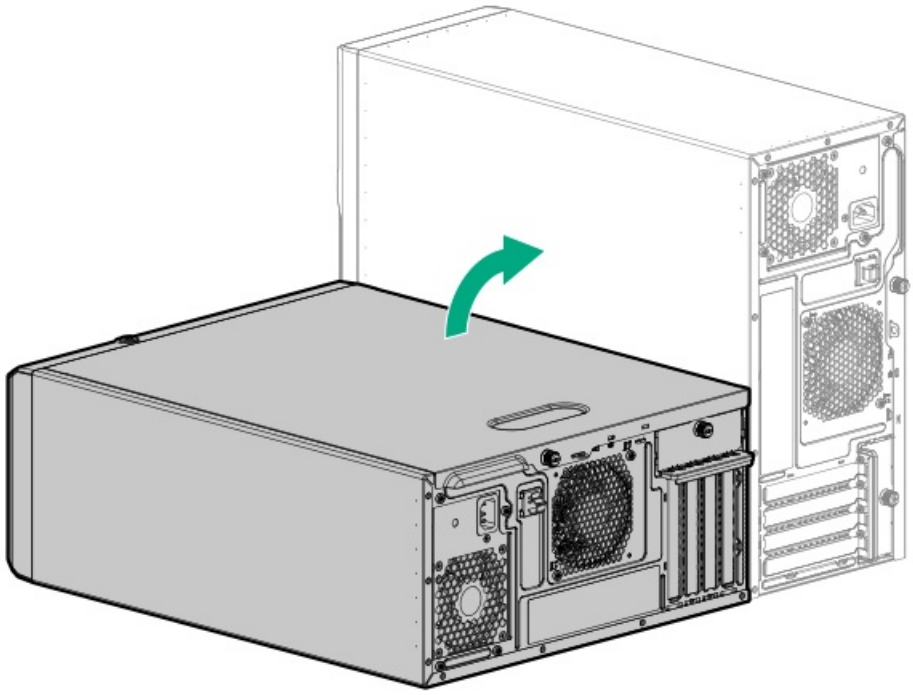
b. Position the heatsink on top of the processor, ensuring that it is properly seated.

c. Connect the heatsink fan cable.

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



7. Install all removed components and connect all cables.
8. Install the air baffle.
9. Install the access panel.
10. Do one of the following:
    - Orient the server back in tower mode.



    - Install the server into the rack.
11. Connect all peripheral cables to the server.
12. Connect each power cord to the server.
13. Connect each power cord to the power source.

14. Power up the server.
15. 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.
16. Re-enter any Secure Boot keys that were previously added in the Secure Boot configuration.
17. Re-enter the server serial number and product ID, and configure the date and time settings .

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, and then configure the date and time settings.

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. From the System Utilities screen, select System Configuration > BIOS/Platform Configuration (RBSU) > Date and Time.
9. Reconfigure the system date and time settings .

Results

The installation is complete.

Component identification

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

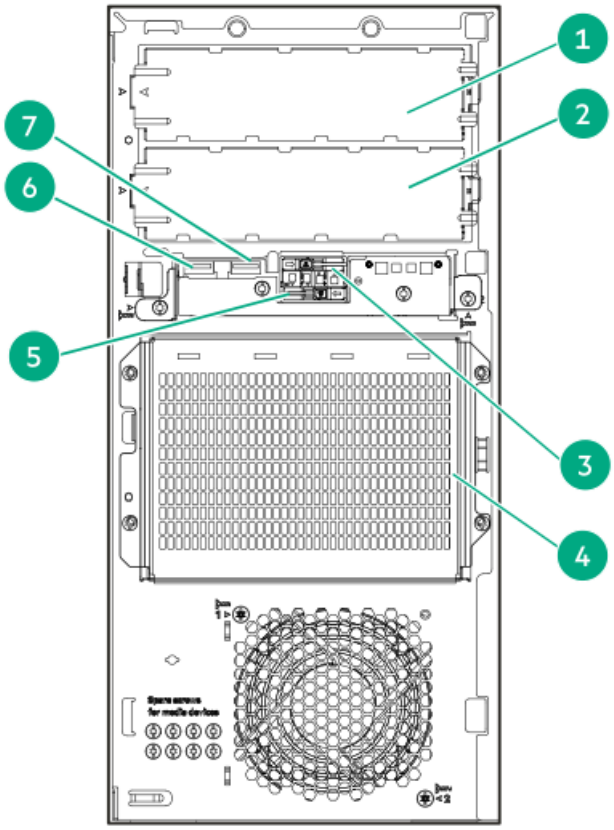
Subtopics

Front panel components

Front panel LEDs and buttons

Front panel components

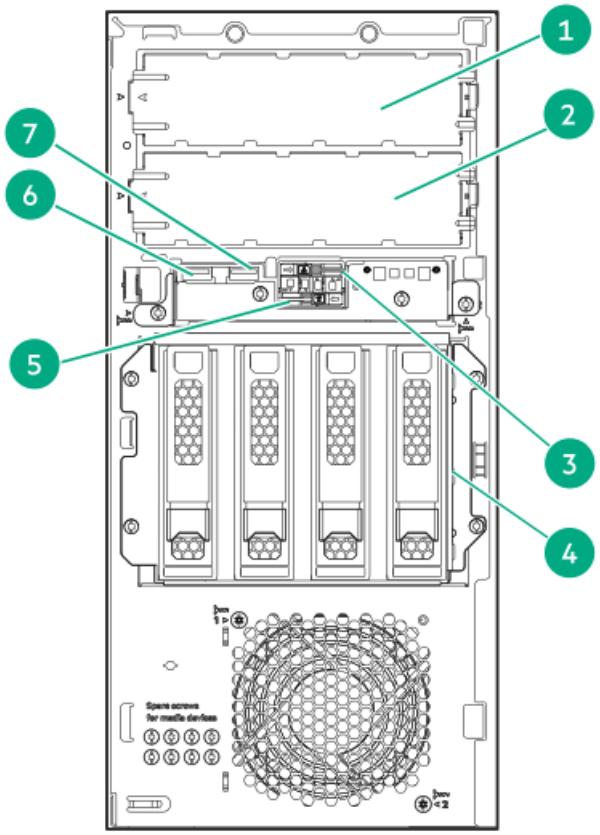
4 LFF non-hot-plug drive model



Item	Description
1	Media bay 1 [1]
2	Media bay 2 [1]
3	HPE NS204i-u Boot Device slot 1 (optional)
4	4 LFF non-hot-plug drive cage
5	HPE NS204i-u Boot Device slot 2 (optional)
6	USB 3.2 Gen 1 port
7	iLO service port

[1] The media bays support a SATA optical drive or a USB RDX docking station.

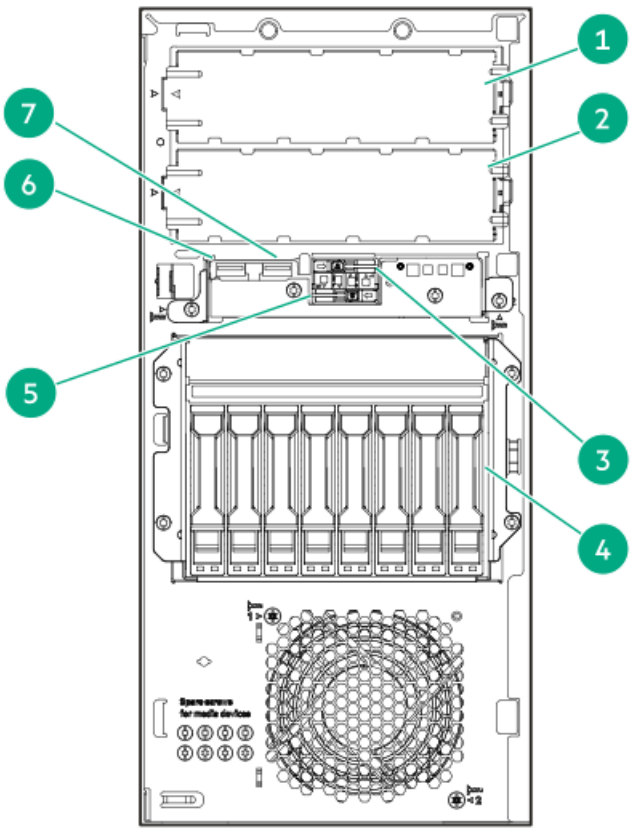
4 LFF hot-plug drive model



Item	Description
1	Media bay 1 [1]
2	Media bay 2 [1]
3	HPE NS204i-u Boot Device slot 1 (optional)
4	4 LFF hot-plug drives
5	HPE NS204i-u Boot Device slot 2 (optional)
6	USB 3.2 Gen 1 port
7	iLO service port

[1] The media bays support a SATA optical drive or a USB RDX docking station.

8 SFF hot-plug drive model



Item	Description
1	Media bay 1 [1]
2	Media bay 2 [1]
3	HPE NS204i-u Boot Device slot 1 (optional)
4	8 SFF hot-plug drives
5	HPE NS204i-u Boot Device slot 2 (optional)
6	USB 3.2 Gen 1 port
7	iLO service port

[1] The media bays support a SATA optical drive or a USB RDX docking station.

Subtopics

iLO Service Port

iLO Service Port

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.

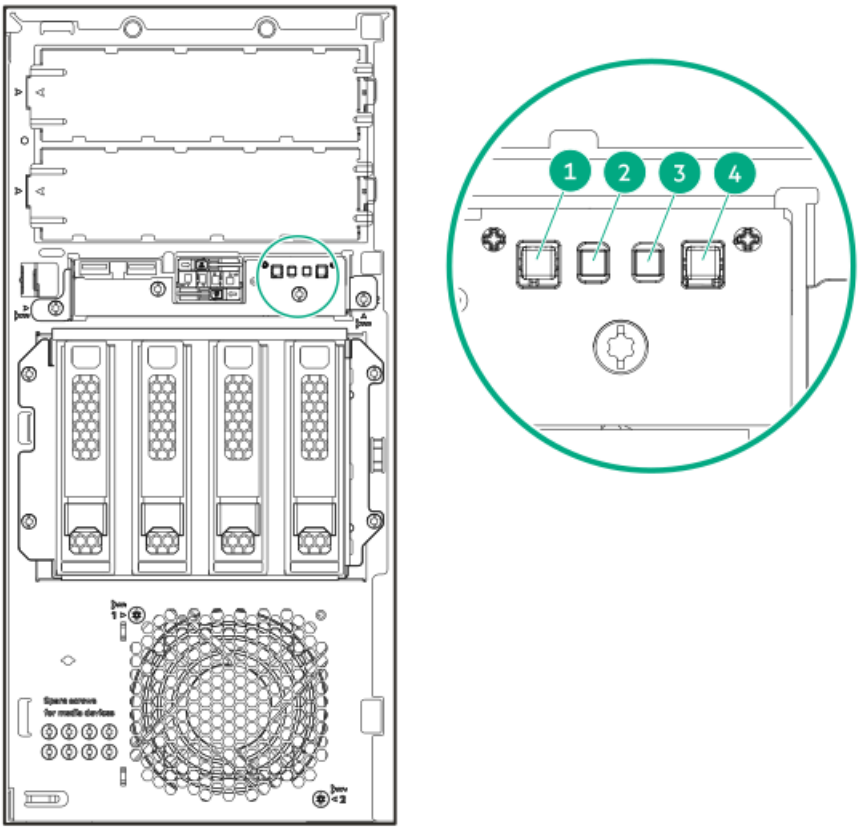
- Connect a client (such as a laptop) with a supported USB to Ethernet adapter to access the following:
  - iLO web interface
  - Remote console
  - iLO RESTful API
  - CLI

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	Description	Status	Definition
1	UID button/LED [1]	Solid blue	Activated
		Flashing blue	• One 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
2	NIC status LED [1]	Solid green	Linked to network
		Flashing green	Network active
		Off	No network activity
3	Health LED [1]	Solid green	Normal
		Flashing green	iLO is rebooting
		Flashing amber	System degraded [2]
		Flashing red	System critical [2]
4	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 [3]

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

Subtopics

Server UID LED

Using the UID button to view the Server Health Summary

Front panel LED power fault codes

Server UID LED

The UID LED is used to locate a particular server when it is deployed in a dense rack with other equipment. Activating the UID LED helps an on-site technician to quickly identify a server for maintenance tasks.

Using the UID button to view 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

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. Use this feature for troubleshooting if the server will not start up.

CAUTION: Press and release the UID button. Holding it down at any time for more than five seconds initiates a graceful iLO reboot or a hardware iLO reboot. Data loss or NVRAM corruption might occur during a hardware iLO reboot.

Procedure

1. Press and release the UID button.

   The Server Health Summary screen is displayed on the external monitor. For more information, see the iLO troubleshooting guide:

   https://www.hpe.com/support/ilo6

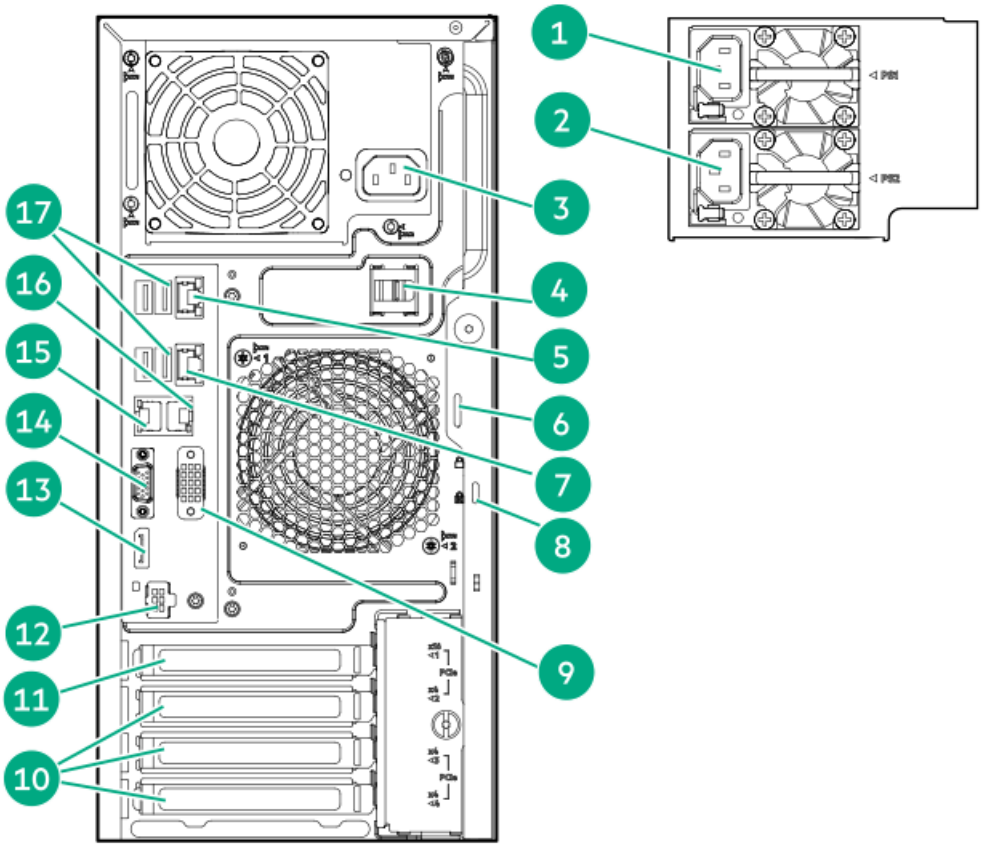
2. Press the UID button again to close the Server Health Summary screen.

