



HPE ProLiant DL325 Gen11 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 Agréé local.

Service de garantie "pièces seules"

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

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

Riparazione da parte del cliente

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

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

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

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

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

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

Servizio di garanzia per i soli componenti

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

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

Customer Self Repair

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

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

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

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

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

Parts-only Warranty Service (Garantieservice ausschließlich für Teile)

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

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

Reparaciones del propio cliente

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

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

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

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

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

Servicio de garantía exclusivo de componentes

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

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

Customer Self Repair

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

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

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

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

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

Garanteservice "Parts Only"

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

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

Reparo feito pelo cliente

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

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

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

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

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

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

Serviço de garantia apenas para peças

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

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

カスタマーセルフリペア

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

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

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

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

部品のみ保証サービス

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

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

客户自行维修

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

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

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

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

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

仅部件保修服务

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

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

客戶自行維修

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

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

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

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

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

僅限零件的保固服務

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

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

고객 셀프 수리

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

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

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

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

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

부품 제공 보증 서비스

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

System components

Server options

Mechanical components

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

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

https://sketchfab.com/3d-models/d7fa7fbff9244d118856cce7adc4239c/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	Front bezel spare part
2	Left chassis ear spare part
3	Energy pack retention latch spare part
4	Access panel spare part
5	Air baffle spare part
6	Energy pack holder spare part
7	DIMM guard spare parts
8	Secondary riser cage spare part
9	Primary riser cage spare part
10	Left OCP Slot 21 rail spare part
11	Right chassis ear spare part
12	LFF drive configuration middle cover spare part *
13	Chassis medium base pan spare part *
14	Serial port blank spare part *
15	OCP slot blank spare part *
16	Secondary riser cage blank spare part *
17	Cable management arm spare parts *
18	Rack rail spare parts *
19	DIMM blank spare part *
20	Universal media bay blank spare part *
21	Optical drive bay blank spare part *
22	SFF drive blank spare part *
23	LFF drive blank spare part *

Item	Description
24	<u>E3.S drive blank spare part</u> *

* Not shown

Subtopics

- Front bezel spare part
- Chassis ear spare parts
- Energy pack retention latch spare part
- Access panel spare part
- Air baffle spare part
- Energy pack holder spare part
- DIMM guard spare parts
- Primary / secondary riser cage spare part
- Left OCP Slot 21 rail spare part
- LFF drive configuration middle cover spare part
- Chassis medium base pan spare part
- Miscellaneous blank spare parts
- Secondary riser cage blank spare part
- Cable management arm spare parts
- Rack rail spare parts
- DIMM blank spare part
- Optical drive bay blank spare part
- Drive blank spare parts

Front bezel spare part

Customer self repair: **Mandatory**

Description	Spare part number
Front bezel	P60140-001

For more information on the removal and replacement procedures, see [Removing and replacing the front bezel](#).

Chassis ear spare parts

Customer self repair: **Mandatory**

Description	Spare part number
Right chassis ear assembly ¹ _—	P56500-001
GPU-optimized right chassis ear assembly ¹ _—	P52477-001
Left chassis ear	P56499-001

¹_— This spare part includes the chassis ear with the front I/O and USB cable.

For more information on the removal and replacement procedures, see [Chassis ears replacement](#).

Energy pack retention latch spare part

Customer self repair: **Mandatory**

Description	Spare part number
Energy pack retention latch	P39788-001

For more information on the removal and replacement procedures, see [Removing and replacing the energy pack retention latch](#).

Access panel spare part

Customer self repair: **Mandatory**

Description	Spare part number
Access panel	P52472-001

For more information on the removal and replacement procedures, see [Removing and replacing the access panel](#).

Air baffle spare part

Customer self repair: **Mandatory**

Description	Spare part number
Air baffle	P59129-001

For more information on the removal and replacement procedures, see [Removing and replacing the air baffle](#).

Energy pack holder spare part

Customer self repair: **Mandatory**

Description	Spare part number
Energy pack holder	P52800-001 ¹

¹ This is a miscellaneous component spare kit; only the energy pack holder listed in this table is used in this server.

For more information on the removal and replacement procedures, see [Removing and replacing the energy pack holder](#).

DIMM guard spare parts

Customer self repair: **Mandatory**

Description	Spare part number
This spare kit includes two components: <ul style="list-style-type: none"> • Left DIMM guard • Right DIMM guard 	P59128-001

For more information on the removal and replacement procedures, see [Removing and replacing a DIMM guard](#).

Primary / secondary riser cage spare part

Customer self repair: **Mandatory**

Description	Spare part number
Primary / secondary riser cage	P52459-001

For more information on the removal and replacement procedures, see [Removing and replacing the primary / secondary riser cage](#).

Left OCP Slot 21 rail spare part

Customer self repair: **Mandatory**

Description	Spare part number
Left OCP Slot 21 rail	P52474-001

For more information on the removal and replacement procedures, see [Removing and replacing the left OCP Slot 21 rail](#).

LFF drive configuration middle cover spare part

Customer self repair: **Mandatory**

Description	Spare part number
LFF drive configuration middle cover	P59453-001

For more information on the removal and replacement procedures, see [Removing and replacing the LFF drive configuration middle cover](#).

Chassis medium base pan spare part

Customer self repair: **Optional**

Description	Spare part number
Chassis medium base pan	P52473-001

For more information on the removal and replacement procedures, see [Removing and replacing the chassis medium base pan](#).

Miscellaneous blank spare parts

Customer self repair: **Mandatory**

Description	Spare part number
<ul style="list-style-type: none">OCP slot blankSerial port blankUniversal media bay blank	P56489-001 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 OCP slot blank](#)
- [Removing and replacing the serial port blank](#)
- [Removing and replacing the universal media bay blank](#)

Secondary riser cage blank spare part

Customer self repair: **Mandatory**

Description	Spare part number
Secondary riser cage blank	P60141-001

For more information on the removal and replacement procedures, see [Removing and replacing the secondary rise cage blank](#).

Cable management arm spare parts

Customer self repair: **Mandatory**

Description	Spare part number
HPE cable management arm for friction rack rail #1, #2, #3 or #5	P38900-001
	P74370-001
HPE cable management arm for friction rack rail #7 or #9	P22820-001
	P74408-001

For more information on the removal and replacement procedures, see [Removing and replacing the cable management arm](#).

Rack rail spare parts

Customer self repair: **Mandatory**

Description	Spare part number
HPE Easy Install friction rack rail kit #2	P59490-001
HPE Easy Install friction rack rail kit #3	P58211-001
HPE Easy Install friction rack rail kit #7	P58529-001

For more information on the removal and replacement procedures, see [Removing and replacing the friction rack rails](#).

DIMM blank spare part

Customer self repair: **Mandatory**

Description	Spare part number
DIMM blank	812914-001

For more information on the removal and replacement procedures, see [Removing and replacing a DIMM blank](#).

Optical drive bay blank spare part

Customer self repair: **Mandatory**

Description	Spare part number
Optical drive bay blank	707300-001

For more information on the removal and replacement procedures, see [Removing and replacing the optical drive bay blank](#).

Drive blank spare parts

Customer self repair: **Mandatory**

Description	Spare part number
LFF drive blank	827363-001
SFF drive blank	670033-001
E3.S drive blank	P52488-001

For more information on the removal and replacement procedures, see [Removing and replacing a drive blank](#).

System components

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

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

https://sketchfab.com/3d-models/54884718e6ee42568d95be5b49226f80/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	Liquid cooling fan spare part
2	Closed-loop liquid cooling module spare part
3	Processor spare parts
4	DIMM spare parts
5	Power supply spare parts
6	System battery spare part
7	System board assembly spare part
8	8 E3.S drive backplane spare parts *

Item	Description
9	2 SFF drive backplane spare parts *
10	20 E3.S drive backplane spare part *
11	4 LFF drive backplane spare part *
12	High performance heatsink spare part *
13	Standard heatsink spare part *
14	Standard / high performance fan spare part *
15	GPU spare parts * For more information on the removal and replacement procedures, see: <ul style="list-style-type: none"> • Removing and replacing the GPU from the GPU riser cage • Removing and replacing the GPU from the primary riser
16	GPU riser spare parts *
17	LFF drive spare part * For more information on the removal and replacement procedures, see Removing and replacing a hot-plug LFF drive .
18	E3.S drive spare part * For more information on the removal and replacement procedures, see Removing and replacing a hot-plug E3.S drive .
19	SFF drive spare part * For more information on the removal and replacement procedures, see Removing and replacing a hot-plug SFF drive .
20	Drive cable spare parts *
21	GPU riser power Y-cable spare part *
22	GPU auxiliary power cable spare part *
23	Direct liquid cooling cold plate module spare parts *

* Not shown

Subtopics

[Fan spare parts](#)

[Liquid cooling solution spare parts](#)

[Processor spare parts](#)

[DIMM spare parts](#)

[Power supply spare parts](#)

[System battery spare part](#)

- [System board assembly spare part](#)
- [Drive backplane spare parts](#)
- [Heatsink spare parts](#)
- [GPU riser spare parts](#)
- [Drive cable spare parts](#)
- [GPU riser power Y-cable spare part](#)
- [GPU auxiliary power cable spare part](#)

Fan spare parts

Customer self repair: **Mandatory**

Description	Spare part number
Standard fan	P53226-001
High performance fan	P53227-001
Liquid cooling fan	P53225-001

For more information on the removal and replacement procedures, see [Removing and replacing a fan.](#)

Liquid cooling solution spare parts



IMPORTANT

Maximum Usage Limitation Reminders:

- The closed-loop liquid cooling module used in this server is subject to a Maximum Usage Limitation not to exceed five (5) years of operation. After reaching this five (5) year limit, it is required that the liquid cooling module be replaced. Parts and components that Hewlett Packard Enterprise determines have reached or exceeded their Maximum Usage Limitation will not be provided, repaired, or replaced under a warranty or service contract. Contact your local HPE sales representative for additional information.
- To remind users of the operational life of the liquid cooling module, iLO will send notification message at 4 years and 6 months, at 4 years and 9 months, and at 5 years of operation. This iLO notification feature is available starting in iLO 6 v1.59.

Customer self repair: **Optional**

Description	Spare part number
Closed-loop liquid cooling module	P59989-001
DLC cold plate module from PCIe	P82063-001
DLC cold plate module from NS204i-u	P82062-001
DLC Hose Set (SVRtoMAN) 55 cm QD ¹ _—	P63155-001
DLC Hose Set (SVRtoMAN) 45 cm QD ² _—	P63156-001

¹ This is supported in the non-GPU-optimized configuration.

² This is supported on the GPU-optimized server.

For more information on the removal and replacement procedures, see [Liquid cooling module replacement](#).

Processor spare parts

Customer self repair: **Mandatory**

Description	Spare part number
4th Gen AMD EPYC Processors	—
AMD EPYC 9124, 3.00 GHz, 16C, 200 W	P54064-001
AMD EPYC 9174F, 4.10 GHz, 16C, 320 W	P54060-001
AMD EPYC 9184X, 3.55 GHz, 16C, 320 W	P63501-001
AMD EPYC 9224, 2.50 GHz, 24C, 200 W	P58633-001
AMD EPYC 9254, 2.90 GHz, 24C, 200 W	P54069-001
AMD EPYC 9274F, 4.05 GHz, 24C, 320 W	P54073-001
AMD EPYC 9334, 2.70 GHz, 32C, 210 W	P54074-001
AMD EPYC 9354P, 3.25 GHz, 32C, 280 W	P54066-001
AMD EPYC 9374F, 3.85 GHz, 32C, 320 W	P54072-001
AMD EPYC 9384X, 3.10 GHz, 32C, 320 W	P63502-001
AMD EPYC 9454P, 2.75 GHz, 48C, 290 W	P54071-001
AMD EPYC 9474F, 3.60 GHz, 48C, 360 W	P54068-001
AMD EPYC 9534, 2.45 GHz, 64C, 280 W	P54061-001
AMD EPYC 9554P, 3.10 GHz, 64C, 360 W	P54065-001
AMD EPYC 9634, 2.25 GHz, 84C, 290 W	P54067-001
AMD EPYC 9654P, 2.40 GHz, 96C, 360 W	P54059-001
AMD EPYC 9684X, 2.55 GHz, 96C, 400 W	P63503-001
AMD EPYC 9734, 2.20 GHz, 112C, 340 W	P60498-001
AMD EPYC 9754, 2.25 GHz, 128C, 360 W	P60497-001
5th Gen AMD EPYC Processors	—
AMD EPYC 9015, 3.60 GHz, 8C, 125 W	P73268-001
AMD EPYC 9115, 2.60 GHz, 16C, 125 W	P73267-001
AMD EPYC 9135, 3.65 GHz, 16C, 200 W	P73103-001
AMD EPYC 9175F, 4.20 GHz, 16C, 320 W	P73273-001
AMD EPYC 9255, 3.20 GHz, 24C, 200 W	P73266-001
AMD EPYC 9275F, 4.10 GHz, 24C, 320 W	P73272-001
AMD EPYC 9335, 3.00 GHz, 32C, 210 W	P73265-001
AMD EPYC 9355P, 3.55 GHz, 32C, 280 W	P73106-001
AMD EPYC 9365, 3.40 GHz, 36C, 300 W	P73264-001
AMD EPYC 9375F, 3.80 GHz, 32C, 320 W	P73271-001
AMD EPYC 9455P, 3.15 GHz, 48C, 300 W	P73269-001

Description	Spare part number
AMD EPYC 9475F, 3.65 GHz, 48C, 400 W	P73270-001
AMD EPYC 9535, 2.40 GHz, 64C, 300 W	P73262-001
AMD EPYC 9555P, 3.20 GHz, 64C, 360 W	P73105-001
AMD EPYC 9565, 3.15 GHz, 72C, 400 W	P73261-001
AMD EPYC 9575F, 3.30 GHz, 64C, 400 W	P74398-001
AMD EPYC 9645, 2.30 GHz, 96C, 320 W	P73260-001
AMD EPYC 9655P, 2.60 GHz, 96C, 400 W	P73104-001
AMD EPYC 9745, 2.40 GHz, 128C, 400 W	P73259-001
AMD EPYC 9825, 2.20 GHz, 144C, 390 W	P73258-001
AMD EPYC 9845, 2.10 GHz, 160C, 390 W	P73257-001

For more information on the removal and replacement procedures, see [Processor replacement](#).

DIMM spare parts

Customer self repair: **Mandatory**

Description	Spare part number
4800 MT/s DDR5 DIMMs	—
16 GB, single-rank x8 PC5-4800B-R	P56150-001
32 GB, single-rank x4 PC5-4800B-R	P56151-001
32 GB, dual-rank x8 PC5-4800B-R	P56152-001
64 GB, dual-rank x4 PC5-4800B-R	P56153-001
96 GB, dual-rank x4 PC5-4800B-R	P67363-001
128 GB, quad-rank x4 PC5-4800B-R	P56154-001
256 GB, octal-rank x4 PC5-4800B-R	P56155-001
6400 MT/s DDR5 DIMMs	—
16 GB, single-rank x8 PC5-6400B-R	P65246-001
32 GB, dual-rank x8 PC5-6400B-R	P65247-001
64 GB, dual-rank x4 PC5-6400B-R	P65248-001
96 GB, dual-rank x4 PC5-6400B-R	P65249-001

Description	Spare part number
128 GB, dual-rank x4 PC5-6400B-R	P65250-001
256 GB, quad-rank x4 PC5-6400B-R 3DS	P75958-001

For more information on the removal and replacement procedures, see [Removing and replacing a DIMM](#).

Power supply spare parts

Customer self repair: **Mandatory**

Description	Spare part number
HPE 500 W Flex Slot Platinum Hot-plug Low Halogen Power Supply	866729-001
HPE 800 W Flex Slot Platinum Hot-plug Low Halogen Power Supply	P39385-001
HPE 1000 W Flex Slot Titanium Hot-plug Power Supply	P44412-001
HPE 1600 W Flex Slot Platinum Hot-plug Low Halogen Power Supply	P39384-001
HPE 1600 W Flex Slot -48 VDC Hot-plug Power Supply	P18510-001
HPE 1800-2200 W Flex Slot Titanium Power Supply	P47163-001

For more information on the removal and replacement procedures, see [Flexible Slot power supply replacement](#).

System battery spare part

Customer self repair: **Mandatory**

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

For more information on the removal and replacement procedures, see [Removing and replacing the system battery](#).

System board assembly spare part

Customer self repair: **Optional**

Description	Spare part number
System board	P60373-001

For more information on the removal and replacement procedures, see [System board assembly replacement](#).

Drive backplane spare parts

Customer self repair: **Mandatory**

Description	Spare part number
4 LFF 12G x1 SAS UBM2 LP	P40451-001
4 LFF 12G x1 SAS UBM6 LP	P62075-001
2 SFF 16G x4 U.2 NVMe / SAS UBM4 BC	P40859-001
2 SFF 24G x4 U.3 NVMe / SAS UBM3 BC	P39783-001
2 SFF 24G x4 U.3 NVMe / SAS UBM6 BC	P62071-001
8 SFF 16G x4 U.2 NVMe / SAS UBM4 BC	P31225-001
8 SFF 24G x1 U.3 NVMe / SAS UBM3 BC	P40444-001
8 SFF 24G x4 U.3 NVMe / SAS UBM3 BC	P40445-001
8 SFF 24G x1 U.3 NVMe / SAS UBM6 BC	P62072-001
8 SFF 24G x4 U.3 NVMe / SAS UBM6 BC	P62066-001
8 E3.S 32G x4 NVMe UBM5 EC1	P61485-001
8 E3.S 32G x4 NVMe UBM7 E3C	P66263-001
20 E3.S x4 NVMe UBM5 EC1	P53229-001

Description	Spare part number
20 E3.S 32G x4 NVMe UBM7 E3C	P65767-001

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

- [Removing and replacing the 2 SFF drive backplane](#)
- [Removing and replacing the 4 LFF drive backplane](#)
- [Removing and replacing the 8 SFF drive backplane](#)
- [Removing and replacing the 20 E3.S drive backplane](#)
- [Removing and replacing the 4 SFF NVMe drive backplane](#)
- [Removing and replacing the 8 E3.S drive backplane](#)

Heatsink spare parts

Customer self repair: **Optional**

Description	Spare part number
Standard heatsink	P59976-001
High performance heatsink	P59965-001

For more information on the removal and replacement procedures, see [Heatsink replacement](#).

GPU riser spare parts

Customer self repair: **Optional**

Description	Spare part number
GPU riser slot 4	P60487-001
GPU riser slot 5	P60488-001

For more information on the removal and replacement procedures, see [Removing and replacing the GPU riser](#).

Drive cable spare parts

Customer self repair: **Mandatory**; 60163-001: **Optional**

Customer self repair: **Mandatory**

Description	Cable part number	Cable spare part number
4 LFF drive configuration	—	—
4 LFF drive power	P56680-001	P60158-001
4 LFF drive to system board	P57037-001	
4 LFF drive to type-o controller	P57038-001	
8 + 2 SFF drive configuration	—	—
2 SFF Box 2 NVMe drive to the system board	P54592-001	P60160-001
2 SFF Box 2 SAS / SATA drive to the system board	P57045-001	
2 SFF Box 2 to the Primary riser tri-mode type-p controller	P57041-001	P60155-001
2 SFF Box 2 to the Secondary riser tri-mode type-p controller	P57042-001	
2 SFF Box 2 to Slot 22 type-o controller	P57040-001	P60151-001
2 SFF drive power	P54591-001	P58494-001
8 SFF drive power	P54590-001	
8 SFF Box 1 port 1 to the system board NVMe port 3A	P54588-001	P58495-001
8 SFF Box 1 port 2 to the system board NVMe port 4A	P54587-001	
8 SFF Box 1 port 3 to the system board NVMe port 5A	P54589-001	P58496-001
8 SFF Box 1 port 4 to the system board NVMe port 6A	P54586-001	
8 SFF Box 1 to the Primary riser tri-mode type-p controller	P57070-001 P57057-001 P57076-001	P60153-001
8 SFF Box 1 to the Secondary riser tri-mode type-p controller	P57060-001 P57061-001 P57062-001	P60154-001

Description	Cable part number	Cable spare part number
8 SFF Box 1 to the Secondary riser tri-mode type-p controller— 2 Y-cables	P57064-001 P57065-001	P60156-001
8 SFF Box 1 SAS / SATA drive to the system board	P56679-001	P60148-001
8 SFF Box 1 ports 1 and 2 Y-cable to Slot 22 type-o controller	P57074-001	P60142-001
8 SFF Box 1 ports 3 and 4 Y-cable to Slot 22 type-o controller	P57075-001	P60157-001
8 SFF Box 1 to Slot 22 type-o controller	P57080-001	
8 SFF Box 1 to the Secondary riser type-p controller	P57077-001	P60150-001
20 E3.S drive configuration	—	—
20 E3.S Box 1 x4 NVMe to the system board—10 cables	P59645-001 P59646-001	P60145-001 P60146-001
20 E3.S Box 1 x2 NVMe to the system board—5 Y-cables	P57082-001 P57083-001	P60143-001 P60144-001
16 E3.S Box 1 x2 NVMe to the Secondary riser type-p controller	P58692-001	P61254-001
20 E3.S drive power cable	P56682-001	P60162-001
GPU-optimized configuration	—	—
4 SFF NVMe drive Box 1 port 1 and Box 2 port 1 to the system board—X-cable	P63033-001	P65145-001
4 SFF NVMe drive power Y-cable	P63034-001	
4 SFF x2 NVMe drive power Y-cable	P63034-001	
4 SFF x2 NVMe Box 1 and 2 Y-cable to Slot 22 type-o controller	P57334-002	P61249-001
4 SFF x4 NVMe Box 1 or 2 to the Secondary riser type-p controller	P57057-002	P60153-001
8 E3.S Box 1 x4 NVMe to the system board	P57052-001	P60147-001
8 E3.S Box 1 to the Secondary riser type-p controller	P57057-002	P60153-001
8 E3.S drive power cable	P56684-001	P60163-001*

* This is a miscellaneous cable kit and includes two cables, one of which is used in this configuration.

GPU riser power Y-cable spare part

Customer self repair: **Optional**

Description	Cable part number	Cable spare part number
GPU riser power Y-cable	P56683-001	P60163-001

GPU auxiliary power cable spare part

Customer self repair: **Mandatory**

Description	Cable part number	Cable spare part number
GPU riser slot 4 GPU auxiliary power cable	P56694-001	P60164-001
GPU riser slot 5 GPU auxiliary power cable	P56695-001	

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/3d-models/356984ed5d6141ceb768327a7d17ee8e/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	8 SFF drive backplane spare parts
2	Energy pack spare parts
3	M.2 SSD pass-through card and cable spare parts
4	Chassis intrusion detection switch spare part

Item	Description
5	HPE NS204i-u Boot Device cage assembly spare part
6	M.2 SSD carrier spare part
7	M.2 SSD spare part For more information on the removal and replacement procedures, see: <ul style="list-style-type: none"> • Removing and replacing a M.2 SSD from the pass-through card • Removing and replacing a hot-plug boot device drive
8	Serial port cable spare part
9	Primary / secondary PCIe5 x16 riser board spare part
10	Secondary low-profile PCIe5 x16 riser board spare part *
11	HPE MR type-o storage controller spare parts *
12	HPE SR and MR type-p PCIe plug-in storage controller spare parts *
13	Internal USB device spare part * For more information on the removal and replacement procedures, see Removing and replacing the internal USB device .
14	OCP NIC 3.0 adapter spare part * For more information on the removal and replacement procedures, see Removing and replacing the OCP NIC 3.0 adapter .
15	Transceiver spare part * For more information on the removal and replacement procedures, see Transceiver replacement .
16	Optical drive spare part * For more information on the removal and replacement procedures, see: <ul style="list-style-type: none"> • Removing and replacing an optical drive from the LFF drive configuration • Removing and replacing an optical drive from the SFF drive configuration
17	Front USB and DisplayPort Y-cable spare parts *
18	OCP bandwidth upgrade cable spare part *
19	Optical drive and power-SATA Y-cable spare part *
20	GPU auxiliary power cable spare part *

* Not shown

Subtopics

[Energy pack spare parts](#)

- [M.2 SSD pass-through card and cable spare parts](#)
- [Chassis intrusion detection switch spare part](#)
- [HPE NS204i-u Boot Device spare parts](#)
- [Serial port cable spare part](#)
- [Riser board spare parts](#)
- [Storage controller spare parts](#)
- [Front USB and DisplayPort Y-cable spare parts](#)
- [OCP bandwidth upgrade cable spare part](#)
- [Optical drive cable spare parts](#)

Energy pack spare parts

Customer self repair: **Mandatory**

Description	Spare part number
HPE 12 W Smart Storage Hybrid Capacitor with 145 mm (5.71 inch) cable	P07473-001
HPE 16 W Smart Storage Hybrid Capacitor with 145 mm (5.71 inch) cable	P66825-001
HPE 96 W Smart Storage Battery with 145 mm (5.71 inch) cable	878643-001
Energy pack extension power cable	P60159-001

For more information on the removal and replacement procedures, see [Removing and replacing the energy pack](#).

M.2 SSD pass-through card and cable spare parts

Customer self repair: **Mandatory**

Description	Cable part number	Spare part number
M.2 SSD pass-through card	—	P48434-001
M.2 SATA SSD pass-through card signal cable	P56690-001	P60159-001

Description	Cable part number	Spare part number
M.2 NVMe SSD pass-through card signal cable	P56691-001	
M.2 SSD pass-through card power cable	P56689-001	P58480-001

For more information on the removal and replacement procedures, see [Removing and replacing the M.2 pass-through card](#).

Chassis intrusion detection switch spare part

Customer self repair: **Mandatory**

Description	Spare part number
Chassis intrusion detection switch	P52442-001

For more information on the removal and replacement procedures, see [Removing and replacing the chassis intrusion detection switch](#).

HPE NS204i-u Boot Device spare parts

Customer self repair: **Mandatory**



IMPORTANT

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

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

Configurations with SSDs from different manufacturers are not supported.

Description	Spare part number
NS204i-u boot device v1 cage assembly (P48183-B21) ¹	P51341-001
NS204i-u boot device v2 cage assembly (P78279-B21) ²	P78425-001
M.2 SSD carrier	P59777-001
480 GB NVMe RI M.2 SV 2280 SSD	P69616-001
Boot device SlimSAS and power cables ³	P56479-001

¹ This spare is for servers that use 4th Gen AMD EPYC Processors.

² This spare is for servers that use 5th Gen AMD EPYC Processors.

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

For more information on the removal and replacement procedures, see [HPE NS204i-u Boot Device replacement](#).

Serial port cable spare part

Customer self repair: **Mandatory**

Description	Spare part number
Serial port cable	P57842-001

For more information on the removal and replacement procedures, see [Removing and replacing the serial port](#).

Riser board spare parts

Customer self repair: **Mandatory**

Description	Spare part number
PCIe5 x16 riser board	P59443-001
NS204i-u + secondary low-profile PCIe5 x16 riser board	P60408-001

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

- [Removing and replacing the PCIe5 x16 riser board](#)
- [Removing and replacing the secondary low-profile PCIe5 x16 riser board](#)

Storage controller spare parts

Customer self repair: **Optional**

Description	Spare part number
HPE Gen11 type-o controllers	—
HPE MR216i-o Gen11 controller	P47954-001
HPE MR408i-o Gen11 controller	P58543-001
HPE MR416i-o Gen11 controller	P47952-001
HPE Gen11 type-p controllers	—
HPE MR216i-p Gen11 controller	P47953-001
HPE MR416i-p Gen11 controller	P47951-001
HPE SR932i-p Gen11 controller	P47623-001
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-o storage controller](#)
- [Removing and replacing a type-p storage controller](#)

Customer self repair: **Mandatory**

Description	Spare part number
Storage controller backup power cable (cable PN: 87 7850-001)	878646-001

Front USB and DisplayPort Y-cable spare parts

Customer self repair: **Mandatory**

Description	Cable part number	Cable spare part number
Front USB and DisplayPort Y-cable for LFF drive chassis	P45619-001	P56485-001
Front USB and DisplayPort Y-cable for SFF drive chassis	P45620-001	P56486-001

For more information on the removal and replacement procedures, see [Removing and replacing the front USB and DisplayPort Y-cable](#).

OCP bandwidth upgrade cable spare part

Customer self repair: **Mandatory**

Description	Cable part number	Cable spare part number
OCP bandwidth upgrade cable	P56686-001	P58491-001

Optical drive cable spare parts

Customer self repair: **Mandatory**

Description	Cable part number	Cable spare part number
Optical drive power-SATA Y-cable for LFF drive chassis	P58696-001	P60149-001
Optical drive power-SATA Y-cable for SFF drive chassis	P56685-001	P60152-001

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

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

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

Removal and replacement procedures

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

Subtopics

[Safety considerations](#)

[Preparation procedures](#)

[Removing and replacing the front bezel](#)

[Removing and replacing a hot-plug SAS, SATA or NVMe drive](#)

[Removing and replacing a hot-plug E3.S drive](#)

[Removing and replacing a drive blank](#)

[Removing and replacing the optical drive bay blank](#)

[Removing and replacing the universal media bay blank](#)

[Removing and replacing the cable management arm](#)

[Flexible Slot power supply replacement](#)

[Removing and replacing the secondary rise cage blank](#)

[Transceiver replacement](#)

[Rack rail replacement](#)

[Removing and replacing the access panel](#)

[Removing and replacing the LFF drive configuration middle cover](#)

[Removing and replacing the air baffle](#)

[Removing and replacing a fan](#)

[Drive backplane replacement](#)

[Optical drive replacement](#)

[Removing and replacing the energy pack retention latch](#)

[Removing and replacing a DIMM](#)

[Removing and replacing a DIMM blank](#)

[Removing and replacing a DIMM guard](#)

[Heatsink replacement](#)

[Liquid cooling module replacement](#)

[Processor replacement](#)

[Expansion card replacement](#)

[GPU replacement](#)

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

[M.2 pass-through card replacement](#)

[HPE NS204i-u Boot Device replacement](#)

[Removing and replacing the primary / secondary riser cage](#)

[Riser board replacement](#)

[Removing and replacing the internal USB device](#)

Removing and replacing the energy pack
Removing and replacing the energy pack holder
Removing and replacing the front USB and DisplayPort Y-cable
Chassis ears replacement
Removing and replacing the chassis intrusion detection switch
Removing and replacing the OCP slot blank
Removing and replacing the OCP NIC 3.0 adapter
Removing and replacing the left OCP Slot 21 rail
Removing and replacing the serial port
Removing and replacing the serial port blank
System battery replacement
System board assembly replacement
Removing and replacing the chassis medium base pan

Safety considerations

Before performing service procedures, review all the safety information.

Subtopics

Electrostatic discharge
Symbols on equipment
Rack warnings and cautions
Server warnings and cautions

Electrostatic discharge

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

To prevent electrostatic damage:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly. Use one or more of the following methods when handling or installing electrostatic-sensitive parts:

- Use a wrist strap connected by a ground cord to a grounded workstation or computer chassis. Wrist straps are flexible straps with a minimum of 1 megohm ± 10 percent resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.
- Use heel straps, toe straps, or boot straps at standing workstations. Wear the straps on both feet when standing on conductive floors or dissipating floor mats.
- Use conductive field service tools.
- Use a portable field service kit with a folding static-dissipating work mat.

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

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

Symbols on equipment

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



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

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



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



WARNING

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

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

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



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



WARNING

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

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



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



WARNING

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

RJ-45 插孔上的該符號指示網絡接口連接。

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



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



WARNING

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

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



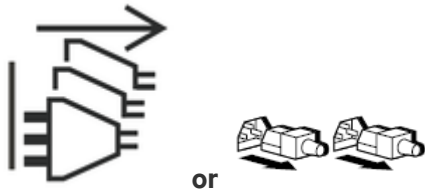
This symbol indicates the presence of a moving fan blade. If the spinning blades are contacted, the potential for injury exists.



WARNING

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

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



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



WARNING

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

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



Weight in kg.

Weight in lb.

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



WARNING

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

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



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

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



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



WARNING

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



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

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



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



WARNING

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



This symbol indicates the presence of coin cell battery.



WARNING

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

Rack warnings and cautions



WARNING

When all components are removed, the server weighs 13.76 kg (30.33 lb). When all components are installed, the server can weigh up to 14.57 kg (32.12 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 13.76 kg (30.33 lb), so at least two people must lift the server into the rack together. An additional person may be required to help align the server if the server is installed higher than chest level.
- Use caution when installing the server in or removing the server from the rack.
- Adequately stabilize the rack before extending a component outside the rack. Extend only one component at a time. A rack may become unstable if more than one component is extended.
- Do not stack anything on top of rail-mounted component or use it as a work surface when extended from the rack.



WARNING

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

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

Server warnings and cautions



WARNING

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



WARNING

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



WARNING

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

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

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



CAUTION

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



CAUTION

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



CAUTION

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

Preparation procedures

Prerequisites

Before powering down the server for an upgrade, maintenance, or service procedure, do the following:

- [Perform a backup of critical server data.](#)
- Review the [Component touchpoints.](#)

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**](#)

[**Remove the front bezel**](#)

[**Power down the server**](#)

[**Open the cable management arm**](#)

[**Extend the server out of the rack**](#)

[**Remove the server from the rack**](#)

[**Remove the access panel**](#)

[**Remove the middle cover**](#)

[**Remove the air baffle**](#)

[**Remove the primary riser cage**](#)

[**Remove the NS204i-u + secondary low-profile riser cage**](#)

[**Remove the fan**](#)

[**Remove the fan wall**](#)

[**Power up the server**](#)

Server data backup

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

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

- User data files

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

Remove the front bezel

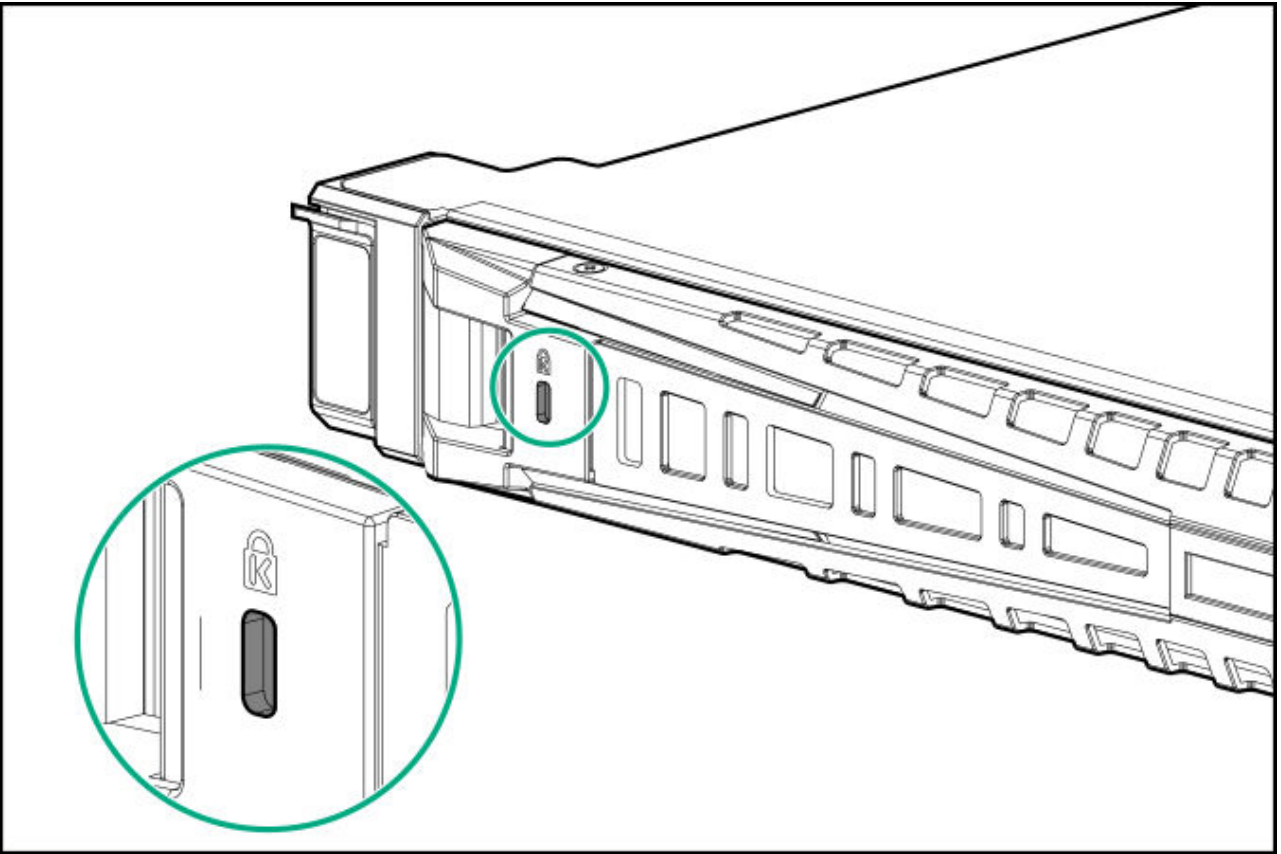
About this task

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

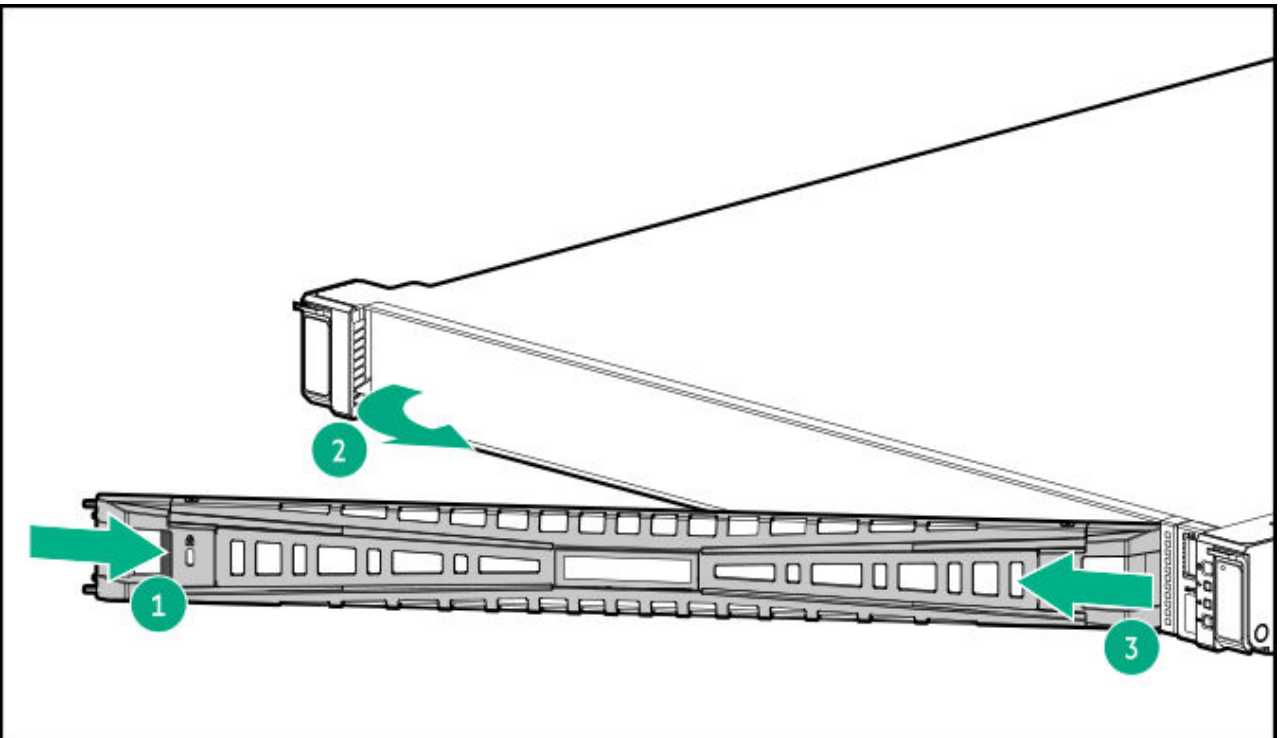
Procedure

1. If installed, remove the Kensington security lock.

For more information, see the lock documentation.



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



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:

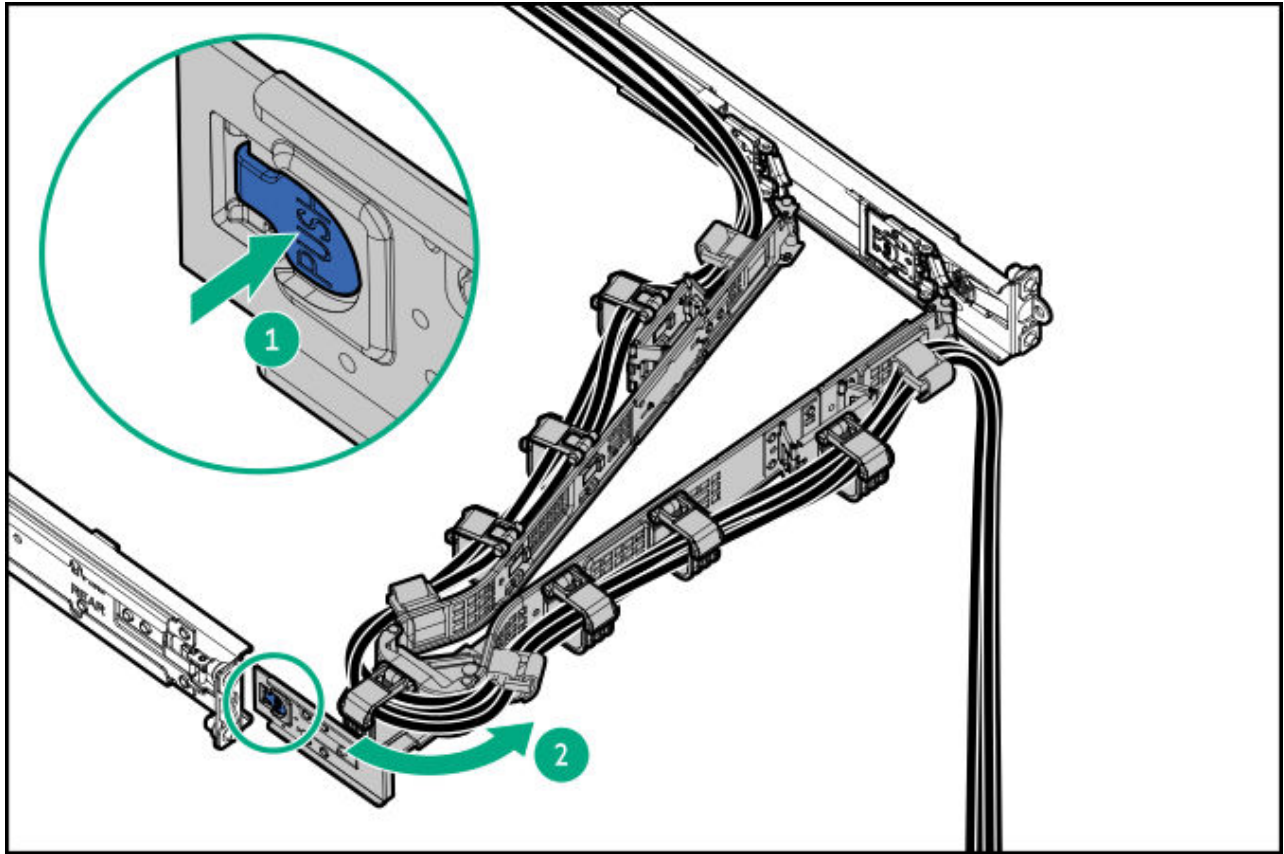
- Press and release the Power On/Standby button.
This method activates a controlled shutdown of applications and the OS before the server enters standby mode. It can also activate a shutdown behavior governed by an OS configuration or policy.
- Press and hold the Power On/Standby button for more than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

Open the cable management arm

Procedure

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



Extend the server out of the rack

Prerequisites

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

About this task

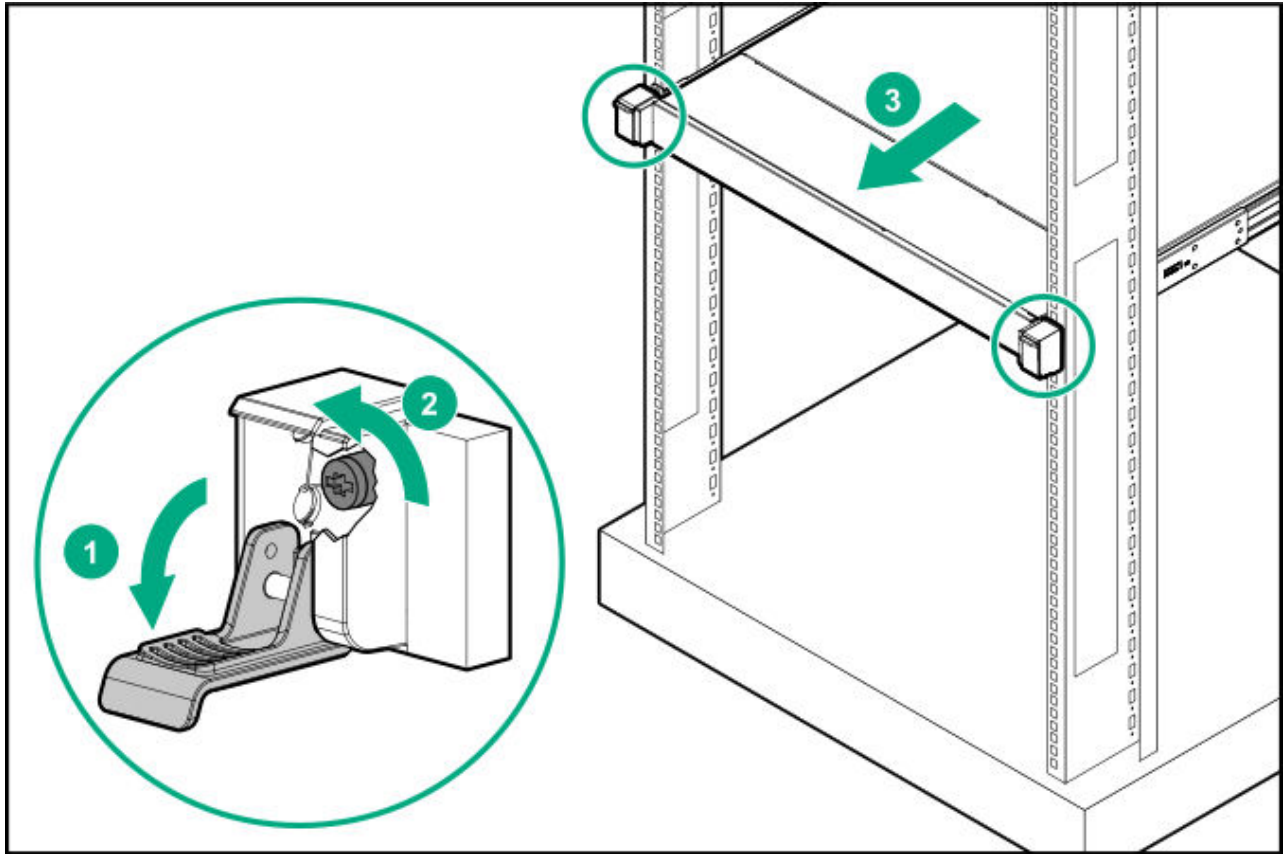


WARNING

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

Procedure

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

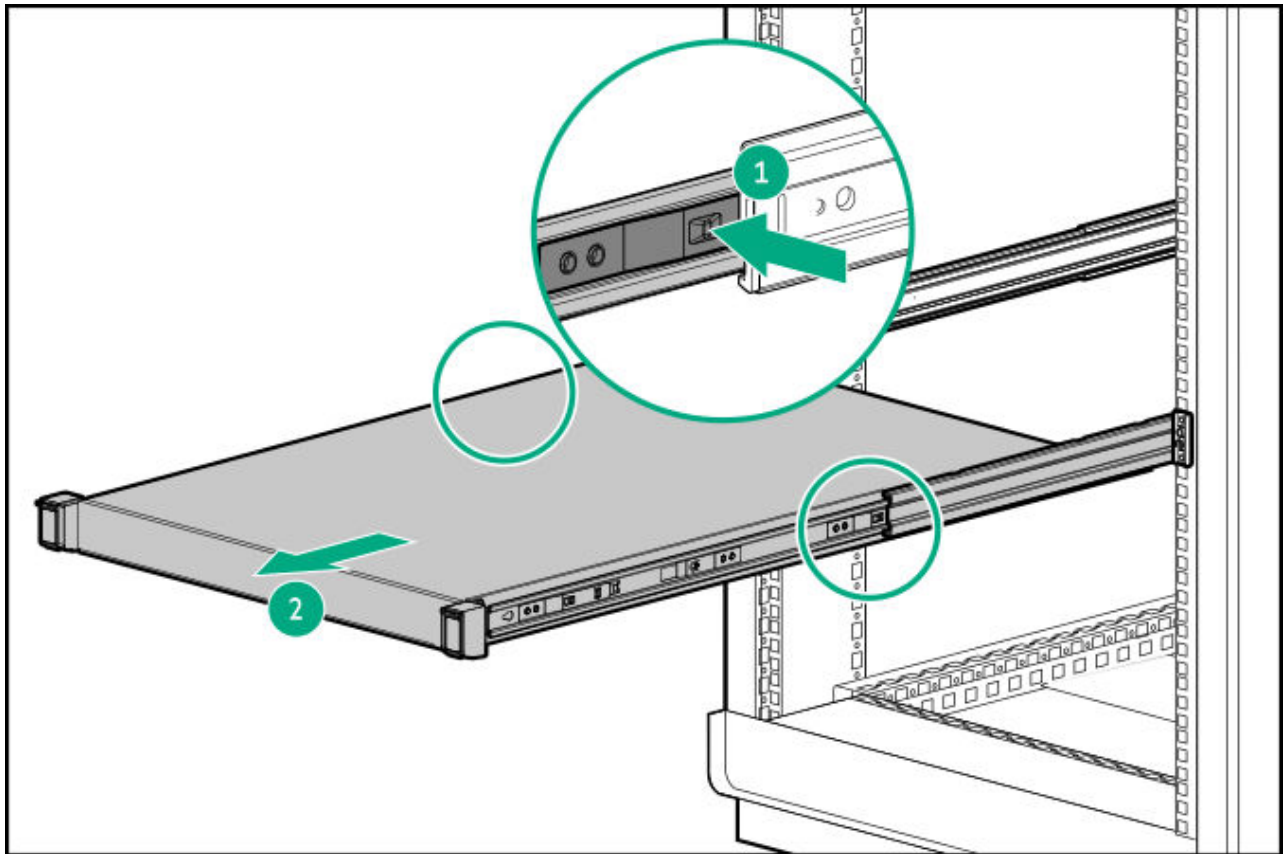


2. Press and hold the rear-end rail-release latches, and then slide the server out of the rack until it is fully extended.



WARNING

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



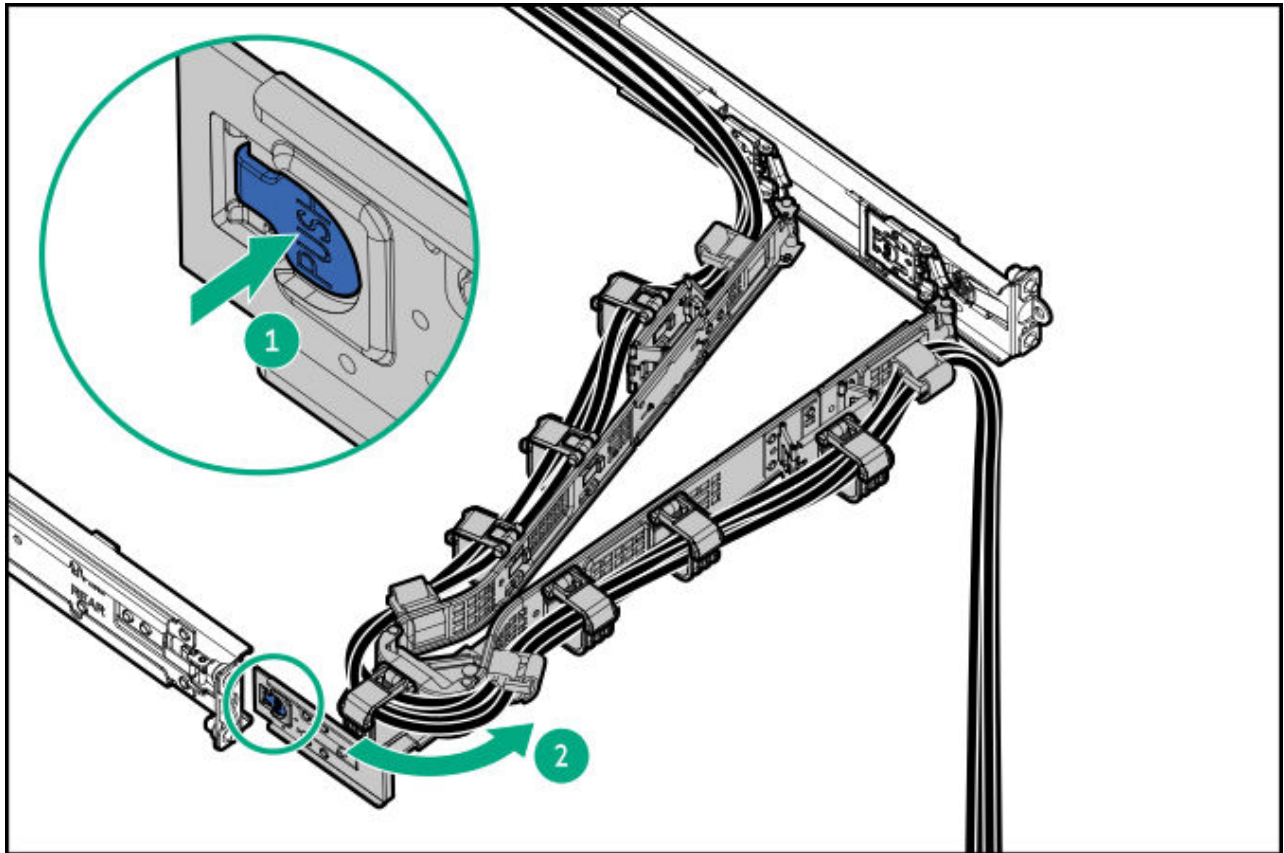
Remove the server from the rack

Prerequisites

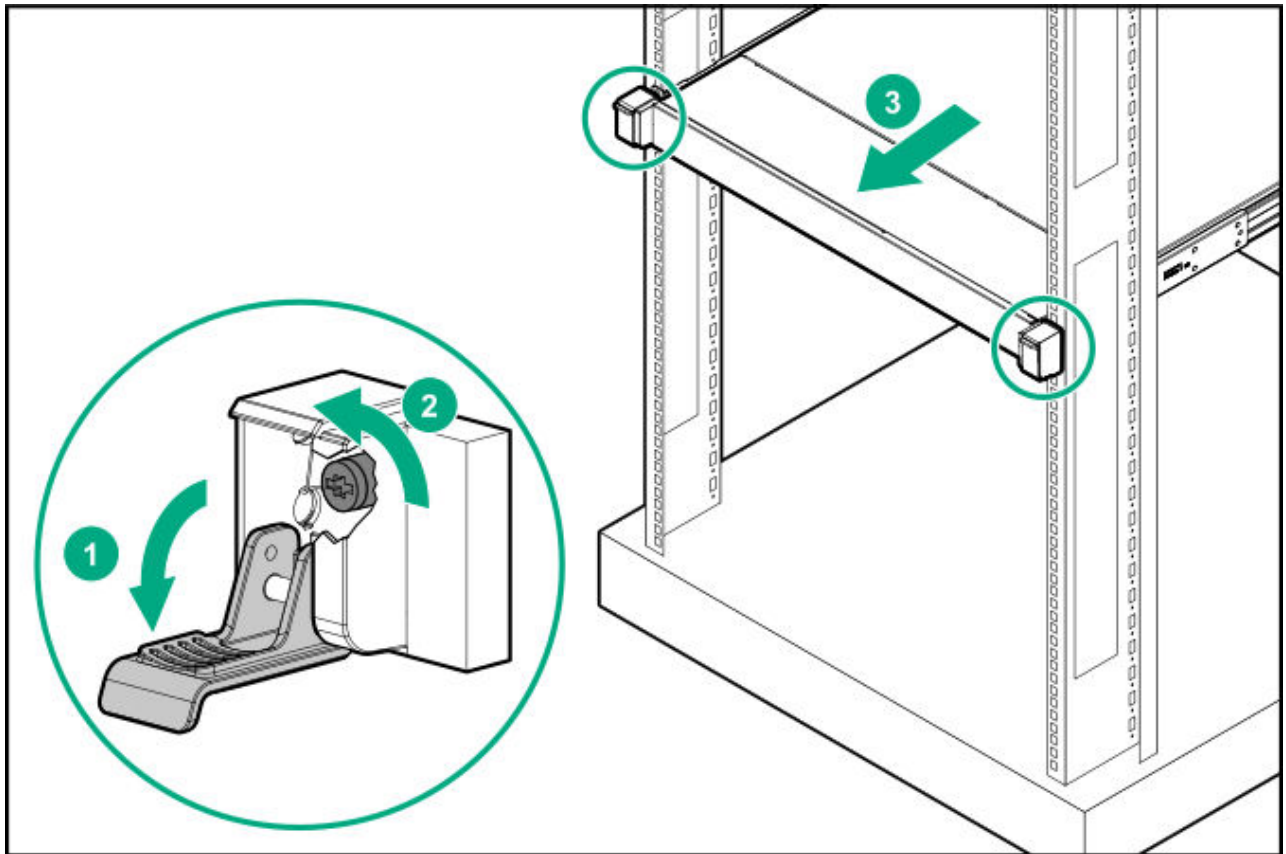
- Get help to lift and stabilize the server during removal from the rack. **If the server is installed higher than chest level, additional two people might be required to help remove the server:** One person to support the server weight, and the other two to slide the server out of the rack.
- Before you perform this procedure, review the:
 - [Rack warnings and cautions](#)
 - [Server warnings and cautions](#)
- A fully populated server is heavy. Hewlett Packard Enterprise recommends removing the external server components before removing the server from the rack.
- T-25 Torx screwdriver—This tool is required if the shipping screws located inside the chassis ears are secured.

Procedure

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



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

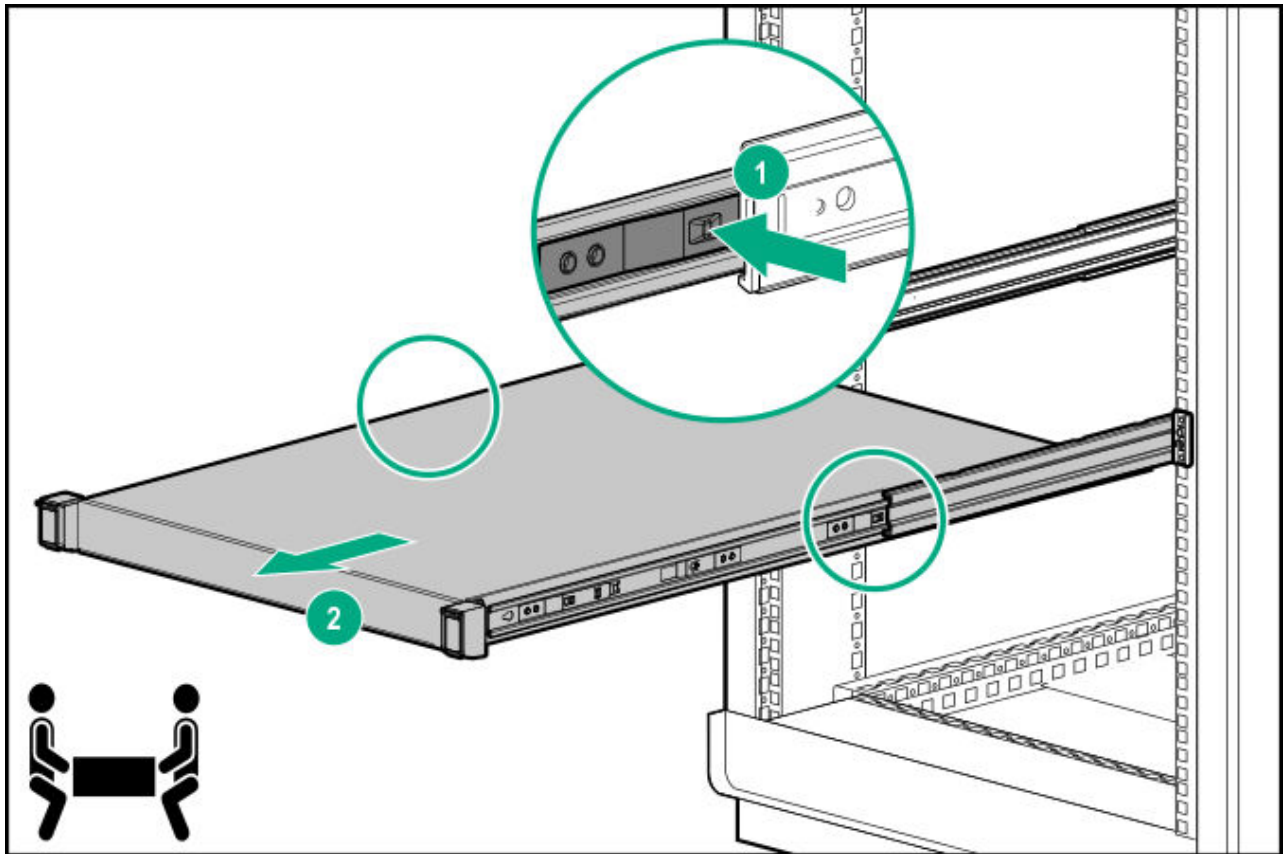


7. Press and hold the rear-end rail-release latches, and then slide the server out of the rack until it is fully extended.

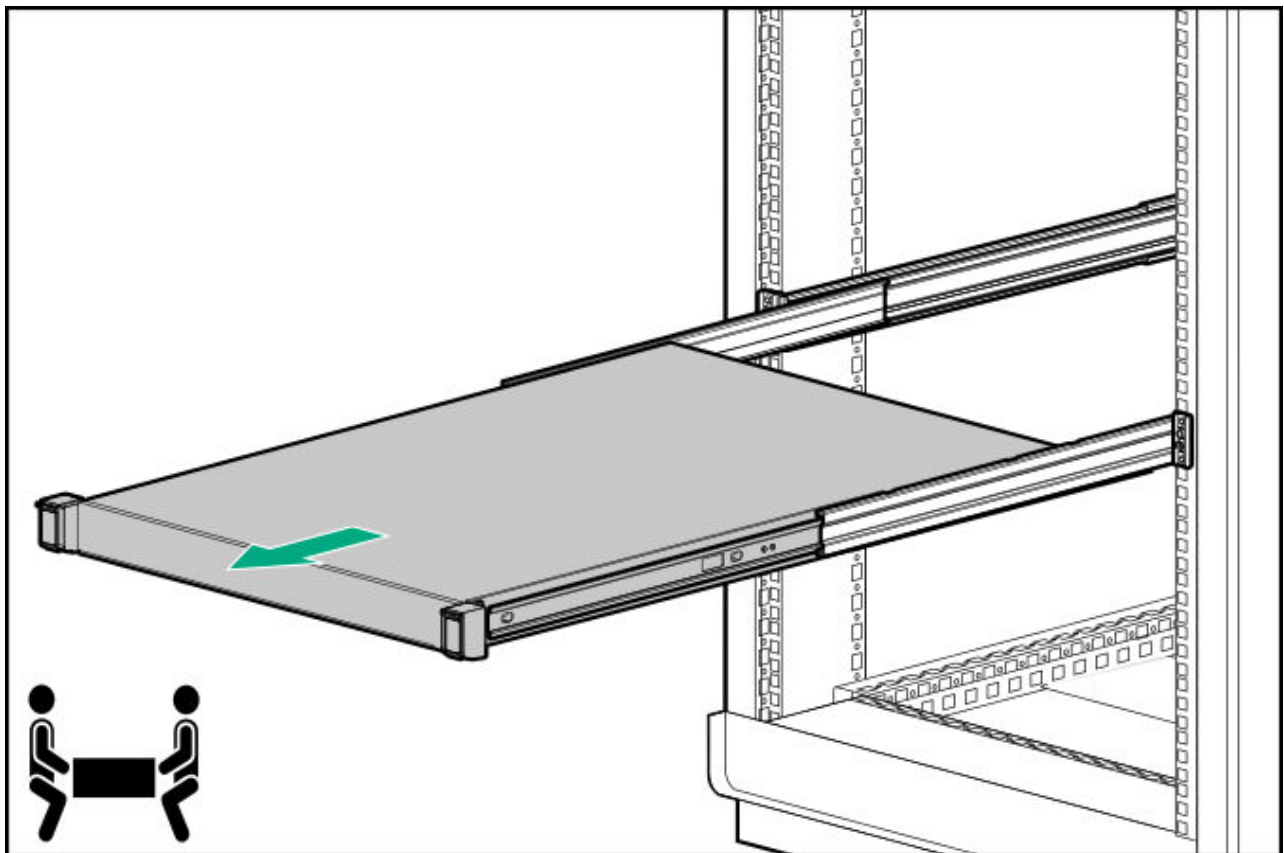


WARNING

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



8. Slide the server completely out of the rack.



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

Remove the access panel

Prerequisites

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

About this task



WARNING

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



CAUTION

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



CAUTION

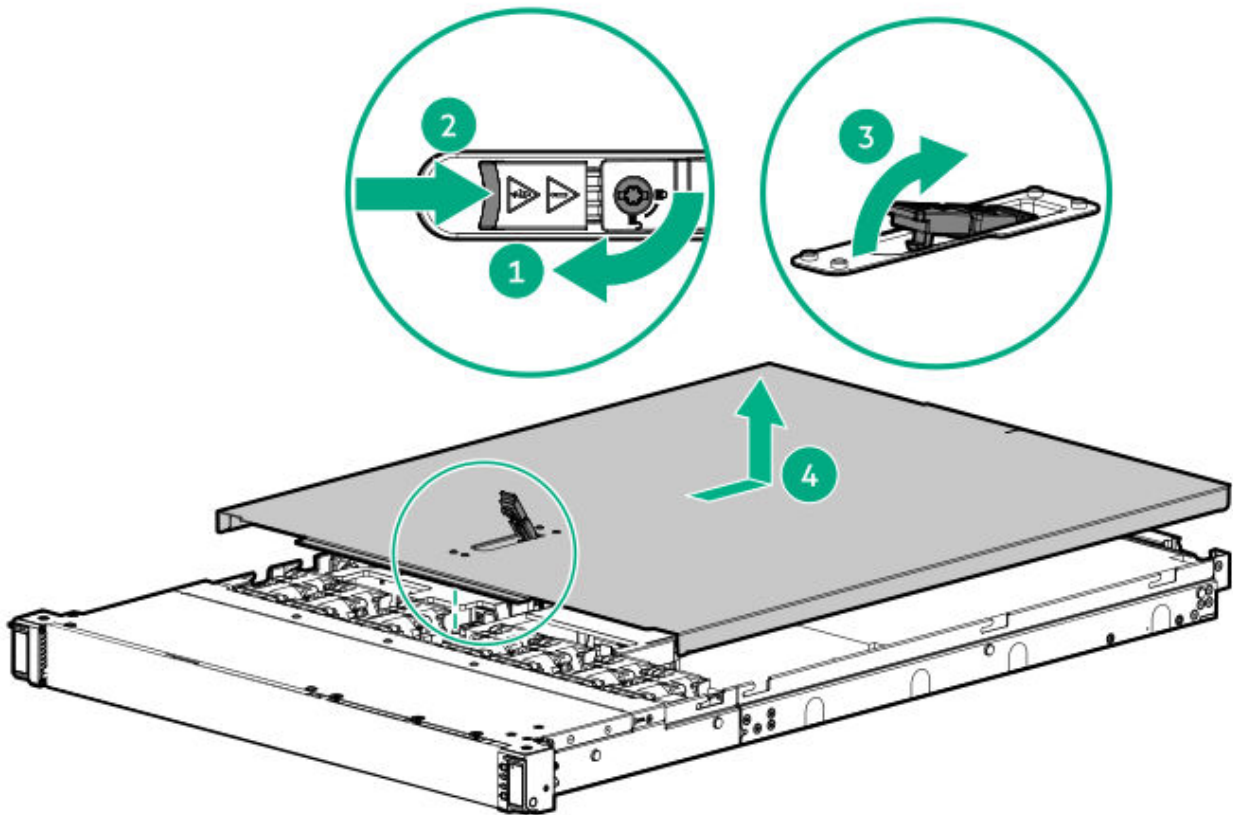
To maintain proper system cooling, do not operate the server for long period with the access panel open or removed. Operating the server in this manner results in an improper system airflow. For internal hot-plug component procedures, complete the procedure within 60 seconds. Failure to do so can cause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

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

Procedure

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

3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel:
 - a. If necessary, unlock the access panel latch.
 - b. To disengage the access panel from the chassis, press the release button and pull up the latch.
 - c. Lift the access panel.



Remove the middle cover

Prerequisites

T-10 Torx screwdriver—this tool is for removing the middle cover from a server with the GPU-optimized configuration.

About this task



CAUTION

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

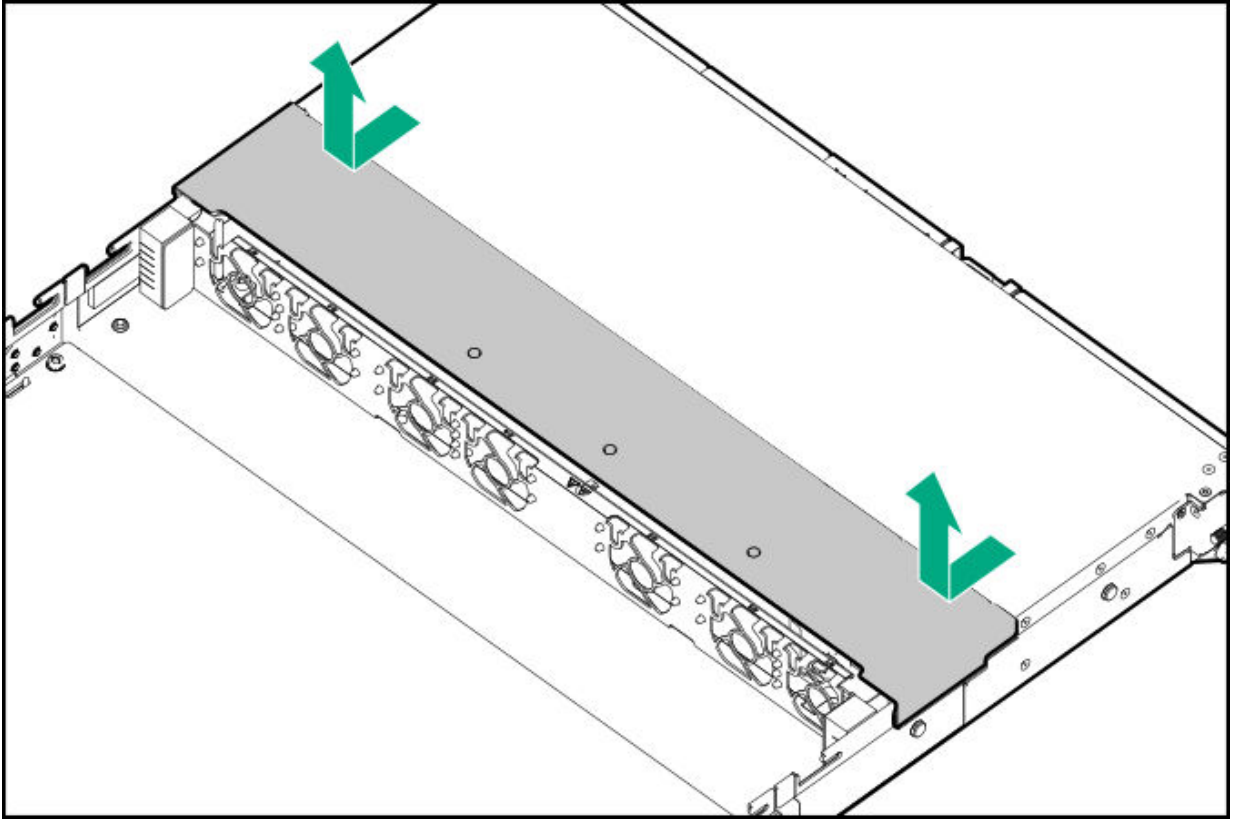


CAUTION

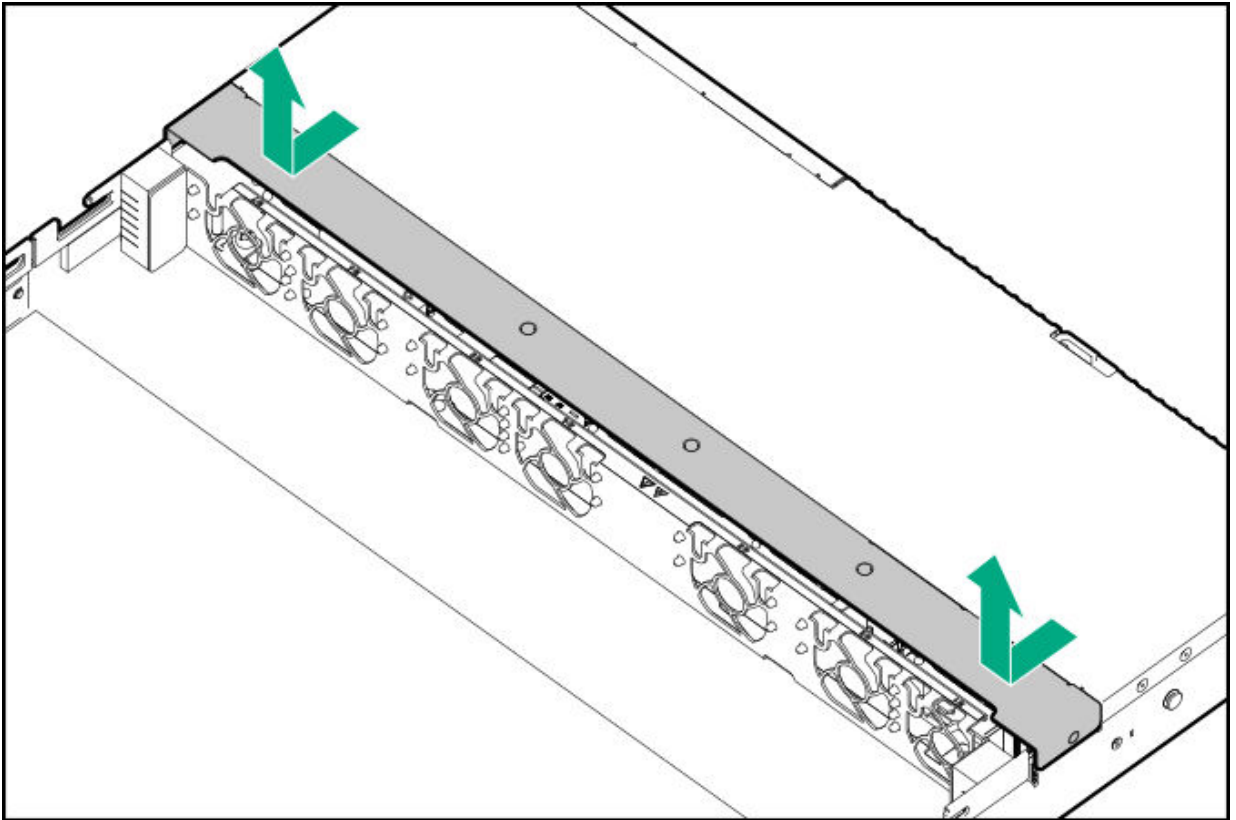
To prevent damage to electrical components, properly ground the server before beginning any installation, removal, or replacement procedure. Improper grounding can cause electrostatic discharge.

Procedure

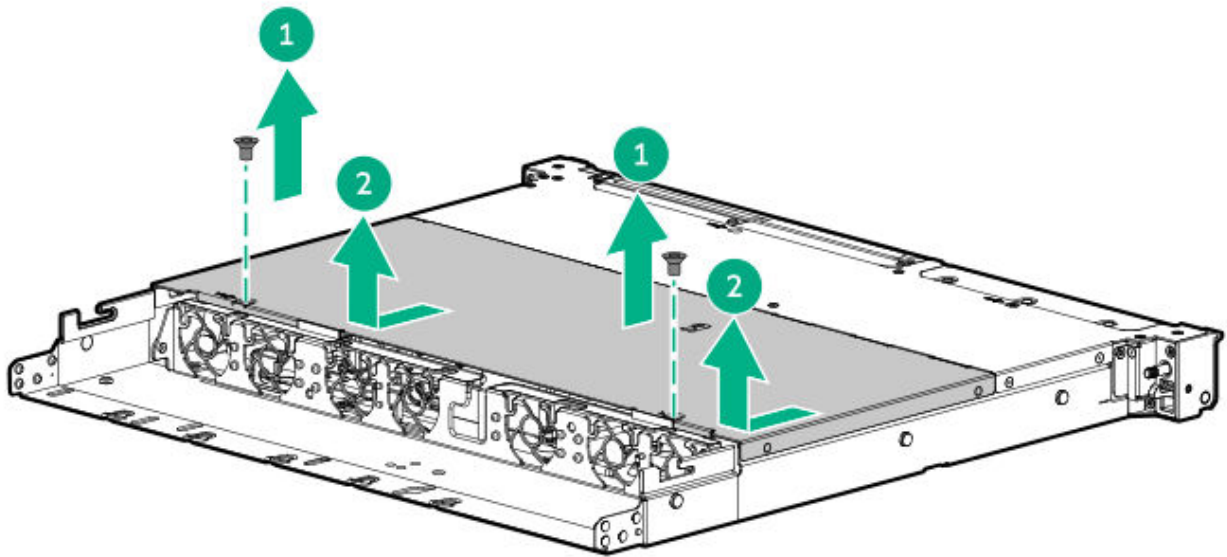
1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. To remove the middle cover from the LFF and the SFF drive configuration, take both sides of the middle cover and detach from the server.
 - LFF drive configuration



- SFF drive configuration



8. To remove the middle cover from a server with the GPU-optimized configuration:
 - a. Remove the screws.
 - b. Take both sides of the middle cover and detach from the server.



Remove the air baffle

About this task



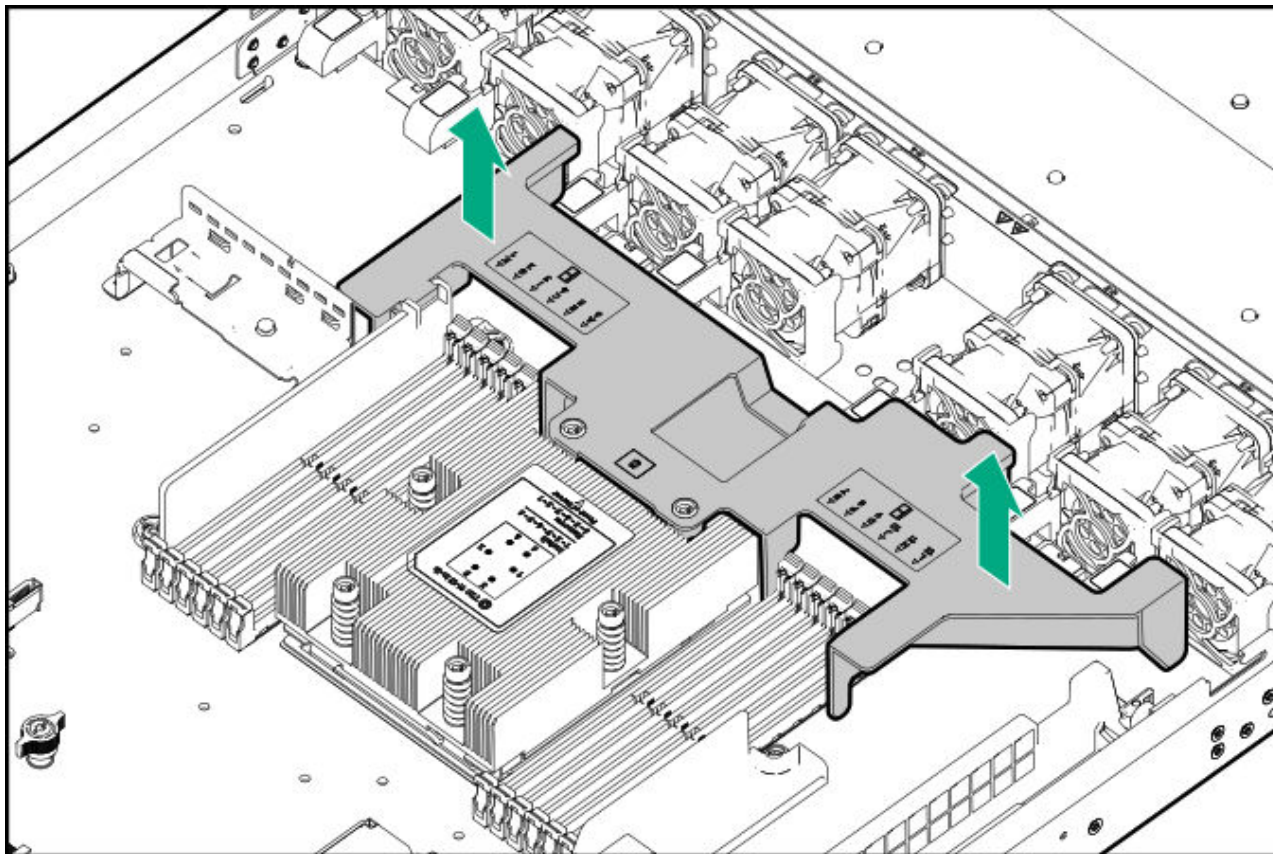
CAUTION

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

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.

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



Remove the primary riser cage

About this task



WARNING

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

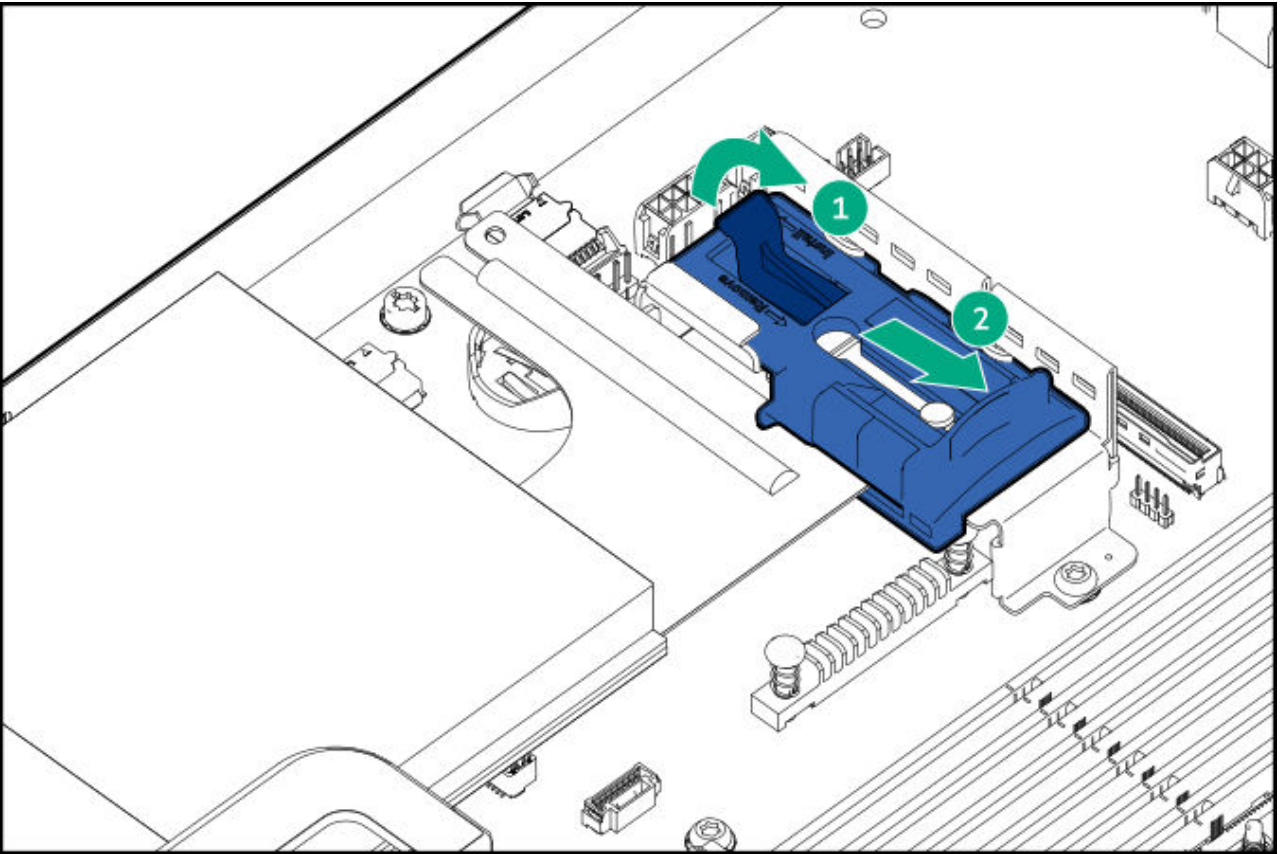


CAUTION

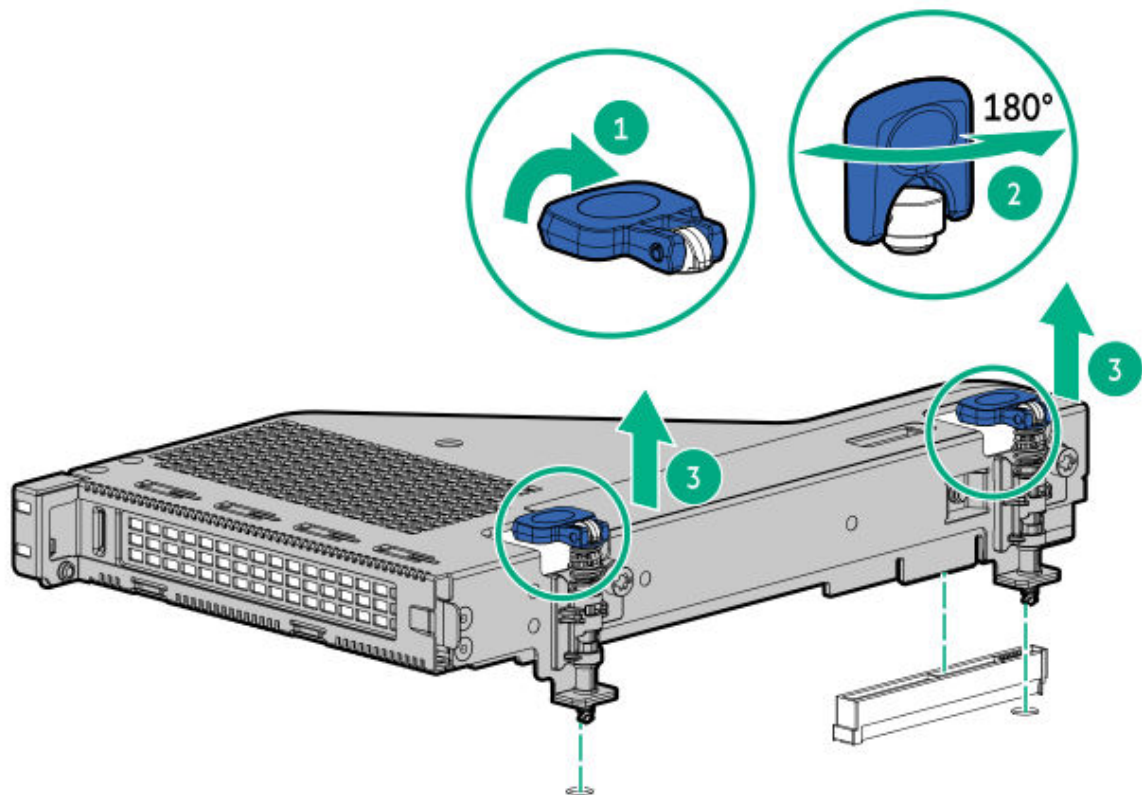
To prevent damage to electrical components, properly ground the server before beginning any installation, removal, or replacement procedure. Improper grounding can cause electrostatic discharge.

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. If a full-length expansion card is installed, slide the card retainer to the open position.



8. If an expansion card with internal cables is installed on the riser, disconnect the cables from the card.
9. Remove the primary riser cage:
 - a. Release the half-turn spring latch.
 - b. Lift the riser cage off the system board.



Remove the NS204i-u + secondary low-profile riser cage

About this task



WARNING

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



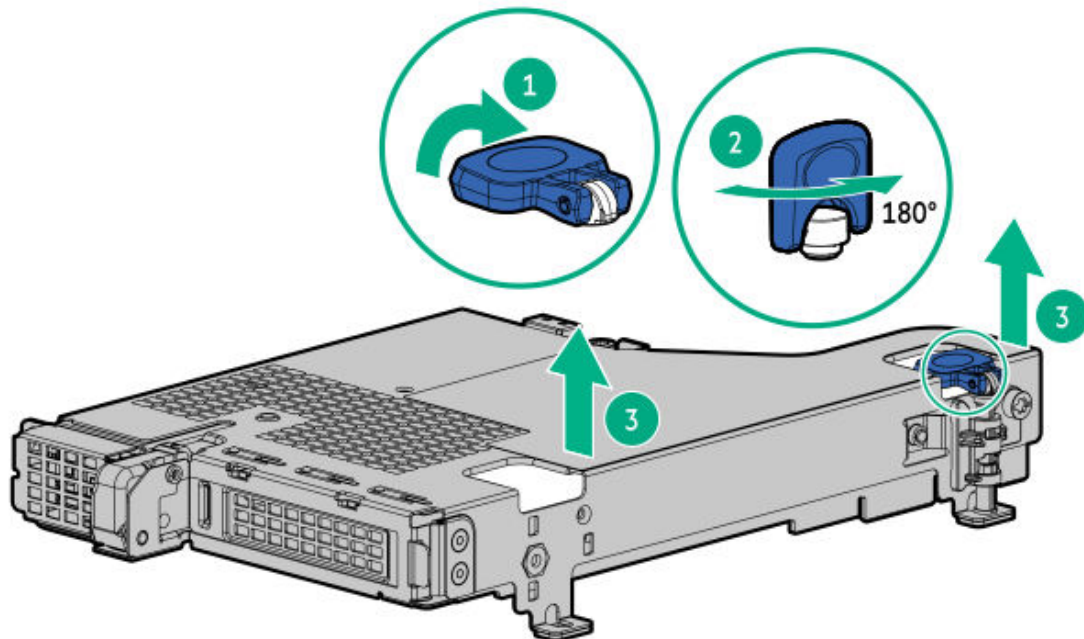
CAUTION

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

Procedure

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

- a. Disconnect each power cord from the power source.
- b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. If an expansion card with internal cables is installed on the riser, disconnect the cables from the card.
8. Remove the NS204i-u + secondary low-profile riser cage:
 - a. Release the half-turn spring latch.
 - b. Lift the riser cage off the system board.



Remove the fan

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.



IMPORTANT

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

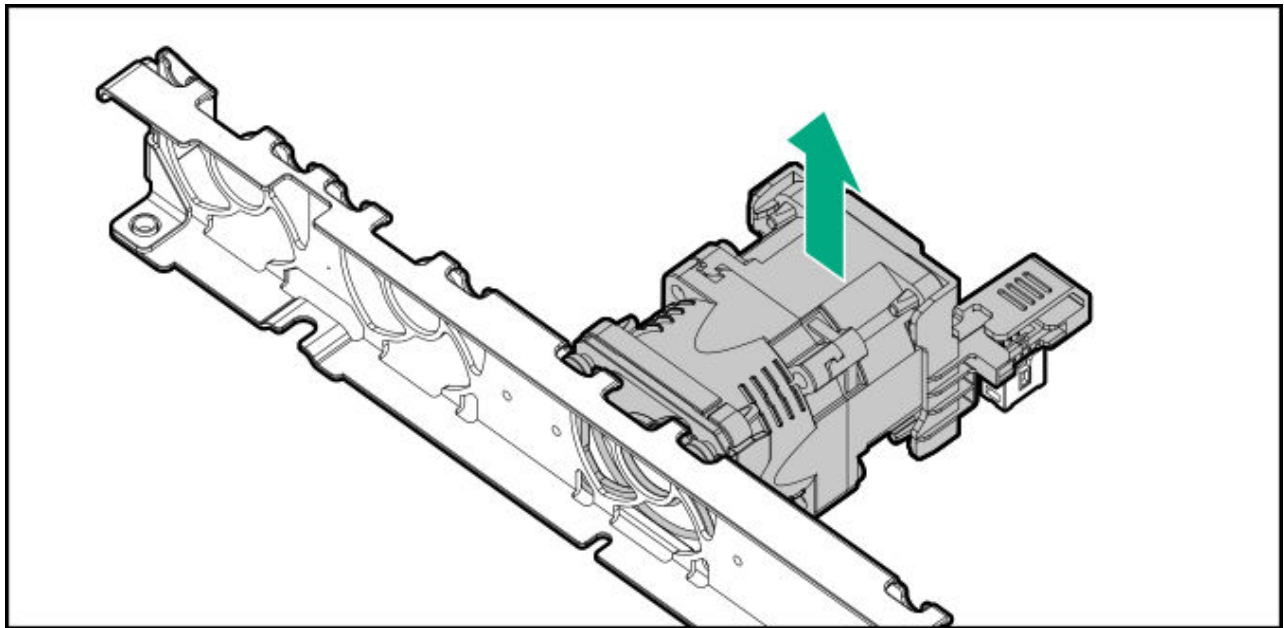


CAUTION

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

Procedure

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



Remove the fan wall

Prerequisites

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

About this task



CAUTION

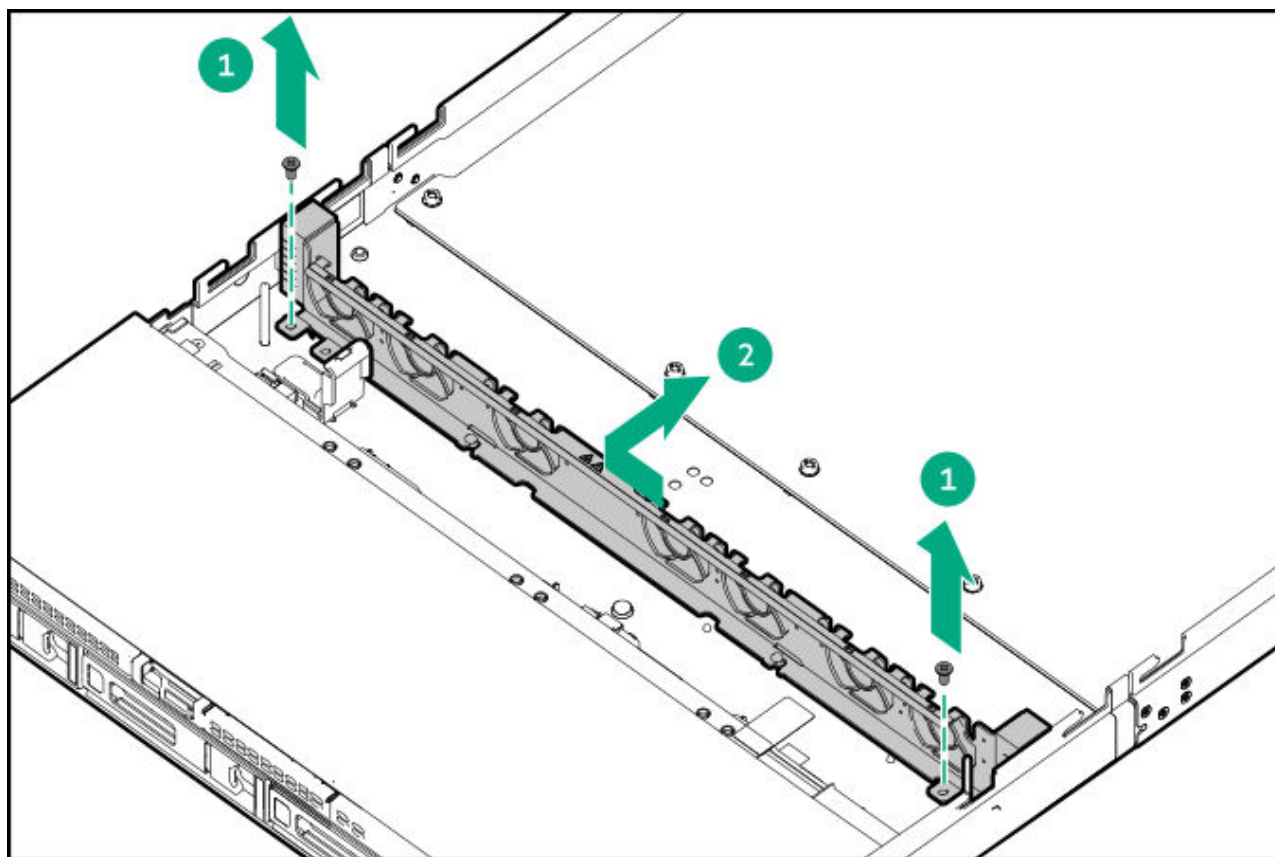
To prevent damage to electrical components, properly ground the server before beginning any installation, removal, or replacement procedure. Improper grounding can cause electrostatic discharge.