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	Flexible Slot power supply 1
2	Flexible Slot power supply 2 (optional)
3	Non-hot-plug power supply
4	Power cord clip (for non-hot-plug power supply)
5	NIC 1 / iLO shared port (1 GbE)
6	Padlock eye
7	NIC port 2 (1 GbE)
8	Kensington security slot
9	Serial port (optional)
10	Slots 2-4 PCIe4 x4
11	Slot 1 PCIe5 x16
12	iLO dedicated network port (optional)
13	DisplayPort 1.1a
14	VGA port
15	NIC port 4 (1 GbE)
16	NIC port 3 (1 GbE)
17	USB 3.2 Gen 1 ports [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.

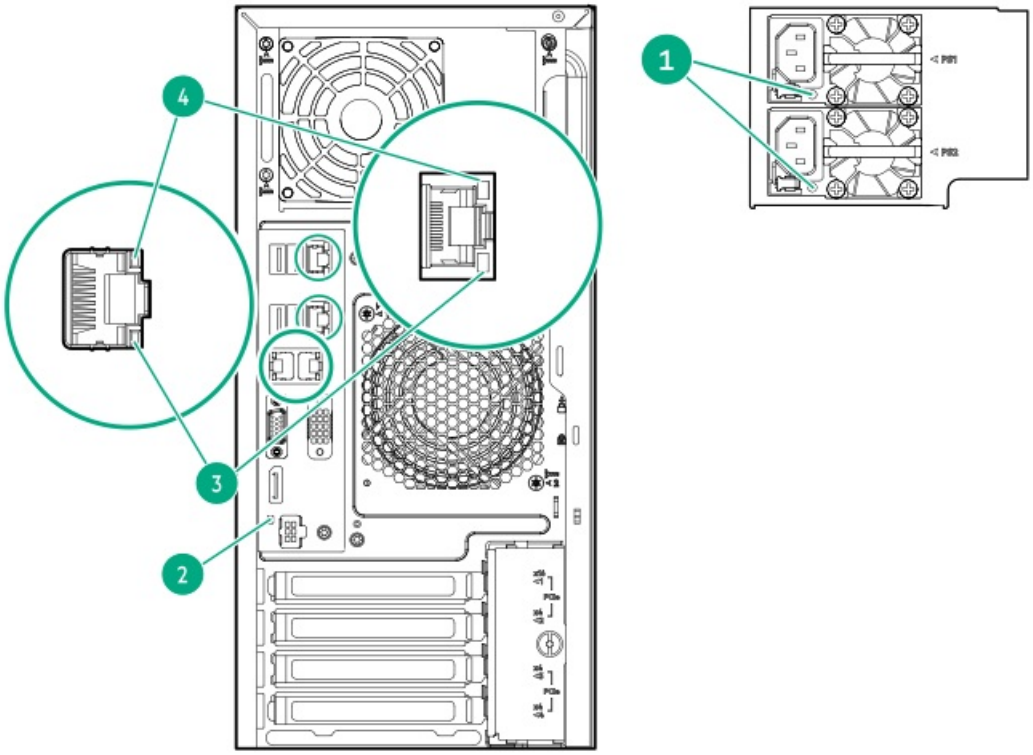
Subtopics

Display device setup

This server supports both VGA port and DisplayPort 1.1a. Before connecting a display device to this server, review the following information:

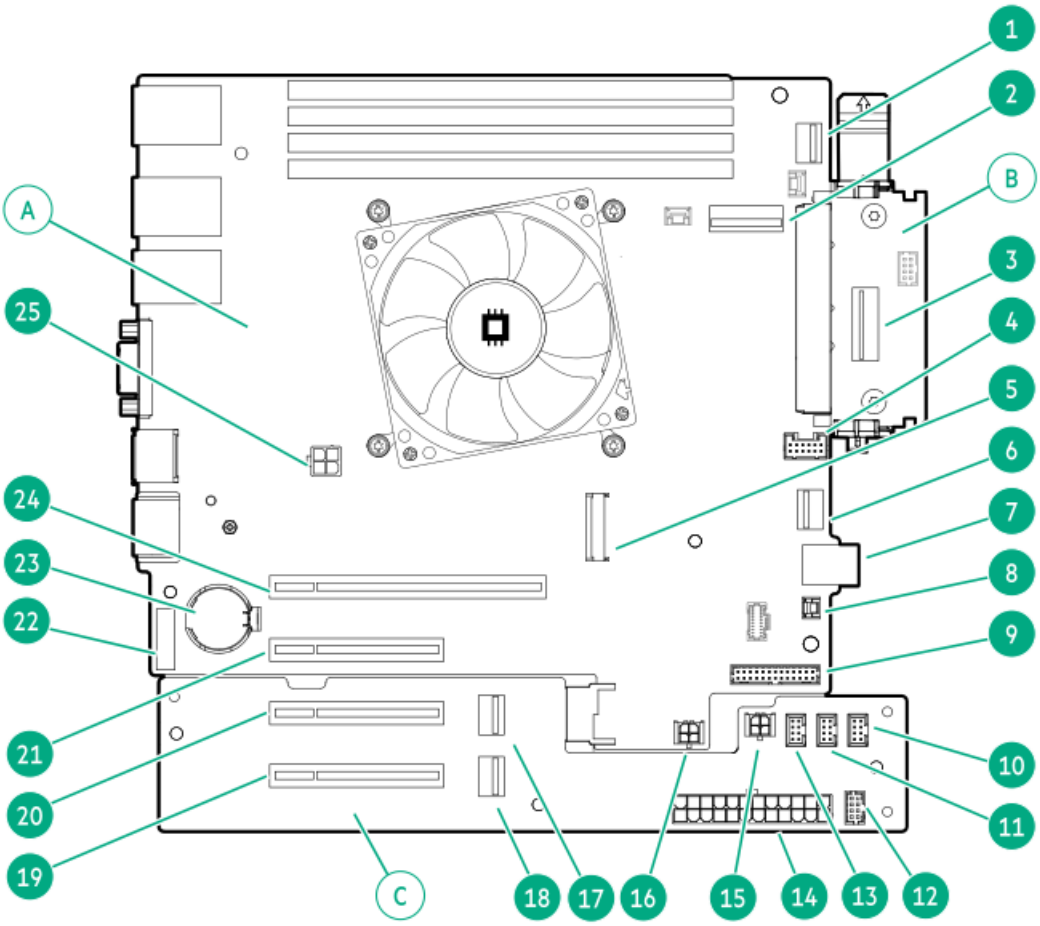
- Whenever possible, use the same display connection type. For example, if your PC or monitor only has a VGA output, connect it to the server VGA port. Use of any kind of adapter or converter cable or dongle might lead to decreased display quality or a lag over the connection.
- DisplayPort connection: When connecting an HDMI or DVI display to the DisplayPort, use an active type adapter. Passive type adapter—marked with the DP++ symbol—is not supported.
- Display output modes:
  - If you connect two display devices to the VGA port and DisplayPort, the same image is shown on both devices—screen mirroring mode.
  - The embedded video controller in the iLO 6 chipset does not support dual display or screen extension mode. To enable dual display mode, install a compatible PCIe4 x8 graphics card that supports this feature in the expansion slot.

Rear panel LEDs



Item	Description	Status	Definition
1	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 • Front I/O cable is disconnected
2	UID	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
3	NIC/iLO activity	Flashing green	Network active
		Off	No network activity
4	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

System board components



The system board comprises of 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.

Item	Description
1	Front I/O & USB 3.2 Gen 1 and iLO service port connector
2	SlimSAS x8 port 1
3	SlimSAS x8 port 3 [1]
4	Energy pack connector
5	M.2 slot [2]
6	SlimSAS x4 port 2
7	Stacked, internal dual USB 3.2 Gen 2 ports
8	Storage controller backup power connector
9	Power supply sideband connector
10	Fan connector 3 (PCIe fan)
11	Fan connector 2 (processor heatsink fan)
12	NS204i-u power connector
13	Fan connector 1 (system fan)
14	24-pin power supply connector
15	PDB: System power connector
16	Mainboard: System power connector
17	Slot 3 SimSAS x4 port 1
18	Slot 4 SlimSAS x4 port 2
19	Slot 4 PCIe4 x8 (4, 1)
20	Slot 3 PCIe4 x8 (4, 1)
21	Slot 2 PCIe4 x8 (4, 1)
22	System maintenance switch
23	System battery
24	Slot 1 PCIe5 x16
25	4-pin processor power connector

1 This connector supports a maximum of four SATA devices or the HPE NS204i-u Boot 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

DIMM slot numbering

DIMM label identification

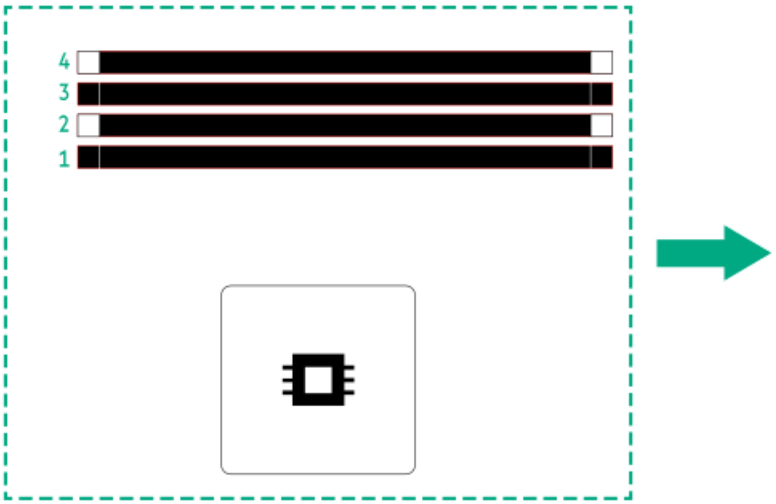
System maintenance switch descriptions

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 slot numbering

The arrow points to the front of the server.

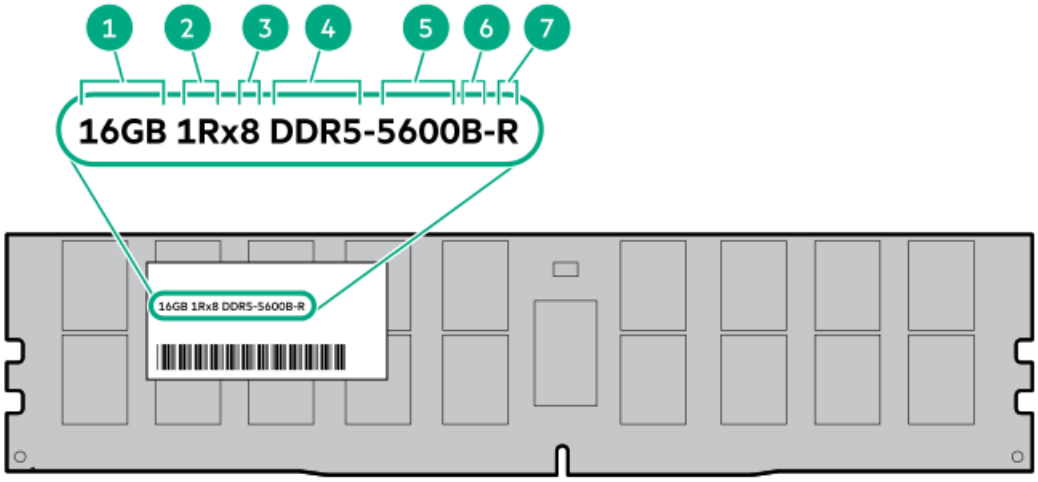


DIMM label identification

To determine DIMM characteristics, see the label attached to the DIMM. The information in this section helps you to use the label to locate specific information about the DIMM.

For more information about product features, specifications, options, configurations, and compatibility, see the HPE DDR5 SmartMemory QuickSpecs:

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



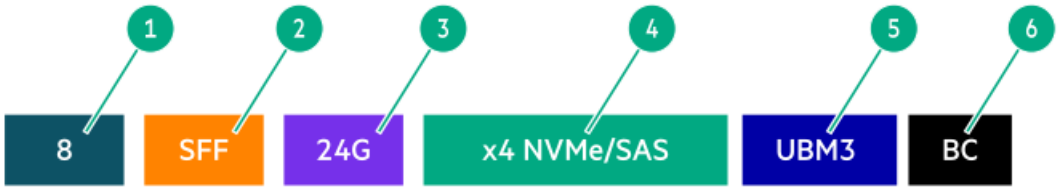
Item	Description	Example
1	Capacity [1]	16 GB 32 GB 64 GB 128 GB 256 GB
2	Rank	1R—Single rank 2R—Dual rank 4R—Quad rank 8R—Octal rank
3	Data width on DRAM	x4—4-bit x8—8-bit
4	Memory generation	PC5—DDR5
5	Maximum memory speed [1]	4800 MT/s 5600 MT/s
6	CAS latency	B—42-42-42 B—50-42-42 (for 128 GB and 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.

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
		E3.S—Enterprise and Datacenter Standard Form Factor (EDSFF)
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—U.2 NVMe [3]
		x4 NVMe—E3.S
5	Universal backplane manager (UBM) options	UBM2—Segregated SAS/SATA
		UBM3 or UBM6—Converged
		UBM4 or UBM6—Segregated U.2 NVMe
		UBM5 or UBM7—EDSFF
6	Drive carrier type	BC—Basic carrier (SFF)
		LP—Low-profile carrier (LFF)
		EC1—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 or x1 SAS and SATA drives.
3 CPU direct attach or tri-mode controller support for x4 U.2 NVMe drives.