Procedure

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

5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the middle cover.
8. Remove the air baffle.
9. Remove all fans.
0. Remove the fan wall.

Retain the screws and fan wall. These screws will be used to secure the fan wall after internal component installation/replacement.



Power up the server

Procedure

- Press the Power On/Standby button.

- Use the virtual power button through iLO 6.

Removing and replacing the front bezel

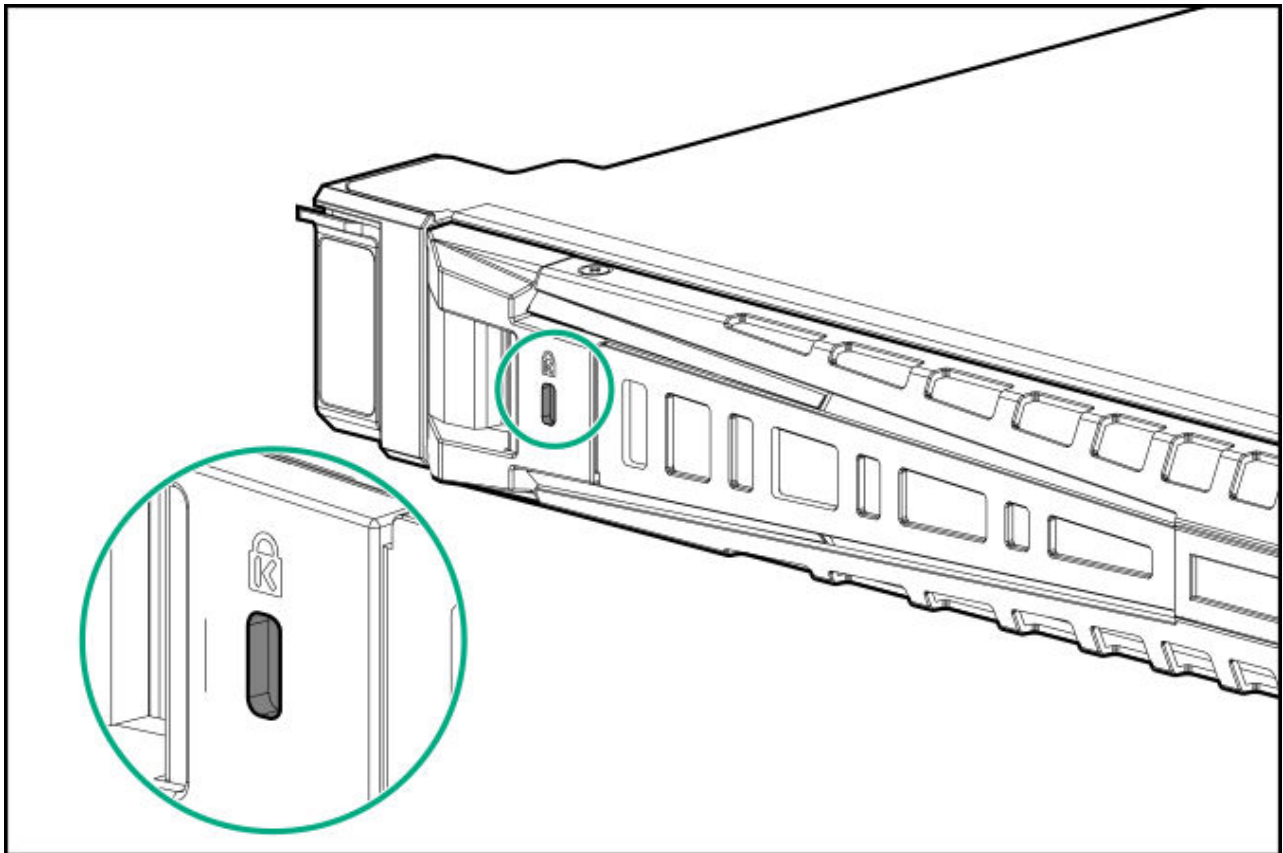
About this task

https://sketchfab.com/models/633ae658901b4017893f8dfd40e73d7f/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0&am

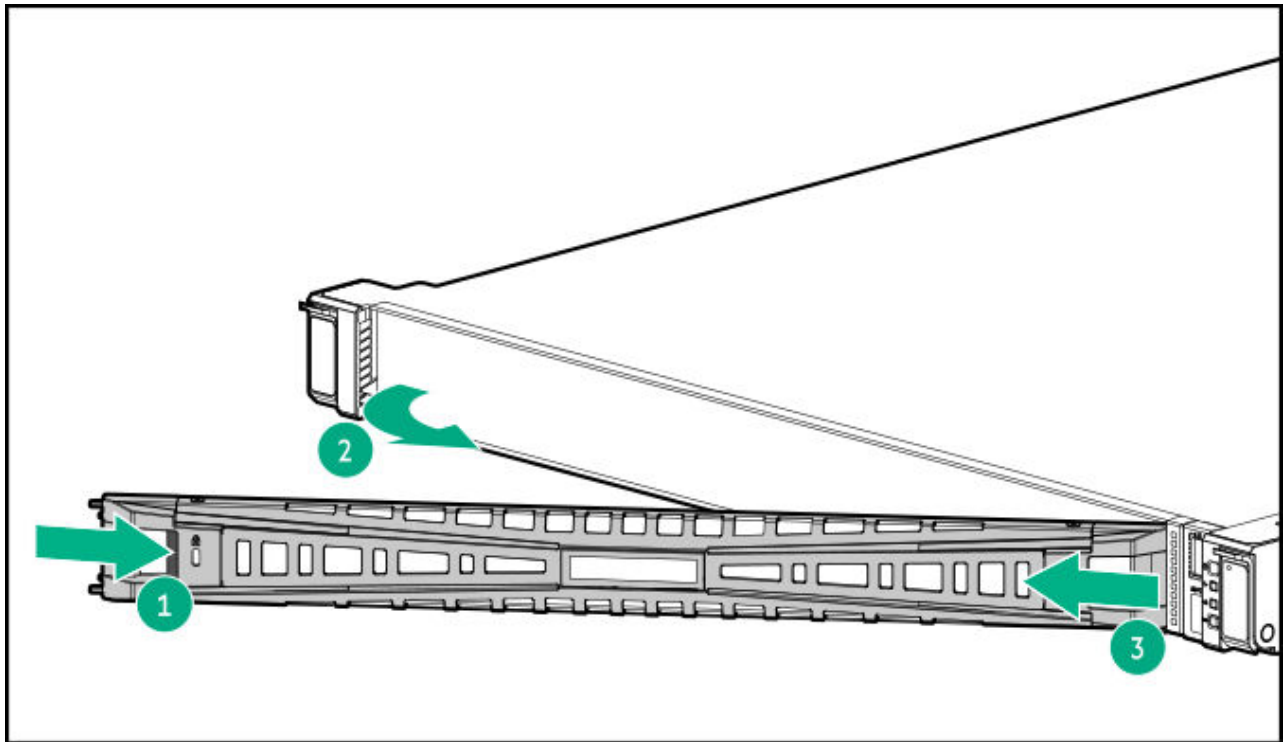
Procedure

1. If installed, remove the Kensington security lock.

For more information, see the lock documentation.



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



Results

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

Removing and replacing a hot-plug SAS, SATA or NVMe drive

About this task

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



CAUTION

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

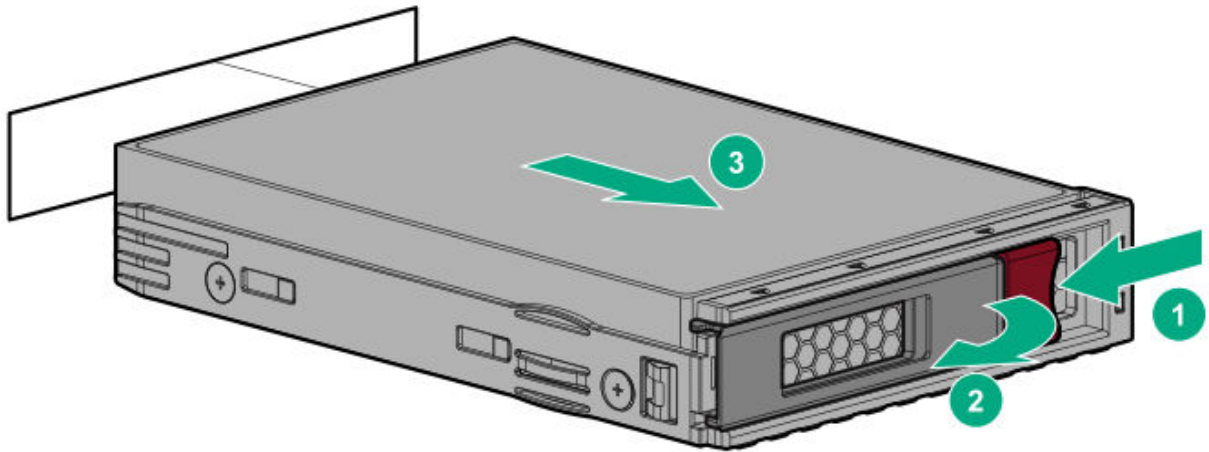


CAUTION

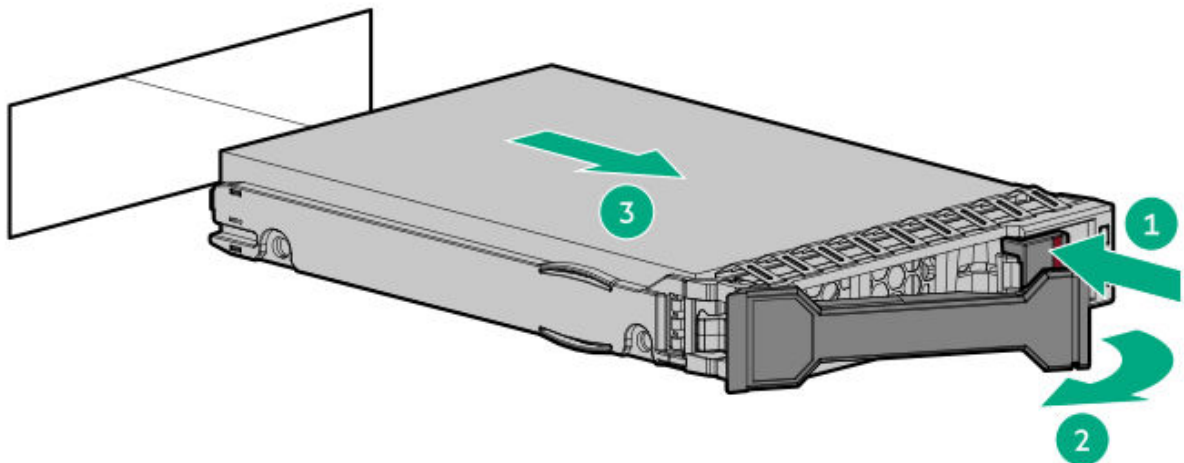
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

Procedure

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



- SFF drive



Results

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

Removing and replacing a hot-plug E3.S drive

About this task

https://sketchfab.com/models/a197c7984db6439a95df78f698abbb23/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



CAUTION

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

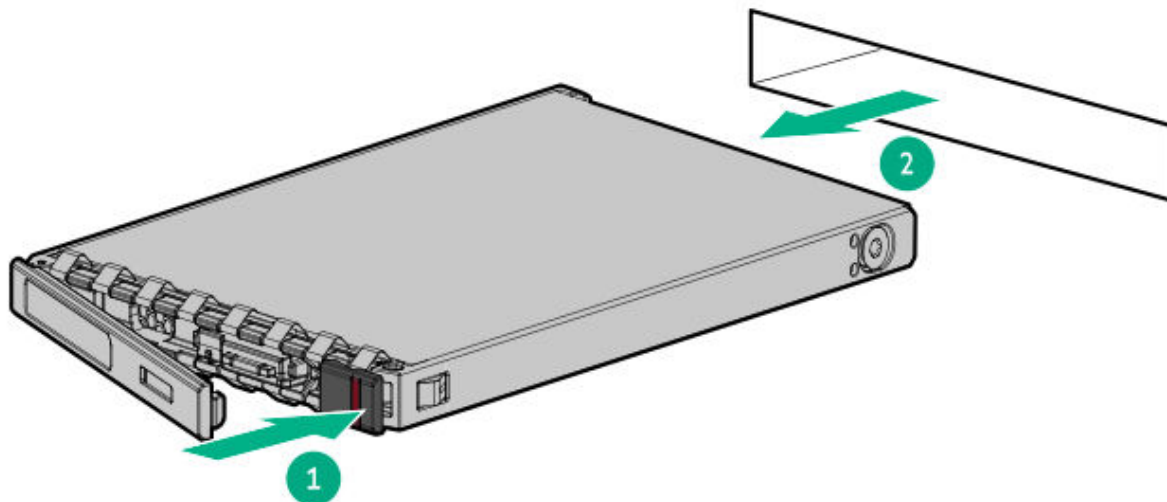


CAUTION

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

Procedure

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



Results

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

Removing and replacing a drive blank

About this task

https://sketchfab.com/models/ebfa72a6e53c4241b82df150ca59c962/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0&

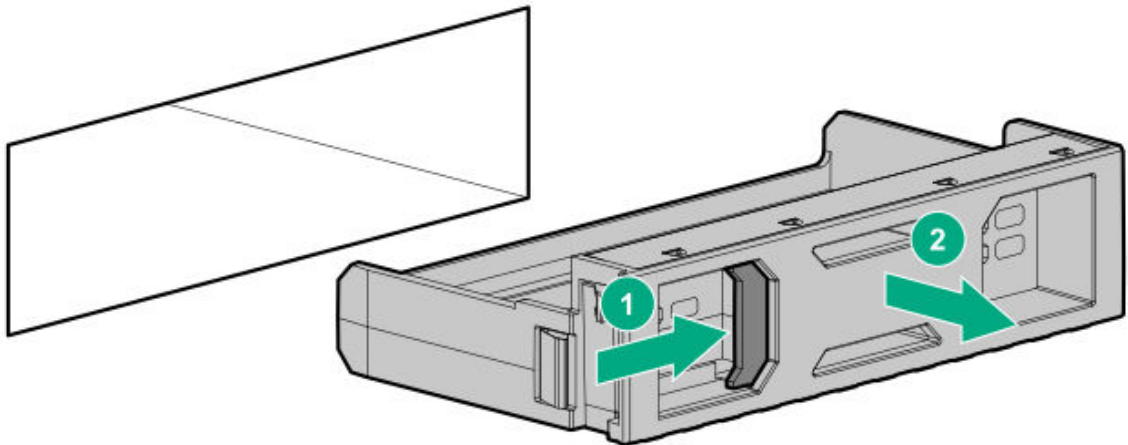


CAUTION

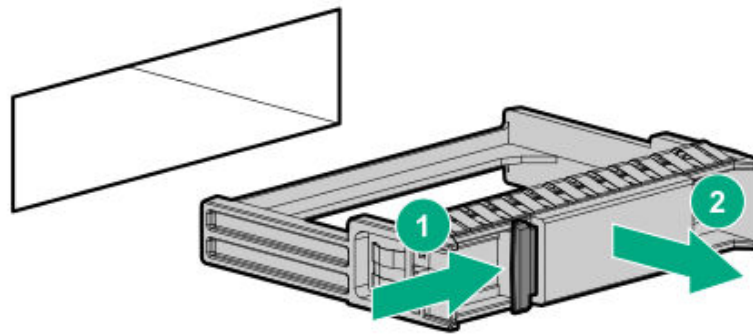
To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

Procedure

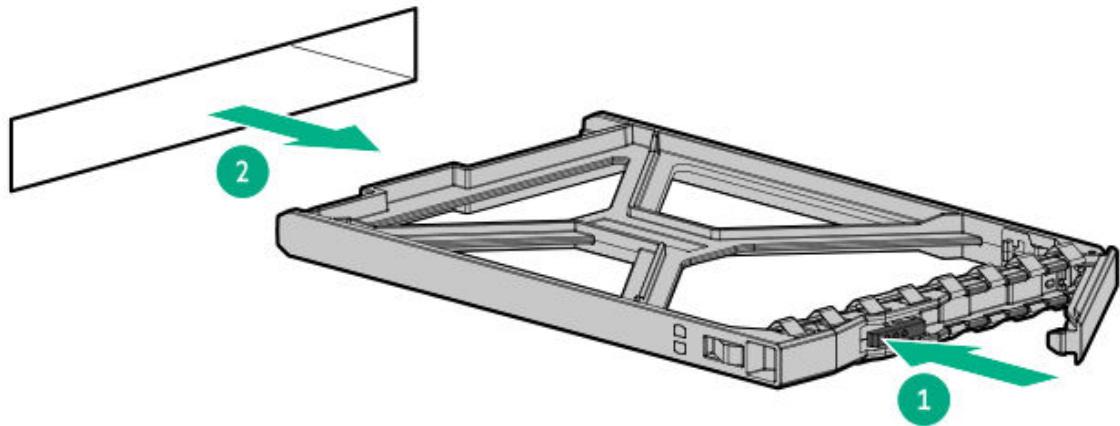
1. If installed, remove the front bezel.
2. Remove the drive blank.
 - LFF drive blank



- SFF drive blank



- E3.S drive blank



Results

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

Removing and replacing the optical drive bay blank

Prerequisites

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

About this task



CAUTION

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

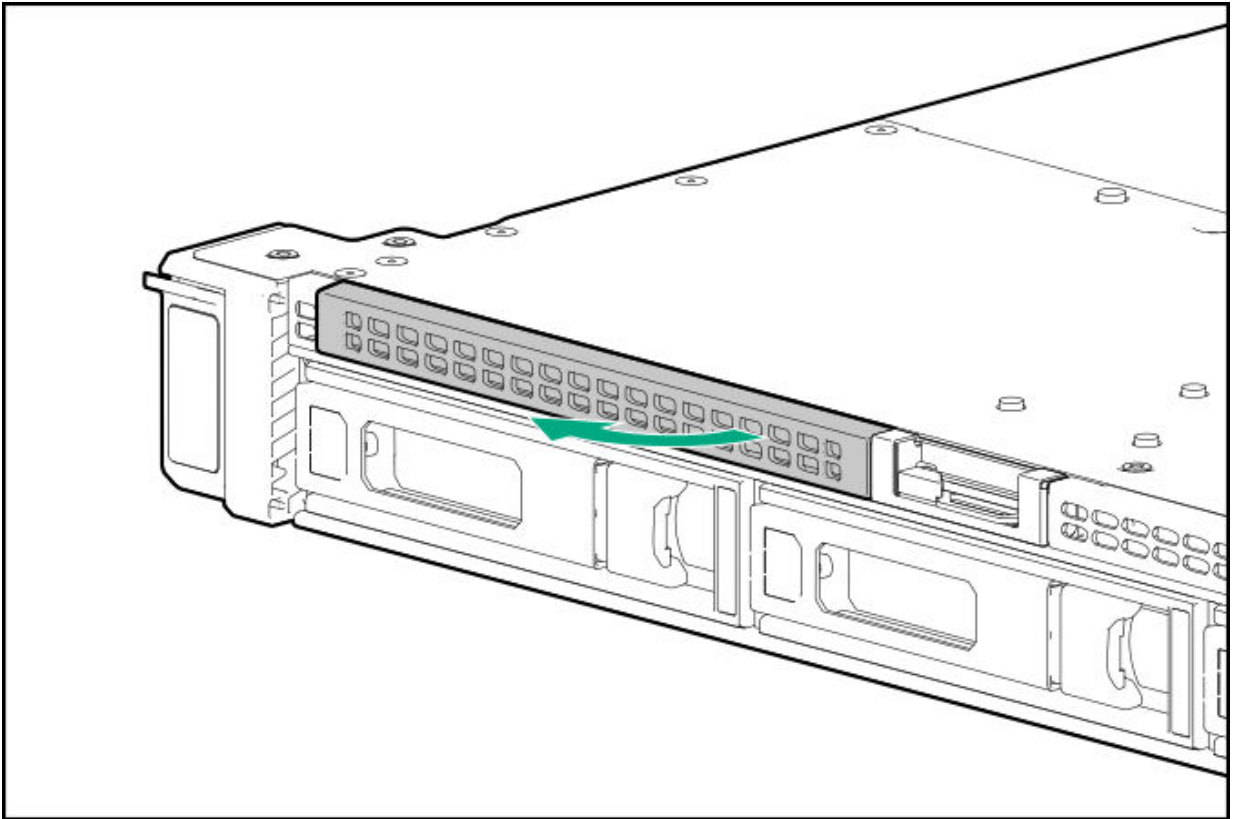


CAUTION

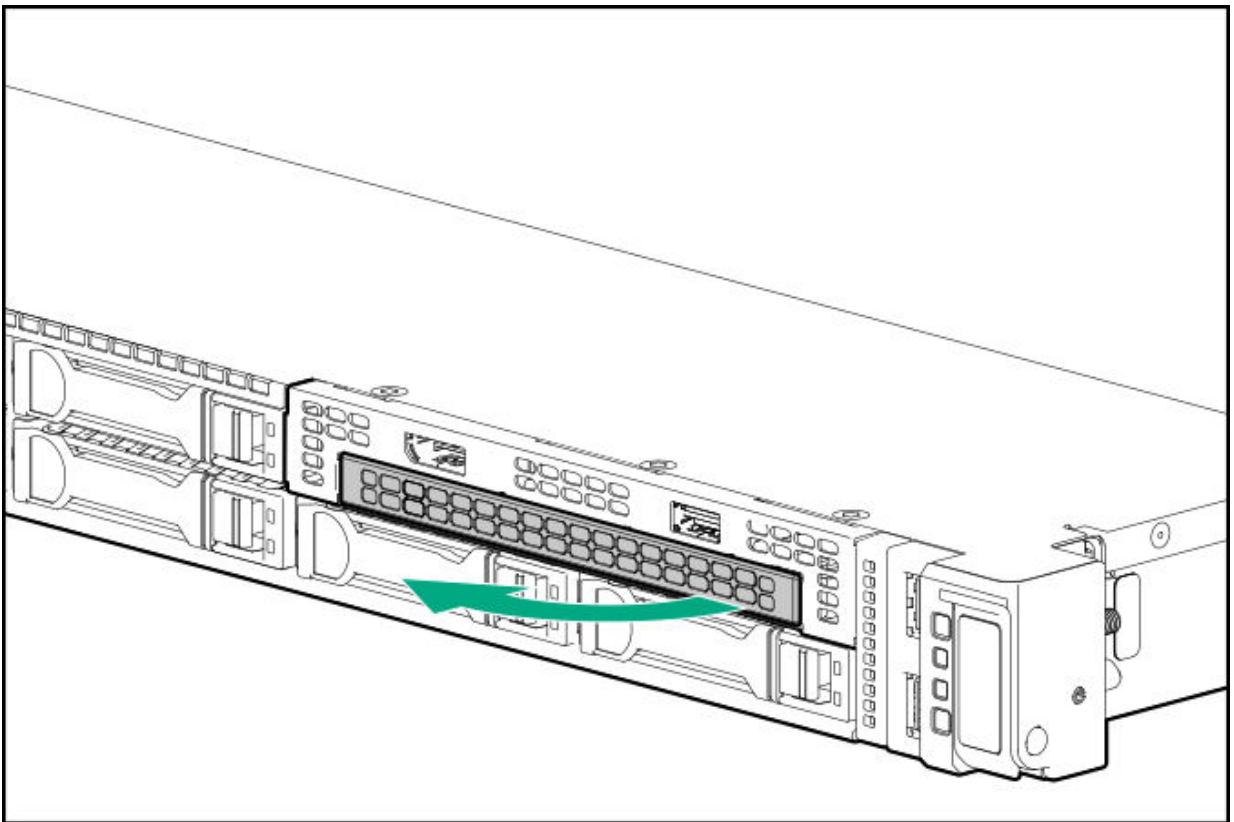
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

Procedure

1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the optical drive bay blank.
 - LFF drive configuration



- SFF drive configuration



Results

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

Removing and replacing the universal media bay blank

Prerequisites

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

About this task



CAUTION

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



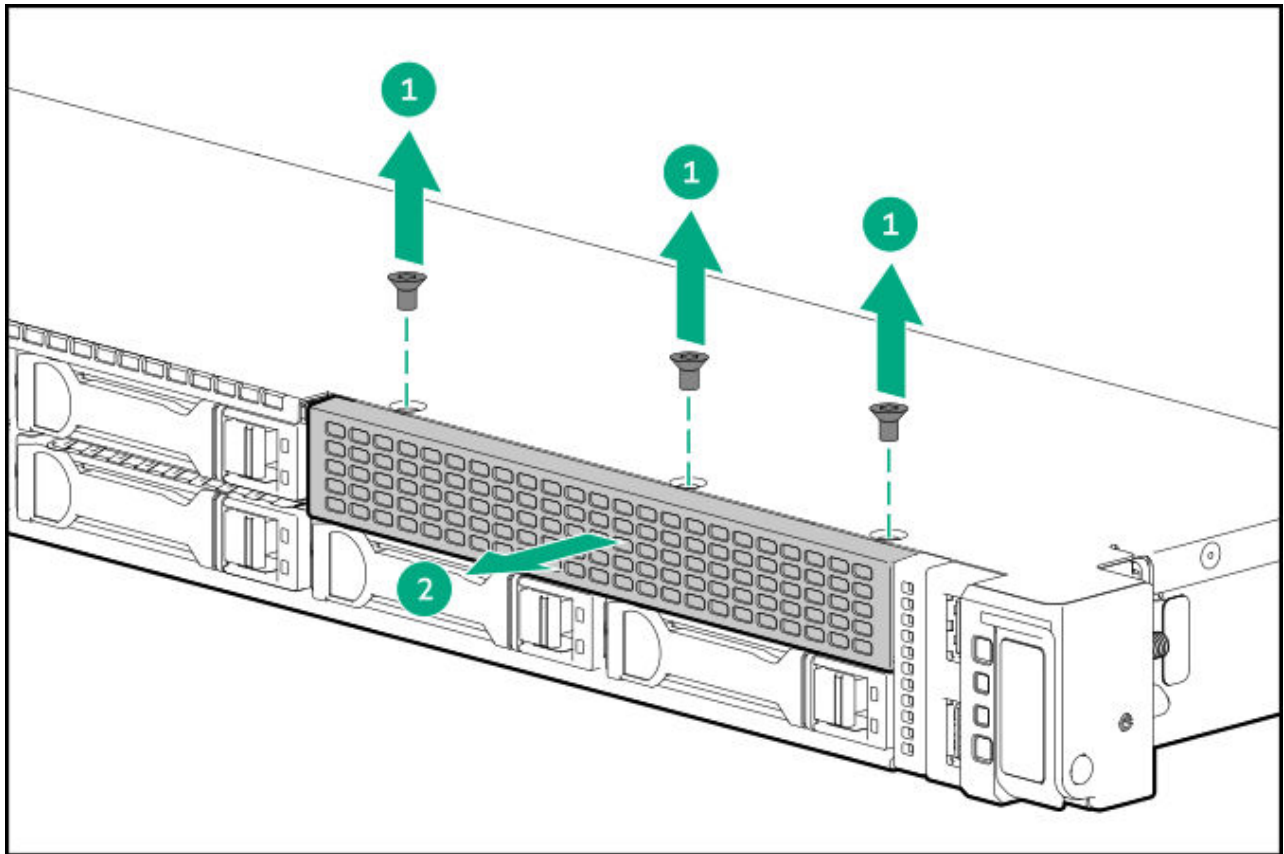
CAUTION

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

Procedure

1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the universal media bay blank.

Retain the screws and blank. These screws will be used to secure the new universal media bay blank spare.



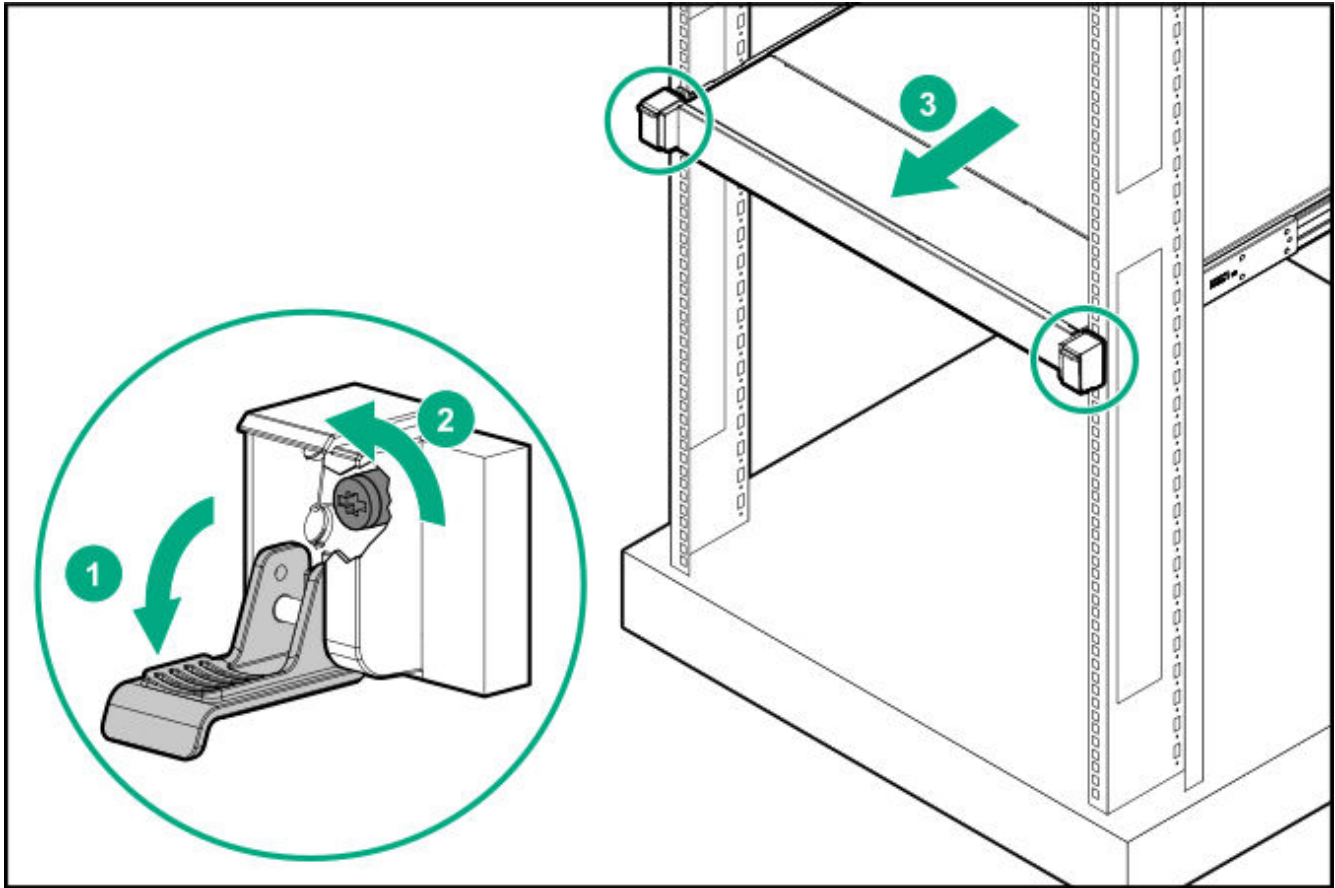
Results

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

Removing and replacing the cable management arm

Prerequisites

For 1U servers that are densely populated in a deep rack, you must extend the server to access the release latch.



About this task



CAUTION

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

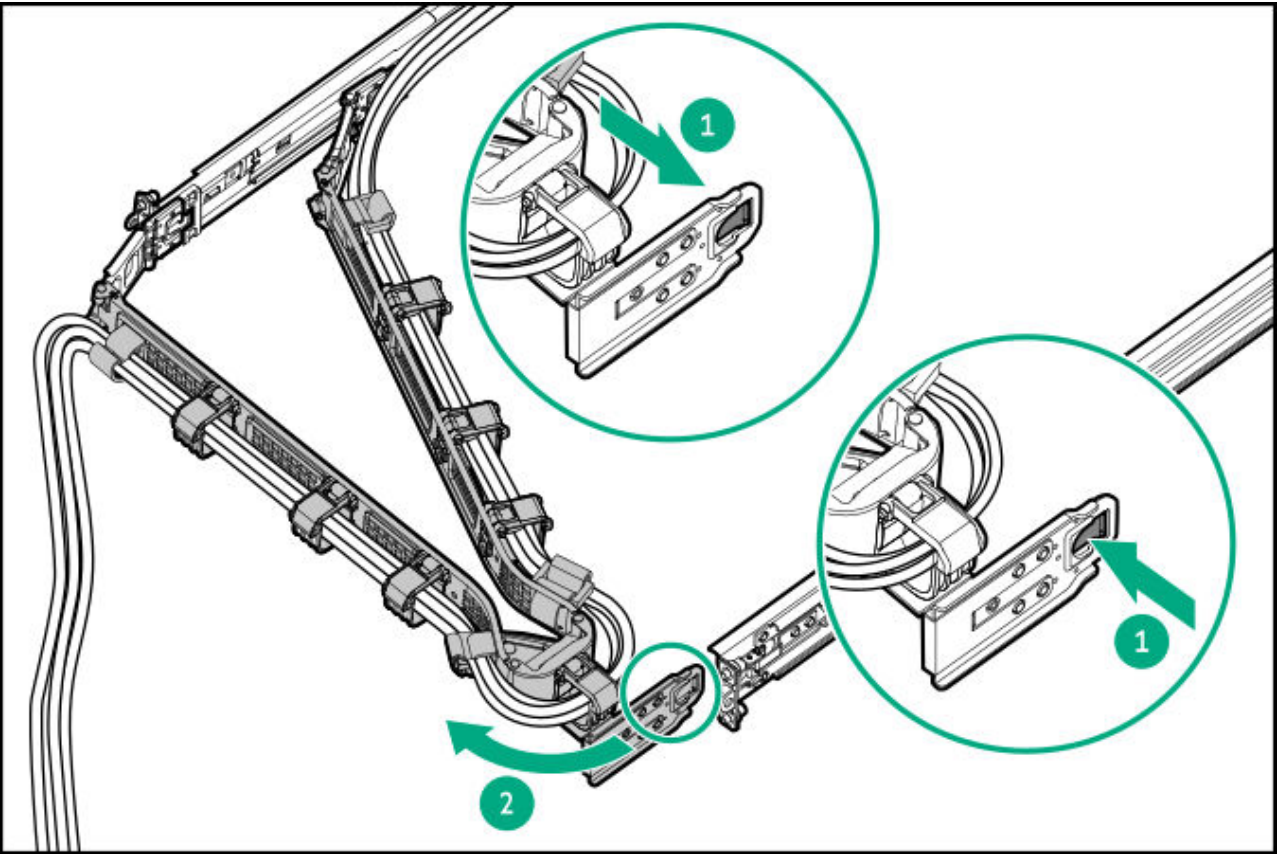
Procedure

1. Press the release latch and open the cable management arm.

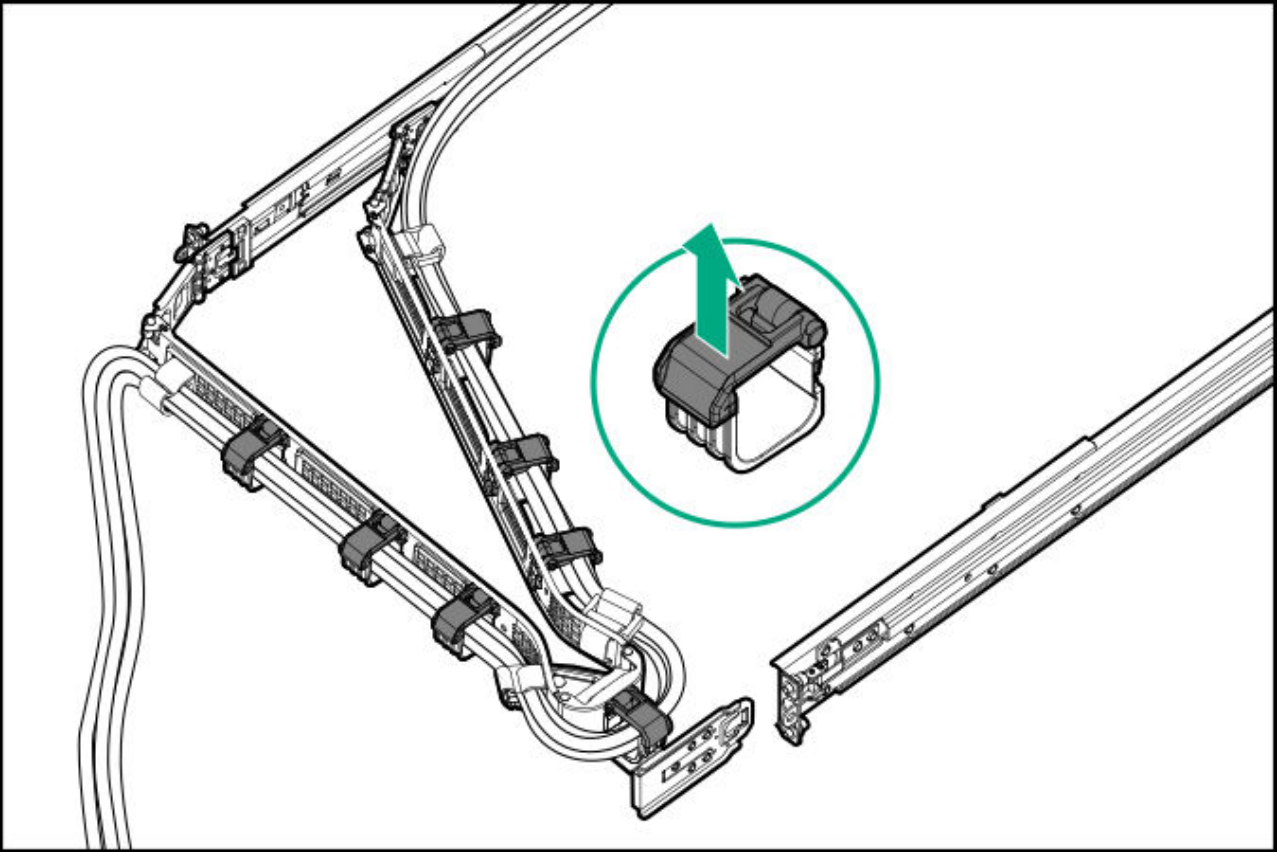


NOTE

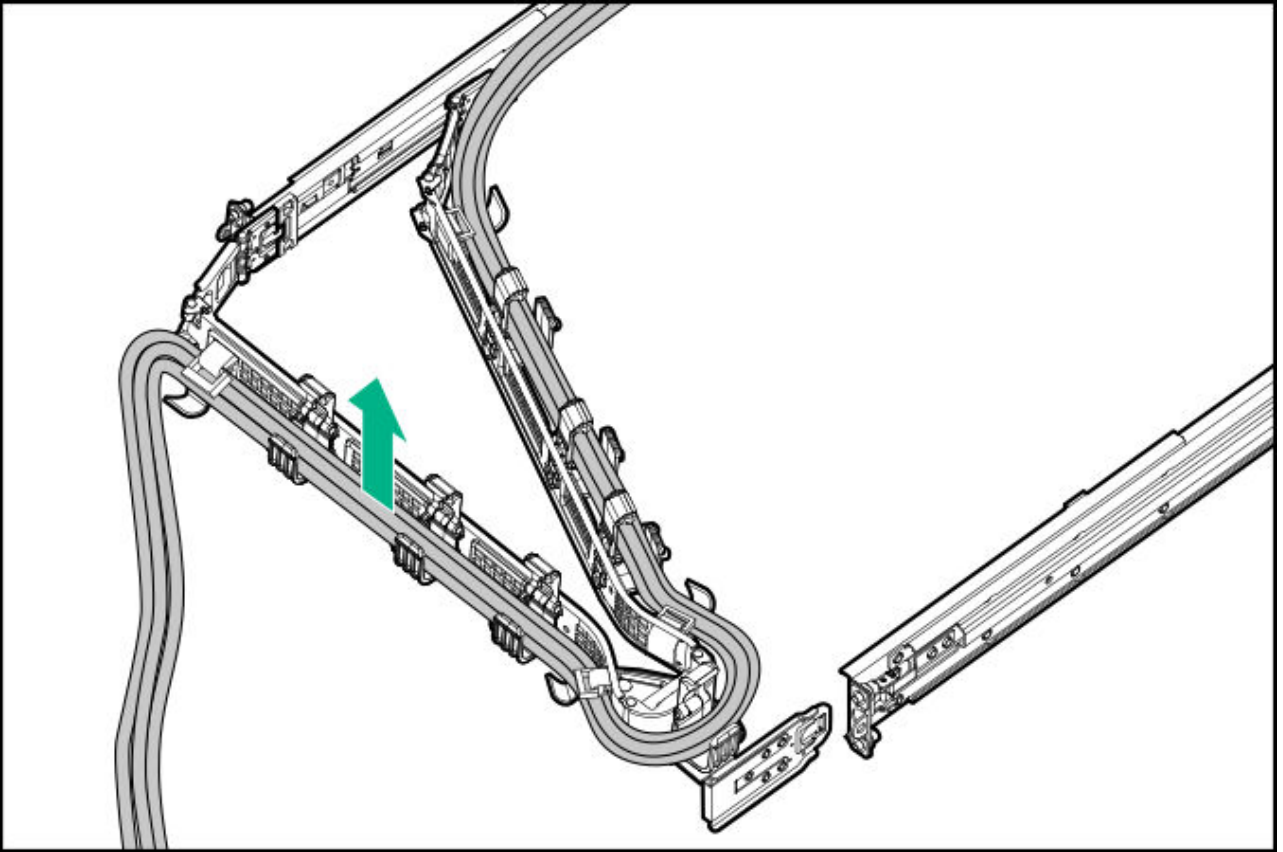
The latch can be released from the inside or outside.



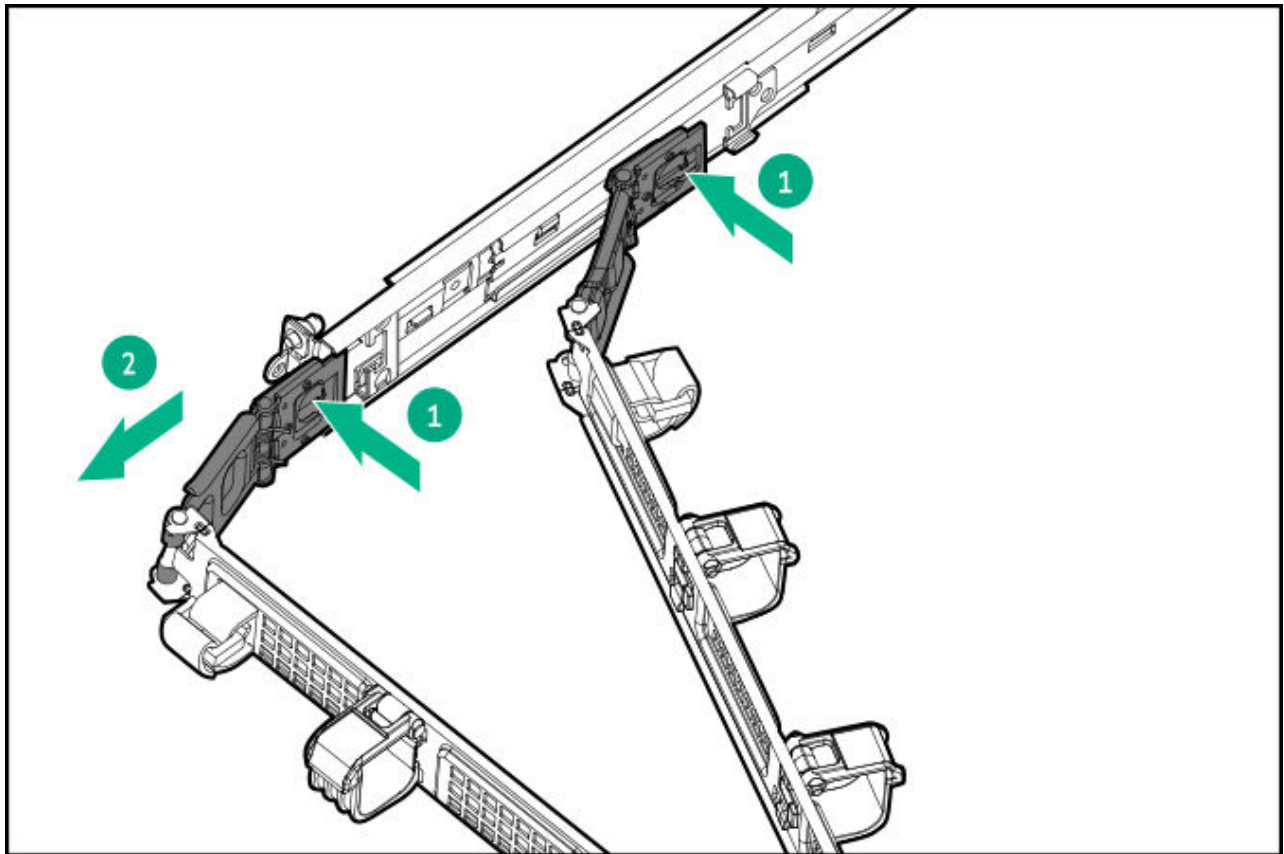
2. Open all cable baskets and loosen straps.



3. Remove the cables.



4. Remove the cable management arm.



Results

To replace the component, reverse the removal procedure.

Flexible Slot power supply replacement

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

Subtopics

[Power supply warnings and cautions](#)

[DC power supply warnings and cautions](#)

[DC power supply wire colors](#)

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

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

Power supply warnings and cautions



WARNING

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

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



WARNING

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



CAUTION

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

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

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

DC power supply warnings and cautions



WARNING

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

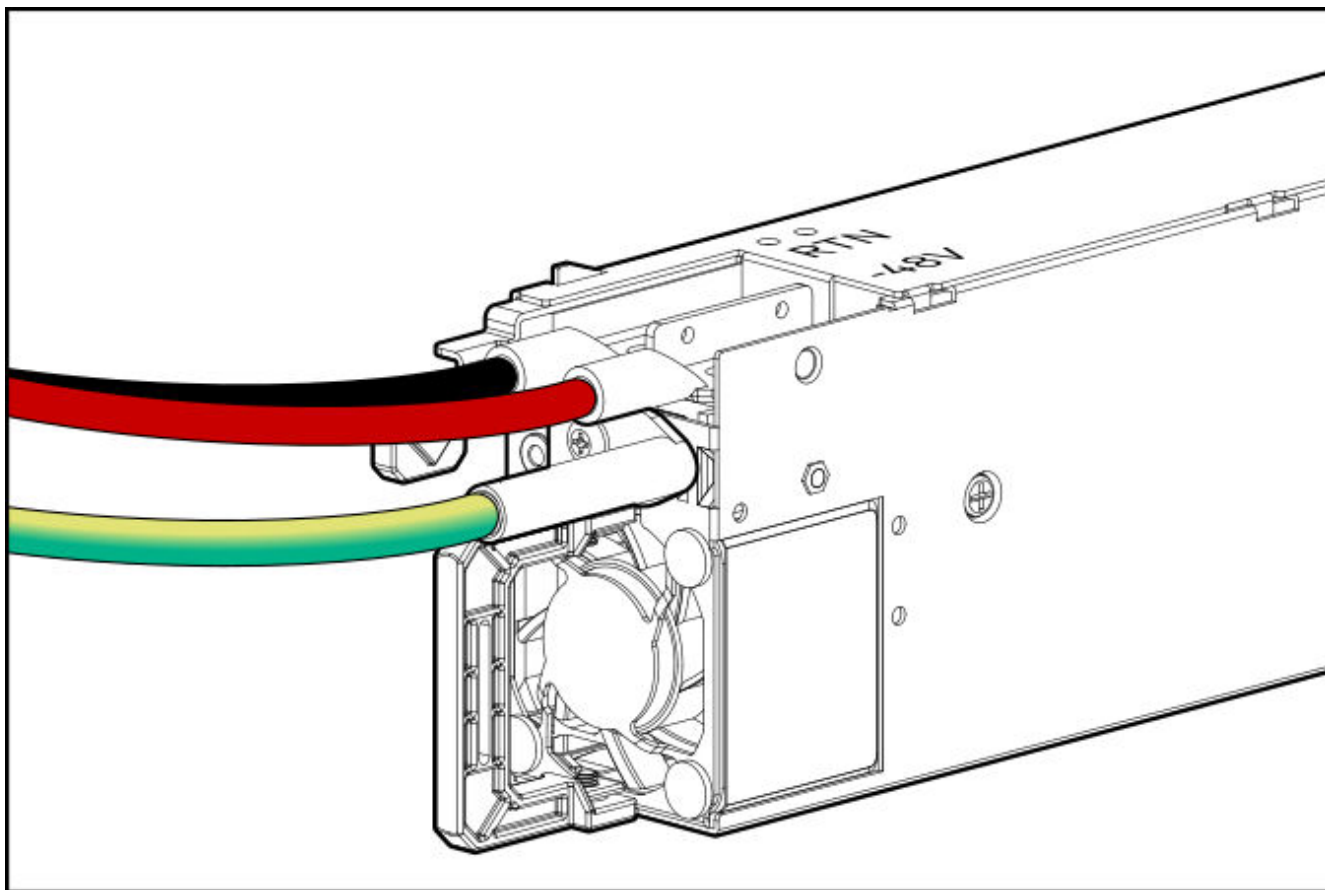


CAUTION

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

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

DC power supply wire colors



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

Removing and replacing an AC Flexible Slot power supply

Prerequisites

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

About this task

https://sketchfab.com/models/ef1927dac07d4c40b5925173aacddb9a/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0&ui_animations=0



WARNING

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

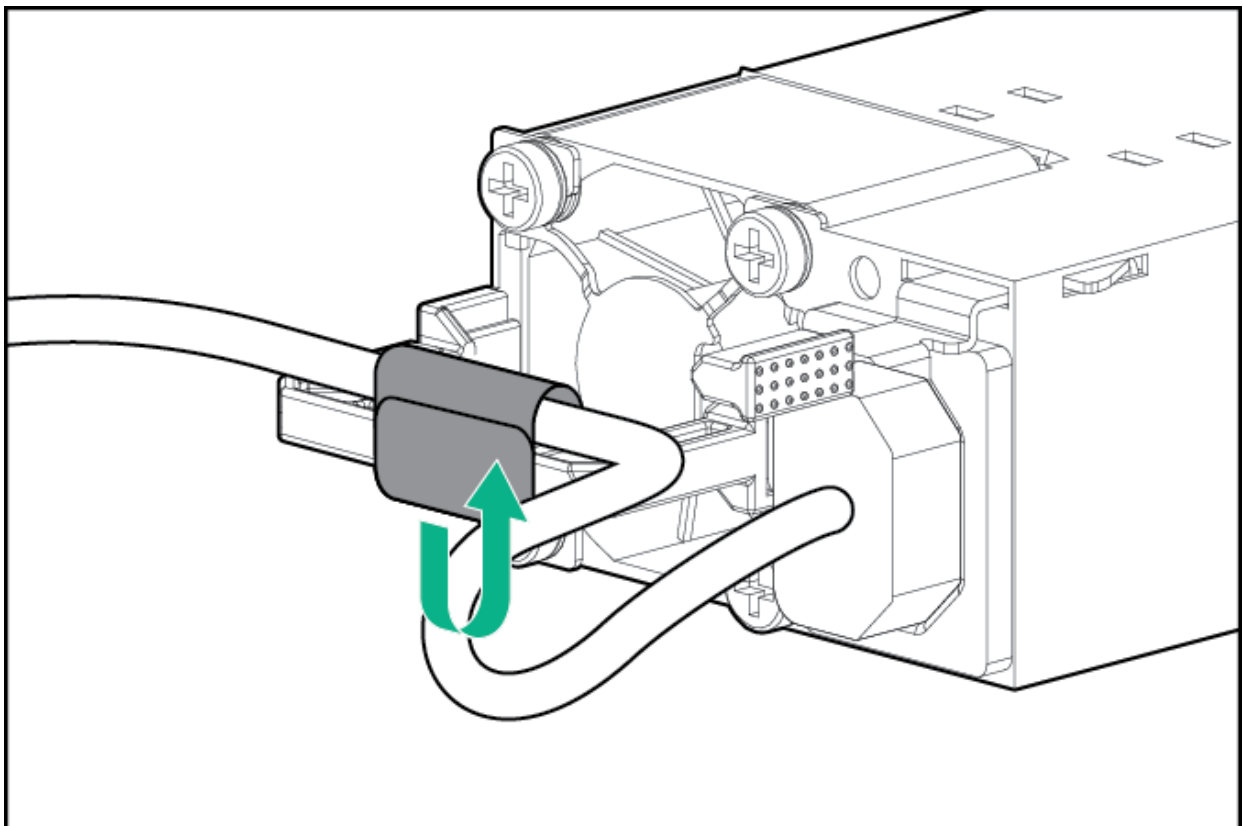


CAUTION

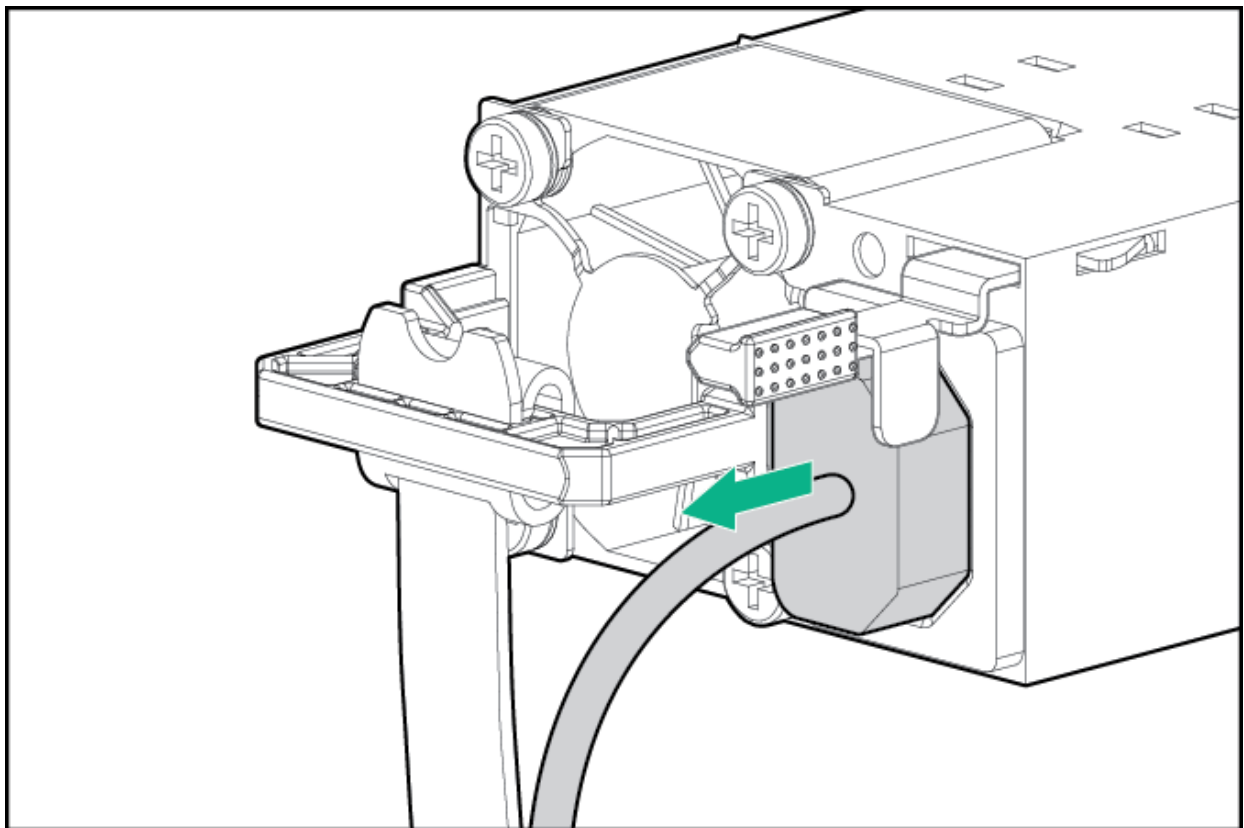
To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

Procedure

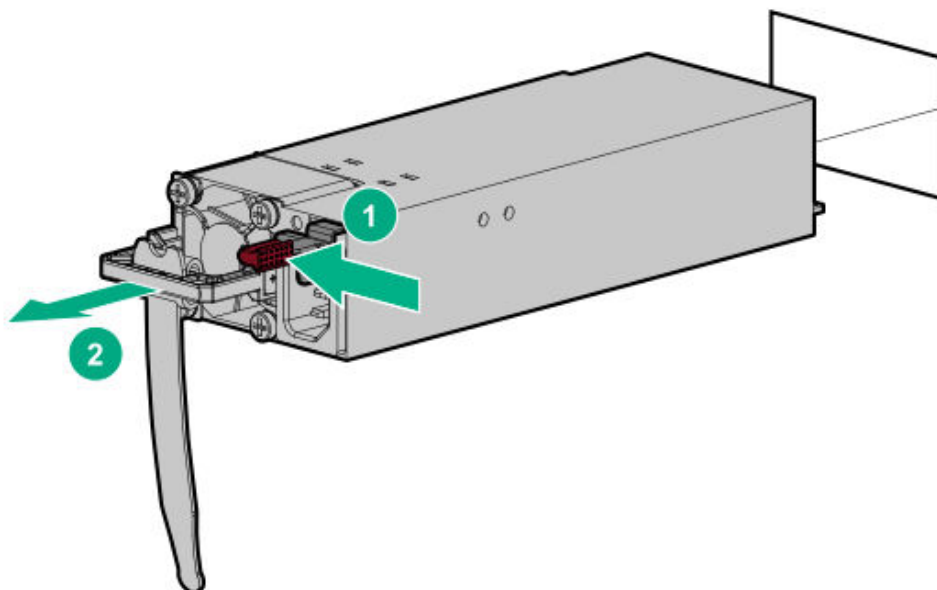
1. Power down the server.
2. To remove an AC power supply, do the following:
 - a. Release the power cords, wires, and cables from the strain relief strap.



b. Disconnect the power cord from the power supply.



c. Remove the power supply.



Results

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

Removing and replacing a DC Flexible Slot power supply

Prerequisites

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

About this task



WARNING

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

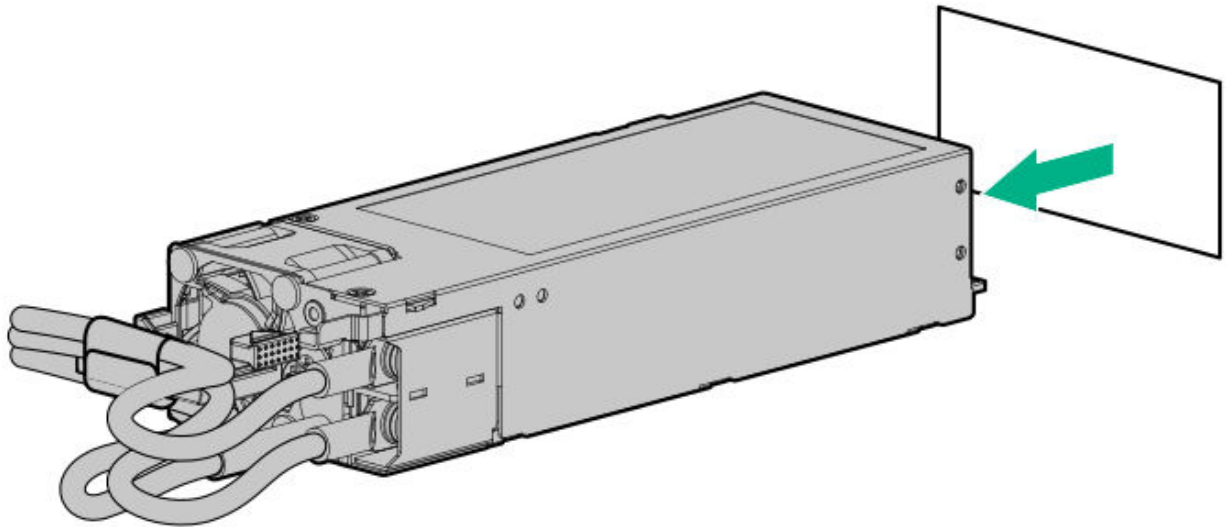


CAUTION

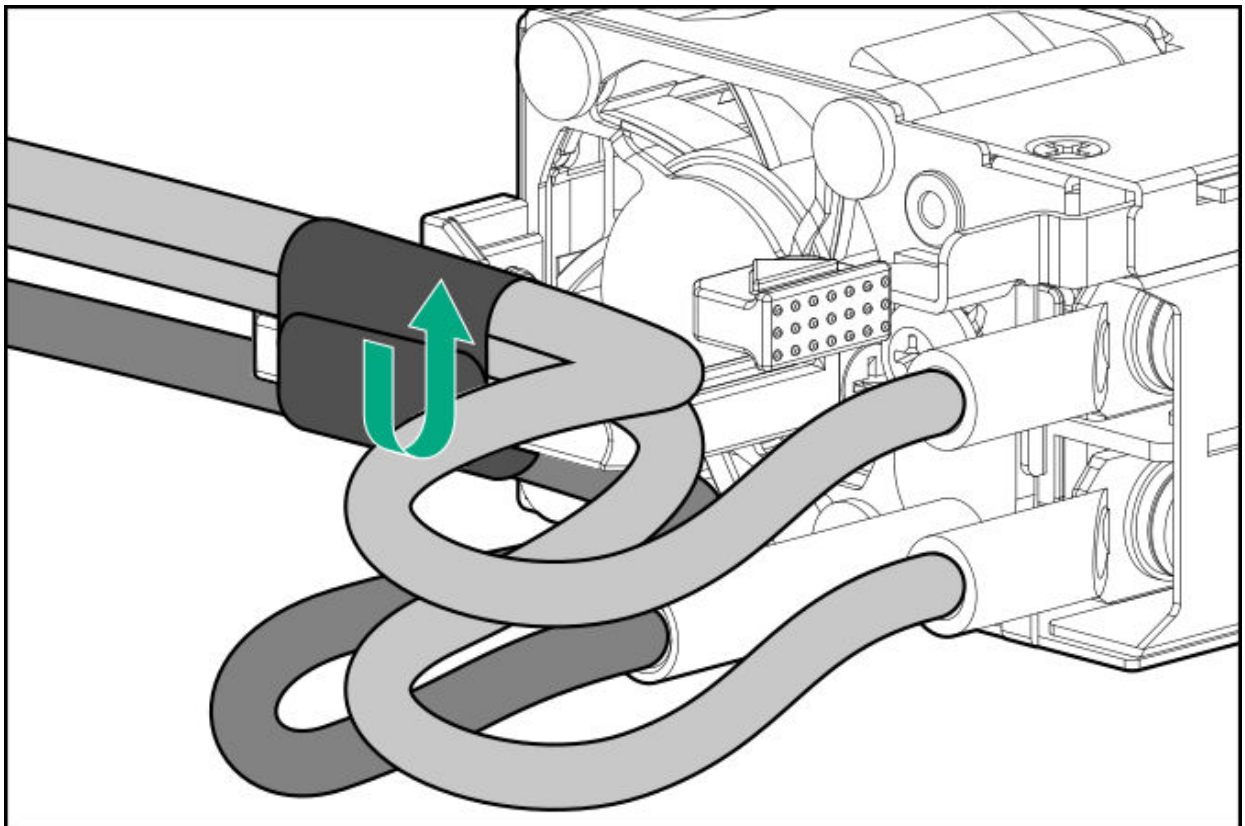
To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

Procedure

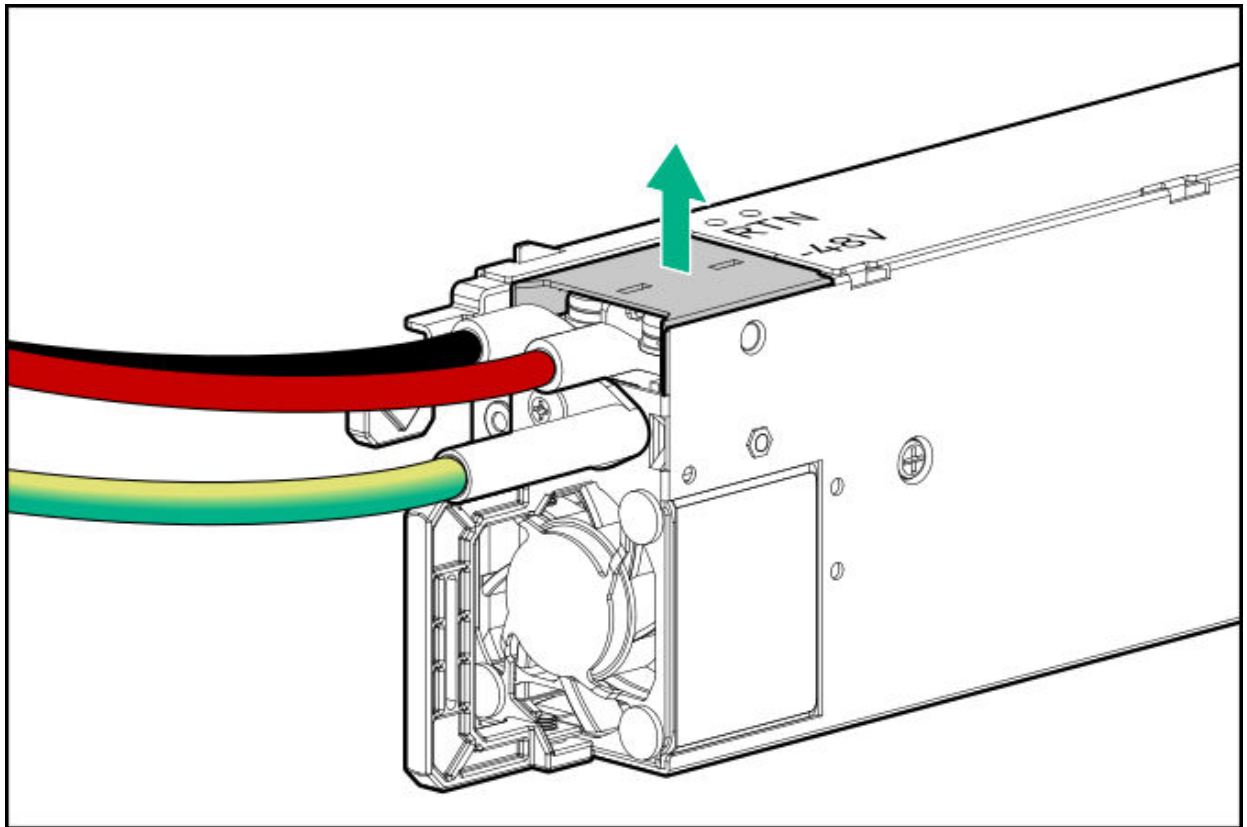
1. [Power down the server.](#)
2. To remove the DC power supply, do the following:
 - a. Remove the power supply.



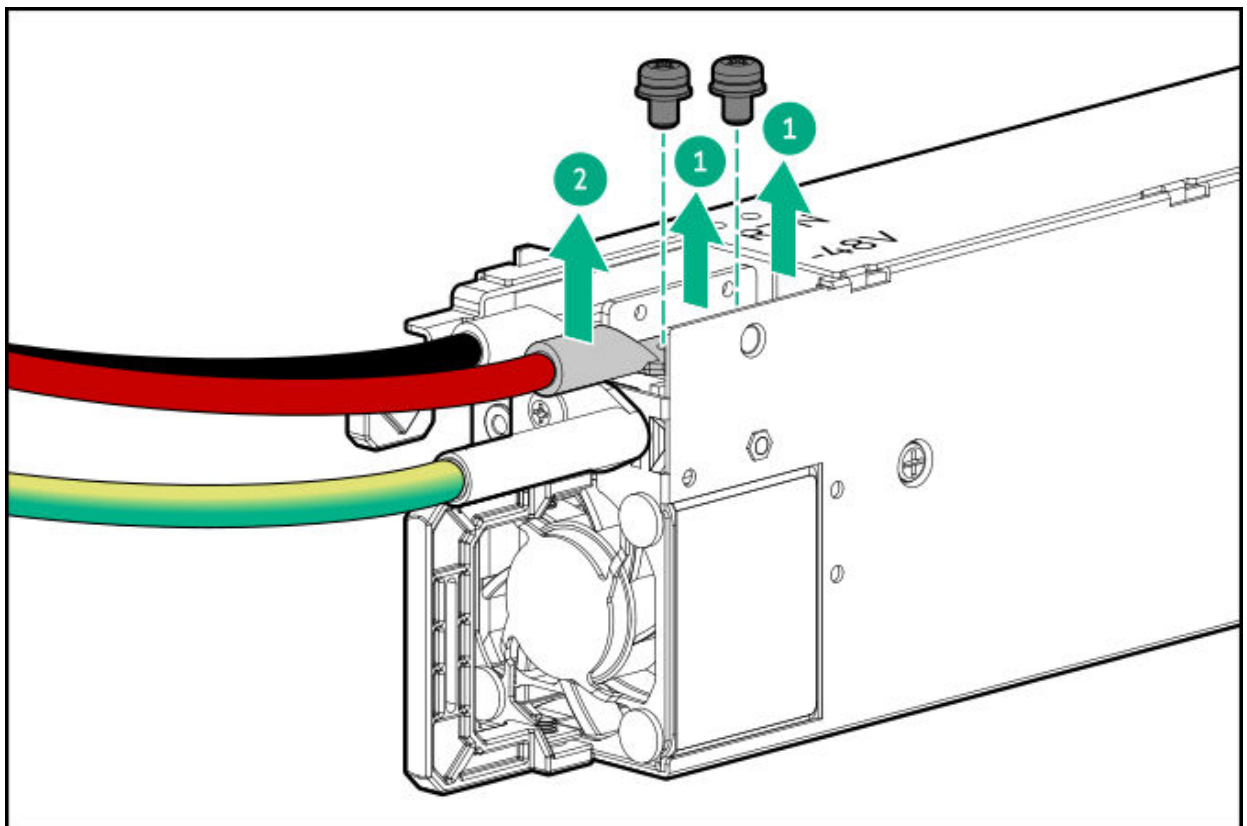
b. Release the ground, positive return, and negative input wires from the strain relief strap.



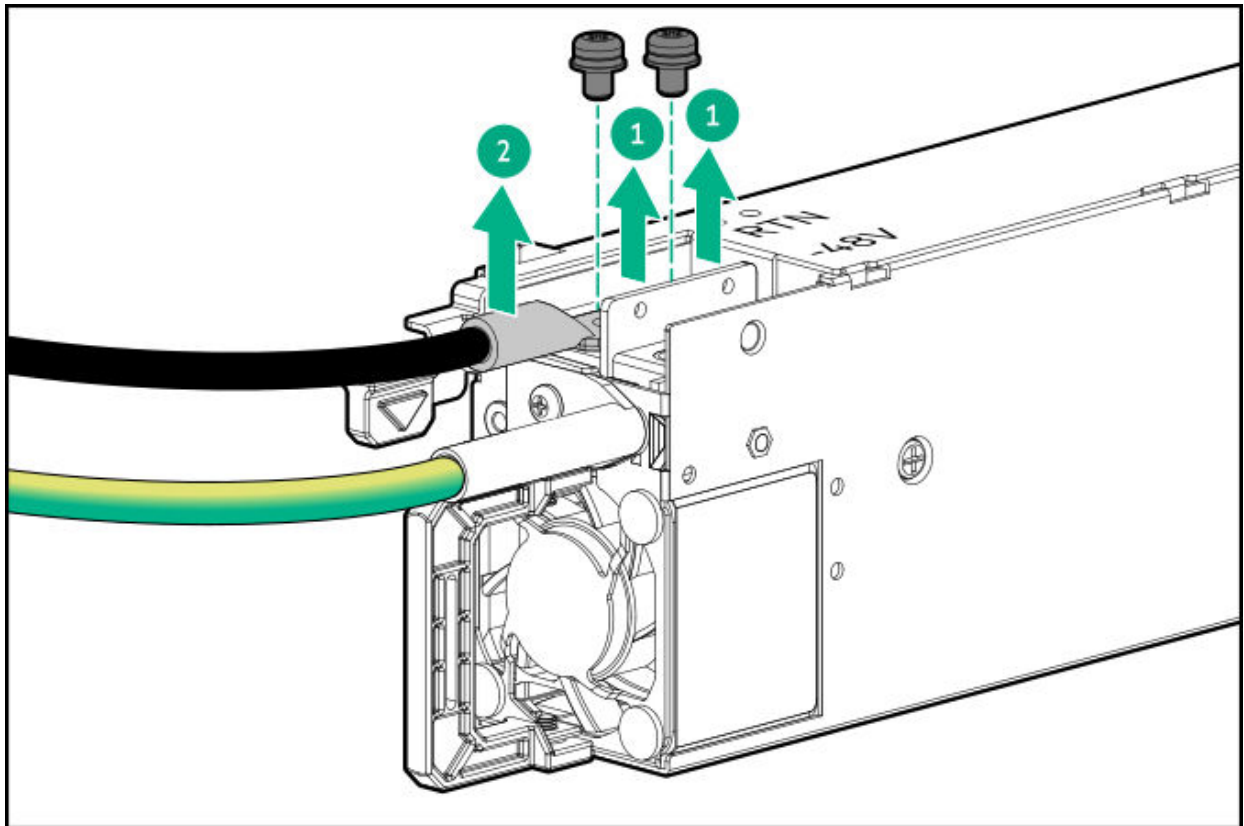
c. Remove the protective cover from the power supply.



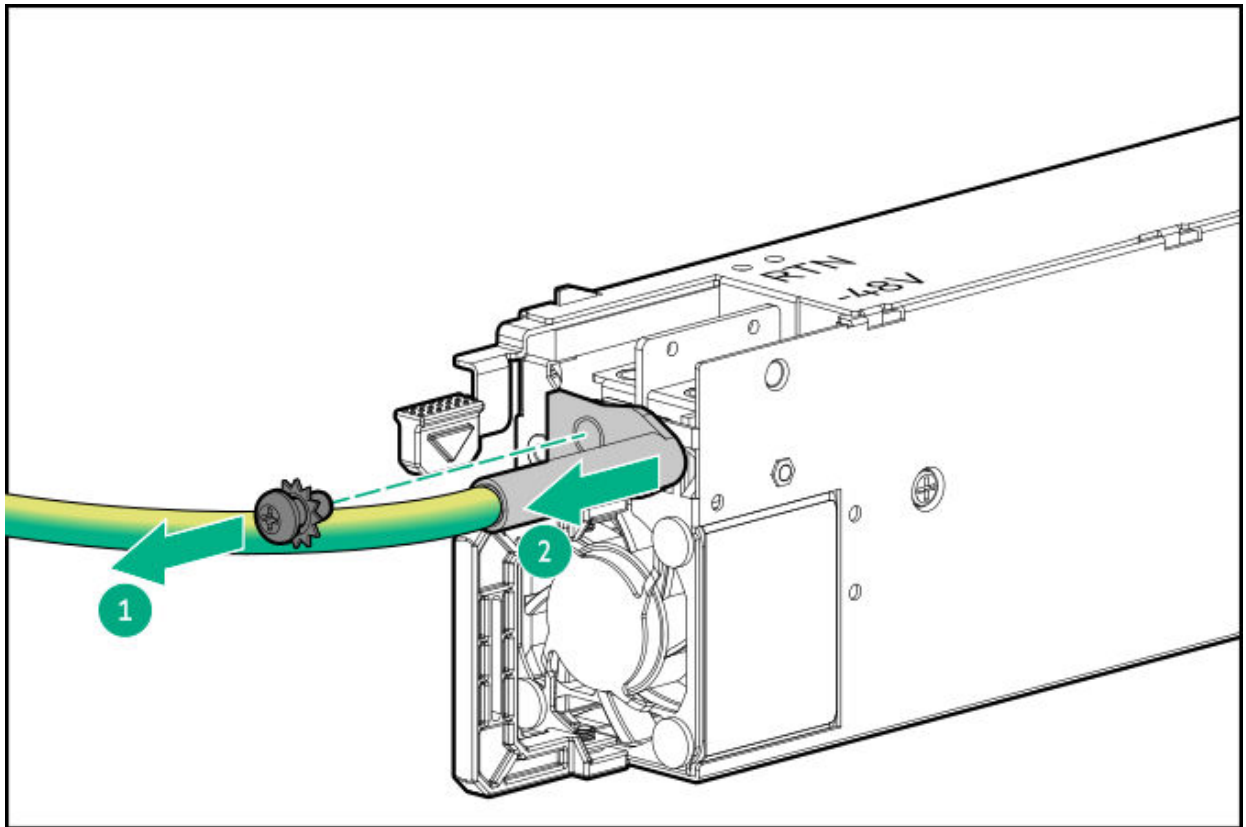
d. Remove the line wire (red) from the -48V slot on the DC power supply.



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



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



Results

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

Removing and replacing the secondary rise cage blank

About this task



CAUTION

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

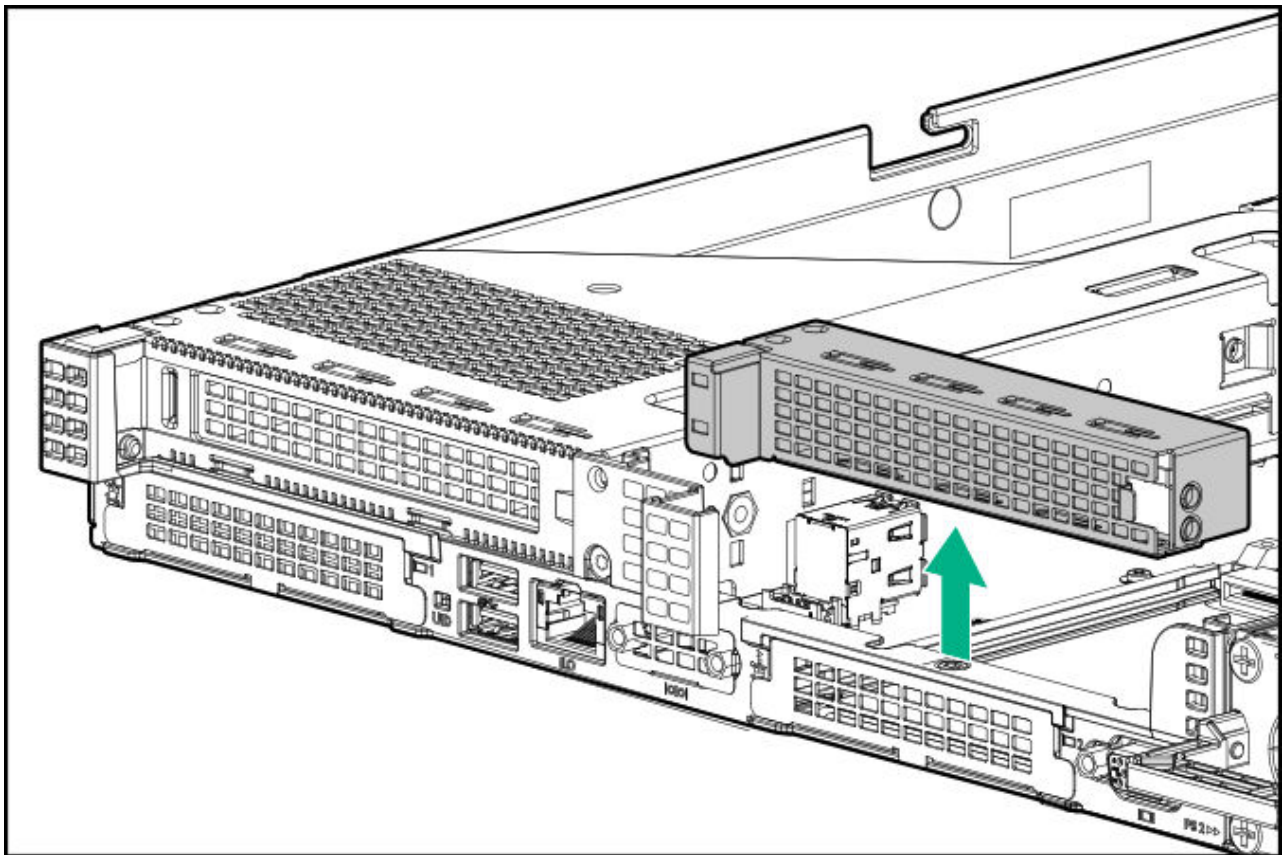


CAUTION

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

Procedure

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



Results

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

Transceiver replacement

Subtopics

- [Transceiver warnings and cautions](#)
- [Removing and replacing a transceiver](#)

Transceiver warnings and cautions



WARNING

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



CAUTION

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



CAUTION

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



CAUTION

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



IMPORTANT

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

Removing and replacing a transceiver

Prerequisites

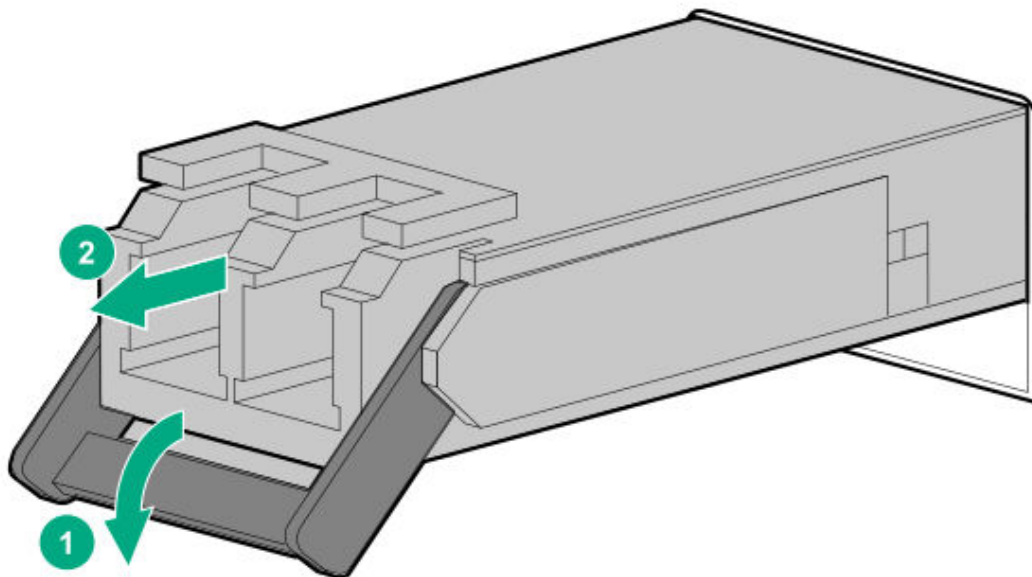
Before replacing a transceiver, review the following:

- [Transceiver warnings and cautions](#)
- Transceiver documentation for specific operational and cabling requirements

Procedure

1. If installed, open the cable management arm.
2. Disconnect the network cable from the transceiver.
3. Slide the transceiver out of the network adapter port.

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



Results

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

Rack rail replacement

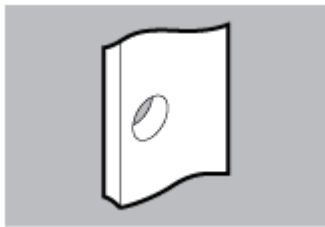
Subtopics

Rack mounting interfaces

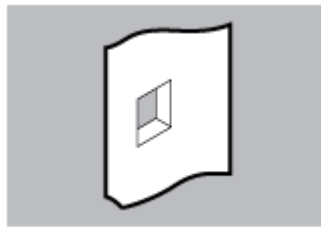
Removing and replacing the friction rack rails

Rack mounting interfaces

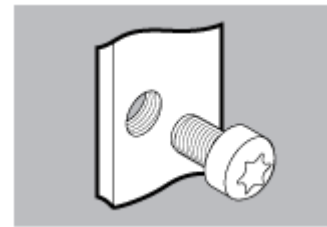
The rack rails can be installed in a rack that has the following mounting interfaces:



Round-hole



Square-hole



Threaded round-hole

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

Removing and replacing the friction rack rails

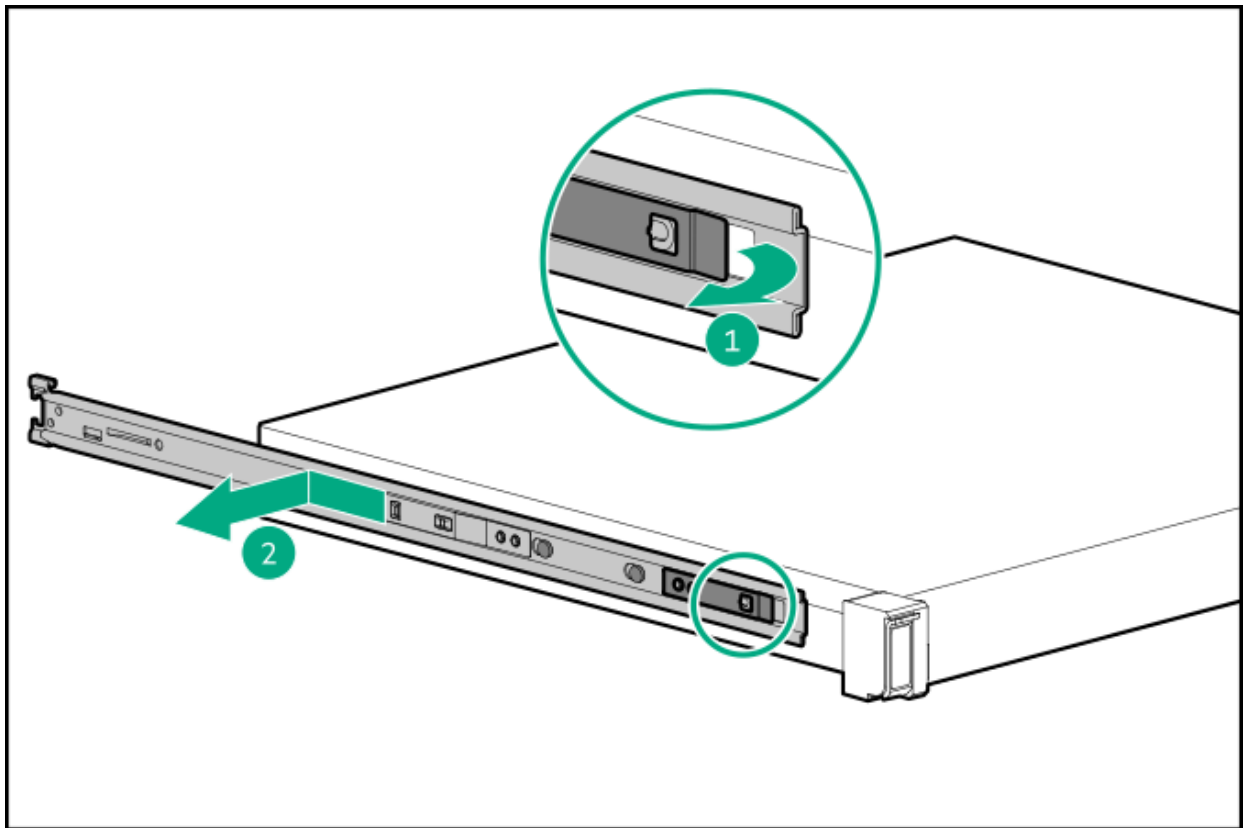
Prerequisites

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

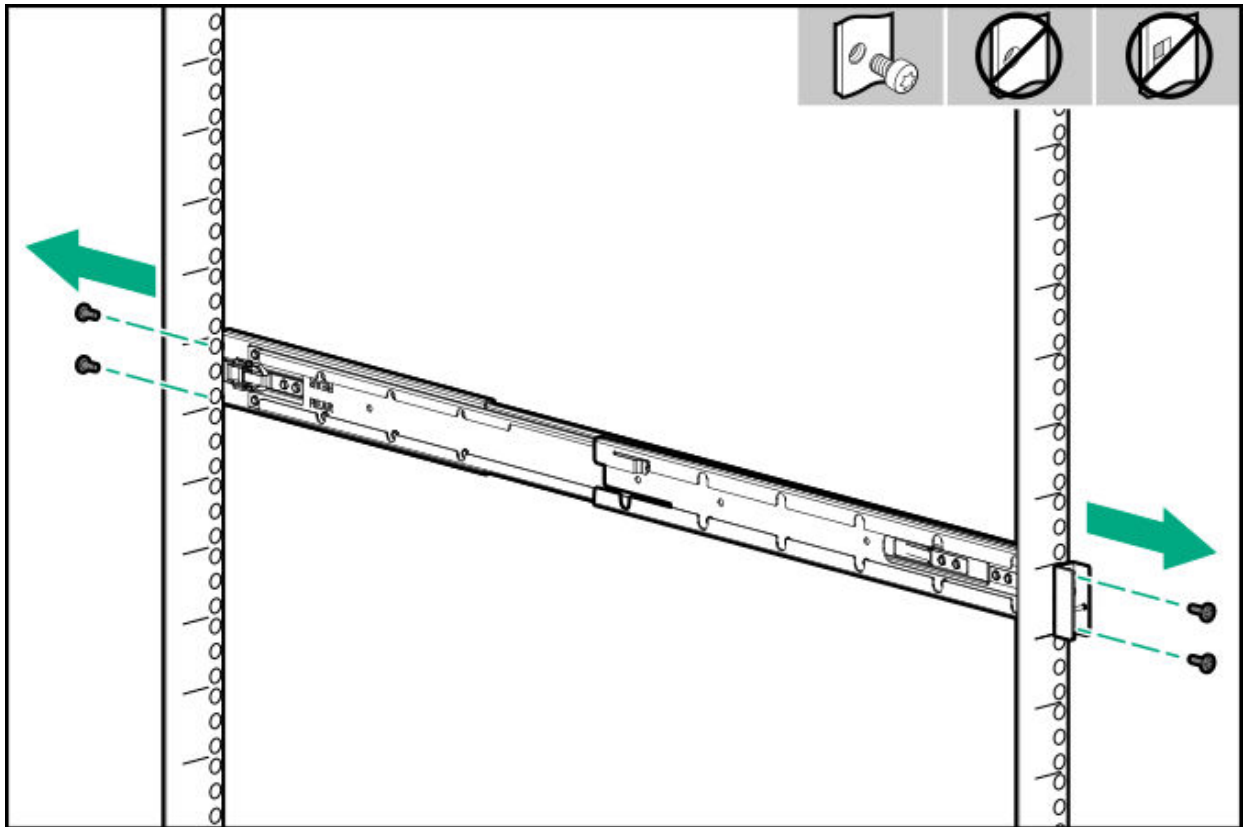
Procedure

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

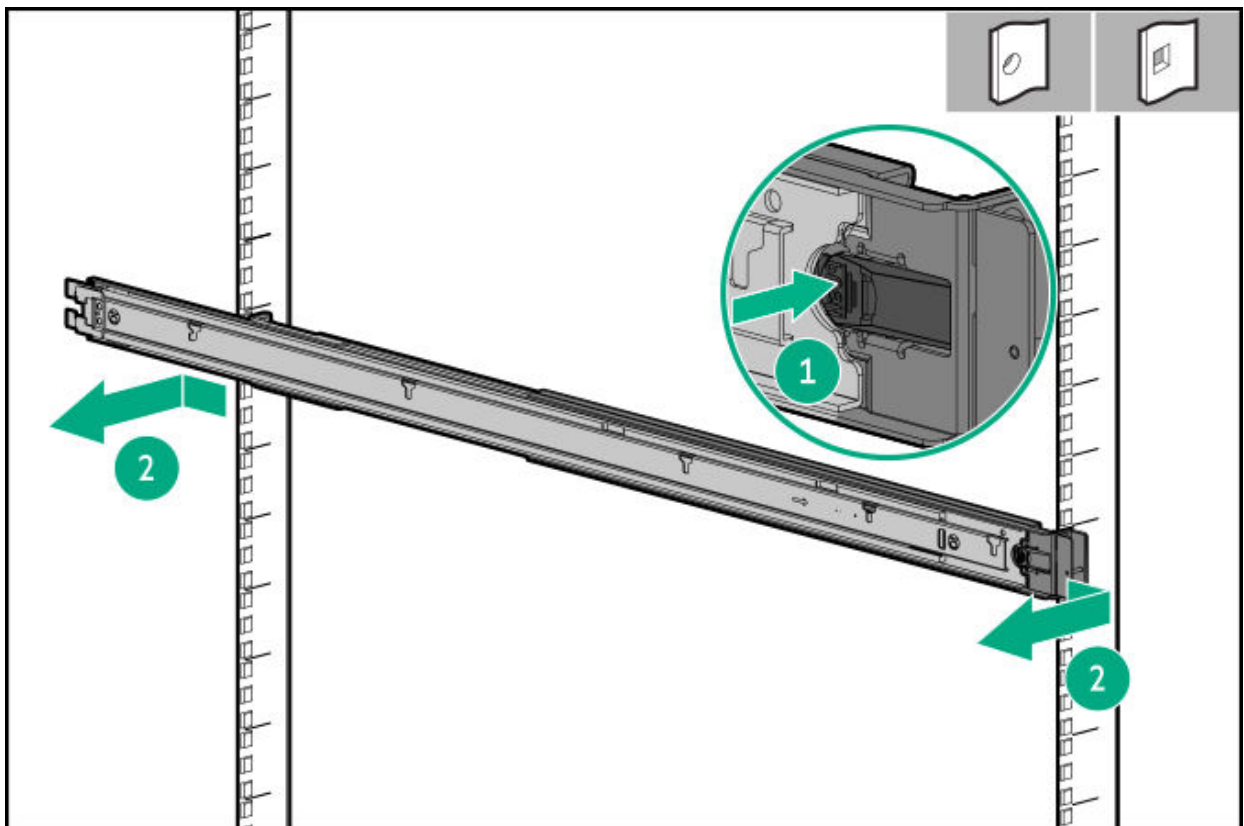
4. If installed, remove the cable management arm.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. To remove the sliding rails, do the following:
 - a. Pull and hold the release latch.
 - b. Slide the rail towards the front panel and pull it from the server.



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



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



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

Results

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

Removing and replacing the access panel

Prerequisites

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

About this task

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00005142en_us&noframe



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.



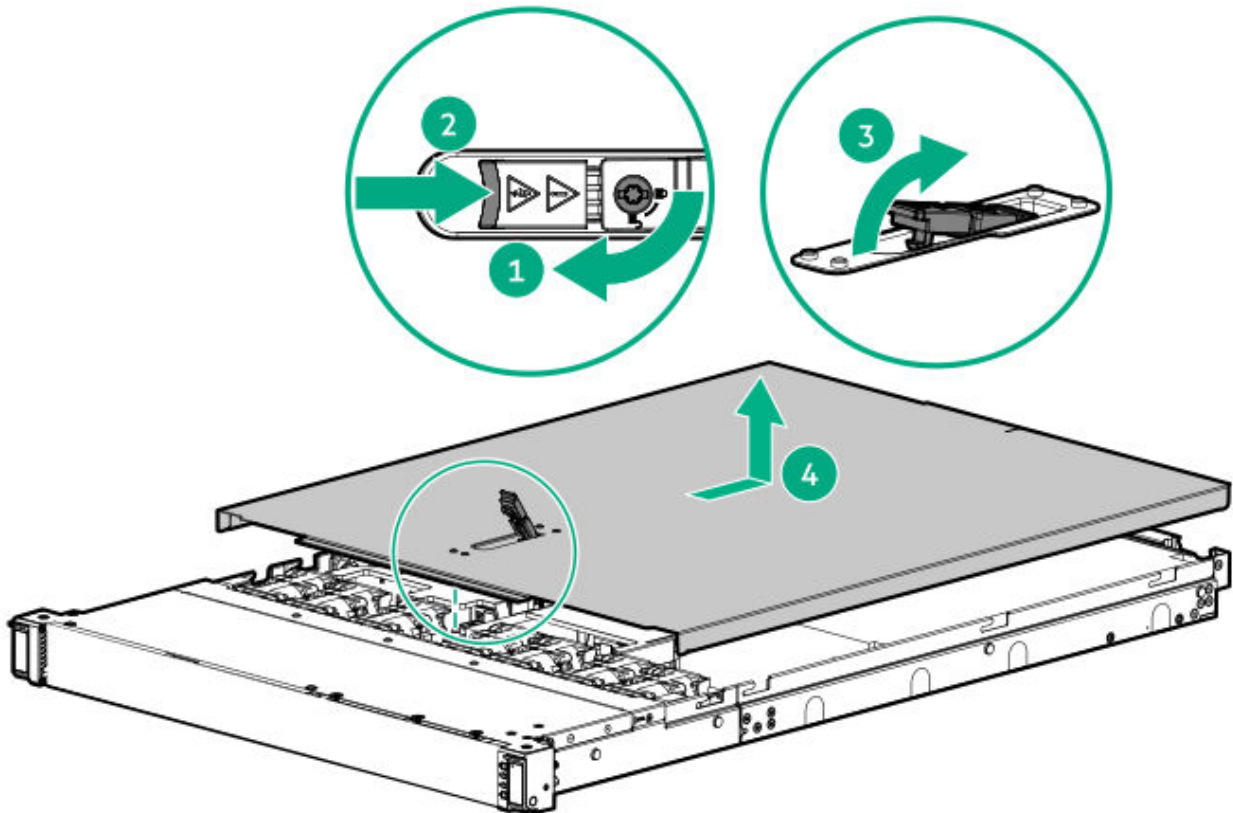
CAUTION

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. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel:
 - a. If necessary, unlock the access panel latch.
 - b. To disengage the access panel from the chassis, press the release button and pull up the latch.
 - c. Lift the access panel.



Results

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

Removing and replacing the LFF drive configuration middle cover

About this task

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00005141en_us&noframe



CAUTION

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

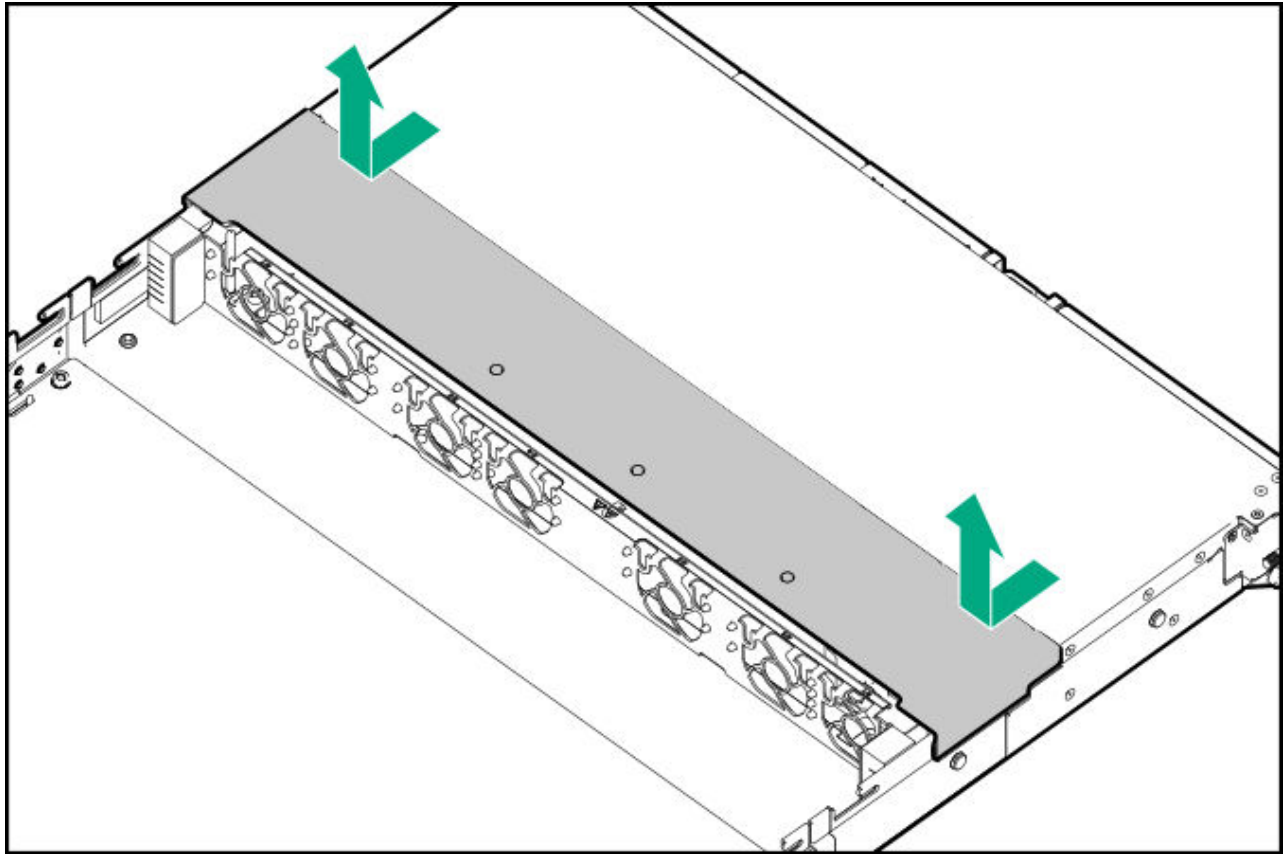


CAUTION

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

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Take both sides of the middle cover and detach from the server.



Results

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

Removing and replacing the air baffle

About this task



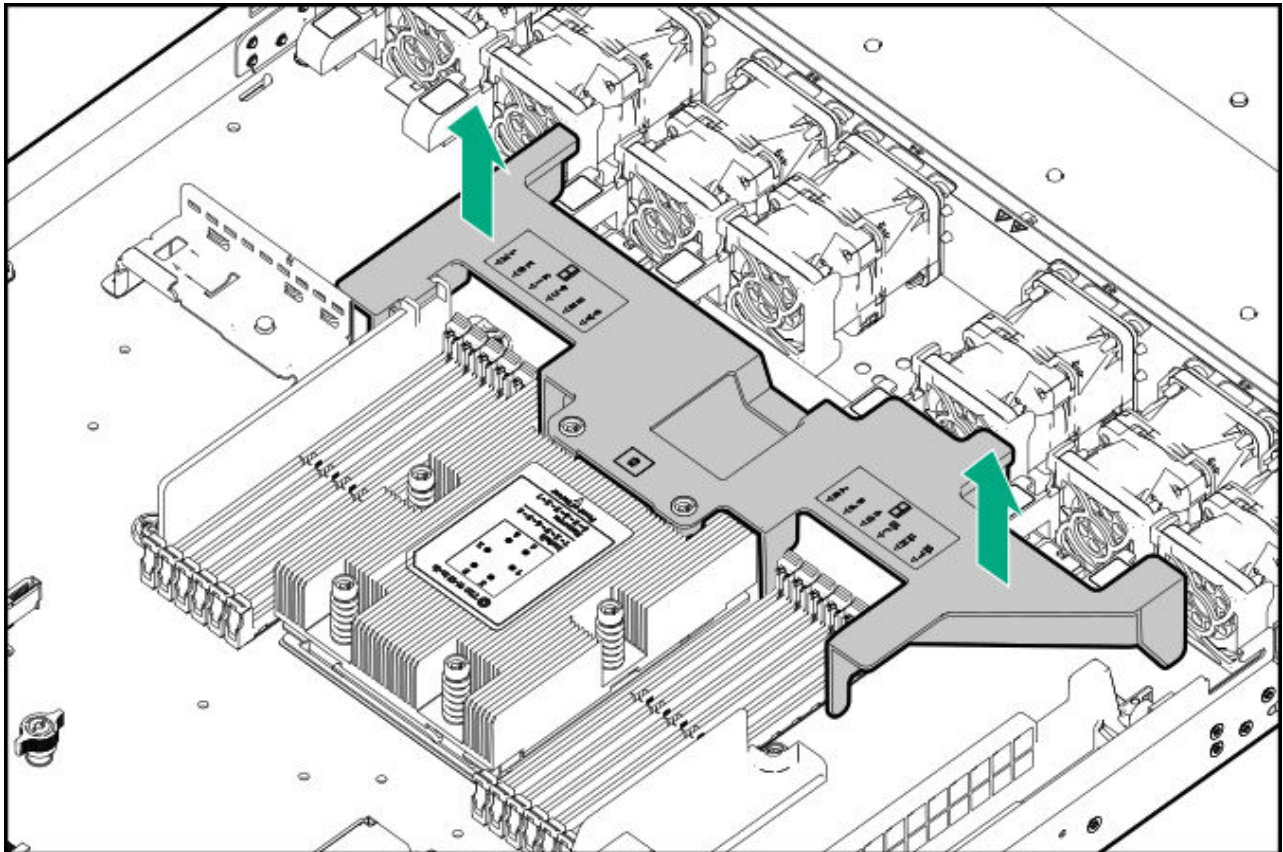
CAUTION

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

Procedure

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

- b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the air baffle.



Results

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

Removing and replacing a fan

About this task

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpqg00005140en_us&noframe

This replacement procedure applies to all types of fans supported in the system.



CAUTION

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

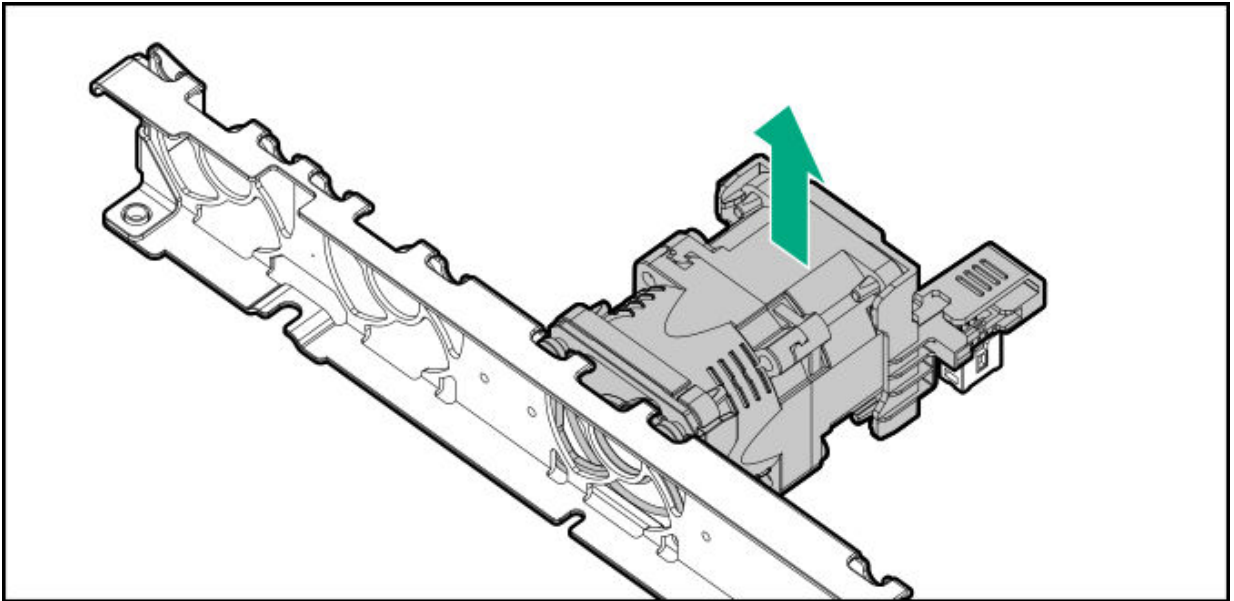


IMPORTANT

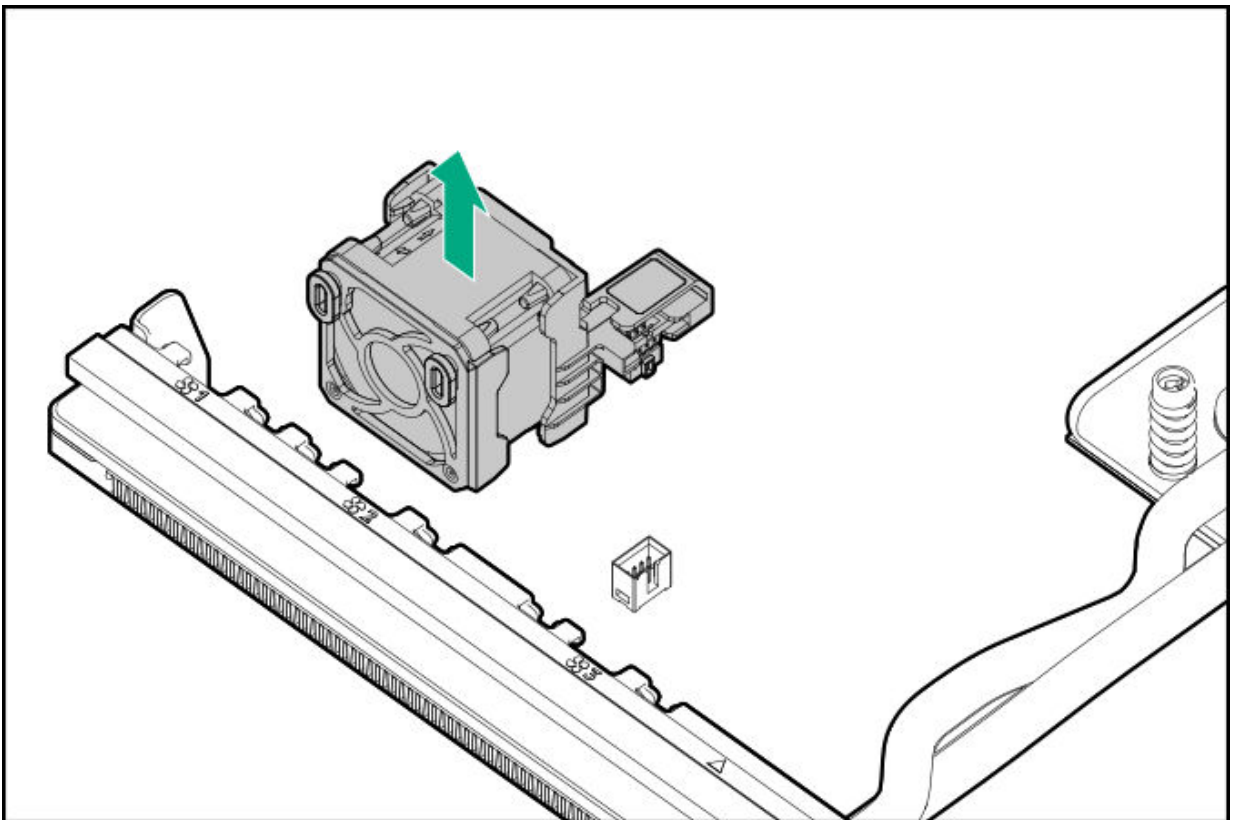
The fan setup can either be all seven of standard or high performance fans. Do not mix fan types in the same server.

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the middle cover.
8. Remove the air baffle.
9. Remove the fan:
 - Standard or high performance fan



- Liquid cooling fan



Results

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

Drive backplane replacement

Subtopics

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

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

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

[Removing and replacing the 20 E3.S drive backplane](#)

[Removing and replacing the 4 SFF NVMe drive backplane](#)

[Removing and replacing the 8 E3.S 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

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00005127en_us&noframe



CAUTION

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

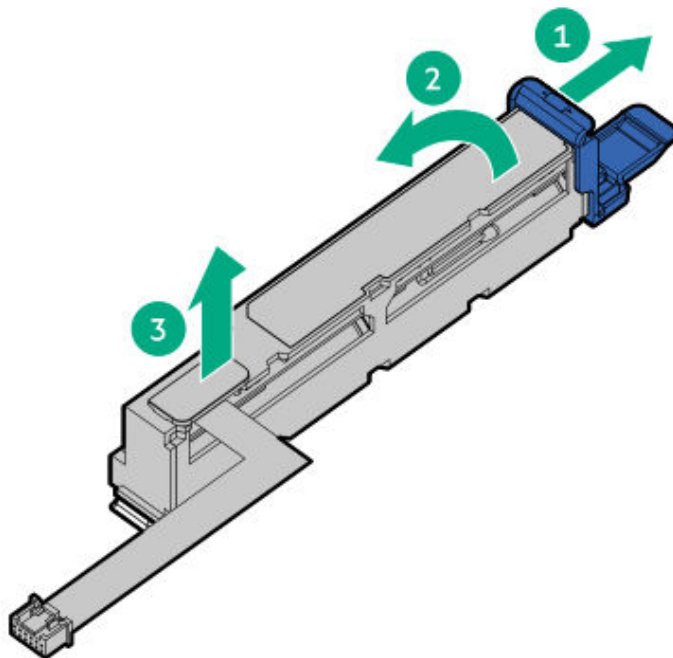
When installing the replacement component:

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

Procedure

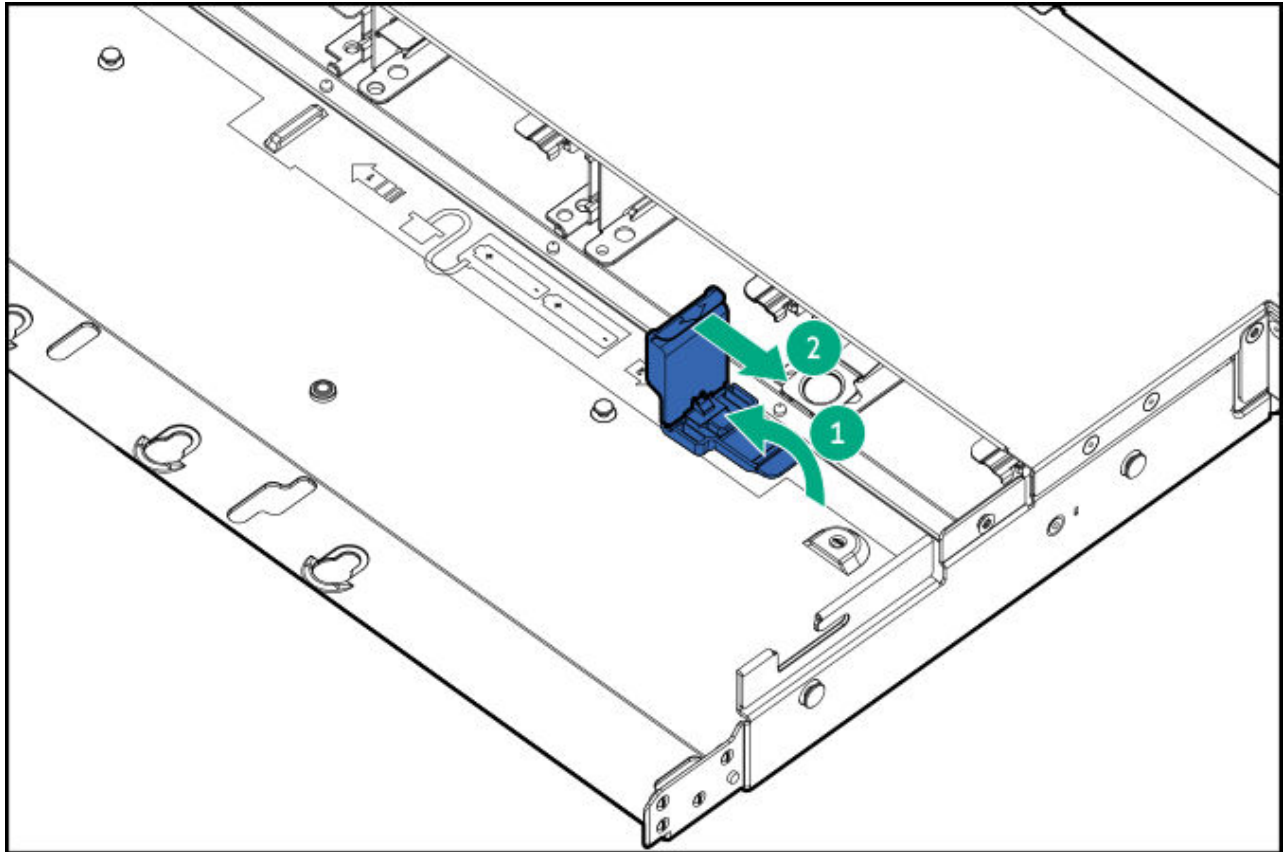
1. Back up all server data.
2. If installed, remove the front bezel.
3. Power down the server.

4. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. Remove the middle cover.
0. Remove the air baffle.
- .1. Remove all fans.
- .2. Remove the fan wall.
- .3. If an energy pack is installed on the rear side of the drive cage, remove the energy pack:
 - a. Press and hold the retention latch.
 - b. Lift one end of the energy pack and release it from the latch.
 - c. Detach the energy pack from the chassis.



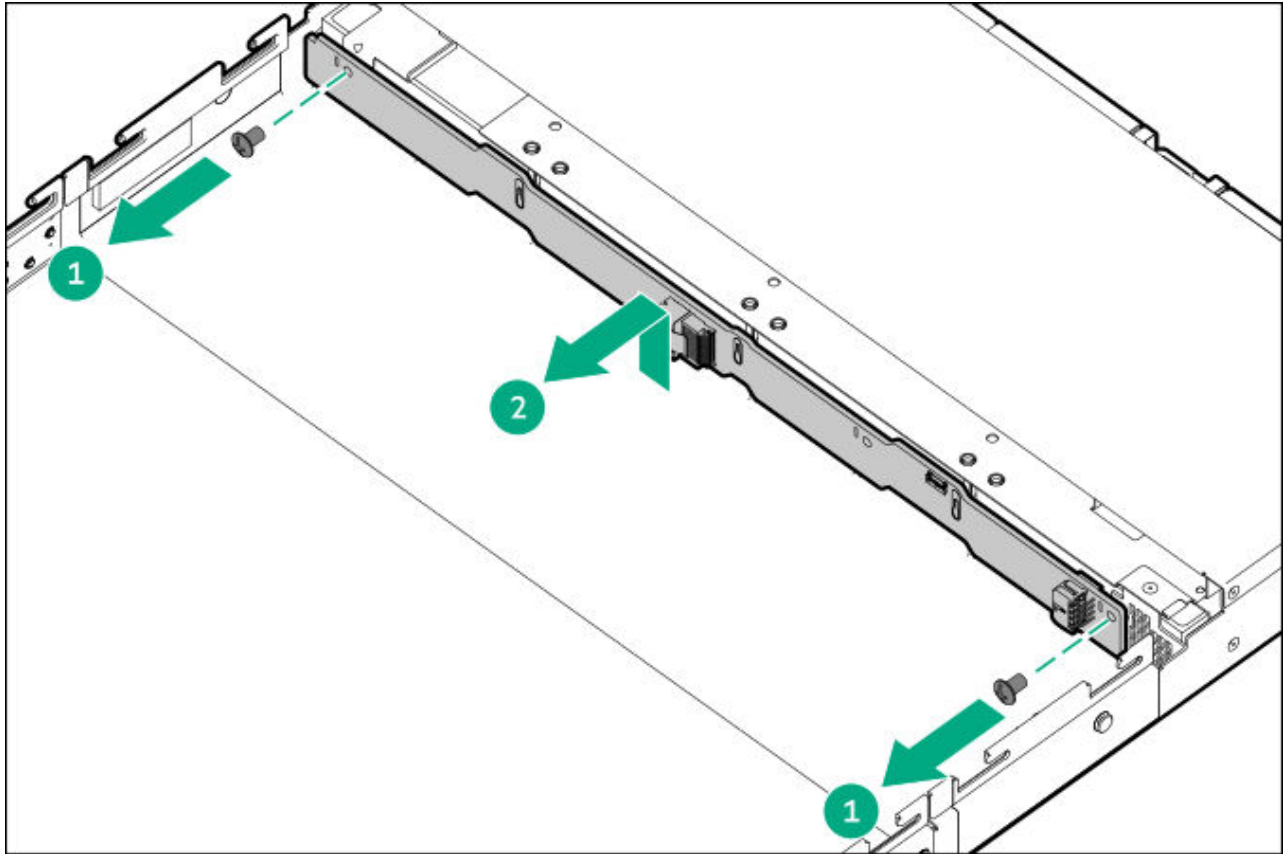
- .4. Remove the energy pack retention latch:

- a. Pull up and hold the latch.
- b. Push the latch to detach from the chassis.



- .5. Remove all drives.
- .6. Disconnect all cables from the 4 LFF drive backplane:
 - Drive controller cable
 - Drive power cable
- .7. Remove the 4 LFF drive backplane.

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



Results

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

Removing and replacing the 2 SFF drive backplane

About this task

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00005126en_us&noframe



CAUTION

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

When installing the replacement component:

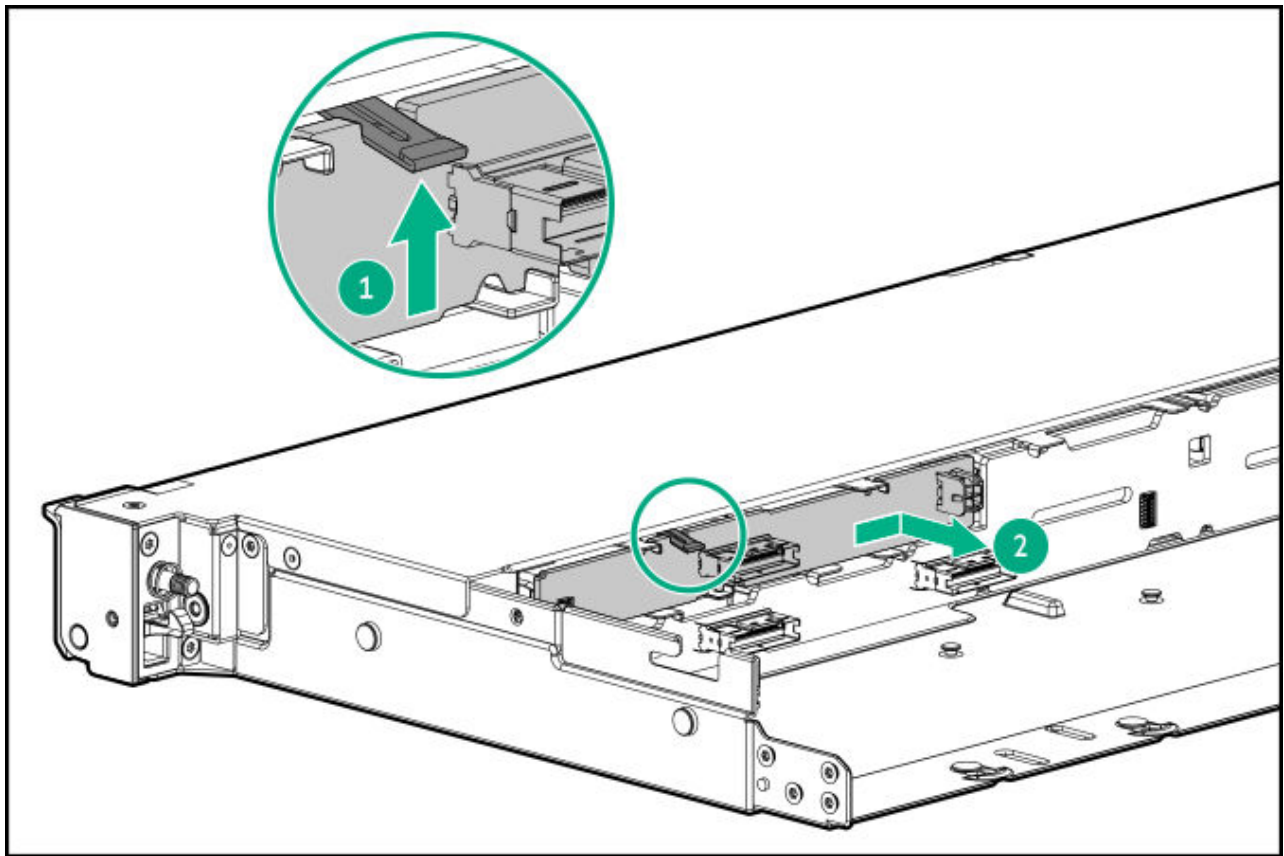
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

Procedure

1. Back up all server data.
2. If installed, remove the front bezel.
3. Power down the server.
4. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. Remove the middle cover.
- .0. Remove all drives from the 2 SFF drive cage.
- .1. Disconnect all cables from the 2 SFF drive backplane:

- Drive controller cable
- Drive power cable

.2. Pull up the release latch and detach the backplane.



Results

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

Removing and replacing the 8 SFF drive backplane

About this task

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00005128en_us&noframe



CAUTION

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

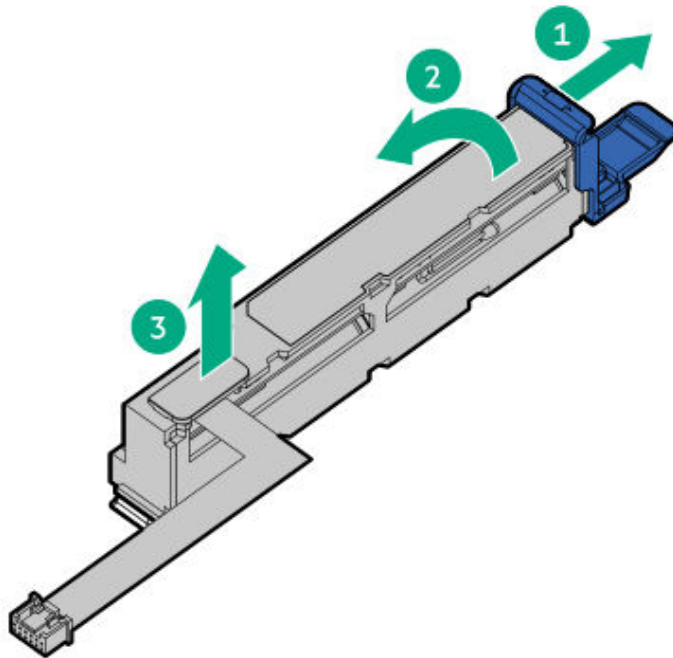
When installing the replacement component:

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

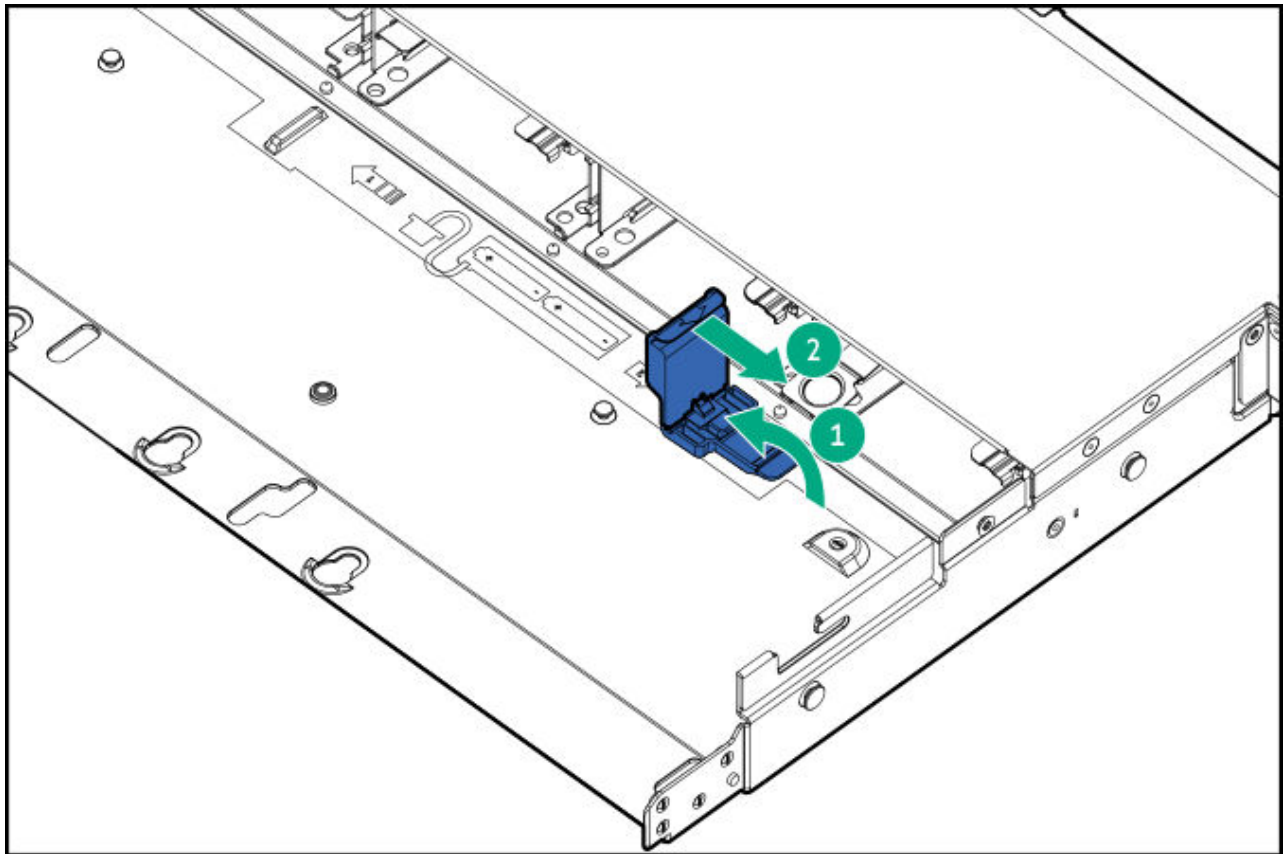
Procedure

1. Back up all server data.
2. If installed, remove the front bezel.
3. Power down the server.
4. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. Remove the middle cover.
- .0. Remove the air baffle.
- .1. Remove all fans.

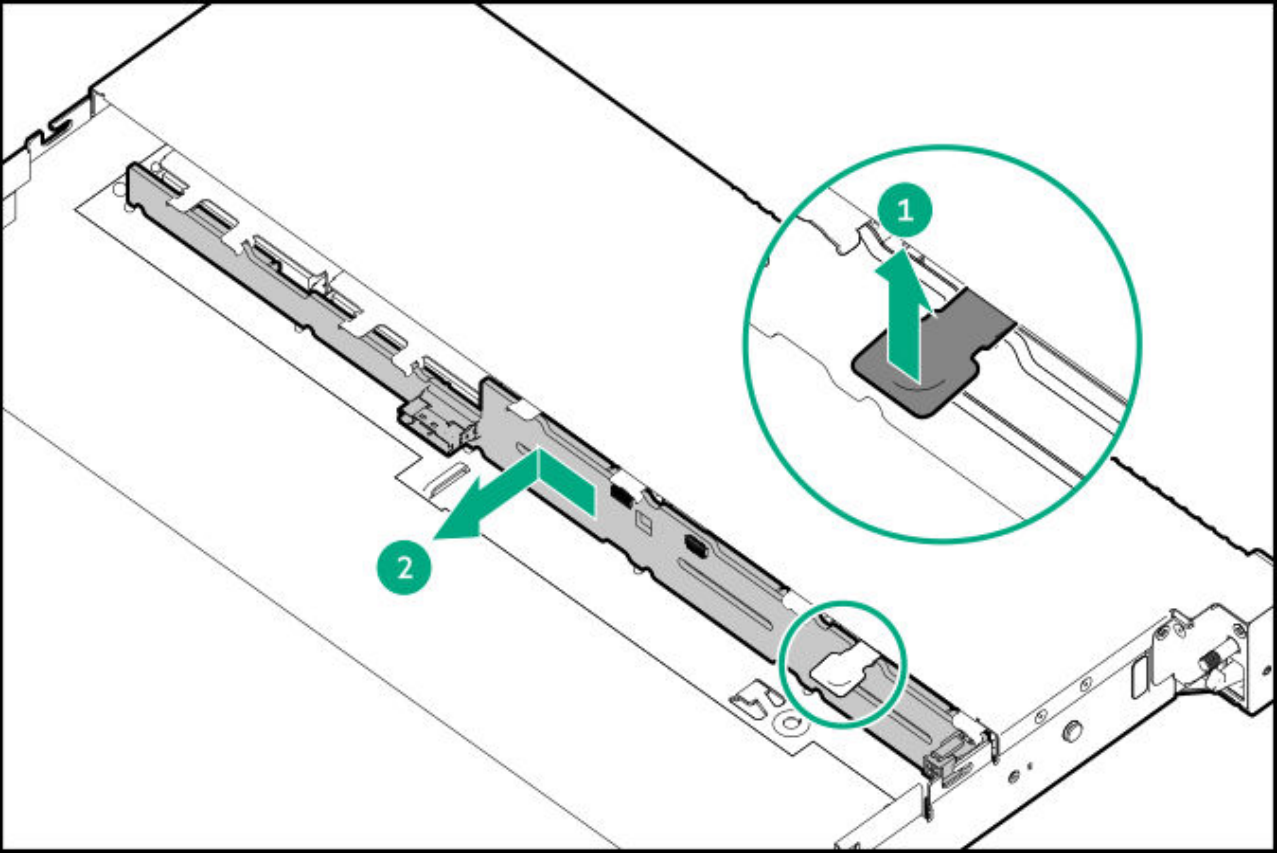
- .2. Remove the fan wall.
- .3. If an energy pack is installed on the rear side of the drive cage, remove the energy pack:
 - a. Press and hold the retention latch.
 - b. Lift one end of the energy pack and release it from the latch.
 - c. Detach the energy pack from the chassis.



- .4. Remove the energy pack retention latch:
 - a. Pull up and hold the latch.
 - b. Push the latch to detach from the chassis.



- .5. Remove all drives.
- .6. Disconnect all cables from the 8 SFF drive backplane:
 - Drive controller cables
 - Drive power cable
- .7. If installed, remove the 2 SFF drive backplane.
- .8. Remove the existing 8 SFF drive backplane.



Results

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

Removing and replacing the 20 E3.S drive backplane

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:

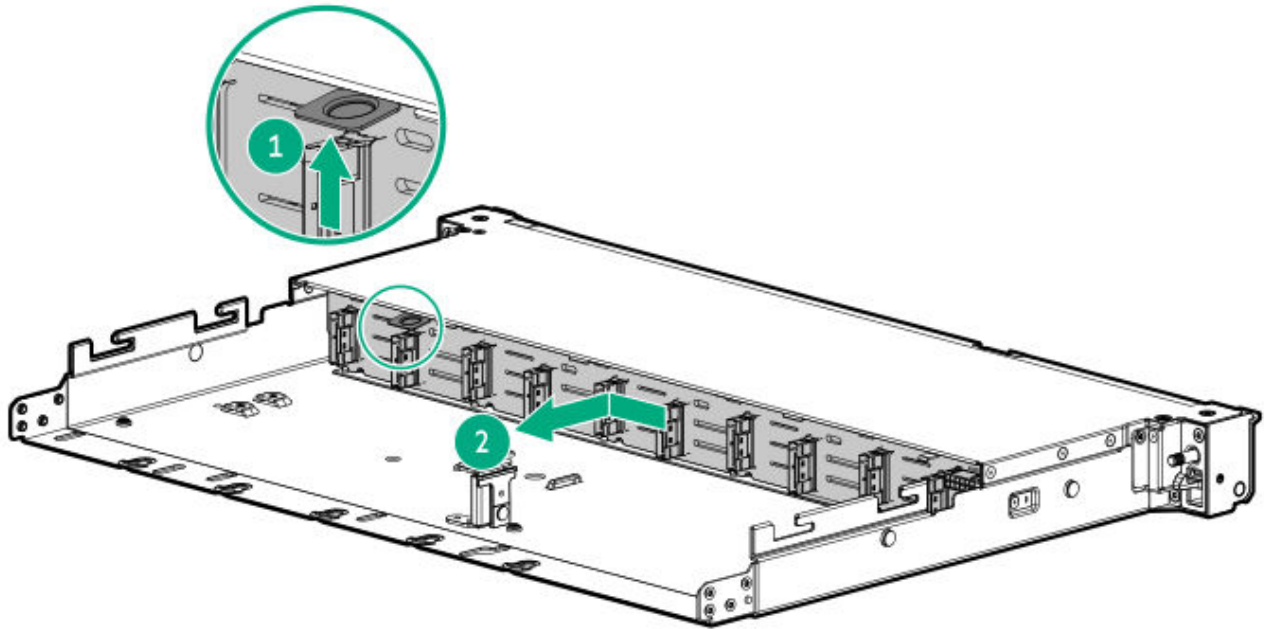
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

Procedure

1. Back up all server data.
2. If installed, remove the front bezel.
3. Power down the server.
4. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. Remove the middle cover.
0. Remove the air baffle.
- .1. Remove all E3.S drives.
- .2. Disconnect all cables from the 20 E3.S drive backplane:
 - Drive controller cables

- Drive power cable

.3. Pull up the release latch and detach the backplane.



Results

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

Removing and replacing the 4 SFF NVMe drive backplane

Prerequisites

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

About this task



CAUTION

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

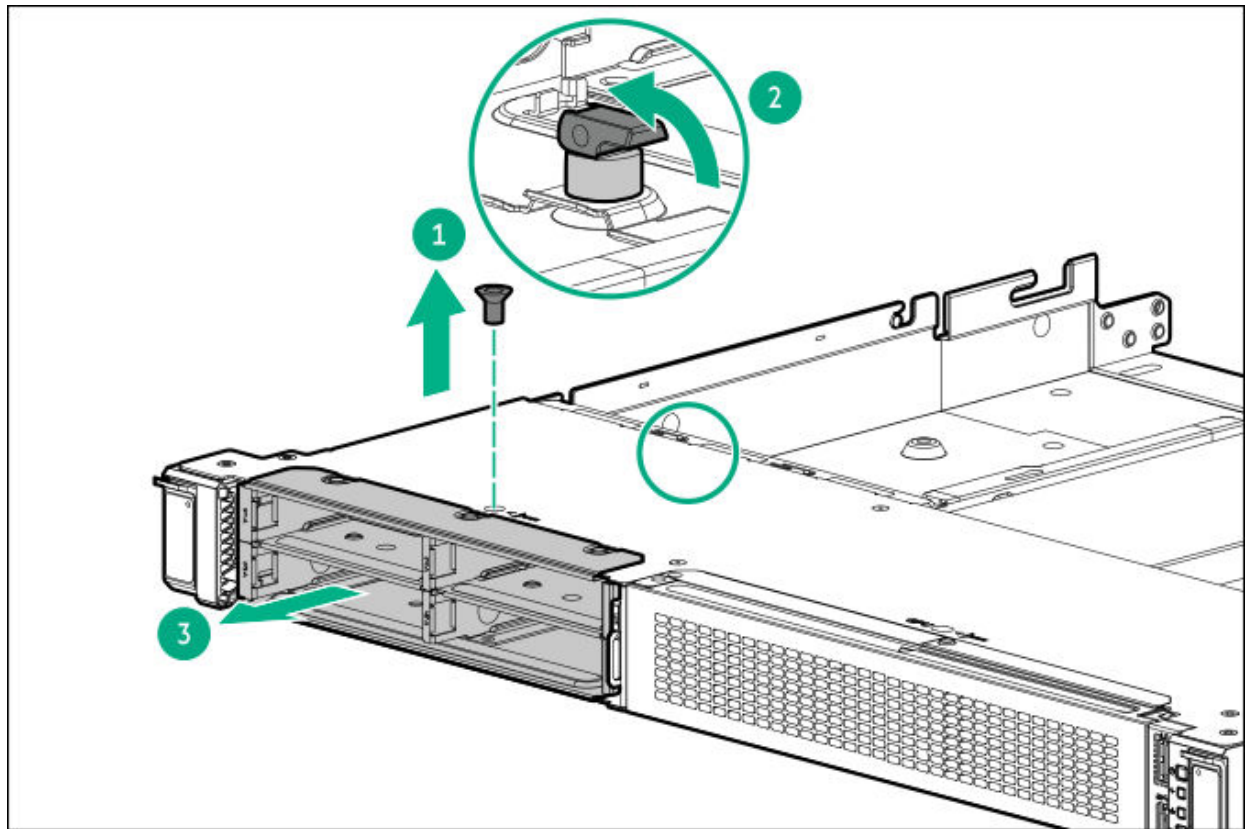
When installing the replacement component:

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

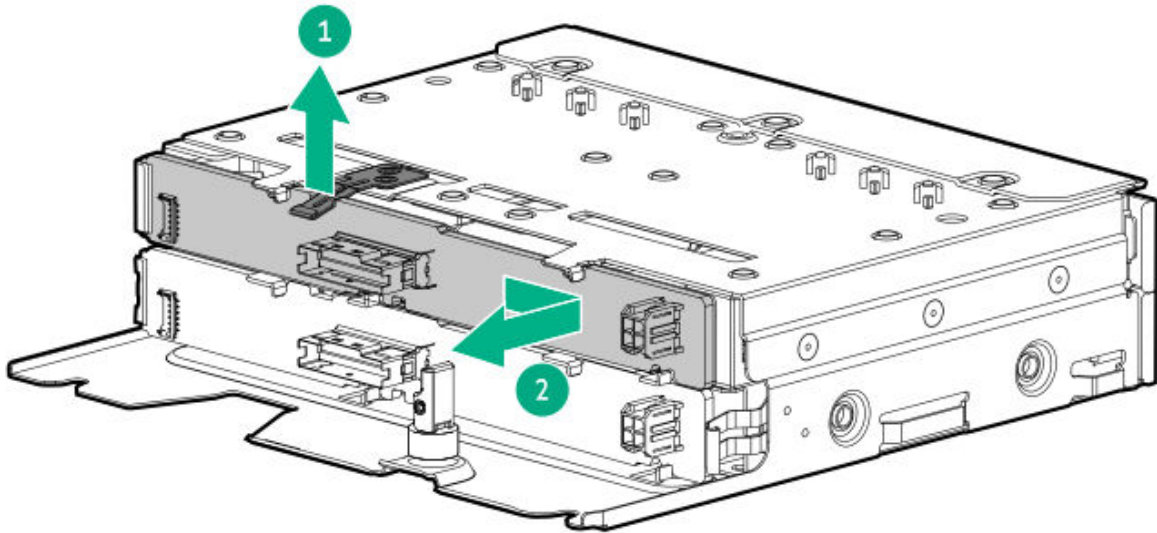
Procedure

1. Back up all server data.
2. If installed, remove the front bezel.
3. Power down the server.
4. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. Remove the middle cover.
0. Remove all drives.
- .1. Disconnect all cables from the 4 SFF NVMe drive backplanes:
 - Drive controller cables
 - Drive power cable
- .2. Remove the 4 SFF NVMe drive cage:

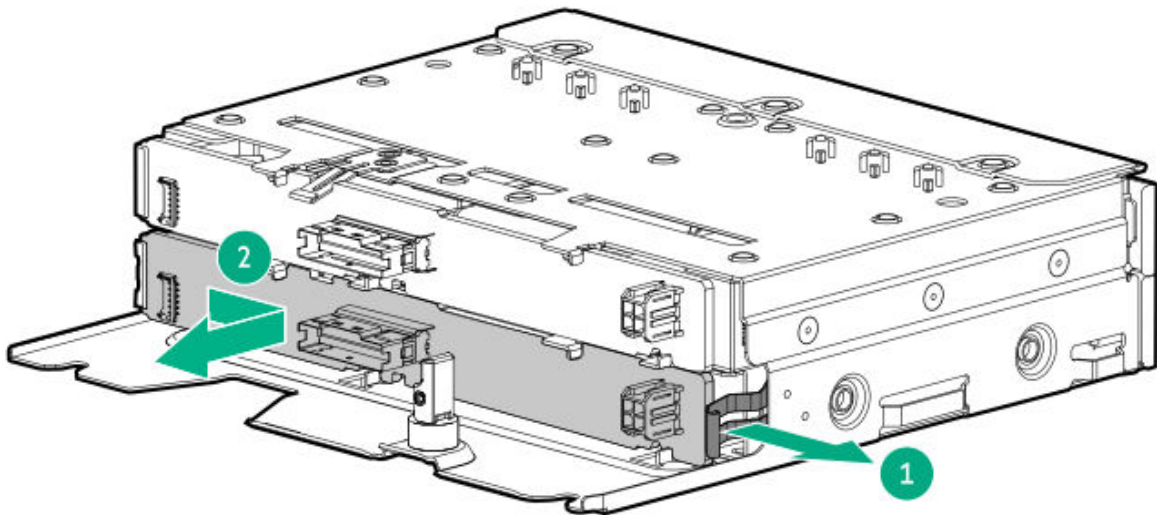
- a. Remove the screw.
- b. Rotate the locking pin to the open (vertical) position.
- c. Remove the drive cage.



3. Remove a 2 SFF drive backplane:
 - a. Pull and hold the release latch.
 - b. Remove the backplane from the drive cage.
 - Box 1 drive backplane



- Box 2 drive backplane



Results

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

Removing and replacing the 8 E3.S drive backplane

Prerequisites

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

About this task



CAUTION

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

When installing the replacement component:

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

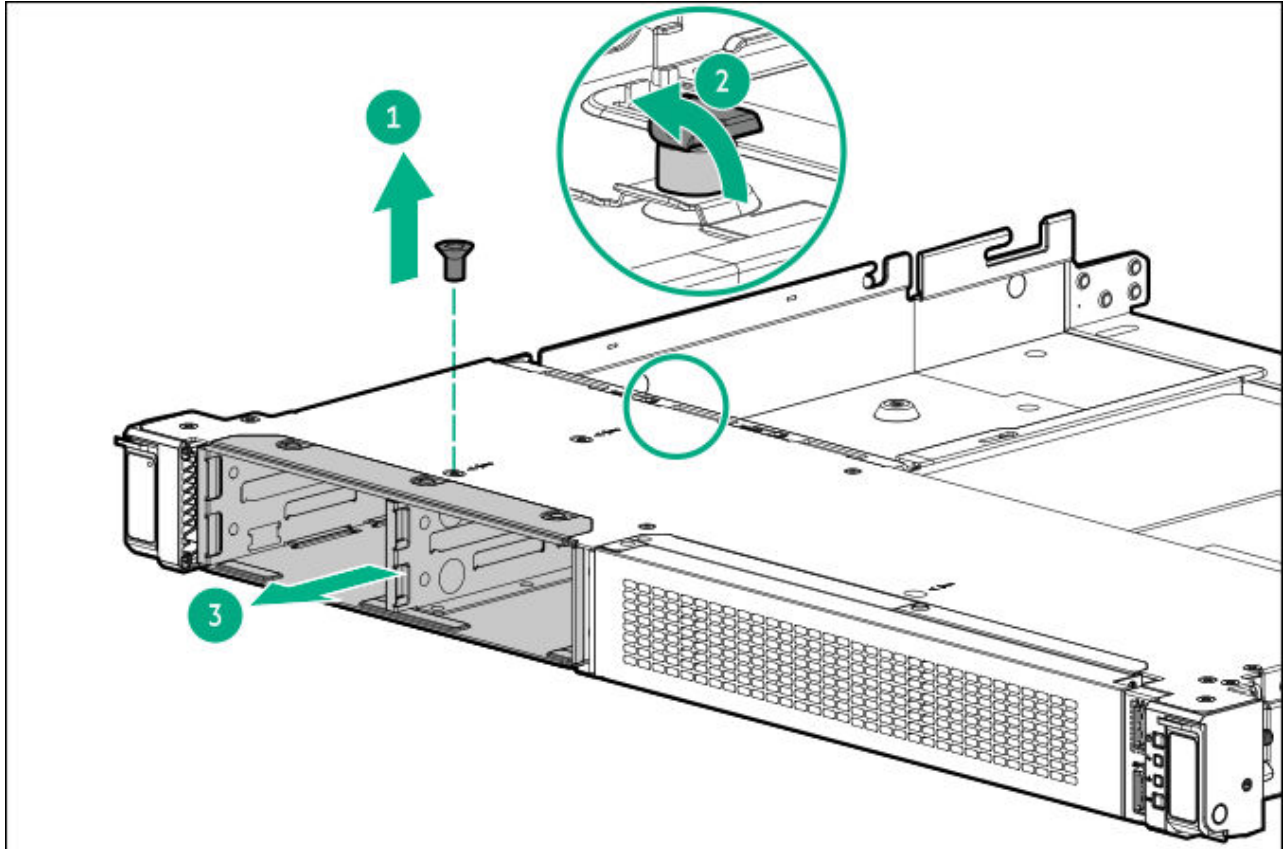
Procedure

1. Back up all server data.
2. If installed, remove the front bezel.
3. Power down the server.
4. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. Remove the middle cover.
- .0. Remove all drives.
- .1. Disconnect all cables from the 8 E3.S drive backplane:

- Drive controller cables
- Drive power cable

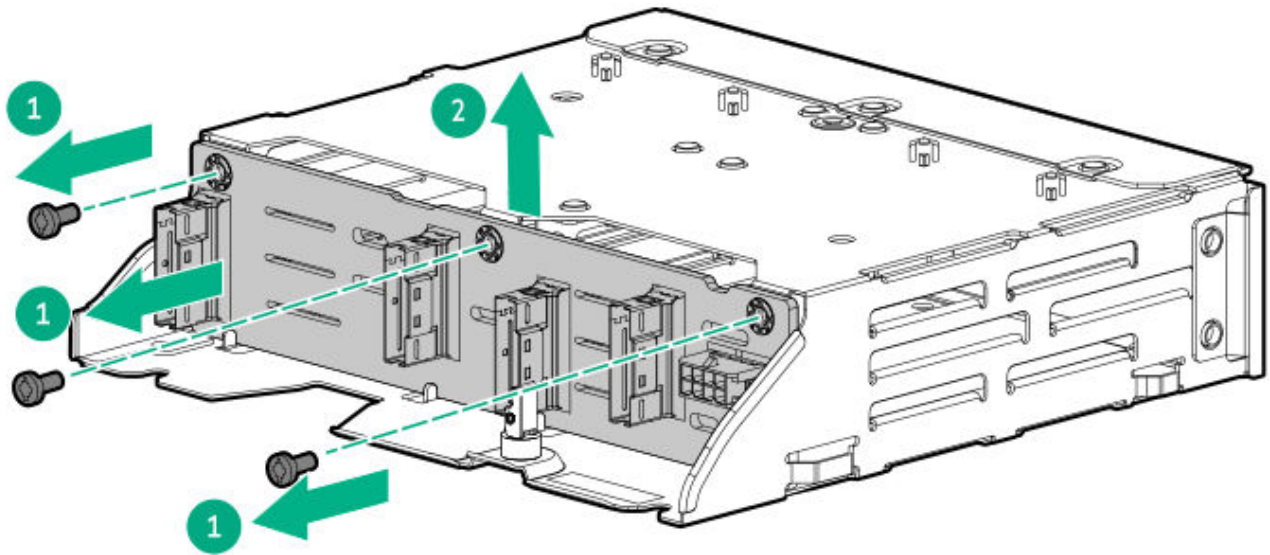
.2. Remove the 8 E3.S drive cage:

- Remove the screw.
- Rotate the locking pin to the open (vertical) position.
- Remove the drive cage.



.3. Remove the drive backplane:

- Remove all screws from the drive backplane.
- Lift the backplane from the drive cage.



Results

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

Optical drive replacement

Subtopics

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

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

Removing and replacing an optical drive from the LFF drive configuration

Prerequisites

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

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

About this task



CAUTION

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



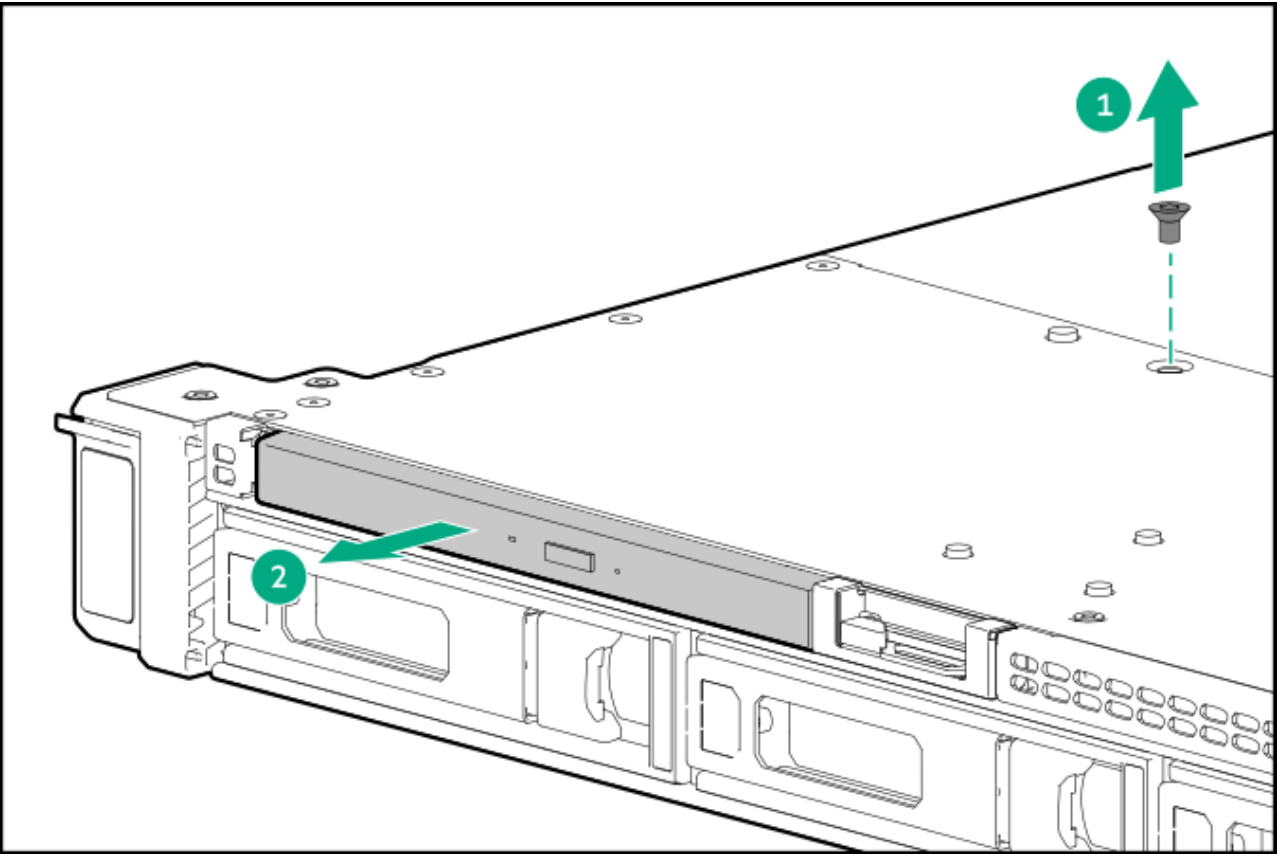
CAUTION

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

Procedure

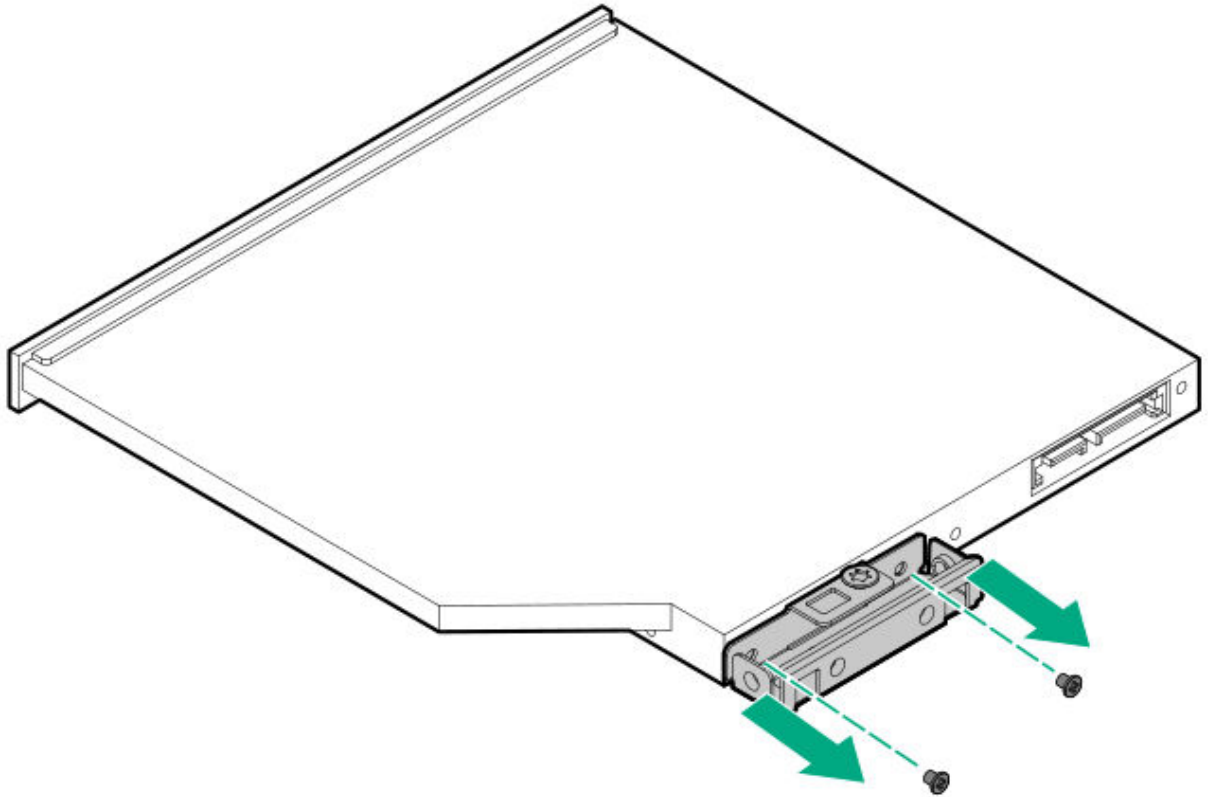
1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the middle cover.
9. Disconnect the SlimSAS-power Y-cable from the optical drive.
10. Remove the optical drive.

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



1. Remove the optical drive bracket.

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



Results

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

Removing and replacing the optical drive from the SFF drive configuration

Prerequisites

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

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

About this task



CAUTION

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



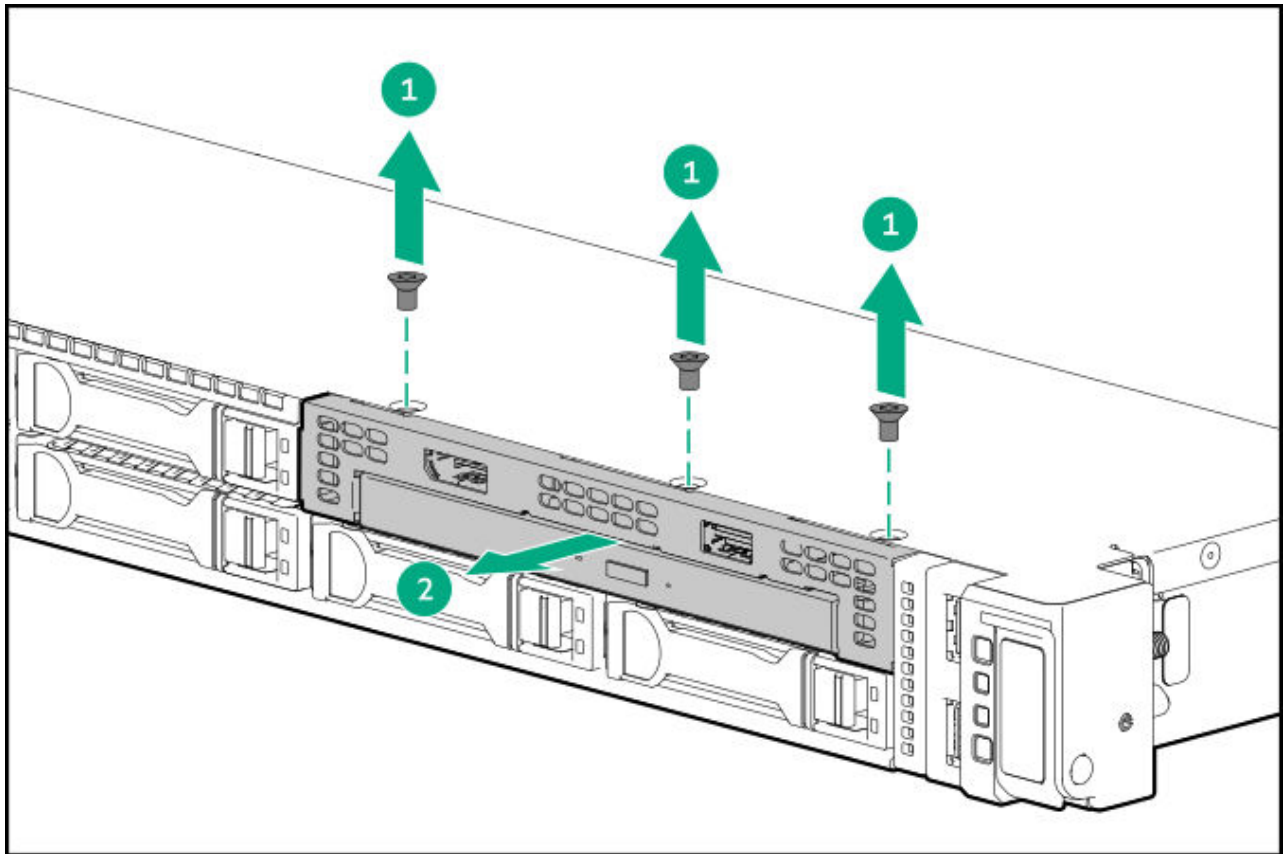
CAUTION

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

Procedure

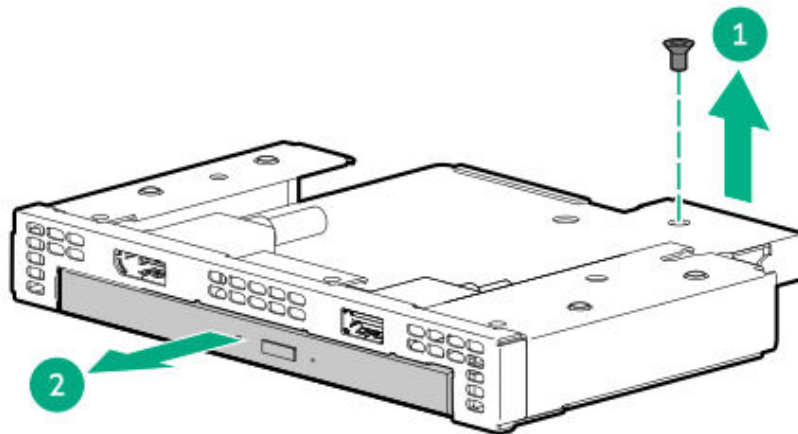
1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the middle cover.
9. Disconnect the following cables from the system board:
 - Optical drive SlimSAS-power Y-cable
 - Front USB and DisplayPort cable
0. Remove the optical drive cage from the universal media bay.

Retain the screws. These screws will be used to secure the cage after the optical drive replacement.



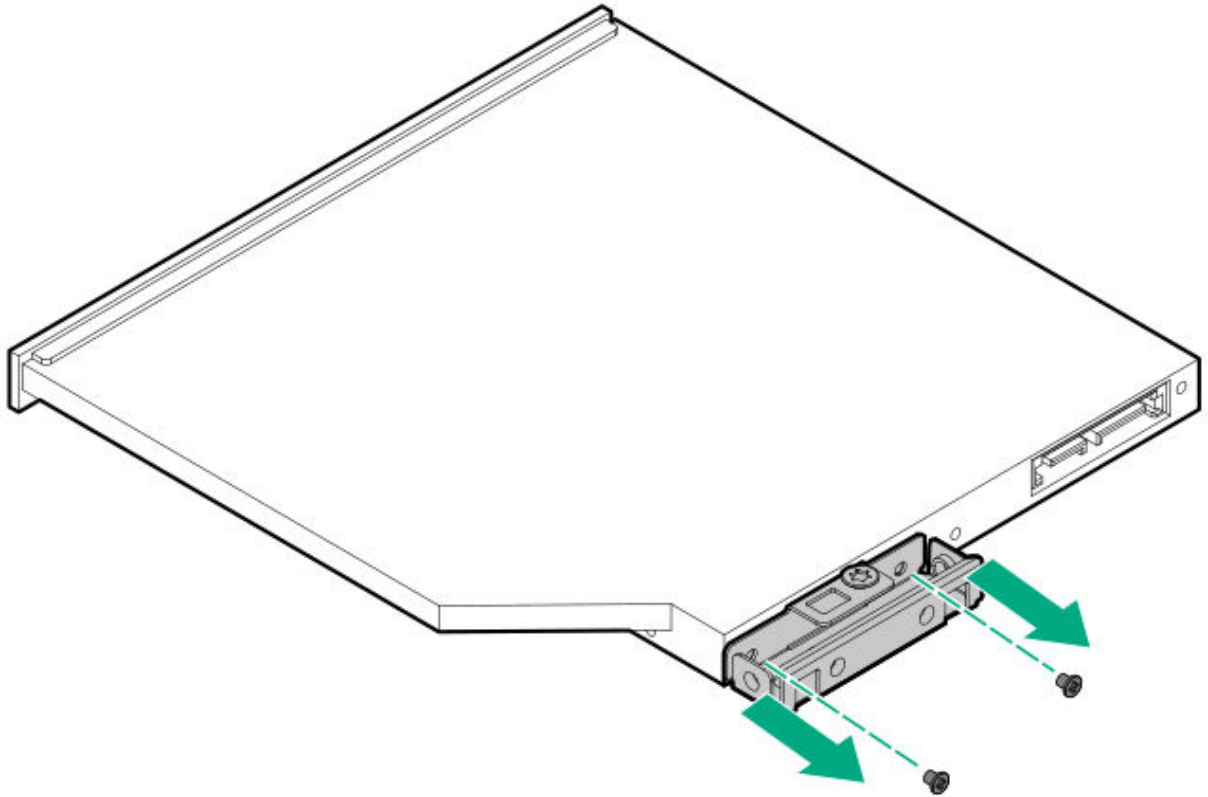
1. Remove the optical drive from the drive cage.

Retain the screw. This screw will be used to secure the new optical drive spare.



2. Remove the optical drive bracket.

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



Results

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

Removing and replacing the energy pack retention latch

About this task



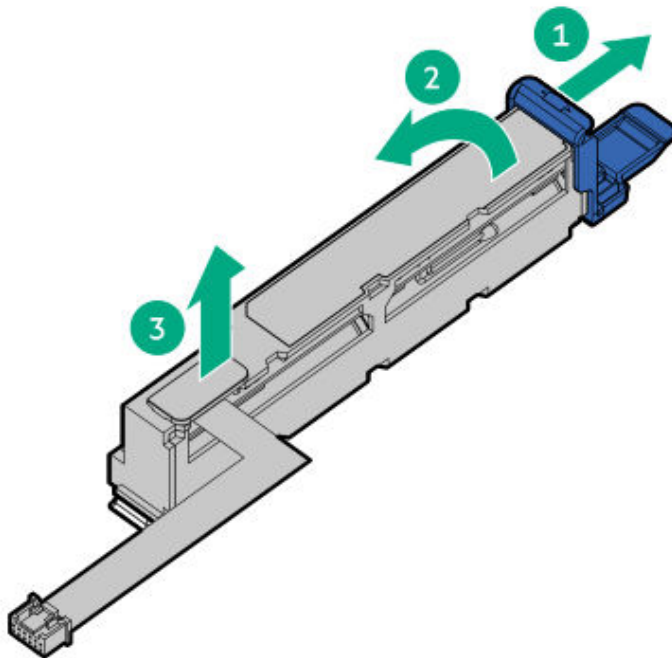
CAUTION

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

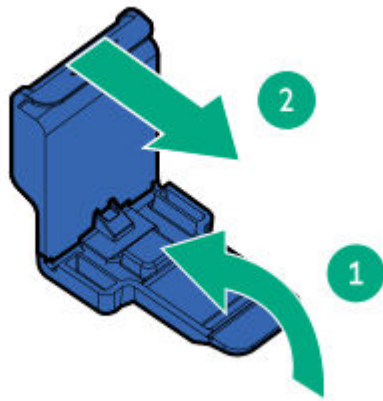
Procedure

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

- b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the middle cover.
8. Disconnect the following cables from the system board:
 - Energy pack cable
 - Energy pack power extension cable
9. If an energy pack is installed on the rear side of the drive cage, remove the energy pack:
 - a. Press and hold the retention latch.
 - b. Lift one end of the energy pack and release it from the latch.
 - c. Detach the energy pack from the chassis.



10. Remove the energy pack retention latch:
 - a. Pull up and hold the latch.
 - b. Push the latch to detach from the chassis.



Results

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

Removing and replacing a DIMM

About this task

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



CAUTION

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



CAUTION

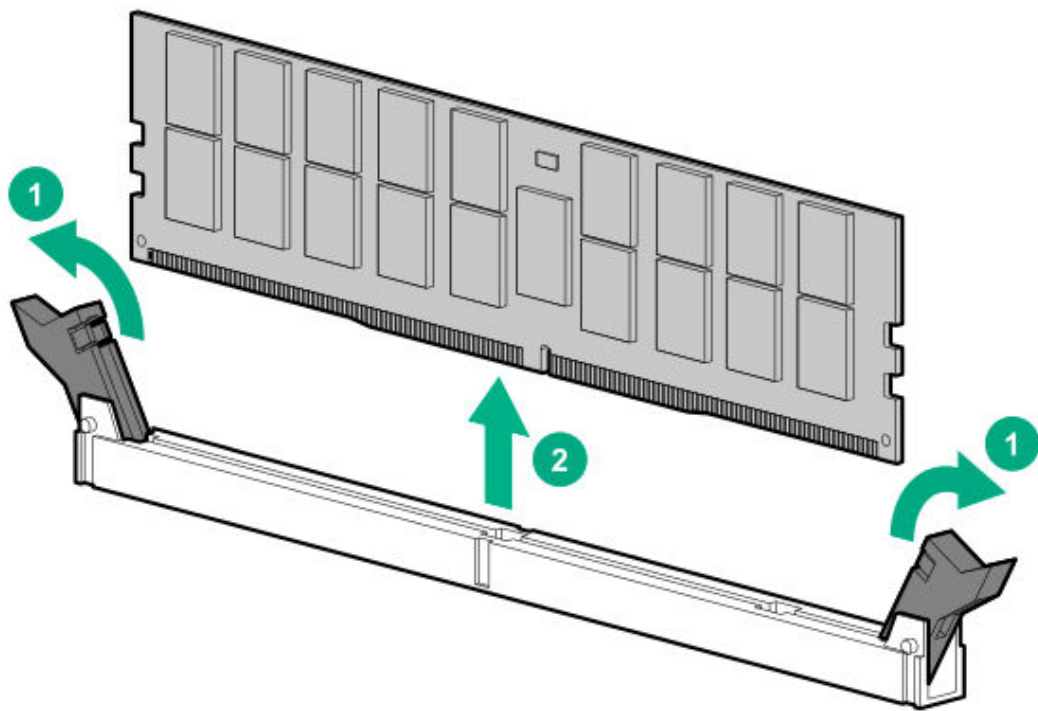
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

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. Back up all server data.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the DIMM.
 - a. Open the DIMM slot latches.
 - b. Lift the DIMM out of the slot.



Results

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

Removing and replacing a DIMM blank

About this task



CAUTION

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

Procedure

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

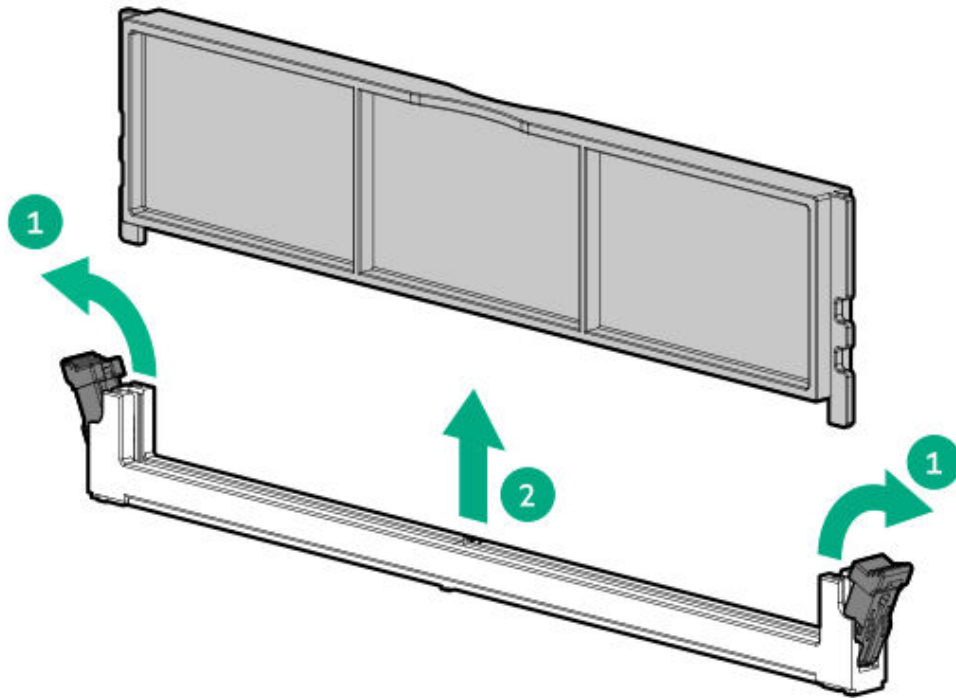
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the DIMM blank:



CAUTION

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

- a. Open the DIMM slot latches.
- b. Lift the blank from the DIMM slot.



Results

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

Removing and replacing a DIMM guard

About this task



CAUTION

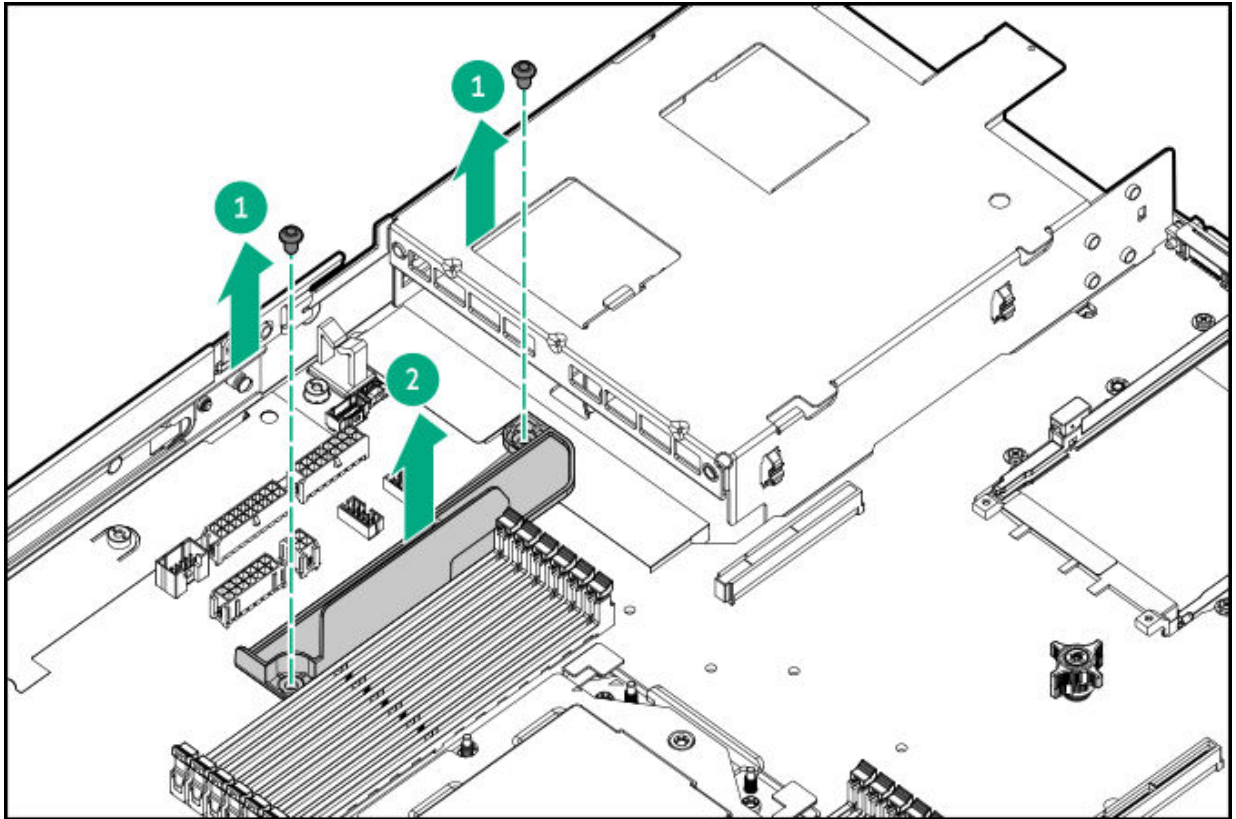
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

Procedure

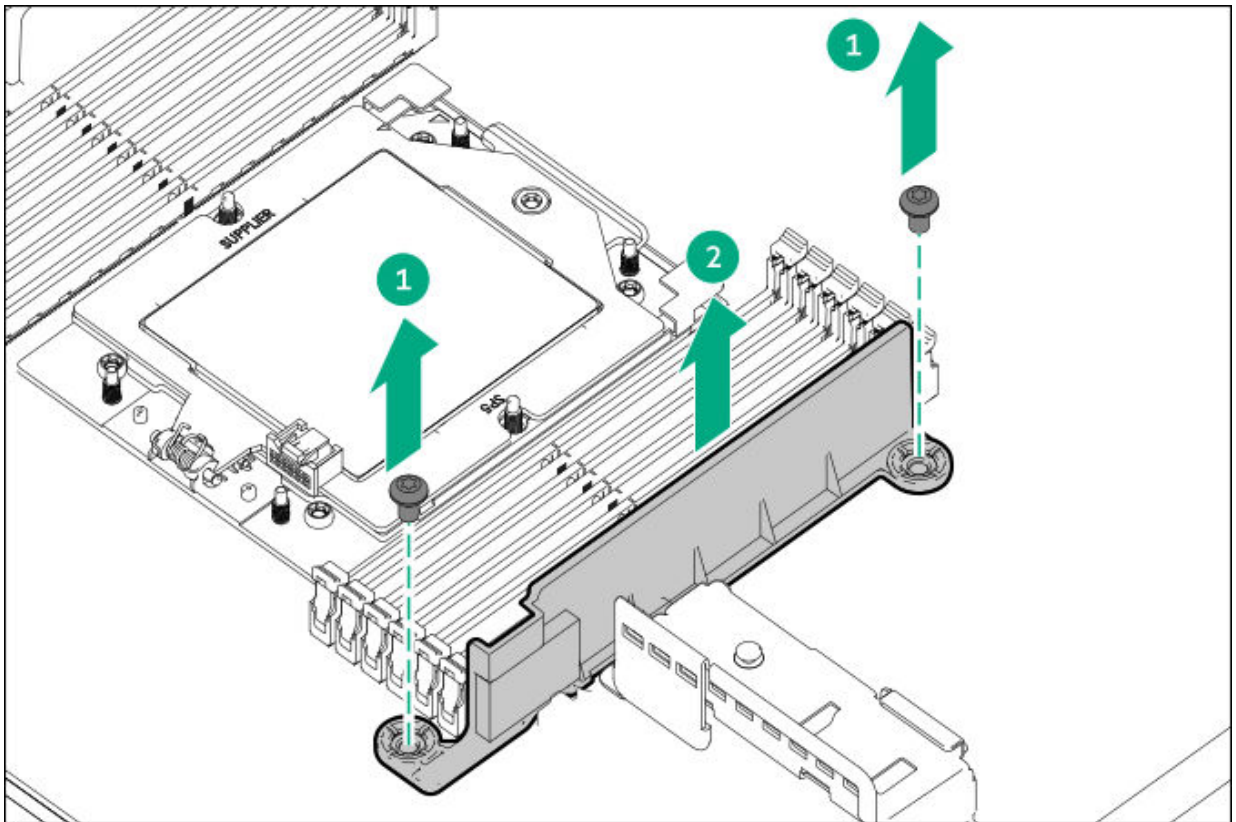
1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove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

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

- Left DIMM guard



- Right DIMM guard



Results

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

Heatsink replacement

Subtopics

[Removing a standard and high performance heatsink](#)

[Installing a standard heatsink](#)

[Installing the high performance heatsink](#)

Removing a standard and high performance heatsink

Prerequisites

- [Identify the heatsink and processor socket components.](#)
- [Review the processor cautions.](#)
- Before you perform this procedure, make sure that you have the following items available:
 - T-20 Torx screwdriver
 - Alcohol wipe

About this task

https://sketchfab.com/models/2a07c1d7c9a04e4ebbdec2a8ab598ac3/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0&ui_animations=0



WARNING

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



CAUTION

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

Procedure

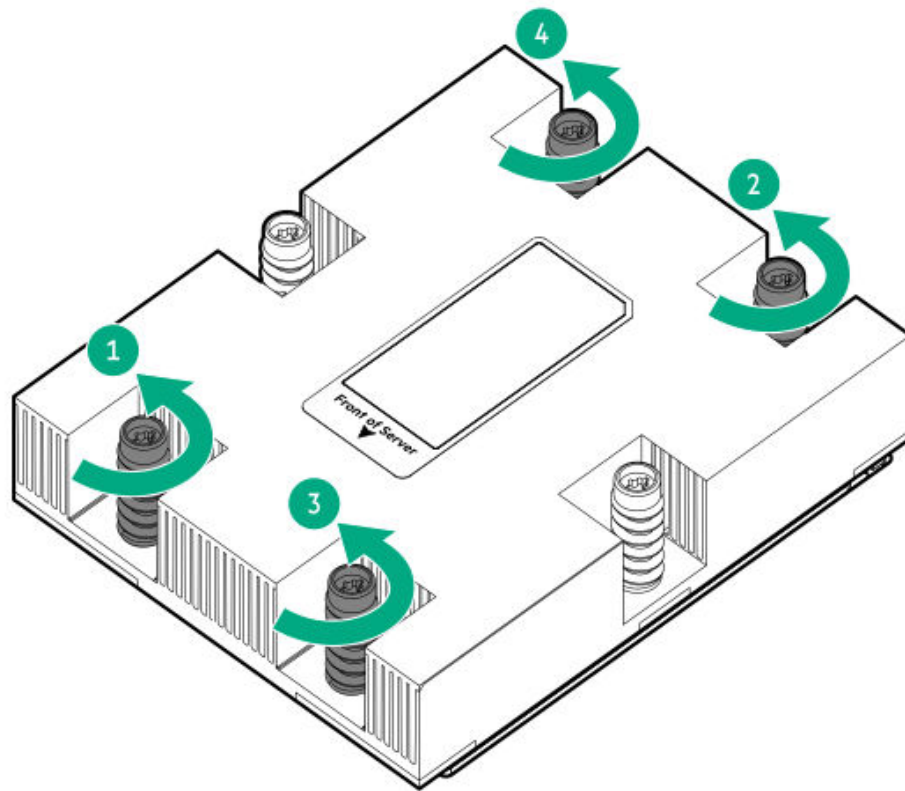
1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the air baffle.
8. Allow all internal system components to cool before continuing.
9. Remove a standard or a high performance heatsink:



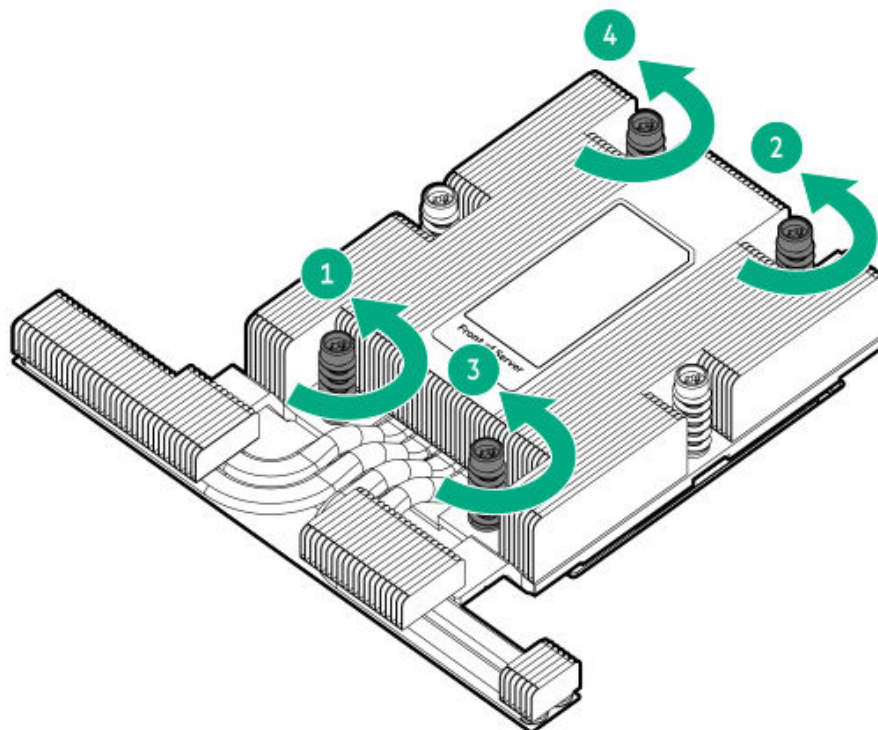
CAUTION

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 its base plate. Do not touch the heatsink fins.

- a. Review the heatsink screw numbering on the heatsink label.
- b. Loosen the heatsink screw numbers 6, 5, 4, and 3 in a diagonal manner (callouts 1 to 4).
 - Standard heatsink

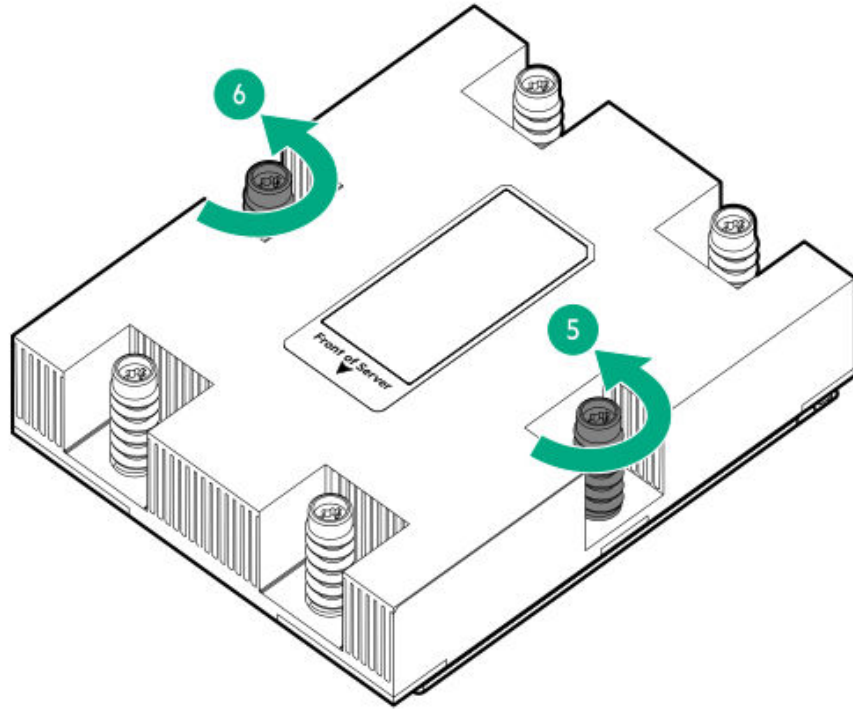


- High performance heatsink

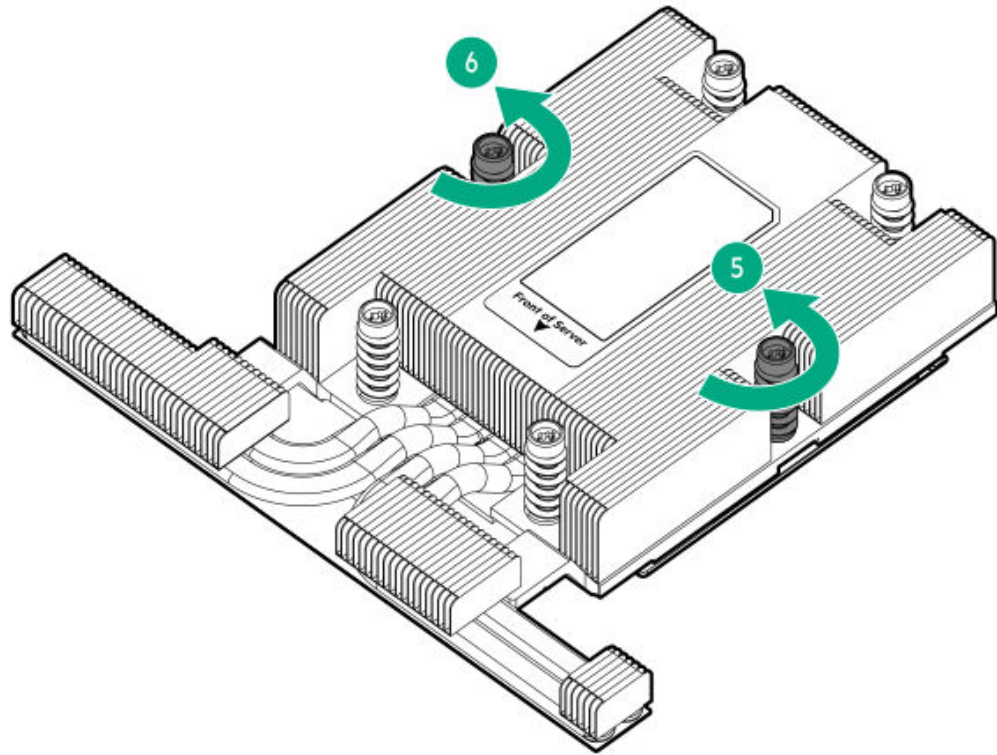


c. Loosen the heatsink screw numbers 2 and 1 (callouts 5 and 6).

- Standard heatsink

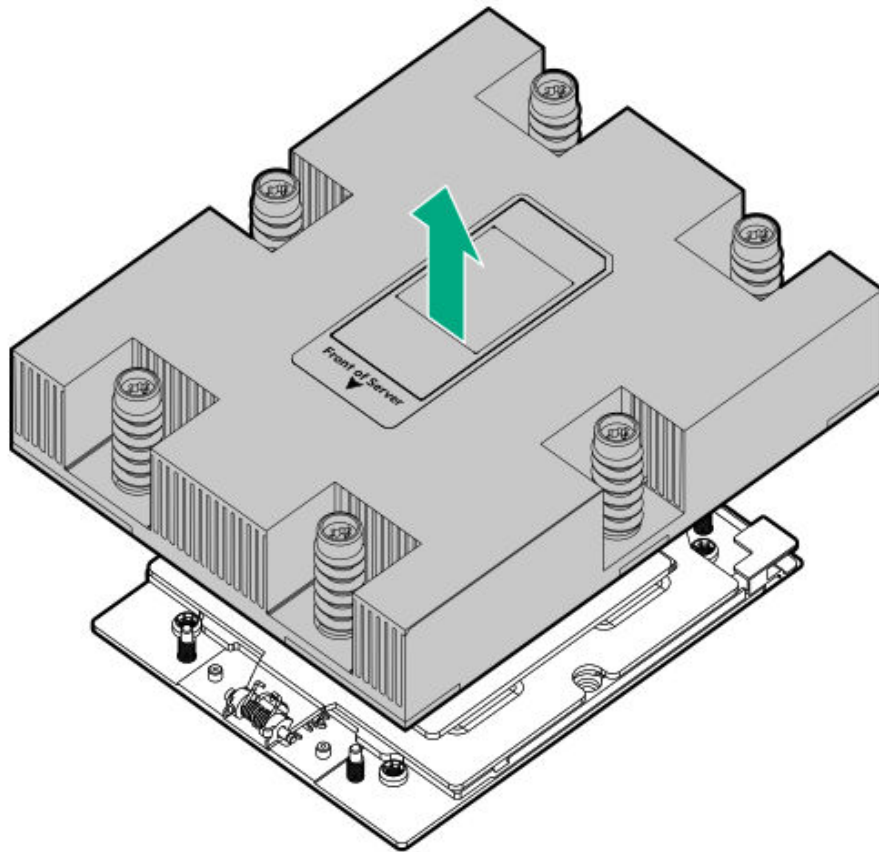


- High performance heatsink

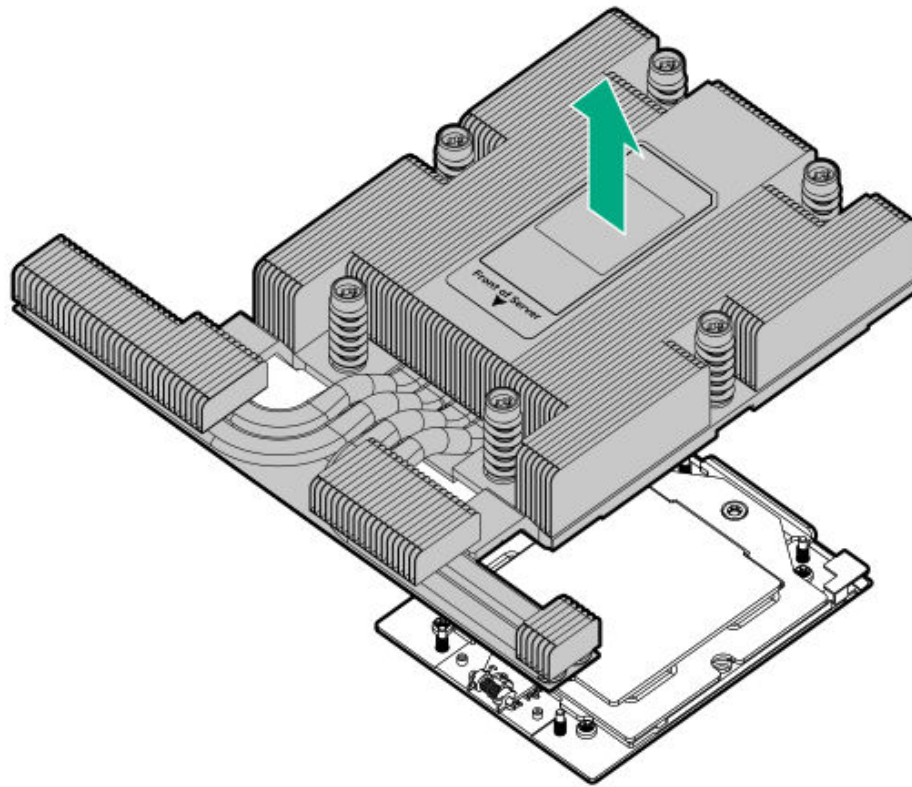


.0. Lift the heatsink away from the processor socket.