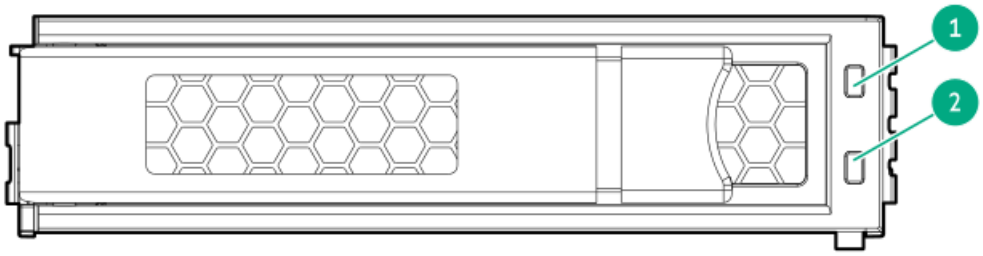
HPE Basic Drive LED definitions

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.

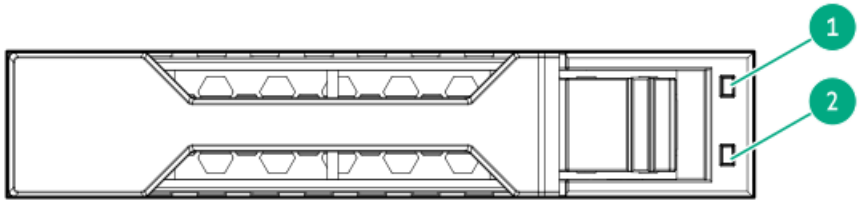
LFF low-profile drive carrier

The LFF low-profile drive carrier supports hot-plug SAS and SATA drives.



SFF basic drive carrier

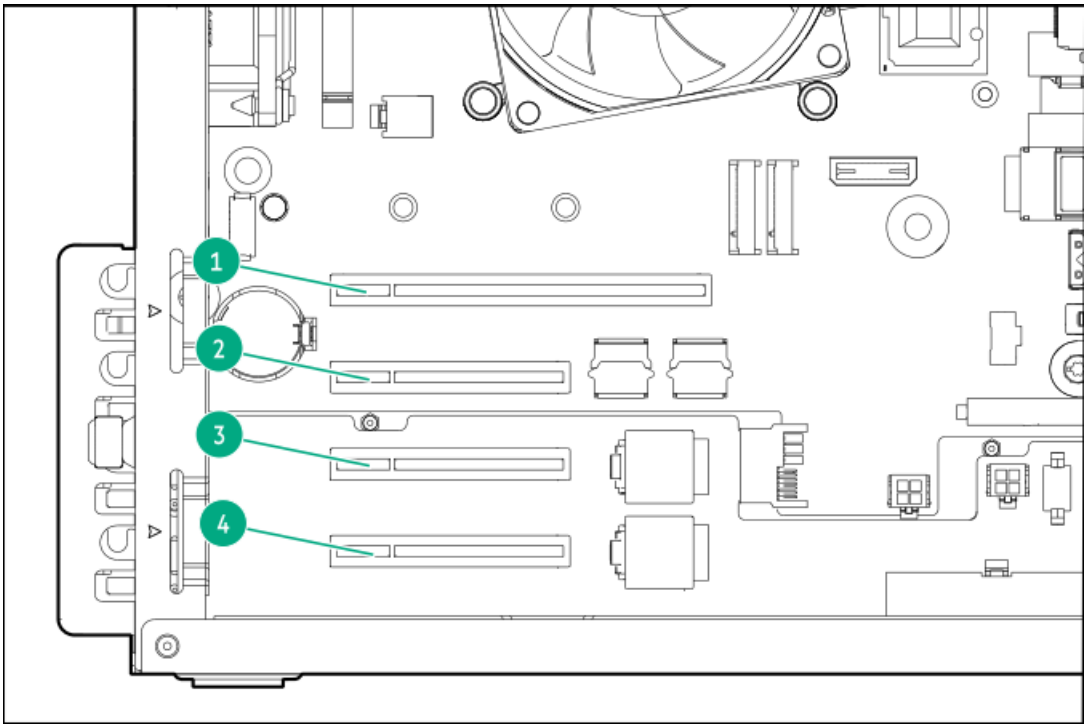
The SFF basic drive carrier supports hot-plug SAS and SATA drives.



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.

PCIe expansion slot definitions

IMPORTANT: If an Intel Pentium processor is installed, the data transfer rate (throughput) of the PCIe5 expansion slot 1 switches down to PCIe4 speed.



Slot number	Slot type	Slot power	Supported form factors
1	PCIe5 x16 (16, 8, 4, 1)	75 W	Full-height, full-length
2	PCIe4 x8 (4, 1)	25 W	Full-height, full-length
3	PCIe4 x8 (4, 1)	25 W	Full-height, half-length
4	PCIe4 x8 (4, 1)	25 W	Full-height, half-length

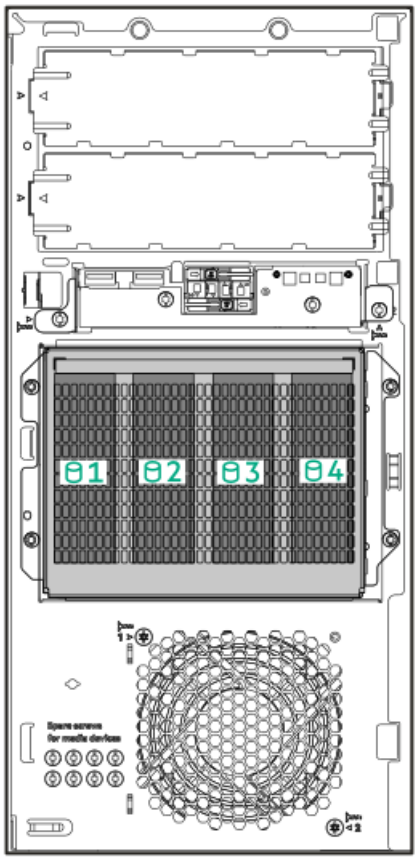
Drive bay numbering

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.

4 LFF non-hot-plug drive numbering

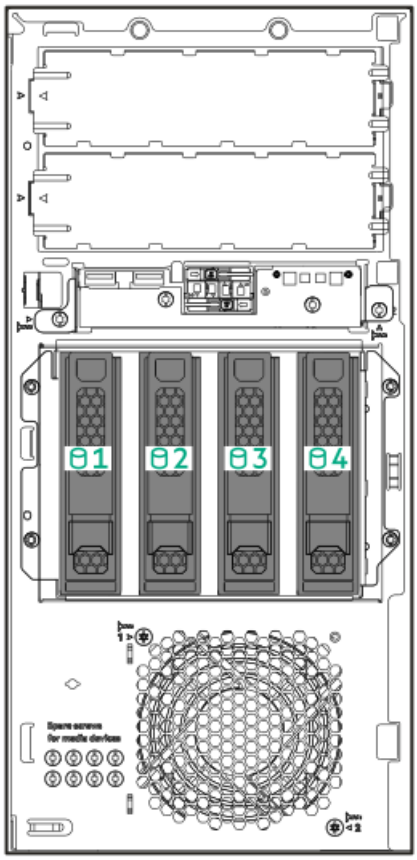
- SATA drives are supported.
- Onboard connection for Intel VROC SATA RAID support is through the SlimSAS x4 port 2.



4 LFF hot-plug drive numbering

The 4 LFF hot-plug drive configuration supports the 4 LFF 12G x1 SAS/SATA UBM3 BC BP drive backplane. For more information on the drive backplane description, see Drive backplane naming.

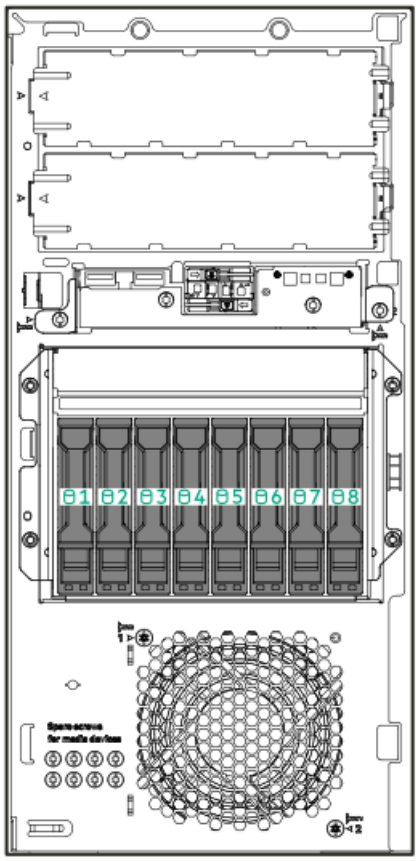
- SAS and SATA drives are supported.
- Onboard connection for Intel VROC SATA RAID support is through the SlimSAS x4 port 2.



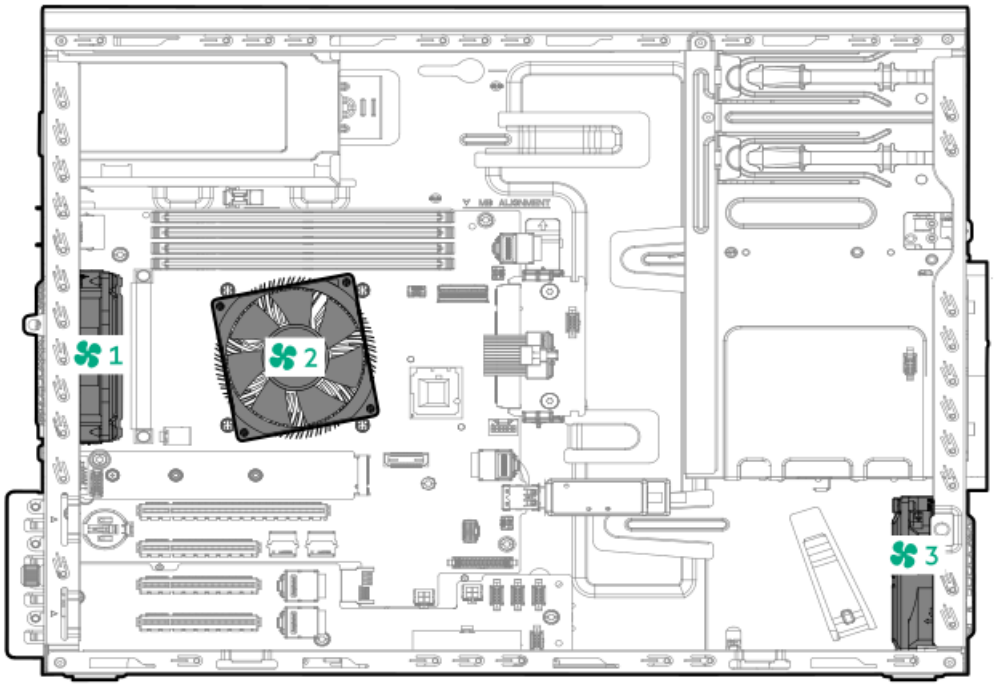
8 SFF hot-plug drive numbering

The 8 SFF hot-plug drive configuration supports the 8 SFF 12G x1 SAS/SATA UBM2 LP BP and the 8 SFF 12G x1 SAS UBM6 BC BP backplane option. For more information on the drive backplane description, see Drive backplane naming.

- SAS and SATA drives are supported.
- Onboard connection for Intel VROC SATA RAID support is through the SlimSAS x8 port 3 and SlimSAS x4 port 2.



Fan numbering



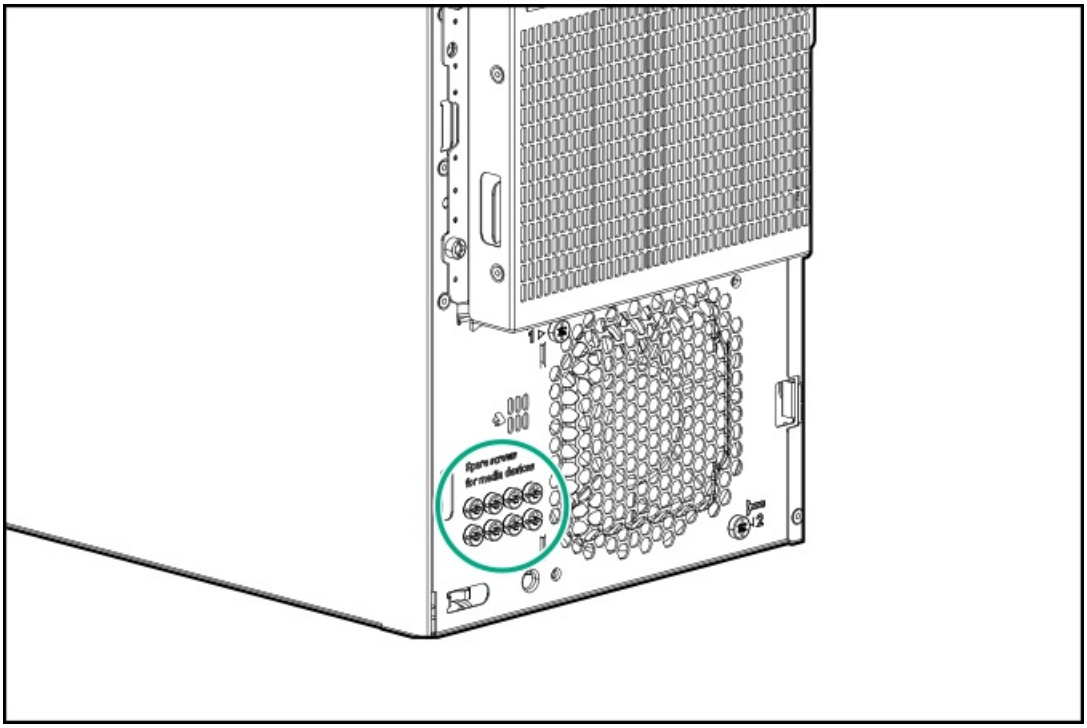
Fan number	Description
1	System fan
2	Heatsink fan
3	PCIe fan (optional)

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.

Media device screws



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/qs**). 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

BitLocker recovery key/password retention guidelines

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.

Hewlett Packard Enterprise SPECIAL REMINDER: Before enabling TPM functionality on this system, you must ensure that your intended use of TPM complies with relevant local laws, regulations and policies, and approvals or licenses must be obtained if applicable.

慧与特别提醒：在您启用系统中的TPM功能前，请务必确认您对TPM的使用遵守当地相关法律、法规及政策，并已事先获得所需的一切批准及许可（如适用），因您未获得相应的操作/使用许可而导致的违规问题，皆由您自行承担全部责任，与慧与无涉。

- When the embedded TPM is enabled:
  - In UEFI boot mode, the Trusted Platform Module operates in TPM 2.0 mode.
  - In legacy boot mode, the Trusted Platform Module operation is not supported.
- 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/UEFIGen11-UG-en
- 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.