- Standard heatsink



- High performance heatsink



1. Place the heatsink on a flat work surface with its contact side facing up.
2. Use an alcohol wipe to remove the existing thermal grease from the heatsink and processor.
Allow the alcohol to evaporate before continuing.

Installing a standard heatsink

Prerequisites

- [Identify the heatsink and processor socket components.](#)
- [Review the processor cautions.](#)
- Before you perform this procedure, make sure that you have a torque screwdriver with T-20 Torx bit available.

About this task

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00005134en_us&noframe



CAUTION

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

Procedure

1. Remove the existing standard or high performance heatsink.
2. Remove the thermal interface protective cover from the new heatsink.
3. Install the heatsink:



CAUTION

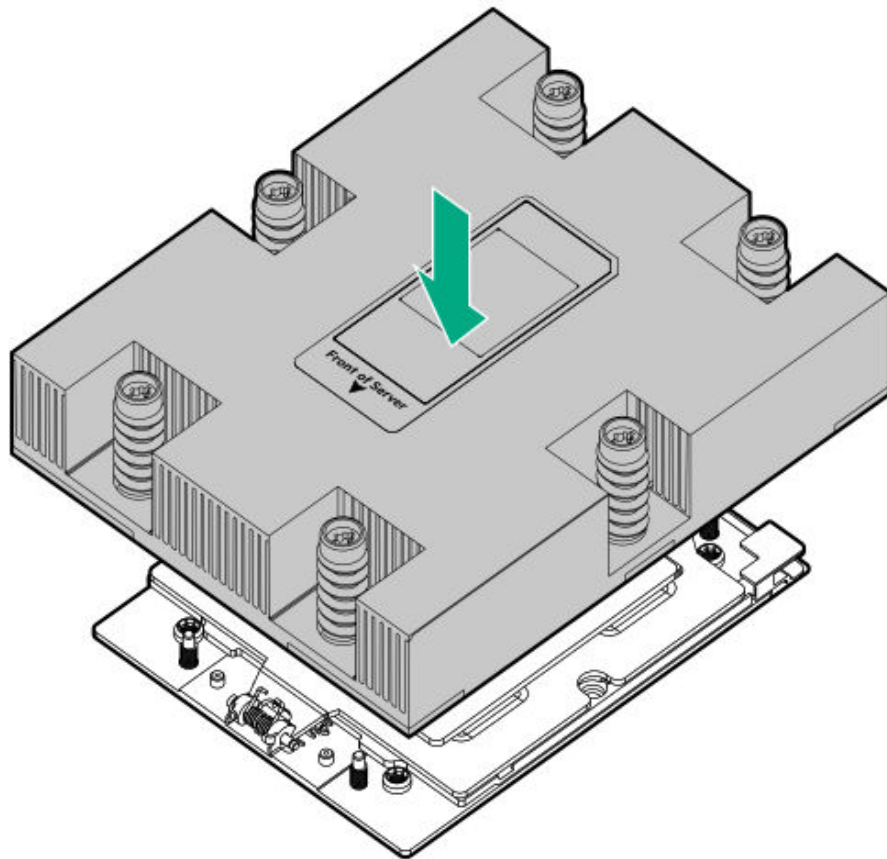
To prevent mechanical damage or depositing oil on your hands or other contaminants to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.



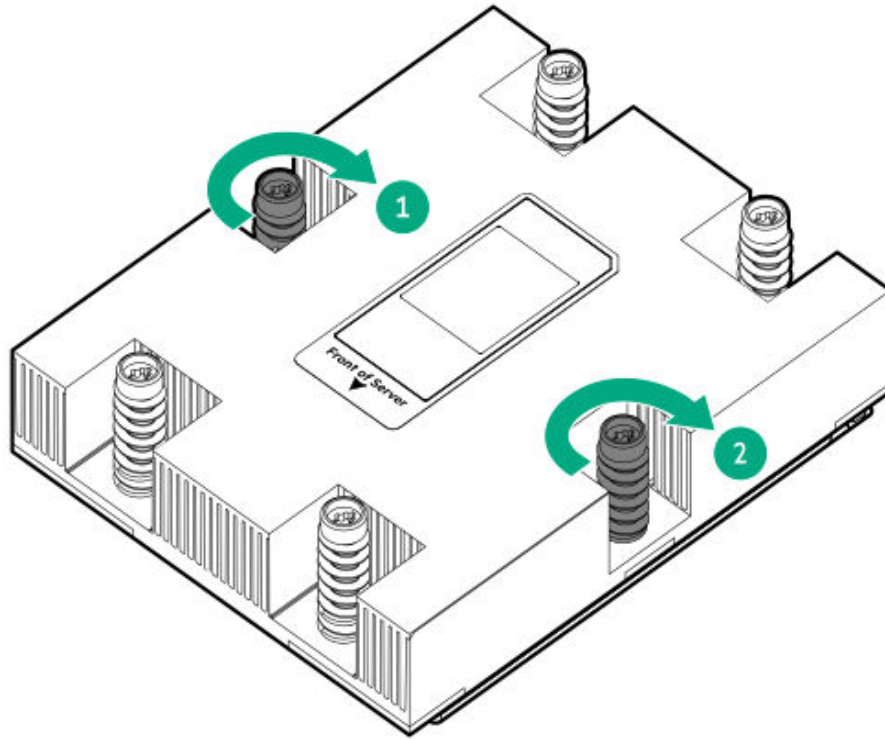
CAUTION

To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

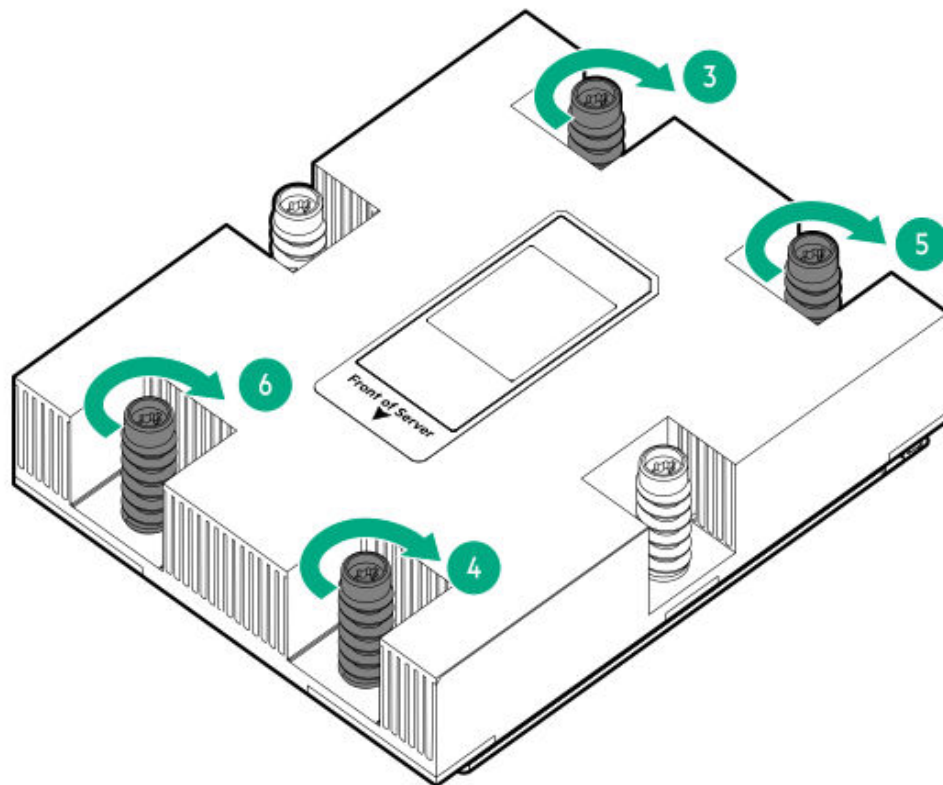
- a. When using a torque screwdriver to tighten the heatsink screws, set a torque between 1.24 N-m (11 lbf-in) to 1.47 N-m (13 lbf-in).
- b. Note the **Front of server** text on the heatsink label to correctly orient the heatsink over the processor socket.
- c. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.



d. Tighten the heatsink screw numbers 1 and 2 (callouts 1 and 2).



e. Tighten the heatsink screw numbers 3, 4, 5, and 6 in a diagonal manner (callouts 3 to 6).



4. Install the air baffle and other removed hardware components.
5. Install the access panel.
6. Install the server into the rack.
7. Connect all peripheral cables to the server.
8. Connect the power cords:
 - a. Connect each power cord to the server.
 - b. Connect each power cord to the power source.
9. Power up the server.

Results

The replacement procedure is complete.

Installing the high performance heatsink

Prerequisites

- Identify the heatsink and processor socket components.
- Review the processor cautions.
- If a processor TDP between 260 W to 300 W is installed, the high performance heatsink and high performance fans are required.
- Before you perform this procedure, make sure that you have a torque screwdriver with T-20 Torx bit available.

About this task



CAUTION

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

Procedure

1. Remove the existing standard or high performance heatsink.
2. Remove the thermal interface protective cover from the new heatsink.

3. Install the high performance heatsink:



CAUTION

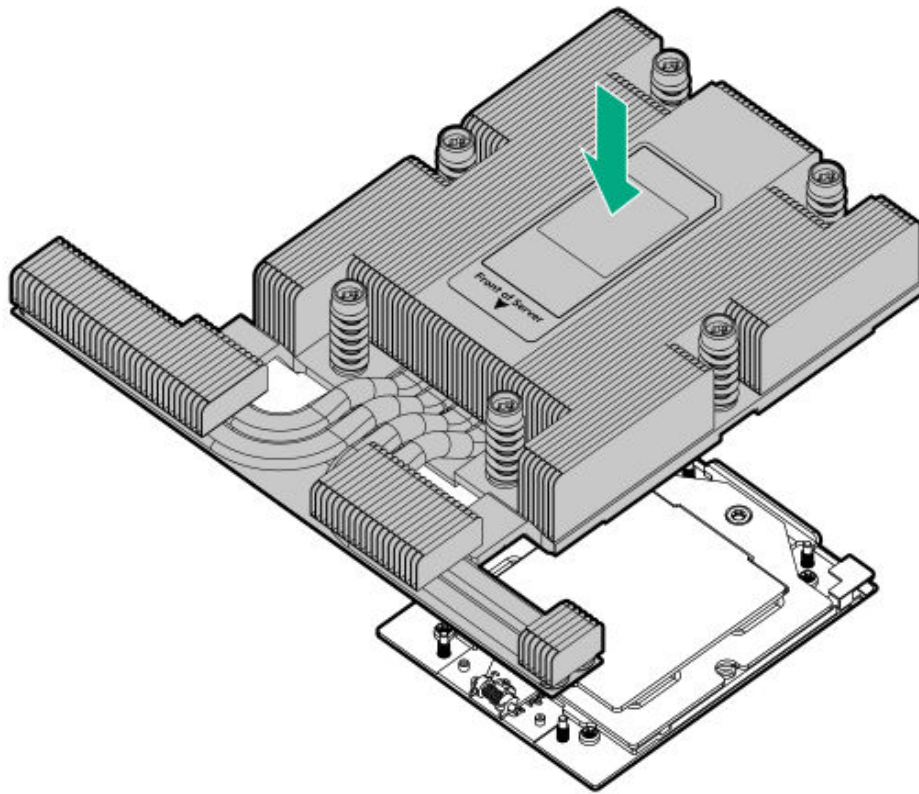
To prevent mechanical damage or depositing oil on your hands or other contaminants to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.



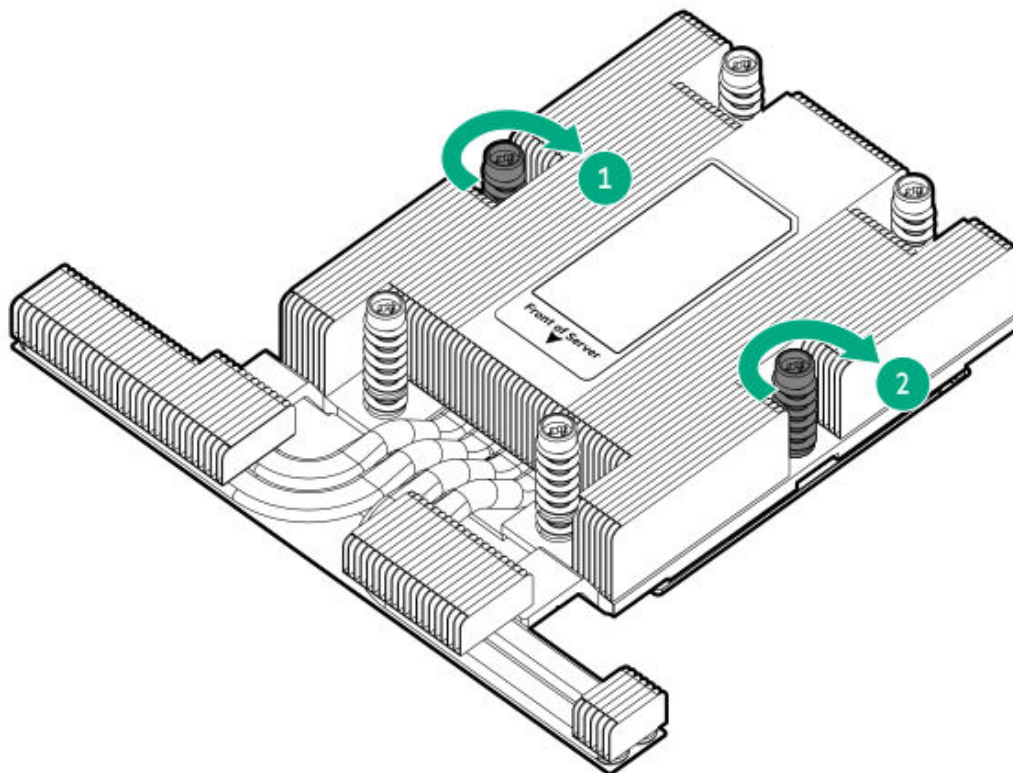
CAUTION

To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

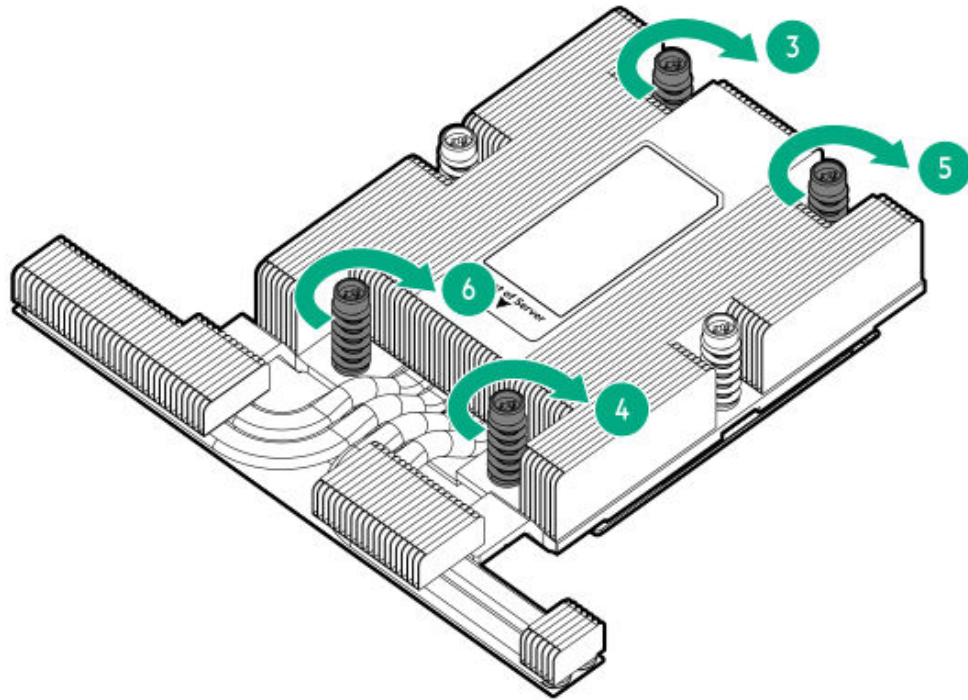
- a. When using a torque screwdriver to tighten the heatsink screws, set a torque between 1.24 N-m (11 lbf-in) to 1.47 N-m (13 lbf-in).
- b. Note the **Front of server** text on the heatsink label to correctly orient the heatsink over the processor socket.
- c. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.



d. Tighten the heatsink screw numbers 1 and 2 (callouts 1 and 2).



- e. Tighten the heatsink screw numbers 3, 4, 5, and 6 in a diagonal manner (callouts 3 to 6).



4. Install the standard / high performance fan.
5. Install the air baffle and other removed hardware components.
6. Install the access panel.
7. Install the server into the rack.
8. Connect all peripheral cables to the server.
9. Connect the power cords:
 - a. Connect each power cord to the server.
 - b. Connect each power cord to the power source.
10. Power up the server.

Results

The replacement procedure is complete.

Liquid cooling module replacement

Subtopics

[Removing the closed-loop liquid cooling module](#)

[Installing the closed-loop liquid cooling module](#)

[Disconnecting the direct liquid cooling kit](#)

[Removing the DLC module](#)

[Installing the DLC module](#)

Removing the closed-loop liquid cooling module

Prerequisites

- [Identify the heatsink and processor socket components.](#)
- [Review the processor cautions.](#)
- If the reason for replacing the liquid cooling heatsink is due to a coolant leak, first perform the [Appendix I: Server coolant spill response procedure.](#)
- Before you perform this procedure, make sure that you have the following items available:
 - T-20 Torx screwdriver
 - T-10 Torx screwdriver
 - Alcohol wipe

About this task

https://sketchfab.com/models/642c80d9ef9146288511ddc45292352f/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0&



WARNING

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

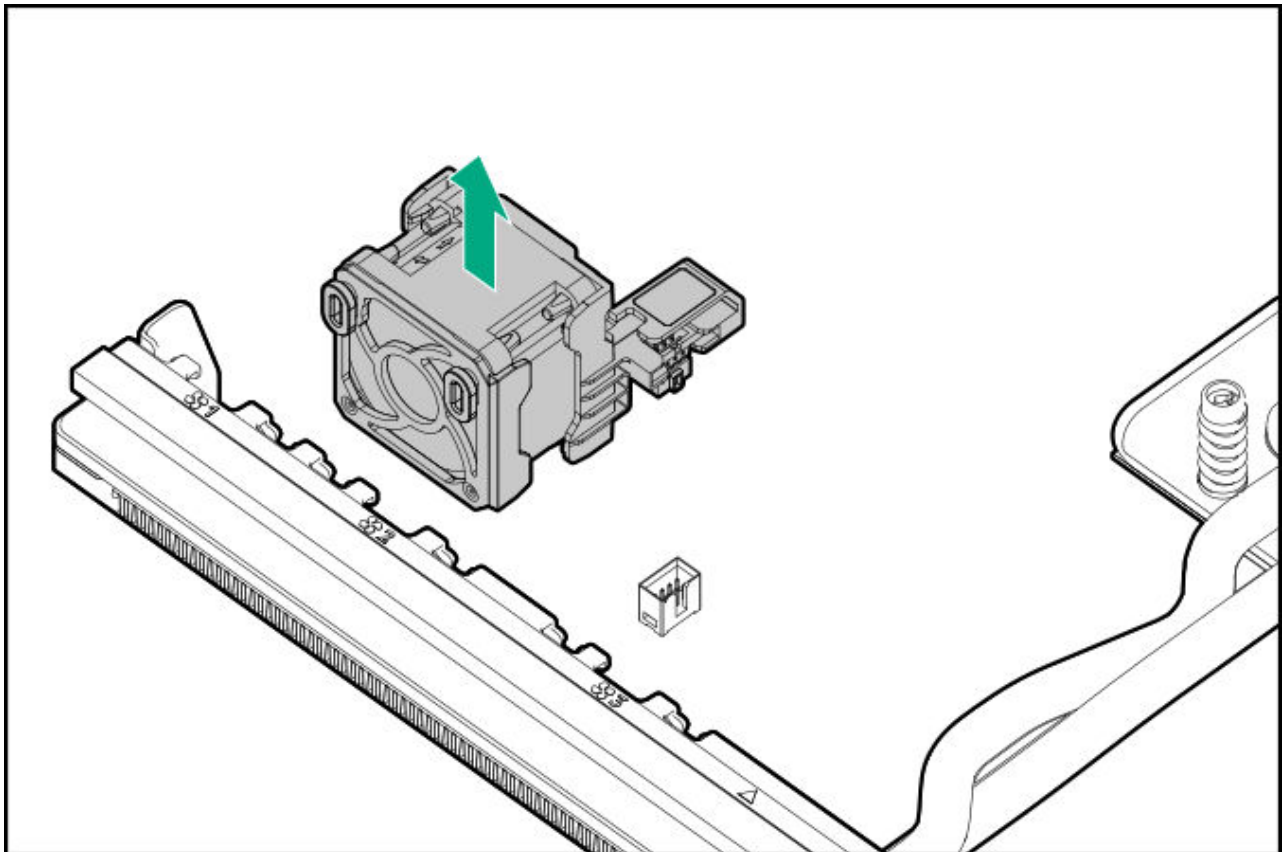


CAUTION

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

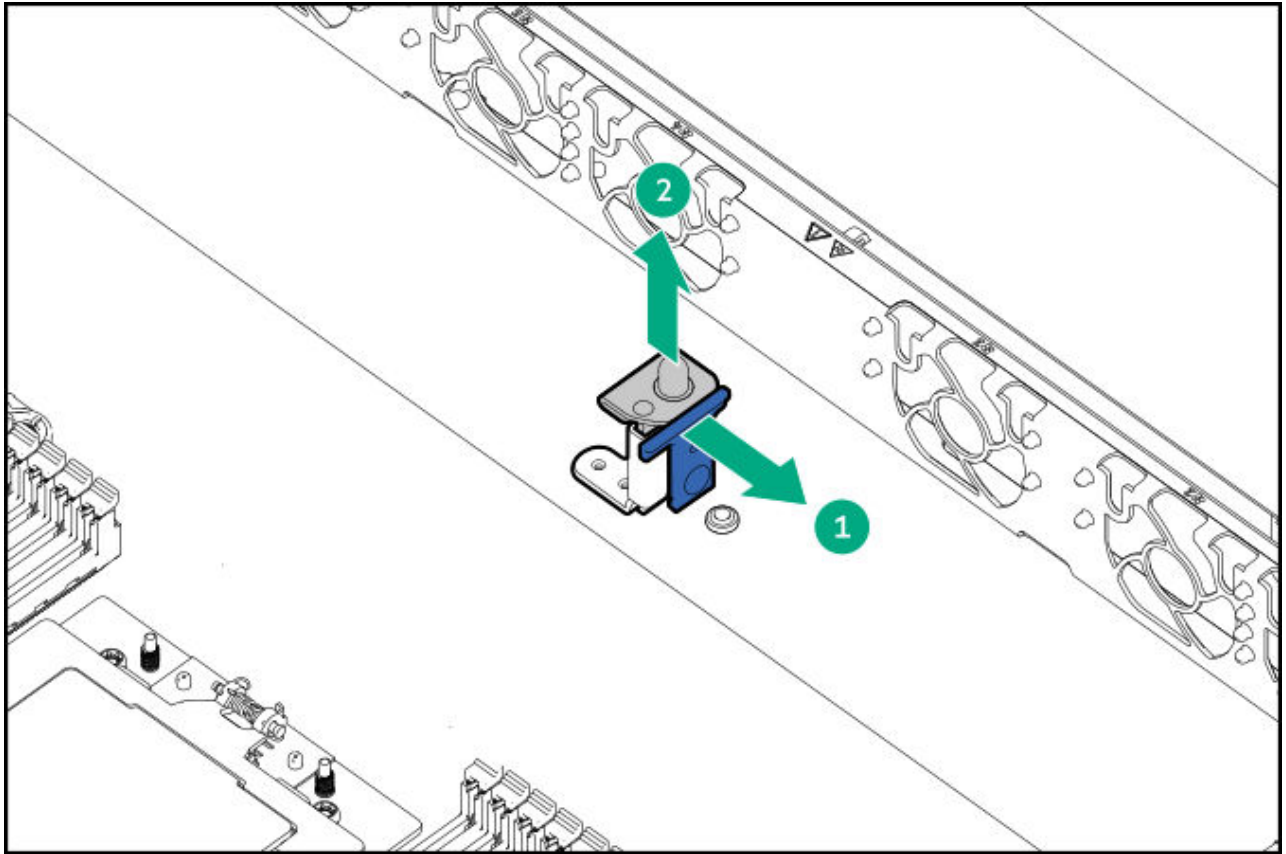
Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the middle cover.
8. Remove the air baffle.
9. Allow all internal system components to cool.
0. Remove all liquid cooling fans.



- .1. Pull and hold the blue tab of the access panel guide pin, and then remove the pin.

This guide pin will be reinstalled after the new liquid cooling module is installed.

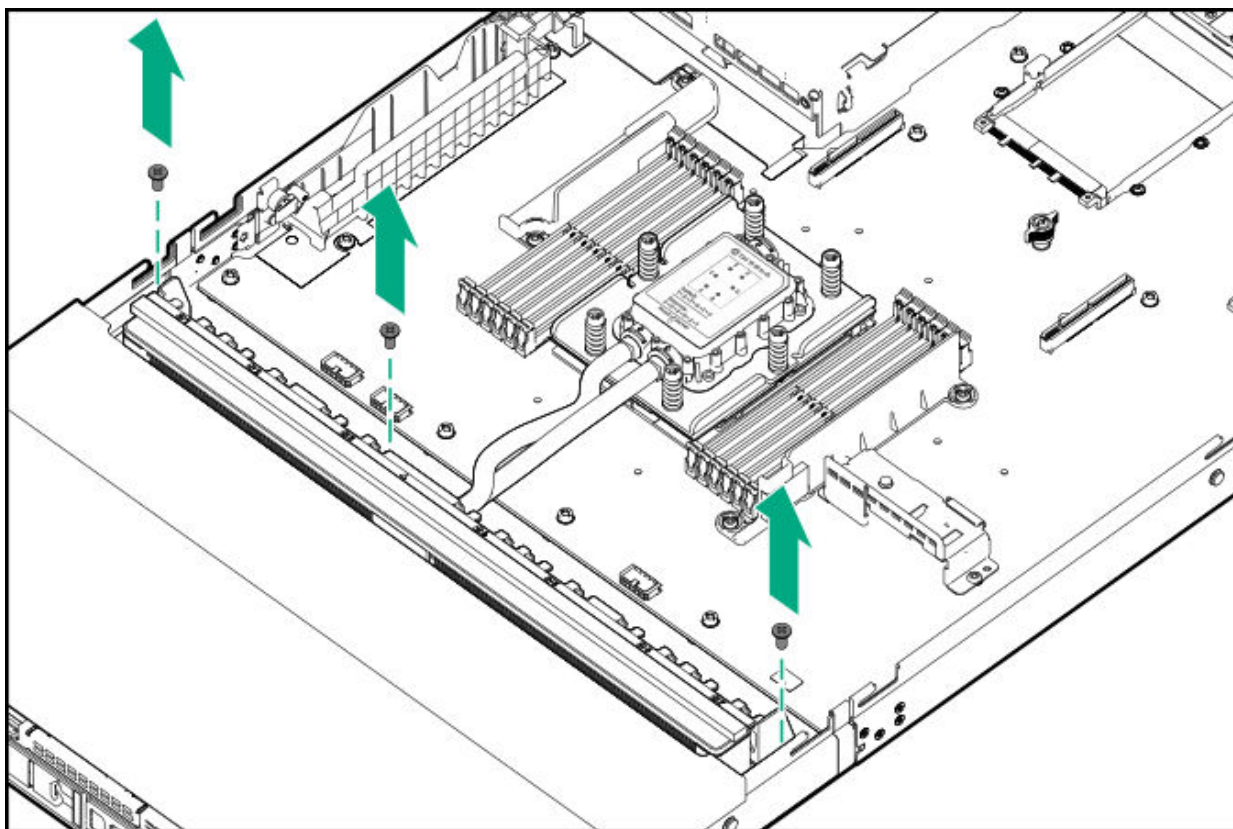


.2. Disconnect the pump signal cable from the system board.

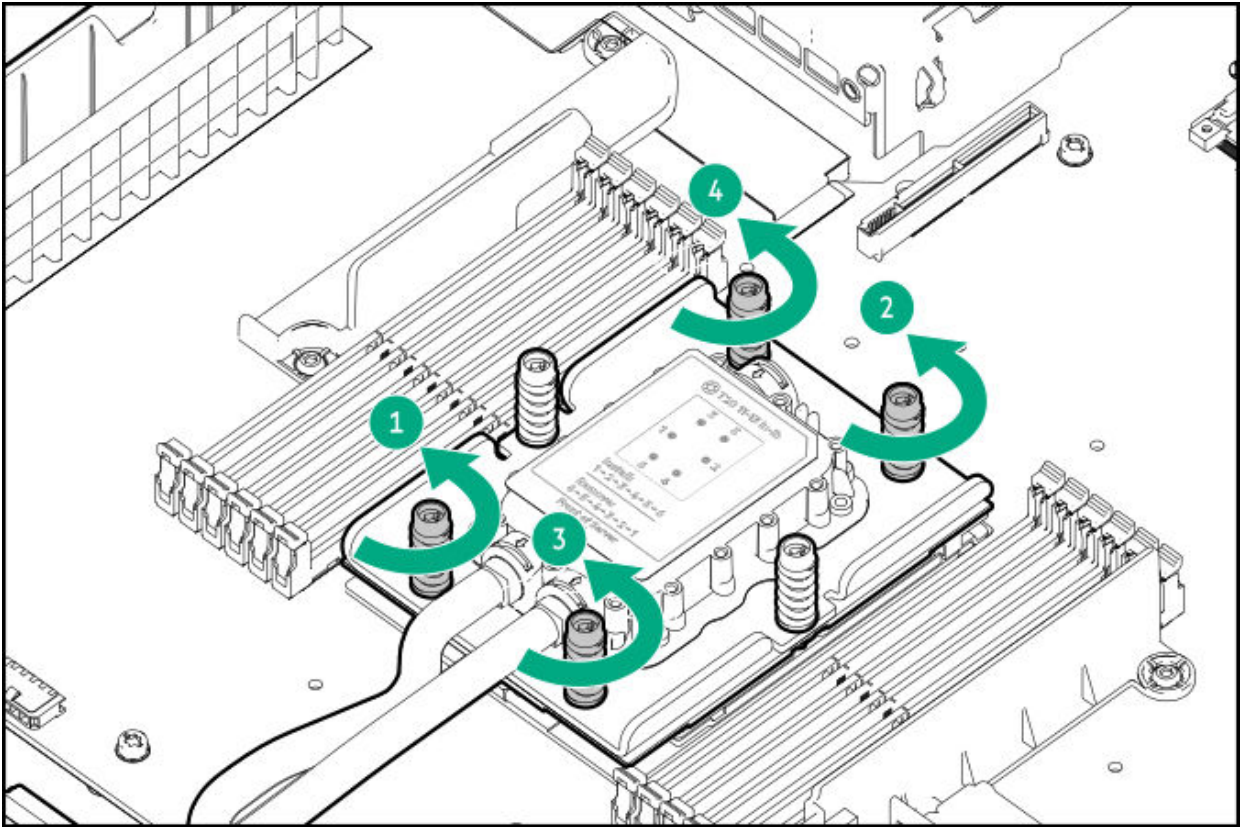
.3. Remove the liquid cooling module:

a. Remove the radiator screws.

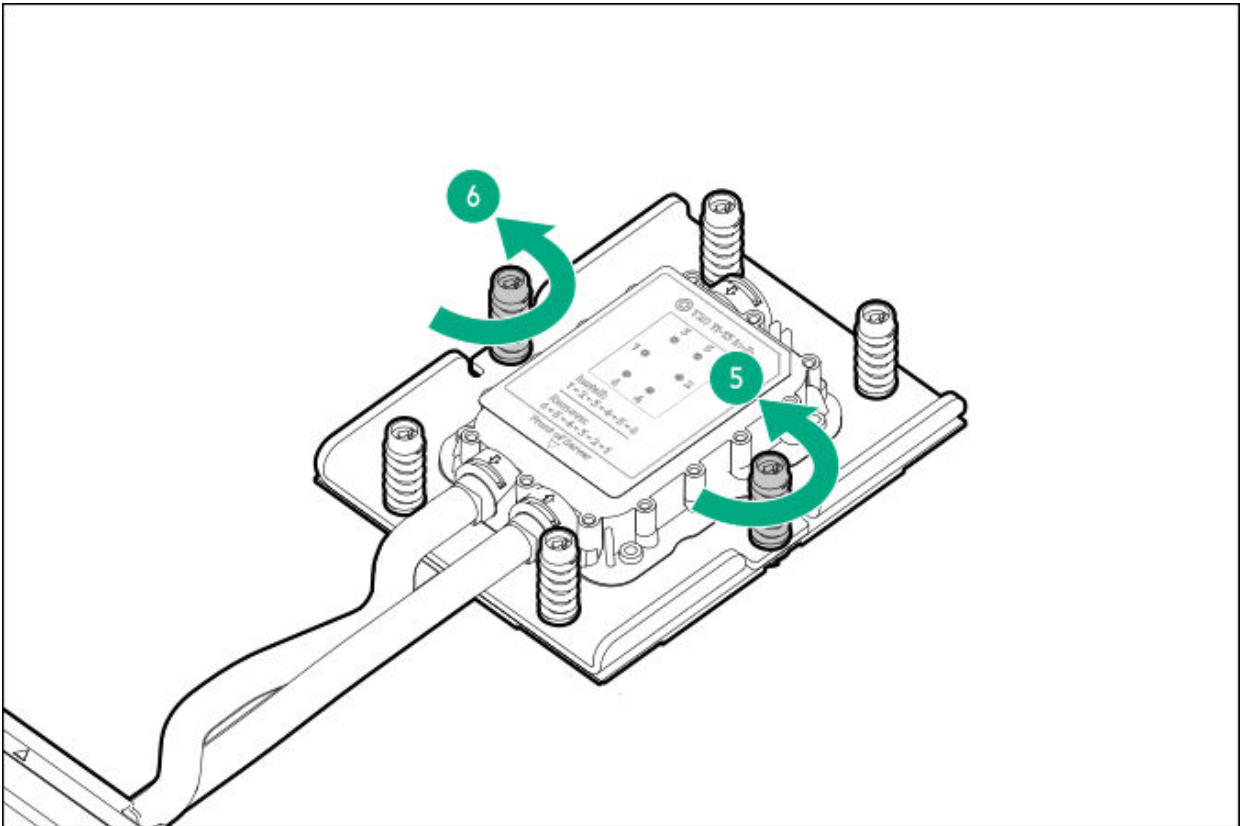
Retain these screws for installing the new liquid cooling module.



- b. Review the screw numbering on the heatsink label.
- c. Loosen the pump-cold plate screw numbers 6, 5, 4, and 3 in a diagonal manner (callouts 1 to 4).



d. Loosen the pump-cold plate screw numbers 2 and 1 (callouts 5 and 6).



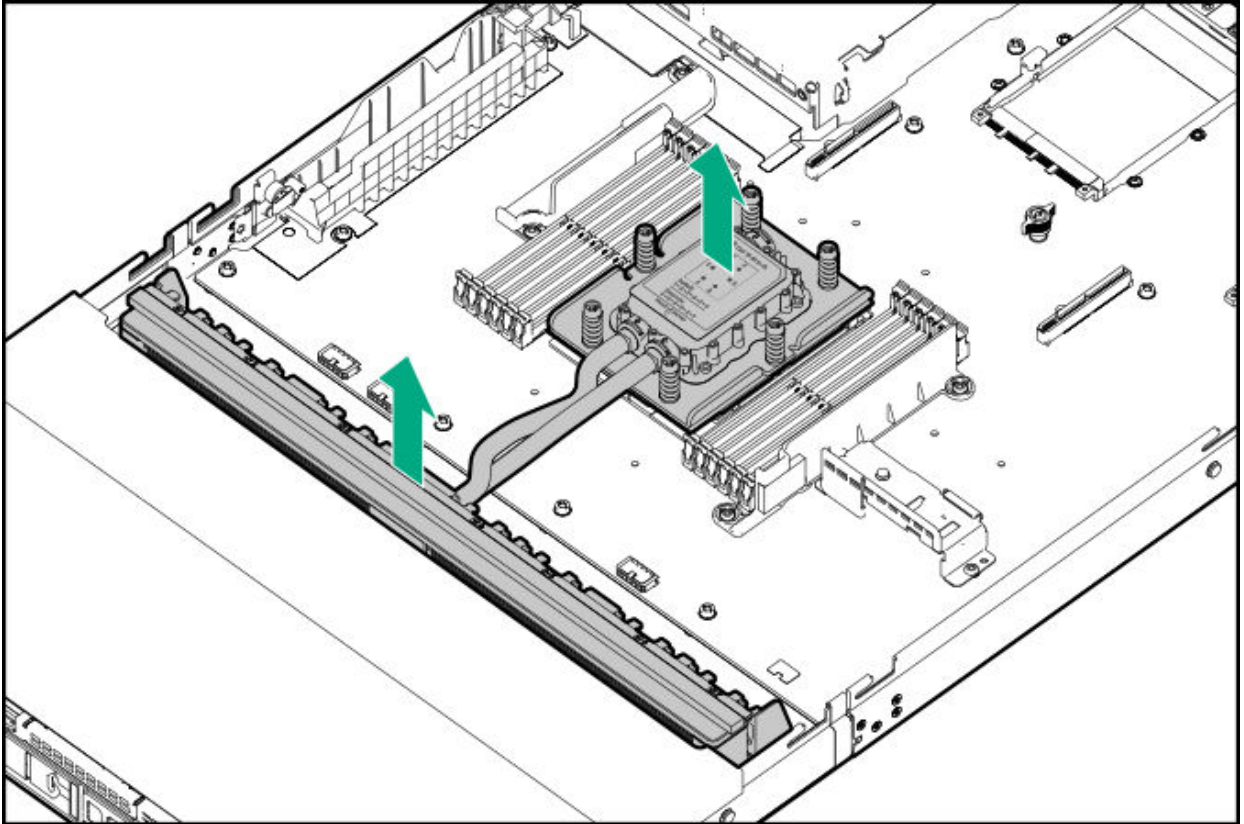
e.



CAUTION

To avoid damaging the coolant hoses that might result in a coolant leak, do not bend the coolant hoses when installing or removing the liquid cooling module.

Hold the radiator and the pump-cold plate, and then lift them away from the system board.



- .4. Place the liquid cooling module on a flat work surface with the pump-cold plate contact side facing up.
- .5. Use an alcohol wipe to remove the existing thermal grease from the processor.

Allow the alcohol to evaporate before continuing.

Installing the closed-loop liquid cooling module

Prerequisites

- [Identify the heatsink and processor socket components.](#)
- [Review the processor cautions.](#)
- Before you perform this procedure, make sure that you have the following items available:
 - Torque screwdriver with T-20 Torx bit
 - T-10 Torx screwdriver

About this task



CAUTION

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

Procedure

1. Remove the thermal interface protective cover from the new liquid cooling module.

2.

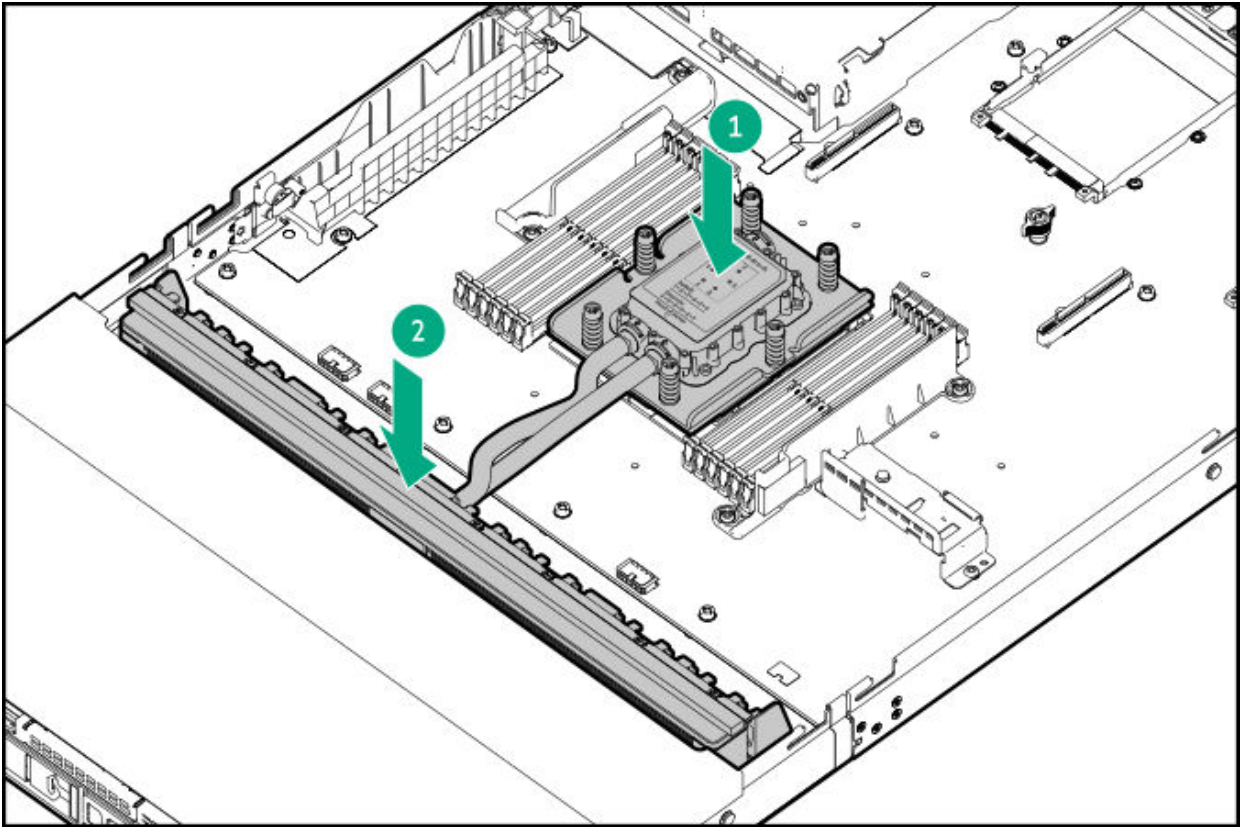


CAUTION

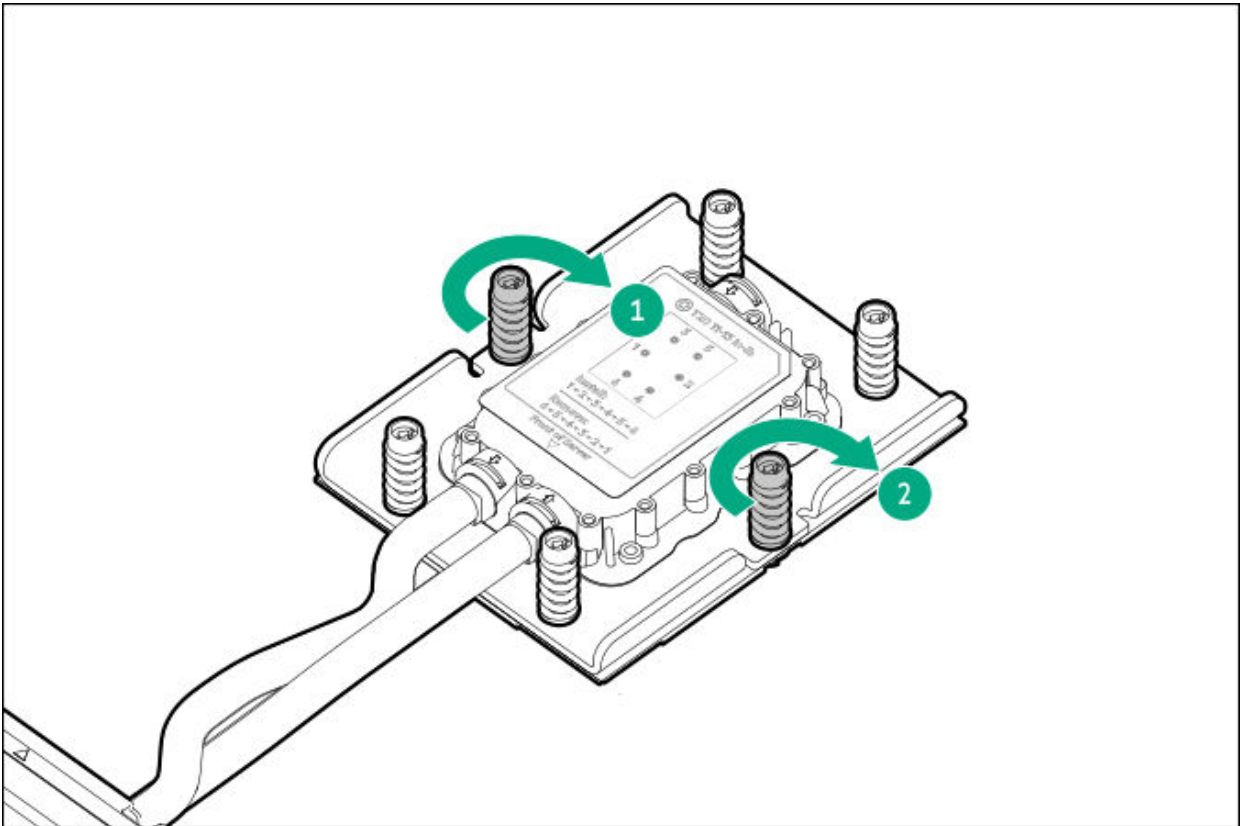
To avoid damaging the coolant hoses that might result in a coolant leak, do not bend the coolant hoses when installing or removing the liquid cooling module.

Install the liquid cooling module:

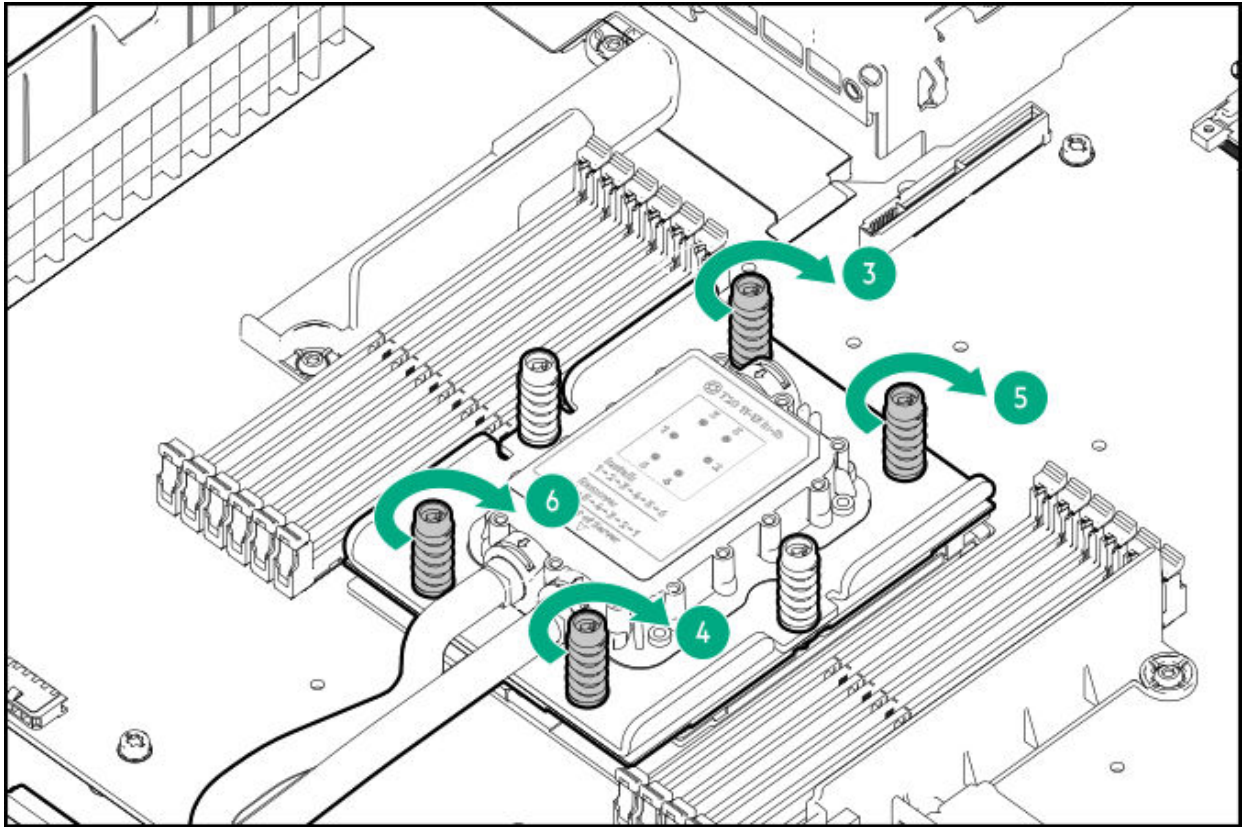
- a. When using a torque screwdriver to tighten the pump-cold plate screws, set a torque between 1.24 N-m (11 lbf-in) to 1.47 N-m (13 lbf-in).
- b. Position the pump-cold plate on top of the processor (callout 1), ensuring that the cold plate is properly seated before positioning the radiator in place (callout 2).



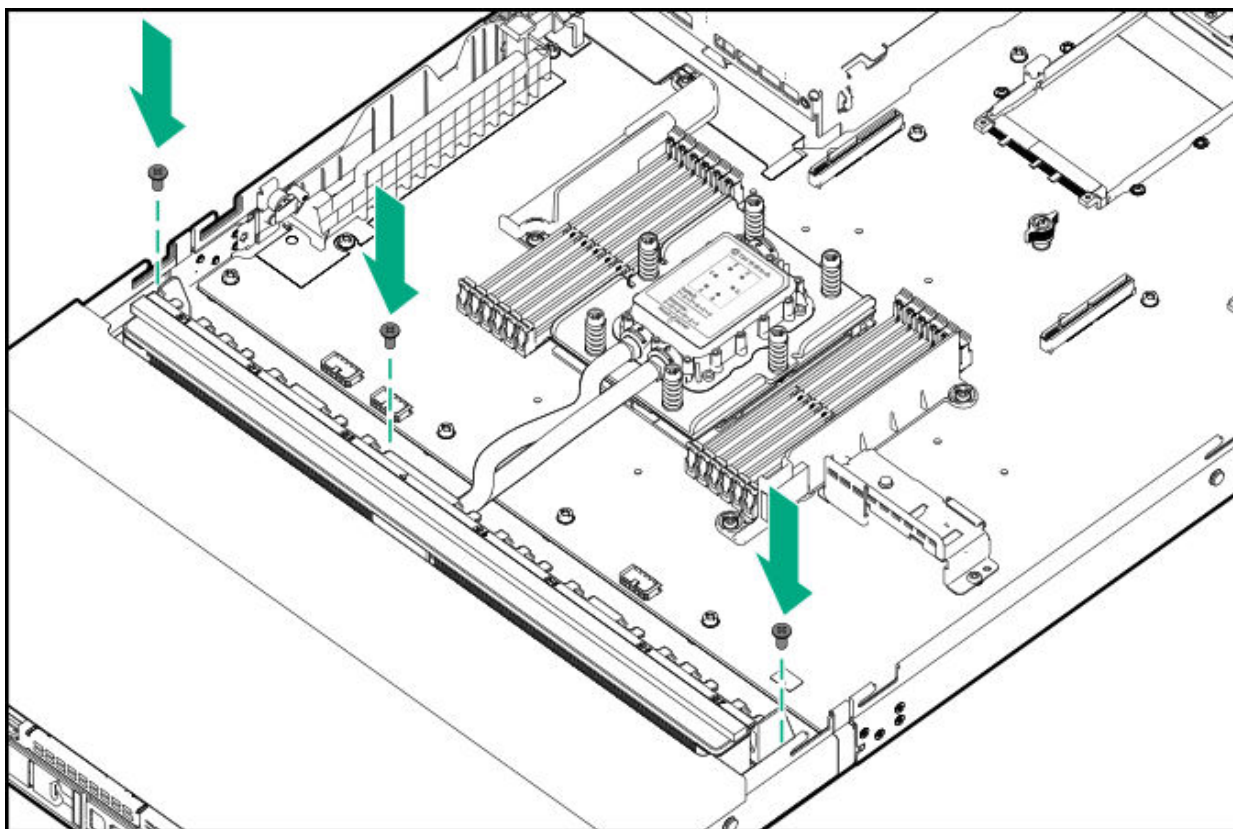
c. Tighten the pump-cold plate screw numbers 1 and 2 (callouts 1 and 2).



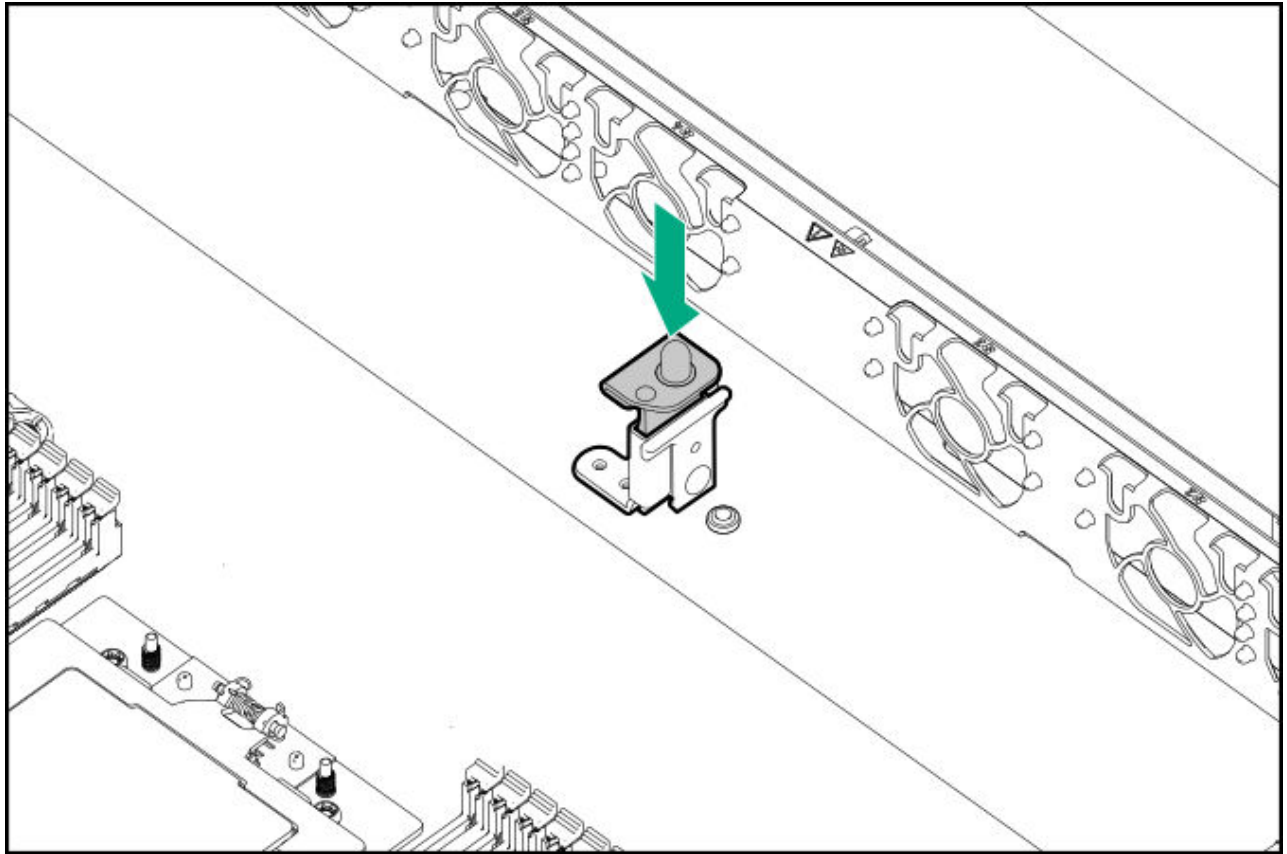
d. Tighten the pump-cold plate screw numbers 3, 4, 5, and 6 in a diagonal manner (callouts 3 to 6).



e. Install the radiator screws.

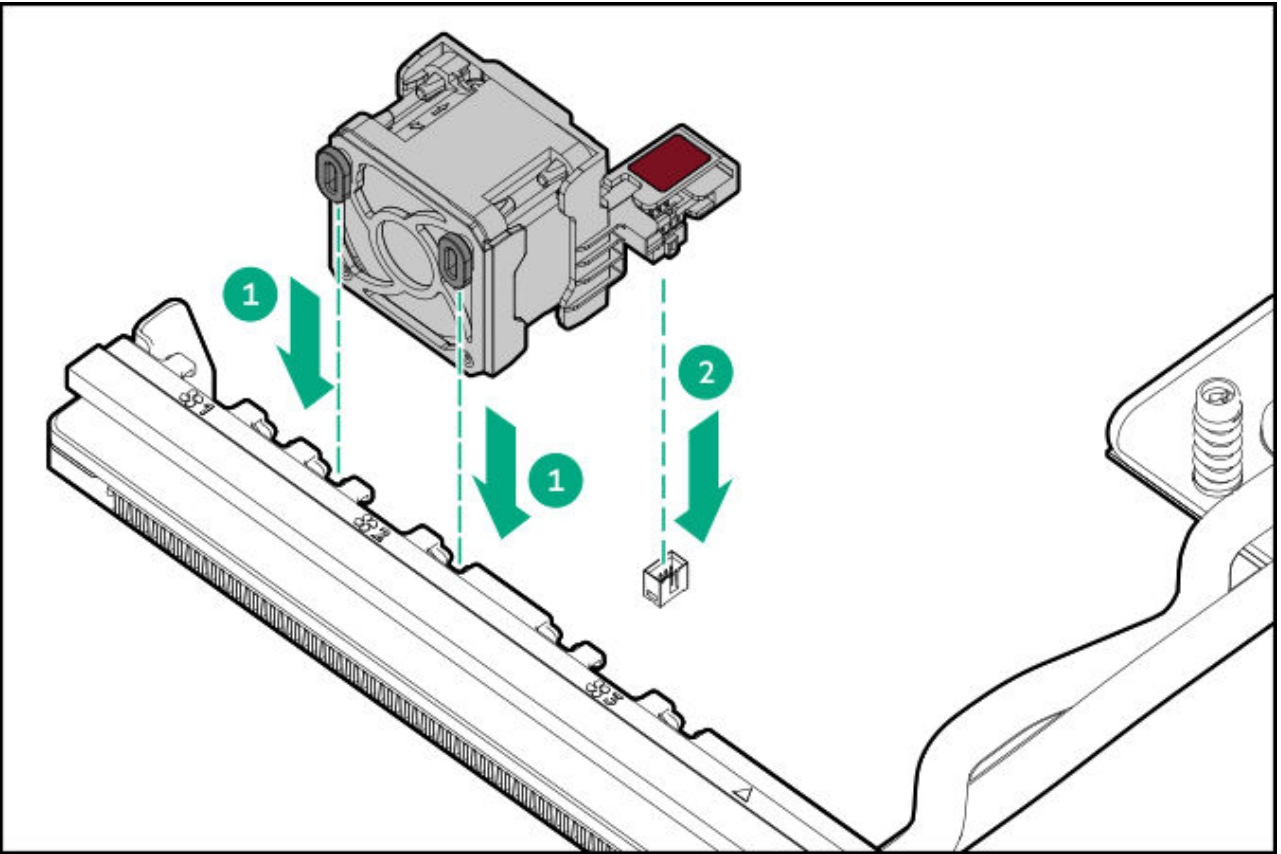


3. Connect the pump signal cable to the system board.
4. Install the access panel guide pin.



5. Install the liquid cooling fans.

Make sure that the fan is firmly seated on its system board connector.



6. Install the air baffle.
7. Install the middle cover.
8. Install the access panel.
9. Install the server into the rack.
0. Connect all peripheral cables to the server.
1. Connect the power cords:
 - a. Connect each power cord to the server.
 - b. Connect each power cord to the power source.
2. Power up the server.

Results

The replacement procedure is complete.

Disconnecting the direct liquid cooling kit

Prerequisites

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

About this task

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

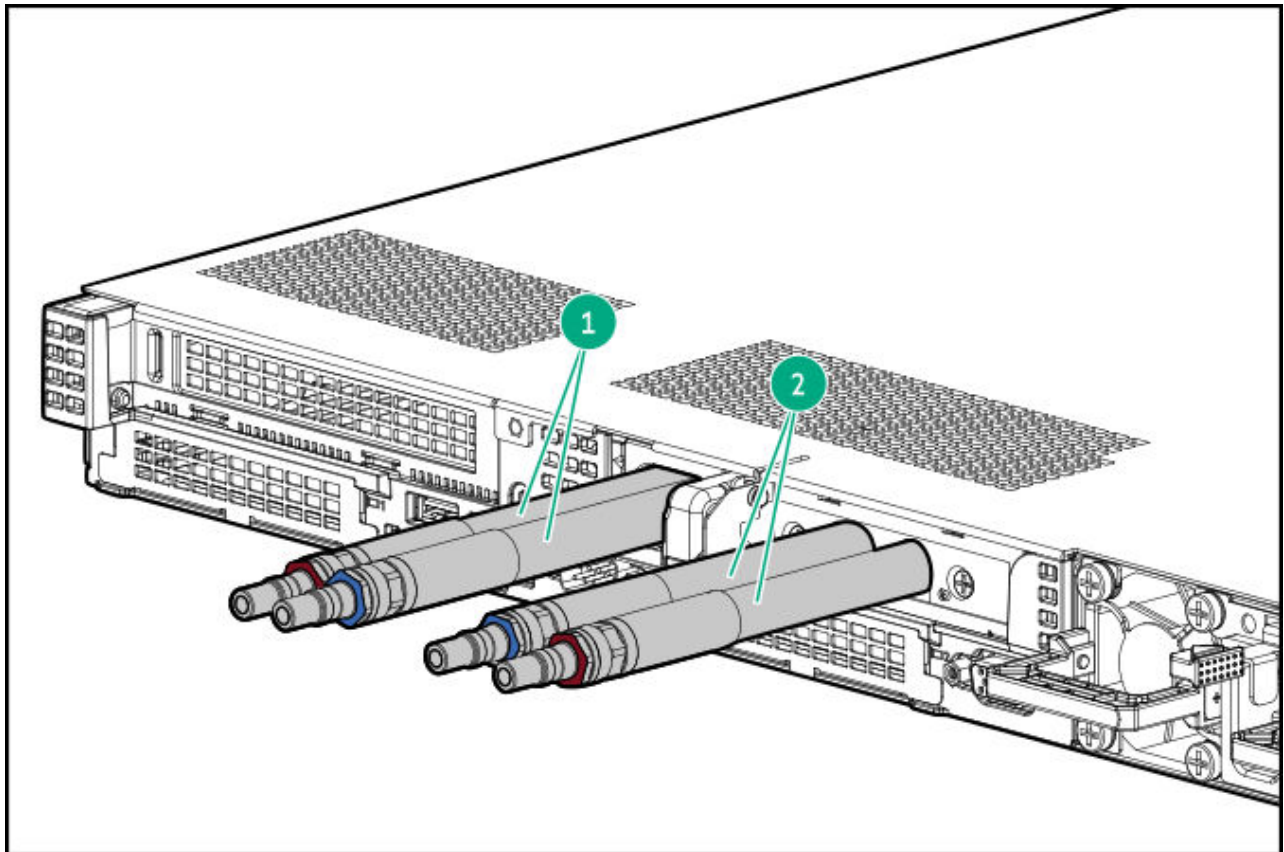
Procedure

1. Locate the DLC module hoses at the rear of the server.



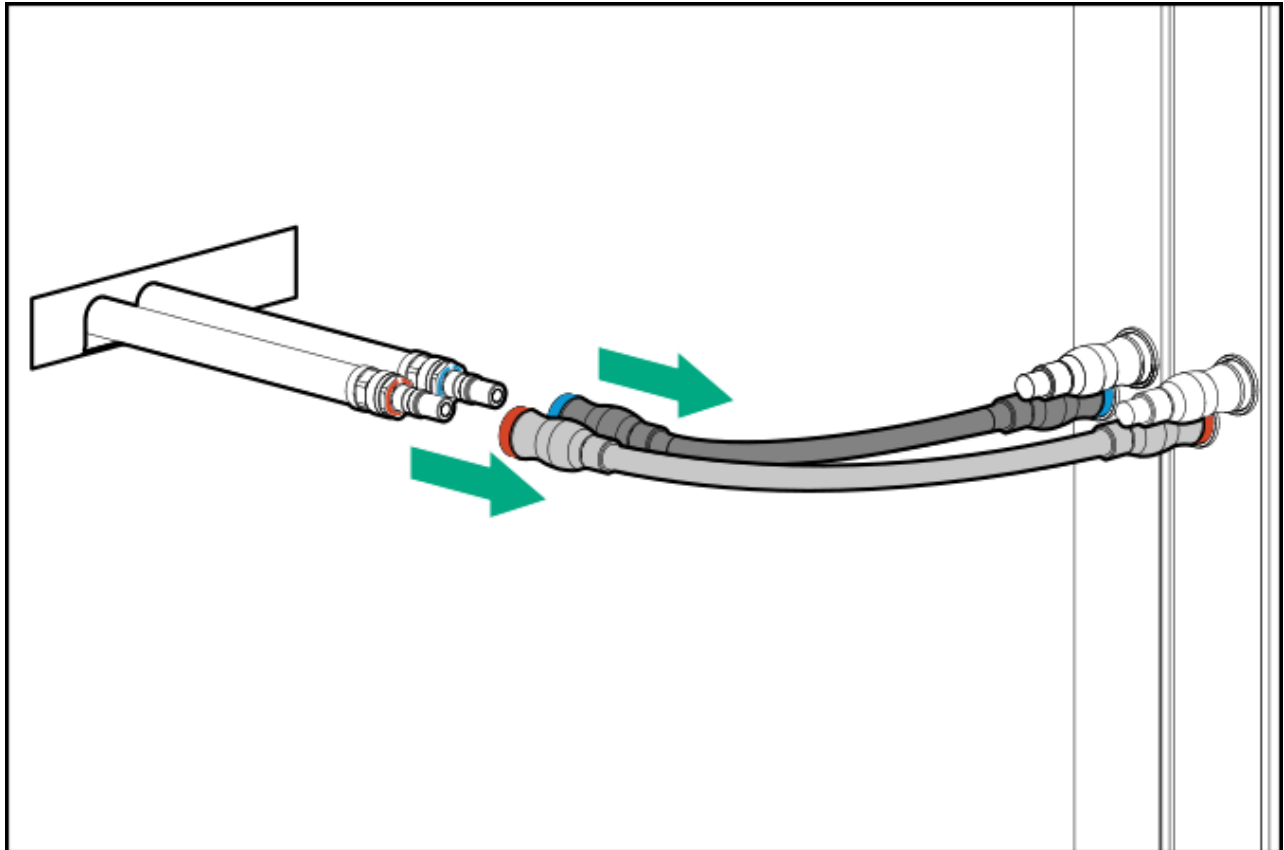
NOTE

This image shows possible hose locations. Hoses will only come from either the rear NS204i-u bracket or the secondary riser slot, not both.

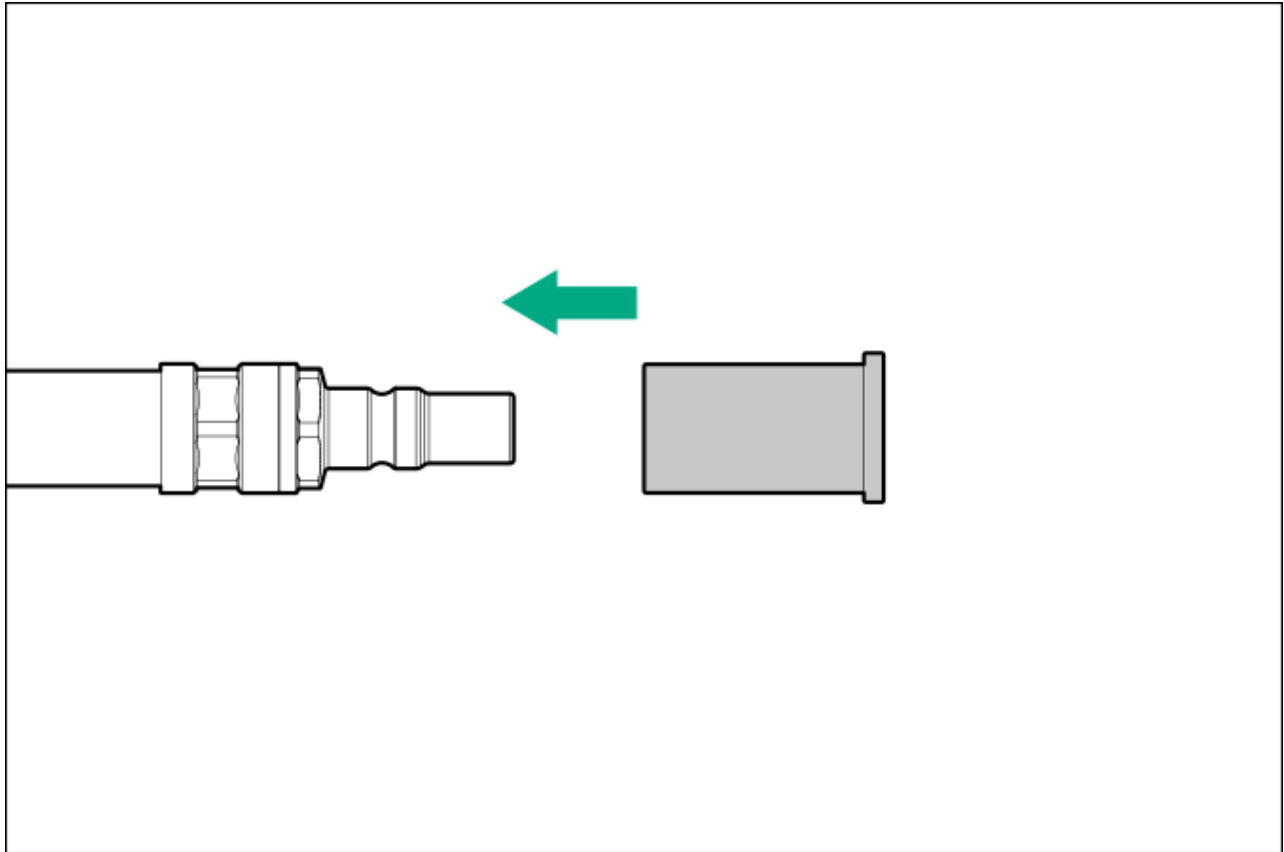


Item	Description
1	Coolant hoses coming from the installation location of the NS204i-u bracket
2	Coolant hoses coming from the secondary riser slot

2. Position the towels or container under the hoses and then disconnect the quick connect hoses.



3. Install the quick connect caps.



Removing the DLC module

Prerequisites

- Read the HPE Cray XD/ProLiant Direct Liquid Cooling System Site Preparation, User and Maintenance Guide:

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

- Review the following:
 - [Direct liquid cooling module components](#)
 - [Processor cautions](#)
 - [Eye and skin protection](#)
- If the reason for replacing the DLC module is due to a coolant leak, first perform the [Appendix I: Server coolant spill response procedure](#).
- Before you perform this procedure, make sure that you have the following items available:

- T-20 Torx screwdriver
- T-10 Torx screwdriver
- Alcohol wipe

About this task

The entire cooling loop must be removed as one unit. Do not attempt to remove the riser cage or cold plate separately.

https://sketchfab.com/models/7b941c6435aa4fecbe8327119a2ead84/embed?ui_infos=0&ui_watermark=0&ui_help=0&ui_vr=0&ui_settings=0&ui_inspector=0&ui_hint=2&ui_color=01a982&ui_theme=dark&autostart=1&camera=0&



WARNING

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



CAUTION

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

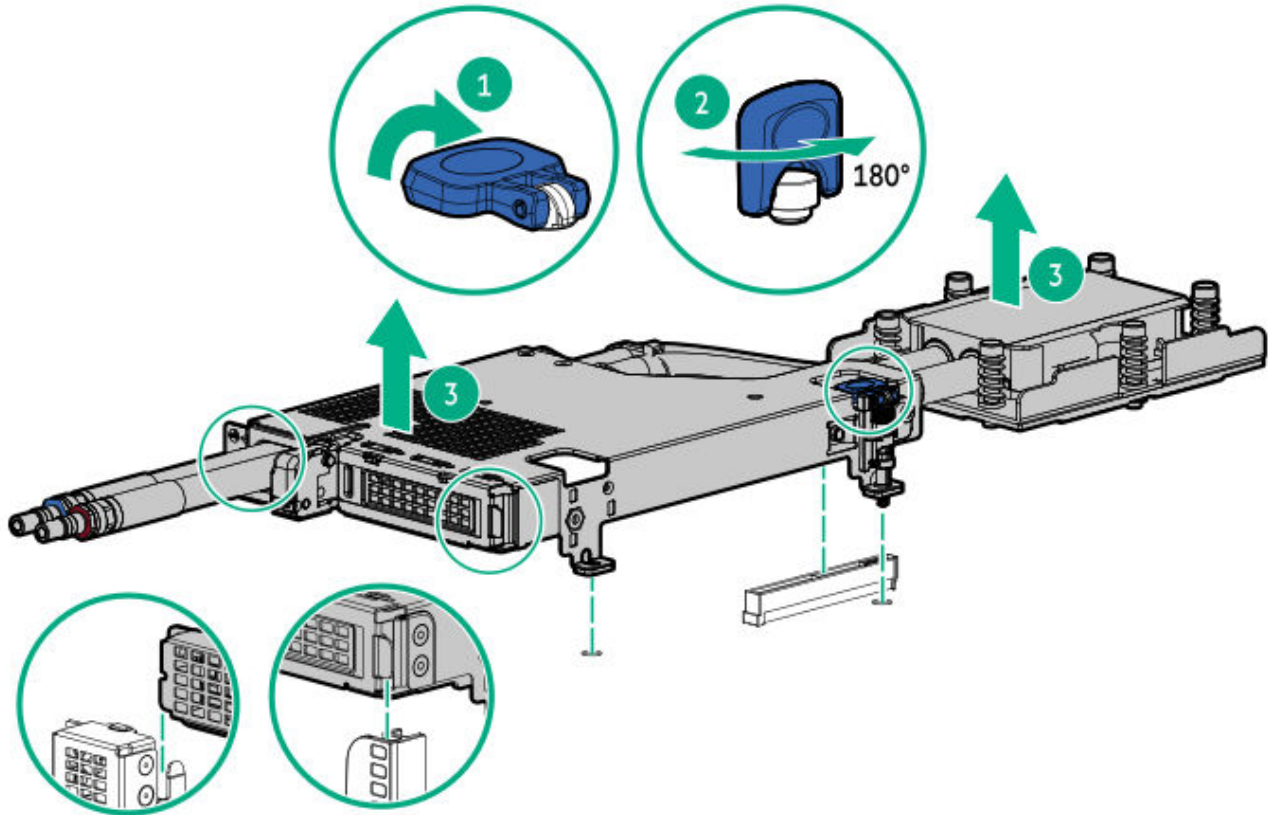
Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Disconnect the hoses from the DLC manifold.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the air baffle.
9. Disconnect the storage controller cables that run over the coolant hoses to the PCIe slots.

Note where these cables were installed.

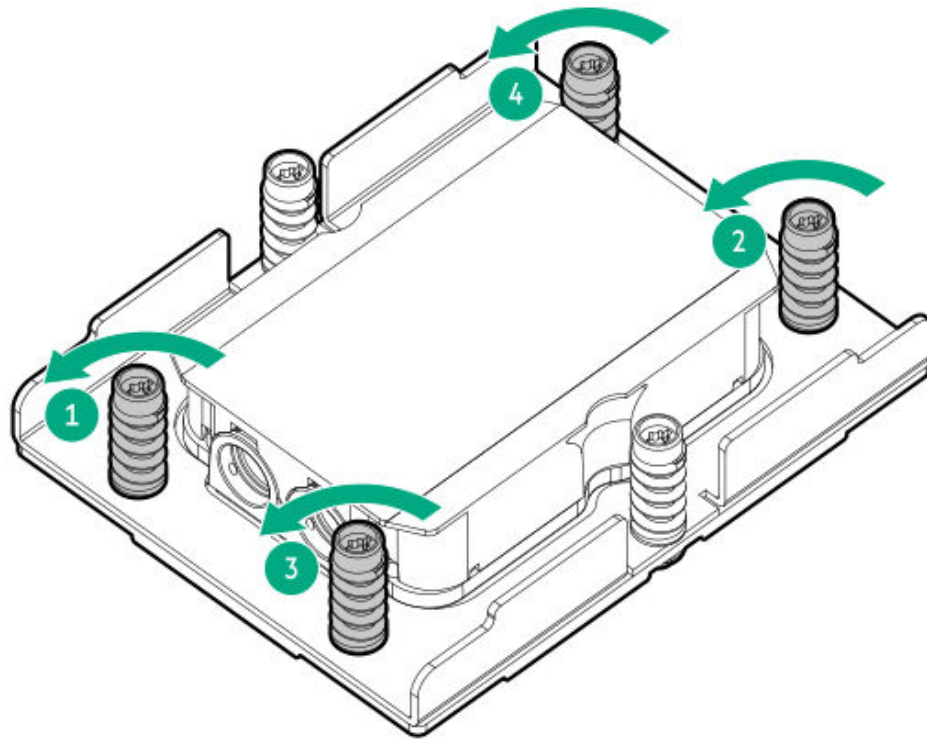
- .0. Loosen the riser cage. Set it on the slot while you loosen the cold plate screws.

The NS204i-u + secondary low-profile riser cage is shown. Your riser cage may look different depending on the riser and DLC options installed.

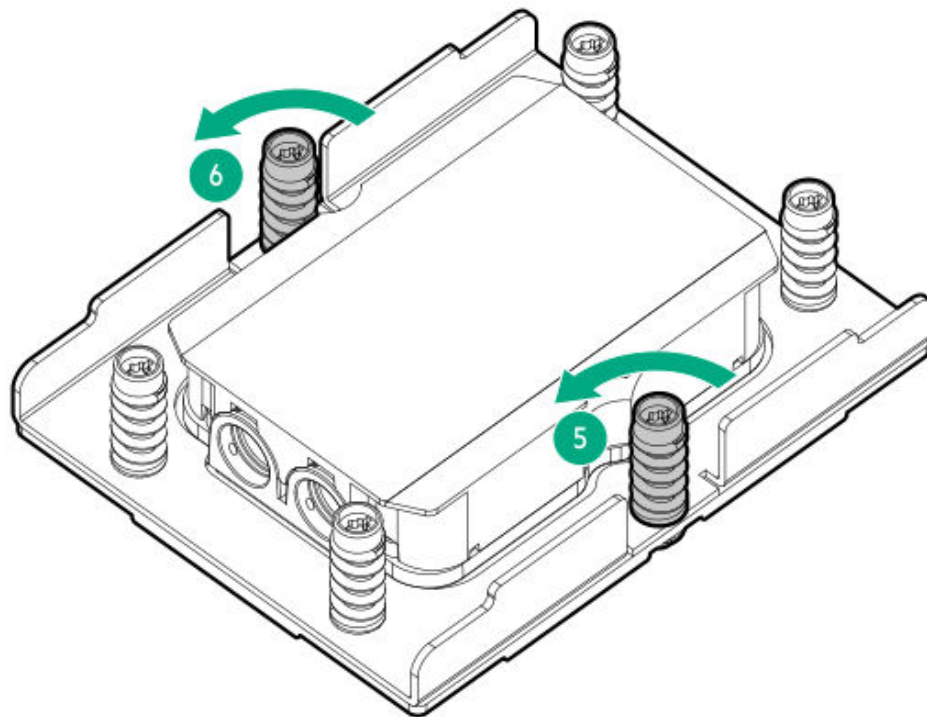


- .1. Loosen the cold-plate screws.
 - a. Review the screw numbering on the cold plate label.
 - b. Loosen the cold plate screw numbers 6, 5, 4, and 3 in a diagonal manner (callouts 1 to 4).

The coolant hoses are not shown in the following cold plate images.



c. Loosen the pump-cold-plate screw numbers 2 and 1 (callouts 5 and 6).



.2.



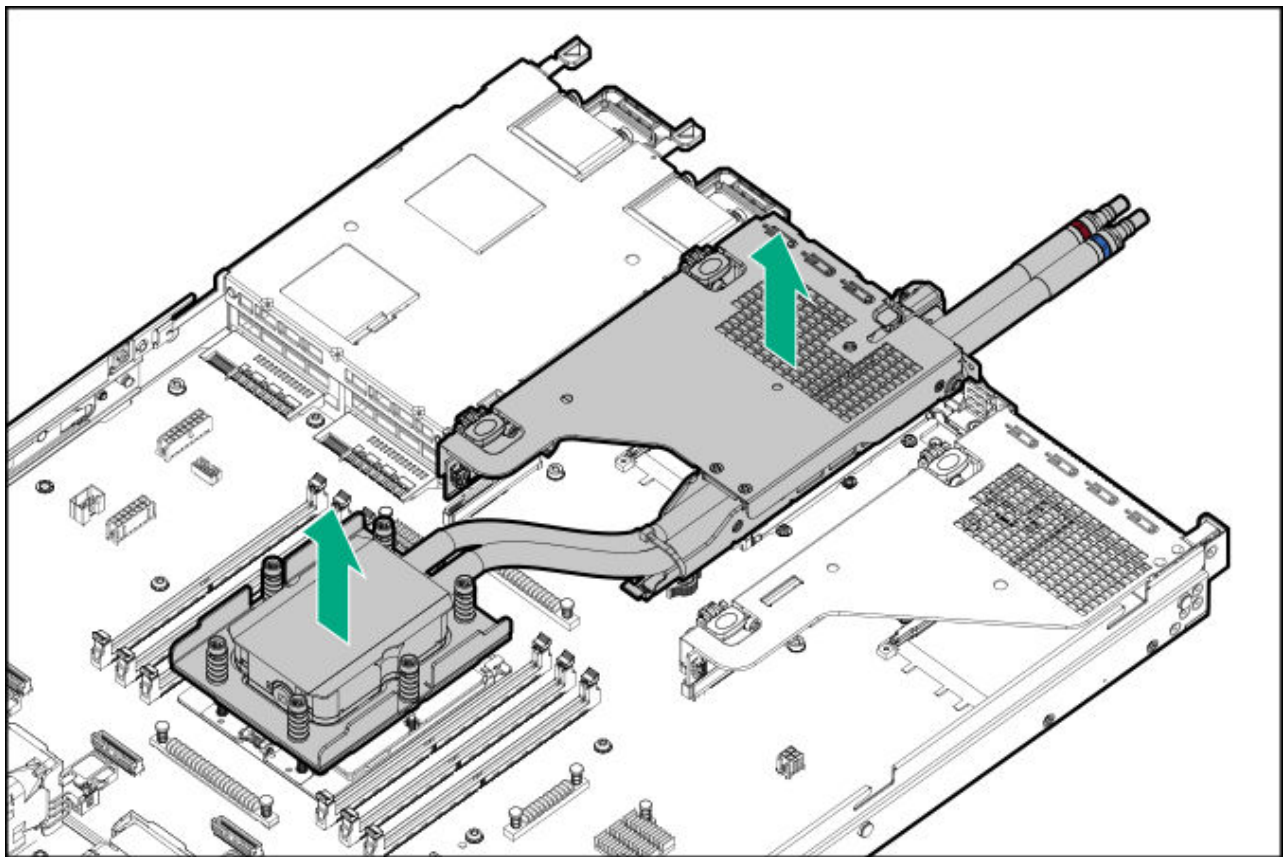
CAUTION

To avoid damaging the coolant hoses that might result in a coolant leak, do not bend the coolant hoses when installing or removing the liquid cooling module.

Remove the assembly:

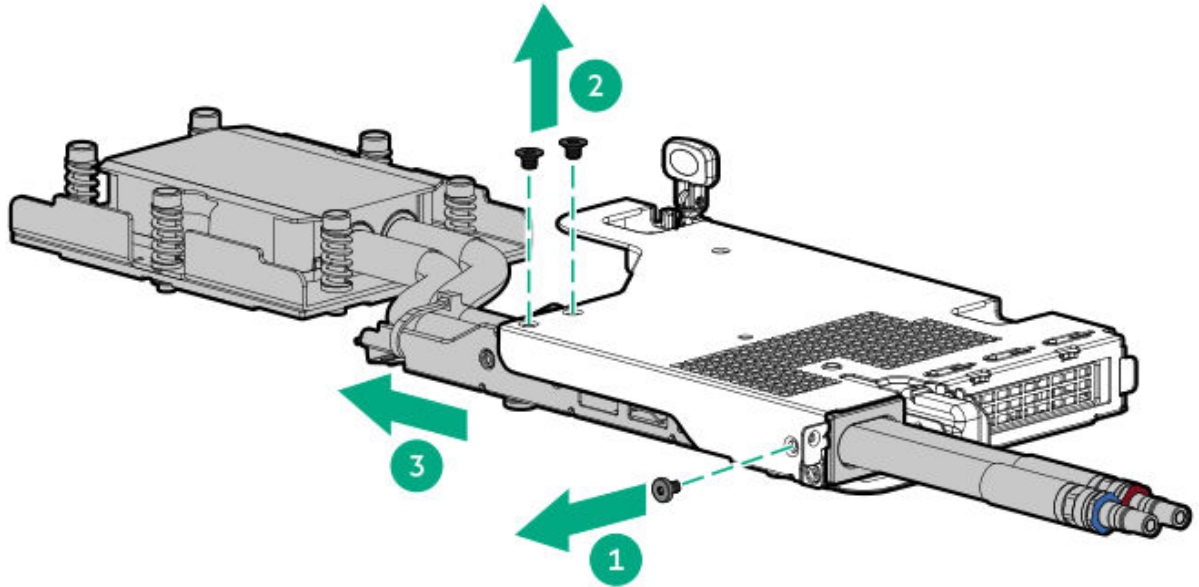
- a. Use one hand to hold the cold plate and the other to hold the riser cage.
- b. Lift the assembly away from the server.

The NS204i-u + secondary low-profile riser cage is shown. Your riser cage may look different depending on the riser and DLC options installed.

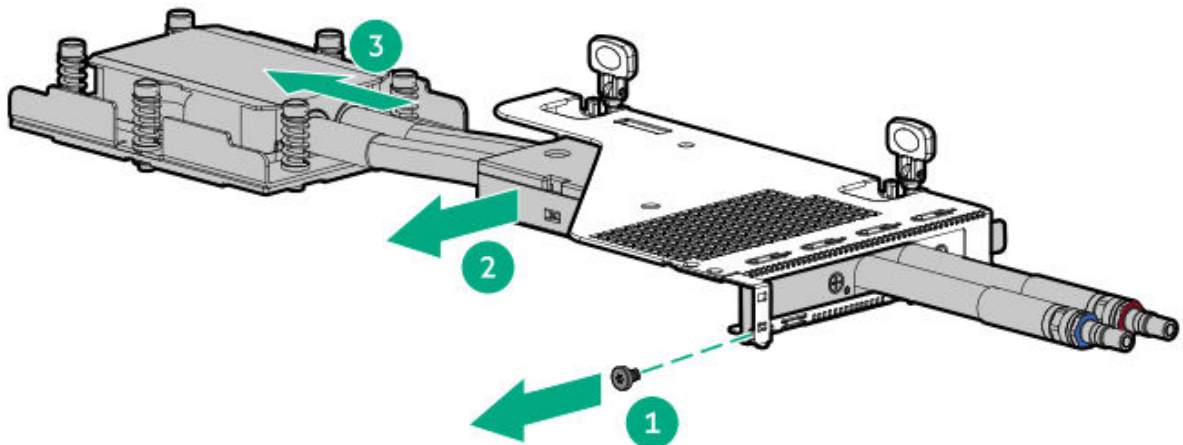


- .3. Set the assembly upside down on a flat surface.
- .4. Use an alcohol wipe to remove the existing thermal grease from the processor.
Allow the alcohol to evaporate before continuing.
- .5. Remove the DLC module from the riser cage.

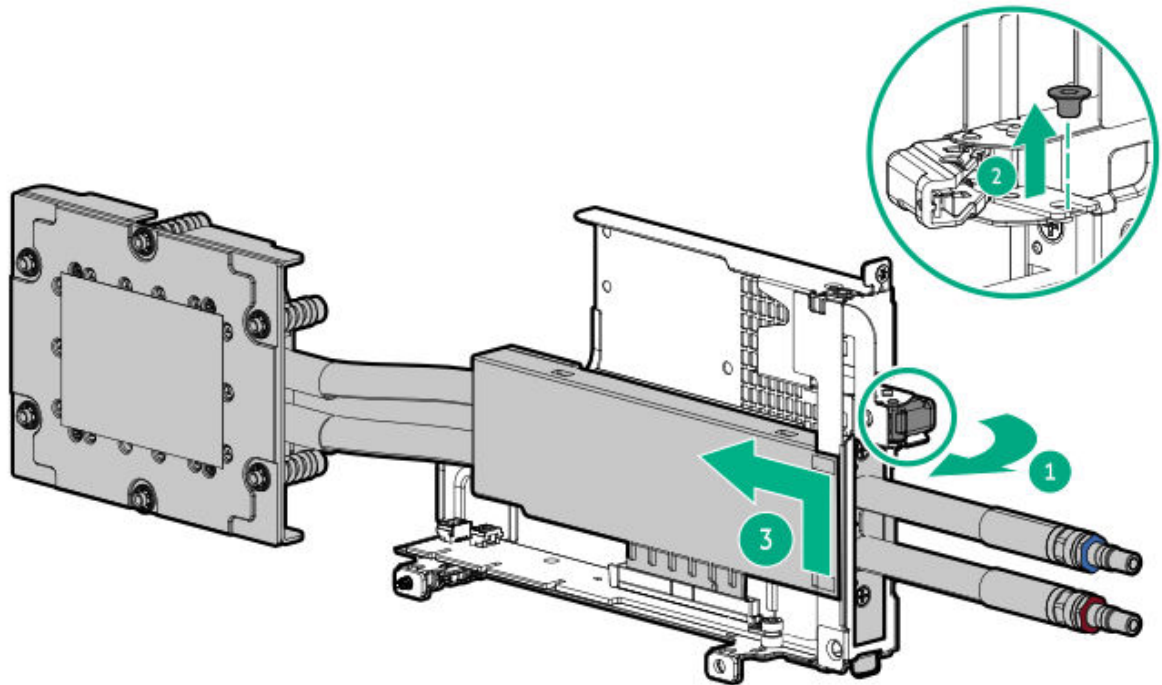
- DLC cold plate module from NS204i-u:



- DLC cold plate module from PCIe in the full-height riser cage:



- DLC cold plate module from PCIe in the NS204 + low-profile riser cage:



Installing the DLC module

Prerequisites

- Read the HPE Cray XD/ProLiant Direct Liquid Cooling System Site Preparation, User and Maintenance Guide:

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

- Review the following:
 - [Direct liquid cooling module components](#)
 - [Processor cautions](#)
 - [Eye and skin protection](#)
- If the reason for replacing the DLC module is due to a coolant leak, first perform the [Appendix I: Server coolant spill response procedure](#).
- Before you perform this procedure, make sure that you have the following items available:
 - T-20 Torx screwdriver
 - T-10 Torx screwdriver

- Alcohol wipe

About this task

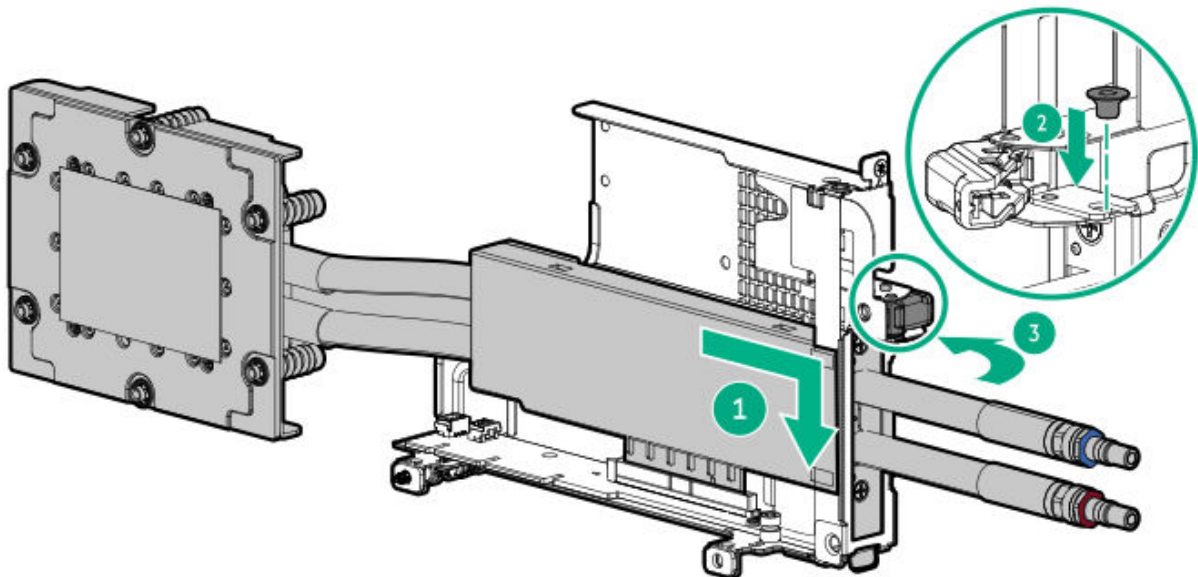


CAUTION

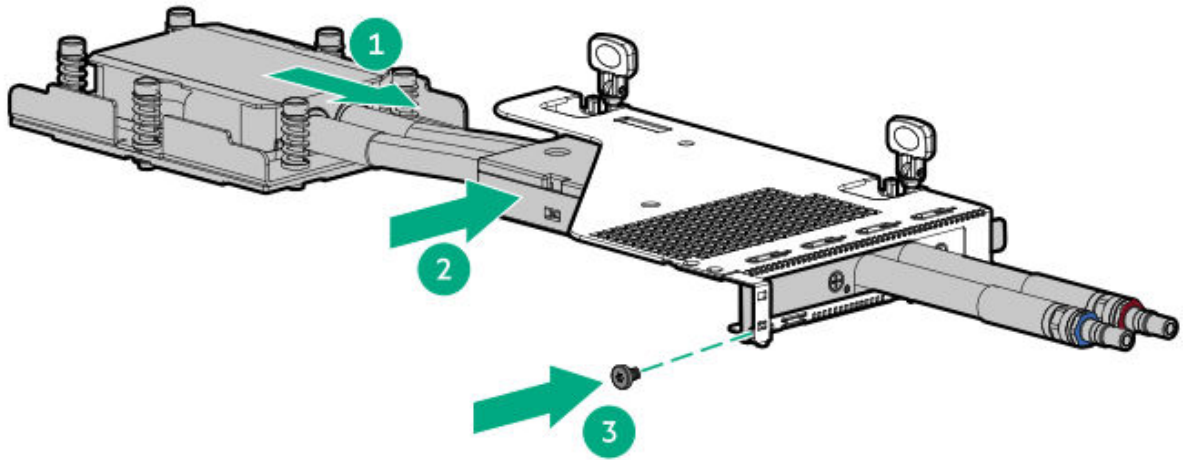
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

Procedure

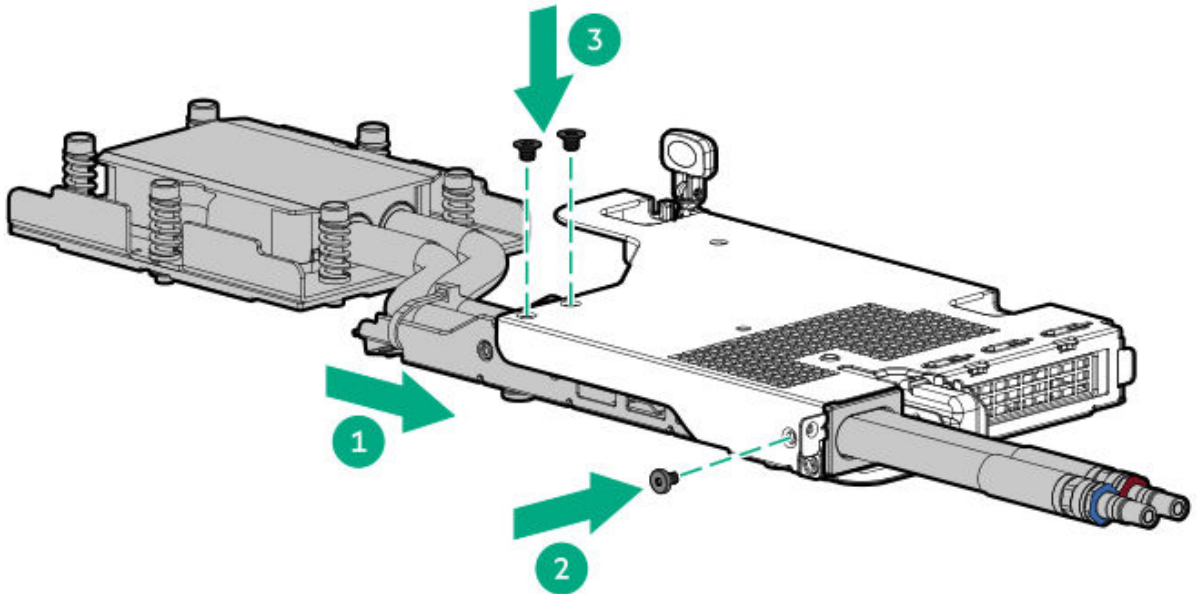
1. Install the DLC module on the riser cage.
 - DLC cold plate module from PCIe:



- DLC cold plate module from PCIe in the full-height riser cage:



- DLC cold plate module from NS204i-u in the NS204 + low-profile riser cage:



2. Remove the clear protective cover from the new open-loop liquid cooling cold plate.

3.