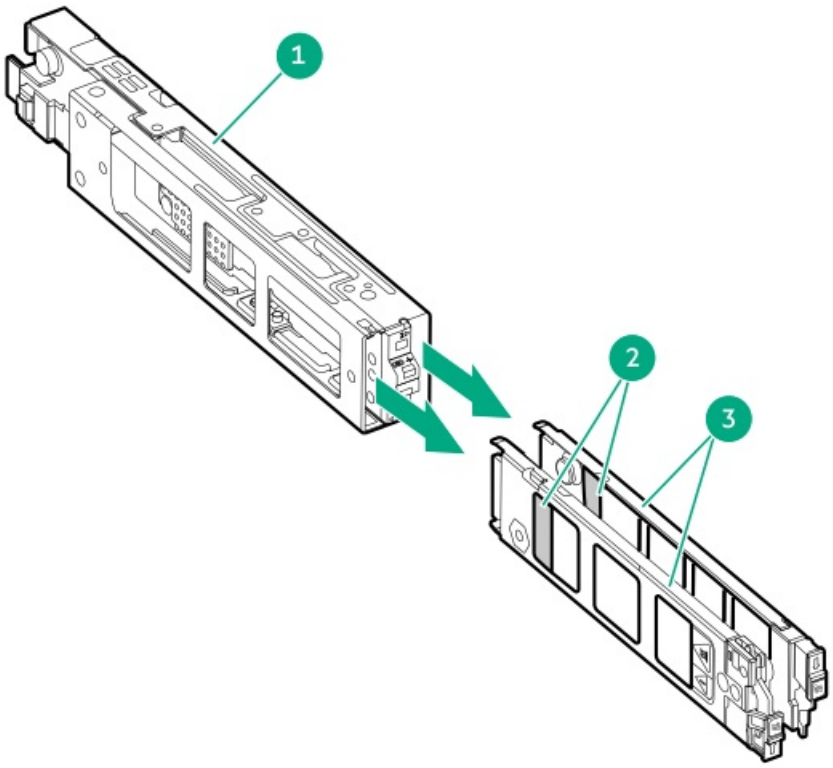
BitLocker recovery key/password retention guidelines

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:

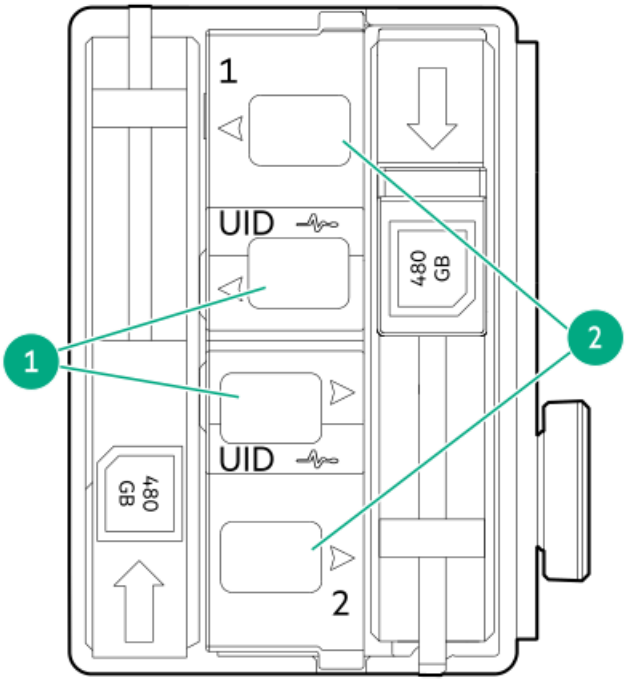
- Always store the recovery key/password in multiple locations.
- Always store copies of the recovery key/password away from the server.
- Do not save the recovery key/password on an encrypted drive.

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



Item	LED	Status	Definition
1	Fault/Locate	Solid amber	Drive has failed, unsupported, or invalid.
		Solid blue	Drive is operating normally and being identified by a management application.
		Flashing amber/blue (1 flash per second)	Drive has failed, or a predictive failure alert is received for the drive. The drive has also been identified by a management application.
		Flashing amber (1 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 a management application.
2	Online/Activity	Solid green	Drive is online and has no activity.
		Flashing green (1 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 or is a spare drive.

Cabling

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

Subtopics

Cabling guidelines

Cabling diagrams

Cabling guidelines

Observe the following:

- Some diagrams show alphabetical callouts A, B, C, etc. These callouts correspond to labels near the connectors on the cable.
- The cable colors in the cabling diagrams used in this chapter are for illustration purposes only.
- 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, 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

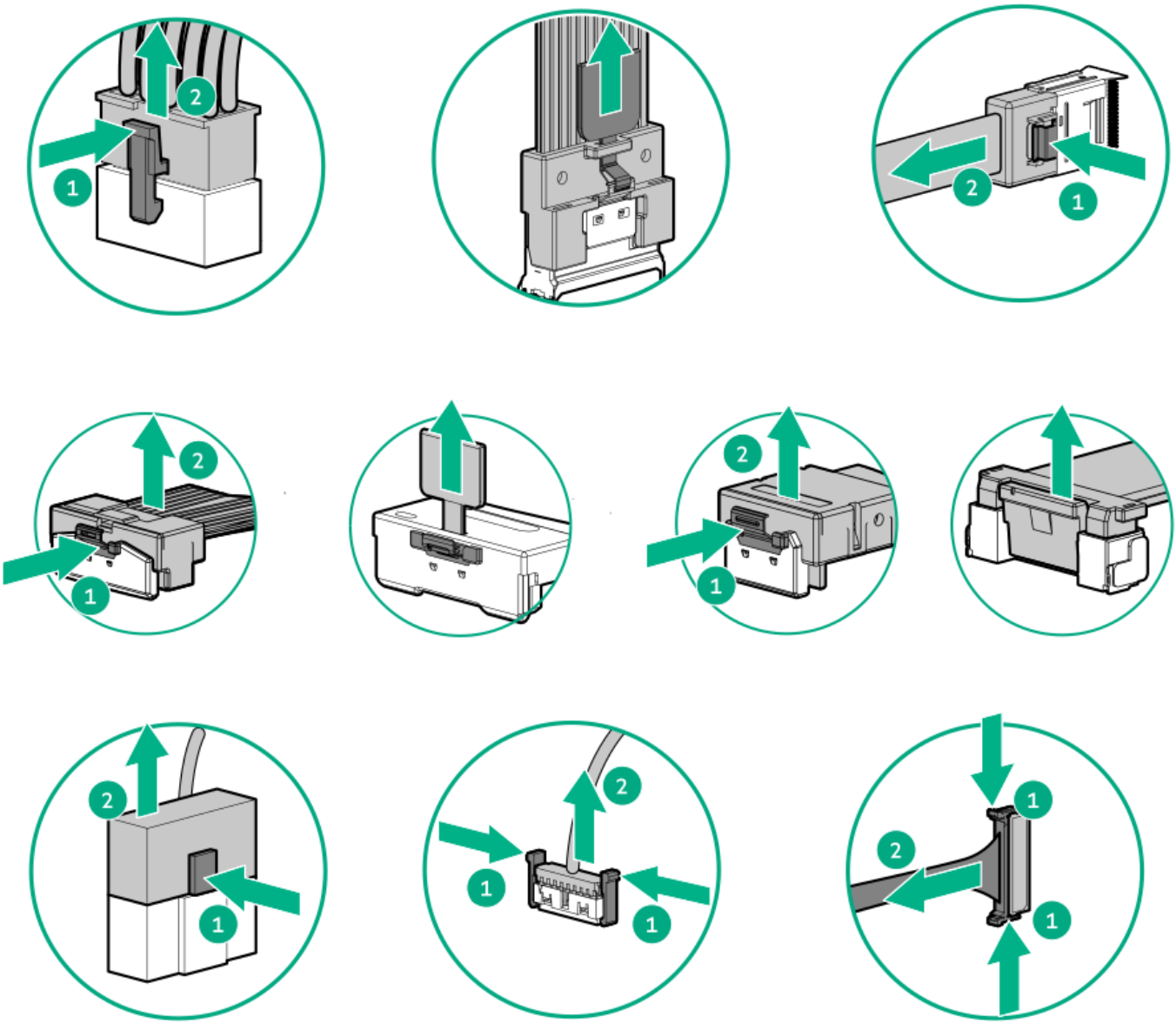
- Before connecting a cable to a port, lay the cable in place to verify the length of the cable.
- Use the internal cable management features to properly route and secure the cables.
- When routing cables, be sure that the cables are not in a position where they can be pinched or crimped.
- Avoid tight 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

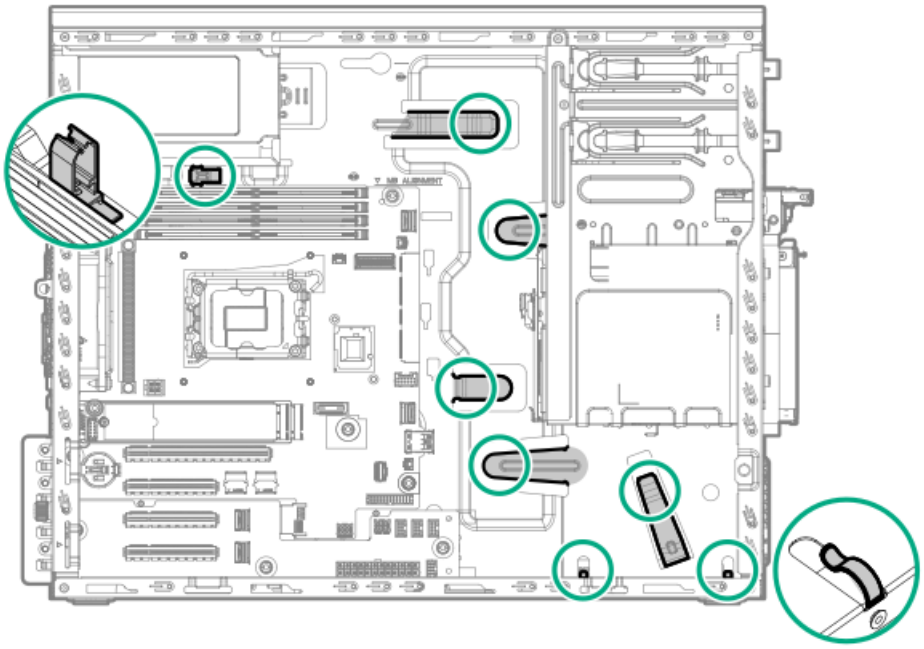
Observe the following:

- 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	—
4 LFF non-hot-plug drive: Onboard SATA cabling	P62714-001
4 LFF hot-plug drive: Onboard SATA cabling	P63074-001
4 LFF hot-plug drive: Type-p controller cabling	P55530-001
8 SFF hot-plug drive: Onboard SATA cabling	• P62716-001 • P63074-001
8 SFF hot-plug drive: Type-p controller cabling	P45301-001
Drive power cabling	—
4 LFF non-hot-plug drive power cabling from the Flexible Slot power supply	• P45215-001 • P06327-001
4 LFF / 8 SFF hot-plug drive power cabling from the non-hot-plug power supply	P45230-001
4 LFF hot-plug drive power cabling from the Flexible Slot power supply	P45215-001
8 SFF hot-plug drive power cabling from the Flexible Slot power supply	P45215-001
Storage controller backup cabling	877850-001
Media device cabling	—
RDX backup system cabling with non-hot-plug power supply	• 848126-001 • 880289-001
RDX backup system cabling with Flexible Slot power supply	• P45215-001 • 848126-001 • 880289-001
Optical drive cabling with non-hot-plug power supply	P62715-001
Optical drive cabling with Flexible Slot power supply	• P45215-001 • P62715-001
HPE NS204i-u Boot Device cabling	• P54087-001 • P54089-001
Power supply cabling	—
Non-hot-plug power supply cabling	• P62710-001 • P63697-001
Flexible Slot power supply cabling	• P62711-001 • P63691-001 • P62713-001 • P63697-001
GPU auxiliary power cabling	P45218-001
Miscellaneous cabling	—
PCIe x4 signal cabling for expansion slots 3 and 4	P62709-001
Serial port cabling	P63693-001
Front I/O cabling	P63681-001

Internal cabling management



Storage cabling

Subtopics

Storage controller cabling

Drive power cabling

Energy pack cabling

Storage controller backup power cabling

Storage controller cabling

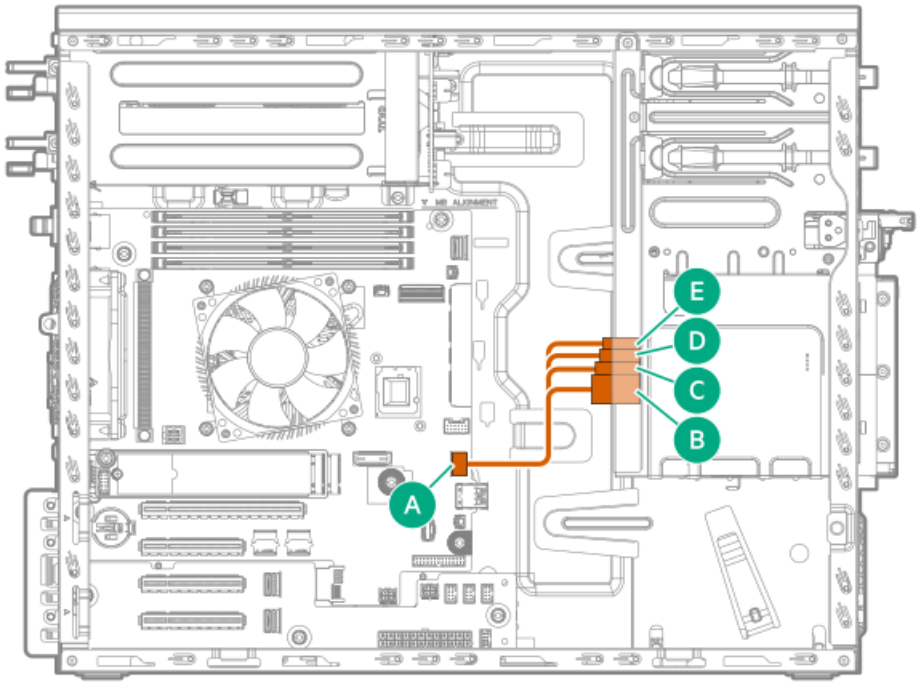
Subtopics

4 LFF drive controller cabling

8 SFF hot-plug drive controller cabling

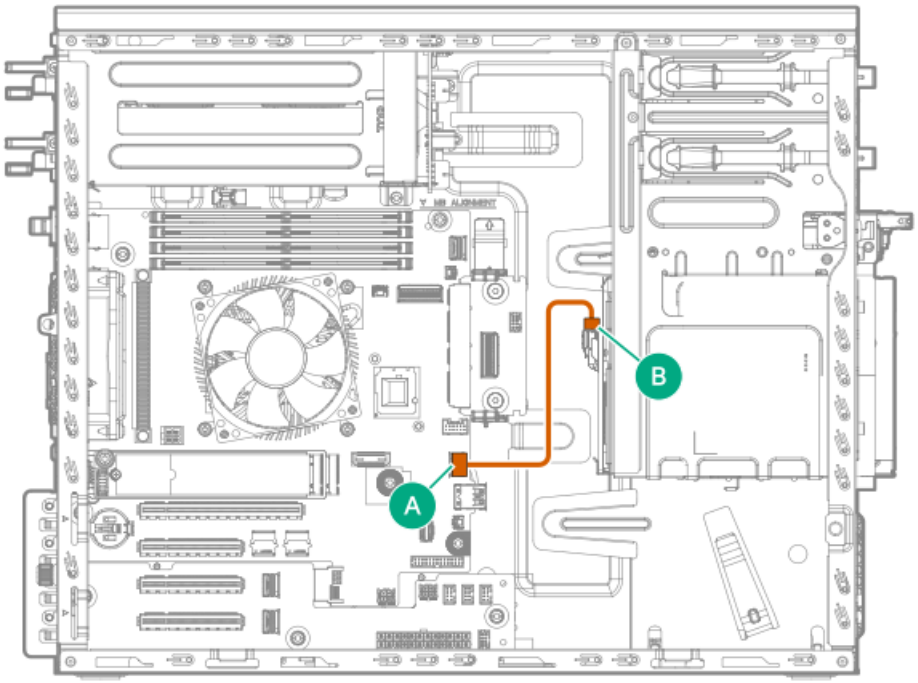
4 LFF drive controller cabling

4 LFF non-hot-plug drive: Onboard SATA cabling



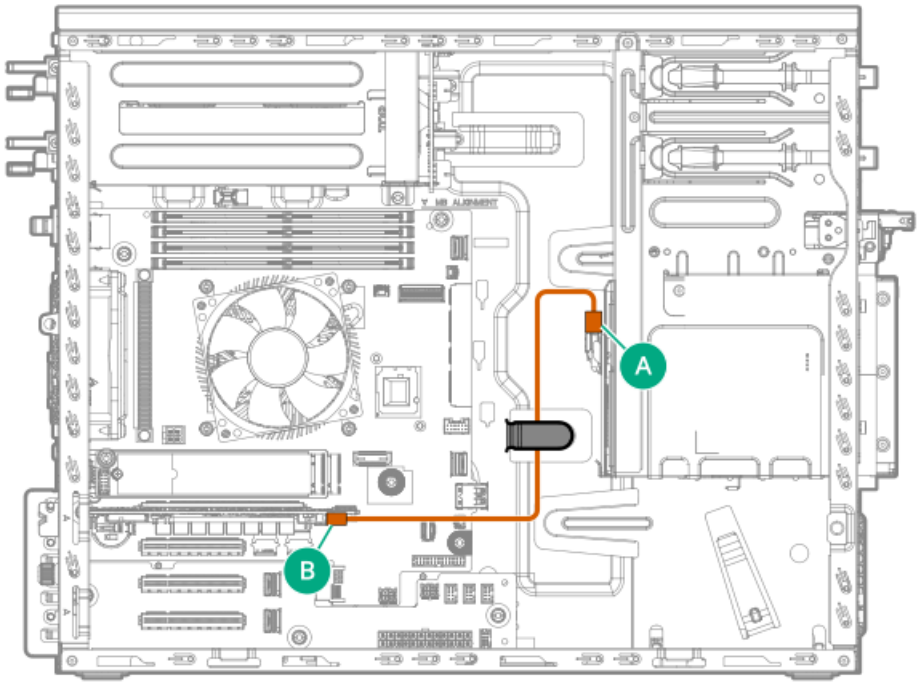
Cable part number	Color	From	To
P62714-001	Orange	SlimSAS x4 port 2	4 LFF non-hot-plug drives

4 LFF hot-plug drive: Onboard SATA cabling



Cable part number	Color	From	To
P63074-001	Orange	SlimSAS x4 port 2	4 LFF drive backplane

4 LFF hot-plug drive: Type-p controller cabling

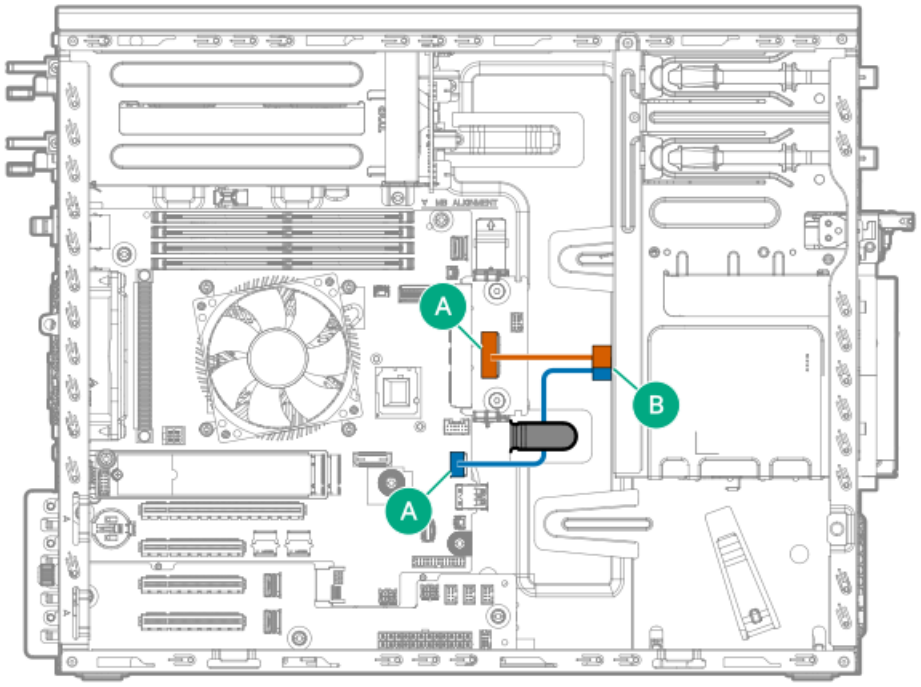


Cable part number	Color	From	To
P55530-001 [1]	Orange	4 LFF drive backplane	Type-p controller port 1

[1] Option kit: P57104-B21

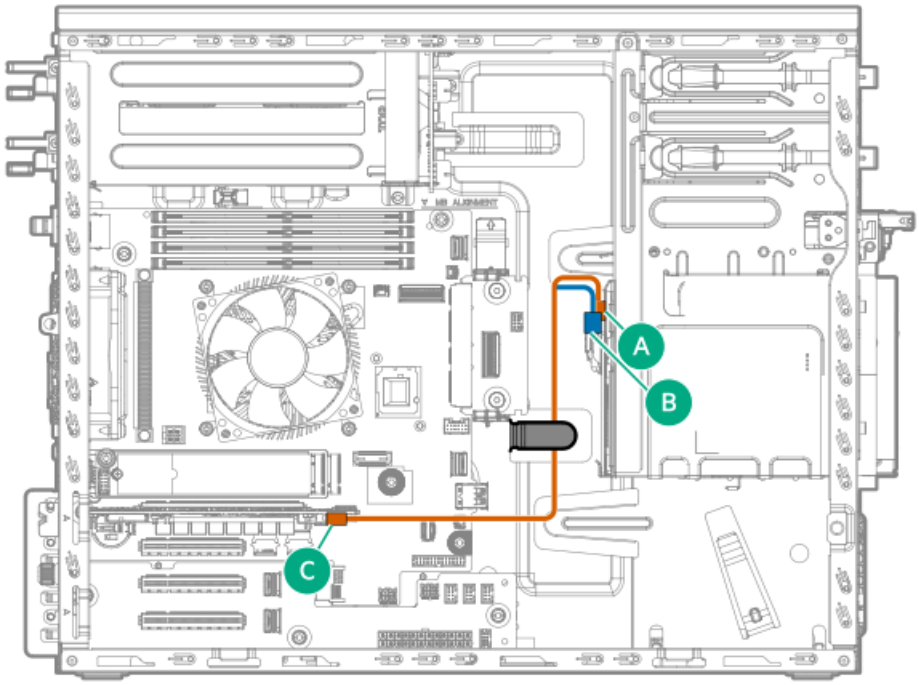
8 SFF hot-plug drive controller cabling

8 SFF hot-plug drive: Onboard SATA cabling



Cable part number	Color	From	To
P62716-001	Orange	SlimSAS x8 port 3	8 SFF drive backplane port 1
P63074-001	Blue	SlimSAS x4 port 2	8 SFF drive backplane port 2

8 SFF hot-plug drive: Type-p controller cabling

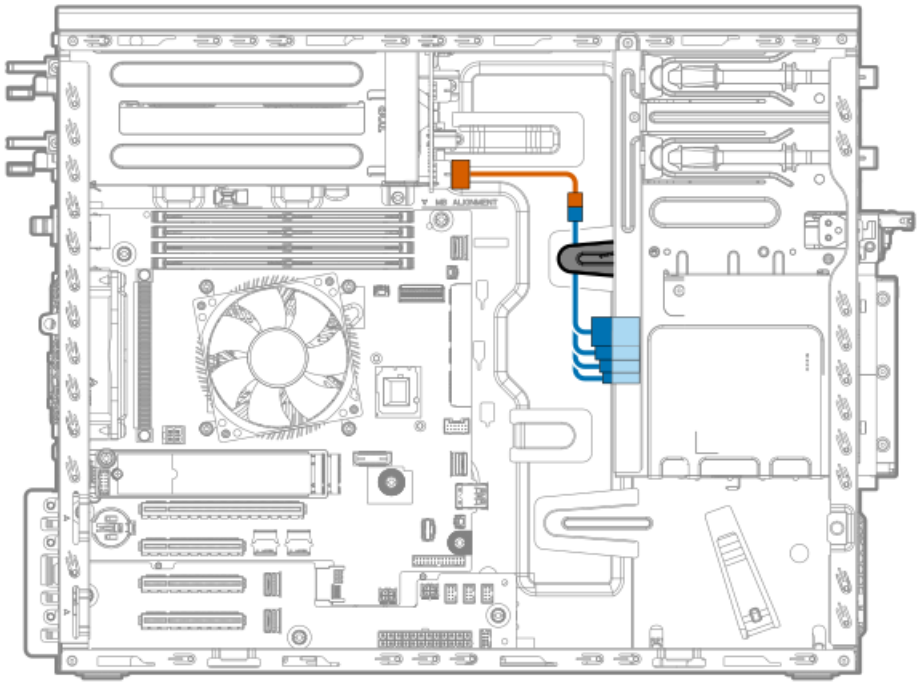


Cable part number	Color	From	To
P45301-001 [1]	Orange	Type-p controller port 1	8 SFF drive backplane port 2
	Blue		8 SFF drive backplane port 1

[1] Option kit: P67850-B21

Drive power cabling

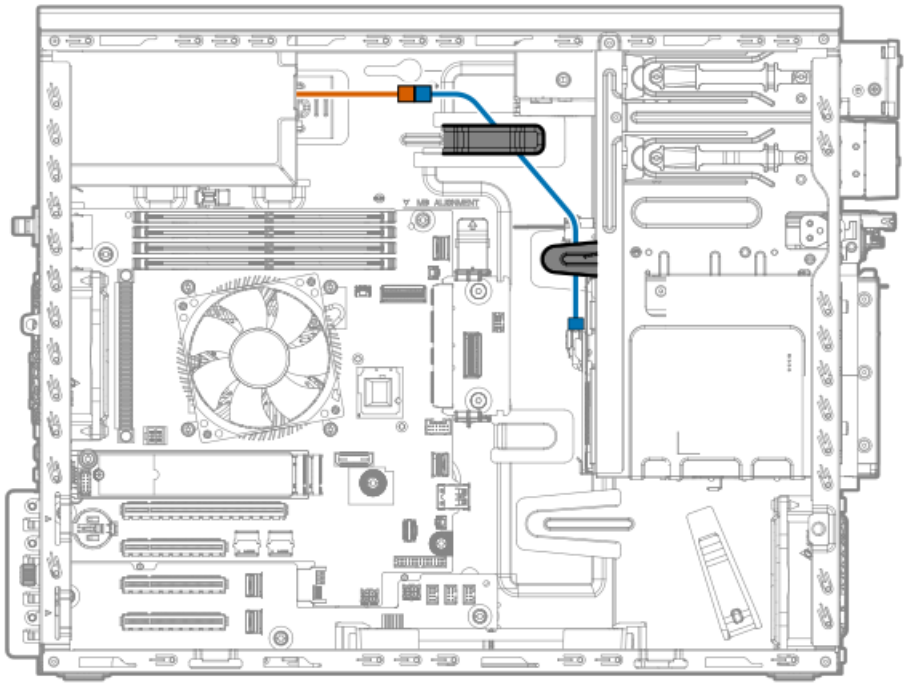
4 LFF non-hot-plug drive power cabling from the Flexible Slot power supply



Cable part number	Color	From	To
P45215-001 [1]	Orange	Flexible Slot power supply HDD power connector	SATA drive power cable
P06327-001	Blue	P45215-001 cable connected to the Flexible Slot power supply HDD power connector	4 LFF non-hot-plug drives