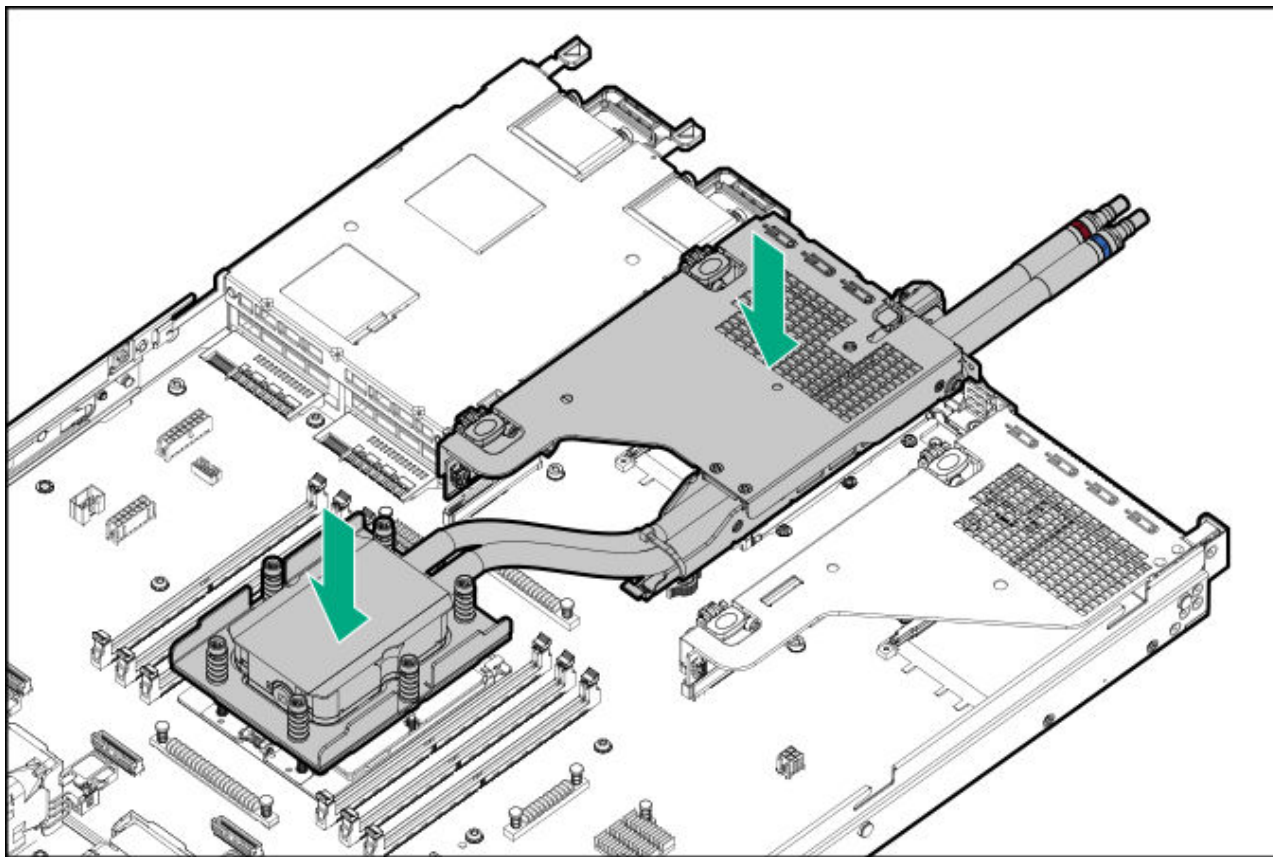


CAUTION

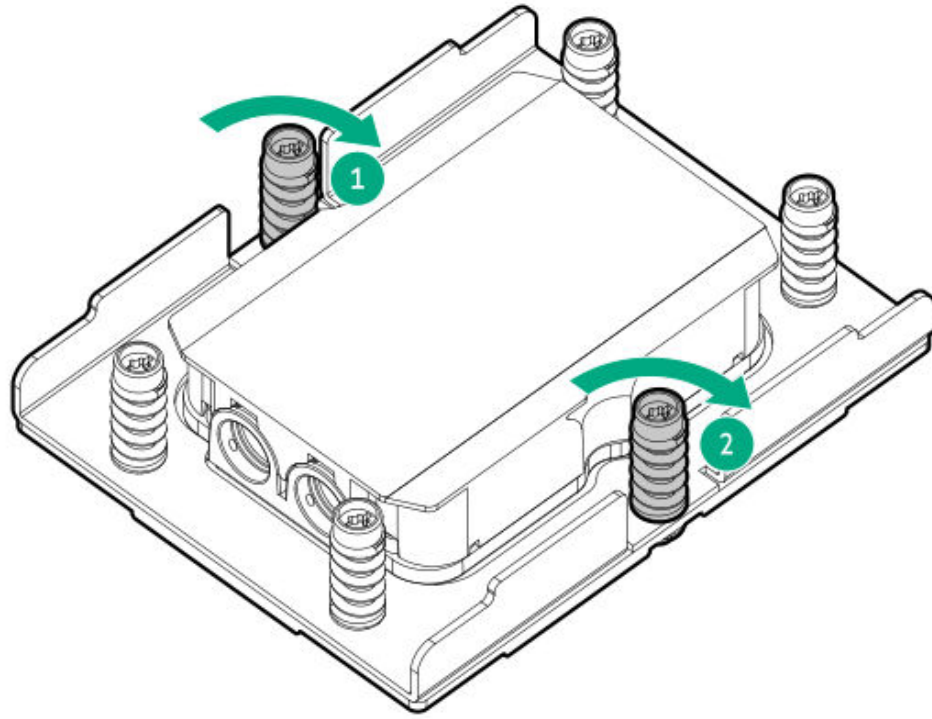
To avoid damaging the coolant hoses that might result in a coolant leak, do not bend the coolant hoses when installing or removing the liquid cooling module.

Place the liquid cooling module on the system board. Set the riser cage on the slot while you install the cold plate.

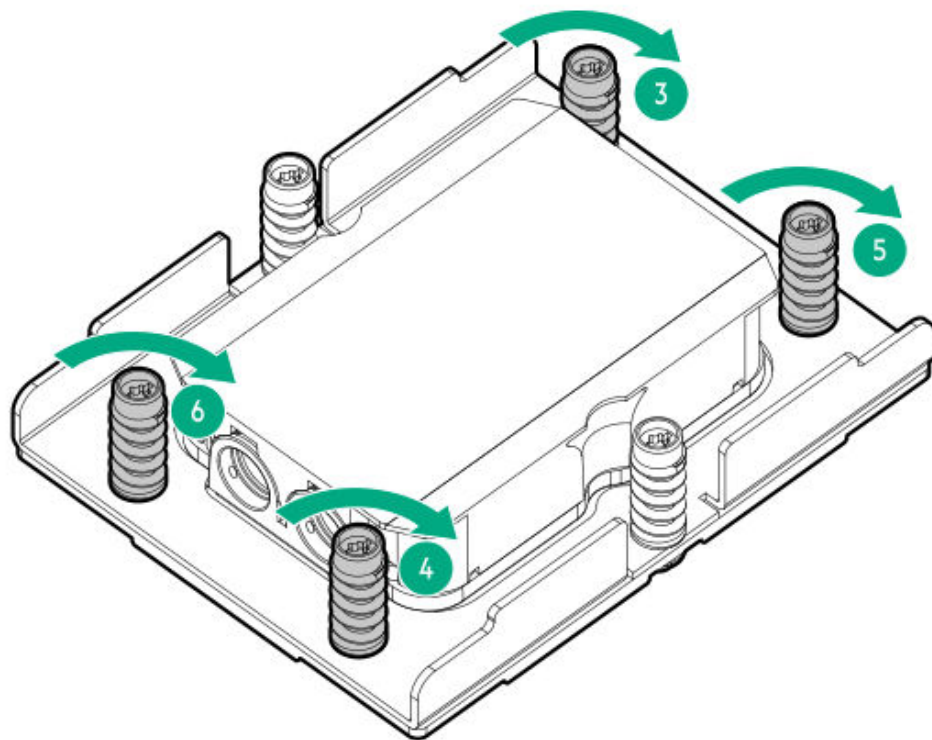
The NS204i-u + secondary low-profile riser cage is shown. Your riser cage may look different depending on the riser and DLC options installed.



4. Tighten the cold-plate screws:
 - a. Tighten the cold-plate screw numbers 1 and 2 (callouts 1 and 2).
- The coolant hoses are not shown in the following cold-plate images.

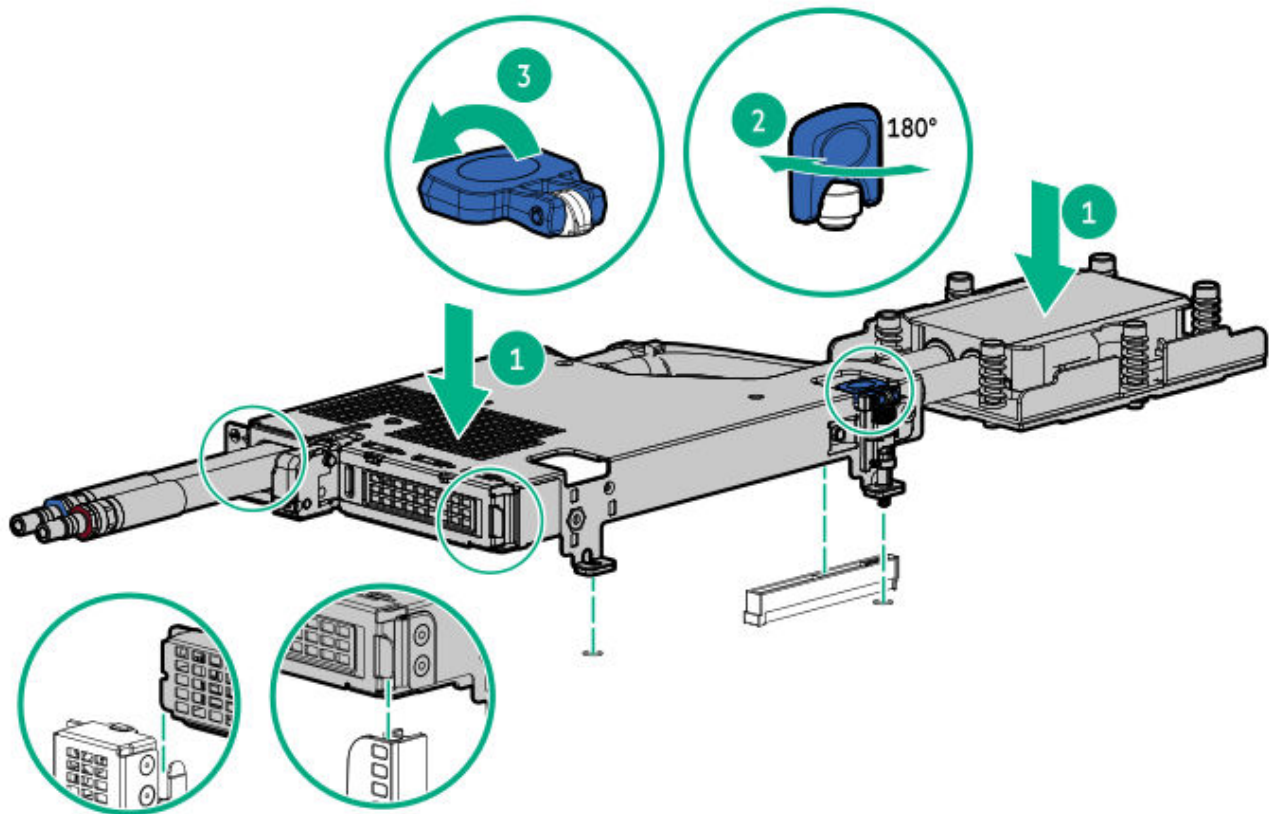


b. Tighten the cold-plate screw numbers 3, 4, 5, and 6 in a diagonal manner (callouts 3 to 6).



5. Install the riser cage.

The NS204i-u + secondary low-profile riser cage is shown. Your riser cage may look different depending on the riser and DLC options installed.



6. Reconnect the storage controller cables if needed.
7. Install the air baffle.
8. Install the access panel.
9. If the server was removed from an enclosure or a rack, reinstall it now.
10. Connect the direct liquid cooling kit from the DLC manifold to the server.
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.

Checking coolant level

15. After powering up the server, wait for a few minutes for the system to stabilize.

- .6. Check the coolant level in the coolant distribution unit (CDU).
- .7. If the coolant feed (CF) pump reservoir bag is empty, or the return pressure is ≤ 10 PSIG, do one of the following:
 - Refill the CF pump reservoir bag.
 - Refill the system using a hand pump.

For detailed procedures, see the CDU documentation.

Results

The replacement procedure is complete.

Processor replacement

Subtopics

Processor cautions

Saving the custom user-defined BIOS configuration settings before a processor generation change

Removing the processor

Installing the processor

Restoring the custom user-defined BIOS configuration settings

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

To prevent possible server malfunction and damage to the equipment, multiprocessor configurations must contain processors with the same part number.



CAUTION

The pins on the processor socket and on the processor are very fragile and easily damaged. To avoid component damage, **do not touch these pins.** Any damage to them might require replacing the system board and/or processor.



IMPORTANT

Processor socket 1 must be populated at all times or the server does not function.



IMPORTANT

If installing a processor with a faster speed, update the system ROM before installing the processor. To download firmware, go to the Hewlett Packard Enterprise Support Center website (<https://www.hpe.com/support/hpesc>).



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](#).

Saving the custom user-defined BIOS configuration settings before a processor generation change

About this task

When the system detects that a different generation processor model is installed during processor replacement, the BIOS configuration settings automatically reset. This settings reset happens when replacing a 4th Gen AMD EPYC processor with a 5th Gen AMD EPYC processor or vice versa.

When there are no saved custom user-defined configuration settings, the manufacturing default settings will be loaded during the reset. To retain the current configuration settings, save them as custom user-defined default 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) > System Default Options > User Default Options**.
3. Select **Save User Defaults > Yes, Save**.
4. To confirm and save the settings, press **F12**.

The server automatically reboots.

Removing the processor

Prerequisites

- If you are replacing the processor with a different generation processor model, save the custom user-defined BIOS configuration settings.
- Identify the processor and socket components.
- Review the processor cautions.
- Before you perform this procedure, make sure that you have the following items available:
 - T-20 Torx screwdriver
 - Alcohol wipe

About this task

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00005134en_us&noframe



WARNING

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



CAUTION

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

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the air baffle.
8. If using the liquid cooling heatsink, do the following:
 - Remove the middle cover.
 - Remove all fans.
 - Remove the liquid cooling heatsink.

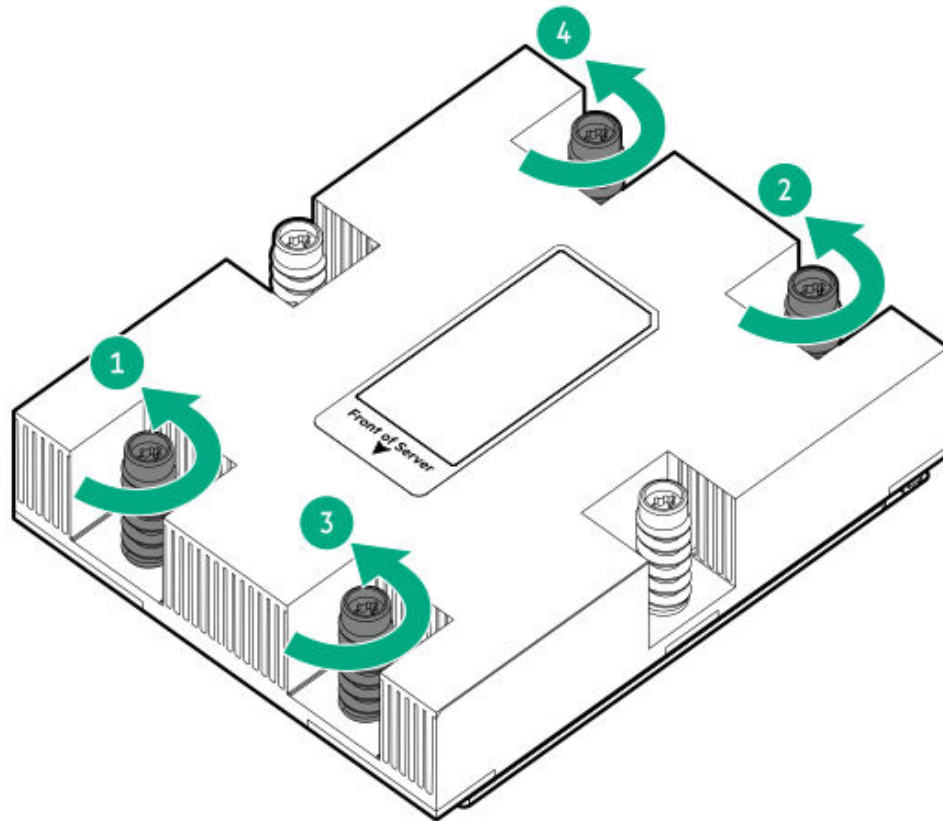
9. Remove the heatsink:



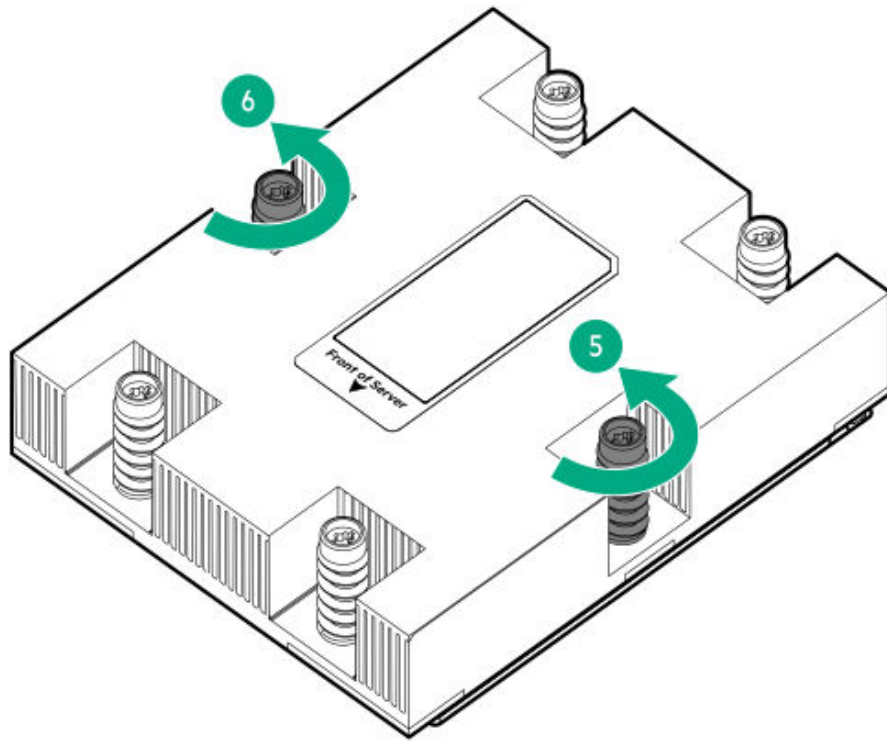
CAUTION

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 its base plate. Do not touch the heatsink fins.

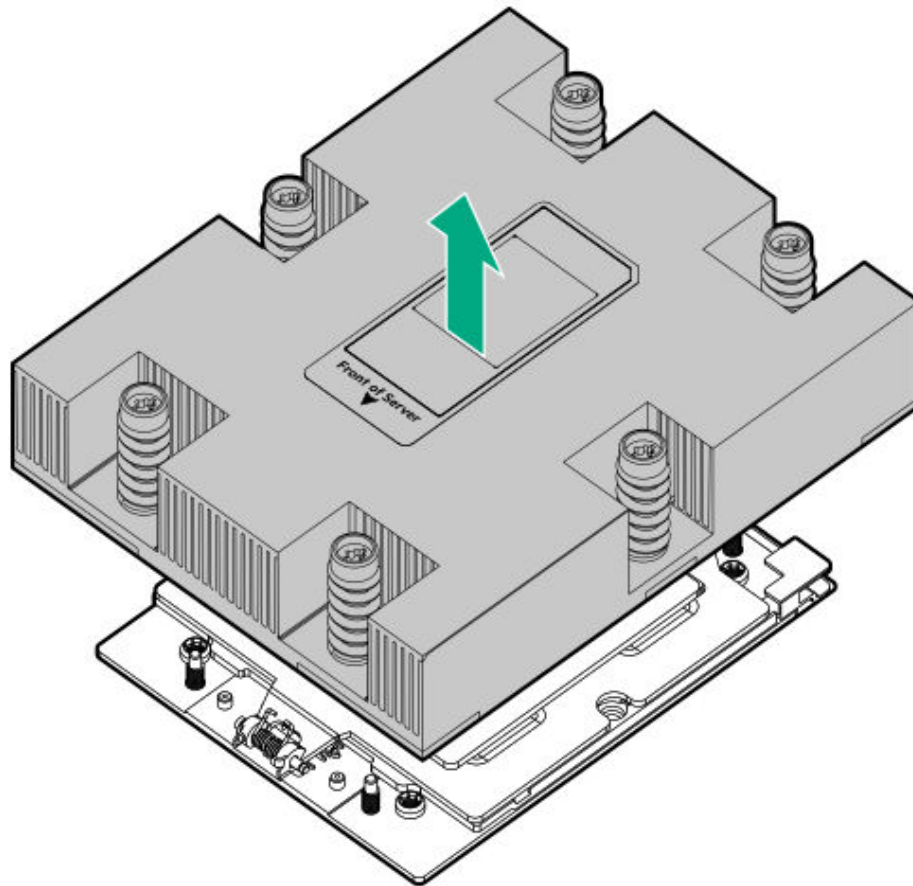
- a. Review the heatsink screw numbering on the heatsink label.
- b. Loosen the heatsink screw numbers 6, 5, 4, and 3 in a diagonal manner (callouts 1 to 4).



- c. Loosen the heatsink screw numbers 2 and 1 (callouts 5 and 6).

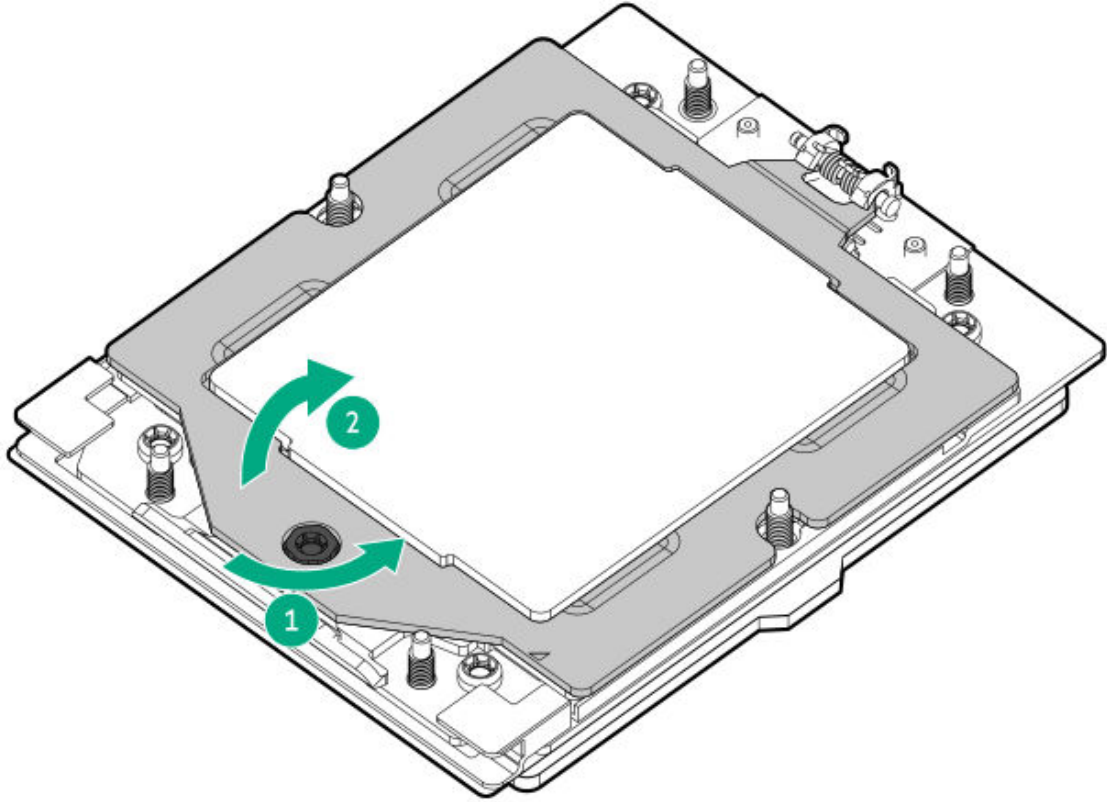


5. Lift the heatsink away from the processor socket.

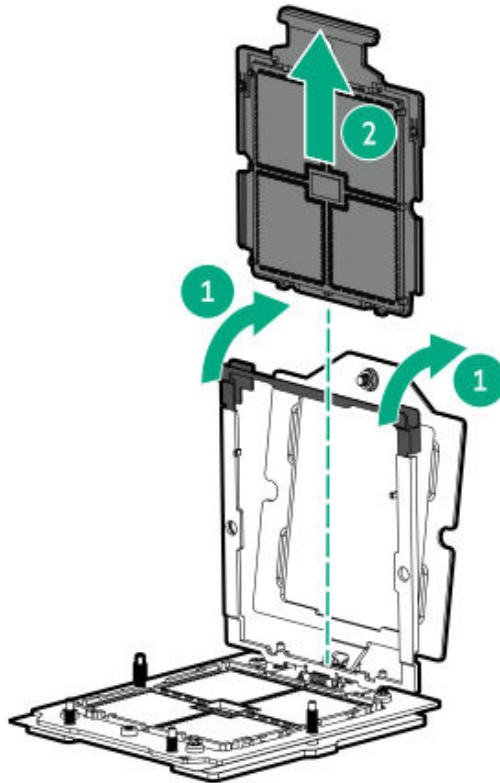


- .1. Place the heatsink on a flat work surface with its contact side facing up.
- .2. Use an alcohol wipe to remove the existing thermal grease from the heatsink and processor.
Allow the alcohol to evaporate before continuing.
- .3. Remove the processor:
 - a. While holding the sides of the retention frame, loosen the frame screw.

This retention frame is spring-loaded. After the screw is loosened enough, hold the retention frame as it automatically pivots to a vertical position.



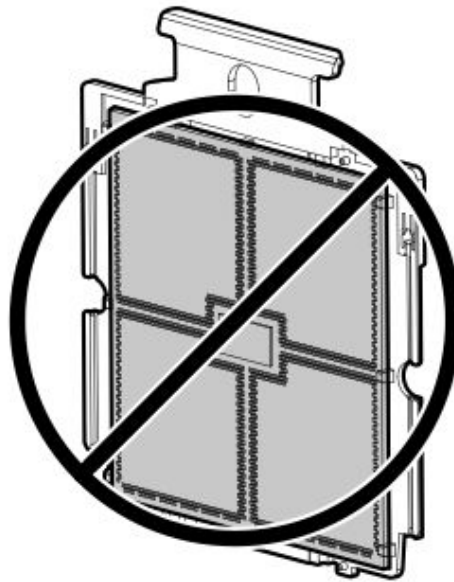
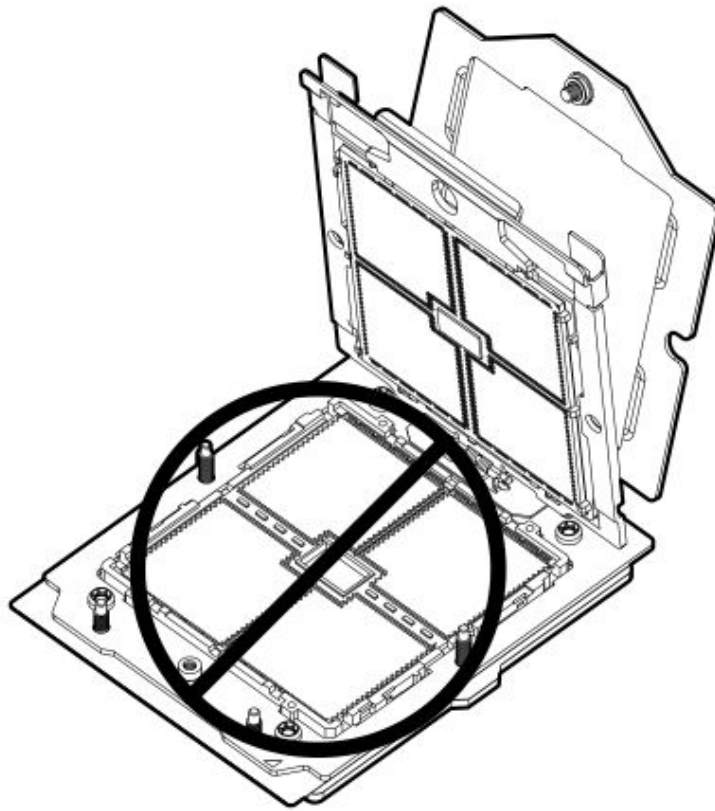
- b. Hold the lift tabs and pivot the rail frame to the vertical position.
- c. Slide the processor out of the rail frame.



CAUTION

The pins on the processor socket and on the processor are very fragile and easily damaged. To avoid component damage, **do not touch these pins.** Any damage to them might require replacing the system board and/or processor.

4. Do not touch the pin field on the socket and the processor contacts.



Installing the processor

Prerequisites

- [Identify the processor and socket components.](#)
- [Review the processor cautions.](#)
- Before you perform this procedure, make sure that you have the following items available:
 - Torque screwdriver with T-20 Torx bit
 - Thermal grease

About this task

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00005134en_us&noframe

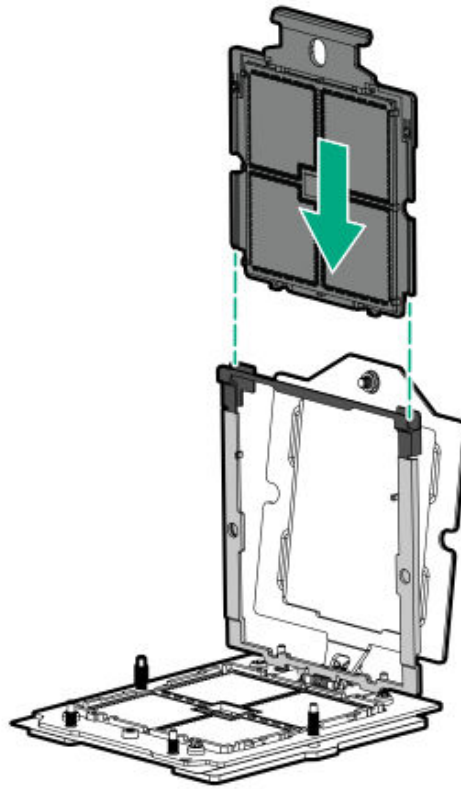


CAUTION

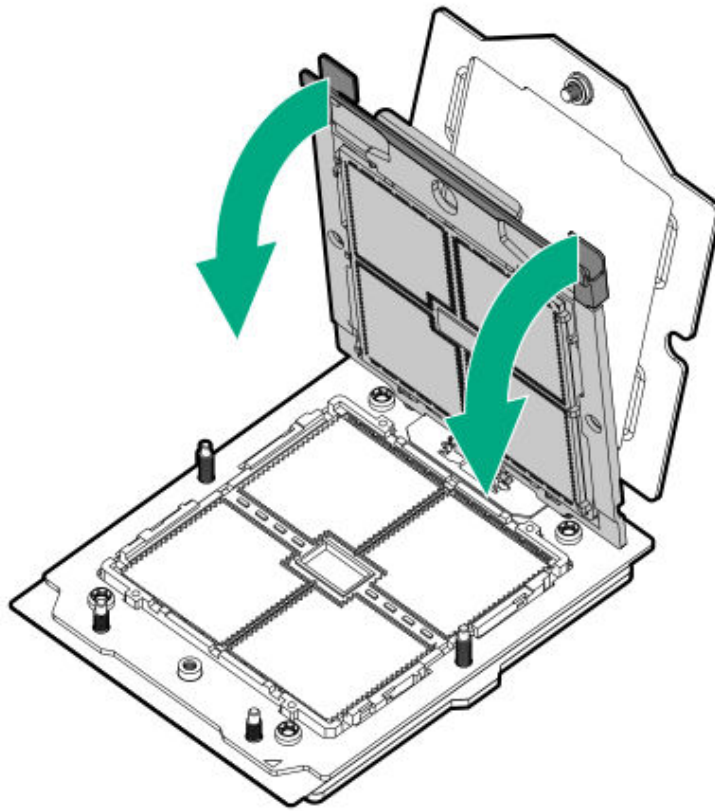
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

Procedure

1. Install the processor:
 - a. Hold the processor by its carrier handle.
 - b. Slide the processor into the rail frame until it engages with a click sound.

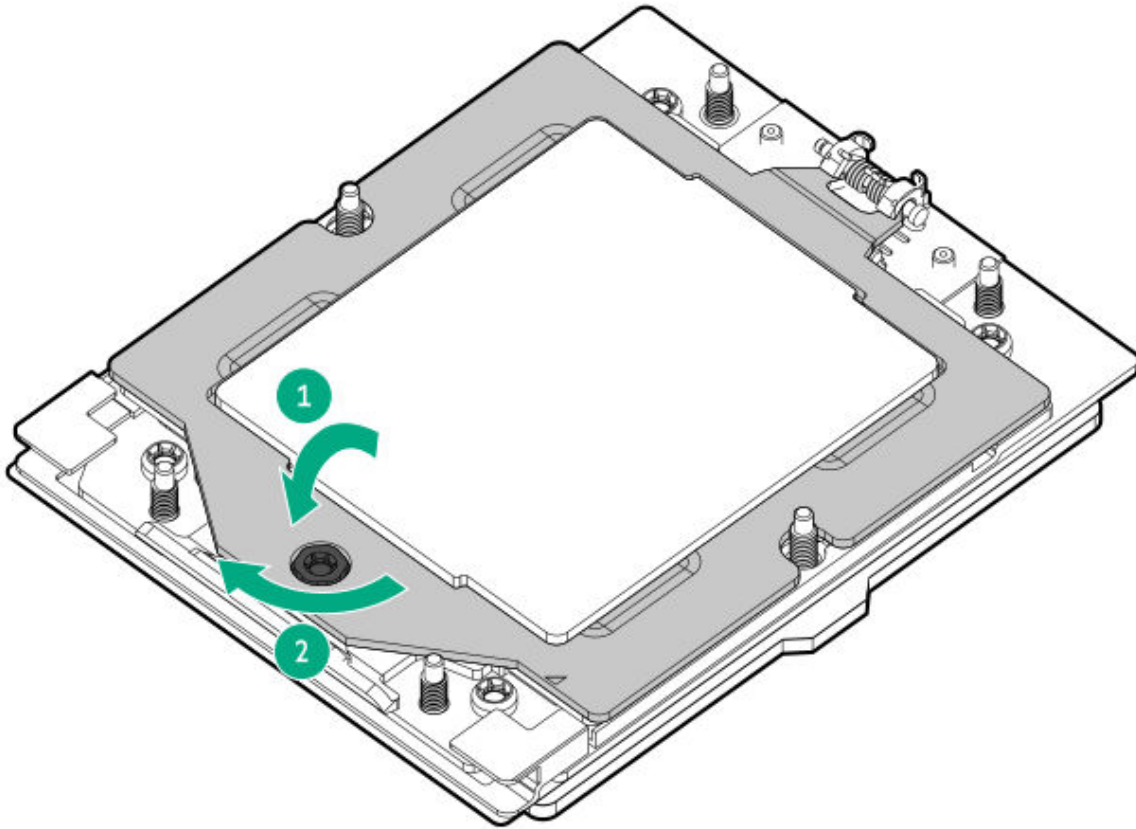


2. Hold the lift tabs and pivot the rail frame to the closed position.
A click sound indicates that the rail frame is properly engaged.

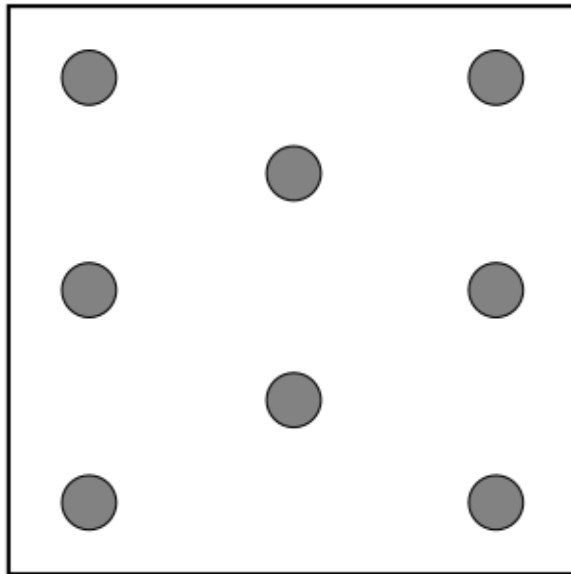


3. Close the retention frame:

- a. When using a torque screwdriver to tighten the retention frame screw, set a torque between 1.24 N-m (11 lbf-in) to 1.47 N-m (13 lbf-in).
- b. Pivot the spring-loaded retention frame downward and hold it down.
- c. Tighten the retention frame screw.



4. If you are using the same heatsink, apply the full content of the thermal grease syringes on top of the processor. Follow the pattern shown in the following image.



5. If you are using a new heatsink, remove the thermal interface protective cover from the heatsink.
6. Install the heatsink:

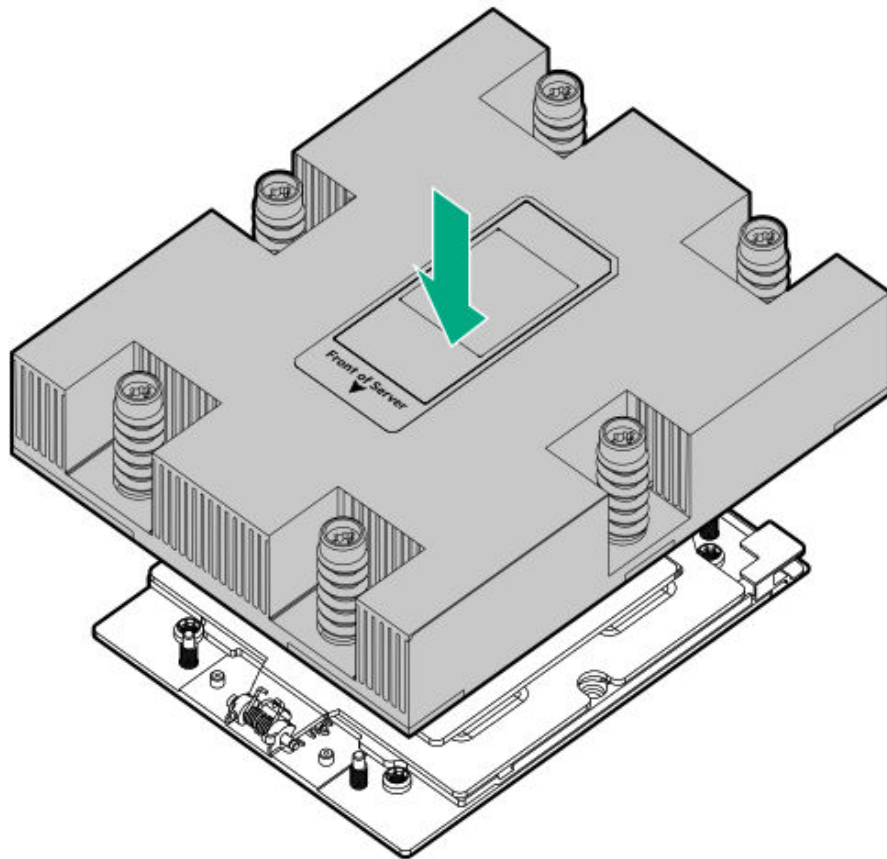
**CAUTION**

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 its base plate. Do not touch the heatsink fins.

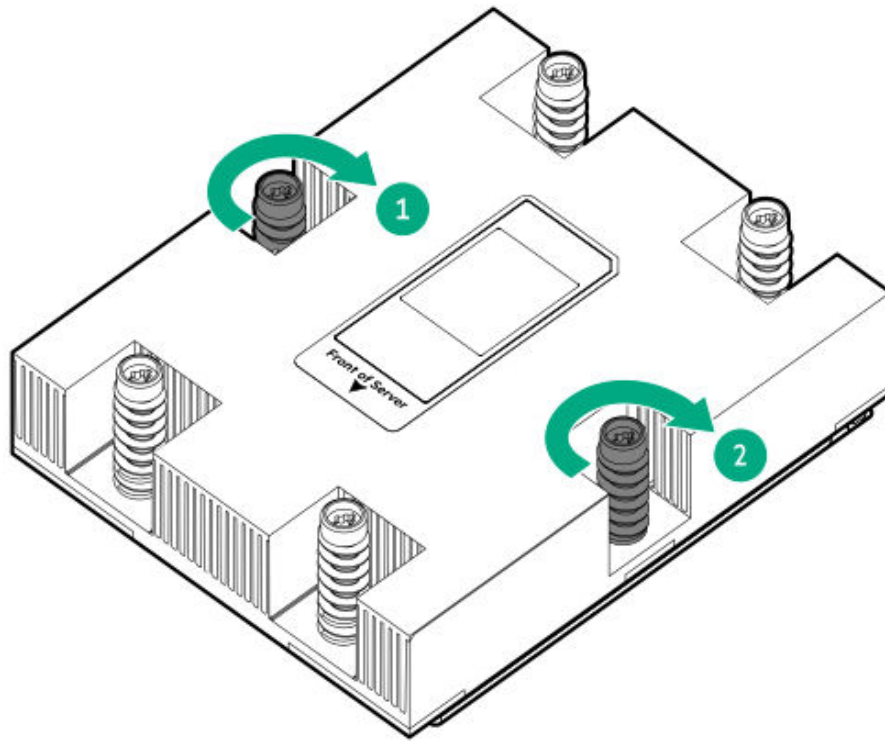
**CAUTION**

To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

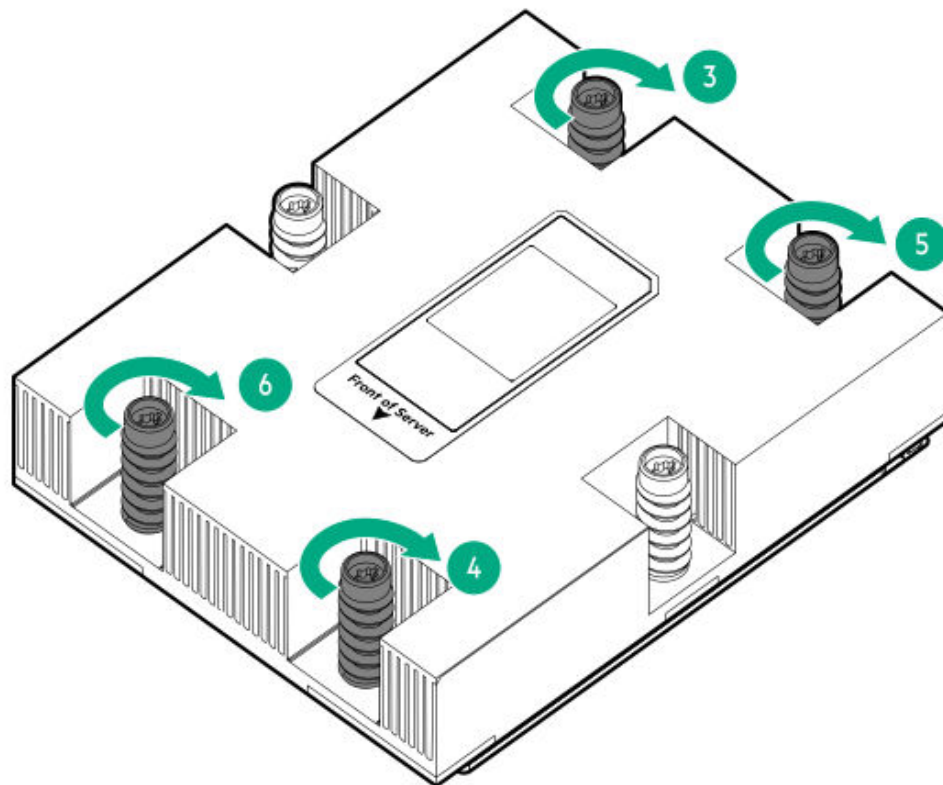
- a. When using a torque screwdriver to tighten the heatsink screws, set a torque between 1.24 N-m (11 lbf-in) to 1.47 N-m (13 lbf-in).
- b. Note the **Front of server** text on the heatsink label to correctly orient the heatsink over the processor socket.
- c. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.



d. Tighten the heatsink screw numbers 1 and 2 (callouts 1 and 2).



e. Tighten the heatsink screw numbers 3, 4, 5, and 6 in a diagonal manner (callouts 3 to 6).



7. If removed, install the liquid cooling heatsink.
8. Install the air baffle and other removed hardware components.
9. Install the access panel.
- .0. Install the server into the rack.
- .1. Connect all peripheral cables to the server.
- .2. Connect the power cords:
 - a. Connect each power cord to the server.
 - b. Connect each power cord to the power source.
- .3. Power up the server.
- .4. If the new processor installed is of a different processor generation from the original one, restore the custom user-defined BIOS configuration settings.
- .5. Reconfigure the system date and time settings.

Results

The replacement procedure is complete.

Restoring the custom user-defined BIOS configuration 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) > System Default Options > Restore Default System Settings**.
3. Select **Yes, restore the default settings**.
4. To confirm and save the settings, press **F12**.

The server automatically reboots.

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.
 - **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.

Expansion card replacement

Subtopics

Removing and replacing the expansion card

Removing and replacing the expansion card from the NS204i-u + secondary low-profile riser cage

Removing and replacing the expansion card

Prerequisites

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

About this task



CAUTION

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



CAUTION

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

When installing the replacement component:

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

Procedure

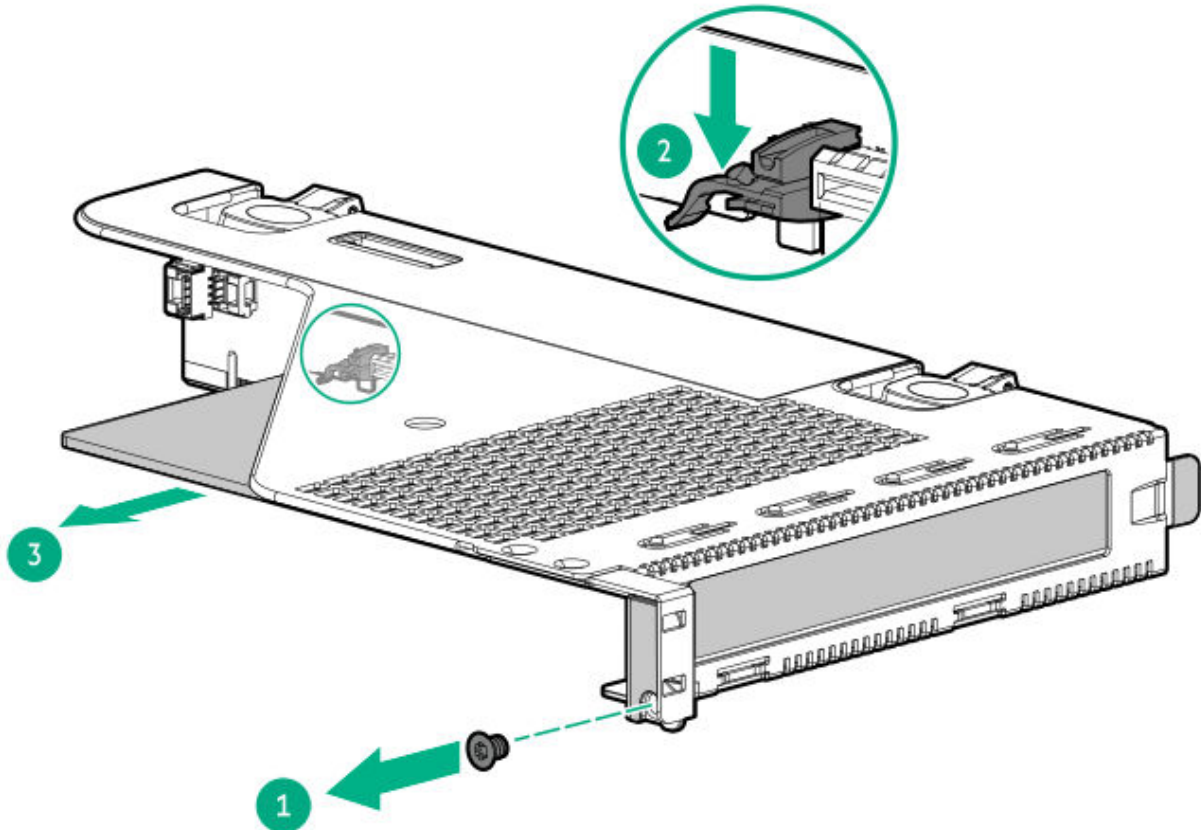
1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the riser cage.
8. Disconnect all cables from the expansion card.

9. Remove the expansion card:

- a. Remove the screw.

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

- b. Press and hold the release latch.
- c. Detach the expansion card from the riser.



Results

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

Removing and replacing the expansion card from the NS204i-u + secondary low-profile riser cage

Prerequisites

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

About this task

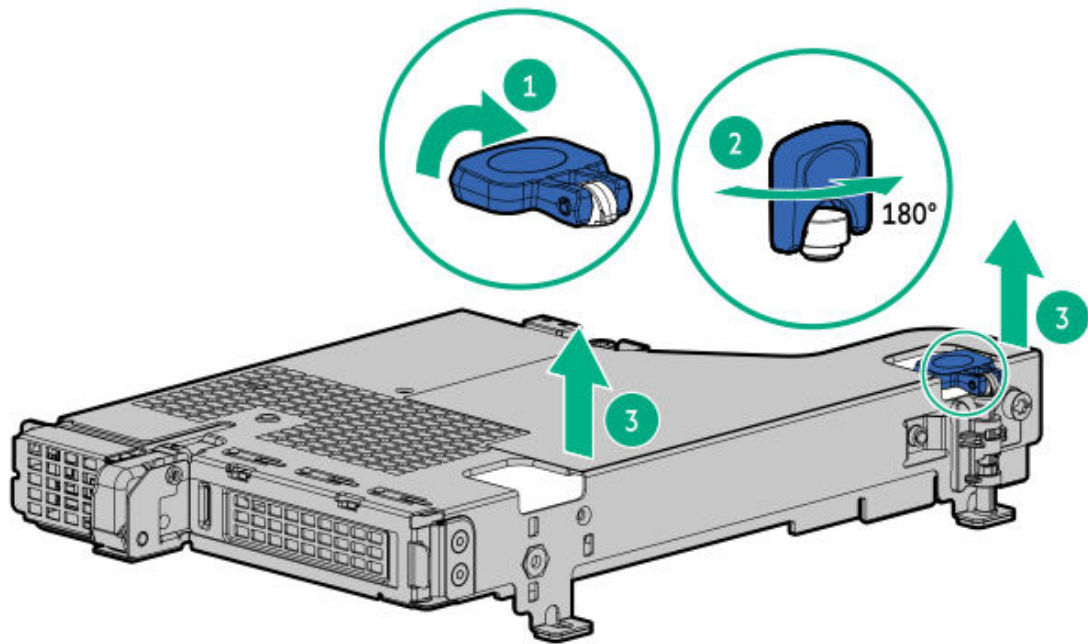


CAUTION

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

Procedure

1. [Power down the server](#).
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. [Remove the server from the rack](#).
5. Place the server on a flat, level work surface.
6. [Remove the access panel](#).
7. Remove the NS204i-u + secondary low-profile riser cage:
 - a. Release the half-turn spring latch.
 - b. Lift the riser cage off the system board.



8. If installed, disconnect all cables from boot device and expansion card.

9. Remove the expansion card:

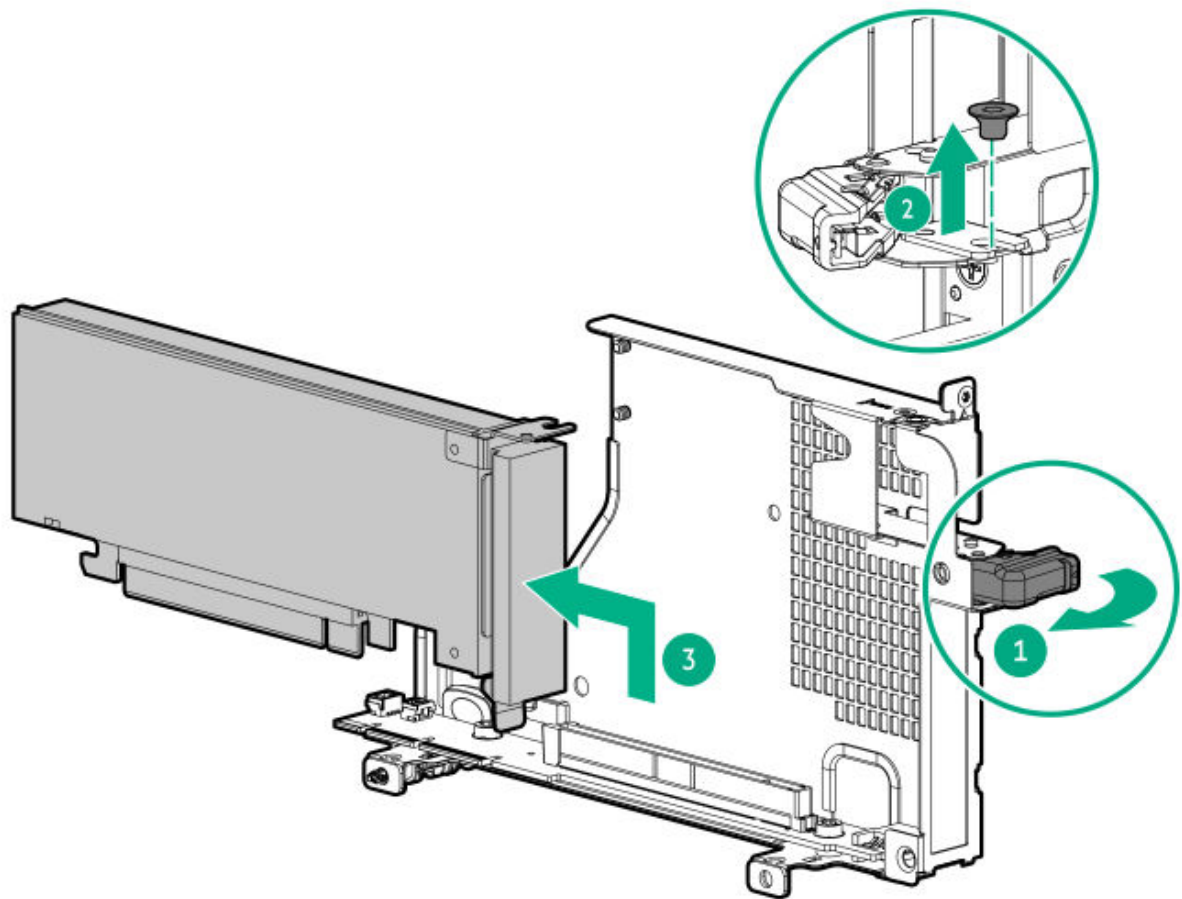
a. Pivot the riser cage to the vertical position.

b. Open the retention latch.

c. Remove the expansion card screw.

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

d. Remove the expansion card from the riser cage.



Results

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

GPU replacement

Subtopics

[Removing and replacing the GPU from the GPU riser cage](#)

[Removing and replacing the GPU riser](#)

[Removing and replacing the GPU from the primary riser](#)

Removing and replacing the GPU from the GPU riser cage

Prerequisites

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

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

About this task



CAUTION

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

When installing the replacement component:

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

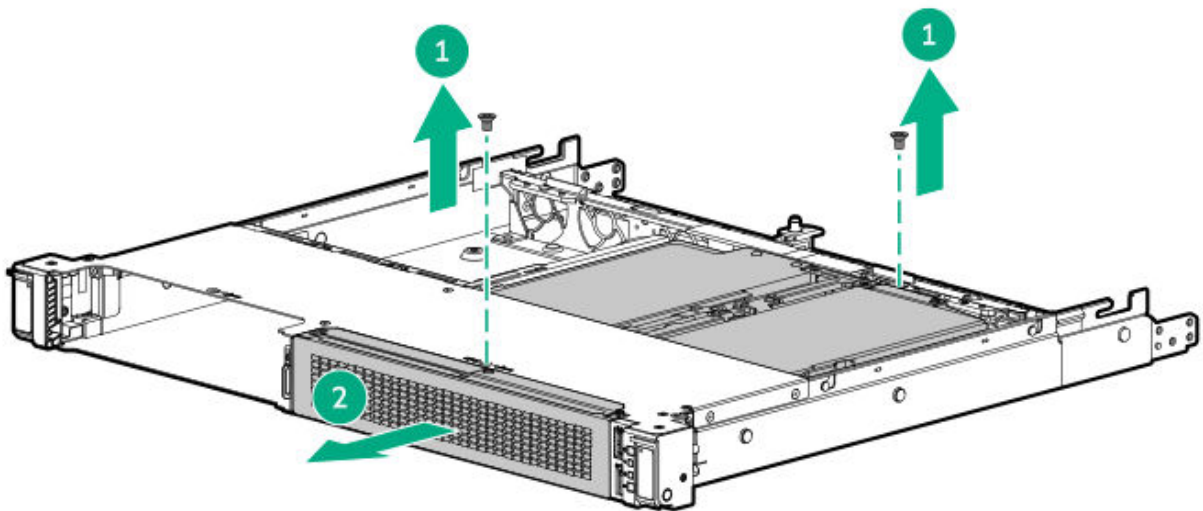
Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the middle cover.
8. Disconnect the following cables from the system board:
 - GPU auxiliary power cables

- GPU riser cables

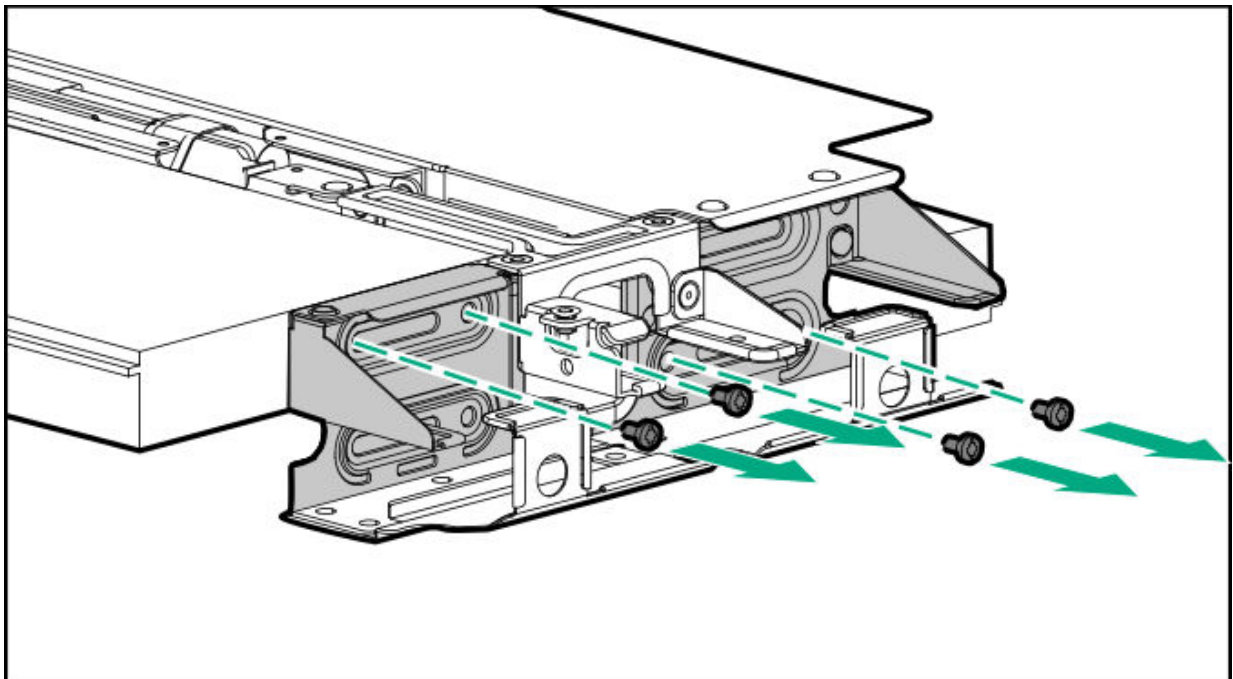
9. Remove the GPU riser cage:

- Make sure that all GPU riser cage cables are released from the fan wall and the cable foam.
- Remove the screws.
- Remove the GPU riser cage from the chassis.

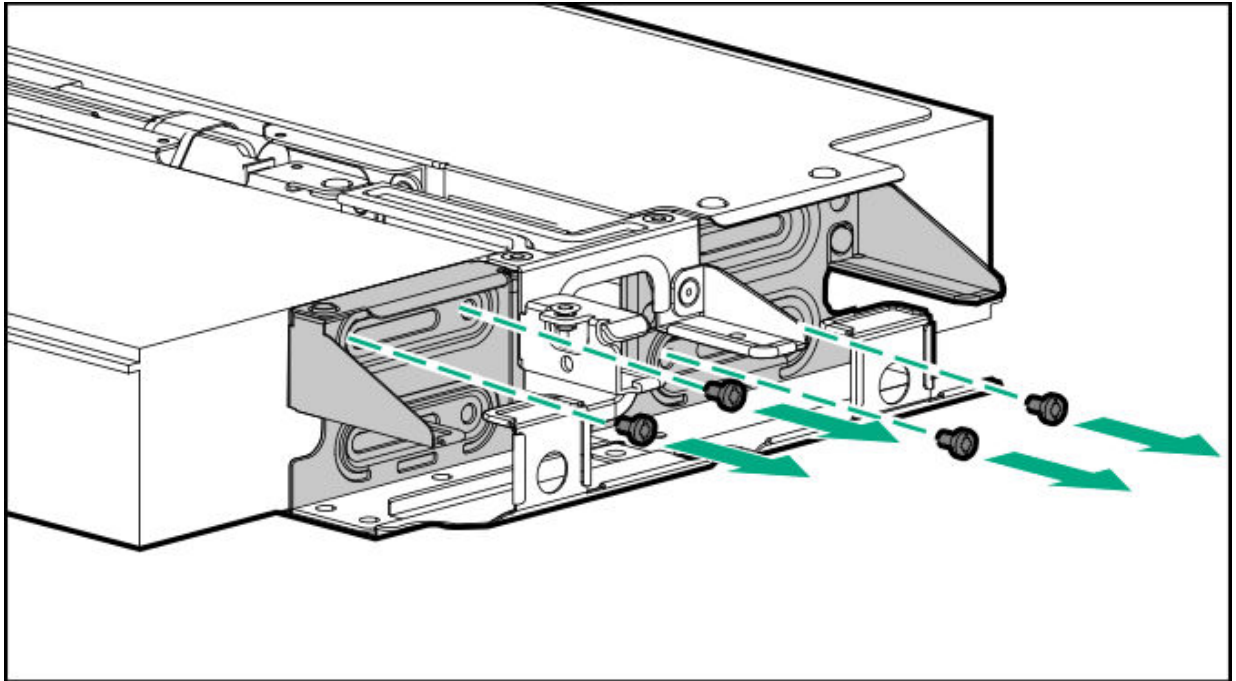


10. Remove the screws from the GPU riser cage.

- Single-width GPU



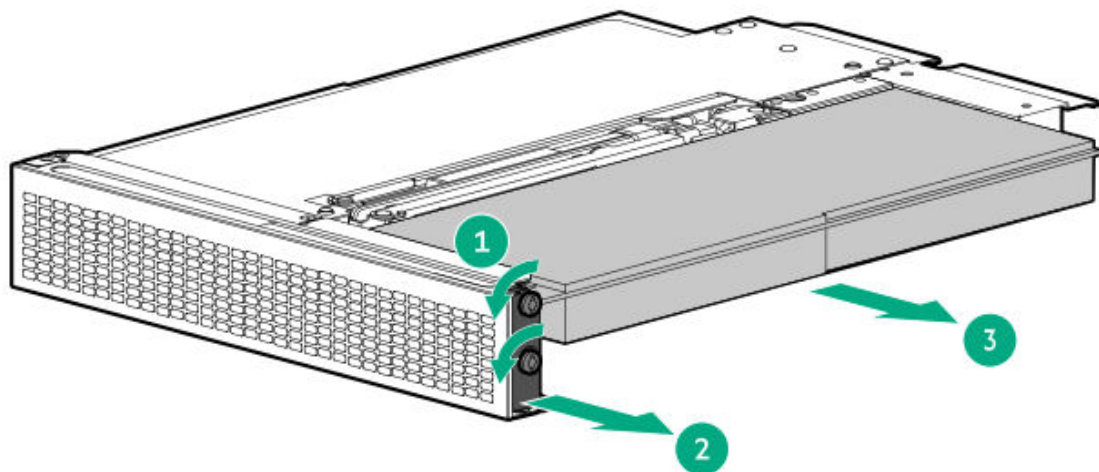
- Double-width GPU



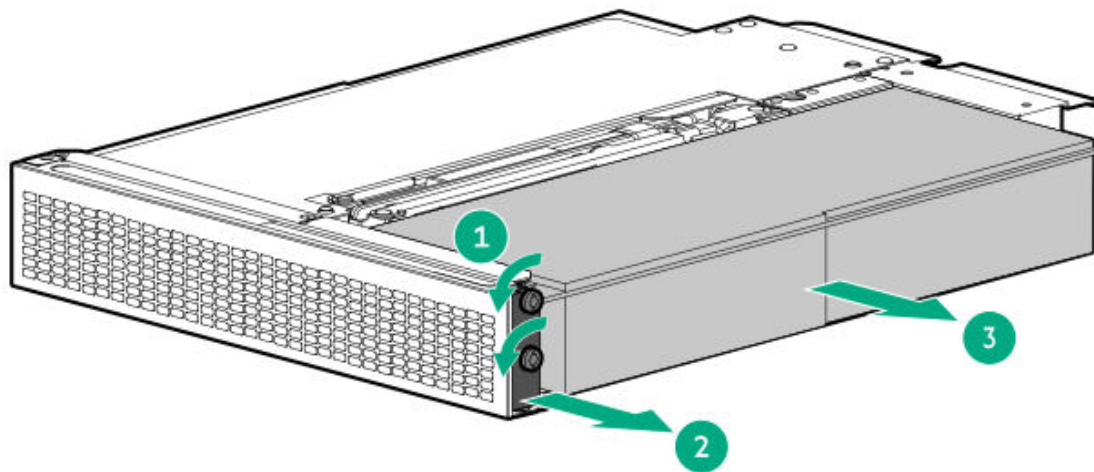
.1. Remove the GPU:

- Loosen the GPU bracket retainer.
- Remove the GPU bracket retainer from the GPU riser cage.
- Remove the GPU from the GPU riser slot.

- Single-width GPU



- Double-width GPU



Results

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

Removing and replacing the GPU riser

Prerequisites

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

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

About this task



CAUTION

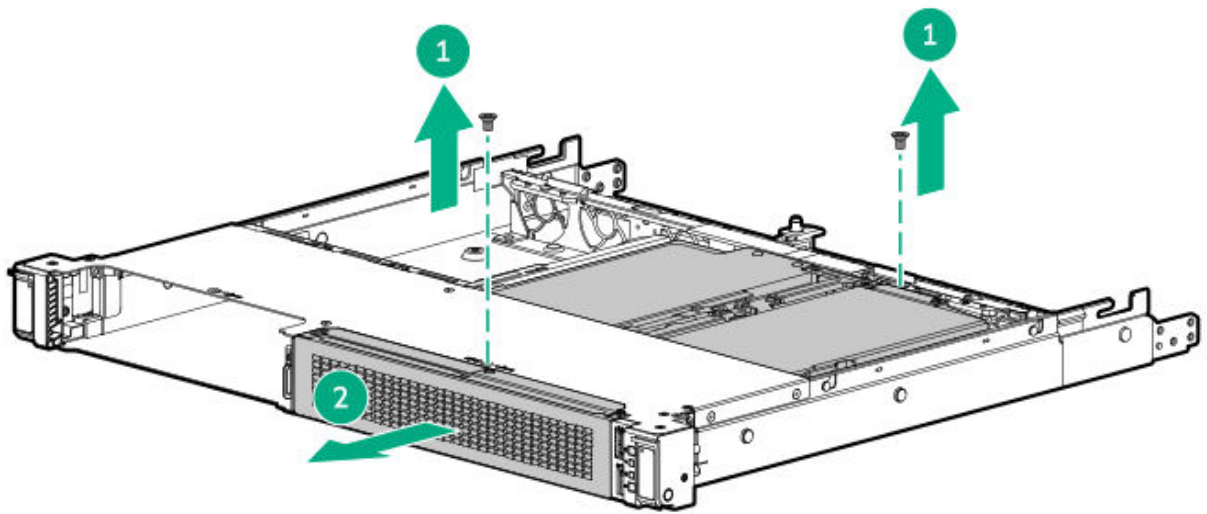
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

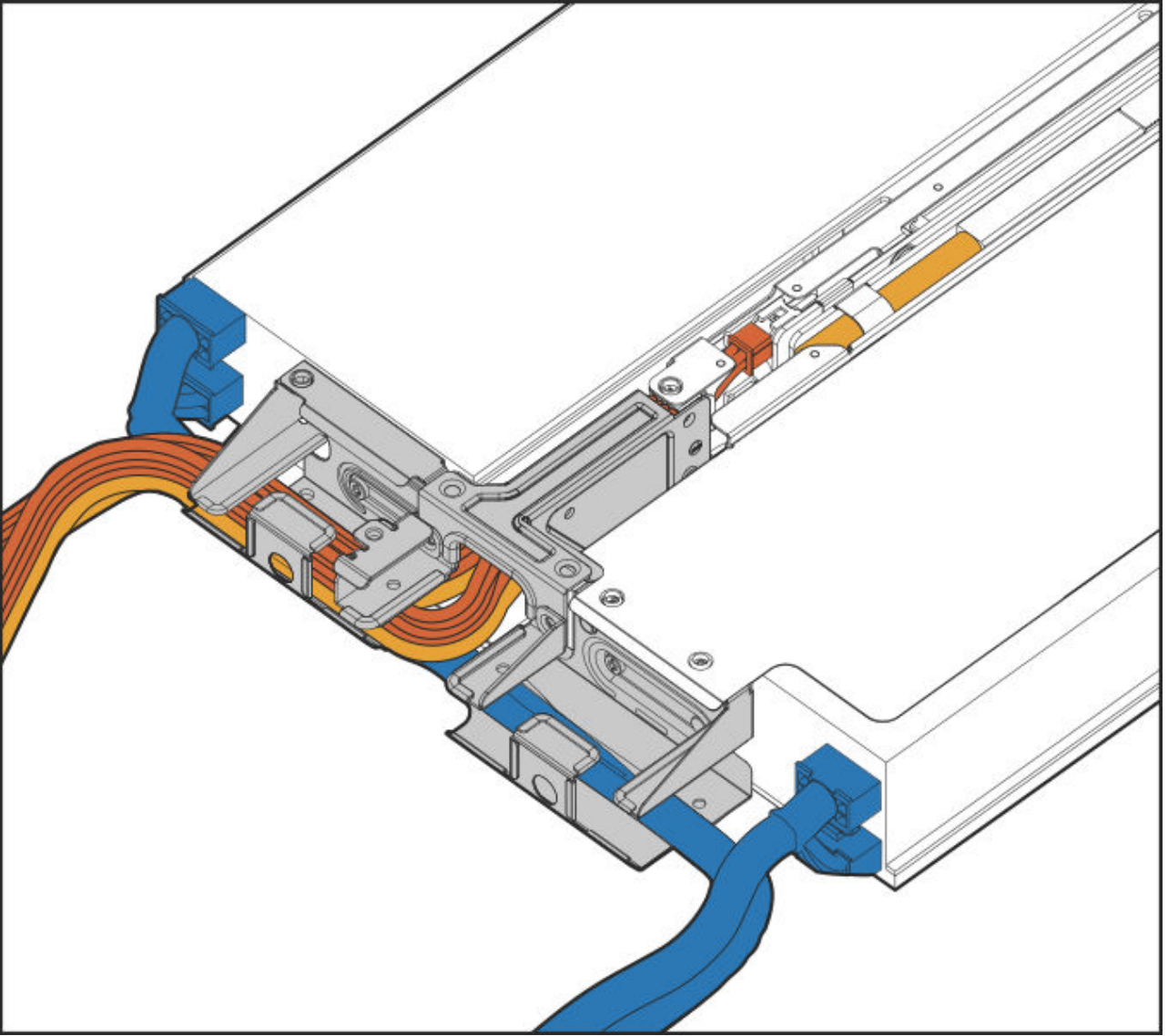
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the middle cover.
8. Disconnect the following cables from the system board:
 - GPU auxiliary power cables
 - GPU riser cables
9. Remove the GPU riser cage:
 - a. Make sure that all GPU riser cage cables are released from the fan wall and the cable foam.
 - b. Remove the screws.
 - c. Remove the GPU riser cage from the chassis.

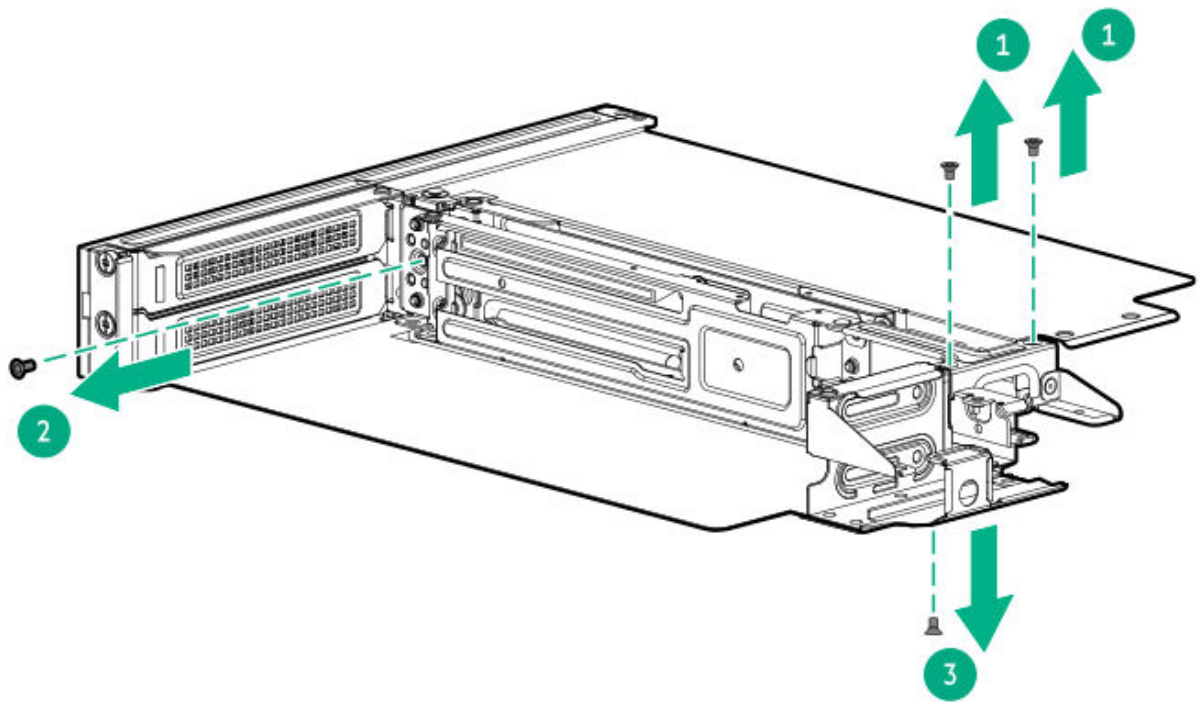


- .0. If installed, remove the GPU from the GPU riser cage.
- .1. Release the GPU auxiliary power cables and the GPU riser cables from the cable divider.

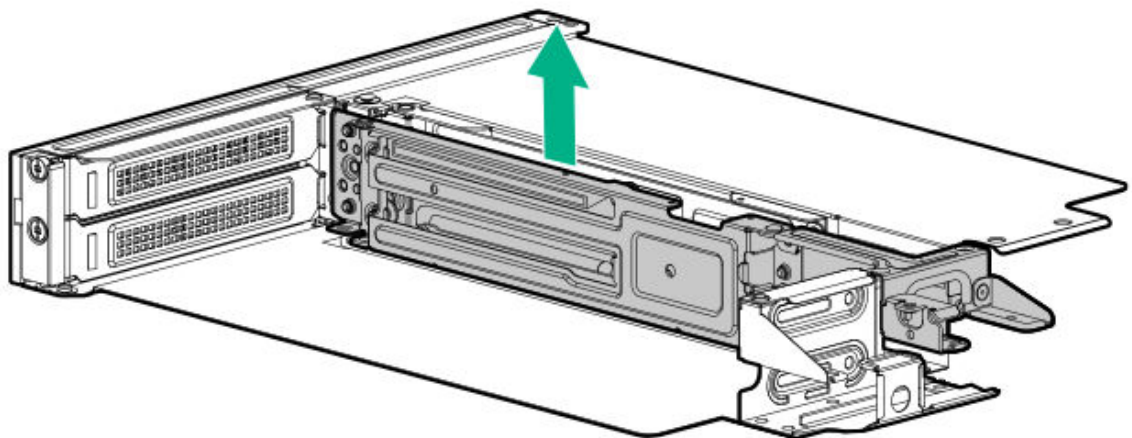


.2. Remove the GPU riser assembly:

- a. Remove all screws.

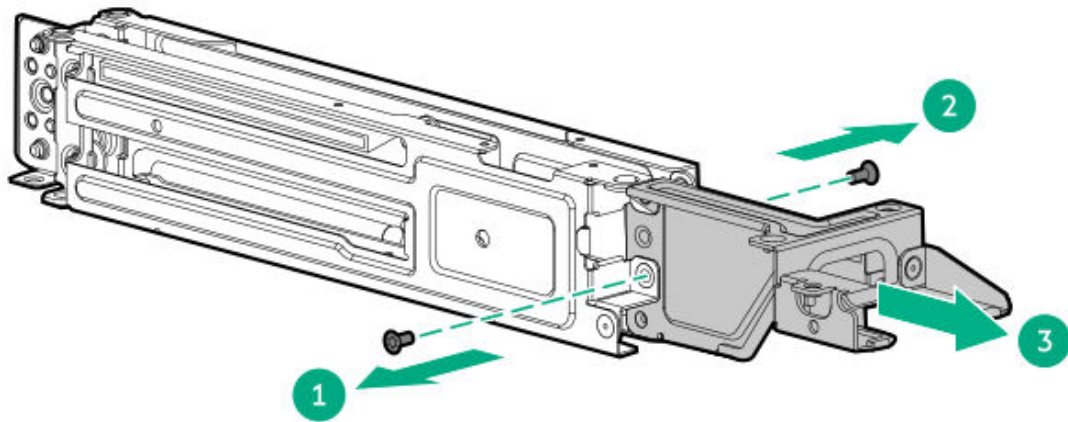


b. Remove the GPU riser assembly from the GPU riser cage.

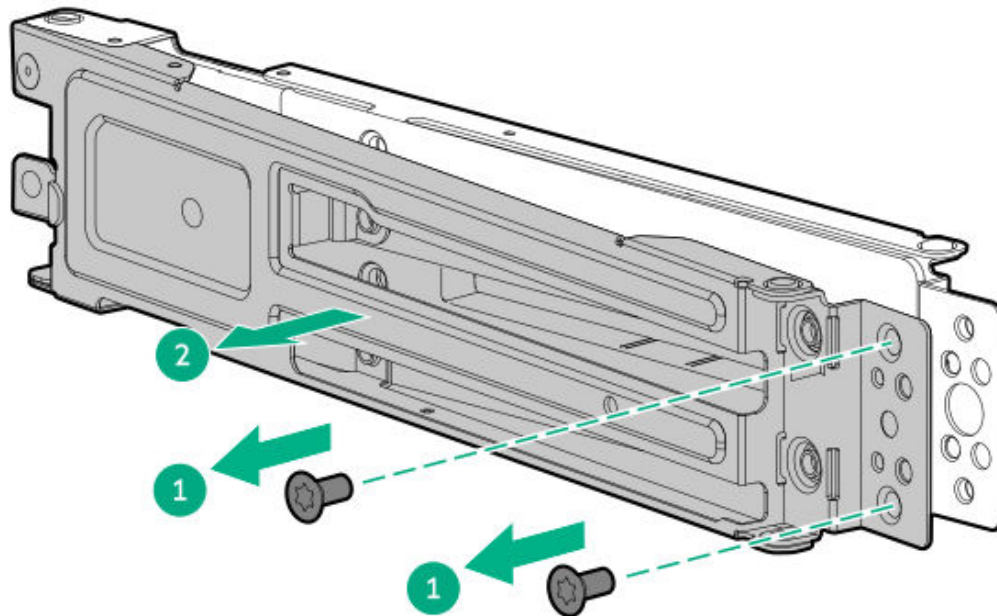


.3. Remove the GPU riser from the GPU riser assembly:

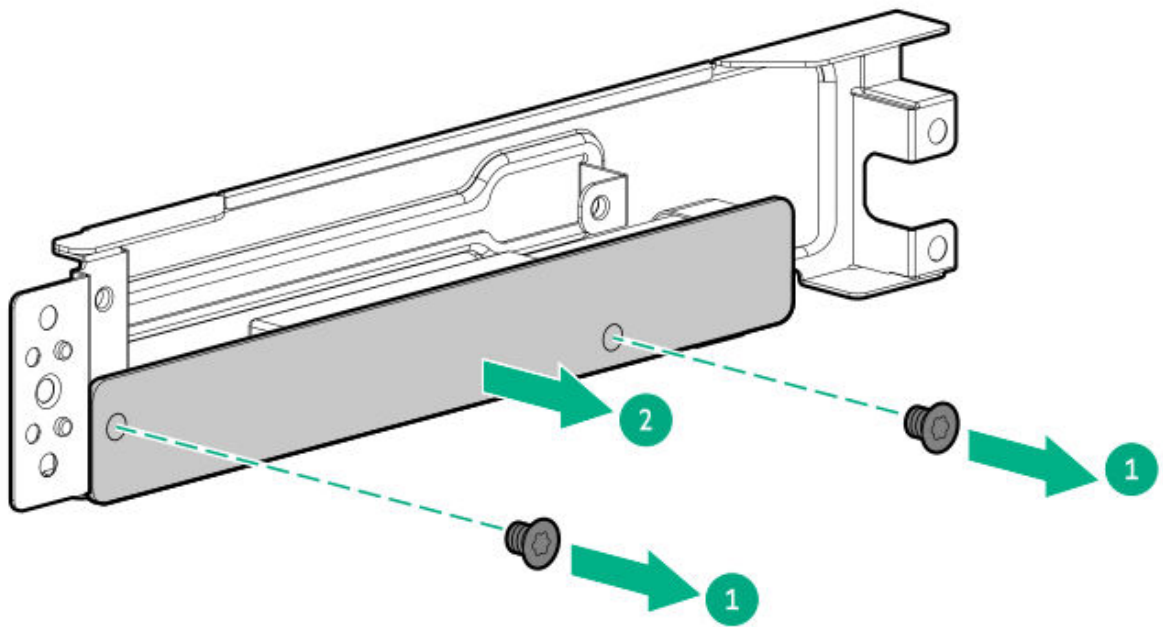
a. Remove the GPU cable divider.



b. Separate the GPU riser bracket from each other.



c. Remove the GPU riser from the GPU riser bracket.



Results

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

Removing and replacing the GPU from the primary riser

Prerequisites

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

About this task



CAUTION

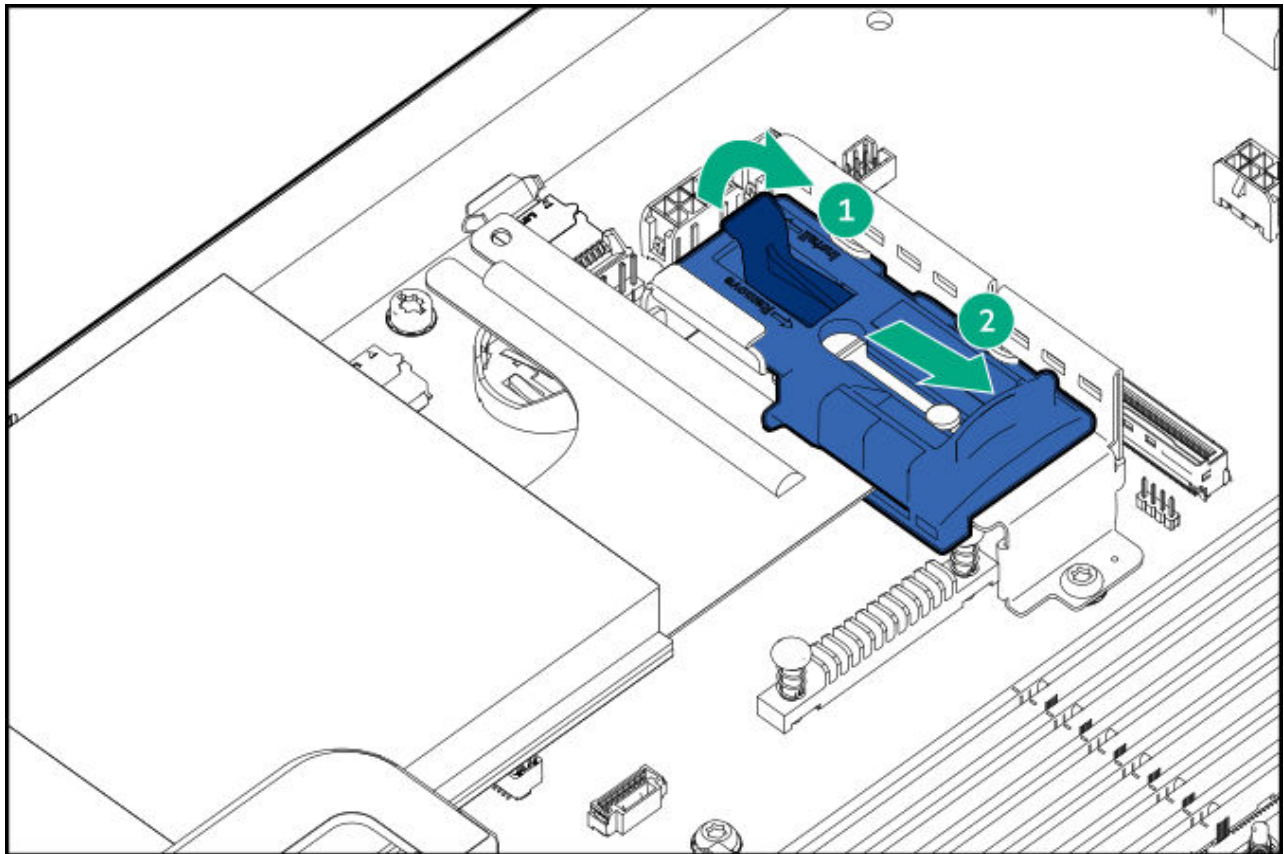
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

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

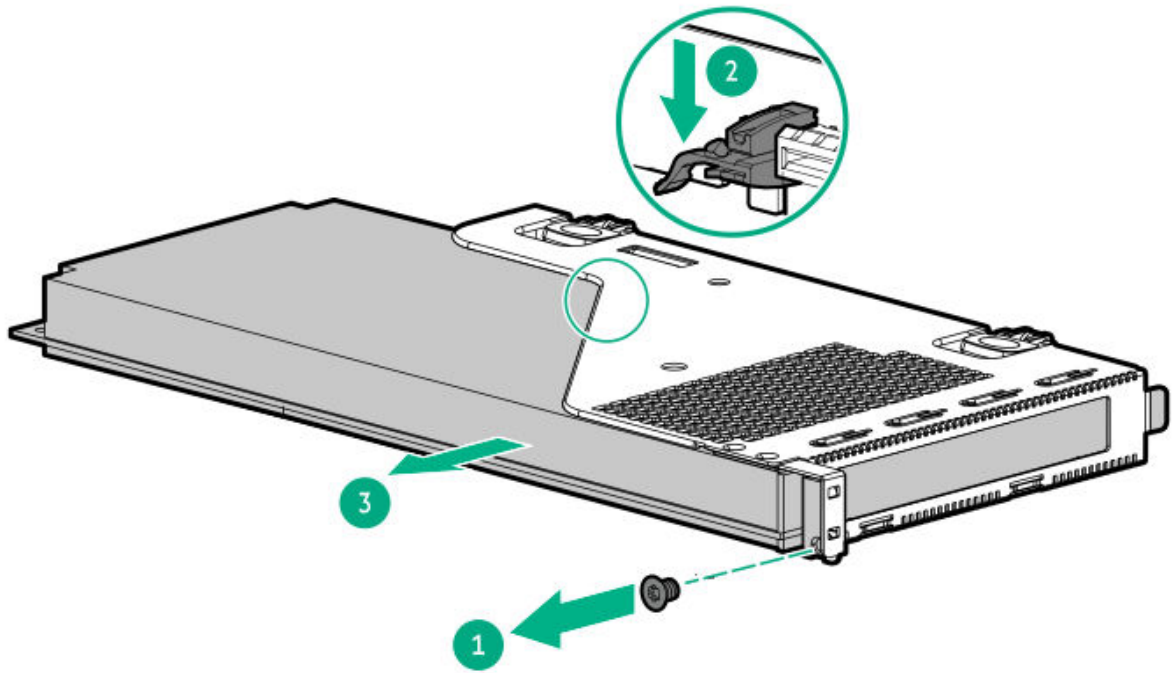
Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. If a full-length expansion card is installed, slide the card retainer to the open position.



8. Remove the riser cage.
9. Disconnect the auxiliary power cable from the GPU.
10. Remove the GPU from the primary riser:
 - a. Remove the screw.

Retain the screw. The screw will be used to secure the new GPU spare.
 - b. Press and hold the release latch.
 - c. Detach the GPU from the riser.



Results

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

Removing and replacing a type-o storage controller

About this task



CAUTION

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



CAUTION

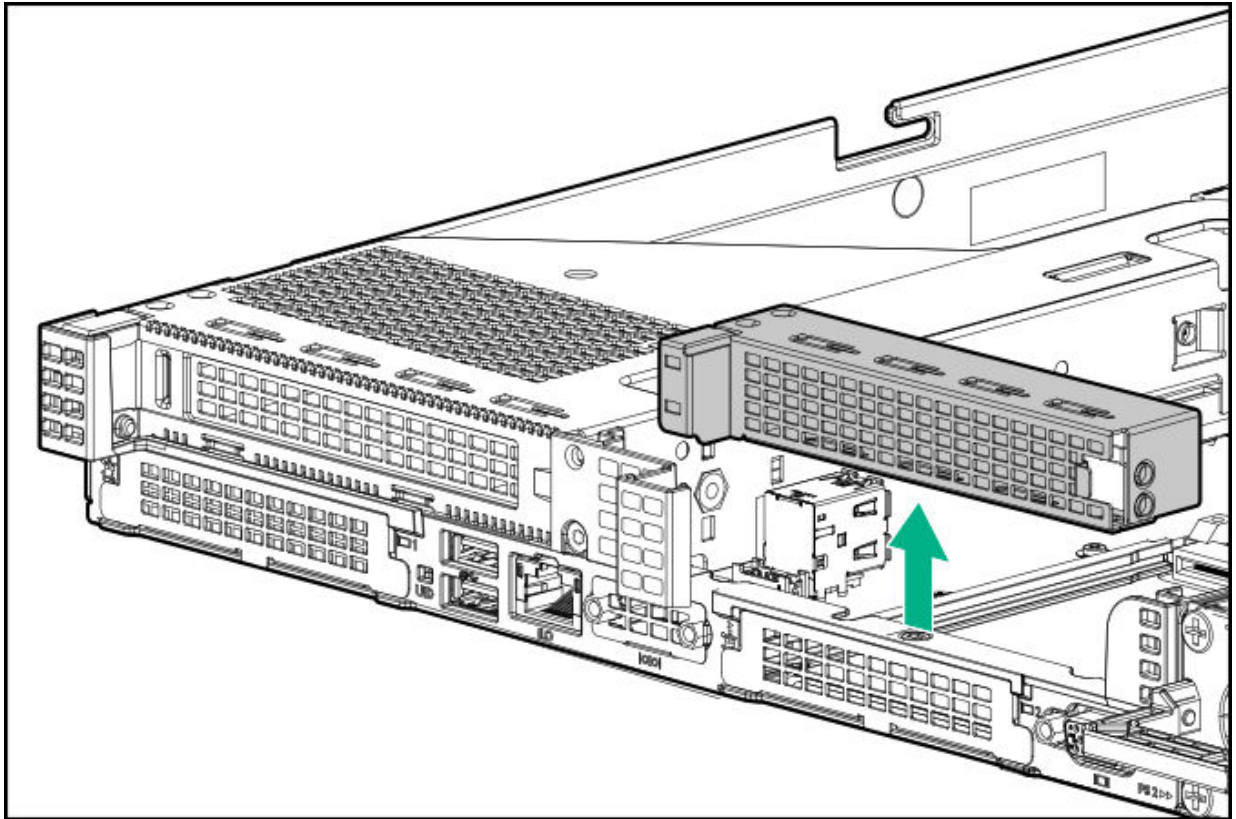
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

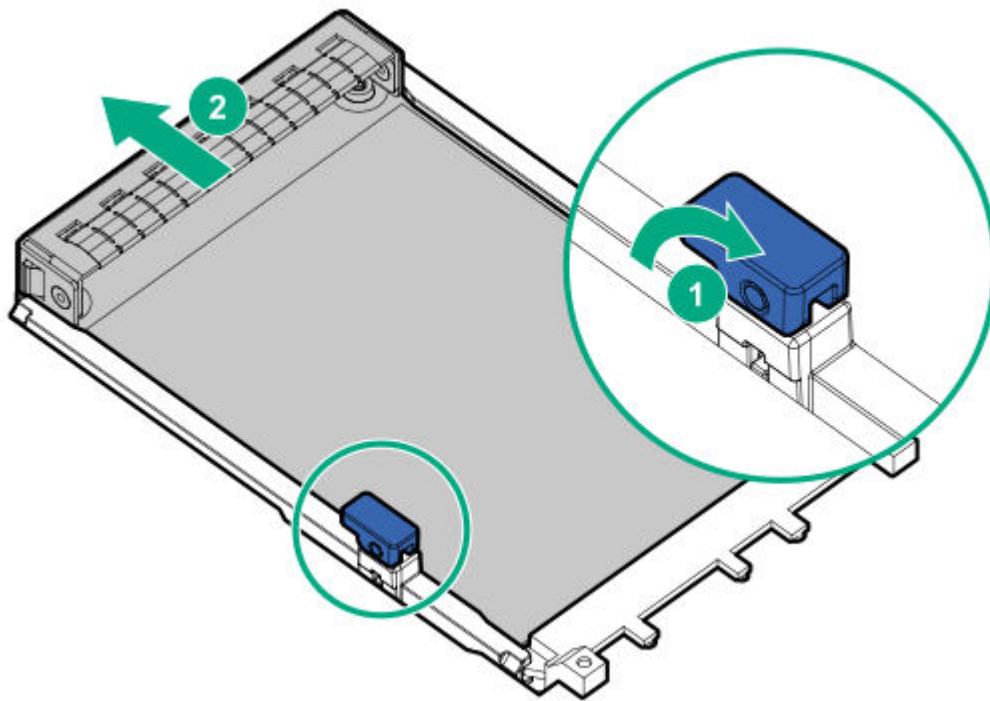
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Do one of the following:
 - Remove the secondary riser cage.
 - Remove the secondary riser cage blank.