[1] Option kit: P65104-B21

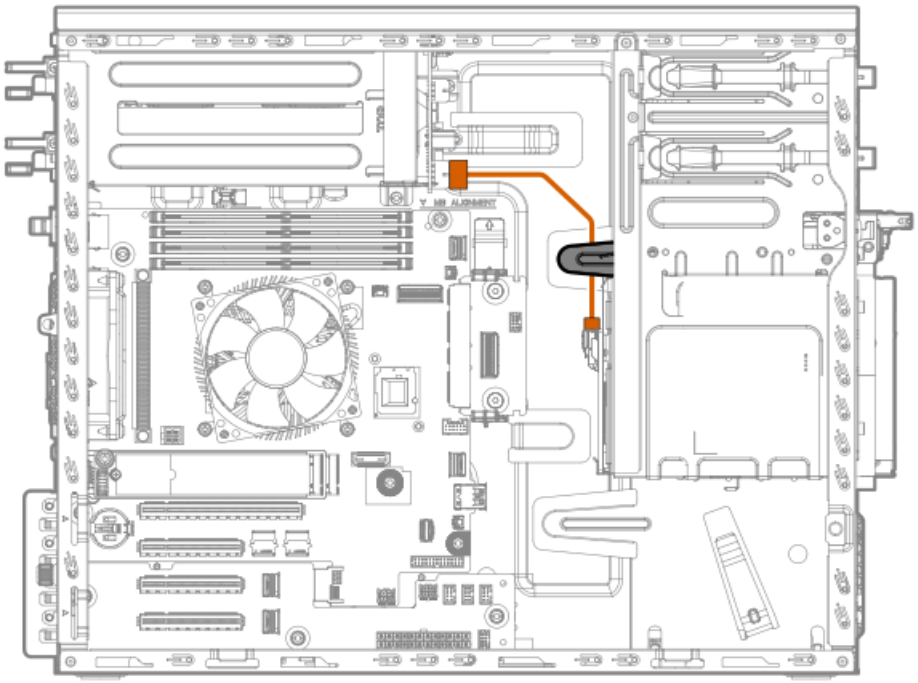
4 LFF / 8 SFF hot-plug drive power cabling from the non-hot-plug power supply



Cable part number	Color	From	To
—	Orange	Non-hot-plug power supply	4 LFF and 8 SFF drive backplane power cable
P45230-001 [1]	Blue	Non-hot-plug power supply cable	Drive backplane

[1] Option kit: P57104-B21

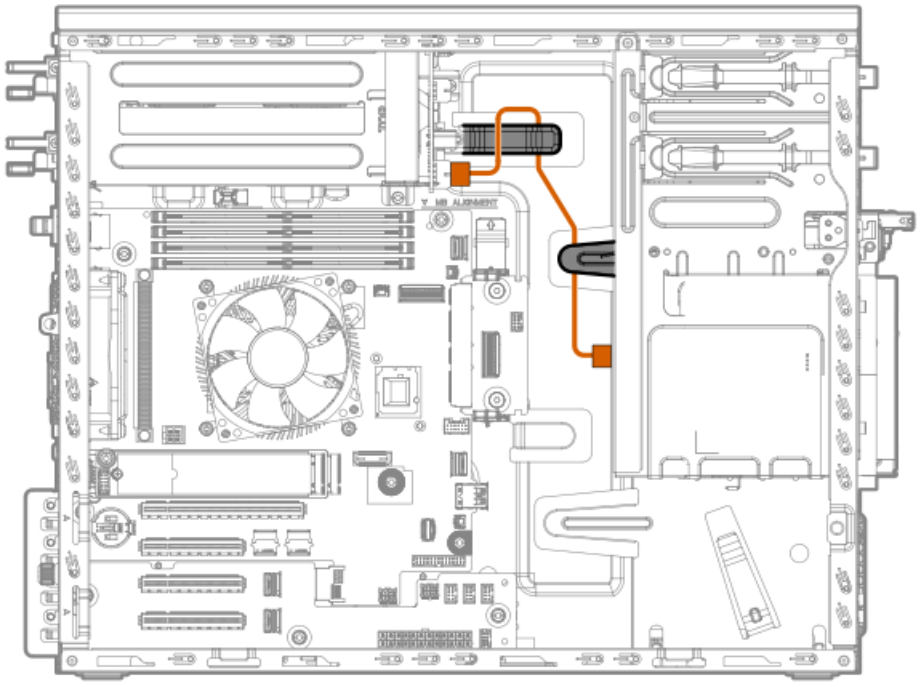
4 LFF hot-plug drive power cabling from the Flexible Slot power supply



Cable part number	Color	From	To
P45215-001 [1]	Orange	Flexible Slot power supply HDD power connector	Drive backplane

[1] Option kit: P65104-B21

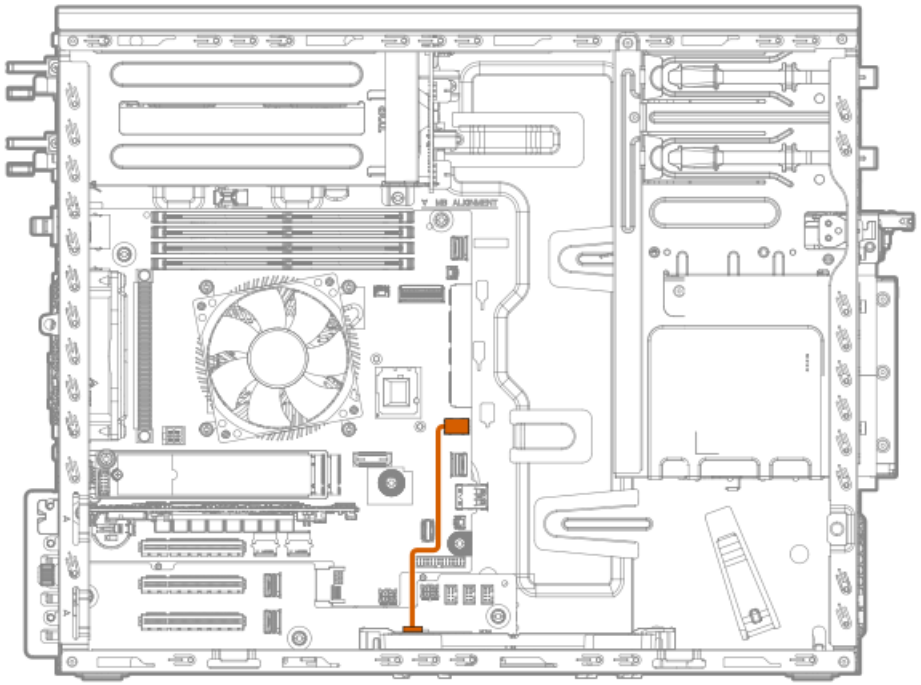
8 SFF hot-plug drive power cabling from the Flexible Slot power supply



Cable part number	Color	From	To
P45215-001 [1]	Orange	Flexible Slot power supply HDD power connector	Drive backplane

[1] Option kit: P65104-B21

Energy pack cabling

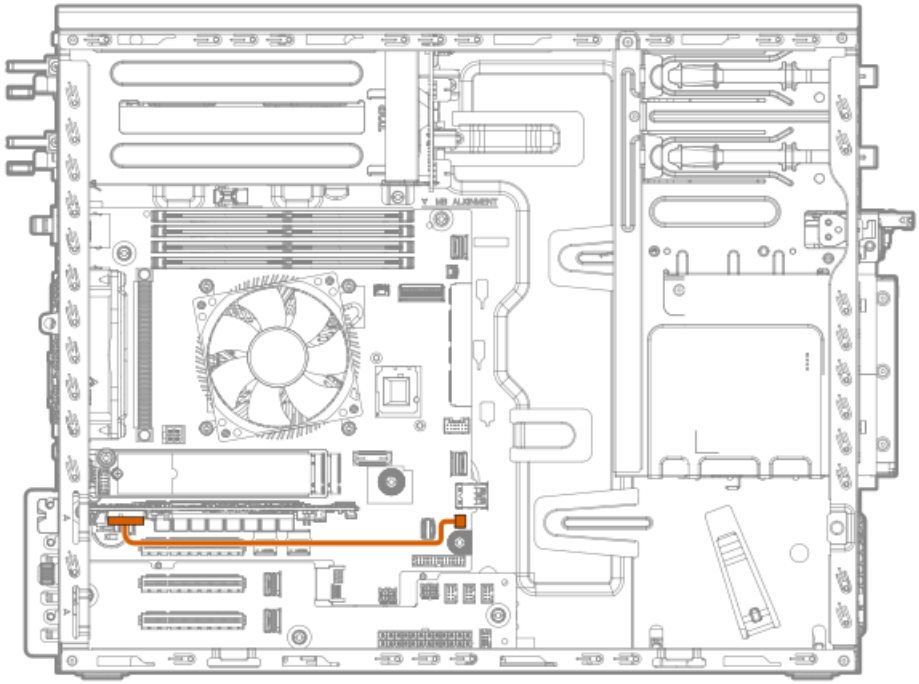


Storage controller backup power cabling

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

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

Use the following diagram for reference only.



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

Media device cabling

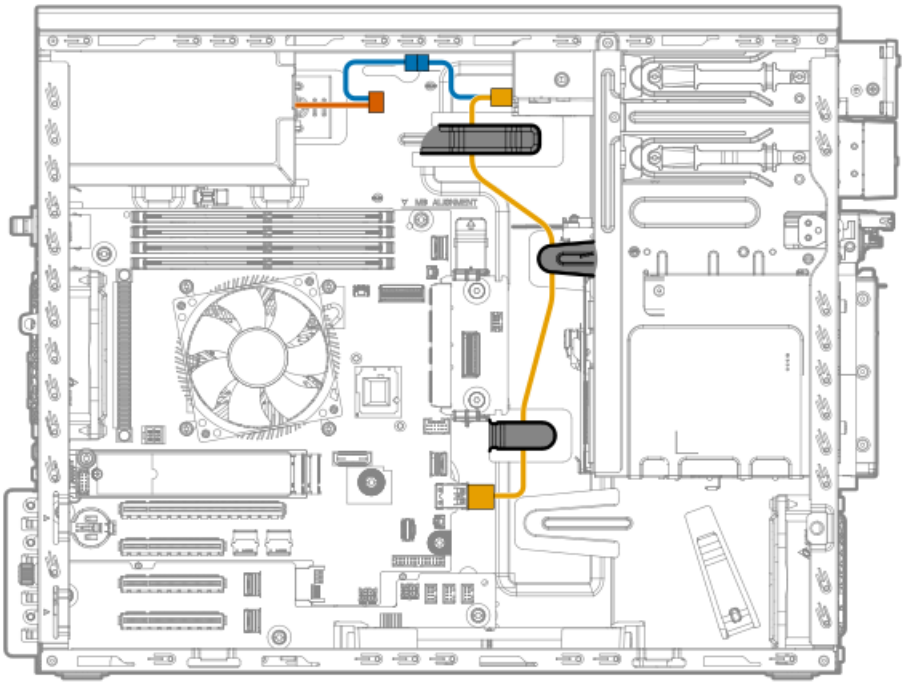
Subtopics

RDX backup system cabling

Optical drive cabling

RDX backup system cabling

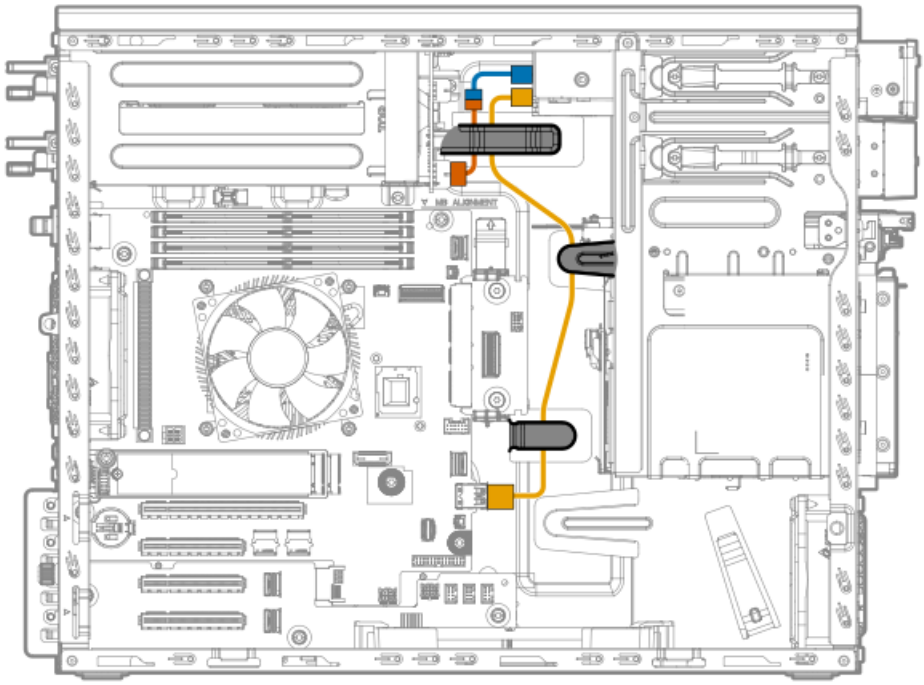
RDX backup system cabling with non-hot-plug power supply



Cable part number	Color	From	To
—	Orange	P10 connector of the non-hot-plug power supply	LTO/RDX power extension cable to RDX drive power connector
848126-001 [1]	Blue	LTO/RDX power extension cable to RDX drive power connector	RDX
880289-001 [2]	Gold	Internal, lower USB port	RDX drive USB port

[1] Option kit: 851615-B21
[2] Option kit: P03819-B21

RDX backup system cabling with Flexible Slot power supply

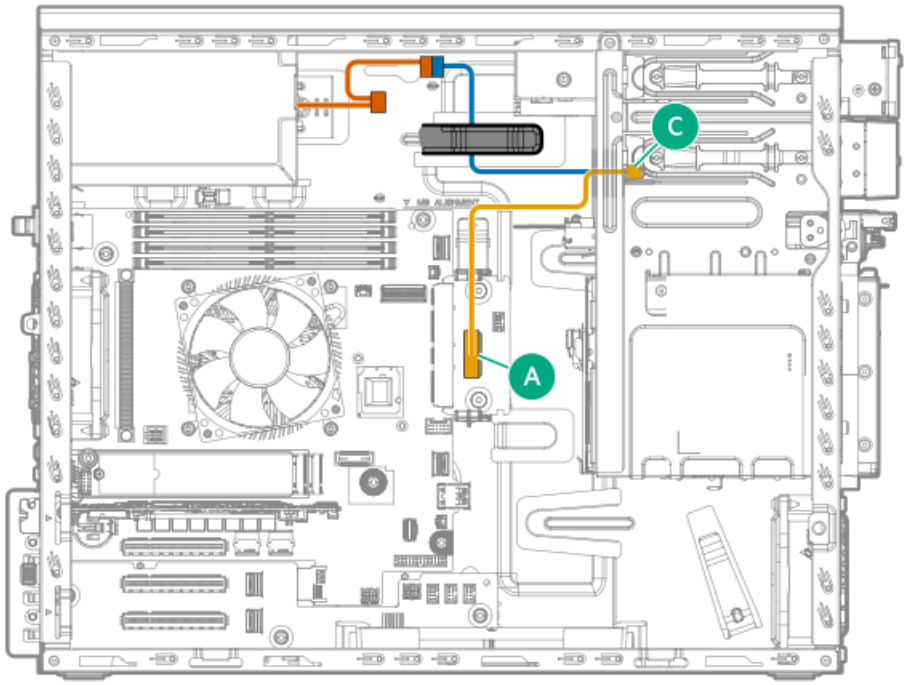


Cable part number	Color	From	To
P45215-001 [1]	Orange	Flexible Slot power supply HDD power connector	LTO/RDX power extension cable
848126-001 [2]	Blue	P2 or P4 connector of the Flexible Slot power supply cable	RDX drive power connector
880289-001 [3]	Gold	Internal, lower USB port	RDX drive USB port