- Remove the NS204i-u + secondary low-profile riser cage.
8. Disconnect the LP SlimSAS cable from the type-o storage controller.
 9. Remove the type-o storage controller:
 - a. Rotate the locking pin to the open (vertical) position.
 - b. Slide the controller out of the bay.



Results

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

M.2 pass-through card replacement

Subtopics

[Removing and replacing a M.2 SSD from the pass-through card](#)

[Removing and replacing the M.2 pass-through card](#)

Removing and replacing a M.2 SSD from the pass-through card

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.



CAUTION

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

When installing the replacement component:

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



IMPORTANT

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

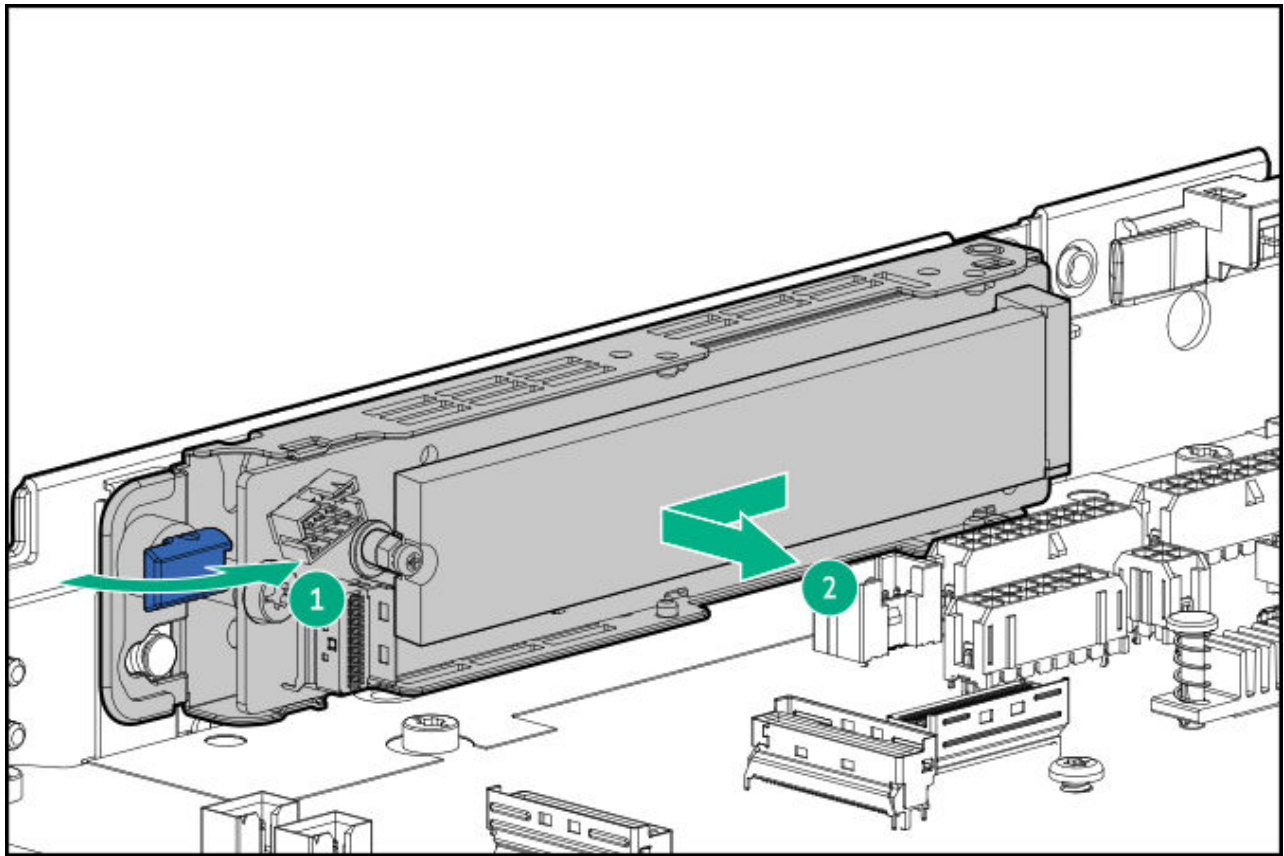
- In the iLO web interface, see the **Storage** page.
- In UEFI System Utilities, see **System Configuration > HPE NS204i Boot Controller > Physical Device Information**.

Configurations with SSDs from different manufacturers are not supported.

Procedure

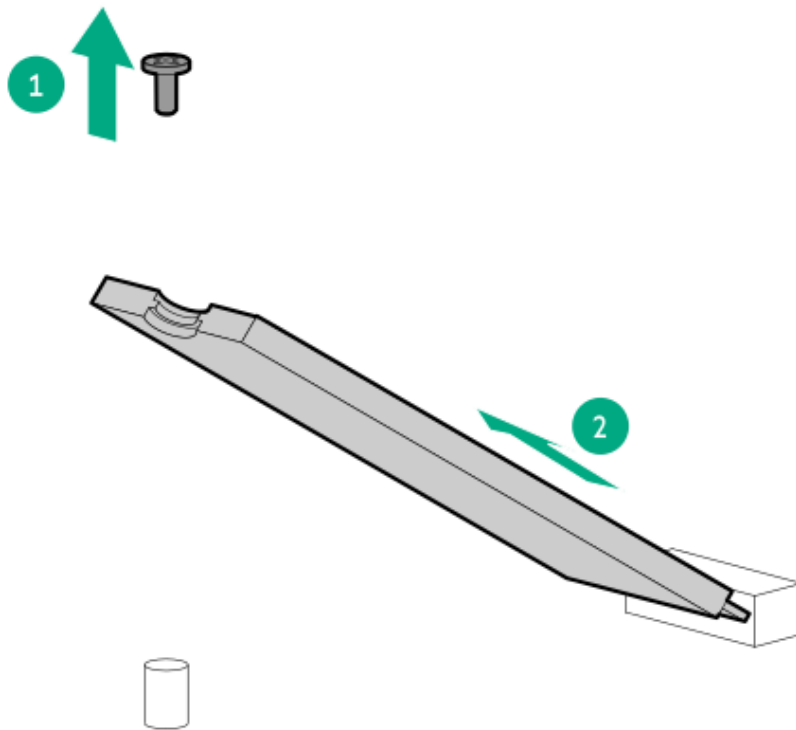
1. Back up all server data.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.

5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Disconnect the signal and power cable from the M.2 pass-through card.
9. Remove the M.2 pass-through card assembly:
 - a. Rotate the locking pin to the open (vertical) position.
 - b. Detach the M.2 pass-through card assembly from the chassis.



10. Remove a M.2 SSD from the card.

Retain the screw. This screw will be used to secure the new M.2 SSD.



Results

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

Removing and replacing the M.2 pass-through card

Prerequisites

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

- Phillips No. 1 screwdriver
- T-15 Torx screwdriver
- 1/4" slotted screwdriver

About this task

<https://sketchfab.com/models/3138f803a9e84a21bf50df4bf86ed257/embed?>



CAUTION

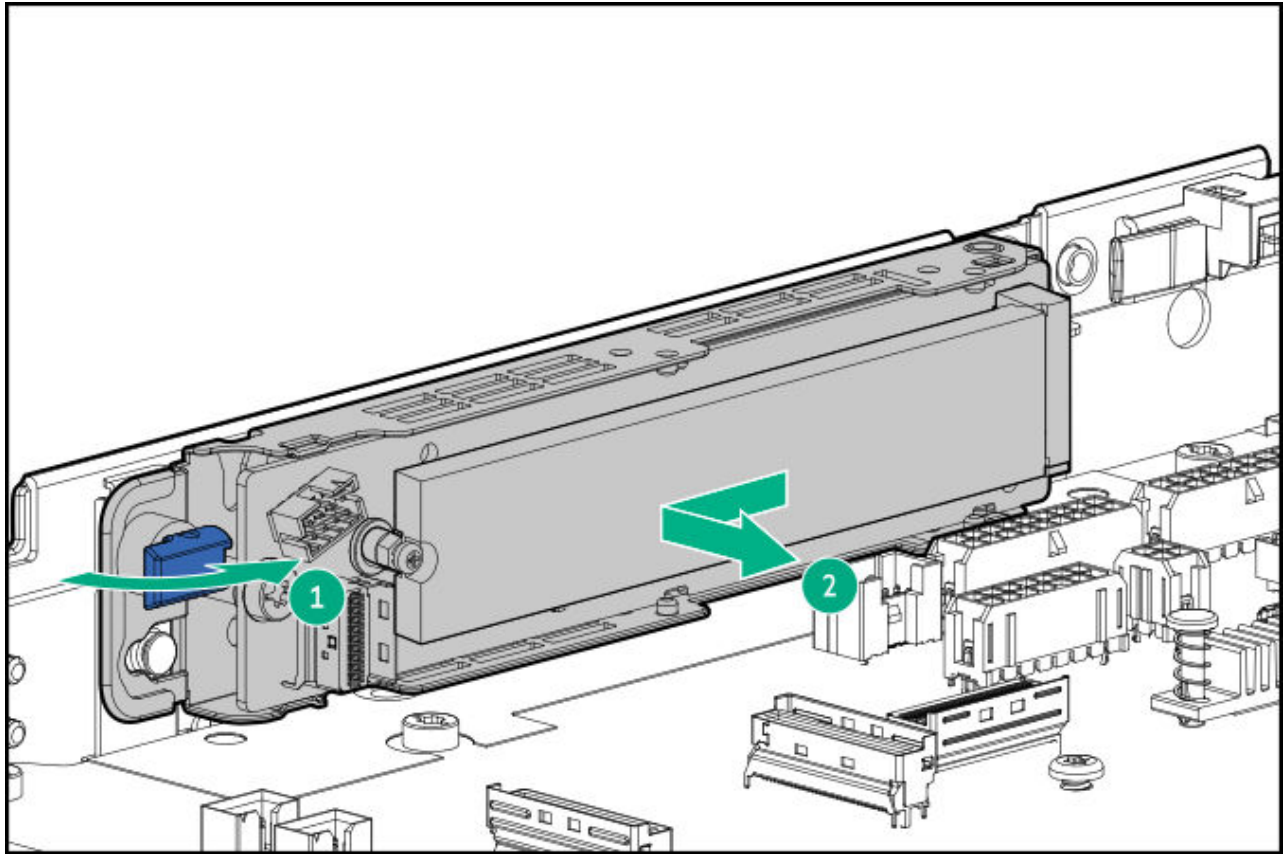
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

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

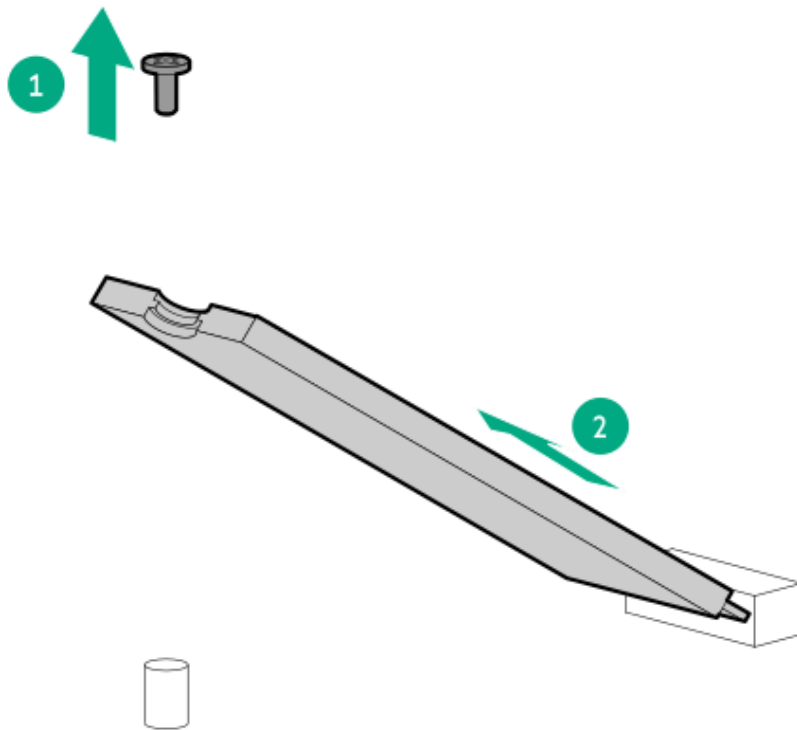
Procedure

1. Back up all server data.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Disconnect the signal and power cable from the M.2 pass-through card.
9. Remove the M.2 pass-through card assembly:
 - a. Rotate the locking pin to the open (vertical) position.
 - b. Detach the M.2 pass-through card assembly from the chassis.



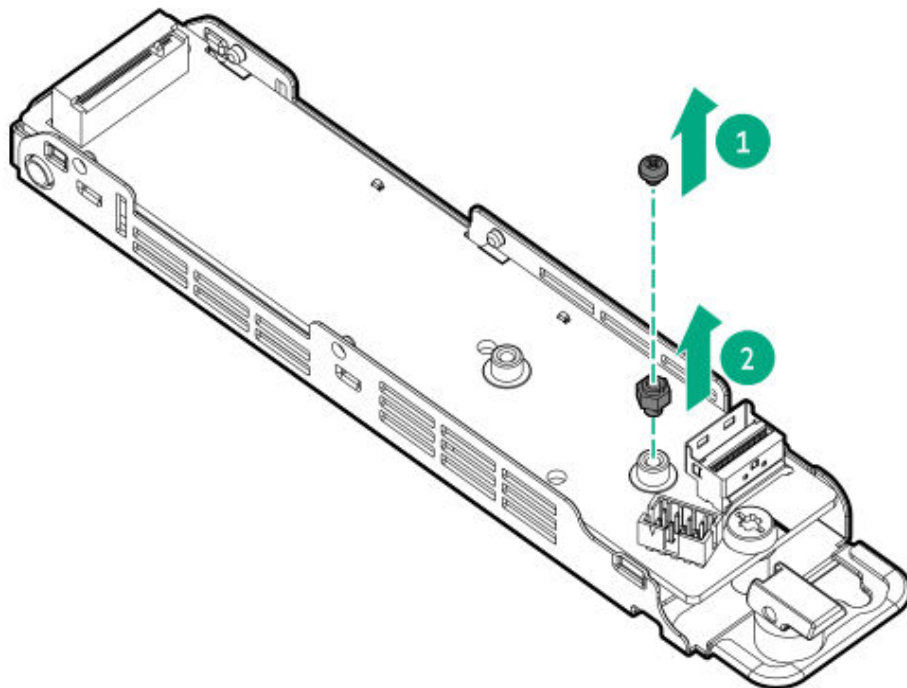
.0. If installed, remove all M.2 SSDs.

Retain the screw and M.2 SSDs. This screw will be used to secure the M.2 SSD on the new M.2 SSD pass-through card.



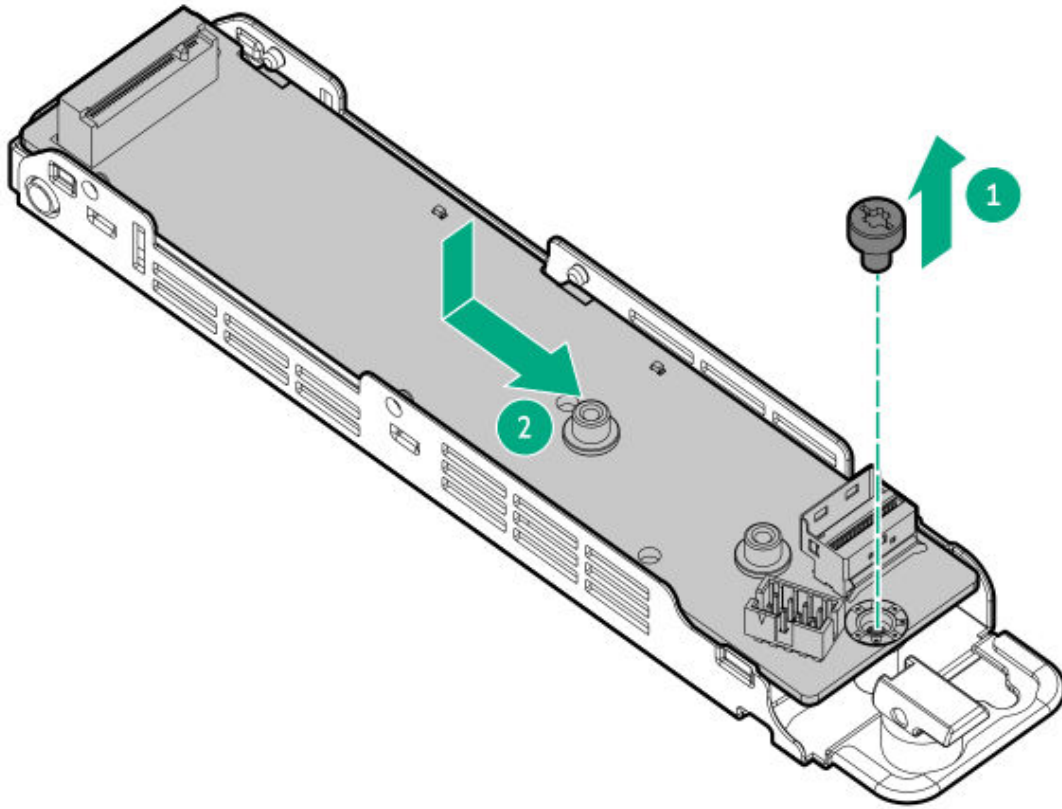
- .1. Remove all SSD mounting screws and the hex screws from 22110 standoff on both sides of the pass-through card.

Retain the screws. These screws will be used to secure the new M.2 SSD pass-through card.



.2. Remove the pass-through card from the cage.

Retain the screw. This screw will be used to secure the new M.2 SSD pass-through card.



Results

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

HPE NS204i-u Boot Device replacement

Subtopics

Removing and replacing the boot device cage assembly

Removing and replacing a hot-plug boot device carrier

Removing and replacing a hot-plug boot device drive

Removing and replacing the boot device cage assembly

Prerequisites

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

About this task



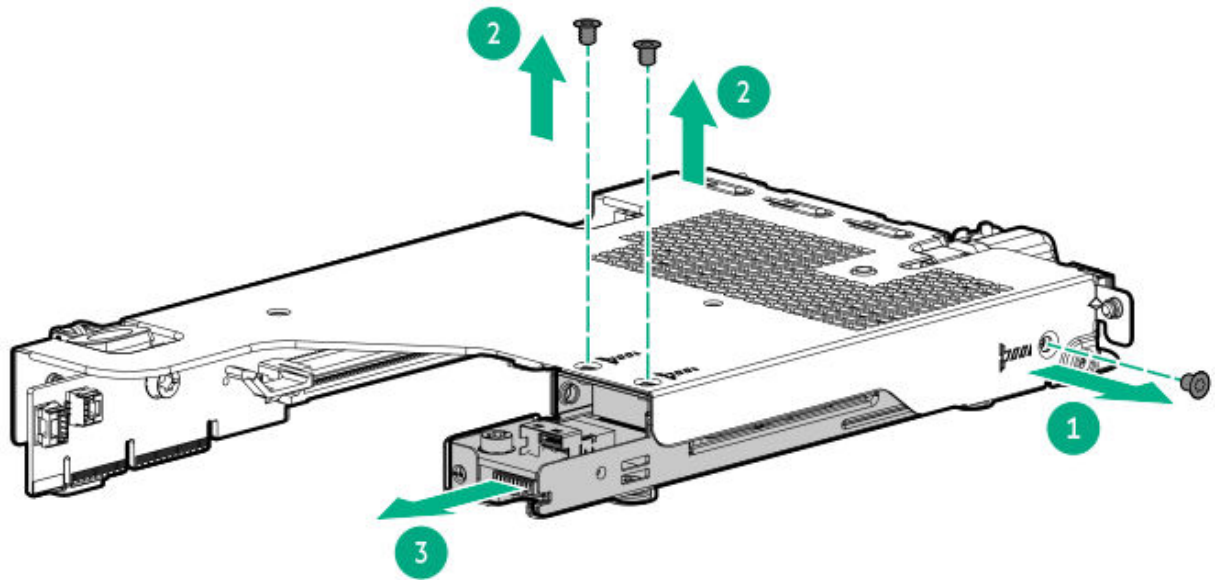
CAUTION

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

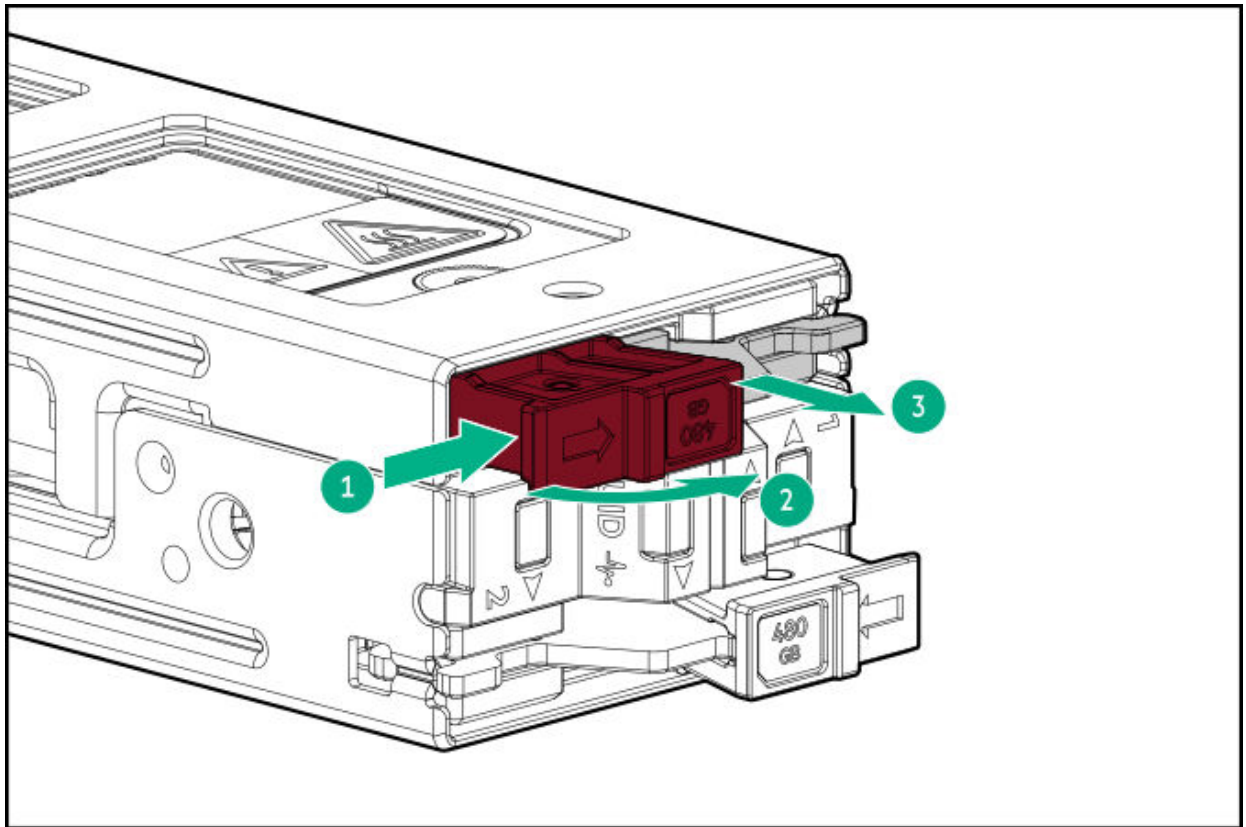
Procedure

1. Back up all server data.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Disconnect the boot device signal and power cables from the system board.
9. Remove the boot device cage assembly:
 - a. Remove screws from the riser cage.

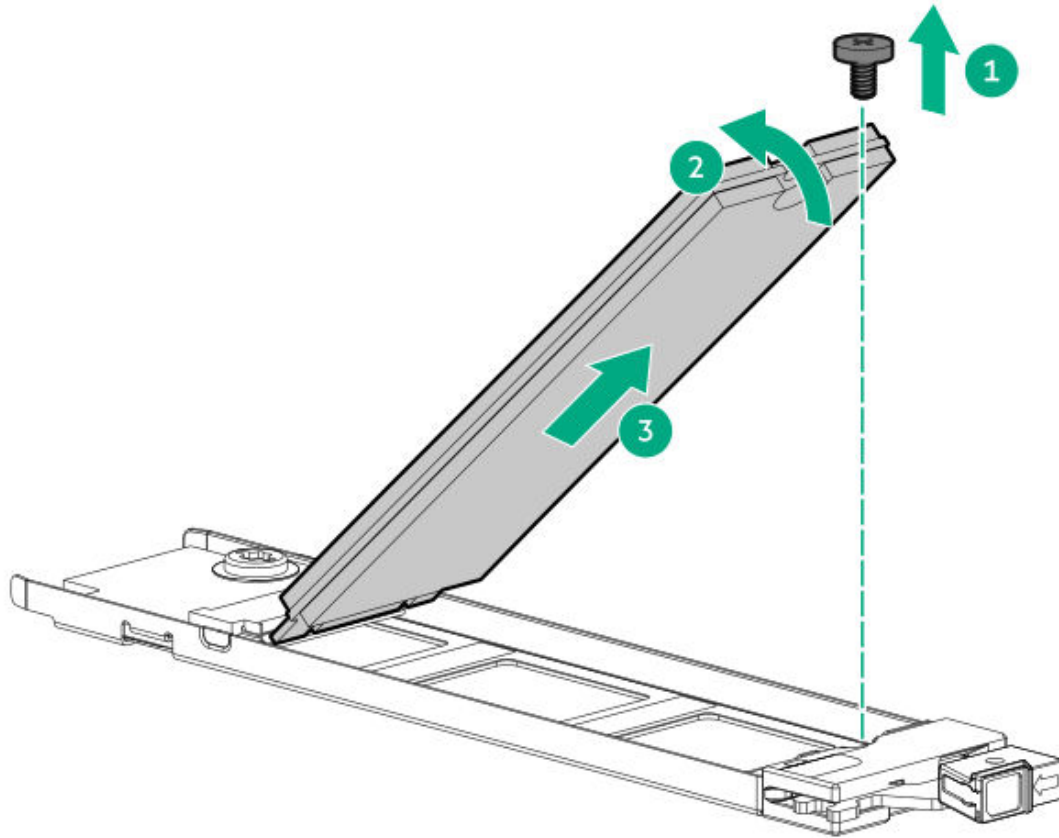
Retain the screws. These screws will be used to secure the new boot device cage assembly.
 - b. Pull the cage assembly from the slot.



- .0. Disconnect the signal and power cables from the boot device.
- .1. Remove the boot device drives.
 - a. Press and hold the carrier latch.
 - b. Pivot the latch to open.
 - c. Slide the carrier out from the boot device cage.



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



Results

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

Removing and replacing a hot-plug boot device carrier

Prerequisites

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

About this task

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



CAUTION

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

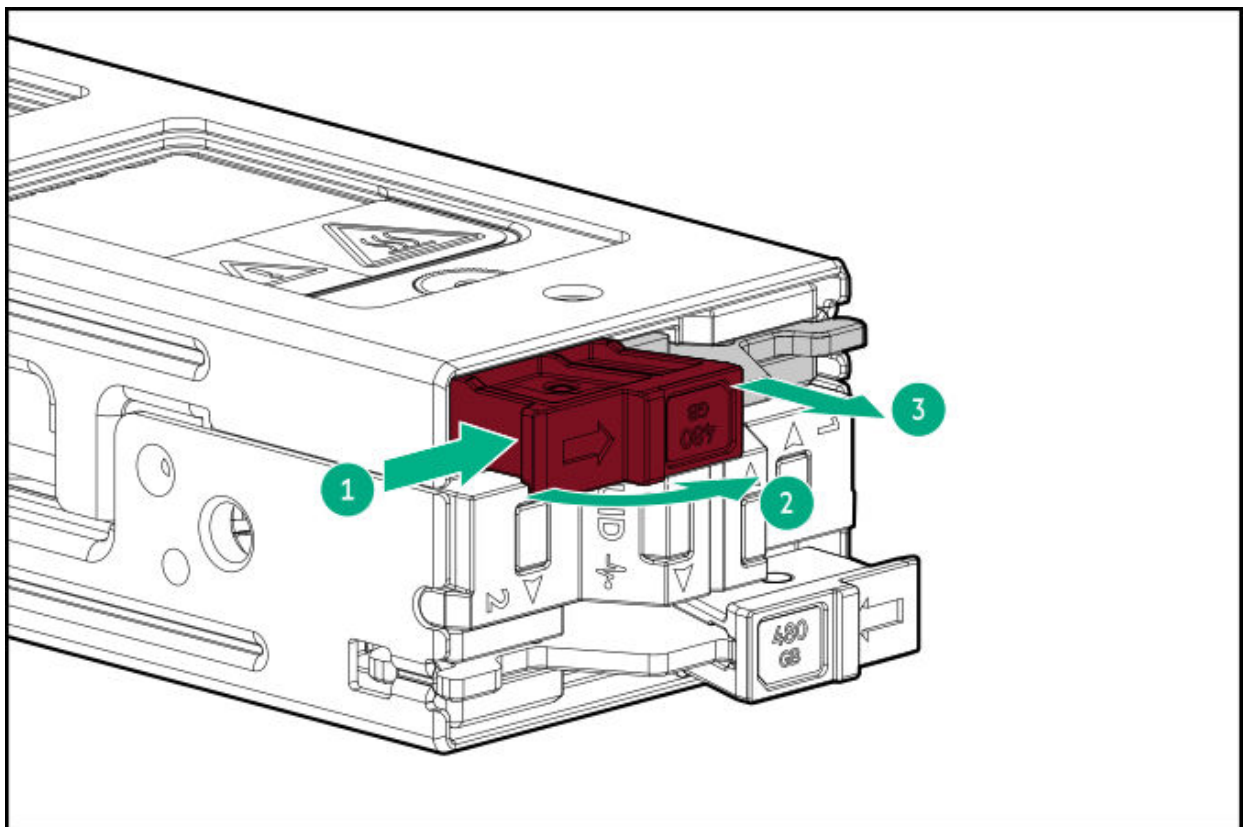


CAUTION

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

Procedure

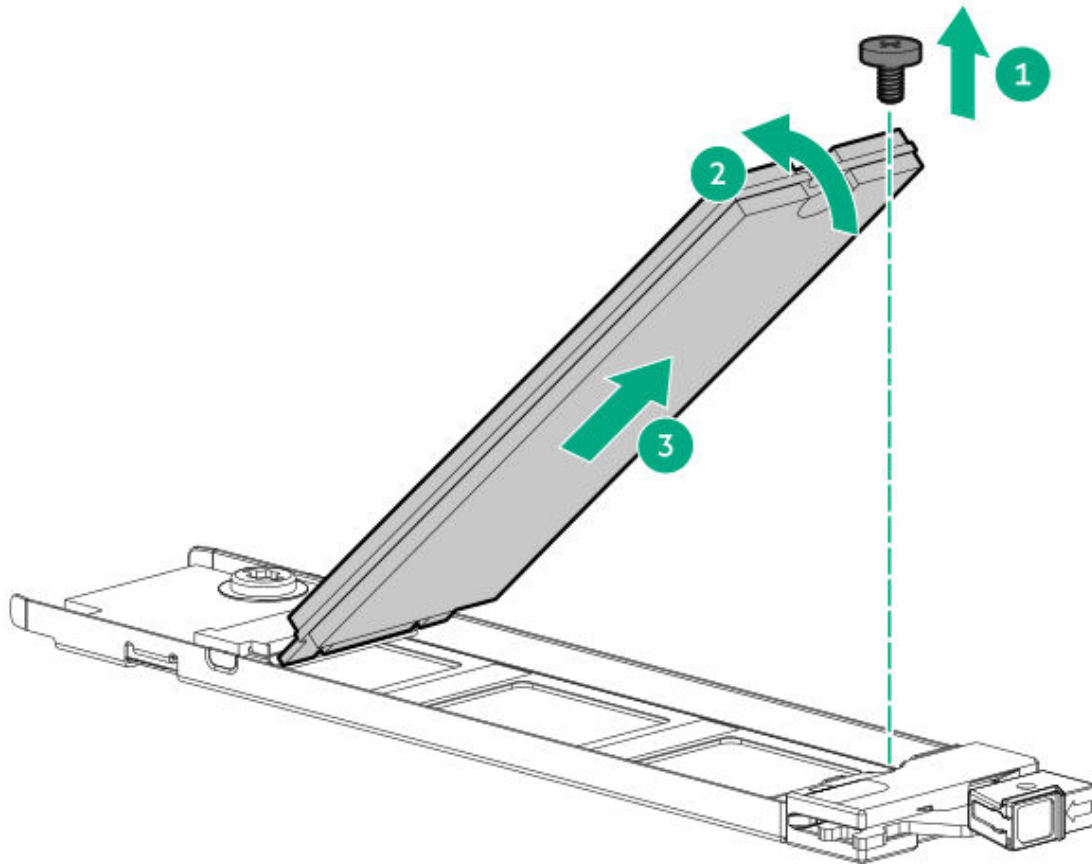
1. [Back up all server data](#).
2. Remove the boot device carrier.
 - a. Press and hold the carrier latch.
 - b. Pivot the latch to open.
 - c. Slide the carrier out from the boot device cage.



3. If installed, remove the boot device drive from the carrier:

- a. Remove the SSD mounting screw.
- b. Tilt the SSD with the M.2 slot at a 45° angle.
- c. Carefully remove the SSD from the M.2 slot.

Retain the boot device drive and screw for installation onto the new boot device carrier.



4. If you are removing the second boot device carrier, repeat steps 2 and 3 on the lower boot device carrier slot.

Results

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

Removing and replacing a hot-plug boot device drive

Prerequisites

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

About this task



CAUTION

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



CAUTION

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

When installing the replacement component:

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



IMPORTANT

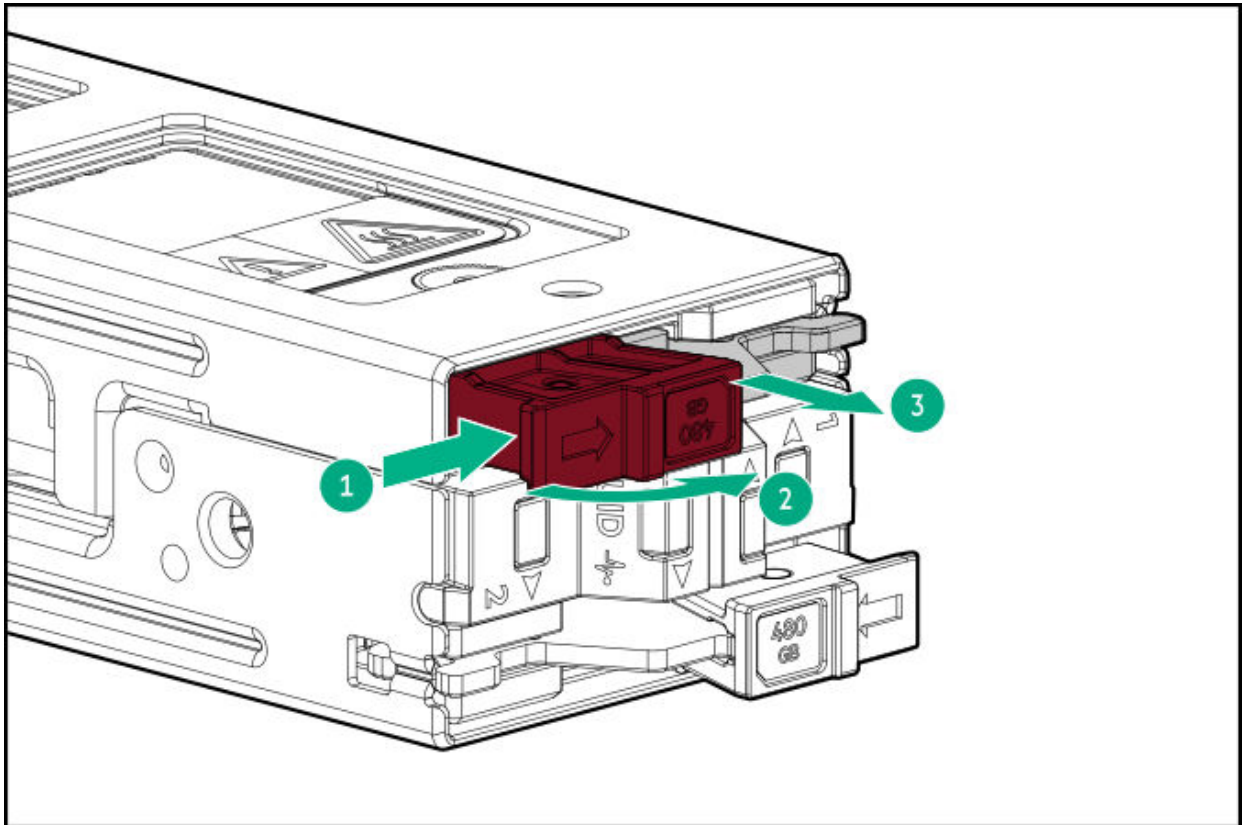
For successful RAID 1 configuration, verify that the boot device SSDs have the same model number and firmware version:

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

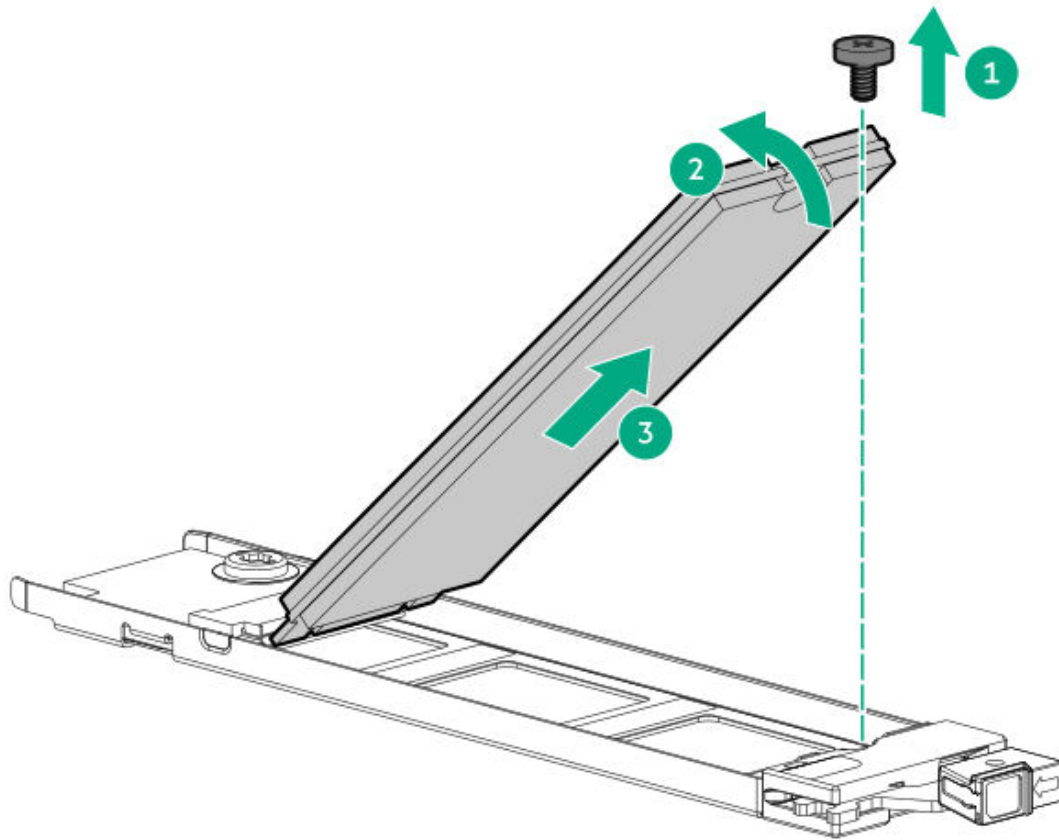
Configurations with SSDs from different manufacturers are not supported.

Procedure

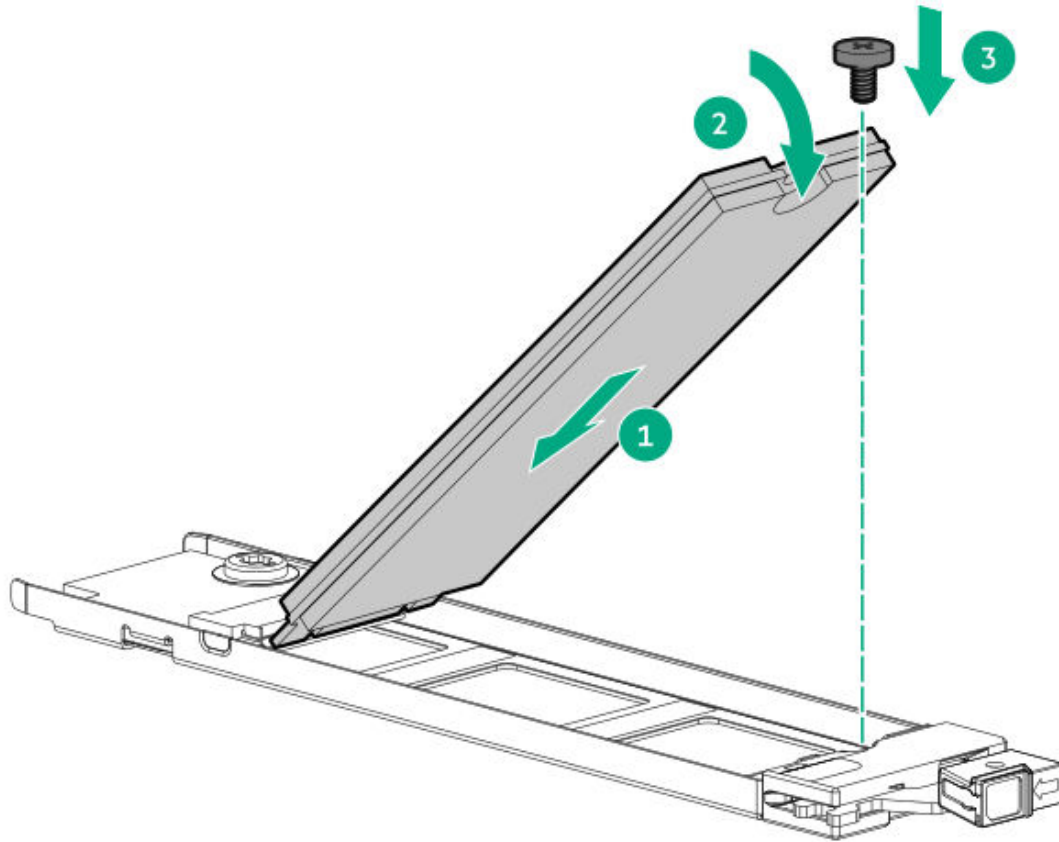
1. Back up all server data.
2. Remove the failed drive and replace it with a new drive:
 - a. Press and hold the carrier latch.
 - b. Pivot the latch to open.
 - c. Slide the carrier out from the boot device cage.



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

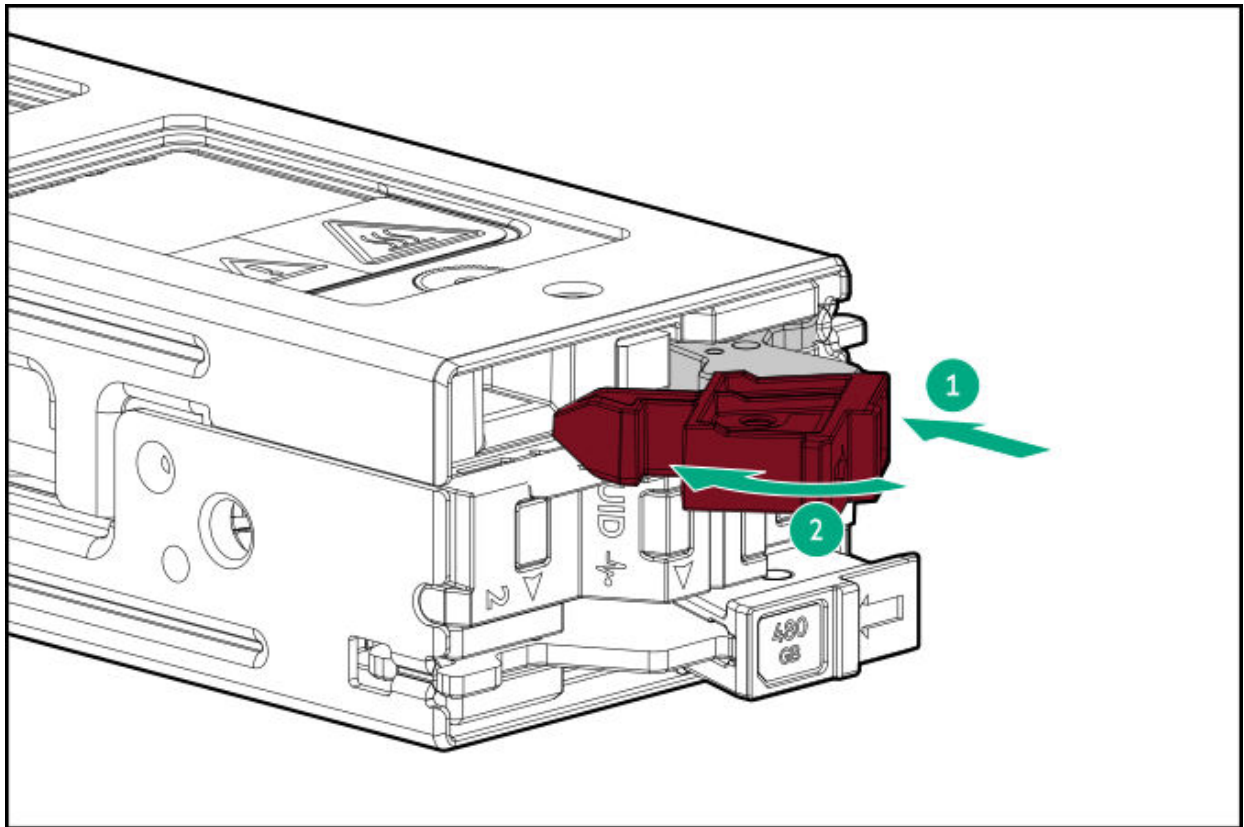


- f. Insert the new SSD into the M.2 slot at a 45° angle.
- g. Carefully press the SSD down to the horizontal position.
- h. Install the SSD mounting screw.



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

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



The boot device automatically rebuilds the RAID 1 volume.

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

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

4. To monitor the drive rebuild status, see any of the following:
 - [Boot device Online/Activity LED](#)
 - iLO web interface: **Storage** page
 - UEFI System Utilities:
 - **System Utilities > System Configuration > Virtual Device Information > NS Volume > Virtual Device Detail Information**
 - **System Utilities > Embedded Applications > Integrated Management Log > View IML**

Results

The replacement procedure is complete.

Removing and replacing the primary / secondary riser cage

About this task



WARNING

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

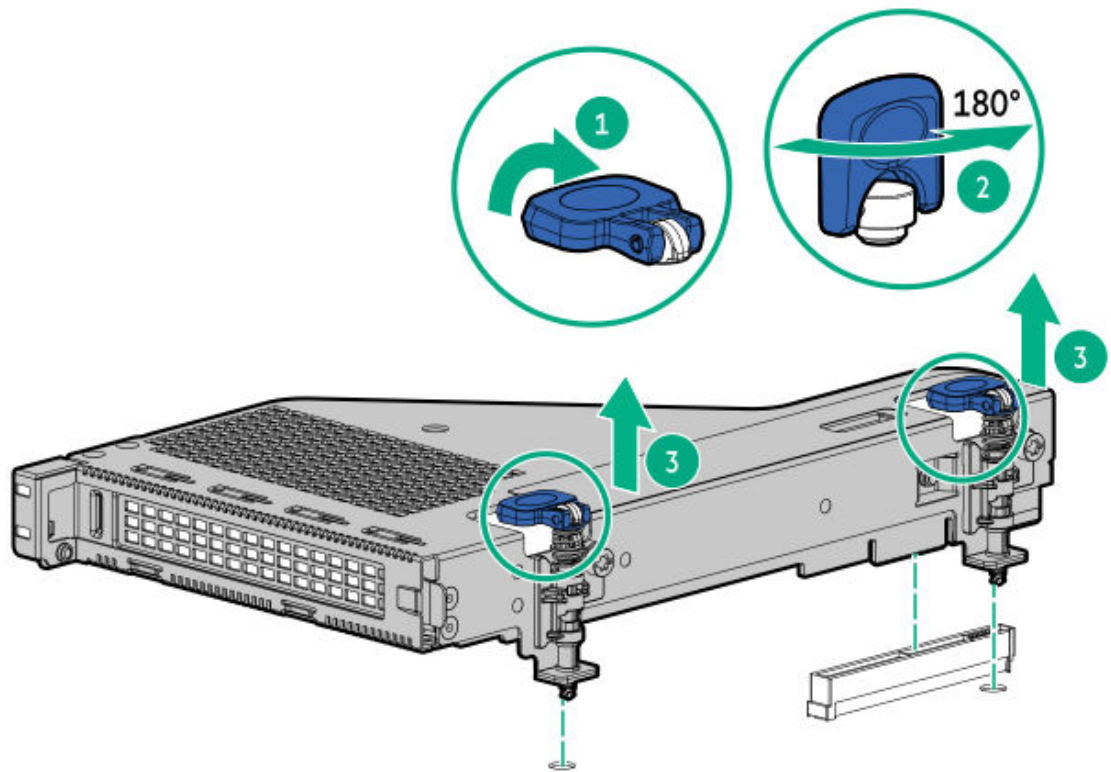


CAUTION

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

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. If an expansion card with internal cables is installed on the riser, disconnect the cables from the card.
8. Remove the riser cage:
 - a. Release the half-turn spring latch.
 - b. Lift the riser cage off the system board.



9. If installed, remove the expansion card.

10. Remove the PCIe5 x16 riser board.

Results

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

Riser board replacement

Subtopics

Removing and replacing the PCIe5 x16 riser board

Removing and replacing the secondary low-profile PCIe5 x16 riser board

Removing and replacing the PCIe5 x16 riser board

Prerequisites

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

About this task



CAUTION

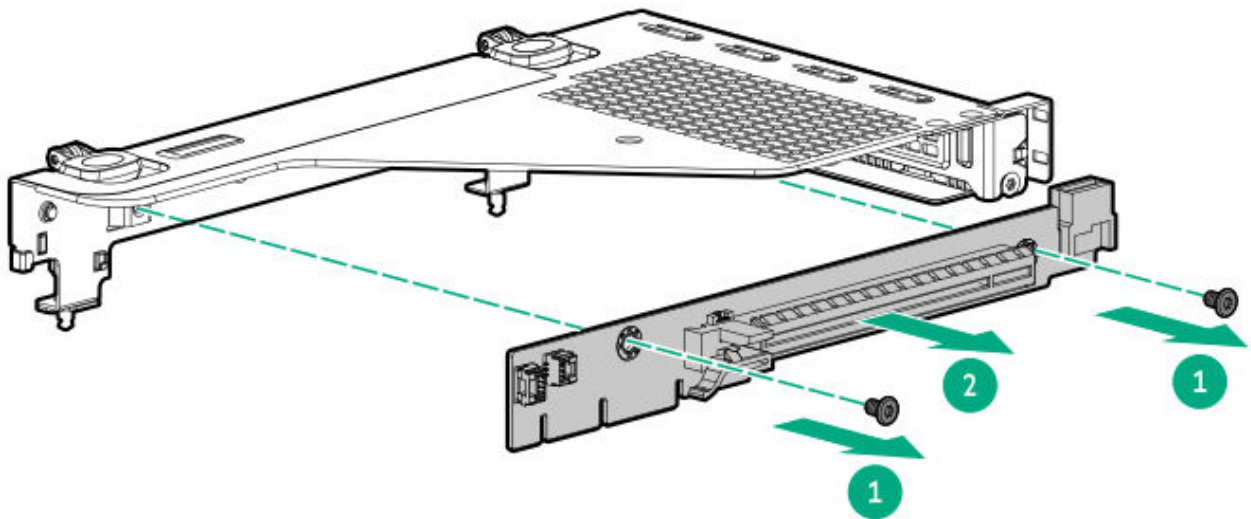
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

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

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the riser cage.
8. If installed, remove the expansion card.
9. Remove the riser board.



Results

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

Removing and replacing the secondary low-profile PCIe5 x16 riser board

Prerequisites

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

About this task



CAUTION

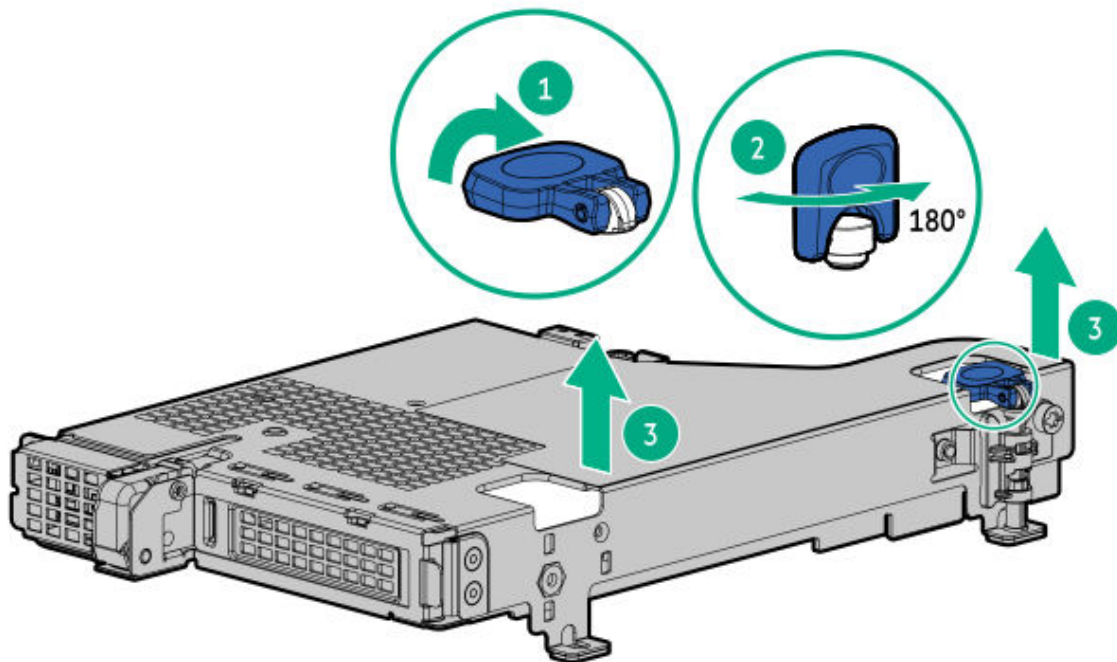
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

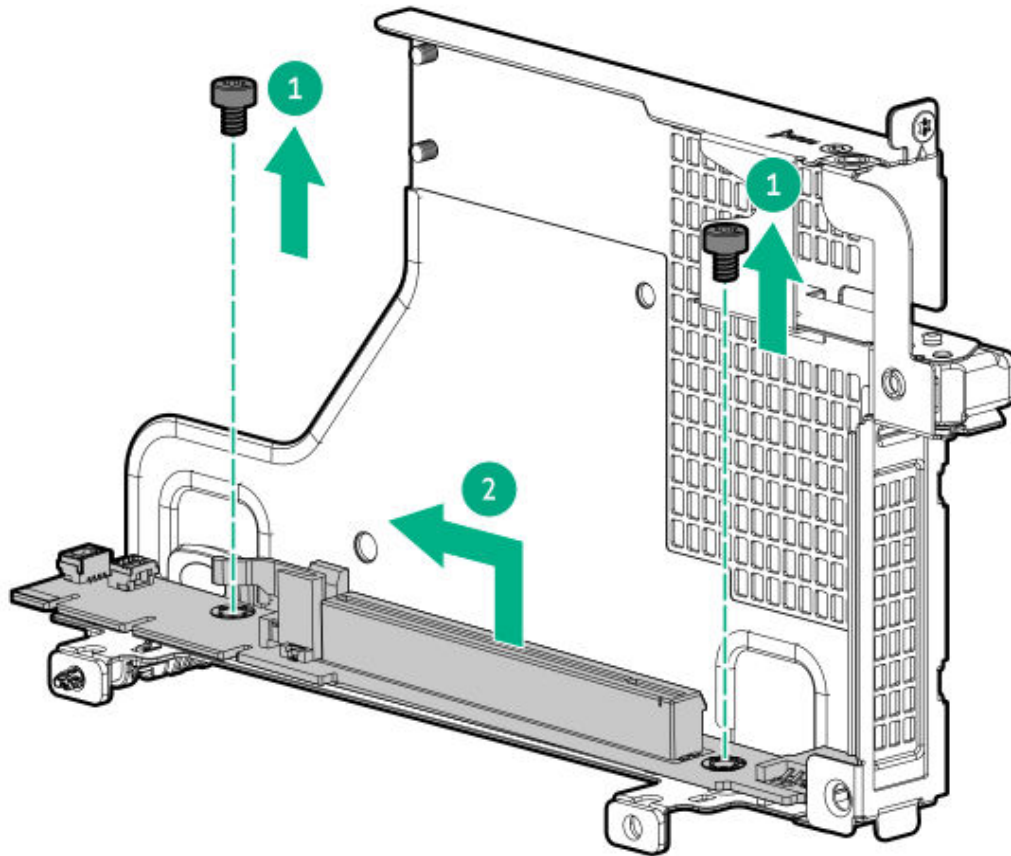
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Disconnect the boot device signal and power cables from the system board.
8. Remove the HPE NS204i-u Boot Device riser cage:
 - a. Release the half-turn spring latch.
 - b. Lift the riser cage off the system board.



9. If installed, remove the expansion card.
10. Remove the riser board.



Results

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

Removing and replacing the internal USB device

About this task



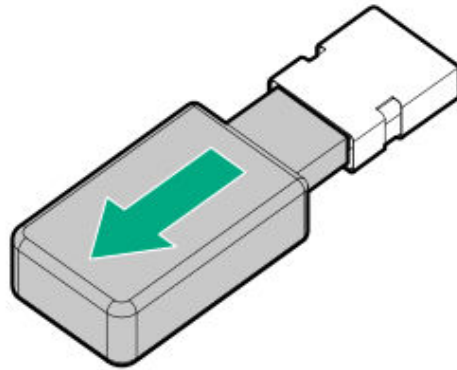
CAUTION

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

Procedure

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

- b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Unplug the USB device from the USB port.



Results

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

Removing and replacing the energy pack

About this task



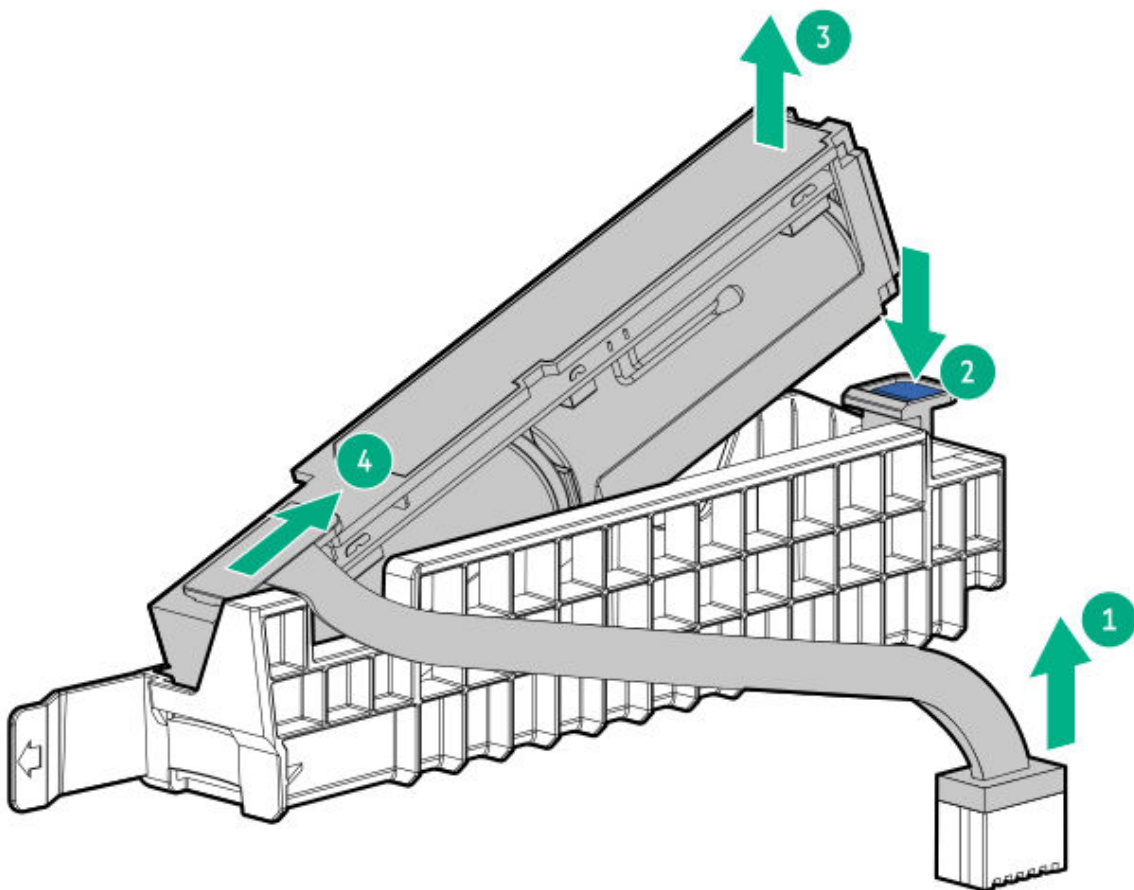
CAUTION

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

Procedure

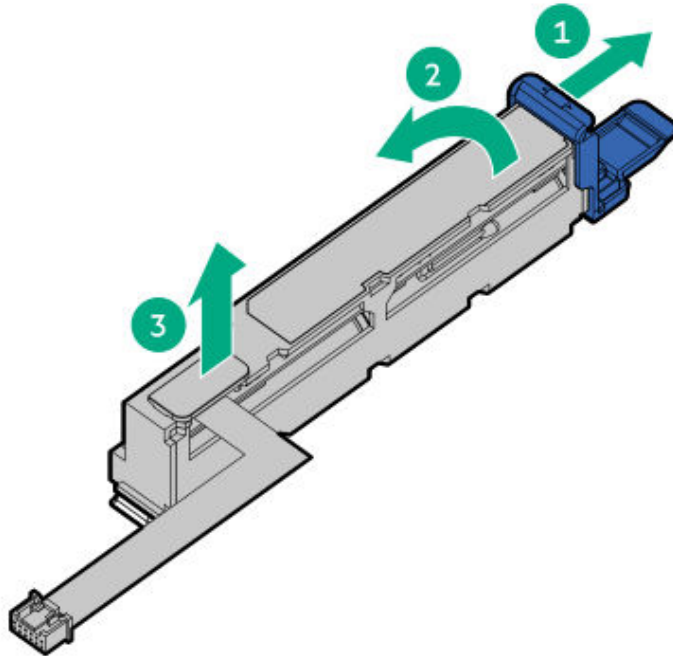
1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.

- b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. If you are removing the energy pack from the latch on the rear side of the drive cage, remove the middle cover.
8. To remove the energy pack from the holder, do the following:
 - a. Disconnect the cable.
 - b. Press and hold the release latch.
 - c. Lift one end of the energy pack and release it from the holder.



9. To remove the energy pack from the retention latch, do the following:
 - a. Press and hold the retention latch.

- b. Lift one end of the energy pack and release it from the latch.
- c. Detach the energy pack from the chassis.



Results

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

Removing and replacing the energy pack holder

About this task



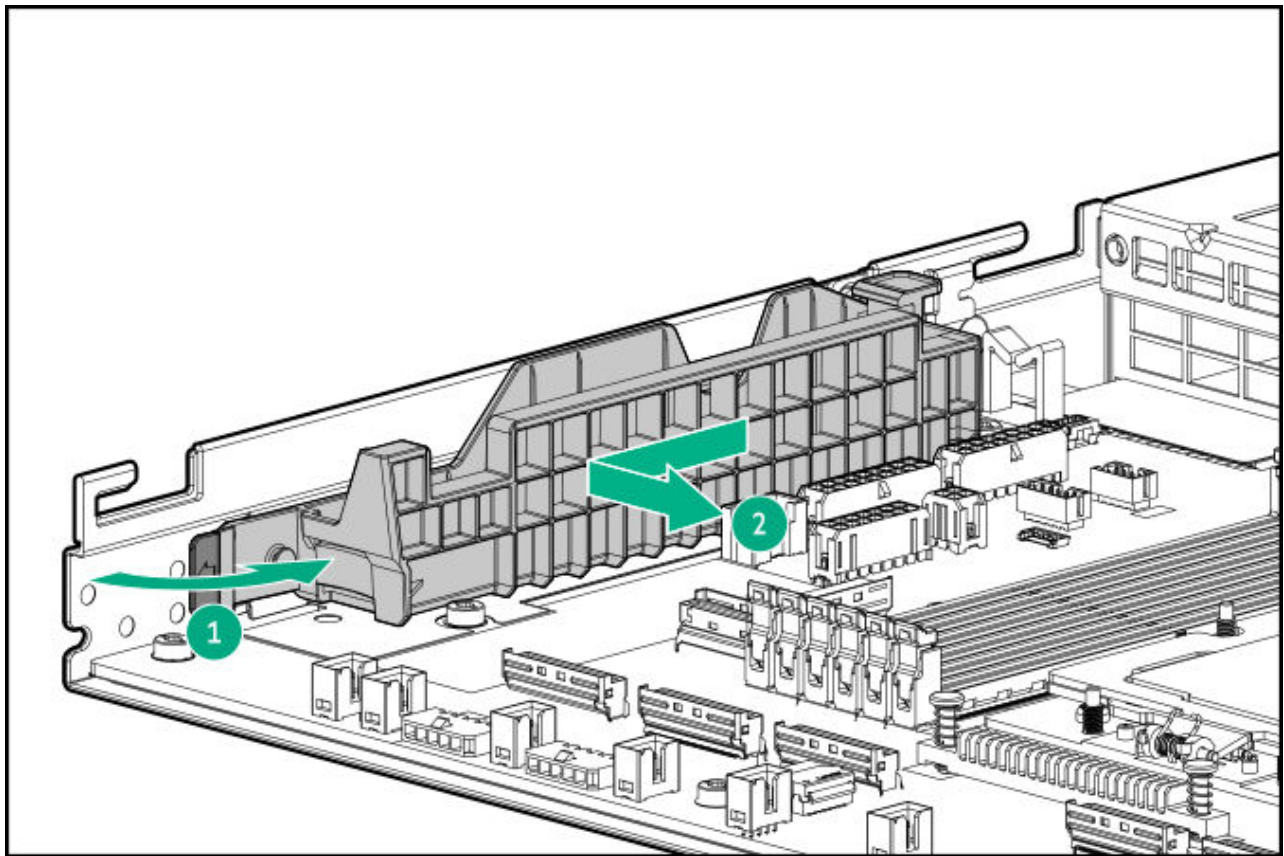
CAUTION

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

Procedure

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

- b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. If an energy pack is installed on the rear side of the drive cage, remove the energy pack.
8. Remove the energy pack holder:
 - a. Pull and hold the release latch on the holder.
 - b. Pull the holder towards the front panel to disengage from the chassis.



Results

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

Removing and replacing the front USB and DisplayPort Y-cable

Prerequisites

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

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

About this task



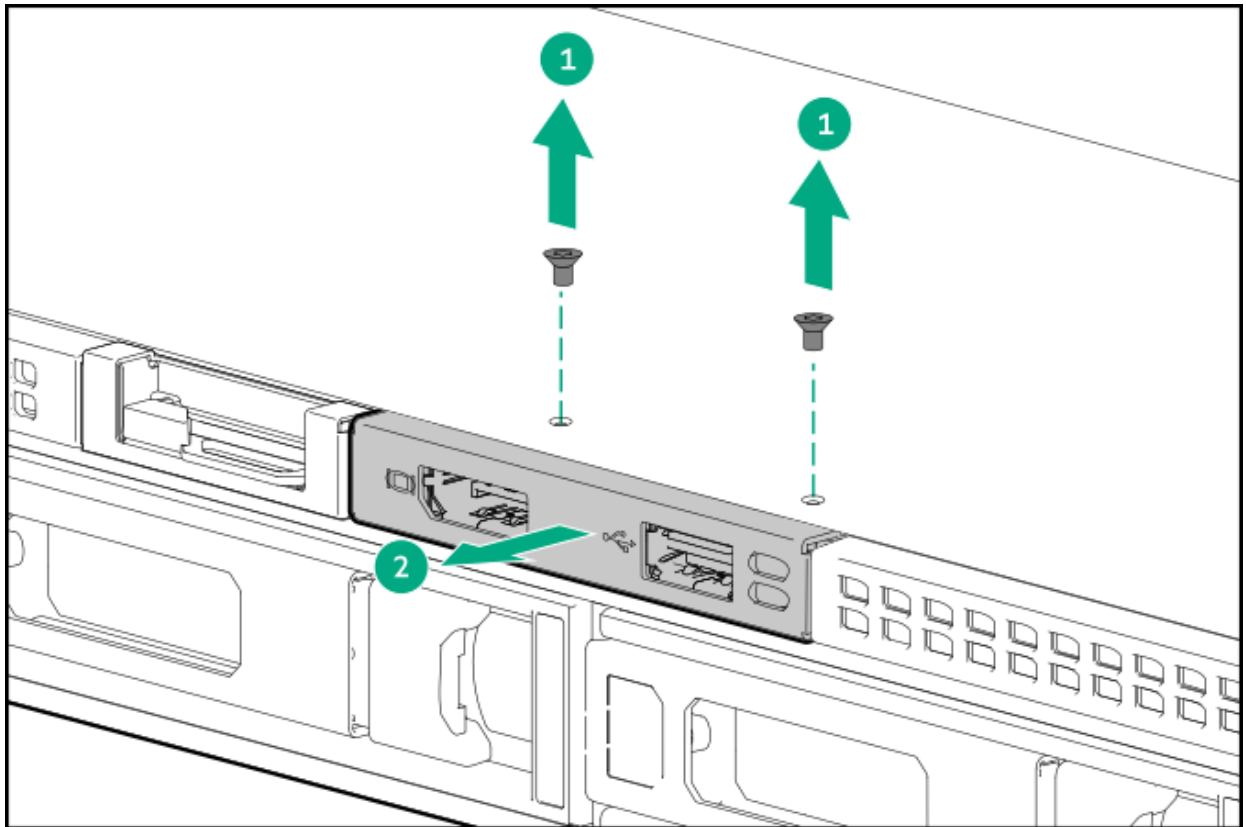
CAUTION

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

Procedure

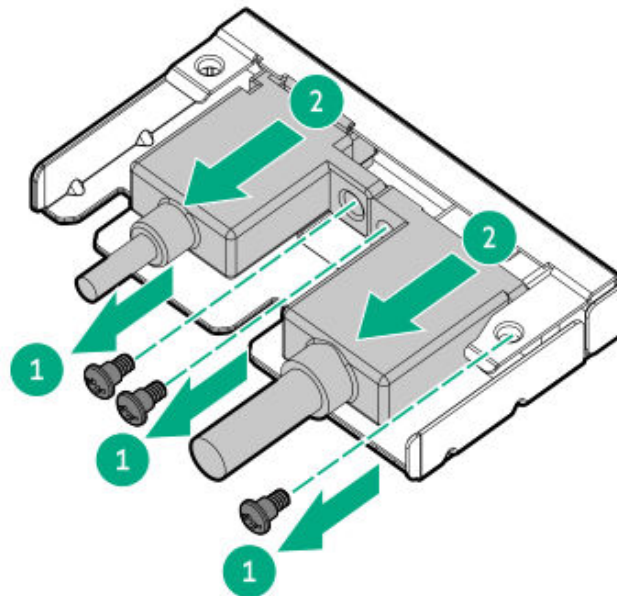
1. If installed, remove the front bezel.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the middle cover.
9. Disconnect the front USB and Display cable from the system board.
0. If you are removing the front USB and DisplayPort Y-cable from the optical drive cage, disconnect the optical drive cable from the system board.
- .1. To remove the front USB and DisplayPort Y-cable from the LFF drive chassis:
 - a. Remove the front USB and DisplayPort assembly.

Retain all screws. These screws will be used to secure the assembly after the front USB and DisplayPort Y-cable replacement.



b. Remove the front USB and DisplayPort Y-cable from the assembly.

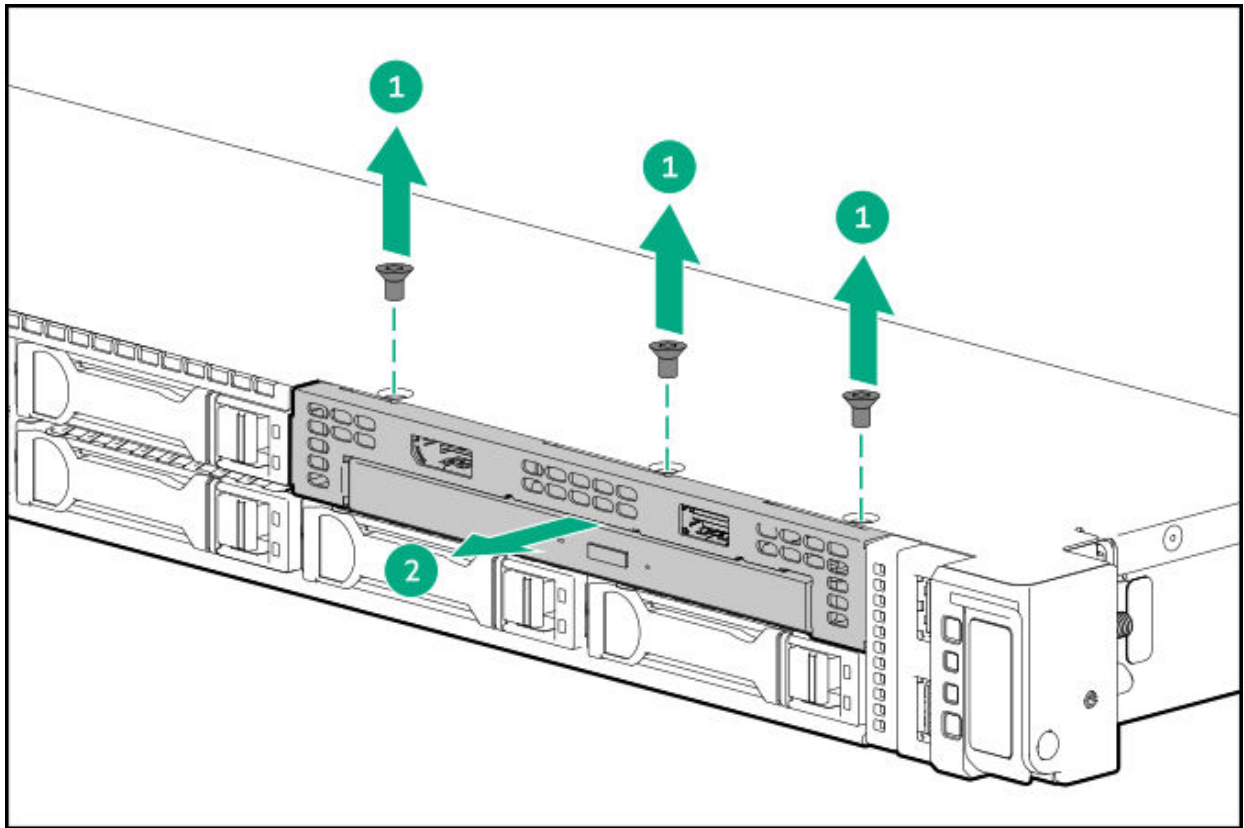
Retain all screws. These screws will be used to secure the new front USB and DisplayPort Y-cable.



.2. To remove the front USB and DisplayPort Y-cable from the optical drive cage:

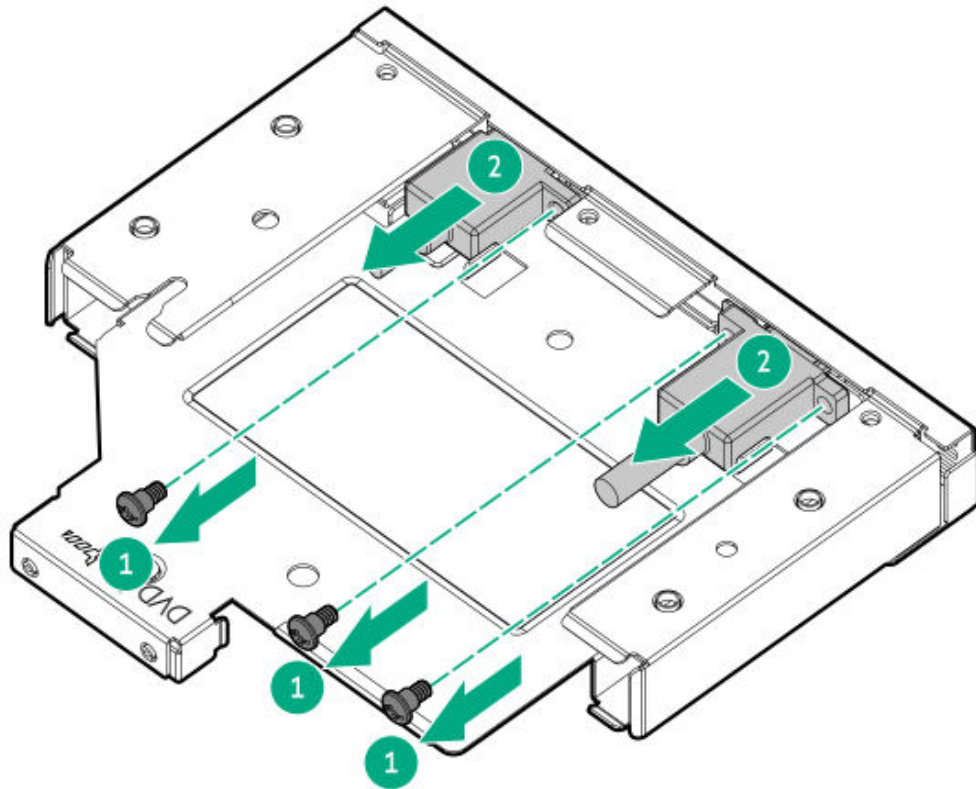
a. Remove the optical drive cage from the universal media bay.

Retain all screws. These screws will be used to secure the optical drive cage after the front USB and DisplayPort Y-cable replacement.



- b. Remove the front USB and DisplayPort Y-cable from the optical drive cage.

Retain all screws. These screws will be used to secure the new front USB and DisplayPort Y-cable spare.



Results

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

Chassis ears replacement

Subtopics

[Removing and replacing the front I/O and right chassis ear assembly](#)

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

Removing and replacing the front I/O and right chassis ear assembly

Prerequisites

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

About this task

- LFF drive configuration

https://support.hpe.com/hpesc/public/videoDisplay?videoid=vpsg00005129en_us&noframe

- SFF drive configuration

https://support.hpe.com/hpesc/public/videoDisplay?videoid=vpsg00005130en_us&noframe



CAUTION

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

Procedure

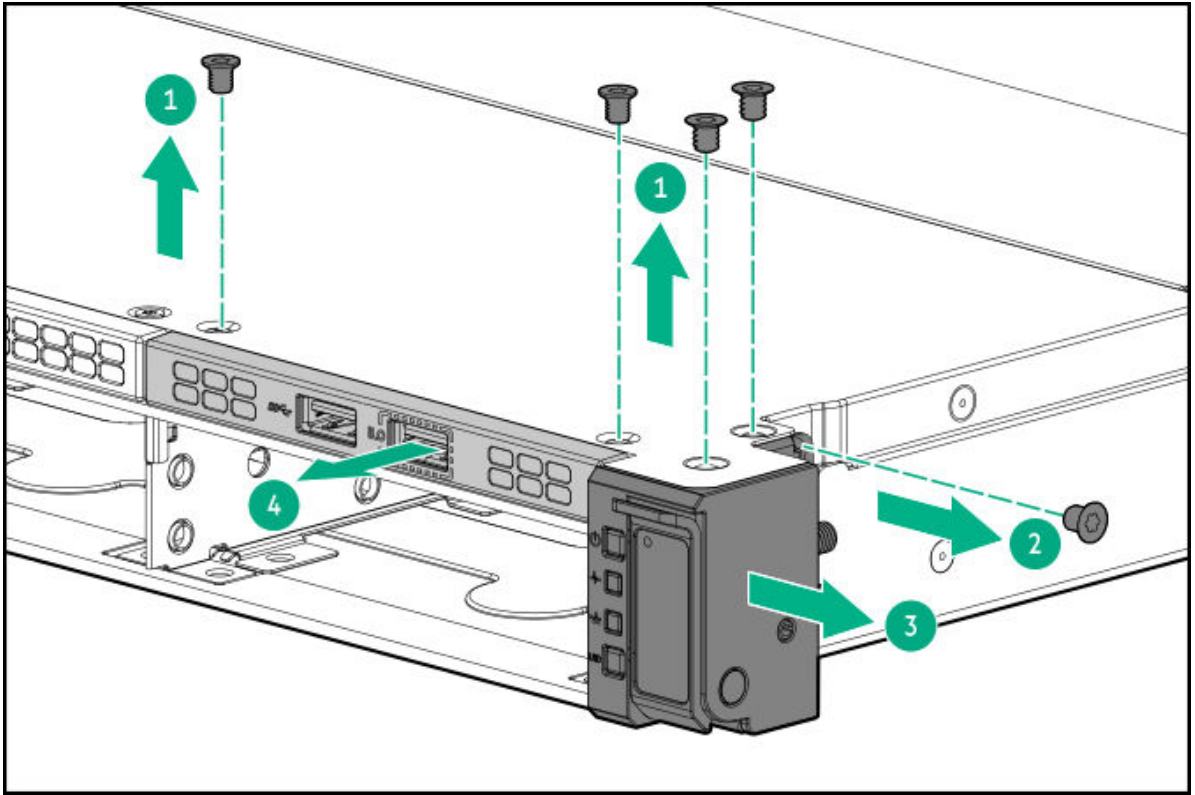
1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. If installed, remove the front bezel.
7. Remove the access panel.
8. Disconnect the front I/O cable from the system board.
9. Remove the right chassis ear assembly:

- a. Remove the T-10 screws.

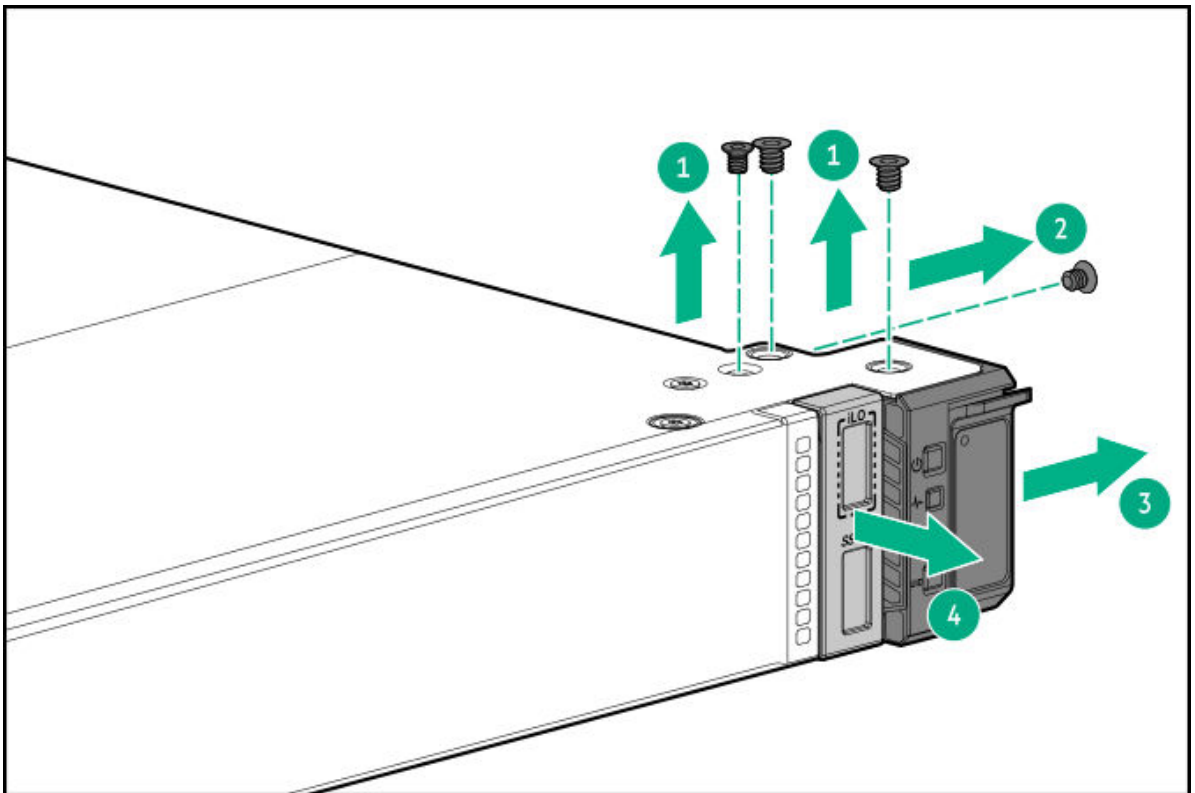
Retain the screws. These screws will be used to secure the new right chassis ear assembly spare.

- b. Pull the right ear and front I/O port assembly simultaneously.

- LFF drive configuration



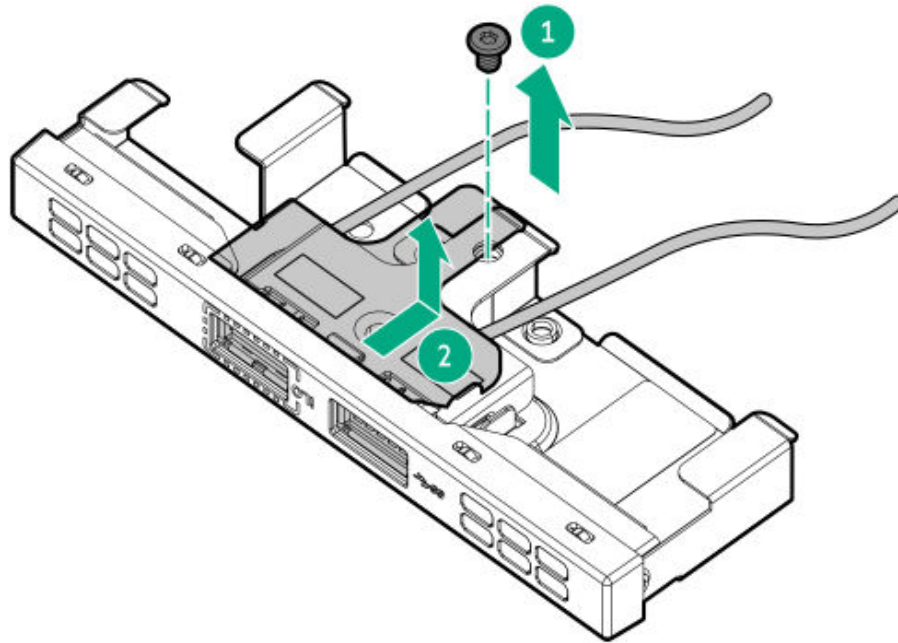
- SFF drive configuration



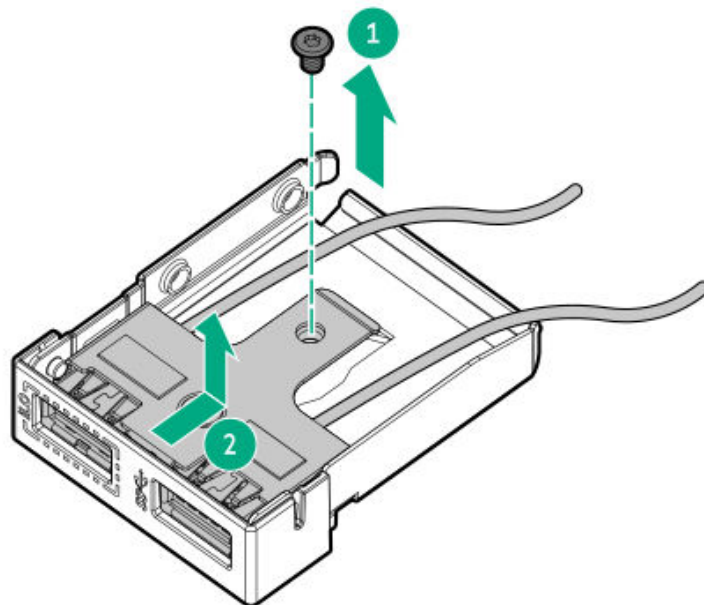
c. Remove the front I/O port assembly from the cage.

Retain the screw and the cage. This screw will be used to secure the new front I/O port assembly spare on the cage.

- LFF drive configuration



- SFF drive configuration



Results

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

Removing and replacing the left chassis ear

Prerequisites

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

About this task

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00005131en_us&noframe

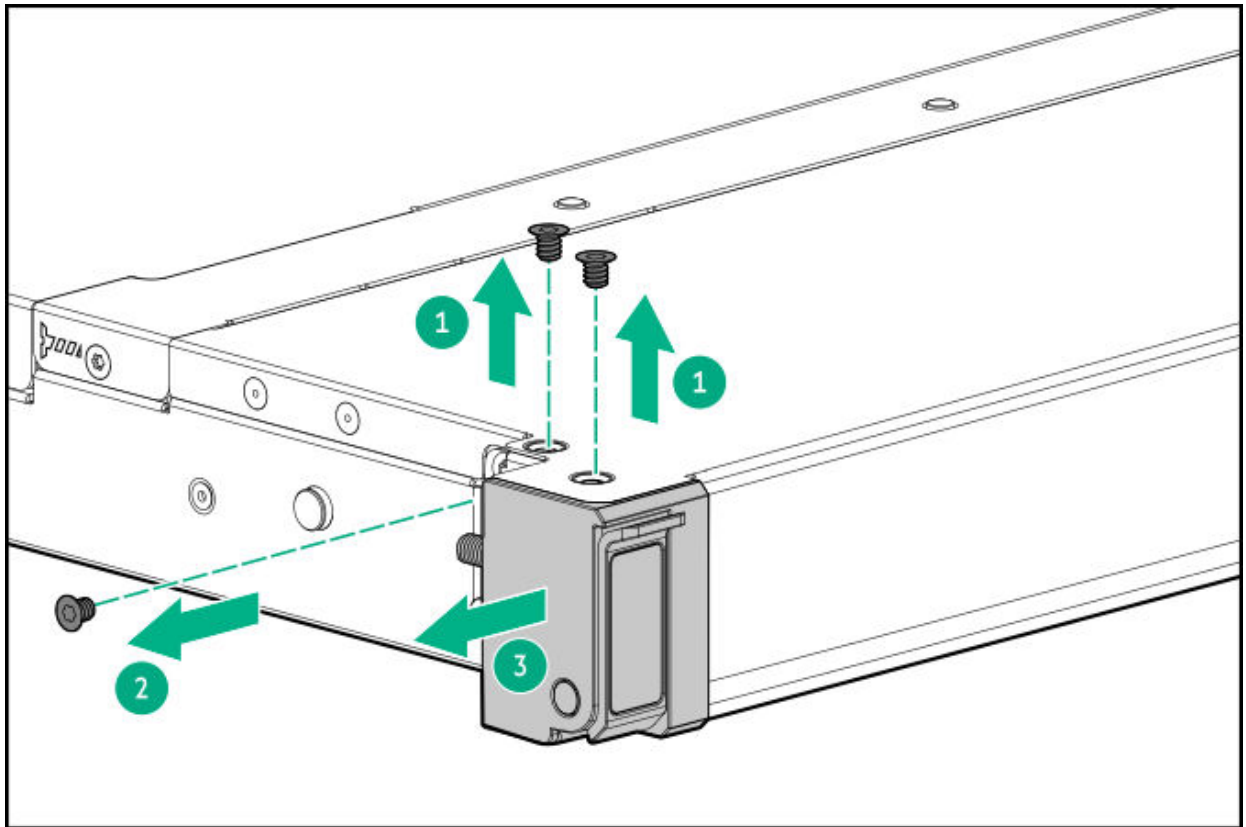


CAUTION

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

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. If installed, remove the front bezel.
7. Remove the left chassis ear:
 - a. Remove left chassis ear screws.
Retain the screws to secure the new left chassis ear spare.
 - b. Detach the left chassis ear.



Results

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

Removing and replacing the chassis intrusion detection switch

About this task



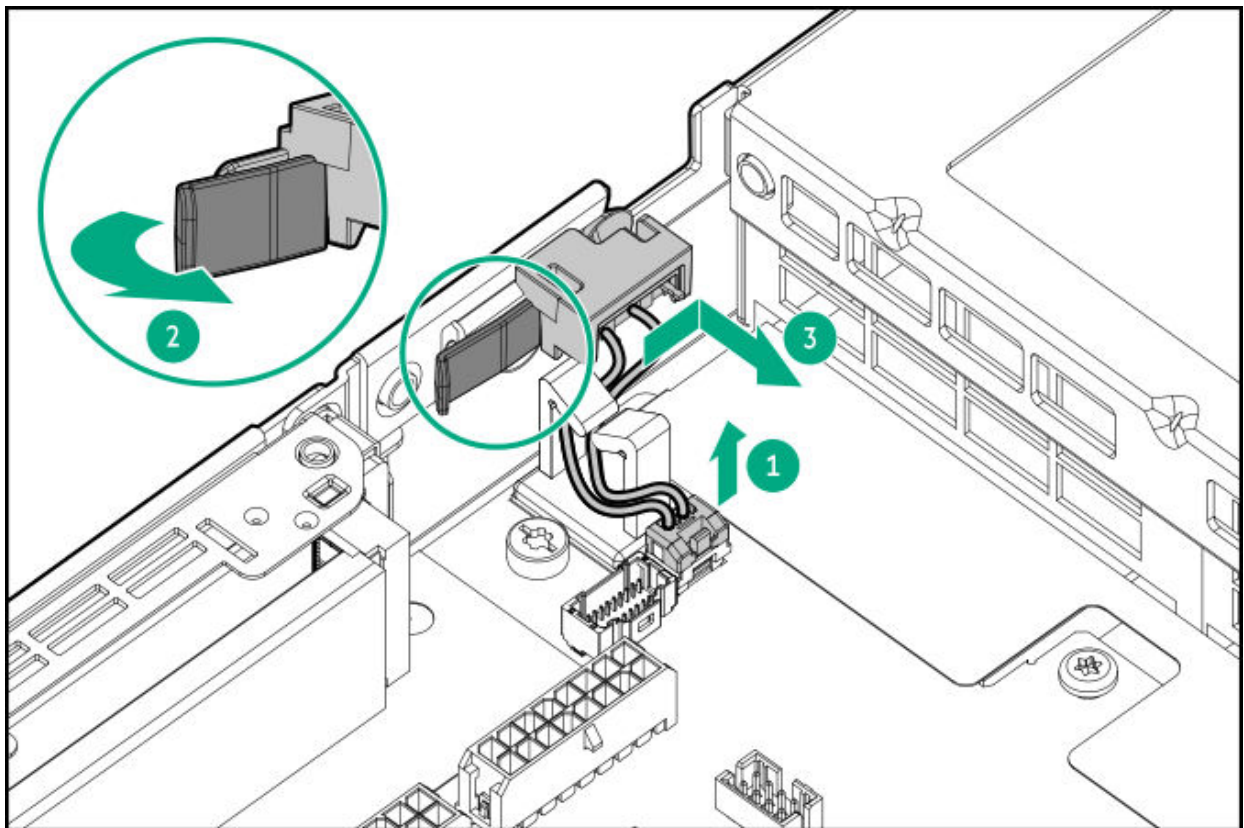
CAUTION

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

Procedure

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

- b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the chassis intrusion detection switch:
 - a. Disconnect the switch cable and release it from the cable clamp.
 - b. While carefully retracting the snap-in latch, pull out the tab from the chassis slot.