1 Option kit: P65104-B21
2 Option kit: 851615-B21
3 Option kit: P03819-B21

Optical drive cabling

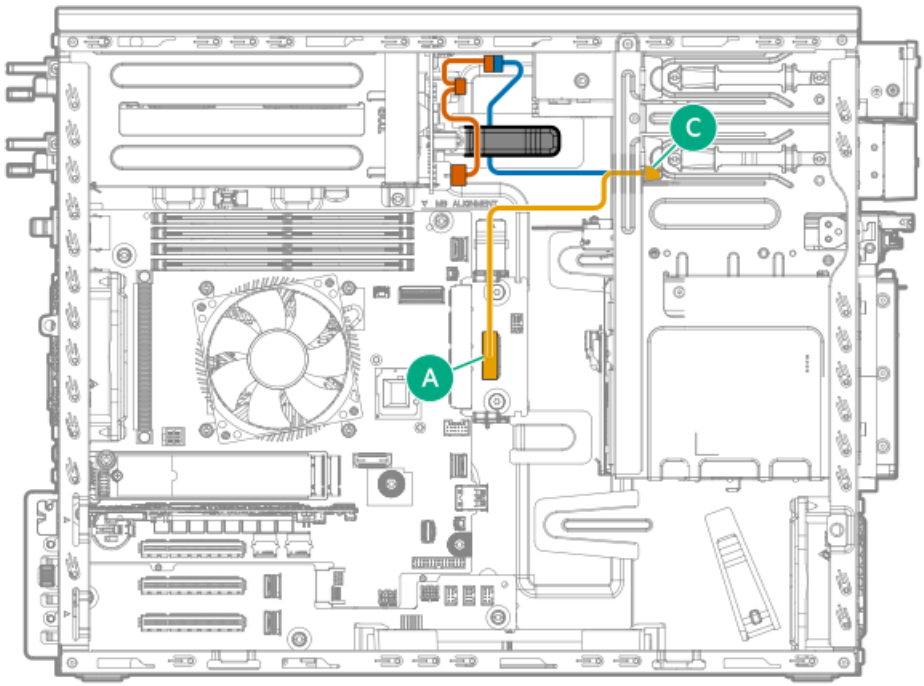
Optical drive cabling with non-hot-plug power supply



Cable part number	Color	From	To
—	Orange	Non-hot-plug power supply: P4 connector	Optical drive SATA-power Y-cable: 4-pin power connector
P62715-001 [1]	Blue	Non-hot-plug power supply: P4 connector	Optical drive SATA-power connector
	Gold	SlimSAS x8 port 3	Optical drive SATA-power connector

[1] Option kit: P65102-B21

Optical drive cabling with Flexible Slot power supply



Cable part number	Color	From	To
P45215-001 [1]	Orange	Flex Slot PDB: HDD PWR connector	Optical drive SATA-power Y-cable: 4-pin power connector
P62715-001 [2]	Blue	Flex Slot power fan-out cable: ODD PWR connector	Optical drive SATA-power connector
	Gold	SlimSAS x8 port 3	Optical drive SATA-power connector

1 Option kit: P65104-B21
2 Option kit: P65102-B21

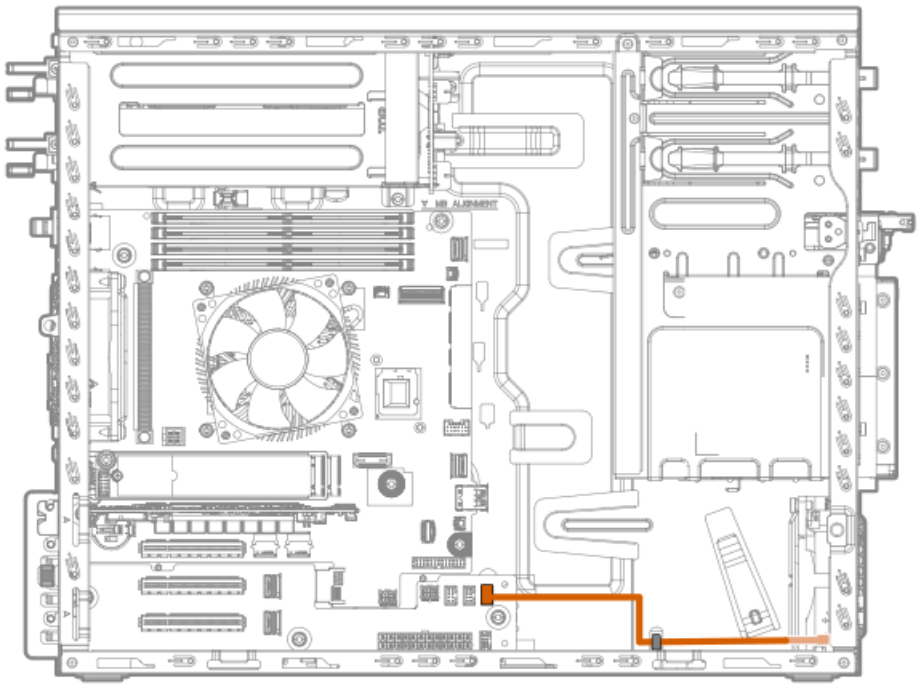
Fan cabling

Subtopics

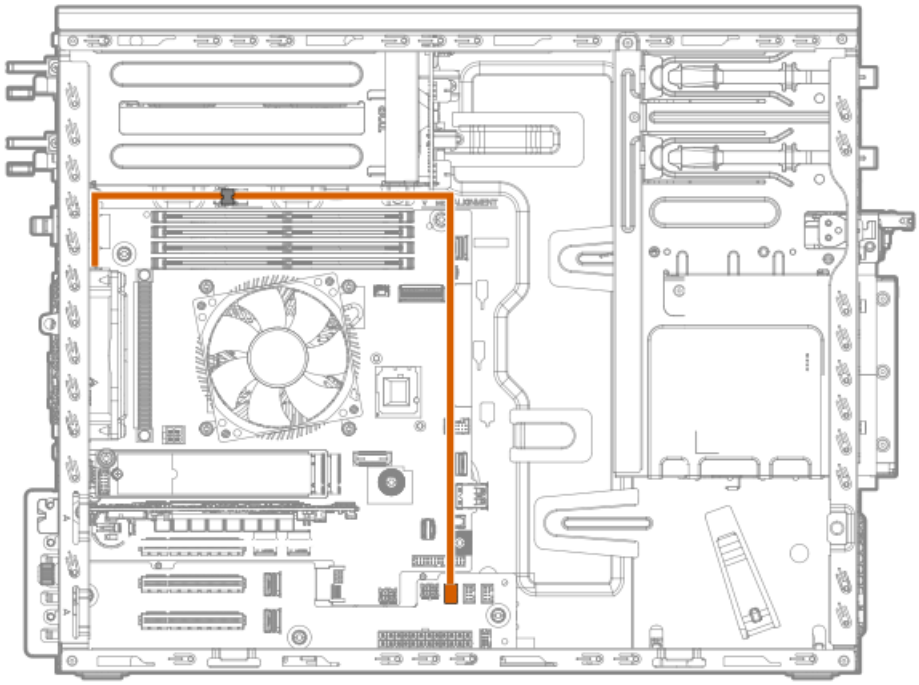
PCIe fan cabling

System fan cabling

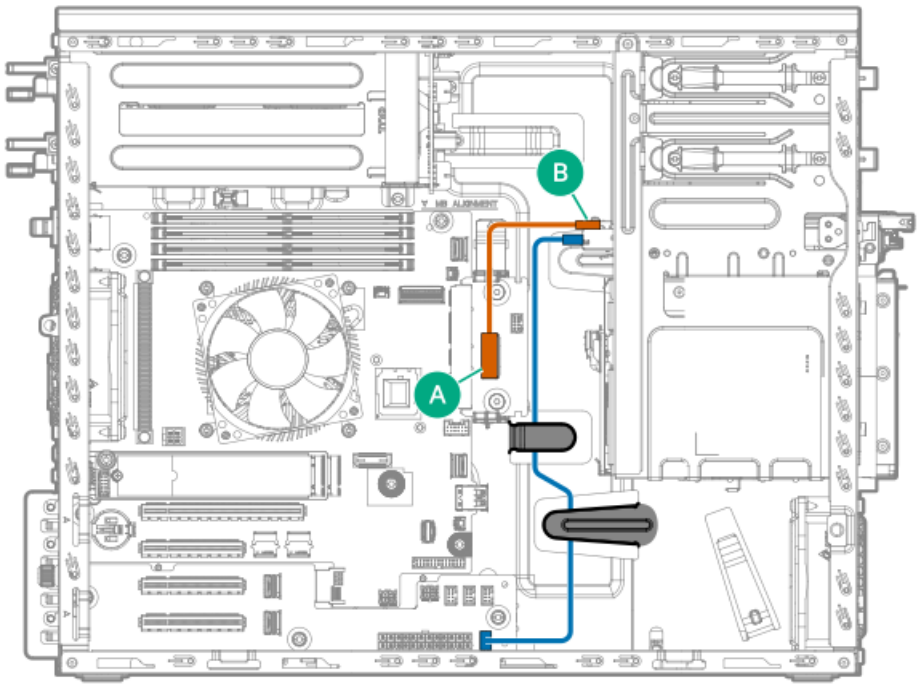
PCIe fan cabling



System fan cabling



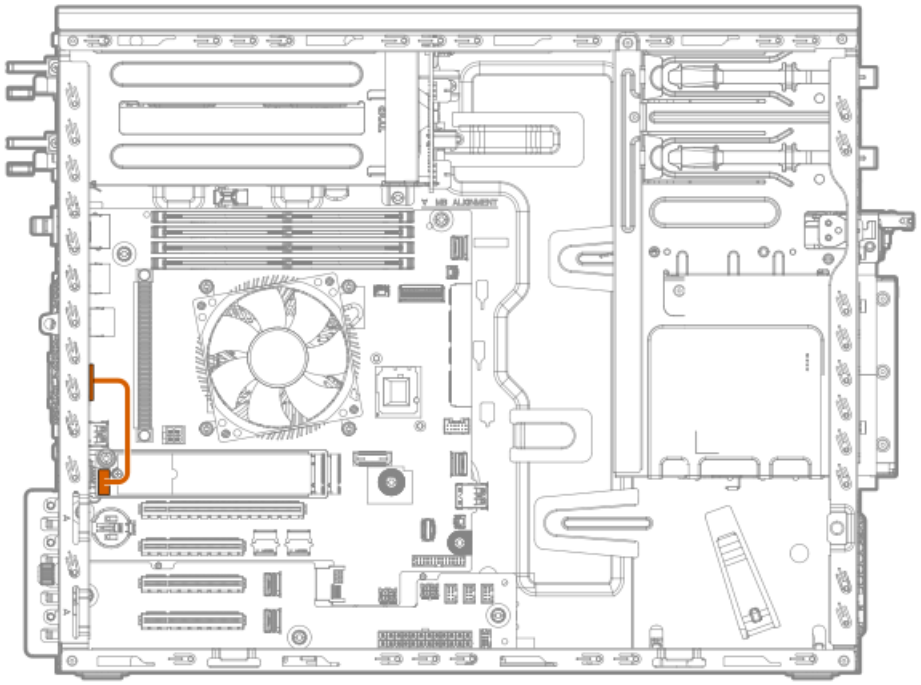
HPE NS204i-u Boot Device cabling



Cable part number	Color	From	To
P54087-001 [1]	Orange	SlimSAS x8 port 3	HPE NS204i-u Boot Device
P54089-001 [1]	Blue	HPE NS204i-u Boot Device	NS204i-u power connector

[1] Option kit: P65099-B21

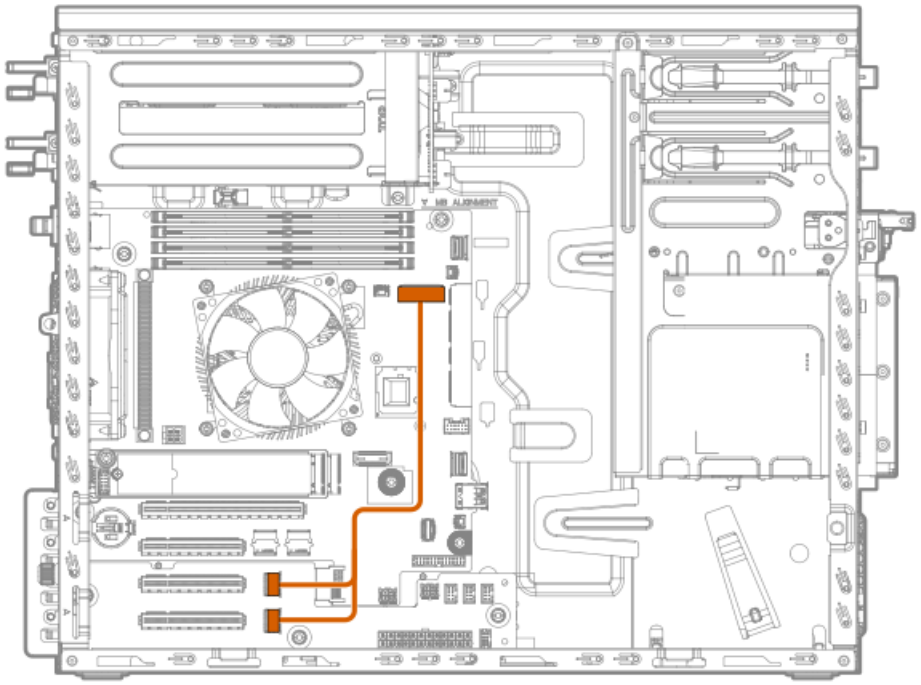
Serial port cabling



Cable part number	Color	From	To
P63693-001 [1]	Orange	iLO dedicated module	D89 connector on the iLO-M.2-serial module