Results

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

Removing and replacing the OCP slot blank

Prerequisites

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

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

About this task



CAUTION

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



CAUTION

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



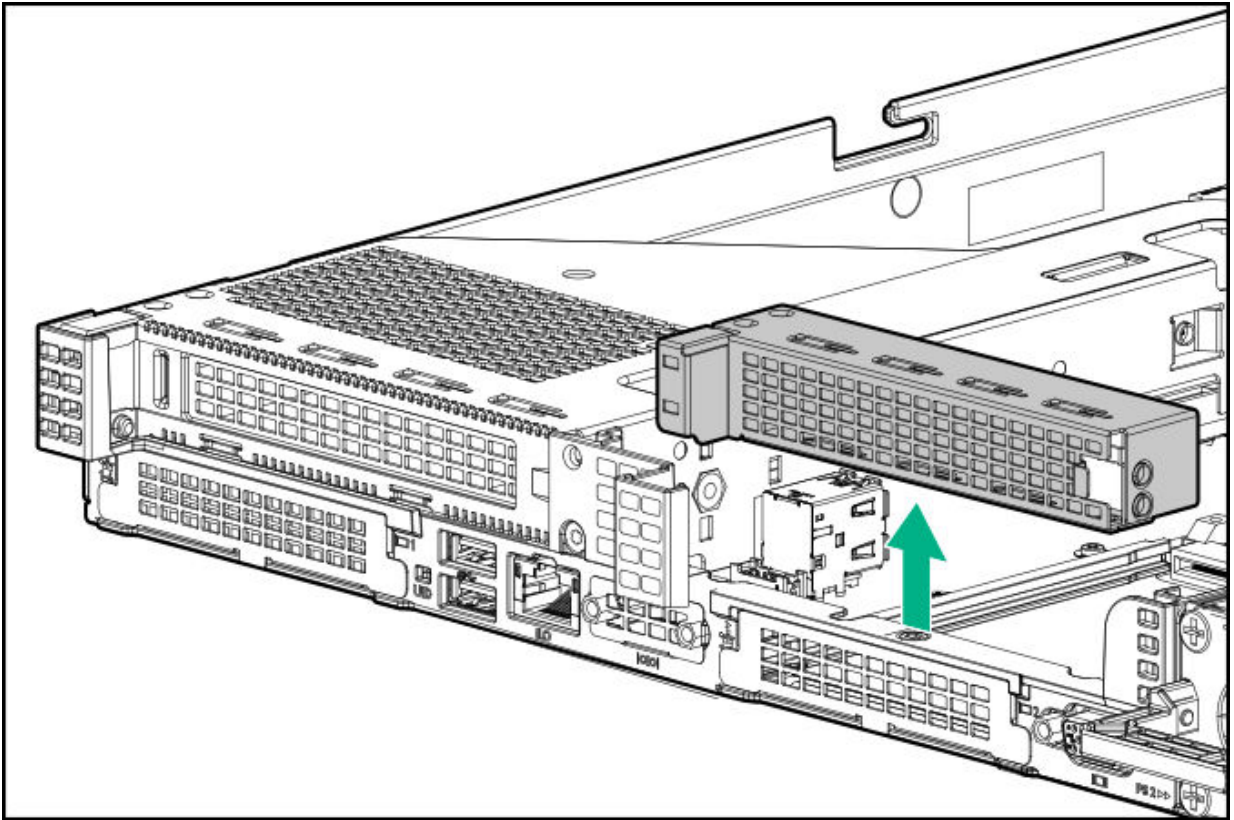
CAUTION

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

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. If you are removing the OCP slot blank from Slot 21, remove the primary riser cage.
8. If you are removing the OCP slot blank from Slot 22, do one of the following:

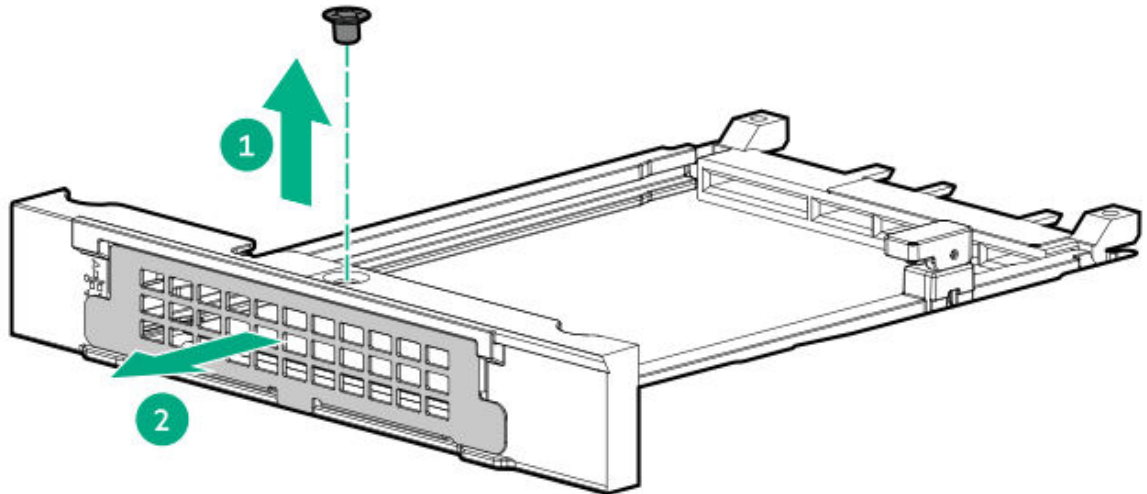
- Remove the secondary riser cage.
- Remove the secondary riser cage blank.



- Remove the NS204i-u + secondary low-profile riser cage.

9. Remove the OCP slot blank:

- a. Remove the blank screw.
- b. Remove the blank.



Results

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

Removing and replacing the OCP NIC 3.0 adapter

Prerequisites

Before you perform this procedure, make sure that you have a piece of ESD foam available. This is required only if a DLC module is installed.

About this task

<https://sketchfab.com/models/ac02ab5a52f140faa5c7e7a4444f9683/embed?>



CAUTION

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



CAUTION

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



CAUTION

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:

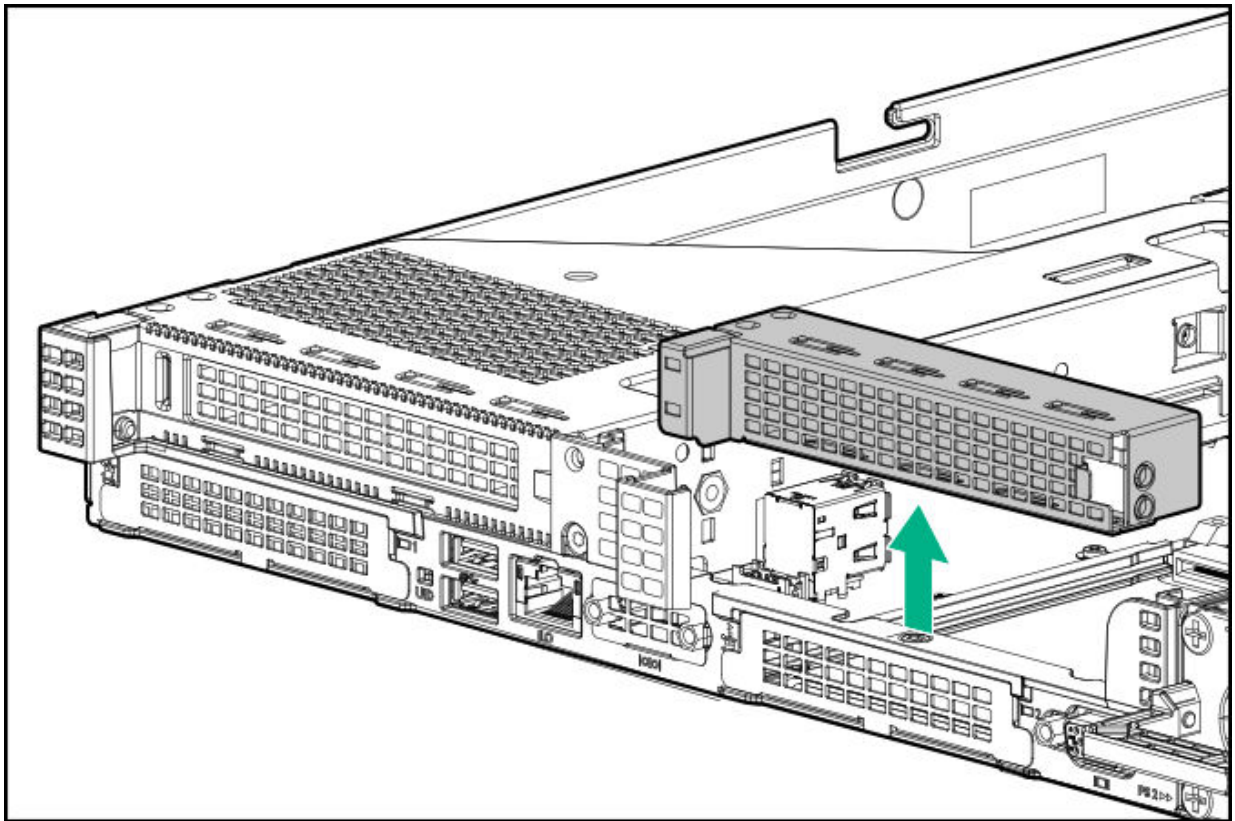
- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

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. If a DLC module is installed, disconnect the DLC hoses from the rack manifolds.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. If you are removing the OCP NIC from Slot 21, remove the primary riser cage.

8. If you are removing the OCP NIC from Slot 22, do one of the following:

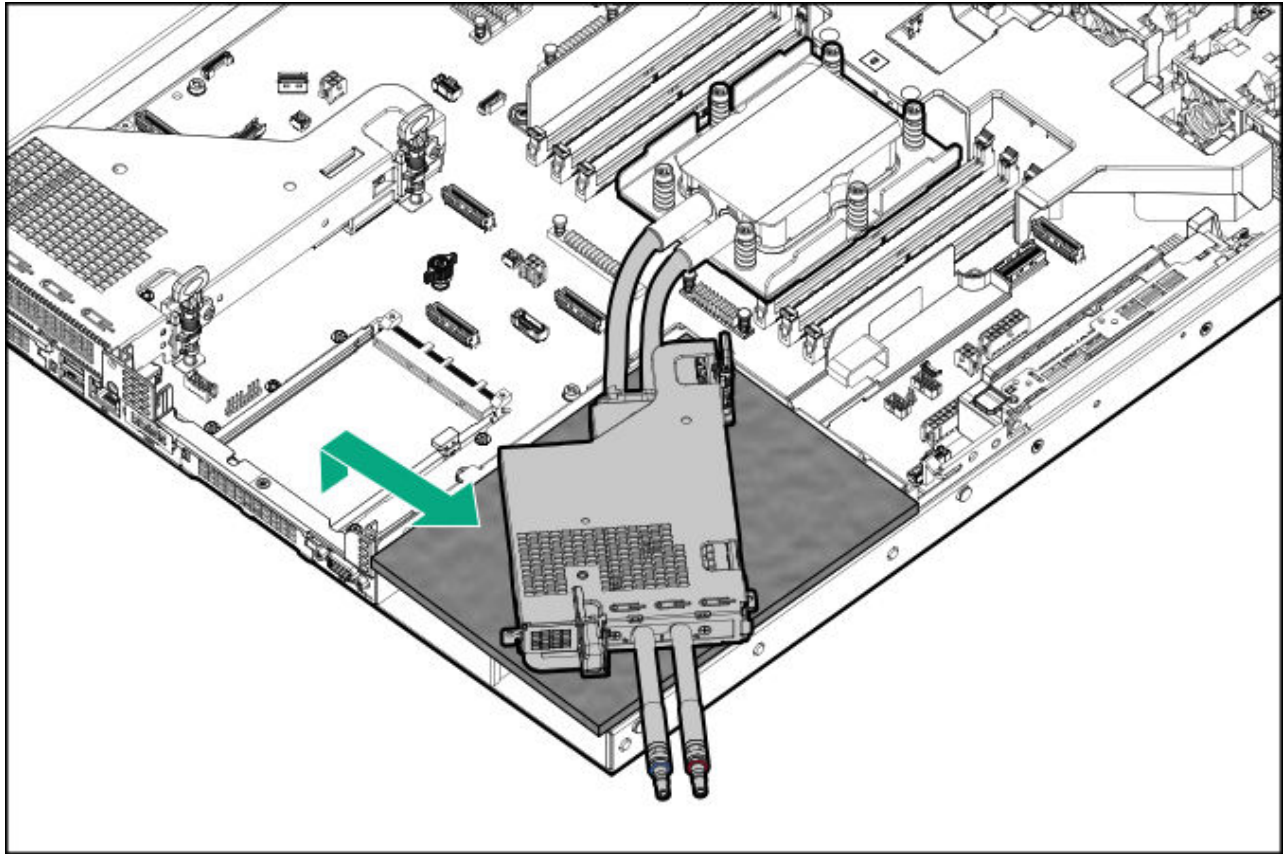
- Remove the secondary riser cage.
- Remove the secondary riser cage blank.



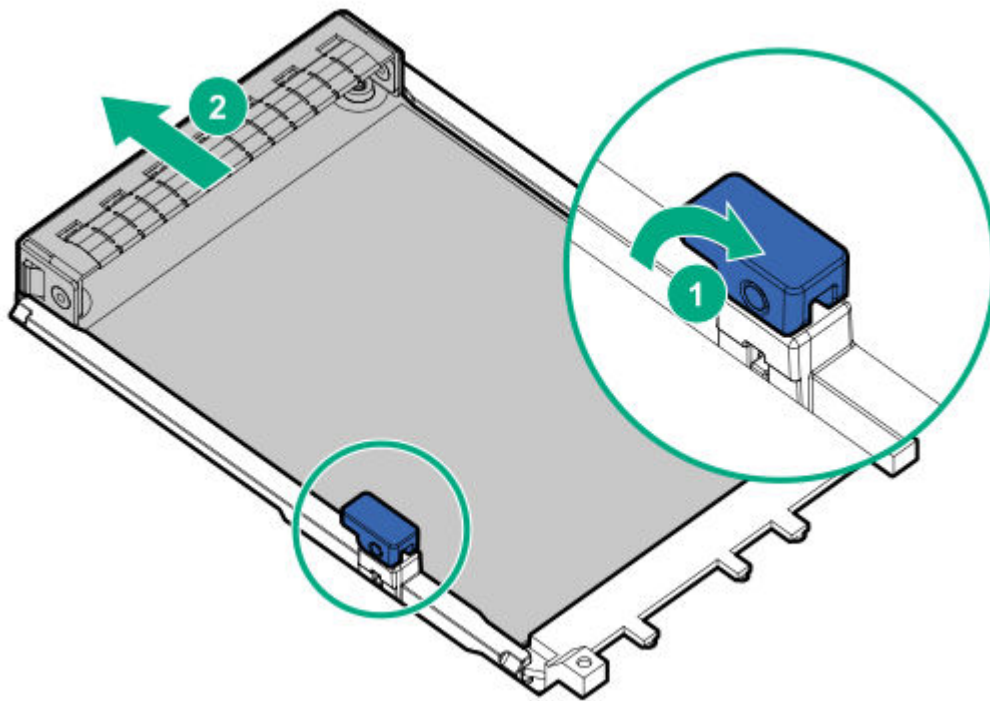
- Remove the NS204i-u + secondary low-profile riser cage.

9. If you are removing the OCP NIC from Slot 22 on systems with a DLC module, release the riser cage that supports the DLC module hoses:

- To protect the edge connector of the riser board, place an adequately sized ESD foam on top of the power supply cage.
- Release the riser cage that supports the DLC module hoses, and carefully set it on top of the power supply cage.



- .0. Remove the OCP NIC:
 - a. Rotate the locking pin to the open (vertical) position.
 - b. Slide the OCP NIC out of the bay.



Results

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

Removing and replacing the left OCP Slot 21 rail

Prerequisites

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

About this task



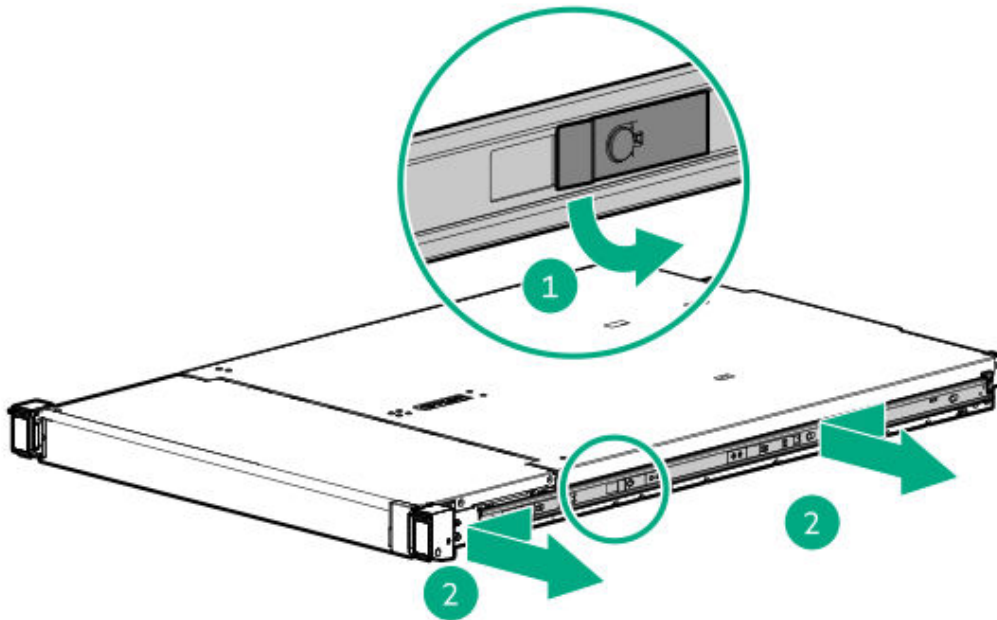
CAUTION

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

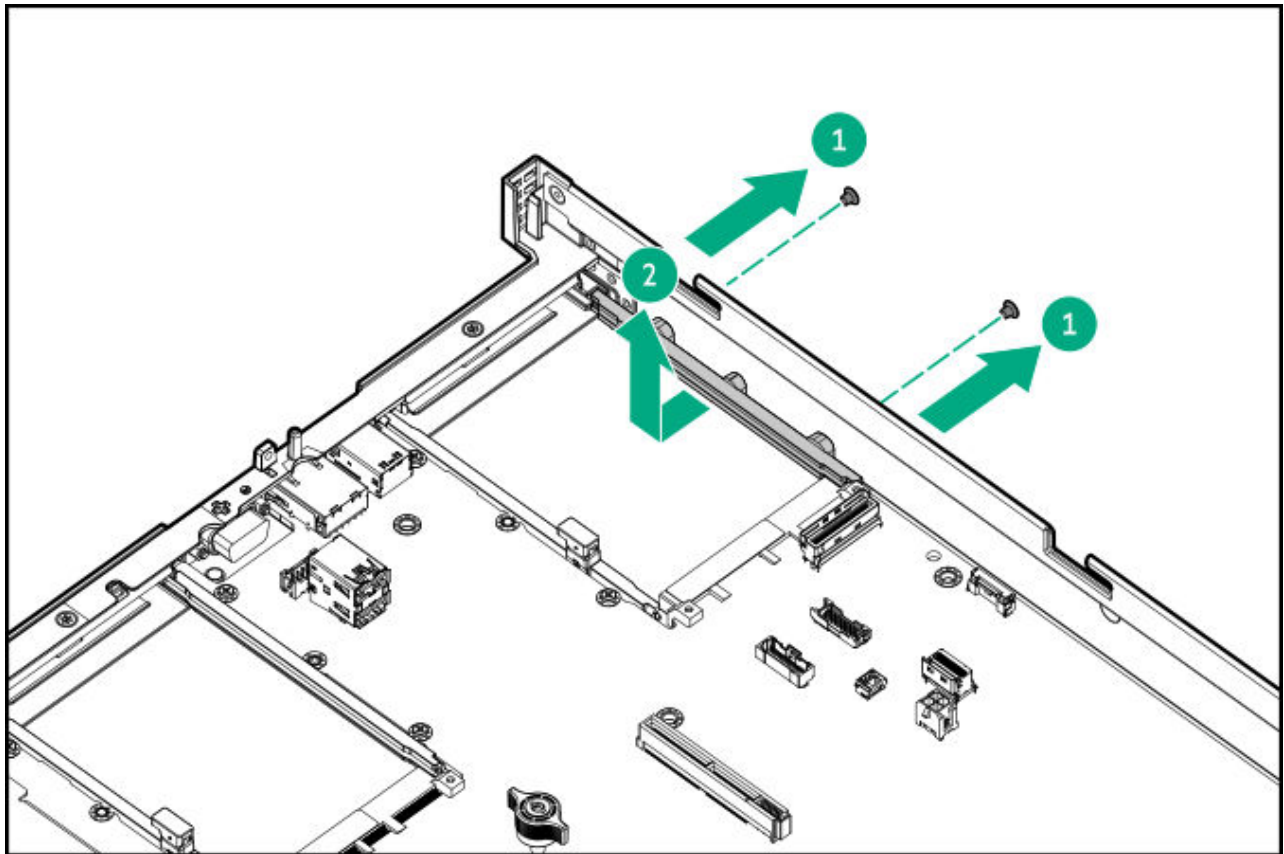
Procedure

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

- a. Disconnect each power cord from the power source.
- b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the primary riser cage.
8. If installed, remove the OCP NIC 3.0 adapter.
9. Remove the right rack sliding rail from the chassis:
 - a. Pull and hold the release tab.
 - b. Slide the rail towards the front panel and pull it away from the server.



10. Remove the left OCP Slot 21 rail.



Results

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

Removing and replacing the serial port

Prerequisites

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

- Hex screwdriver
- ESD foam—This is required only if a DLC module is installed.

About this task



CAUTION

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

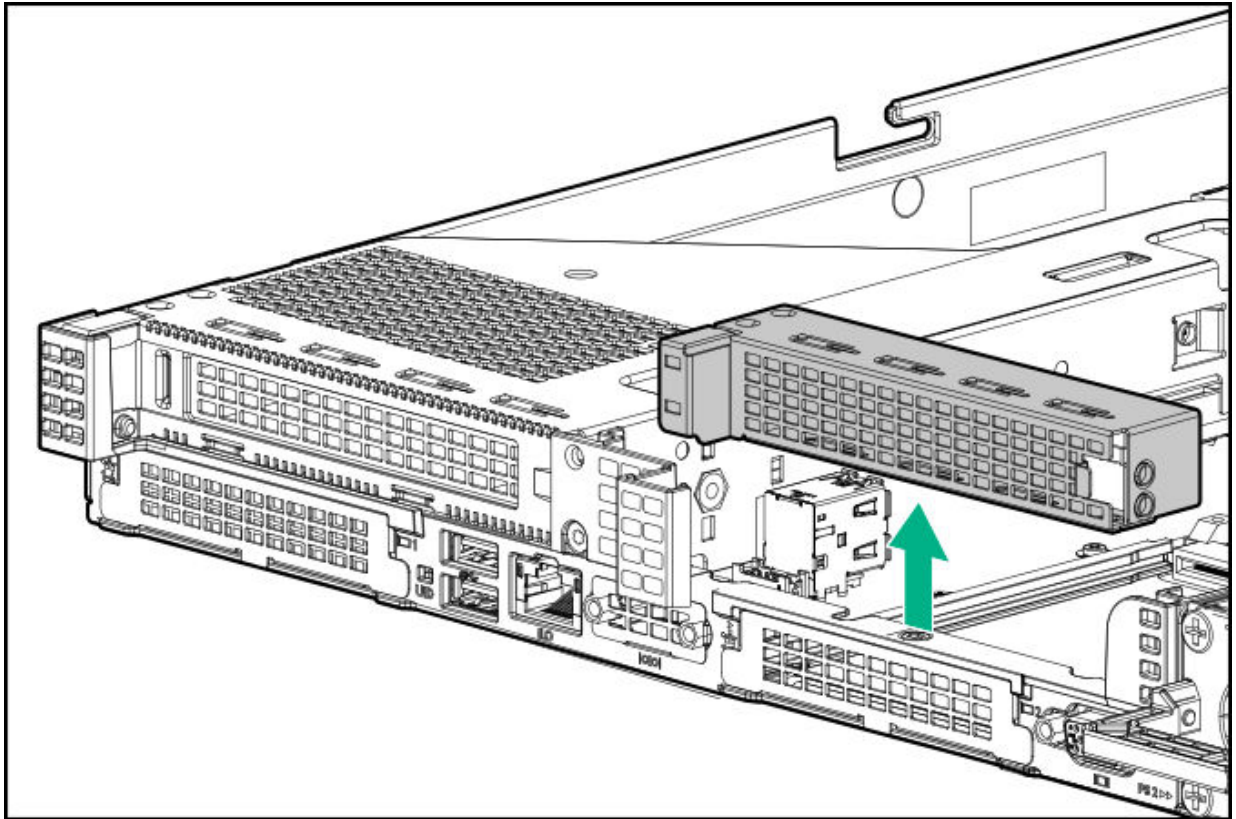


CAUTION

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.

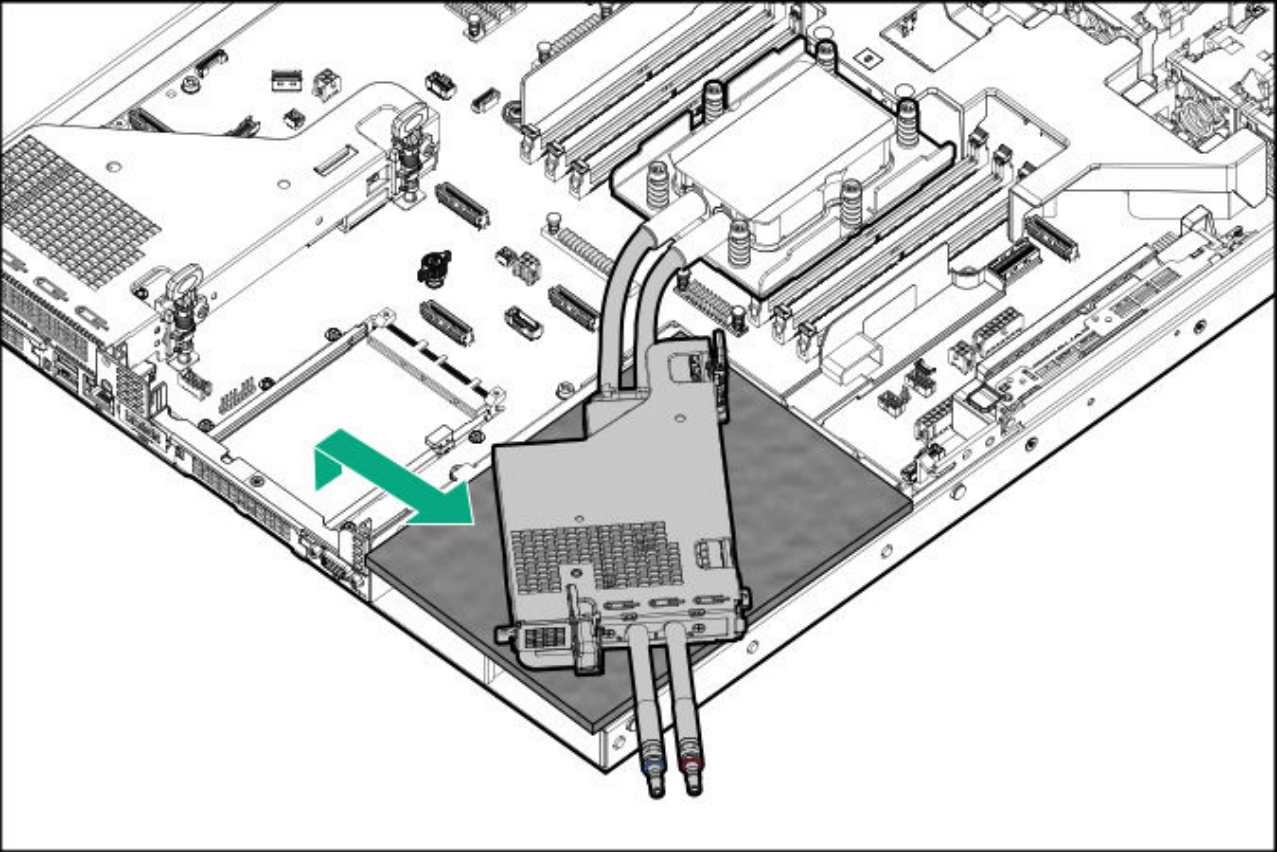
Procedure

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. If a DLC module is installed, disconnect the DLC hoses from the rack manifolds.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
 - Remove the secondary riser cage.
 - Remove the secondary riser cage blank.

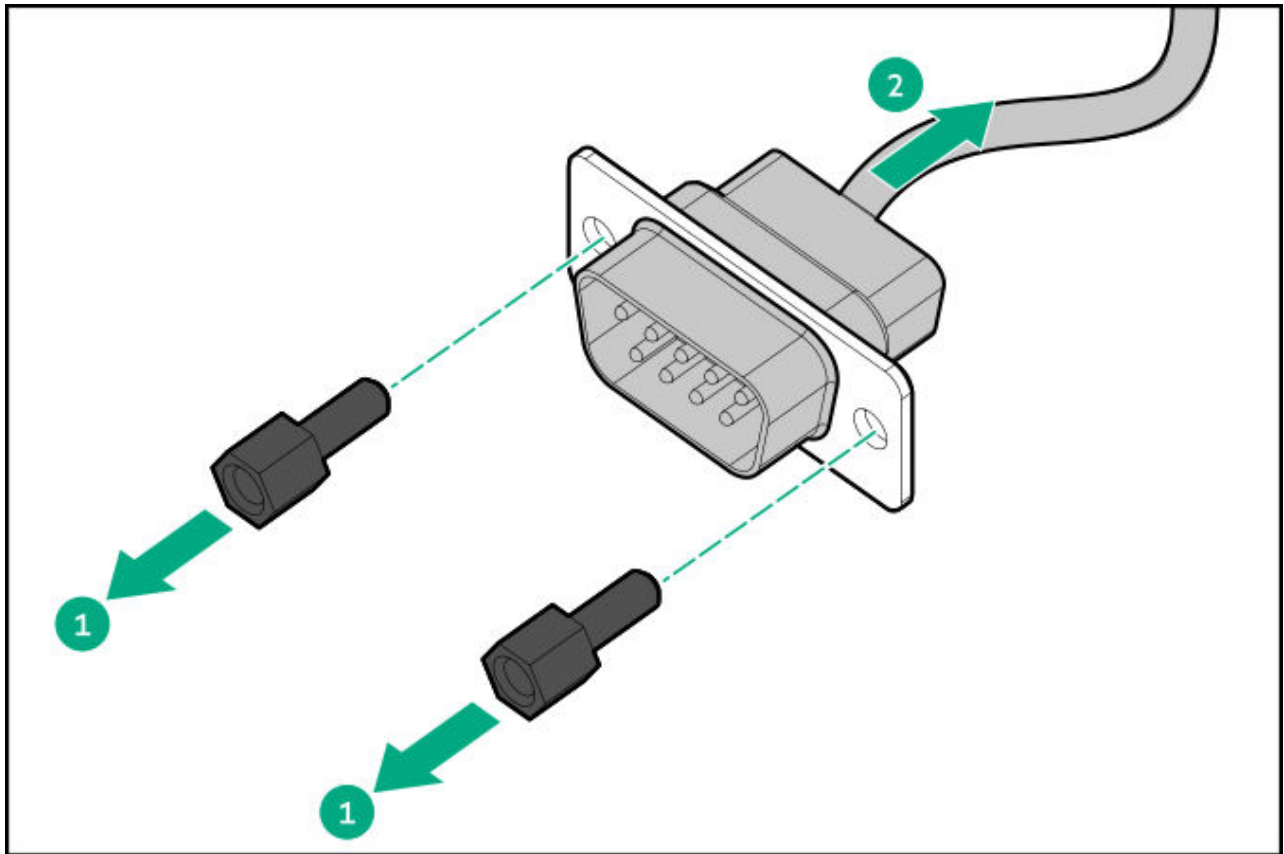


- Remove the NS204i-u + secondary low-profile riser cage.

9. If a DLC module is installed, release the riser cage that supports the DLC module hoses:
 - a. To protect the edge connector of the riser board, place an adequately sized ESD foam on top of the power supply cage.
 - b. Release the riser cage that supports the DLC module hoses, and carefully set it on top of the power supply cage.



- .0. Disconnect the serial port cable from the system board.
- .1. Remove the serial port cable:
 - a. Remove the hex screws.
 - b. Remove the serial port from the rear panel.



Results

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

Removing and replacing the serial port blank

Prerequisites

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

About this task



CAUTION

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

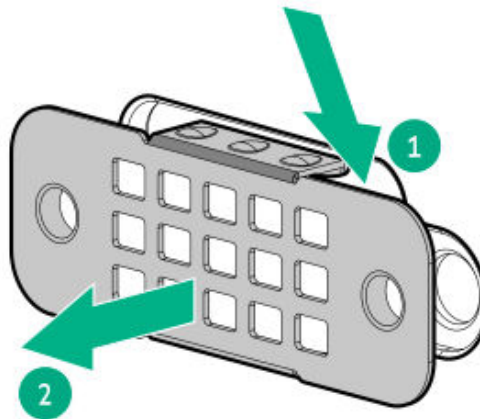


CAUTION

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

Procedure

1. Remove the serial port blank:
 - a. Detach the right side of the blank.
 - b. Repeat step a on the left side to remove the blank.



2. Immediately install the new serial port blank.

Results

The replacement procedure is complete.

System battery replacement

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

Subtopics

System battery information

Removing and replacing the system battery

System battery information

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



WARNING

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

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

Removing and replacing the system battery

Prerequisites

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

About this task

<https://sketchfab.com/models/6f2a2a1a5c8540cb9a3adc740b055e0e/embed?>

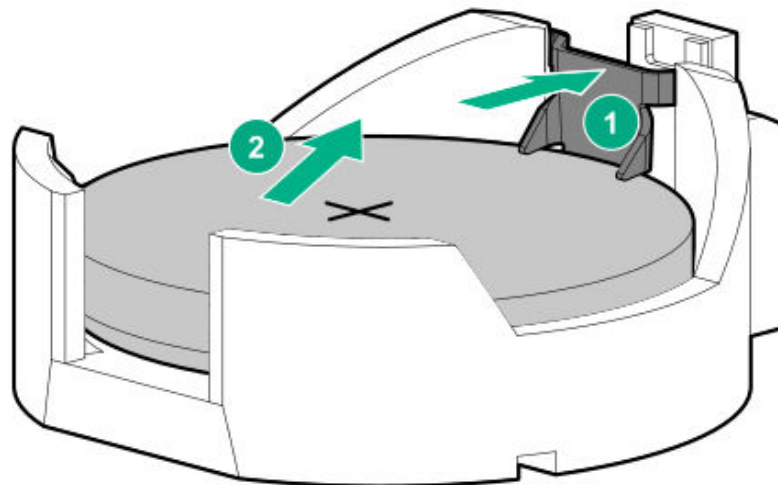


CAUTION

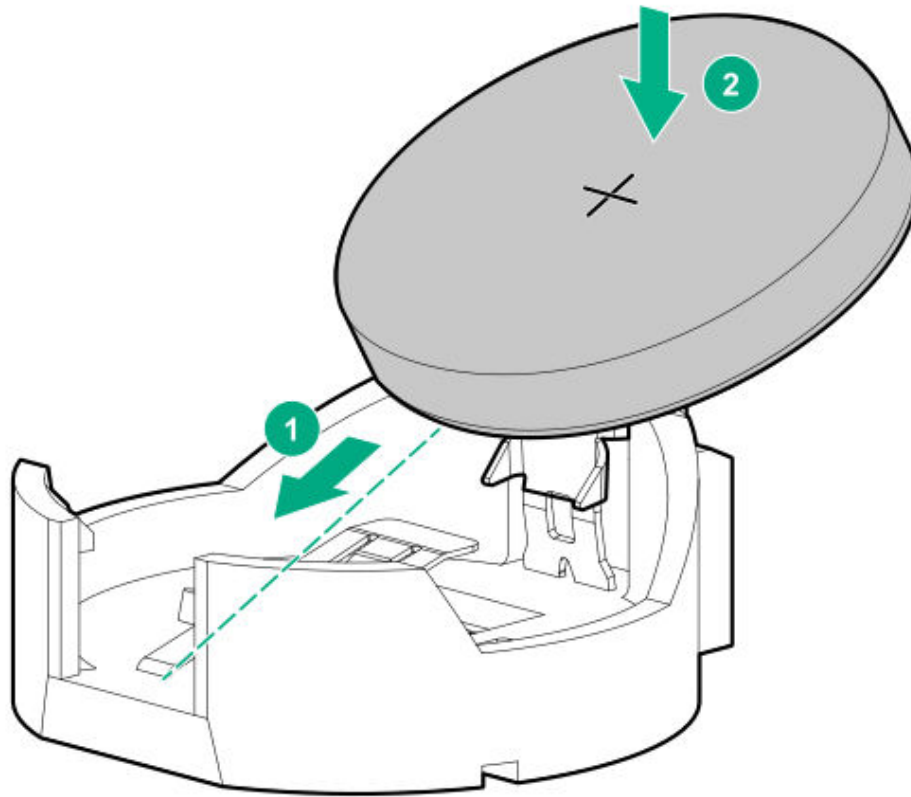
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

Procedure

1. [Power down the server](#).
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. [Remove the server from the rack](#).
5. Place the server on a flat, level work surface.
6. [Remove the access panel](#).
7. Remove the system battery:
 - a. Use a small flat-bladed, nonconductive tool to press the battery latch.
 - b. Remove the system battery from the socket.



8. 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.



Results

The replacement procedure is complete.

System board assembly replacement

Subtopics

[Removing the system board assembly](#)

[Installing the system board assembly](#)

[Re-entering the server serial number and product ID](#)

Removing the system board assembly

Prerequisites



CAUTION

Be sure to have the BitLocker recovery key/password prior to replacing the system board. If you do not have the key/password, you will need to reinstall the OS.

- Perform a backup of critical server data.
- Before you perform this procedure, make sure that you have the following items available:
 - T-20 Torx screwdriver
 - T-15 Torx screwdriver
 - Hex screwdriver—This tool is required if the serial port cable is installed.
 - Alcohol wipe

About this task

https://support.hpe.com/hpesc/public/videoDisplay?videoId=vpsg00005132en_us&noframe



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

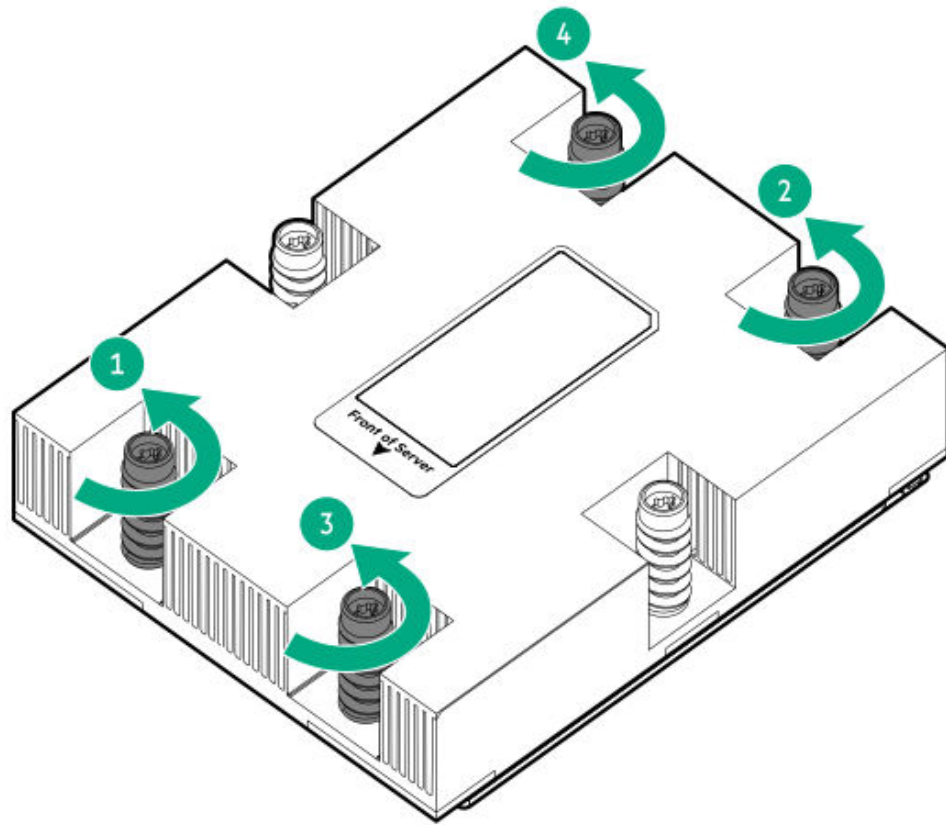
1. Back up all server data.
2. Power down the server.
3. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.

4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the middle cover.
9. Disconnect all cables and remove all components from the system board assembly:
 - Remove the air baffle.
 - Remove all fans.
 - Remove all DIMMs.
 - Remove all riser cages.
- .0. If installed, remove the following components:
 - Chassis intrusion detection switch
 - Energy pack and energy pack holder
 - OCP NIC 3.0 adapter
 - Type-o storage controller
 - Serial port
 - Power supply
- .1. Remove the heatsink:

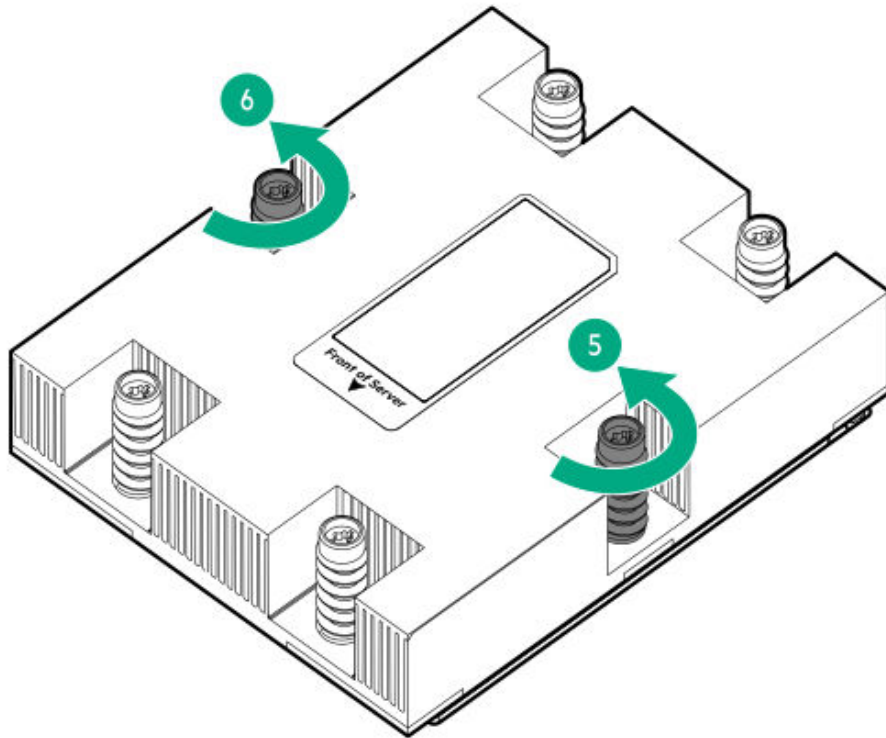
**CAUTION**

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 its base plate. Do not touch the heatsink fins.

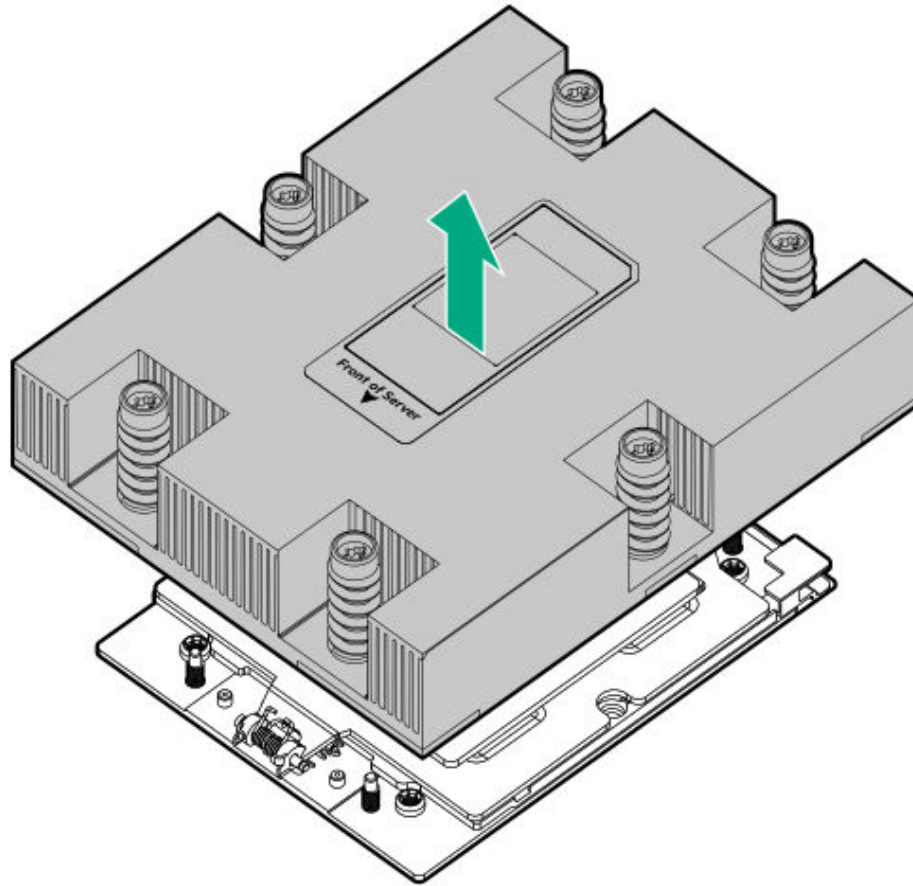
- a. Review the heatsink screw numbering on the heatsink label.
- b. Loosen the heatsink screw numbers 6, 5, 4, and 3 in a diagonal manner (callouts 1 to 4).



c. Loosen the heatsink screw numbers 2 and 1 (callouts 5 and 6).



- .2. Lift the heatsink away from the processor socket.

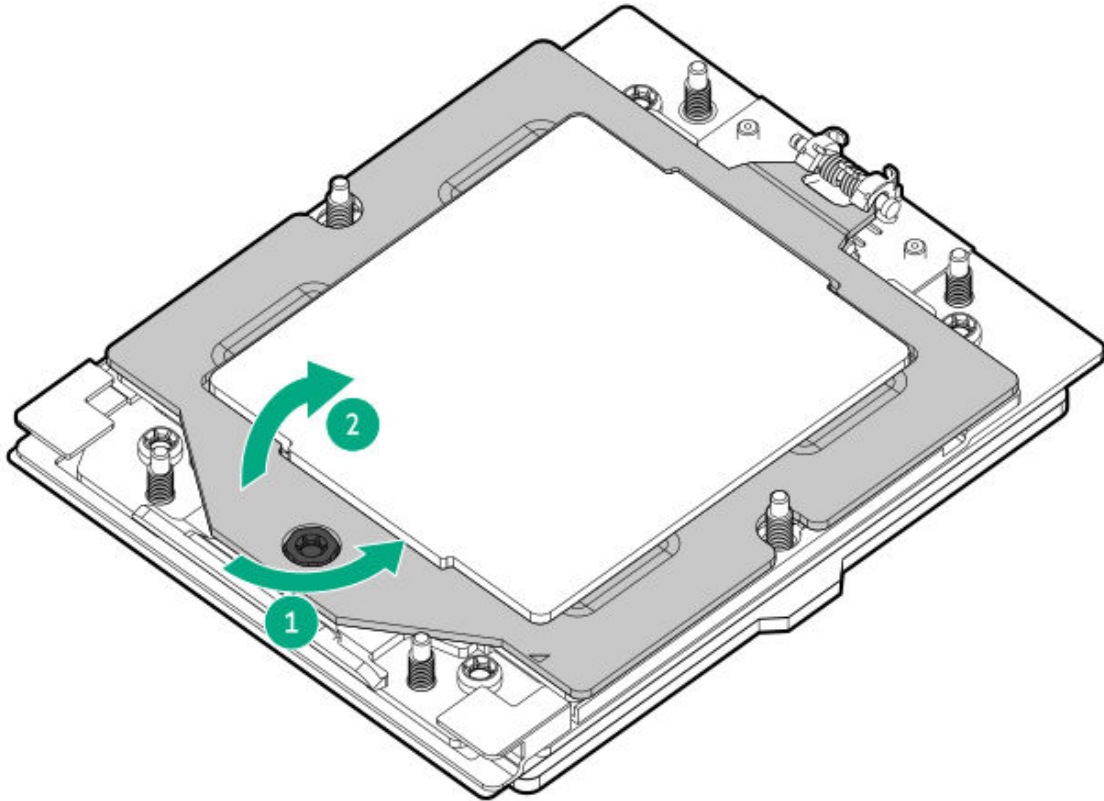


- .3. Place the heatsink on a flat work surface with its contact side facing up.
- .4. Use an alcohol wipe to remove the existing thermal grease from the heatsink and processor.

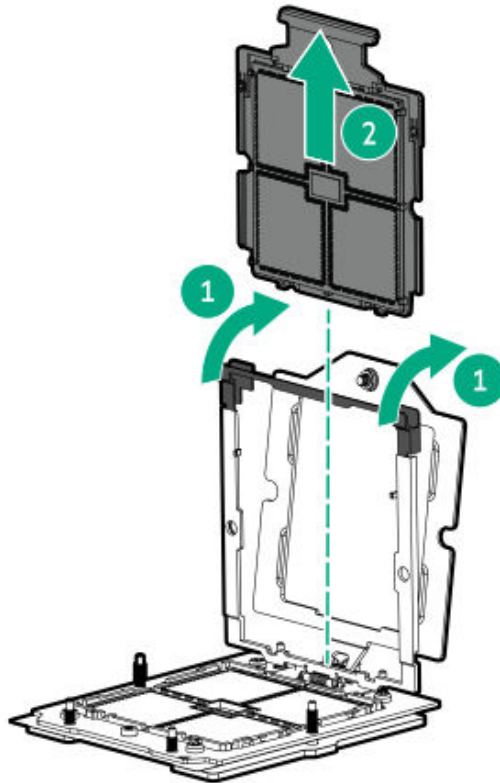
Allow the alcohol to evaporate before continuing.

- .5. Remove the processor:
 - a. While holding the sides of the retention frame, loosen the frame screw.

This retention frame is spring-loaded. After the screw is loosened enough, hold the retention frame as it automatically pivots to a vertical position.



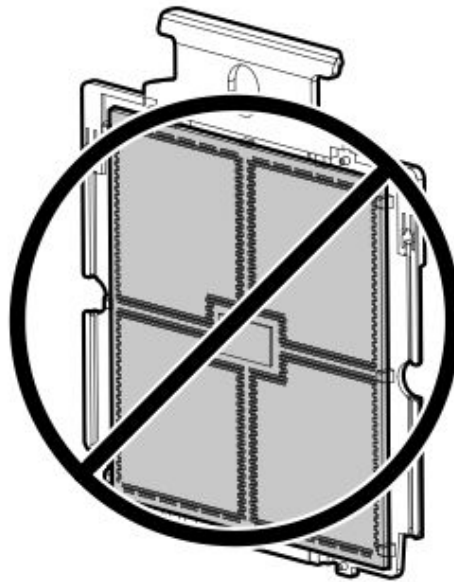
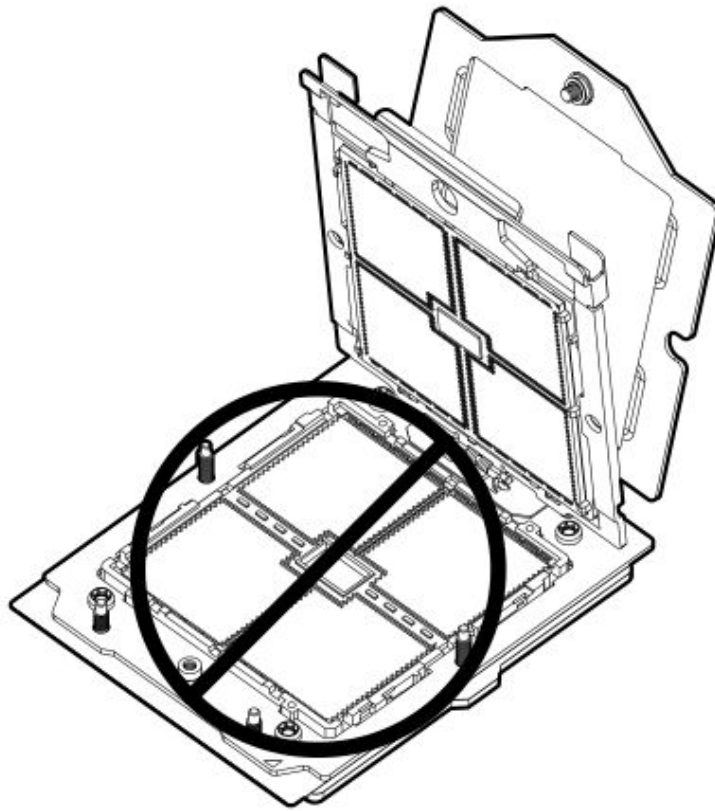
- b. Hold the lift tabs and pivot the rail frame to the vertical position.
- c. Slide the processor out of the rail frame.



CAUTION

The pins on the processor socket and on the processor are very fragile and easily damaged. To avoid component damage, **do not touch these pins.** Any damage to them might require replacing the system board and/or processor.

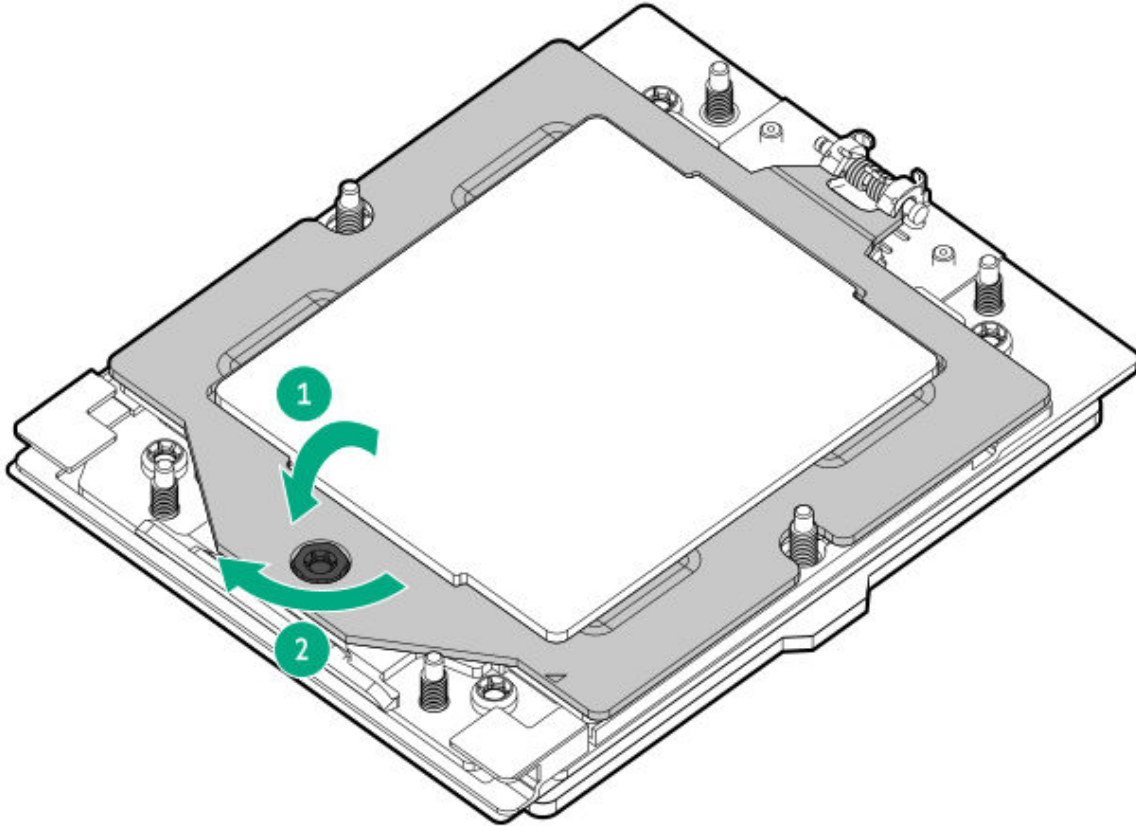
- .6. Do not touch the pin field on the socket and the processor contacts.



.7. Close the retention frame:

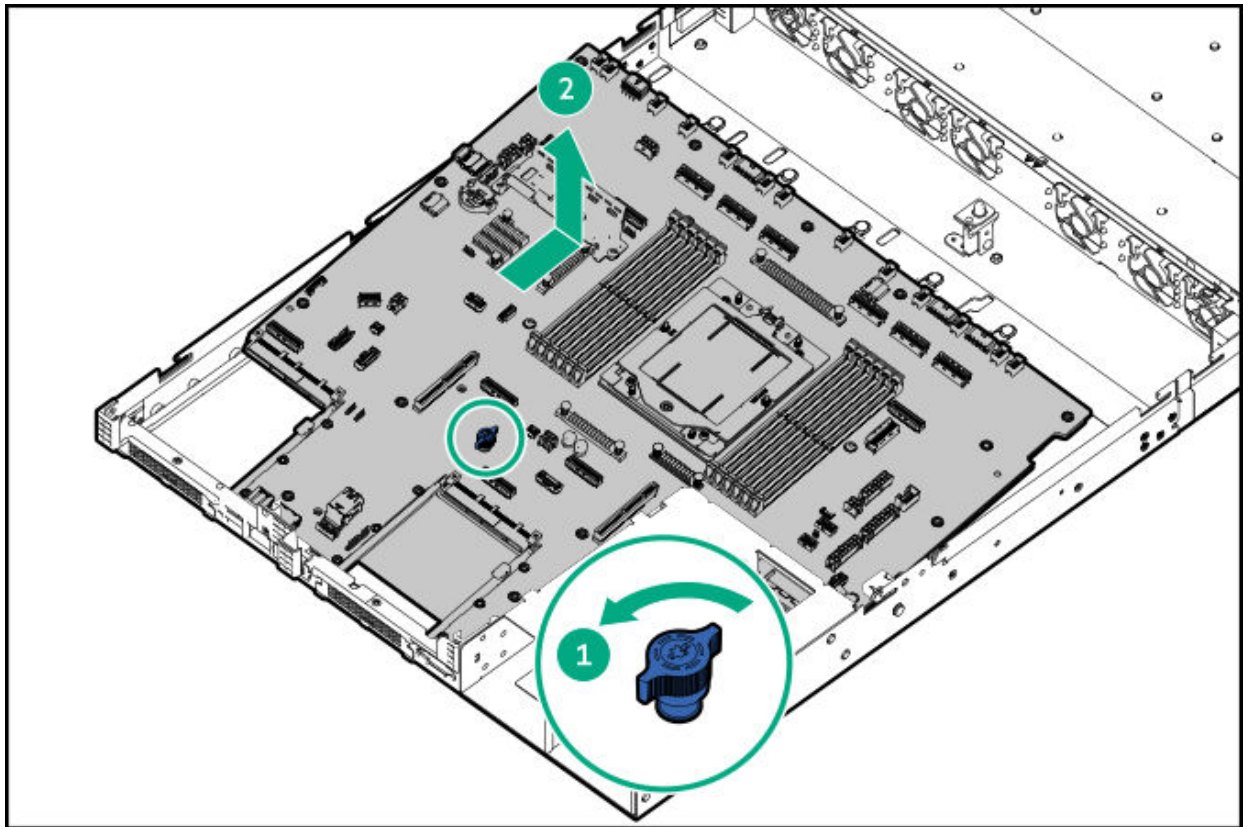
- a. When using a torque screwdriver to tighten the retention frame screw, set a torque between 1.24 N-m (11 lbf-in) to 1.47 N-m (13 lbf-in).
- b. Pivot the spring-loaded retention frame downward and hold it down.

c. Tighten the retention frame screw.



.8. Remove the system board assembly:

- a. Loosen the system board thumbscrew, using a T-15 Torx screwdriver if necessary.
- b. Take the full-height full-length expansion card support bracket and the thumbscrew to lift the system board assembly.



Installing the system board assembly

Prerequisites



CAUTION

Be sure to have the BitLocker recovery key/password prior to replacing the system board. If you do not have the key/password, you will need to reinstall the OS.



CAUTION

Do not use One-button secure erase (OBSE). OBSE should only be used to decommission or repurpose a system. **This option erases all data. Be sure to disconnect any drives, SANs, NAS, or other shared/external storage devices that you do not want erased.**

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

- Torque screwdriver with T-20 Torx bit

- Hex screwdriver—This tool is required if the serial port cable is to be installed.
- Thermal grease

About this task

https://support.hpe.com/hpesc/public/videoDisplay?videoid=vpsg00005132en_us&noframe

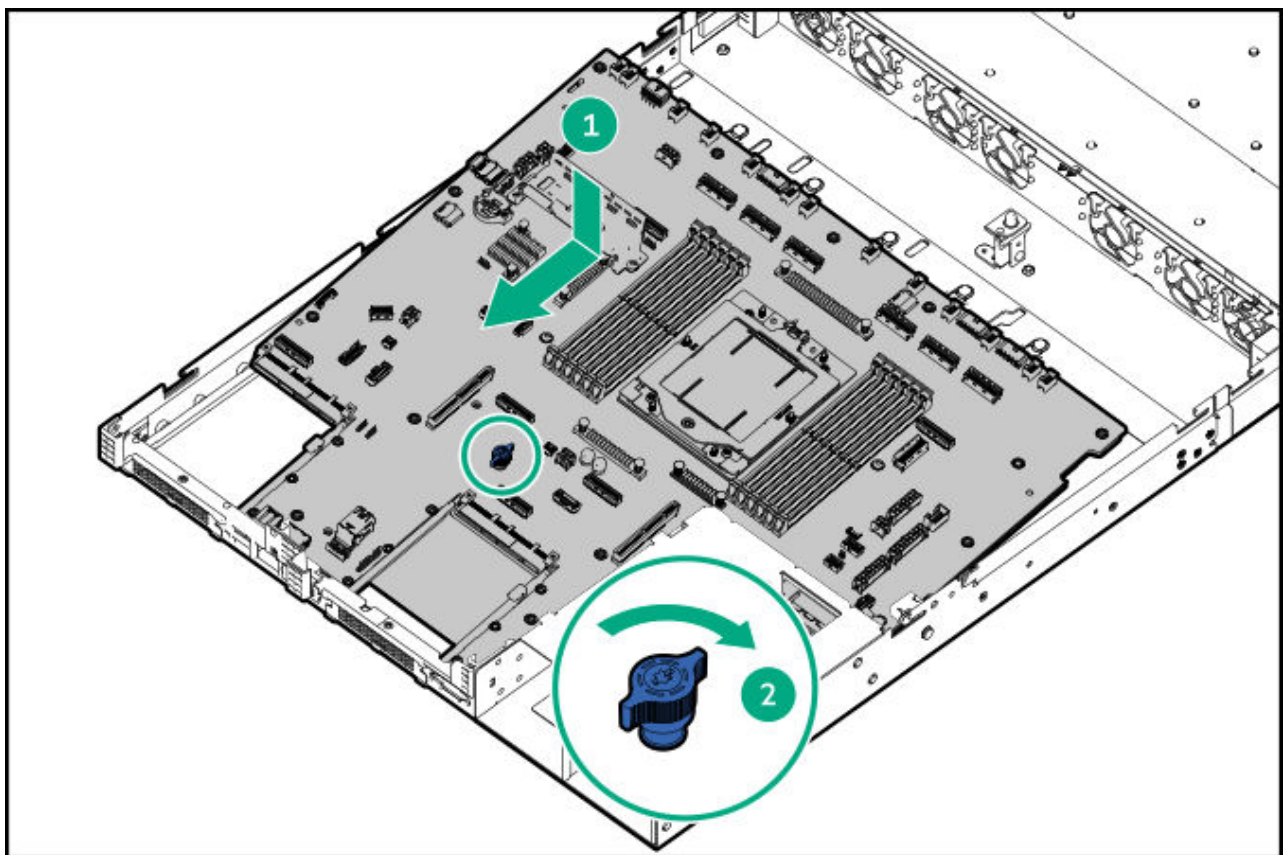


CAUTION

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

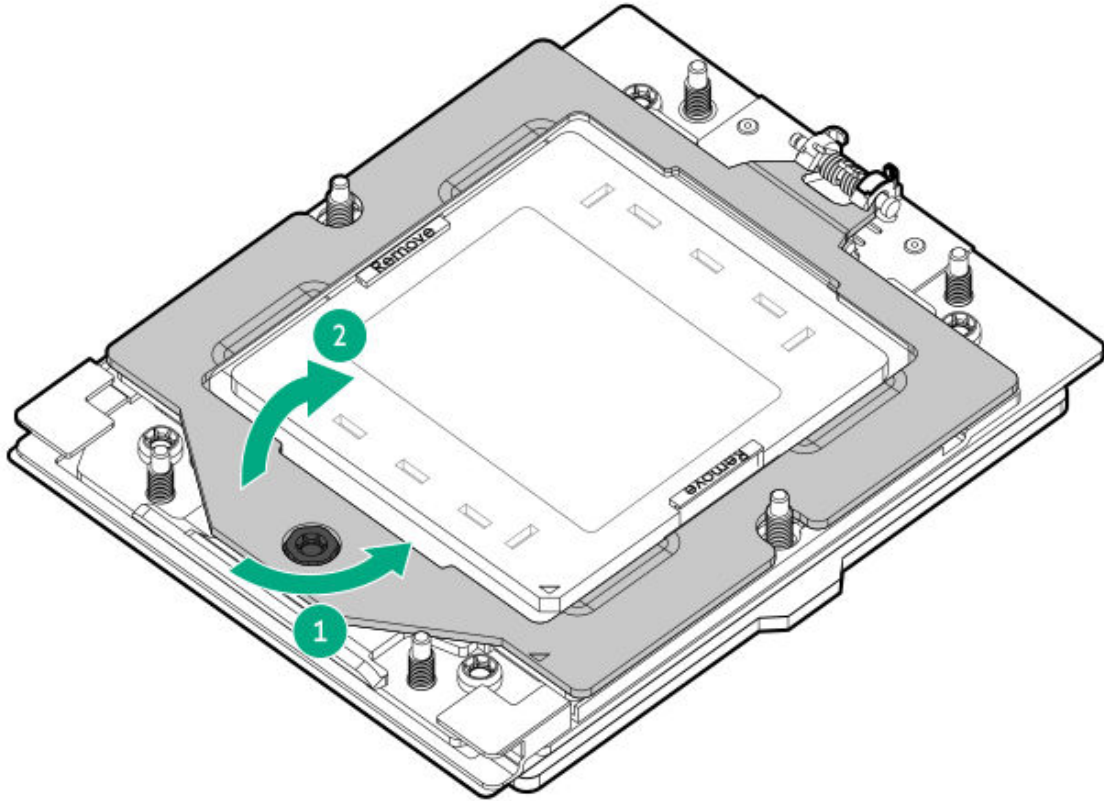
1. Install the new system board assembly:
 - a. Align the system board assembly to the openings on the rear panel.
 - b. Push the system board assembly till it locks on the chassis and rear panel.
 - c. Tighten the thumbscrew.



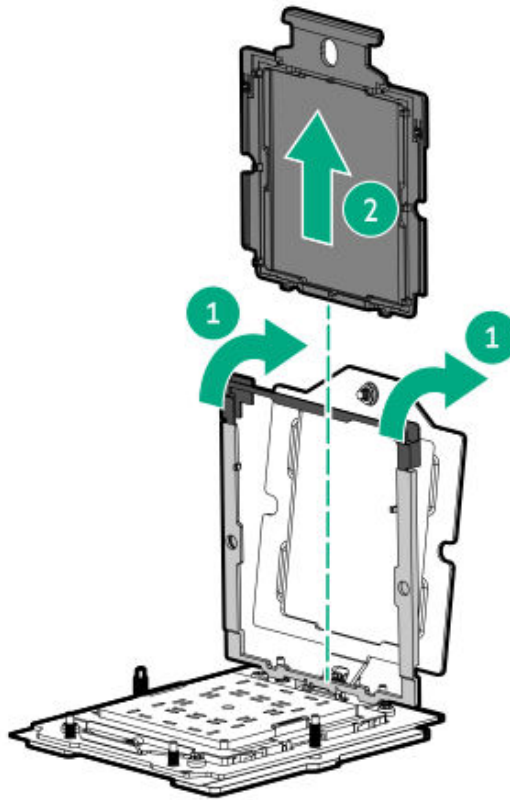
2. Remove the rail frame cover:

- a. While holding the sides of the retention frame, loosen the frame screw.

This retention frame is spring-loaded. After the screw is loosened enough, hold the retention frame as it automatically pivots to a vertical position.

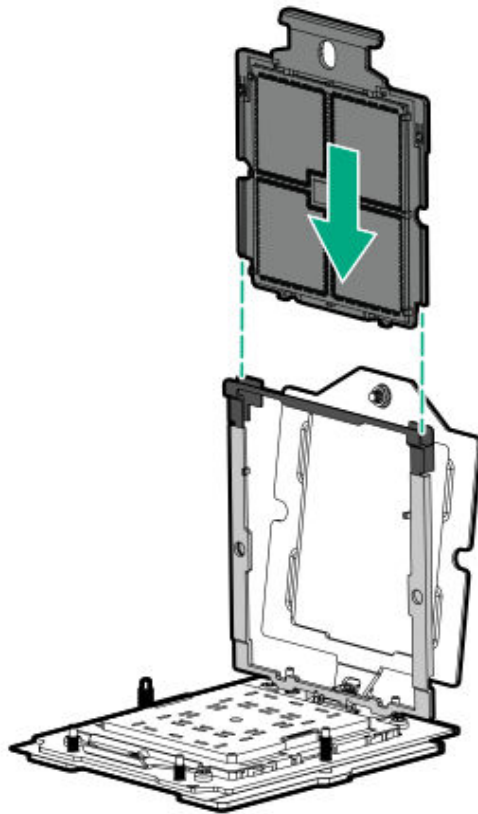


- b. Hold the lift tabs and pivot the rail frame to the vertical position.
- c. Slide the rail frame cover out of the rail frame.

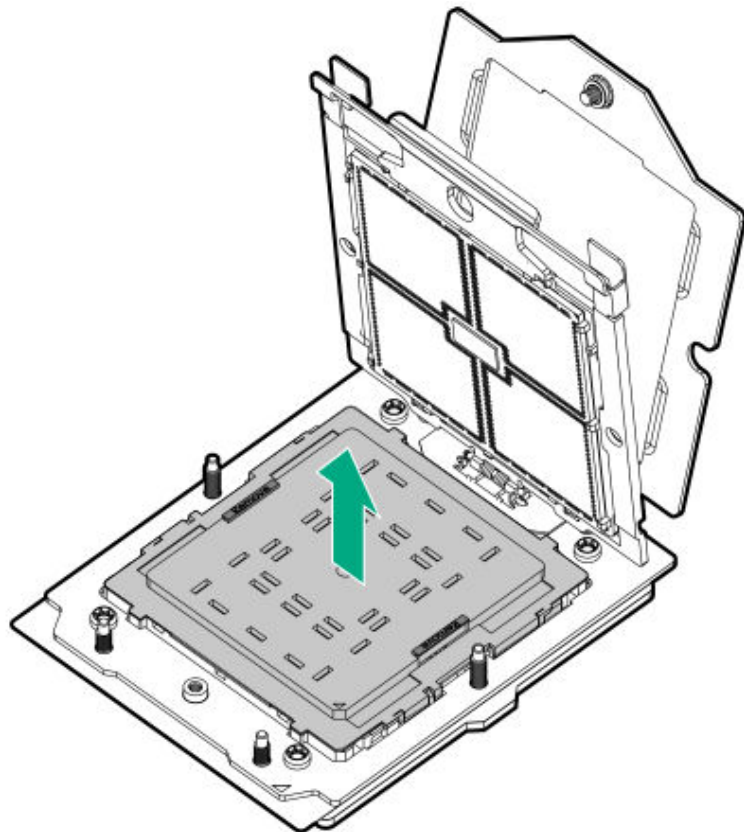


3. Install the processor:

- a. Hold the processor by its carrier handle and slide the processor into the rail frame until it engages with a click sound.



4. Remove the pin field cover cap.

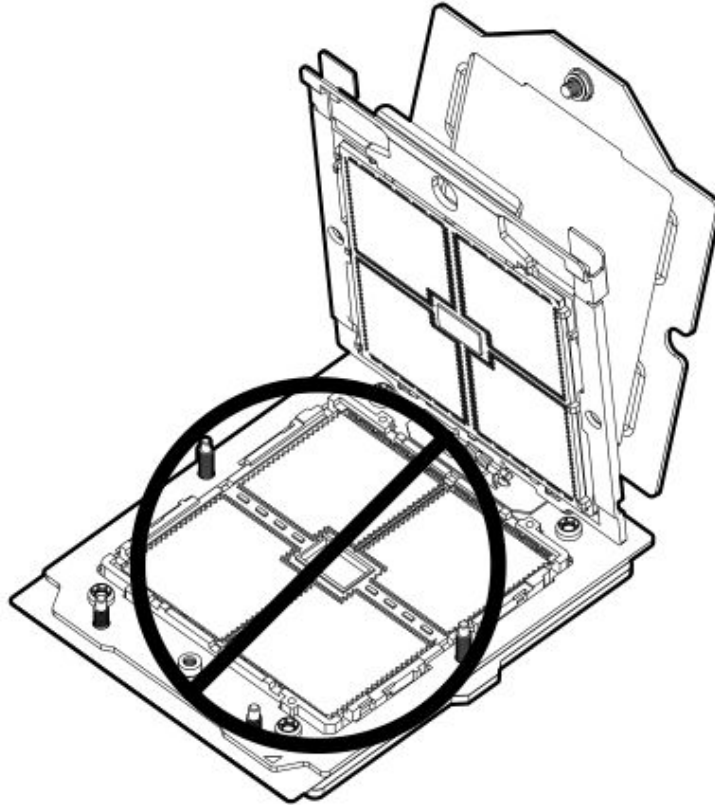


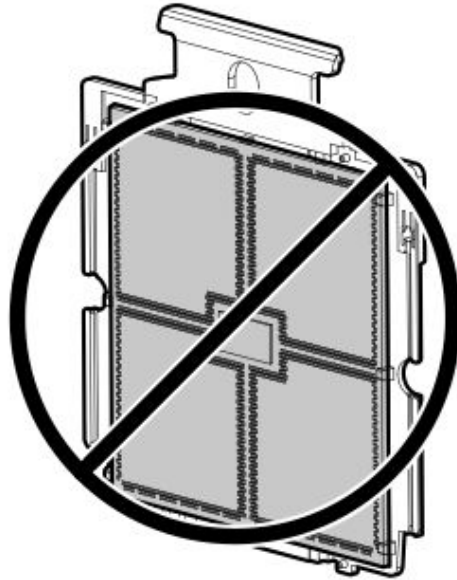


CAUTION

The pins on the processor socket and on the processor are very fragile and easily damaged. To avoid component damage, **do not touch these pins.** Any damage to them might require replacing the system board and/or processor.

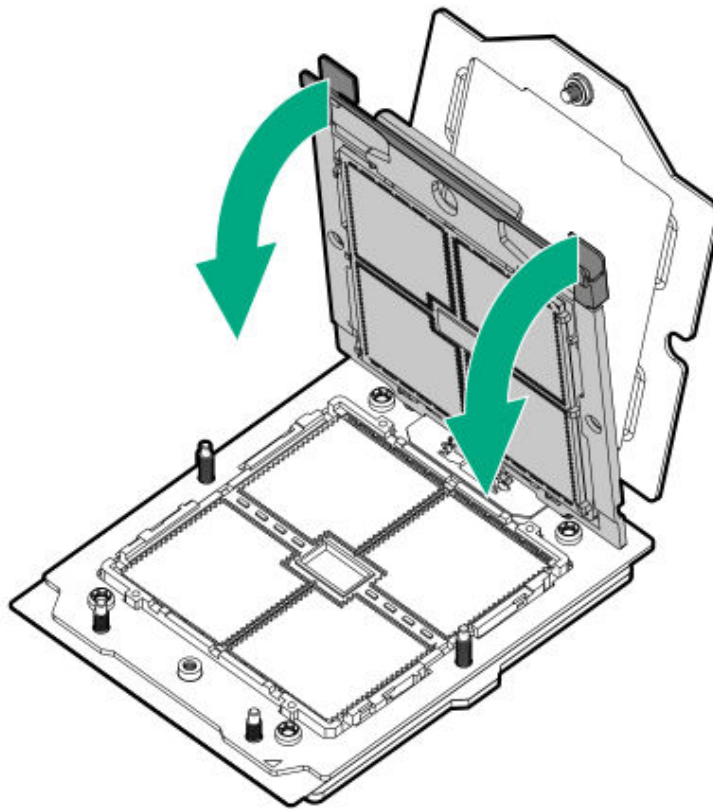
5. Do not touch the pin field on the socket and the processor contacts.





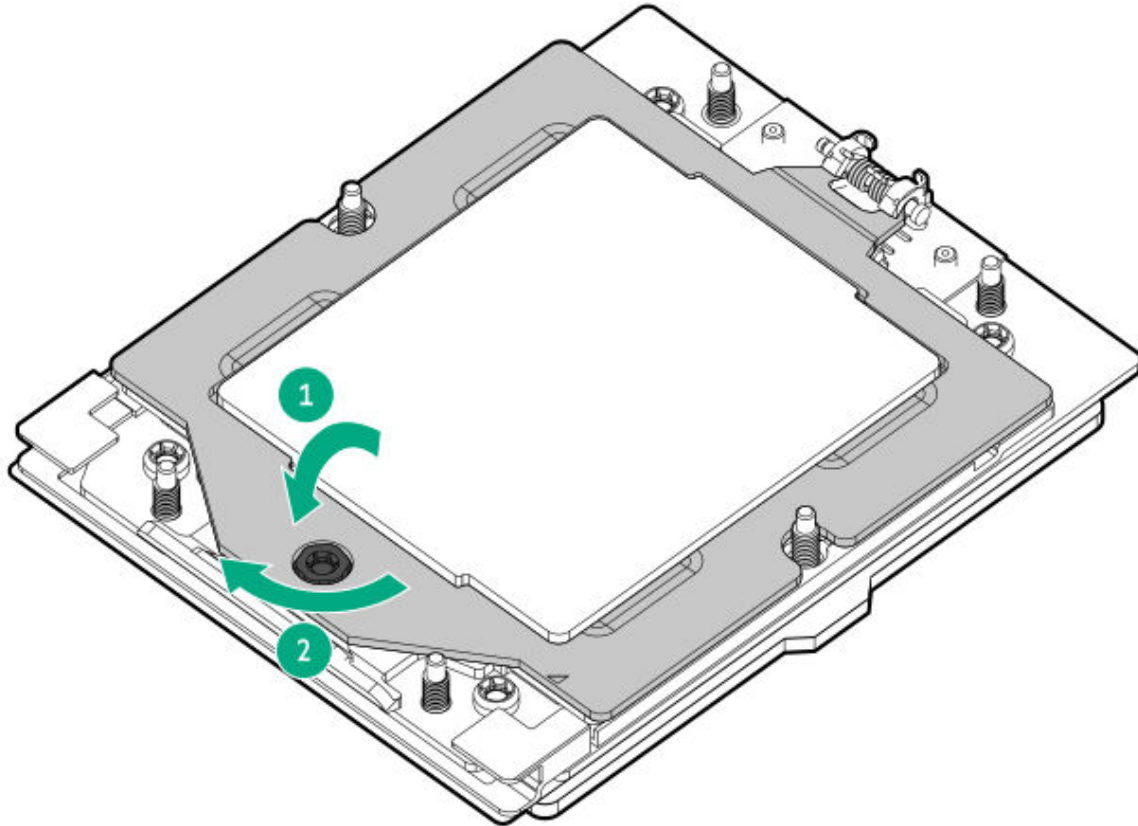
6. Hold the lift tabs and pivot the rail frame to the closed position.

A click sound indicates that the rail frame is properly engaged.

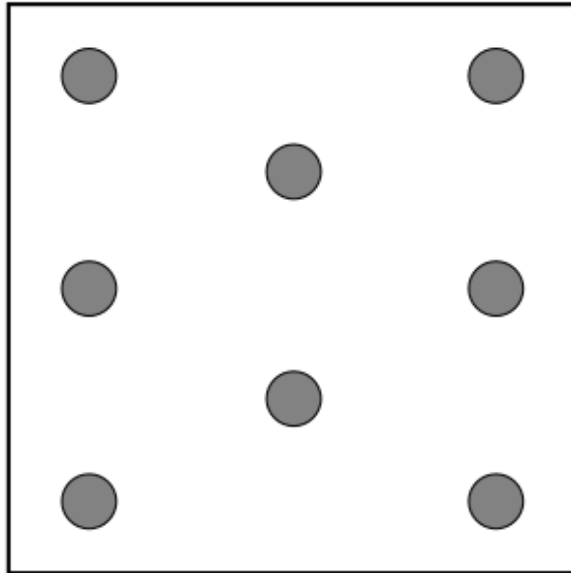


7. Close the retention frame:

- a. When using a torque screwdriver to tighten the retention frame screw, set a torque between 1.24 N-m (11 lbf-in) to 1.47 N-m (13 lbf-in).
- b. Pivot the spring-loaded retention frame downward and hold it down.
- c. Tighten the retention frame screw.



8. If you are using the same heatsink, apply the full content of the thermal grease syringes on top of the processor. Follow the pattern shown in the following image.



9. If you are using a new heatsink, remove the thermal interface protective cover from the heatsink.
10. Install the 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 its base plate. Do not touch the heatsink fins.

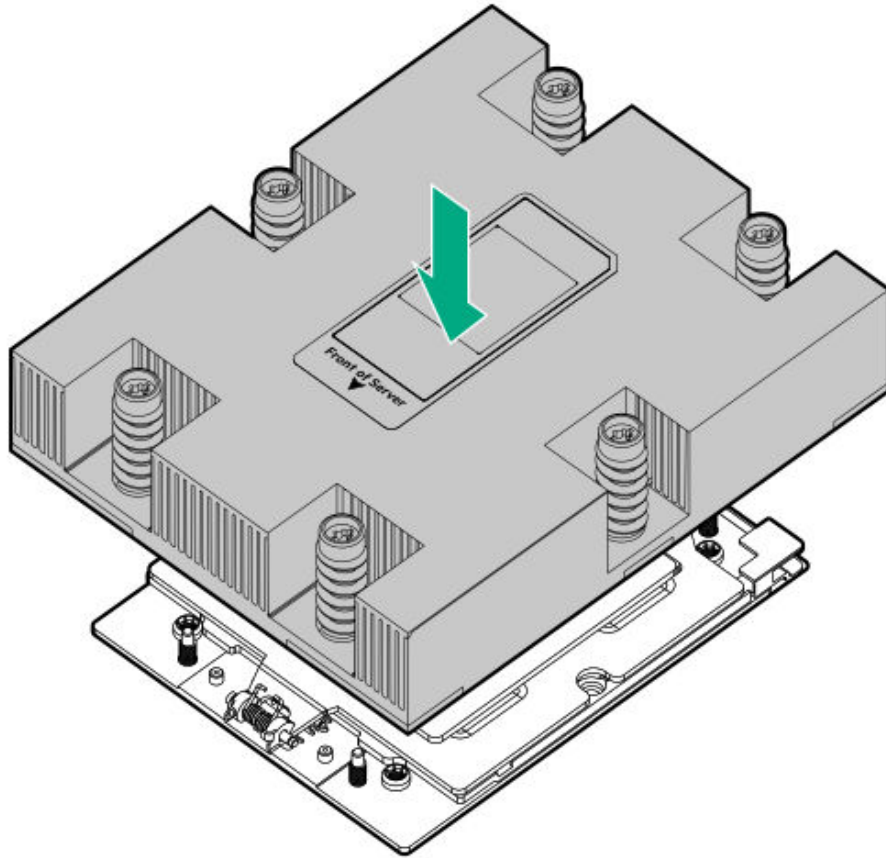


CAUTION

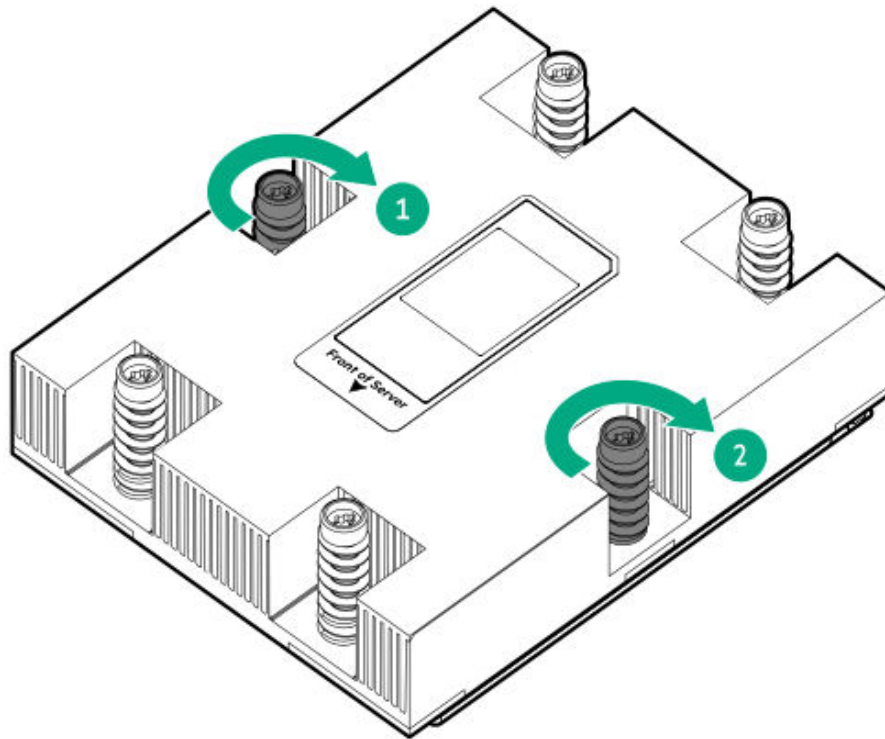
To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

- a. When using a torque screwdriver to tighten the heatsink screws, set a torque between 1.24 N-m (11 lbf-in) to 1.47 N-m (13 lbf-in).
- b. Note the **Front of server** text on the heatsink label to correctly orient the heatsink over the processor socket.

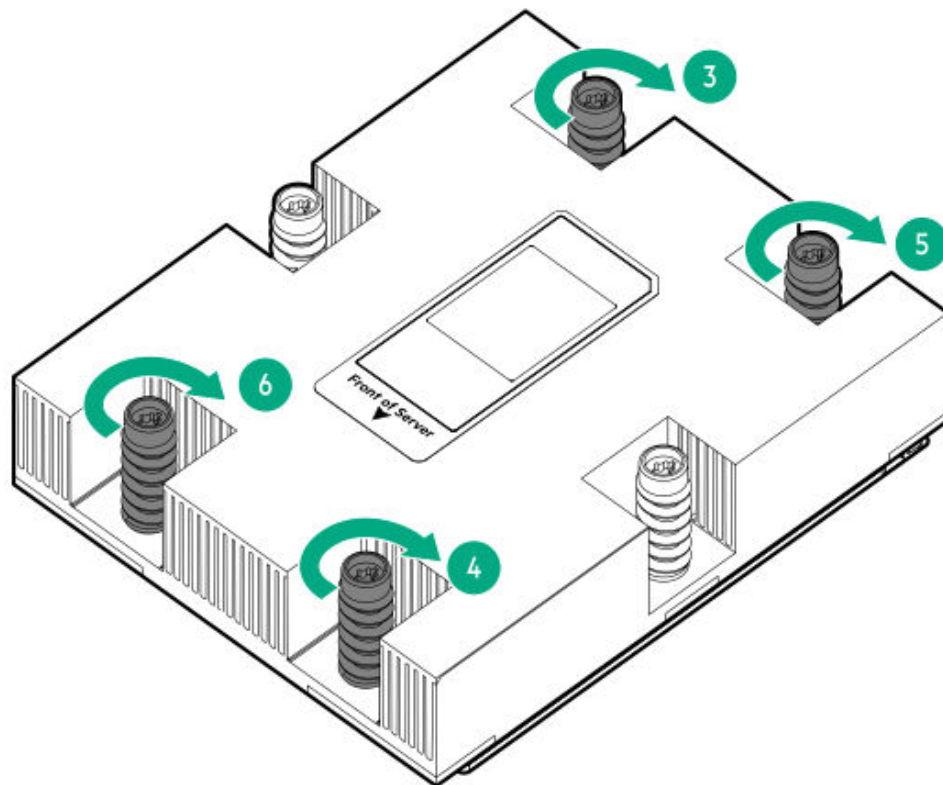
- c. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.



- d. Tighten the heatsink screw numbers 1 and 2 (callouts 1 and 2).



e. Tighten the heatsink screw numbers 3, 4, 5, and 6 in a diagonal manner (callouts 3 to 6).



- .1. Install all removed components on the new system board assembly.
- .2. Install the access panel.
- .3. Install the server into the rack.
- .4. Connect all peripheral cables to the server.
- .5. Connect the power cords:
 - a. Connect each power cord to the server.
 - b. Connect each power cord to the power source.
- .6. Power up the server.
- .7. 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.
- .8. Re-enter any Secure Boot keys that were previously added in the Secure Boot configuration.
- .9. Re-enter the server serial number and product ID.
- !0. Reconfigure the system date and time settings.
- !1. See the applicable OS documentation for procedures and recommendations on restoring the OS and accessing drive data.



CAUTION

(For Microsoft Windows only) After replacing the system board, we recommend using BitLocker Recovery to restore the OS and access drive data. The recovery key/password previously generated during the initial server installation and BitLocker setup is required to enter Recovery Mode.

For more information about BitLocker Recovery, see the [**Microsoft website**](#).

Results

The replacement procedure is complete.

Re-entering the server serial number and product ID

About this task

After replacing the system board, re-enter the system serial number and product ID, 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.
10. To confirm and save the settings, press **F12**.

The server automatically reboots.

Results

The installation procedure is complete.

Removing and replacing the chassis medium base pan

Prerequisites

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

About this task

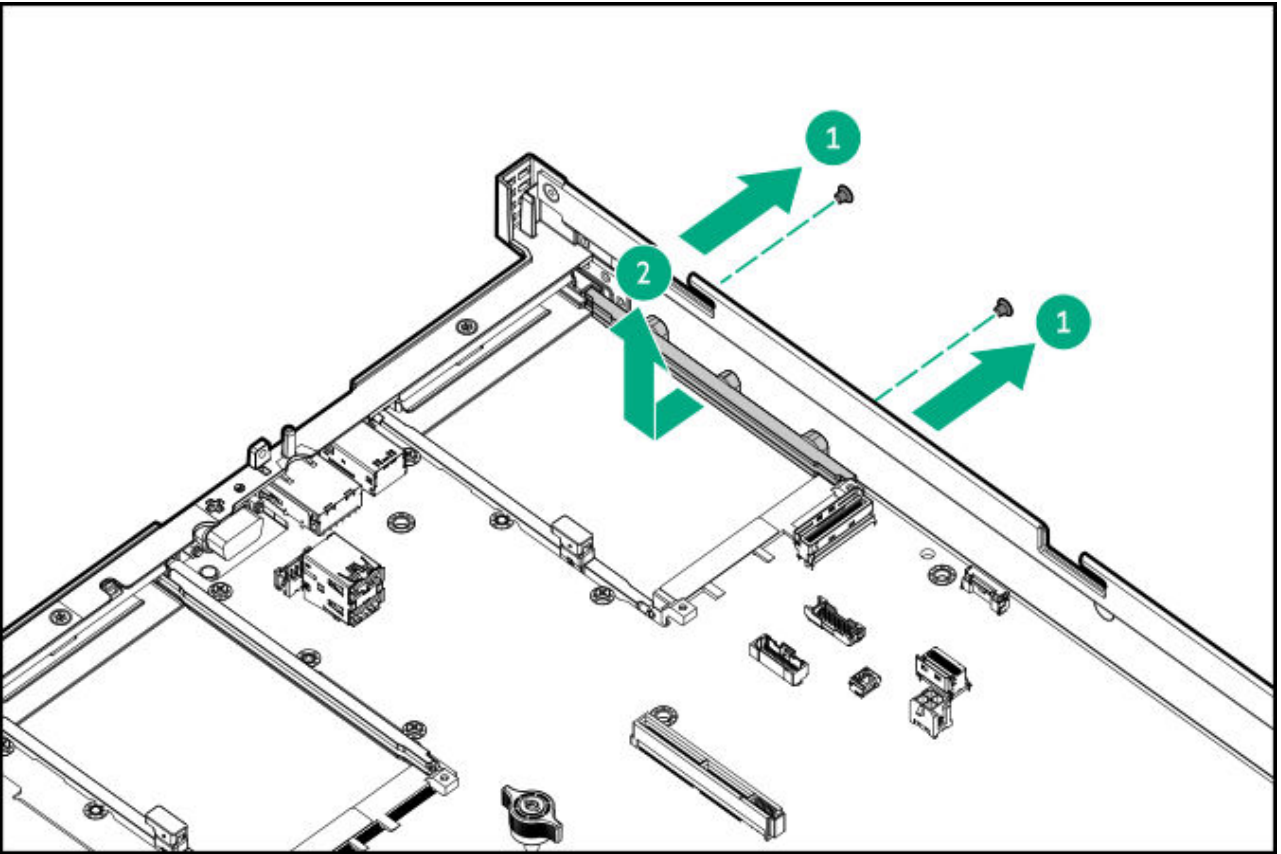


CAUTION

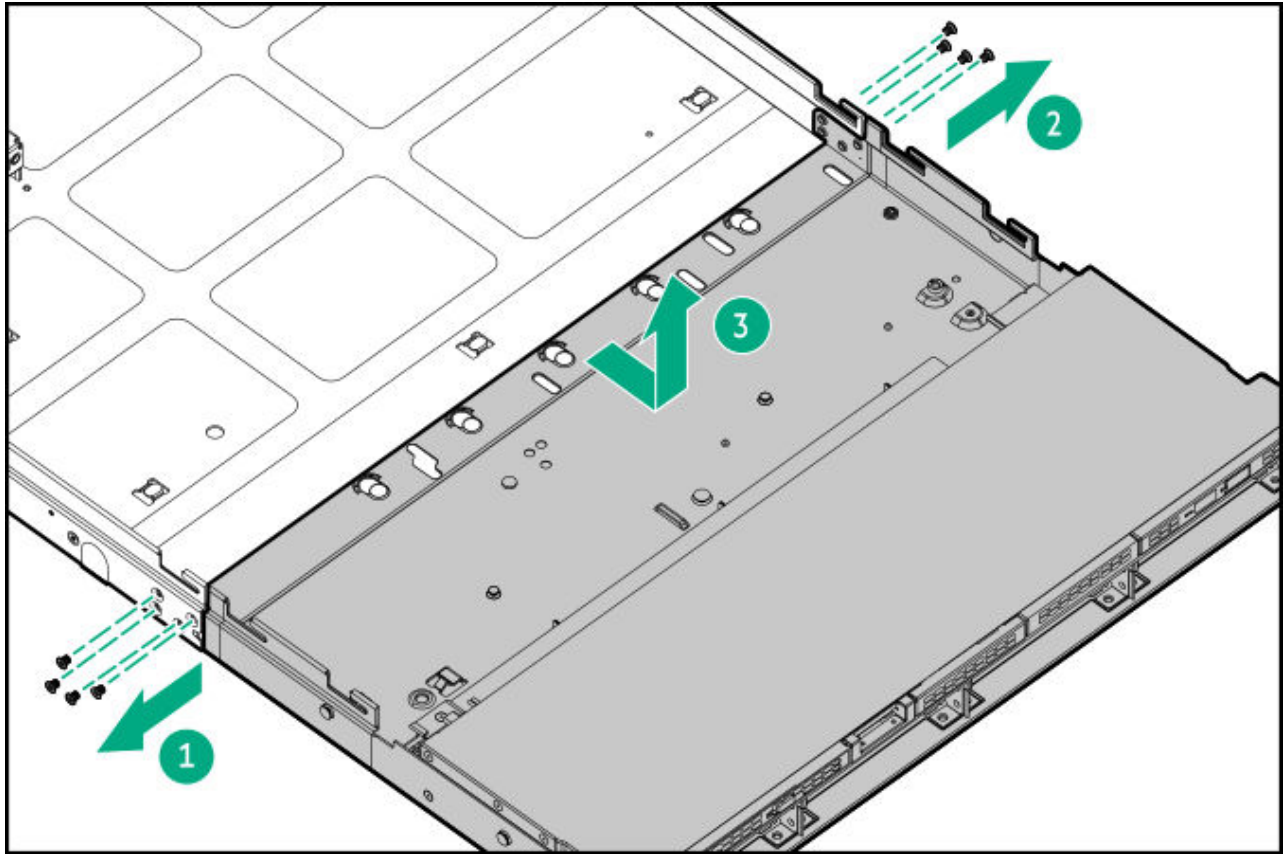
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

Procedure

1. Power down the server.
2. Remove all power:
 - a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the access panel.
7. Remove the middle cover.
8. Remove the air baffle.
9. Remove all fans.
- .0. Remove the fan wall.
- .1. Remove the riser cage.
- .2. Remove the left OCP Slot 21 rail.