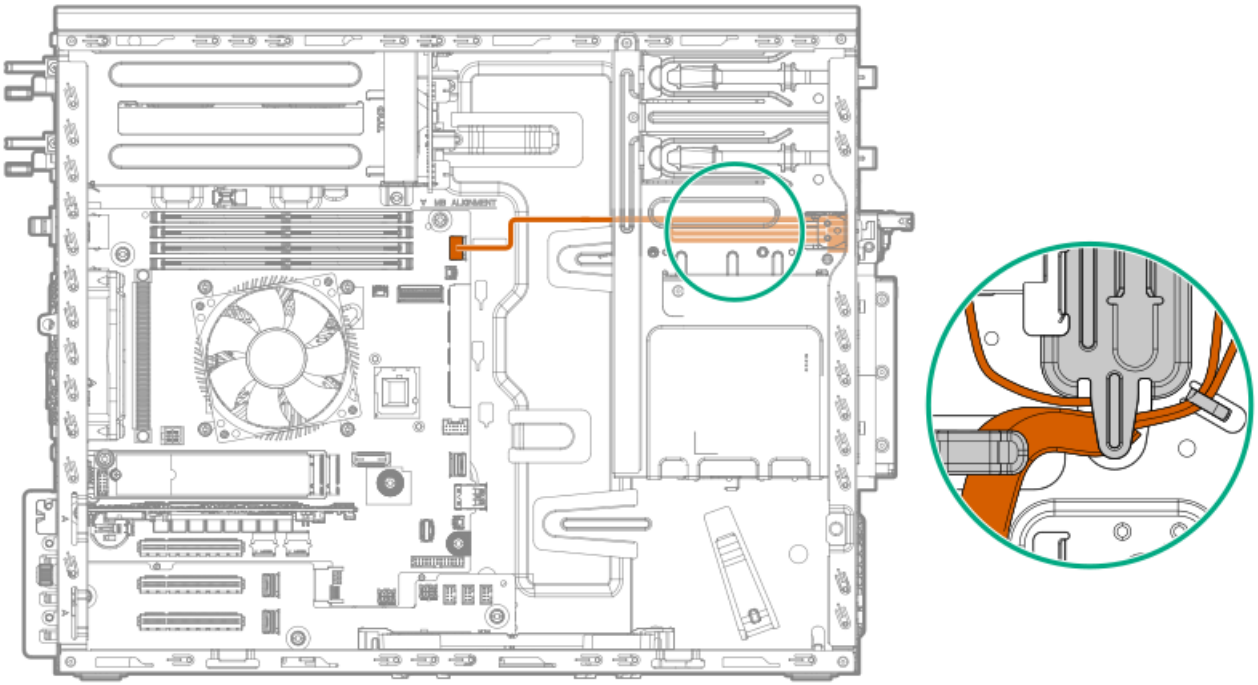
[1] Option kit: P65741-B21

PCIe x4 signal cabling for expansion slots 3 and 4



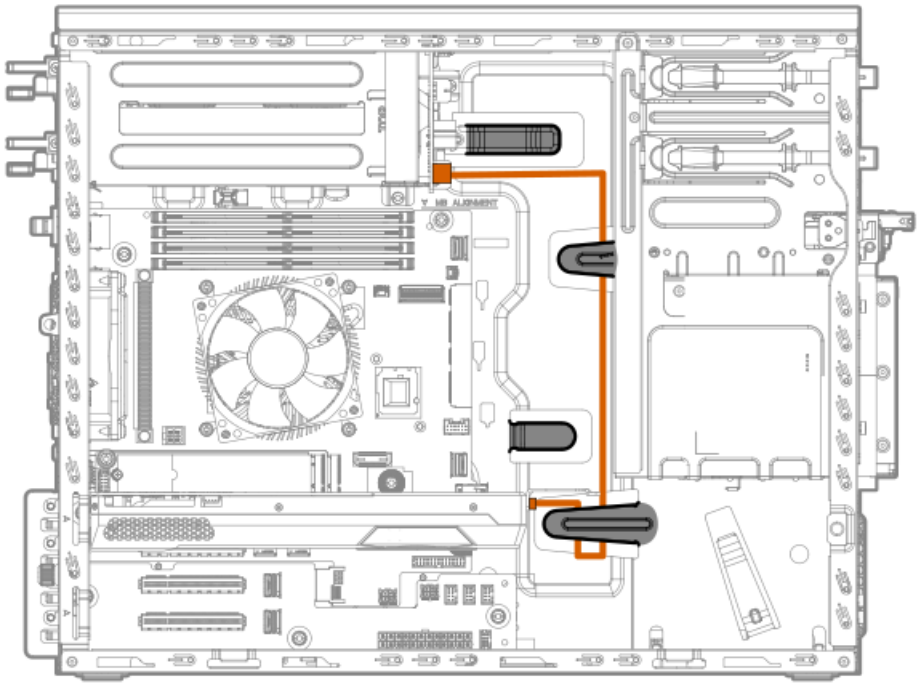
Cable part number	Color	From	To
P62709-001	Orange	SlimSAS x8 port 1	Slot 3 SimSAS x4 port 1 and Slot 4 SlimSAS x4 port 2

Front I/O cabling



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

GPU auxiliary power cabling



Cable part number	Color	From	To
P45218-001	Orange	GPU power connector	Graphics card power slot 1

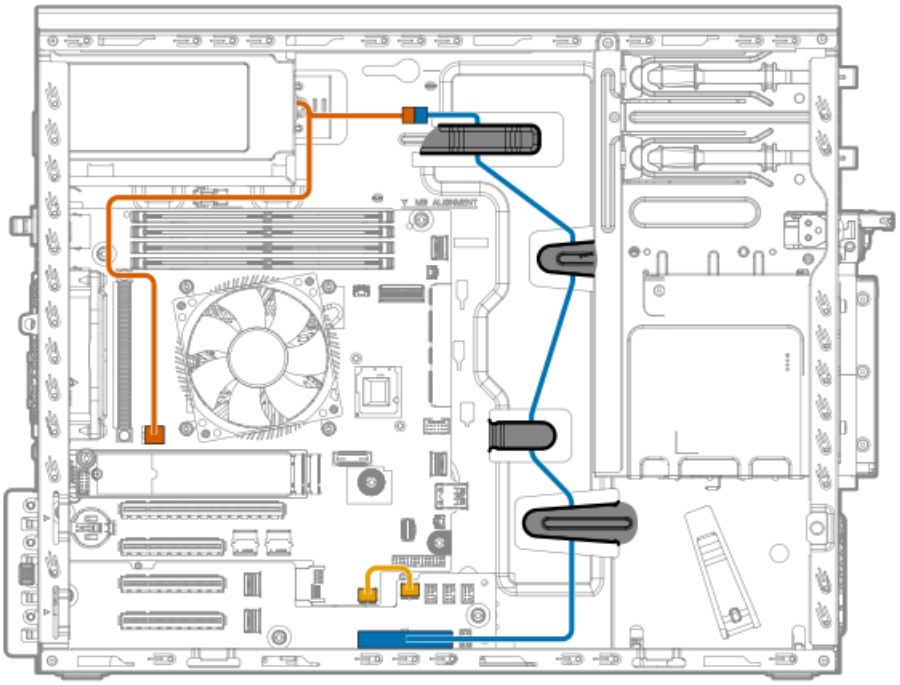
Power supply cabling

Subtopics

Non-hot-plug power supply cabling

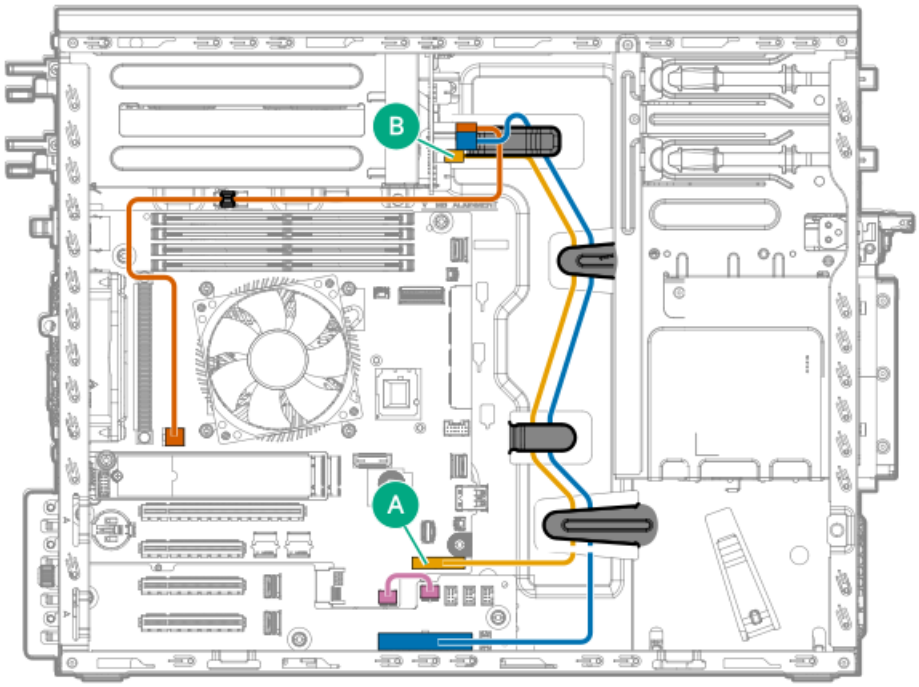
Flexible Slot power supply cabling

Non-hot-plug power supply cabling



Cable part number	Color	From	To
—	Orange	Non-hot-plug power supply	4-pin processor power connector
P62710-001	Blue	4-pin processor power cable	24-pin power supply connector
P63697-001	Gold	Mainboard: System power connector	PDB: System power connector

Flexible Slot power supply cabling



Cable part number	Color	From	To
P63691-001 [1]	Orange	CPU power connector	4-pin processor power connector
P62711-001 [1]	Blue	24P power connector	24-pin power supply connector
P62713-001 [1]	Gold	Sideband connector	Power supply sideband connector
P63697-001	Pink	Mainboard: System power connector	PDB: System power connector

[1] Option kit: P65104-B21

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://buy.hpe.com/us/en/p/1014788890**).
- 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 the most recent changes, feature enhancements, and bug fixes, see the latest product release notes.

Subtopics

Updating firmware or system ROM

To	Use
Download service packs	Service Pack for ProLiant (SPP) https://www.hpe.com/servers/spp/download
Deploy service packs to a single server	Smart Update Manager (SUM) https://www.hpe.com/info/sum-docs
Deploy service packs to multiple servers	HPE OneView https://www.hpe.com/support/oneview-docs
• 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 GreenLake for Compute Ops Management https://www.hpe.com/info/com-docs

Configuring the server

To configure	Use
Single server (GUI)	• Intelligent Provisioning https://www.hpe.com/info/intelligentprovisioning/docs • iLO remote console or web interface https://www.hpe.com/support/ilo6 • UEFI System Utilities https://www.hpe.com/info/UEFI-manuals • HPE GreenLake for Compute Ops Management https://www.hpe.com/info/com-docs
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/docs/redfishservices/ilos/ilo6/ • HPE GreenLake for Compute Ops Management API https://developer.greenlake.hpe.com/
Multiple servers (either UI or scripting)	• HPE OneView [1] https://www.hpe.com/support/oneview-docs • HPE GreenLake for Compute Ops Management https://www.hpe.com/info/com-docs ○ **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/ilo6**.

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
HPE MR Gen11 controllers	HPE MR Gen11 Controller User Guide https://hpe.com/support/MR-Gen11-UG 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 Gen11 User Guide https://hpe.com/support/VROC-Gen11-UG 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

Managing the HPE NS204i-u Boot Device

For more information on supported features and maintenance information for the HPE NS204i-u Boot Device, see the HPE NS204i-u Boot Device User Guide:

https://www.hpe.com/support/NS204-UG

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
Configure the server to boot from a SAN	HPE Boot from SAN Configuration Guide https://www.hpe.com/info/boot-from-san-config-guide
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
Deploy an OS using iLO virtual media	iLO user guide https://www.hpe.com/support/ilo6
Deploy an OS using Intelligent Provisioning	Intelligent Provisioning user guide https://www.hpe.com/info/intelligentprovisioning/docs

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

Optimizing the server

To	See
Optimize server performance through management and tuning features.	HPE Server Performance Management and Tuning Guide https://www.hpe.com/info/server-performance-management-tuning-en
Obtain recommendations for resolving incorrect settings.	HPE InfoSight for Servers User Guide https://www.hpe.com/support/InfoSight-for-Servers-UG-en

Server management

To monitor	See
Single server	HPE iLO https://www.hpe.com/support/ilo6
Multiple servers	HPE OneView https://www.hpe.com/support/oneview-docs
Single or multiple servers	HPE GreenLake for Compute Ops Management https://www.hpe.com/info/com-docs

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

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	36.83 cm (14.50 in)
Depth	47.50 cm (18.70 in)
Width	17.53 cm (6.90 in)
Weight, approximate values	—
Minimum	10.20 kg (22.50 lb)
Maximum	18.70 kg (41.20 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

HPE 350 W Gold Non-hot-plug Power Supply (92% efficiency)

Specification	Value
Input requirements	—
Rated input voltage	100 VAC to 240 VAC
Rated input frequency	47 Hz to 63 Hz
Rated input current	6 A
Rated input power	400 W at 115 VAC 400 W at 230 VAC
Efficiency	At 115 VAC: No less than 87% at 100% load No less than 90% at 50% load No less than 87% at 20% load At 230 VAC: 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	350 W at 115 VAC 350 W at 230 VAC
Maximum peak power	385 W at 115 VAC 385 W at 230 VAC
Rated output power	350 W

HPE 350 W Platinum Non-hot-plug Power Supply (94% efficiency)

Specification	Value
Input requirements	—
Rated input voltage	100 VAC to 240 VAC
Rated input frequency	47 Hz to 63 Hz
Rated input current	6 A
Rated input power	< 400 W at 115 VAC / 100% load < 400 W at 230 VAC / 100% load
Efficiency	At 115 VAC: No less than 89% at 100% load No less than 91.7% at 50% load No less than 90% at 20% load At 230 VAC: No less than 91% at 100% load No less than 94% at 50% load No less than 90% at 20% load
Power supply output	—
Rated steady-state power	350 W at 115 VAC 350 W at 230 VAC
Maximum peak power	385 W at 115 VAC 385 W at 230 VAC
Rated output power	350 W

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 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 ML30 Gen11 Server product page

https://buy.hpe.com/us/en/p/1014788890

HPE ProLiant ML30 Gen11 Server user documents

https://www.hpe.com/info/ml30gen11-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

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.