- .3. Remove the system board assembly.
- .4. Remove the front cage assembly:
 - a. Remove the screws from the chassis.
 - b. Remove the front cage assembly from the chassis medium base pan.



Results

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

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>

Component identification

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

Subtopics

[Front panel components](#)

[Front panel LEDs and buttons](#)

[Rear panel components](#)

[Rear panel LEDs](#)

[Component touchpoints](#)

[System board components](#)

[Riser board components](#)

[PCIe5 slot description](#)

[GPU slot numbering](#)

[HPE Basic Drive LED definitions](#)

[EDSFF SSD LED definitions](#)

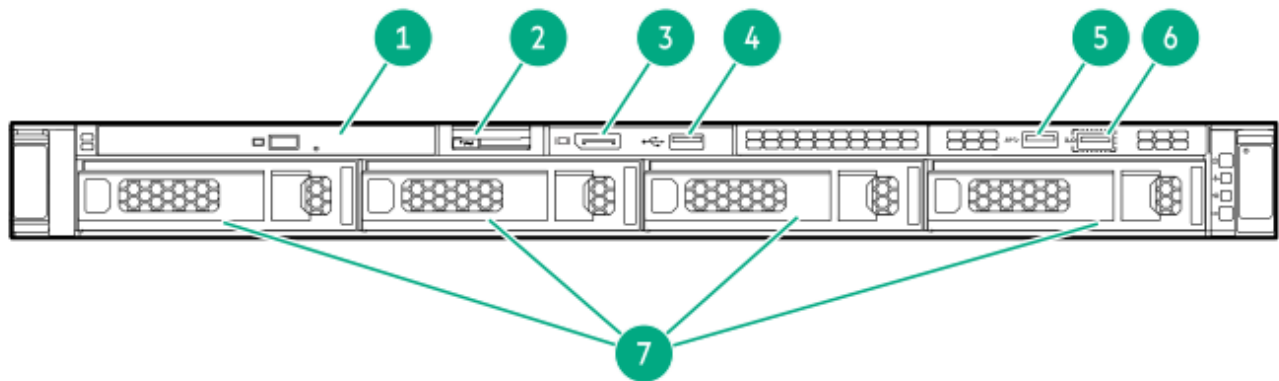
[Drive bay numbering](#)

[Drive backplane naming](#)

- [Fan numbering](#)
- [Fan and heatsink requirements](#)
- [Liquid cooling options](#)
- [HPE Trusted Platform Module 2.0](#)
- [HPE NS204i-u Boot Device components](#)
- [HPE NS204i-u Boot Device LED definitions](#)
- [M.2 SSD pass-through card components](#)
- [DSC-25 2-port SFP28 card ports and LEDs](#)

Front panel components

4 LFF drive configuration



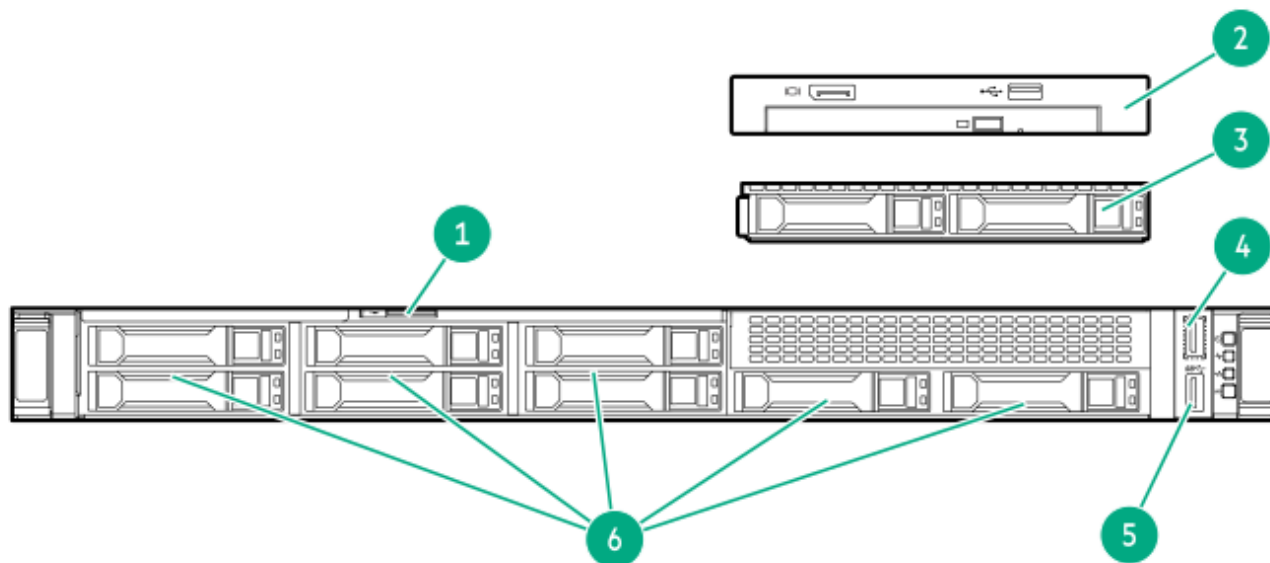
Item	Description
1	Optical drive (optional)
2	Serial number / iLO information pull tab ¹
3	DisplayPort 1.1a (optional) ²
4	USB 2.0 port (optional) ²
5	USB 3.2 Gen 1 port
6	<u>iLO service port</u>
7	4 LFF drives (optional) ³

¹ The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

² This port is included in the front USB and DisplayPort assembly option.

³ The 4 LFF drive bays support SAS or SATA drives.

8 + 2 SFF drive configuration



Item	Description
1	Serial number / iLO information pull tab ¹
2	Optical drive cage assembly (optional) ²
3	2 SFF side-by-side drive cage assembly (optional) ³
4	<u>iLO service port</u>
5	USB 3.2 Gen 1 port
6	8 SFF drives (optional) ³

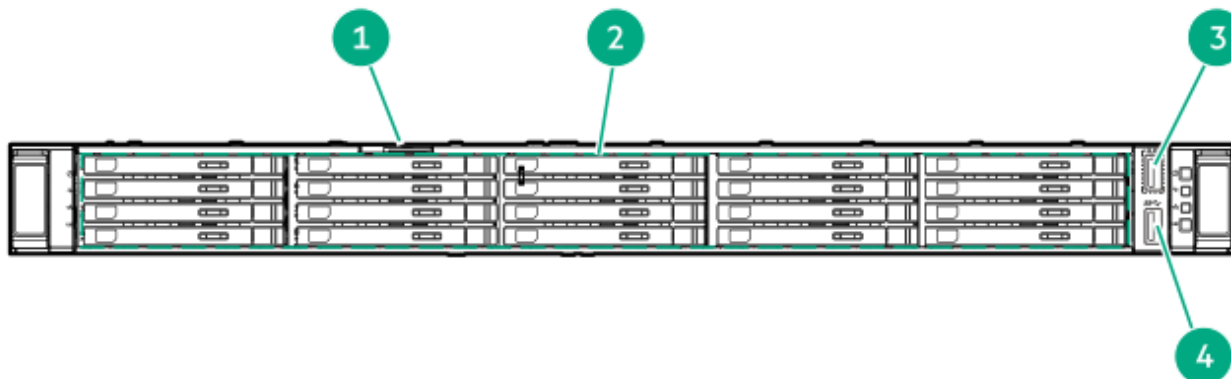
¹ The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

² This assembly includes:

- One DisplayPort 1.1a
- One USB 2.0 port
- One optical drive bay

³ Depending on the type of drive backplane installed, the server supports SFF SAS, SATA, or U.3 NVMe drives.

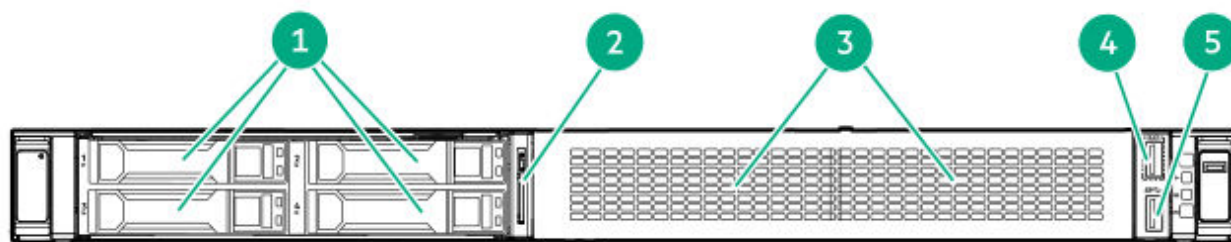
20 E3.S drive configuration



Item	Description
1	Serial number / iLO information pull tab ¹
2	20 E3.S drives (optional)
3	<u>iLO service port</u>
4	USB 3.2 Gen 1 port

¹ The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

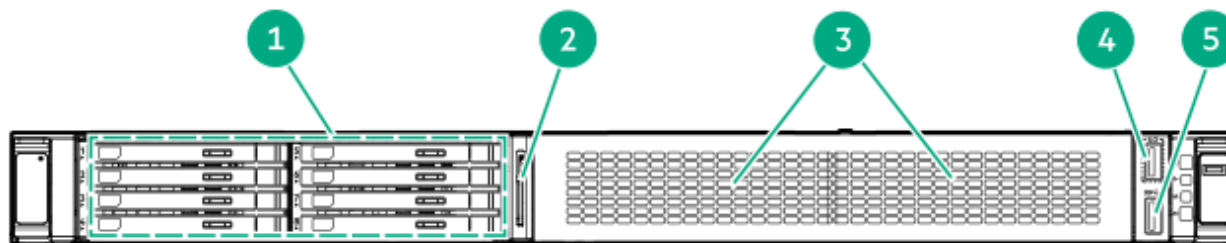
GPU-optimized 4 SFF NVMe drive configuration



Item	Description
1	4 SFF NVMe drives (optional) ¹
2	Serial number / iLO information pull tab ²
3	GPU riser cage ³
4	<u>iLO service port</u>
5	USB 3.2 Gen 1 port

- ¹ Depending on the type of drive backplane installed, the server supports SFF SAS, SATA, or U.3 NVMe drives.
- ² The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.
- ³ This GPU riser cage accommodates up to two single-width or double-width GPUs.

GPU-optimized 8 E3.S drive configuration



Item	Description
1	8 E3.S drives (optional)
2	Serial number / iLO information pull tab ¹
3	GPU riser cage ²
4	iLO service port
5	USB 3.2 Gen 1 port

- ¹ The serial number / iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.
- ² This GPU riser cage accommodates up to two single-width or double-width GPUs.

Subtopics

iLO Service Port

iLO Service Port

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

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

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

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

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

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

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

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

Hewlett Packard Enterprise recommends the HPE USB to Ethernet Adapter (part number Q7Y55A).

When you use the iLO Service Port:

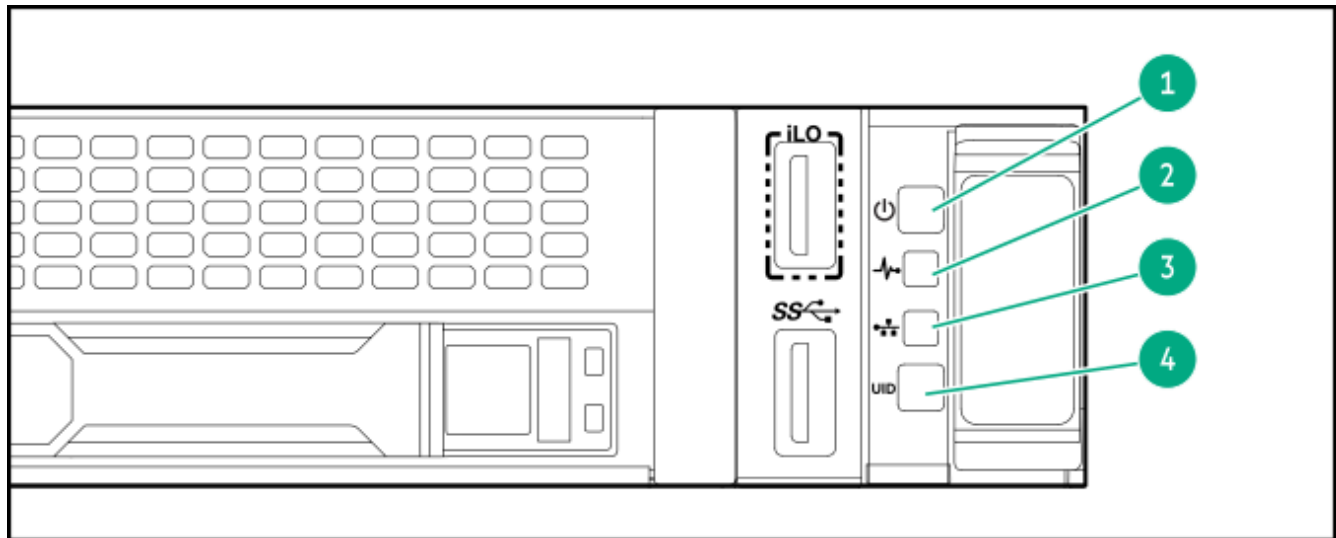
- Actions are logged in the iLO event log.
- The server UID flashes to indicate the Service Port status.

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.

For more information about the iLO Service Port, see the iLO user guide at the following website: <https://www.hpe.com/support/ilo6>.

Front panel LEDs and buttons



Item	Description	Status	Definition
1	Power On/Standby button and system power LED ¹ ₁	Solid green	System on
		Flashing green	Performing power-on sequence
		Solid amber	System in standby
		Off	No power present ² ₂
2	Health LED ¹ ₁	Solid green	Normal
		Flashing green	iLO is rebooting
		Flashing amber	System degraded ³ ₃
		Flashing red	System critical ³ ₃
3	NIC status LED ¹ ₁	Solid green	Linked to network
		Flashing green	Network active
		Off	No network activity
4	UID button/LED ¹ ₁	Solid blue	Activated
		Flashing blue	<ul style="list-style-type: none"> 1 flash per second—Remote management or firmware upgrade in progress 4 flashes per second—iLO manual reboot sequence initiated 8 flashes per second—iLO manual reboot sequence in progress
		Off	Deactivated

- 1 When all LEDs flash simultaneously, a power fault has occurred. For more information, see [Front panel LED power fault codes](#).
- 2 Facility power is not present, power cord is not attached, no power supplies are installed, or power supply failure has occurred.
- 3 If the health LED indicates a degraded or critical state, [review the system Integrated Management Log \(IML\) or use HPE iLO to review the system health status](#).

Subtopics

[Server UID LED](#)

[Viewing the Server Health Summary](#)

[Front panel LED power fault codes](#)

Server UID LED

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

Viewing the Server Health Summary

Prerequisites

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

About this task

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

For more information, see the iLO troubleshooting guide on the [Hewlett Packard Enterprise website](#).

Procedure

1. Press and release the UID button.



CAUTION

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

The **Server Health Summary** screen displays on the external monitor.

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

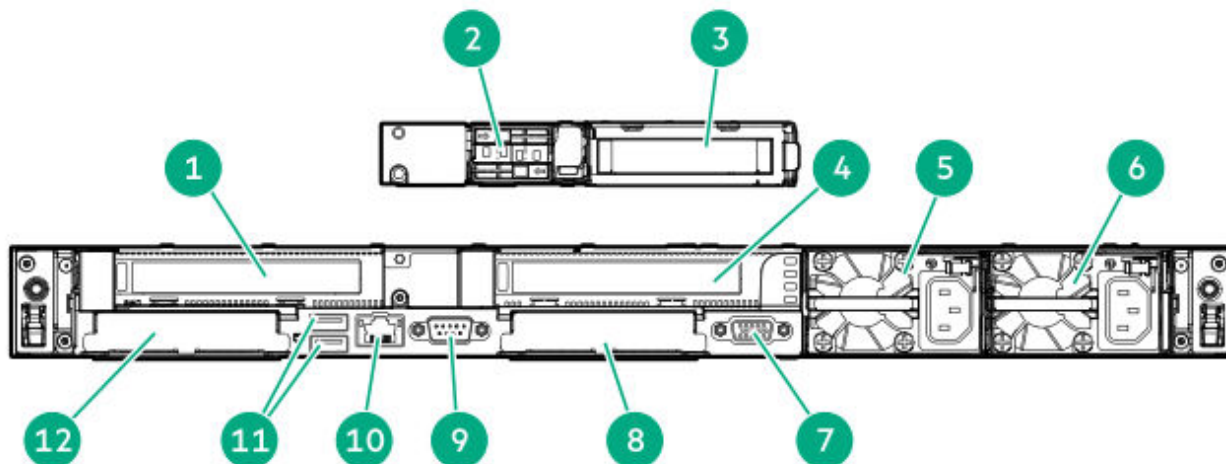
Front panel LED power fault codes

The following table provides a list of power fault codes, and the subsystems that are affected. Not all power faults are used by all servers.

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

Rear panel components

Rear panel with boot device options



Item	Description
1	Slot 1 PCIe5 x16 ¹
2	NS204i-u boot device (optional) ²
3	Slot 2 PCIe5 x16 (optional) ³
4	Slot 2 PCIe5 x16 (optional) ⁴
5	Flexible Slot power supply 2 (optional)
6	Flexible Slot power supply 1
7	<u>VGA port</u>
8	Slot 22 OCP PCIe5 x8
9	Serial port (optional)
10	iLO dedicated network port
11	USB 3.2 Gen 1 ports
12	Slot 21 OCP PCIe5 x8 ⁵

¹ This riser slot is in the primary riser cage.

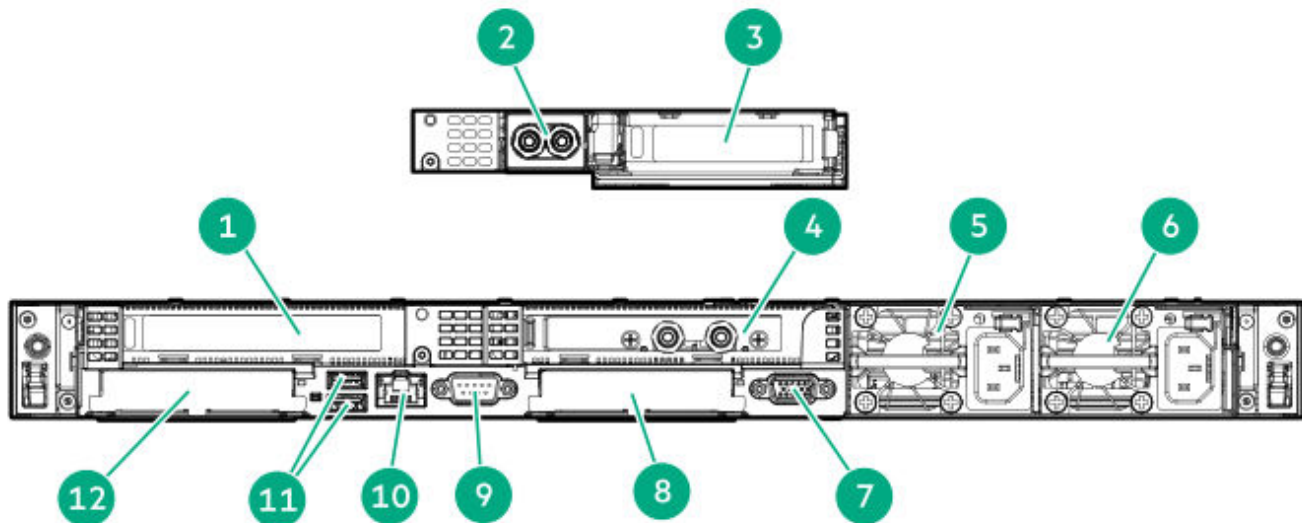
² This option is installed in the NS204i-u + low-profile riser cage. When the server is configured with HPE NS204i Boot Device, DLC option is limited to DLC PCIe kit. When the DLC PCIe kit is installed, PCIe cards cannot be supported in Slot 2.

³ This riser slot is in the NS204i-u + low-profile riser cage.

⁴ This riser slot is in the secondary riser cage.

⁵ In Slot 21 OCP, the OCP bandwidth upgrade cable is required to support a x16 OCP expansion option.

Rear panel with Direct Liquid Cooling (DLC) options



Item	Description
1	Slot 1 PCIe5 x16 ¹ _—
2	DLC cold plate module from NS204i-u (optional) ² _—
3	Slot 2 PCIe5 x16 (optional) ³ _—
4	DLC cold plate module from PCIe (optional) ^{4, 5} _—
5	Flexible Slot power supply 2 (optional)
6	Flexible Slot power supply 1
7	<u>VGA port</u>
8	Slot 22 OCP PCIe5 x8
9	Serial port (optional)
10	iLO dedicated network port
11	USB 3.2 Gen 1 ports
12	Slot 21 OCP PCIe5 x8 ⁶ _—

¹ This riser slot is in the primary riser cage.

² When the server is not configured with HPE NS204i Boot Device, DLC option is limited to NS204i-u DLC kit. Installation of the NS204i-u DLC kit requires the NS204i-u + low-profile riser cage. When the NS204i-u DLC kit is installed, low-profile PCIe cards are supported in Slot 2, while the boot device itself is not supported.

³ This riser slot is in the secondary riser cage.

⁴ When the DLC PCIe kit is installed, PCIe cards cannot be supported in Slot 2. To support the installation of both boot device and DLC PCIe kit, the NS204i-u + low-profile riser cage is required.

⁵ When the server is configured with HPE NS204i Boot Device, DLC option is limited to DLC PCIe kit.

6 In Slot 21 OCP, the OCP bandwidth upgrade cable is required to support a x16 OCP expansion option.

Subtopics

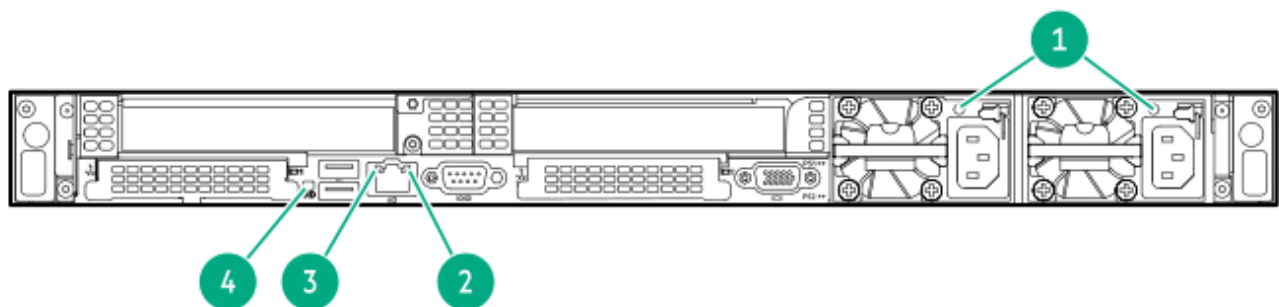
Monitor setup

Monitor setup

Before connecting a monitor, observe the following:

- The server supports both VGA port and DisplayPort 1.1a.
- If you connect two display devices to the server using both the VGA port and DisplayPort, the same image is mirrored on both devices.
- The embedded video controller in the iLO chipset does not support dual display or screen extension mode. To enable dual display, install a compatible graphics card.
- When using HDMI or DVI adapters for the DisplayPort, use an active-type adapter. Passive-type adapters marked with the DP++ symbol are not supported.
- Whenever possible, use the same display connection type. For example, if your monitor only has a VGA port, use the VGA port on the server. Using other adapters or converter cables or dongles might lead to decreased display quality or a lag over the connection.

Rear panel LEDs



Item	LED	Status	Definition
1	Power supply	Solid green	The power supply is operating normally.
		Off	One or more of the following conditions exists:

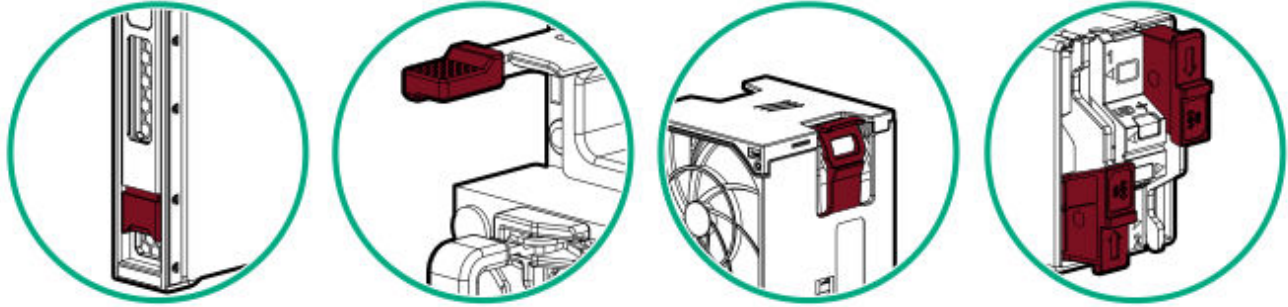
Item	LED	Status	Definition
			<ul style="list-style-type: none"> Power is unavailable Power supply failure Power supply is in standby mode Power supply error
2	iLO link	Solid green	Network link
		Off	No network link
3	iLO status	Solid green	Linked to network
		Flashing green	Network active
		Off	No network activity
4	UID	Solid blue	Activated
		Flashing blue	<ul style="list-style-type: none"> 1 flash per sec—Remote management or firmware upgrade in progress 4 flashes per sec—iLO manual reboot sequence initiated 8 flashes per sec—iLO manual reboot sequence in progress
		Off	Deactivated

Component touchpoints

Certain components are color-coded. These colors represent the recommended touch areas for a removal process and indicate whether components require a system shutdown before removal.

The following diagrams are examples only.

HPE hot-plug red

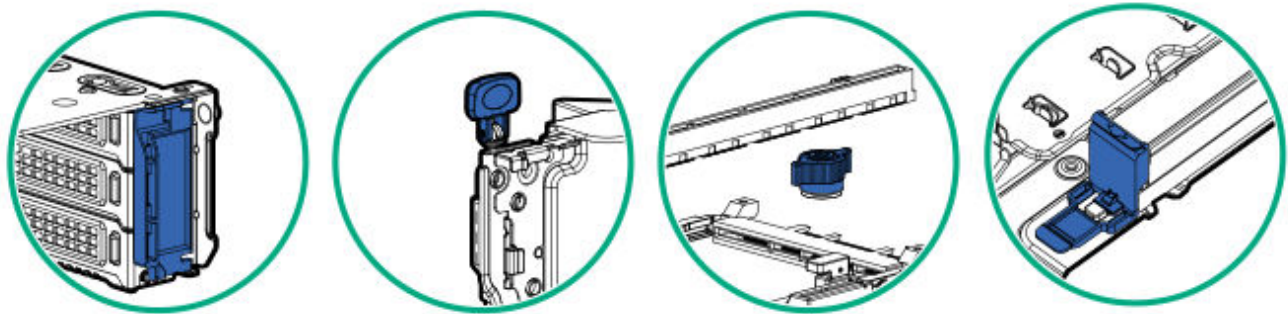


Hot-plug red indicates hot-pluggable components. These components can be removed and installed while the system is running, and doing so will not result in a system shutdown.

Component examples:

- Power supplies in a redundant power configuration
- Hot-plug fans
- Hot-plug drives
- M.2 SSDs in a hot-plug boot device

HPE touchpoint blue



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

Component examples:

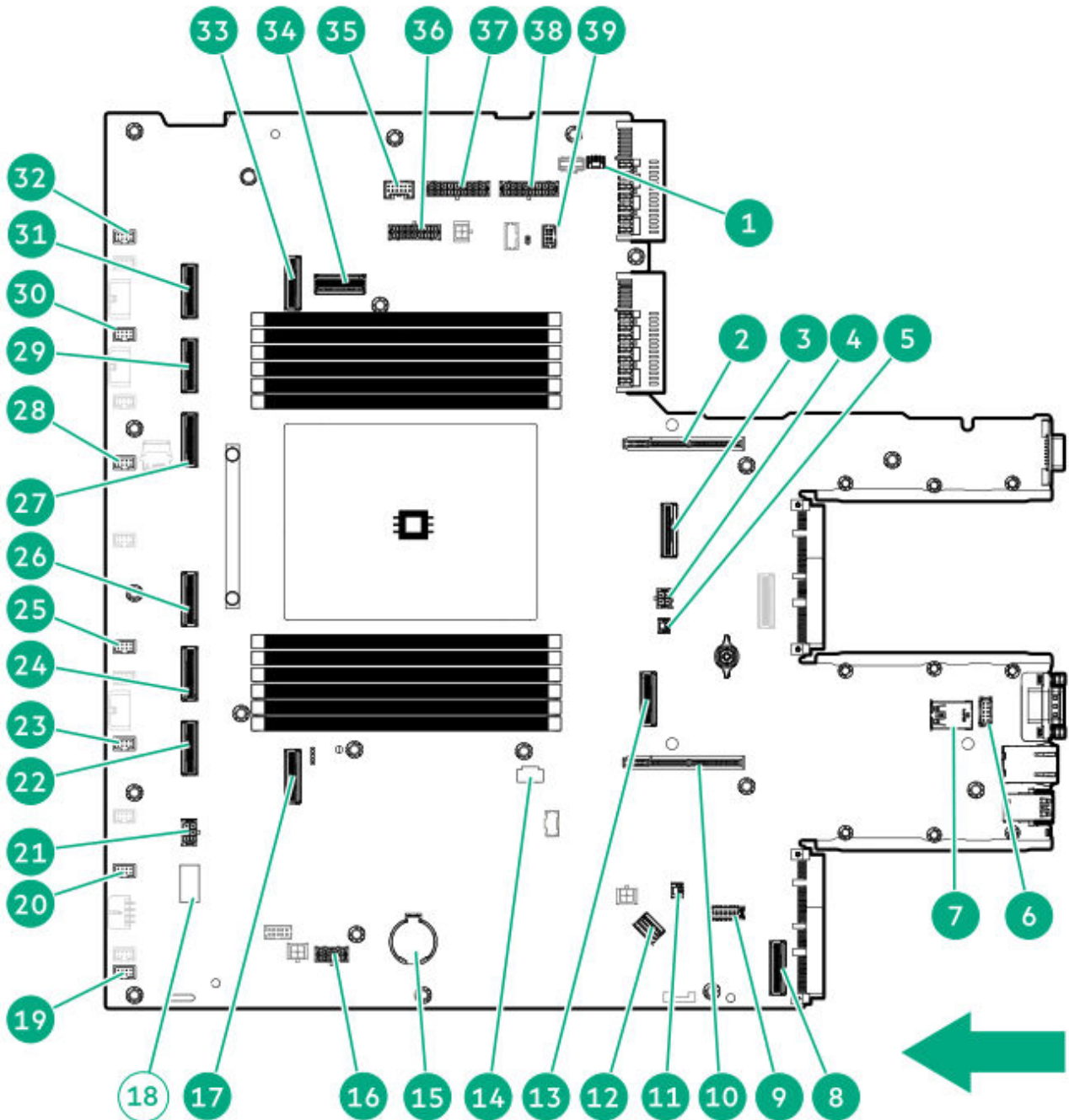
- Storage devices
- Fan cages
- System boards

- Energy packs

System board components

The grayed out components in the system board image are not for use in this server.

The arrow points to the front of the server.



Item	Description
1	Chassis intrusion detection switch connector
2	Secondary riser connector
3	NVMe / SATA port 1B ¹ _—
4	SmartNIC auxiliary power connector
5	Slot 22 OROC storage backup power connector
6	Serial port connector
7	Stacked, dual USB 3.2 Gen 1 ports
8	Slot 21 OCP x16 upgrade connector
9	Front USB and DisplayPort connector
10	Primary riser connector
11	Slot 21 OROC storage backup power connector
12	Front I/O connector
13	NVMe port 9A
14	Pump-cold plate signal connector ² _—
15	System battery
16	GPU riser power connector
17	NVMe / SATA port 1A
18	System maintenance switch
19	Fan connector 7
20	Fan connector 6
21	Optical drive power connector
22	NVMe / SATA port 2A
23	Fan connector 5
24	NVMe port 3A
25	Fan connector 4
26	NVMe port 4A
27	NVMe port 5A
28	Fan connector 3
29	NVMe port 6A
30	Fan connector 2
31	NVMe port 7A

Item	Description
32	Fan connector 1
33	NVMe port 8A
34	NS204i-u signal connector
35	Energy pack connector
36	Drive backplane / Graphics card power connector C (J9019)
37	Drive backplane / Graphics card power connector A (J9017)
38	Drive backplane / Graphics card power connector B (J9018)
39	M.2 SSD power connector ³ _—

¹ This port is for the signal cable used in the M.2 SSD pass-through card or the E3.S drive configuration.

² This connector is for the [liquid cooling heatsink](#).

³_— This power connector is either for the M.2 SSD pass-through card or the NS204i-u boot device options.

Subtopics

[System maintenance switch](#)

[DIMM label identification](#)

[DIMM slot numbering](#)

[Processor and socket components](#)

System maintenance switch

The system maintenance switch is a DIP switch block on the system board used during service and troubleshooting to temporarily override security or configuration settings. Each switch has an OFF (default) and ON position that enables a specific maintenance function.

To locate the system maintenance switch on your server, see [System board components](#).

Position	Default	Function
S1 ¹ _—	Off	<ul style="list-style-type: none"> Off—iLO 6 security is enabled. On—iLO 6 security is disabled.
S2	Off	Reserved
S3	Off	Reserved
S4	Off	Reserved

Position	Default	Function
S5 ¹ _—	Off	<ul style="list-style-type: none"> • Off—Power-on password is enabled. • On—Power-on password is disabled.
S6 ^{1, 2, 3} _{—, —, —}	Off	<ul style="list-style-type: none"> • Off—No function • On—Restore default manufacturing settings
S7	Off	Reserved
S8	Off	Reserved
S9	Off	Reserved
S10	Off	Reserved
S11	Off	Reserved
S12	Off	Reserved

¹_— To access the redundant ROM, set S1, S5, and S6 to On.

²_— When the system maintenance switch position 6 is set to the On position, the system is prepared to restore all configuration settings to their manufacturing defaults.

³_— When the system maintenance switch position 6 is set to the On position and Secure Boot is enabled, some configurations cannot be restored. For more information, see [Configuring the server](#).

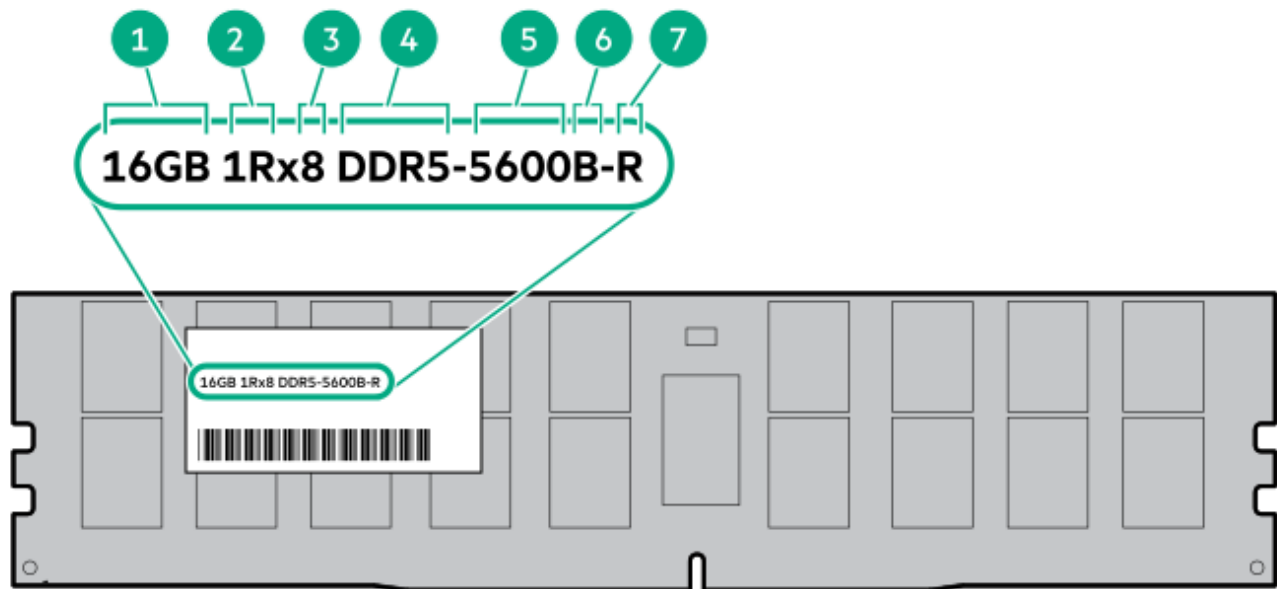
DIMM label identification

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

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

See the website:

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



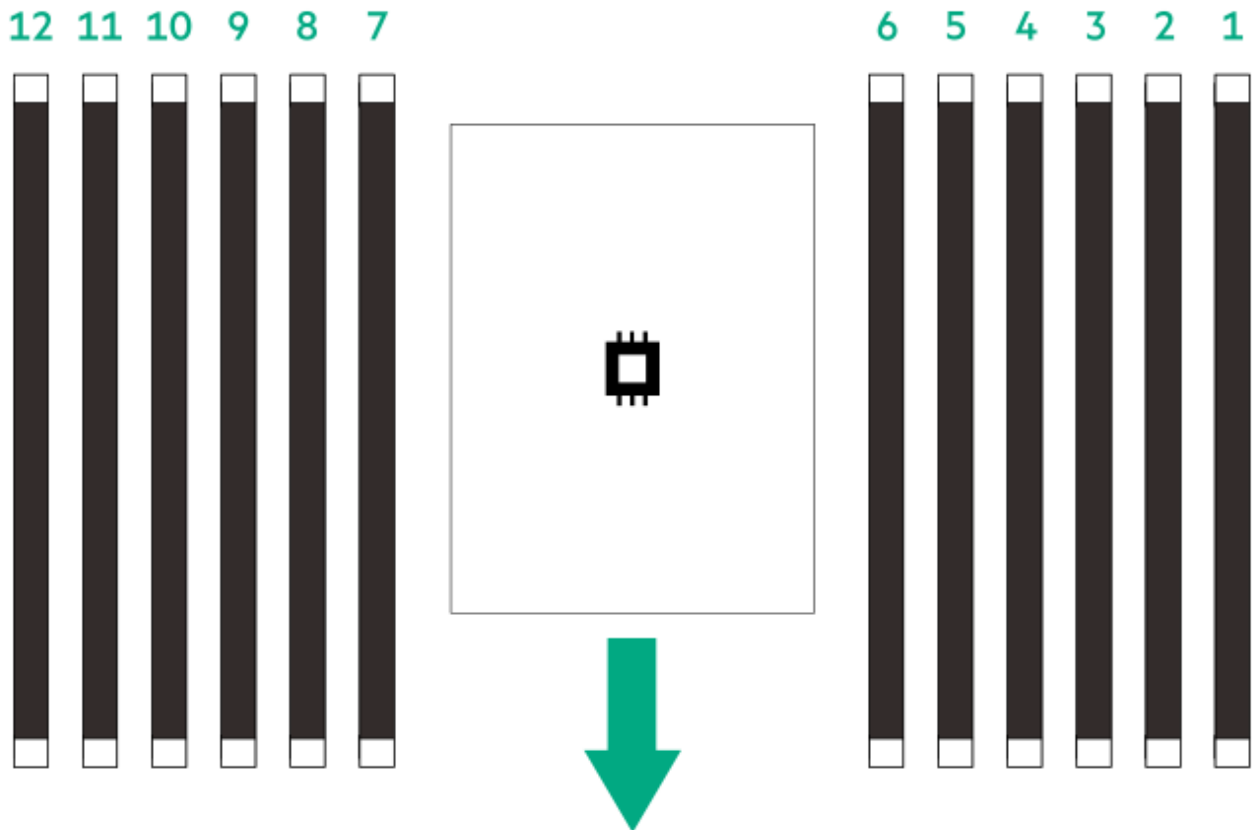
Item	Description	Example
1	Capacity $\frac{1}{-}$	16 GB 32 GB 64 GB 96 GB 128 GB 256 GB
2	Rank	1R—Single rank 2R—Dual rank 4R—Quad rank 8R—Octal rank
3	Data width on DRAM	x4—4-bit x8—8-bit
4	Memory generation	PC5—DDR5
5	Maximum memory speed $\frac{1}{-}$	4800 MT/s 5600 MT/s 6400 MT/s

Item	Description	Example
6	CAS latency	B—42-42-42 B—50-42-42 (for 128 GB and 256 GB capacities)
7	DIMM type	E—UDIMM (unbuffered with ECC) R—RDIMM (registered)

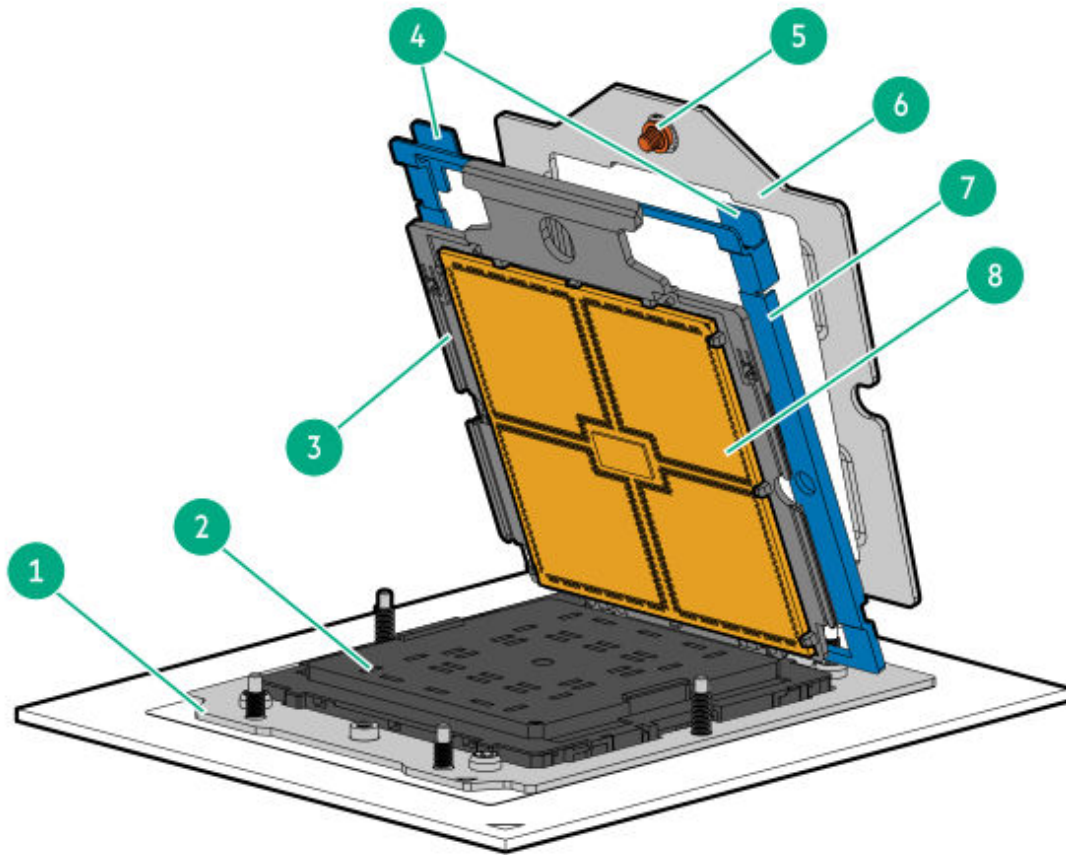
¹ The maximum memory speed and capacity is a function of the memory type, memory configuration, and processor model.

DIMM slot numbering

The arrow points to the front of the server.



Processor and socket components

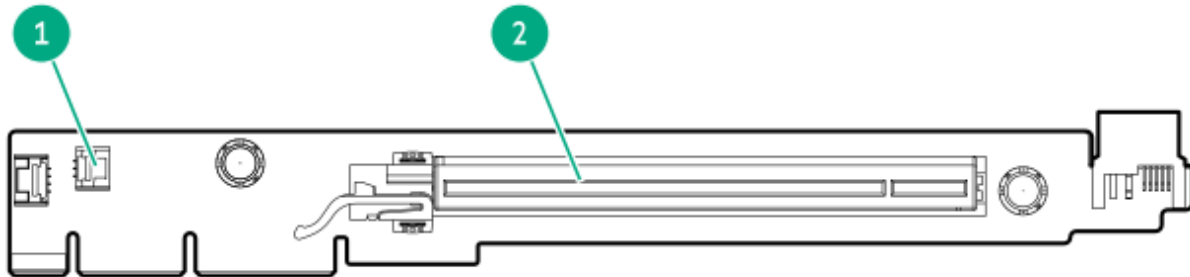


Item	Description
1	Processor socket
2	Pin field cover cap
3	Processor carrier
4	Rail frame lift tabs
5	Retention frame screw (T-20)
6	Retention frame
7	Rail frame
8	Processor

Riser board components

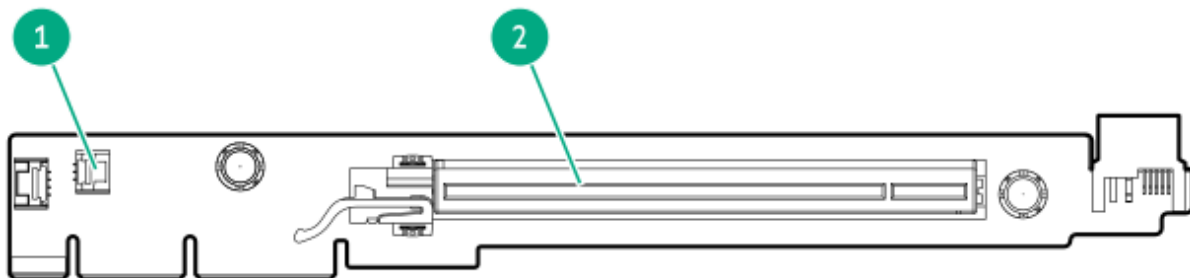
All riser slots are PCIe5 x16 (16, 8, 4, 1) and are rated for a maximum power draw of 75 W each.

Primary PCIe5 x16 riser



Item	Description	Supported form factors
1	Controller storage backup power connector	—
2	Slot 1 PCIe5 x16 (16, 8, 4, 1)	<ul style="list-style-type: none">• Full-height, full-length• Full-height, half-length• Half-height, half-length (low-profile)

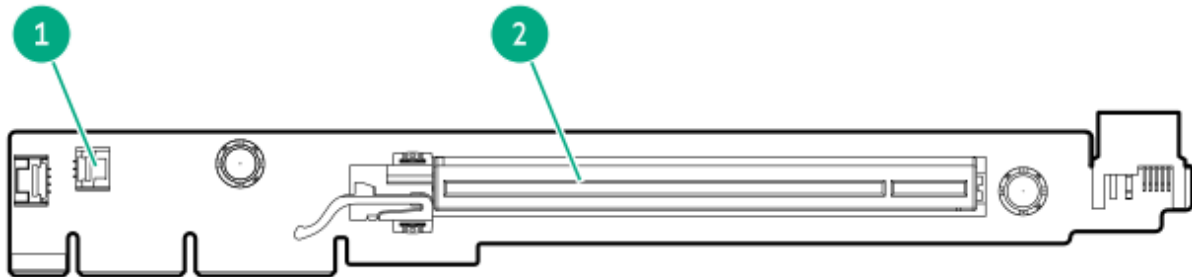
Secondary PCIe5 x16 riser



Item	Description	Supported form factors
1	Controller storage backup power connector	—
2	Slot 2 PCIe5 x16 (16, 8, 4, 1)	<ul style="list-style-type: none">• Full-height, half-length

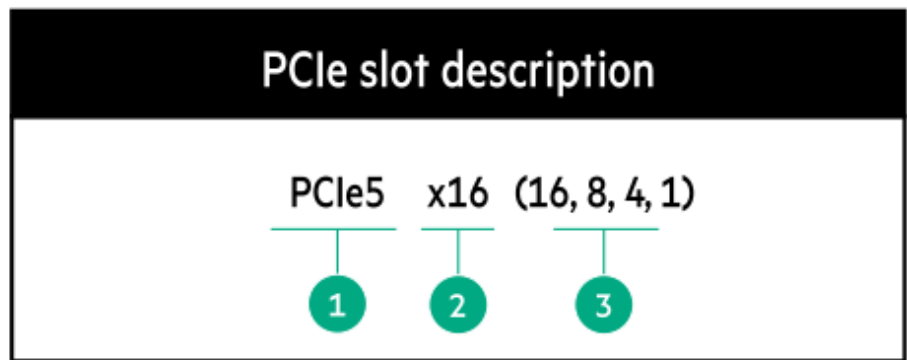
Item	Description	Supported form factors
		<ul style="list-style-type: none"> Half-height, half-length (low-profile)

Secondary low-profile PCIe5 x16 riser



Item	Description	Supported form factors
1	Controller storage backup power connector	—
2	Slot 2 PCIe5 x16 (16, 8, 4, 1)	Half-height, half-length (low-profile)

PCIe5 slot description



Item	Description	Definition
1	PCI Express version	Each PCIe version corresponds to a specific data transfer rate between the processor and peripheral devices. Gene

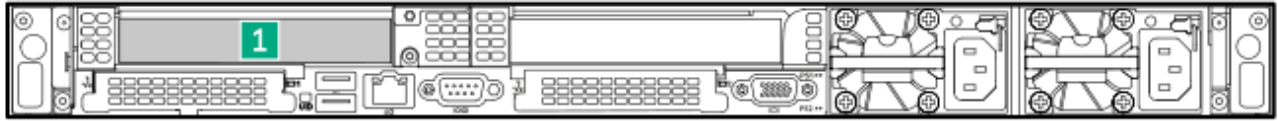
Item	Description	Definition
		<p>rally, a version update corresponds to an increase in transfer rate.</p> <ul style="list-style-type: none"> • PCIe 1.x • PCIe 2.x • PCIe 3.x • PCIe 4.x • PCIe 5.x <p>The PCIe technology is under constant development. For the latest information, see the PCI-SIG website.</p>
2	Physical connector link width	<p>PCIe devices communicate through a logical connection called an interconnect or link. At the physical level, a link is composed of one or more lanes. The number of lanes is written with an x prefix with x16 being the largest size in common use.</p> <ul style="list-style-type: none"> • x1 • x2 • x4 • x8 • x16
3	Negotiable link width	<p>These numbers correspond to the maximum link bandwidth supported by the slot.</p>

GPU slot numbering

This server supports GPU installation in the front-end GPU riser cage and the rear-end primary riser cage. All GPU-compatible slots are PCIe5 x16.

GPU in the primary riser cage

The primary riser cage supports a full-height, full-length, single-width GPU.



GPU in the front-end GPU riser cage

The front-end GPU riser cage supports full-height, length ≤ 10.50 in (26.67 cm), single-width or double-width GPUs.

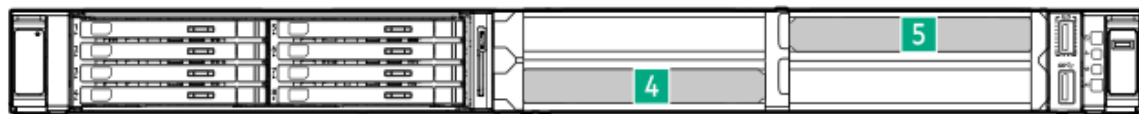
- 4 SFF NVMe drive configuration
 - Single-width GPU numbering



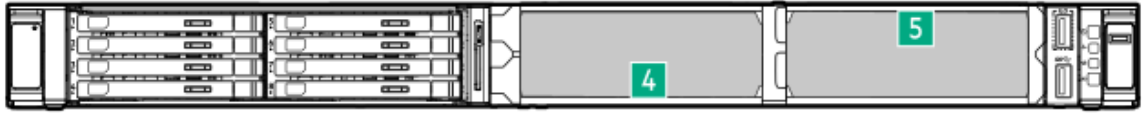
- Double-width GPU numbering



- 8 E3.S drive configuration
 - Single-width GPU numbering



- Double-width GPU numbering



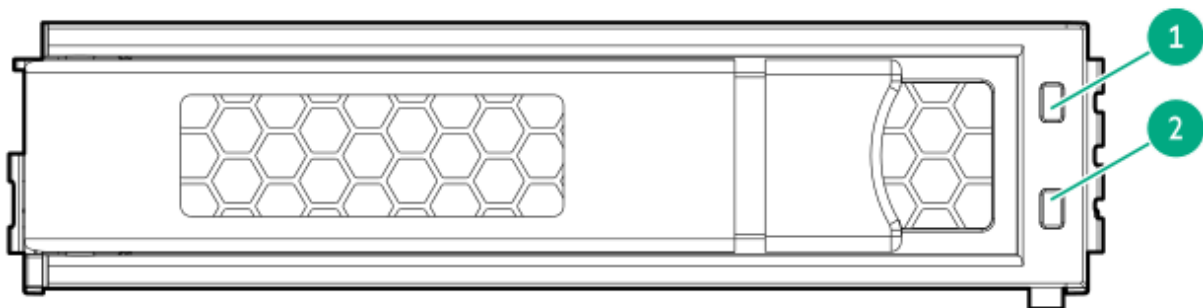
HPE Basic Drive LED definitions

The HPE Basic drive carrier has the following LEDs:

- Amber/blue LED—Managed by the drive backplane in conjunction with the storage controller and is used to indicate drive status.
- Green LED—Managed by the drive itself and indicates the drive activity.

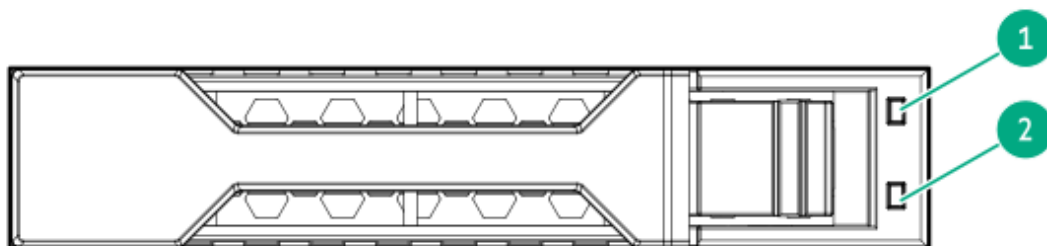
LFF low-profile drive carrier

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



SFF basic drive carrier

The SFF basic drive carrier supports hot-plug SAS, SATA, or U.3 NVMe drives.



Item	LED	State	Definition
1	Fault/Locate	Solid amber	This drive has failed, is unsupported, or is invalid.
		Solid blue	The drive is operating normally and being identified by a management application.
		Flashing amber/blue (1 flash per second)	The drive has failed, or a predictive failure alert has been received for this drive. The drive has also been identified by a management application.
		Flashing amber (1 flash per second)	A predictive failure alert has been received for this drive. Replace the drive as soon as possible.
		Off	The drive is operating normally and not being identified by a management application.
2	Online/Activity	Solid green	The drive is online and has no activity.
		Flashing green (1 flash per second)	The drive is doing one of the following: <ul style="list-style-type: none"> • 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.

EDSFF SSD LED definitions

The EDSFF drive carrier has two LEDs:

- Amber/blue LED—Managed by the drive backplane in conjunction with the storage controller and is used to indicate drive status.
- Green LED—Managed by the drive itself and indicates the drive activity.



Item	LED	State	Definition
1	Fault/Locate	Solid amber	This drive has failed, is unsupported, or is invalid.
		Solid blue	The drive is operating normally and being identified by a management application.
		Flashing amber/blue (1 flash per second)	The drive has failed, or a predictive failure alert has been received for this drive. The drive has also been identified by a management application.
		Flashing amber (1 flash per second)	A predictive failure alert has been received for this drive. Replace the drive as soon as possible.
		Off	The drive is operating normally and not being identified by a management application.
2	Online/Activity	Solid green	The drive is online and has no activity.
		Flashing green (4 flashes per second)	The drive is operating normally and has activity.
		Off	No power present.

Drive bay numbering



CAUTION

When a server is purchased without any drive installed, some drive bays might be empty while other drive bays might be populated with drive blanks. To maintain proper system cooling, do not operate the server without a drive or a drive blank installed.

Subtopics

[LFF drive bay numbering](#)

[SFF drive bay numbering](#)

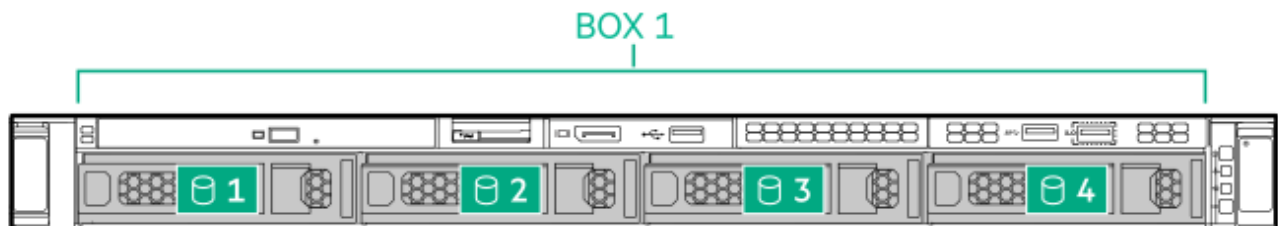
[E3.S drive bay numbering](#)

LFF drive bay numbering

The following drive backplane options are supported in the LFF drive configurations:

- 4 LFF 12G x1 SAS UBM2 LP
- 4 LFF 12G x1 SAS UBM6 LP

For more information on the drive backplane description, see [Drive backplane naming](#).



In the LFF drive configuration:

- All drives belong to the same box 1.
- SAS or SATA drives are supported.
- To manage the hot-plug SAS drive, install the HPE MR type-o Gen11 storage controller (OROC).

SFF drive bay numbering

8 + 2 SFF drive configuration

The following drive backplane options are supported in all 8 + 2 SFF drive configurations:

- 2 SFF side-by-side drive backplanes:
 - 2 SFF 16G x4 U.2 NVMe / SAS UBM4 BC
 - 2 SFF 24G x4 U.3 NVMe / SAS UBM3 BC
 - 2 SFF 24G x4 U.3 NVMe / SAS UBM6 BC
- 8 SFF drive backplanes:
 - 8 SFF 16G x4 U.2 NVMe / SAS UBM4 BC
 - 8 SFF 24G x1 U.3 NVMe / SAS UBM3 BC
 - 8 SFF 24G x4 U.3 NVMe / SAS UBM3 BC
 - 8 SFF 24G x1 U.3 NVMe / SAS UBM6 BC
 - 8 SFF 24G x4 U.3 NVMe / SAS UBM6 BC

For more information on the drive backplane description, see [Drive backplane naming](#).



In the 8 + 2 SFF drive configuration:

- Drives are assigned to box 1 and optional box 2.
- SAS, SATA, or U.3 NVMe drives are supported.
- To manage the hot-plug SAS drive, install one of the following storage controllers:
 - HPE SR / MR type-p Gen11 storage controller
 - HPE MR type-o Gen11 storage controller (OROC)
- When installing NVMe drives, install either all U.2 or all U.3 drives. Mixed NVMe drive type installation in the same box is not supported.

4 SFF NVMe drive configuration

The following drive backplane options are supported in the 4 SFF NVMe drive configurations:

- 2 SFF 24G x4 U.3 NVMe / SAS UBM6 BC
- 2 SFF 24G x4 U.3 NVMe / SAS UBM3 BC

For more information on the drive backplane description, see [Drive backplane naming](#).



In the 4 SFF NVMe drive configuration:

- Drives are assigned to box 1 and box 2.
- SAS, SATA, or U.3 NVMe drives are supported.

E3.S drive bay numbering

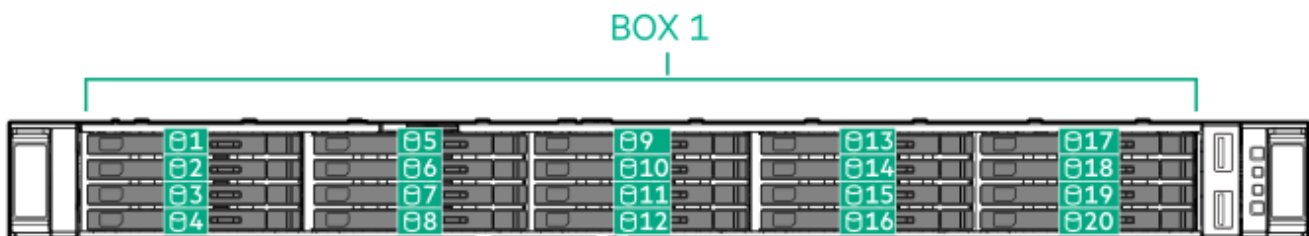
20 E3.S drive configuration

The following drive backplane options are supported in this E3.S drive configuration:

- 20 E3.S 32G x4 NVMe UBM5 EC1
- 20 E3.S 32G x4 NVMe UBM7 E3C

In the 20 E3.S drive configuration, all drives belong to the same box 1.

For more information on the drive backplane description, see [Drive backplane naming](#).



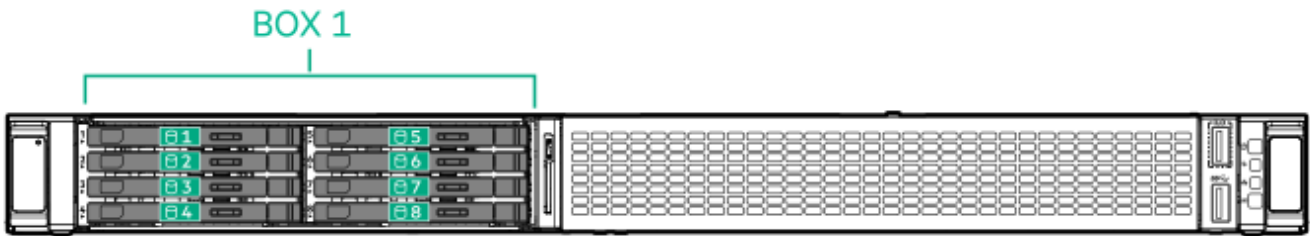
8 E3.S drive configuration

The following drive backplane options are supported in this E3.S drive configuration:

- 8 E3.S 32G x4 NVMe UBM5 EC1
- 8 E3.S 32G x4 NVMe UBM7 E3C

In the 8 E3.S drive configuration, all drives belong to the same box 1.

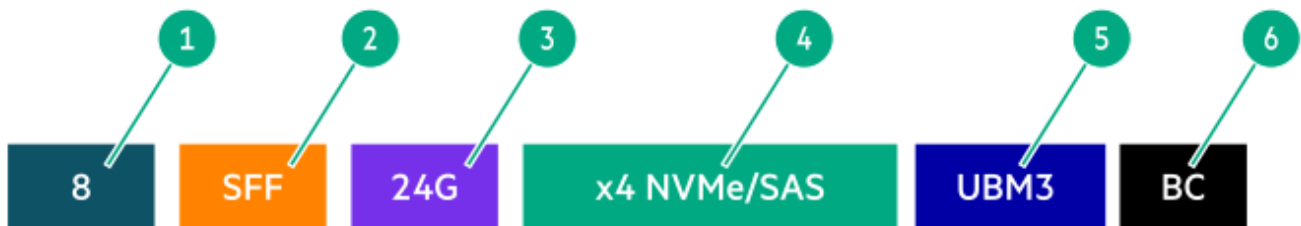
For more information on the drive backplane description, see [Drive backplane naming](#).



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

Item	Description	Values
		E3S—Enterprise and Datacenter Standard Form Factor (EDSFF E3.S)
3	Maximum link rate per lane (GT/s)	12G 16G 24G 32G
4	Port link width and interface	x1 NVMe/SAS—U.3 NVMe, SAS, or SATA ¹ _— x4 NVMe/SAS—U.3 NVMe, SAS, or SATA ² _— x4 NVMe—U.2 NVMe ³ _— x4 NVMe—E3.S
5	Universal backplane manager (UBM) model	The UBM model defines the UBM firmware used by the backplane. Examples of UBM models: UBM2, UBM3, etc.
6	Drive carrier type	BC—Basic carrier (SFF) LP—Low-profile carrier (LFF) EC—E3.S carrier

¹_— Tri-mode controller support for x1 U.3 NVMe, SAS, and SATA drives. System board connection supports SATA drives only (not available on Gen12).

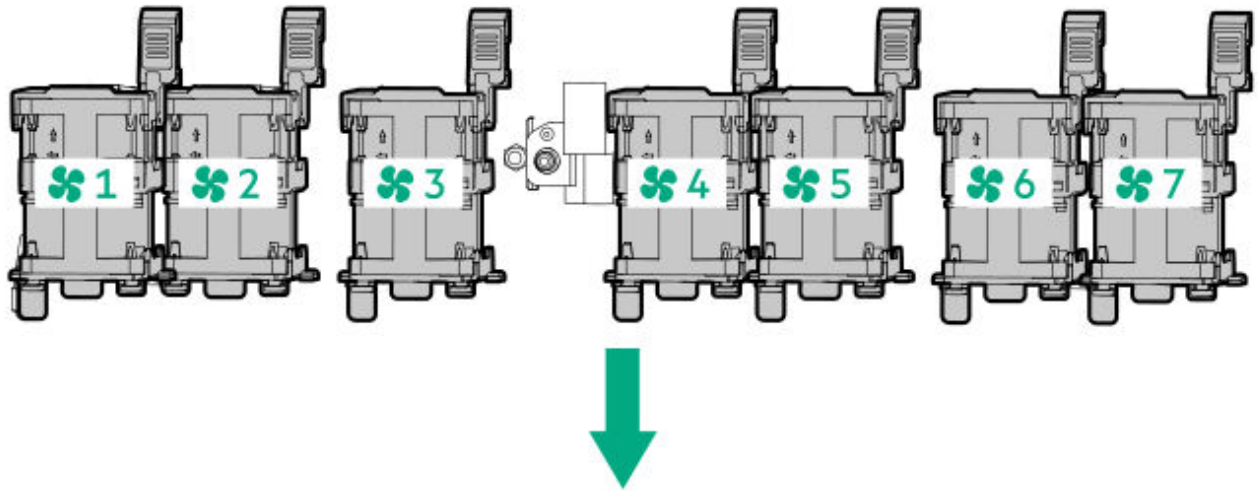
²_— CPU direct attach or tri-mode controller support for x4 U.3 NVMe, x2 (via a splitter cable) U.3 NVMe, or x1 SAS and SATA drives.

³_— CPU direct attach or tri-mode controller support for x4 U.2 NVMe drives.

Fan numbering

To provide sufficient airflow to the system, the server is by default populated by seven fans. The fans can either be standard fans (P58461-B21) or high performance fans (P58462-B21). Mixed fan configuration is not supported.

The arrow points to the front of the server.



Fan and heatsink requirements



CAUTION

To maintain proper system cooling, install the correct fan and heatsink types required for specific hardware configurations.



CAUTION

To maintain proper system cooling, when a 25 Gb or faster Ethernet / InfiniBand adapter / HPE Storage Networking NVMe-oF Offload Adapter / HPE NS204i-u Boot Device / GPU is installed in any configuration, make sure to use high performance fans.

The system-operating temperature for most components installed in this server is at standard temperature (10°C to 35°C / 50°F to 95°F). However, system performance during standard operating support may be reduced if operating above 30°C (86°F). The following table contains the allowed hardware configurations that the system can be run at 30°C (86°F) without system performance degradation.

4 LFF drive configuration

Processor TDP	Fan type	Heatsink type
≤ 240 W $\frac{1}{2}$	Standard fan	Standard heatsink
≤ 240 W		High performance heatsink

Processor TDP	Fan type	Heatsink type
≤ 300 W	High performance fan	High performance heatsink
≤ 400 W	High performance fan	Direct Liquid Cooling (DLC) cold plate module ²
≤ 400 W	Liquid cooling fan	Closed-Loop Liquid Cooling (CLLC) module

¹ The maximum recommended ambient operating temperature is 28°C.

² The two DLC options (P80876-B21, P80871-B21) available for the server are both supported in this drive configuration.

8 SFF drive configuration

Processor TDP	Fan type	Heatsink type
≤ 240 W	Standard fan	Standard heatsink
≤ 300 W	High performance fan	High performance heatsink
≤ 400 W	High performance fan	DLC cold plate module ¹
≤ 400 W	Liquid cooling fan	Closed-loop liquid cooling module

¹ The two DLC options (P80876-B21, P80871-B21) available for the server are both supported in this drive configuration.

8 + 2 SFF drive configuration

Processor TDP	Fan type	Heatsink type
≤ 240 W	Standard fan	High performance heatsink
≤ 300 W	High performance fan	
≤ 400 W	High performance fan	DLC cold plate module ¹
≤ 400 W	Liquid cooling fan	Closed-loop liquid cooling module

¹ The two DLC options (P80876-B21, P80871-B21) available for the server are both supported in this drive configuration.

20 E3.S drive configuration

The maximum recommended ambient operating temperature is 25°C.

Processor TDP	Fan type	Heatsink type
≤ 240 W	High performance fan	High performance heatsink
≤ 300 W		
≤ 400 W	High performance fan	DLC cold plate module ¹
≤ 400 W	Liquid cooling fan	Closed-loop liquid cooling module

¹ The two DLC options (P80876-B21, P80871-B21) available for the server are both supported in this drive configuration.

GPU-optimized configurations

Drive configurations	Processor TDP	Fan type	Heatsink type
• 4 SFF NVMe drives • 8 E3.S drives	≤ 240 W	High performance fan	Standard heatsink
	≤ 300 W		High performance heatsink
	≤ 400 W	High performance fan	DLC cold plate module ¹
	≤ 400 W ²	Liquid cooling fan	Closed-loop liquid cooling module

¹ The two DLC options (P80876-B21, P80871-B21) available for the server are both supported in this drive configuration.

² The maximum recommended ambient operating temperature is 25°C.

Liquid cooling options

Closed-loop liquid cooling (CLLC)

When an AMD EPYC 9004/9005 series processor with a TDP of 320 W–400 W is installed, the closed-loop liquid cooling module and liquid cooling fans are required.

- The pump-cold plate of the liquid cooling module picks up heat from the processor.

- Heat is transferred to the radiator through the coolant hoses. The radiator uses cool air to dissipate heat and lower the temperature of the coolant. The pump-cold plate, coolant hoses, radiator, and liquid cooling fans work together to cool the system.
- The coolant is a mixture of purified water and ethylene glycol with additional additives for corrosion resistance.

Direct liquid cooling (DLC)

When an AMD EPYC 9004/9005 series processor with a TDP \leq 400 W is installed, the server supports DLC kits.

- The open-loop liquid cooling cold plate of the DLC module picks up heat from the processor.
- Heat is transferred through the coolant hoses connected to the rack manifolds.
- The cold plate, coolant hoses, rack manifolds, and CDU (Cooling Distribution Unit) work together to cool the system.

For additional information on cooling options and supported hardware configurations, see [Fan and heatsink requirements](#).

Subtopics

Closed-loop liquid cooling module components

Direct liquid cooling module components

Closed-loop liquid cooling module components



CAUTION

- The hoses of the liquid cooling module are prefilled with coolant. Do not attempt to replace the coolant. In the unlikely event of a spill or leak of this server coolant, follow the recommended procedure in Appendix I: Server coolant spill response of the server maintenance guide:

<https://www.hpe.com/info/dl325gen11-msg>

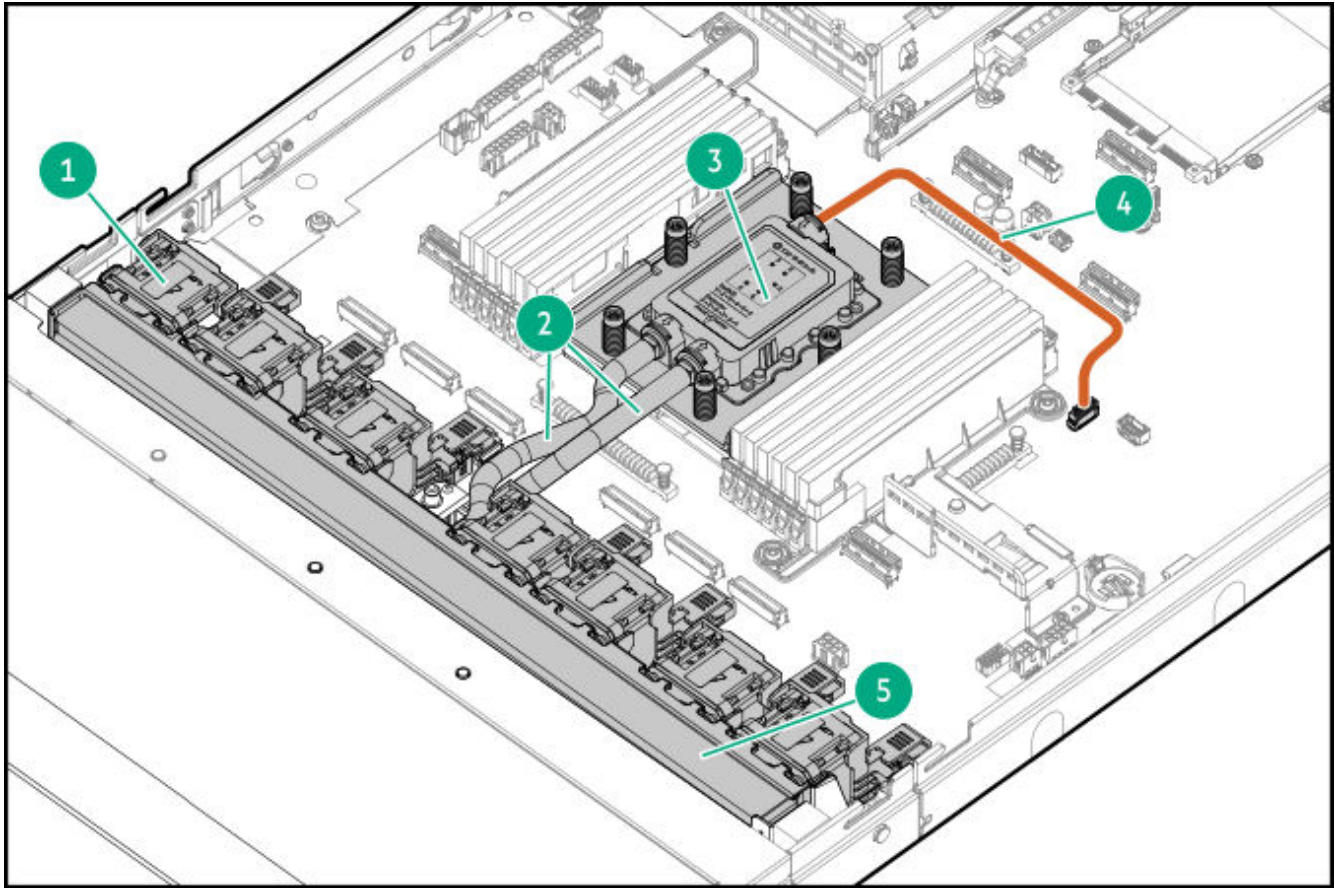
- For service inquiries, contact your local service provider.



IMPORTANT

Maximum Usage Limitation Reminders:

- The closed-loop liquid cooling module used in this server is subject to a Maximum Usage Limitation not to exceed five (5) years of operation. After reaching this five (5) year limit, it is required that the liquid cooling module be replaced. Parts and components that Hewlett Packard Enterprise determines have reached or exceeded their Maximum Usage Limitation will not be provided, repaired, or replaced under a warranty or service contract. Contact your local HPE sales representative for additional information.
- To remind users of the operational life of the liquid cooling module, iLO will send notification message at 4 years and 6 months, at 4 years and 9 months, and at 5 years of operation. This iLO notification feature is available starting in iLO 6 v1.59.



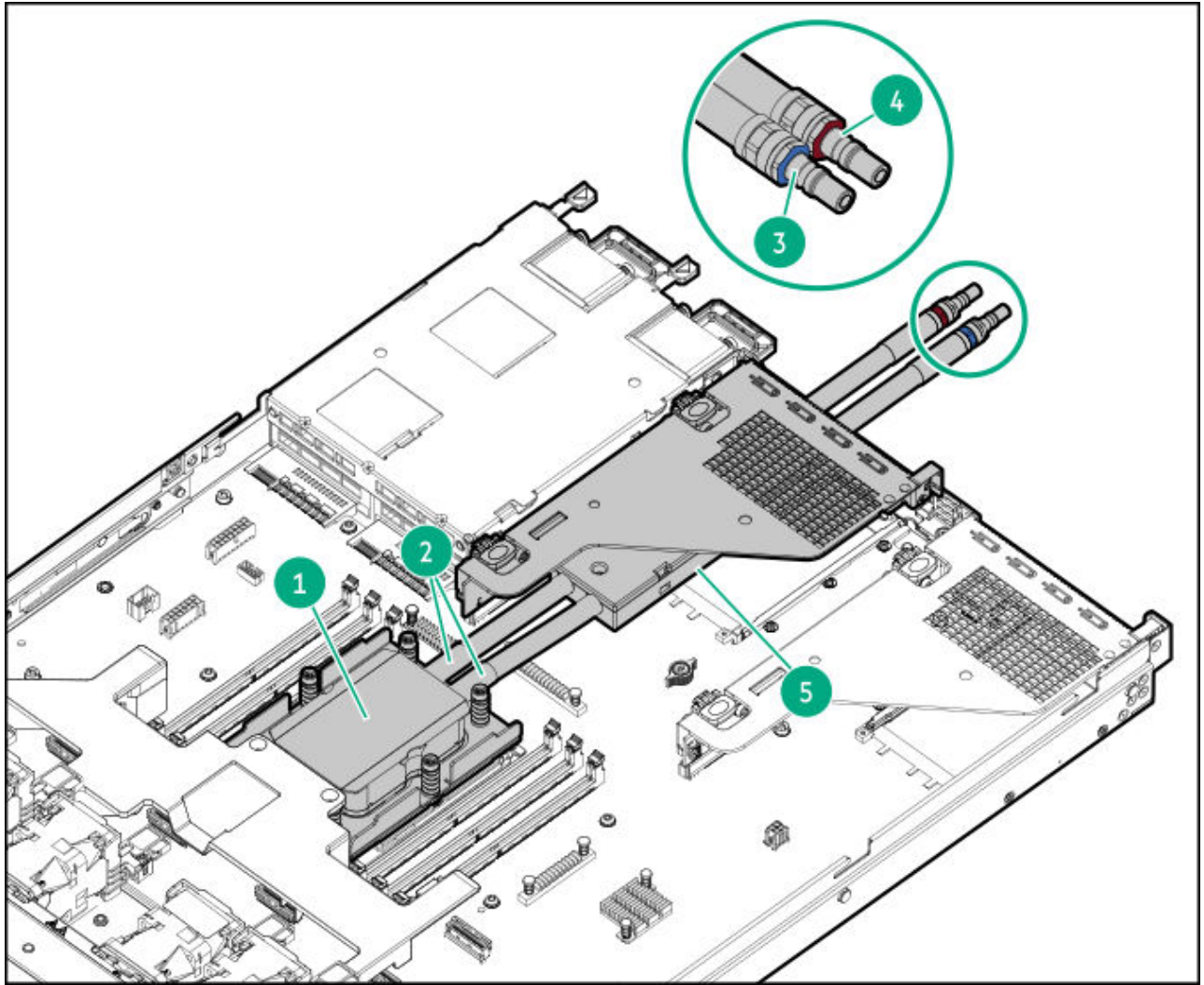
Item	Description
1	Liquid cooling fans (7, single-rotor)
2	Coolant hoses
3	Pump-cold plate *
4	Pump signal cable
5	Radiator

* The closed-loop liquid cooling module has two pumps for redundancy.

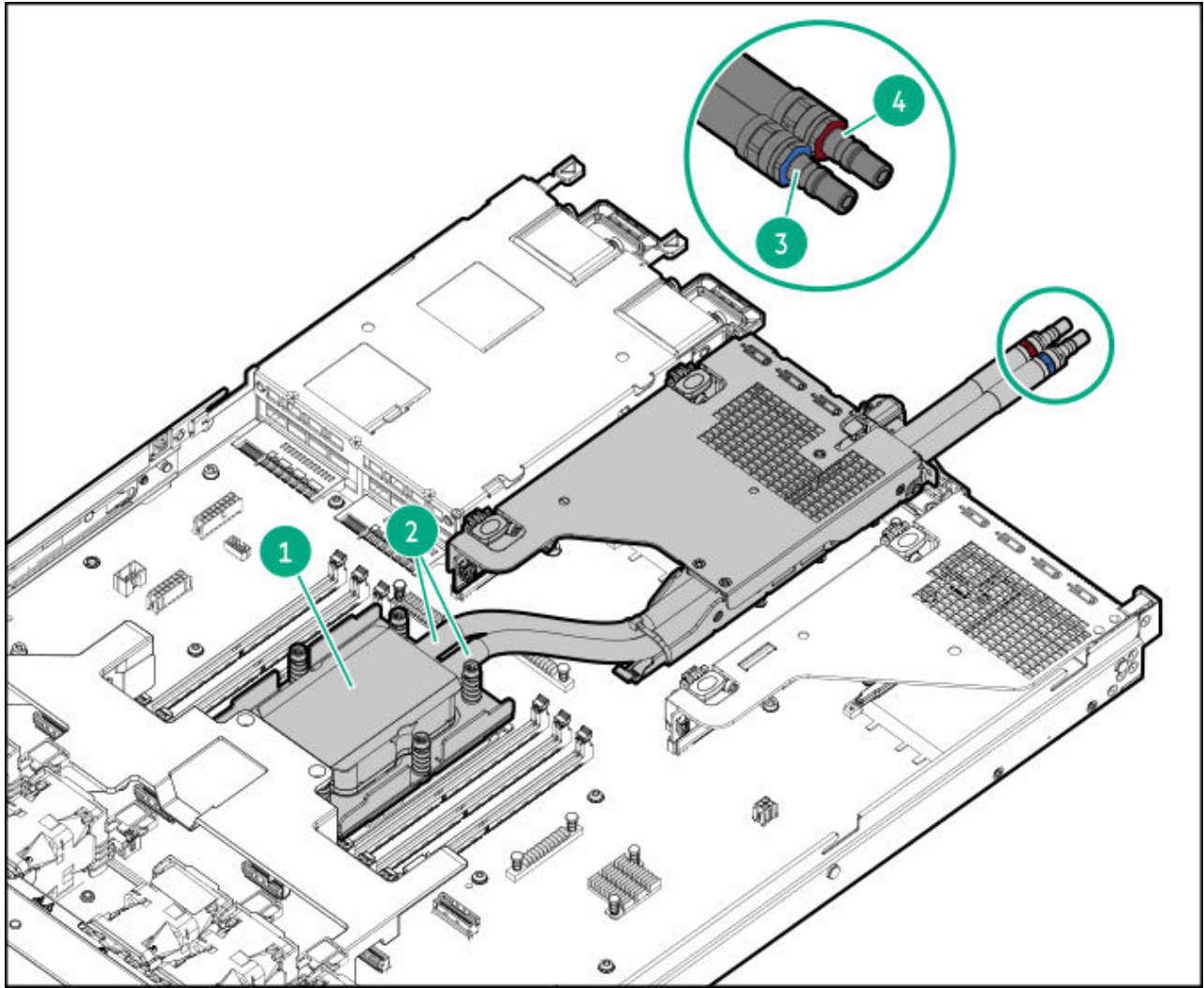
Direct liquid cooling module components

DLC cold plate modules are available on this server as factory-installed options. Two DLC options are available:

- DLC cold plate module from PCIe (P80871-B21)



- DLC cold plate module from NS204i-u (P80876-B21)



Item	Description
1	Open-loop liquid cooling cold plate
2	Coolant hoses
3	Supply hose
4	Return hose
5	DLC hose holder

For additional information on the DLC options, see the product QuickSpecs on the Hewlett Packard Enterprise website:

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

HPE Trusted Platform Module 2.0

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

The TPM 2.0 is embedded on the server system board.

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

Subtopics

[HPE Trusted Platform Module 2.0 guidelines](#)

[BitLocker recovery key/password retention guidelines](#)

HPE Trusted Platform Module 2.0 guidelines



CAUTION

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

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

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

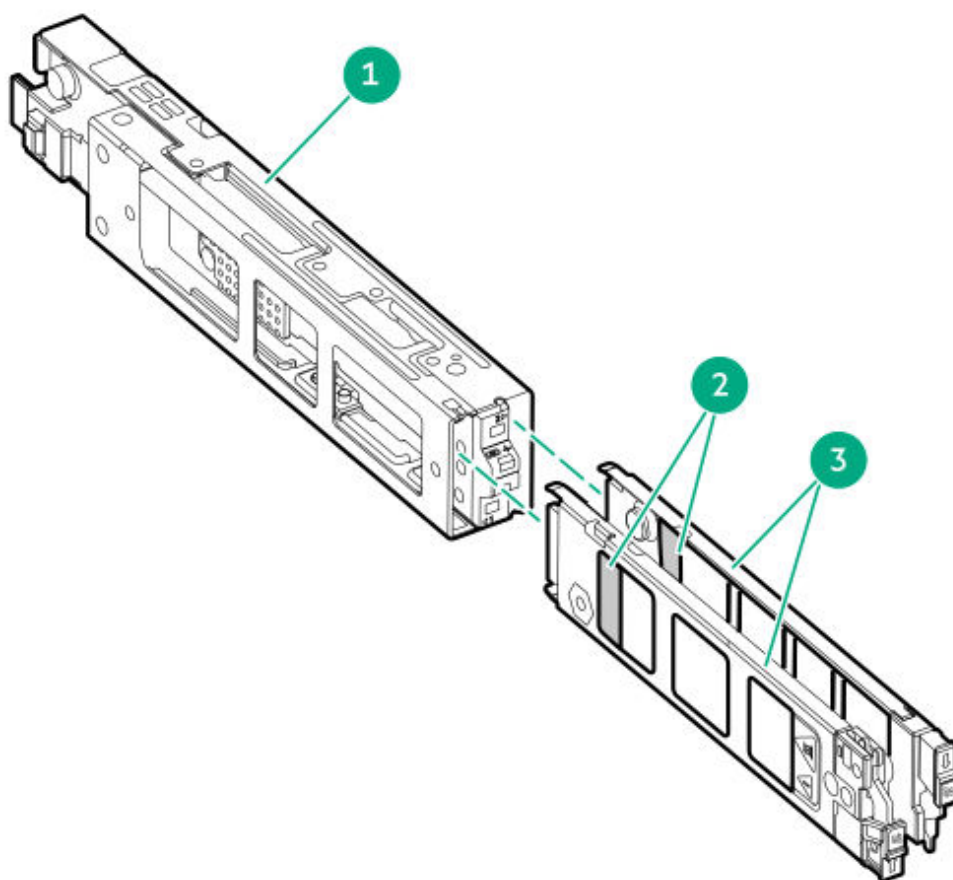
BitLocker recovery key/password retention guidelines

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:

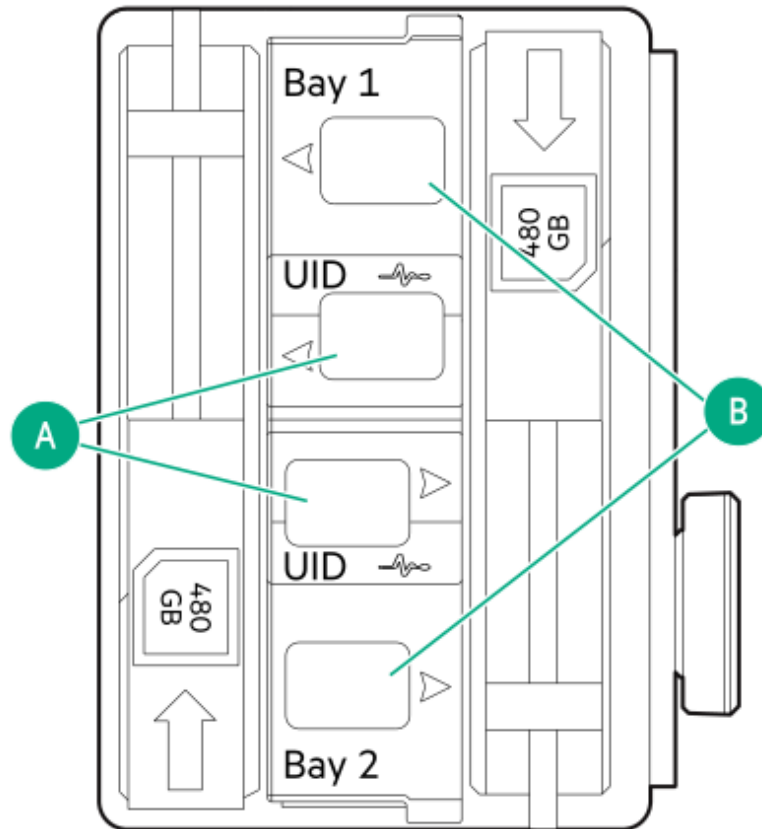
- Always store the recovery key/password in multiple locations.
- Always store copies of the recovery key/password away from the server.
- Do not save the recovery key/password on an encrypted drive.

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



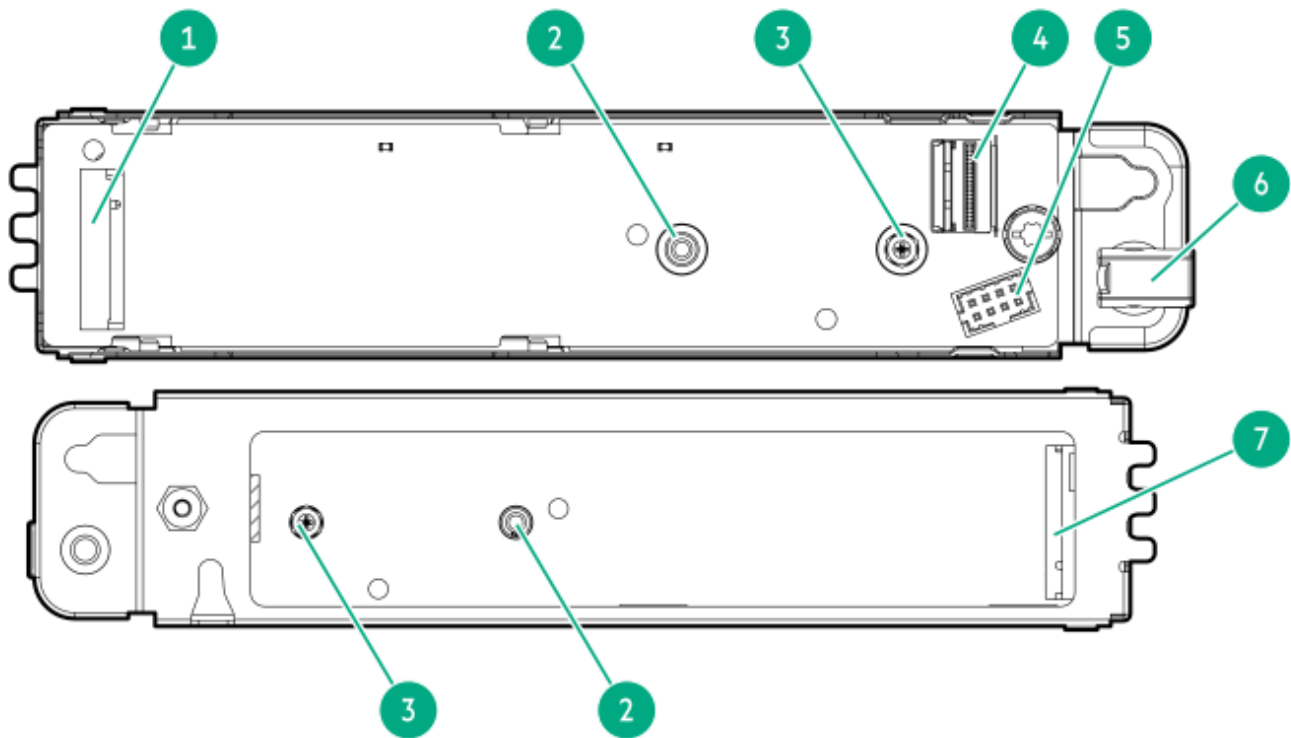
NOTE

The bay number can be found on the SSD carrier handle.

Item	LED	Status	Definition
A	Fault or Locate	Solid amber	Drive has failed, unsupported, or invalid.
		Solid blue	Drive is operating normally.
		Flashing amber or blue (one flash per second)	Drive has failed, or a predictive failure alert is received for the drive.
		Flashing amber (one flash per second)	Drive predictive failure alert is received. Replace the drive as soon as possible.
		Off	Drive is operating normally and is not identified by any application.
B	Online/Activity	Solid green	Drive is online and has no activity.

Item	LED	Status	Definition
		Flashing green (one flash per second)	Drive is doing one of the following: <ul style="list-style-type: none"> 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.

M.2 SSD pass-through card components

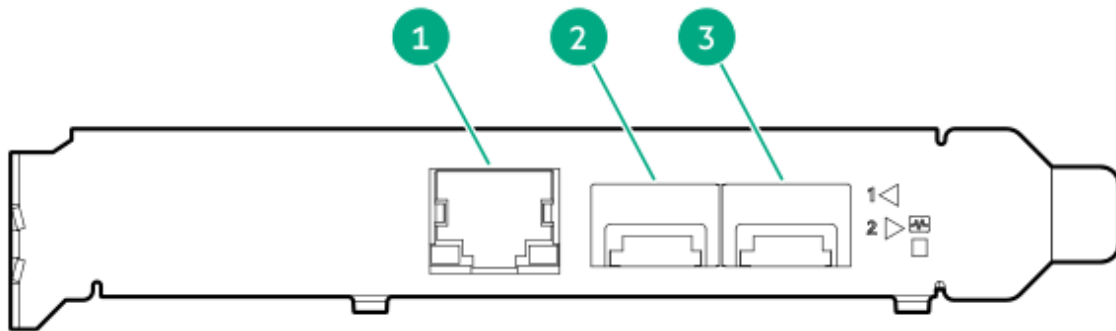


Item	Description
1	M.2 SSD slot 1
2	2280 standoff
3	22110 standoff
4	SlimSAS port
5	Power connector

Item	Description
6	Retaining latch
7	M.2 SSD slot 2

DSC-25 2-port SFP28 card ports and LEDs

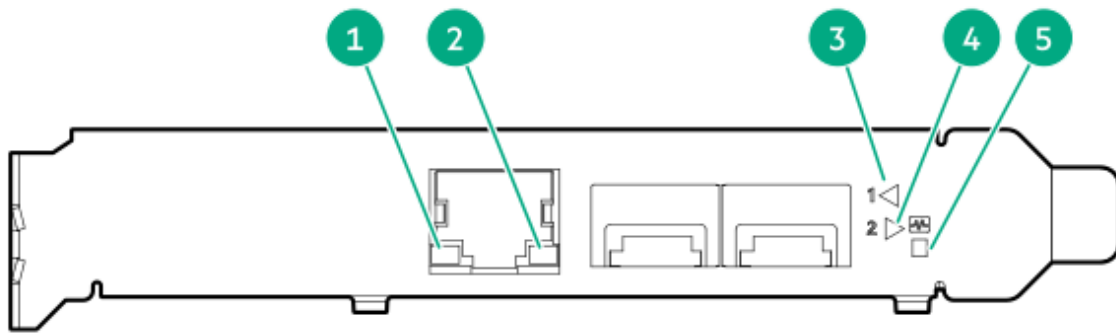
Ports



Item	Port	Description
1	Management port	1GbE RJ45
2	Network interface port	10/25G SFP+ based
3	Network interface port	10/25G SFP+ based

LEDs

The HPE for Pensando DSP DSC-25 2p SFP28 card is a dual-port, single-slot, half-height, half-length (HHHL) SFP28 network adapter. It has LEDs for Link (L) and Activity (A) for each port. A half-height bracket is shown in the following illustration with SFP28 ports and LEDs.



Item	LED	Status	Description
1	Management Port Activity LED	Off	No activity
		Flashing	Passing traffic; flashing frequency indicates traffic intensity
2	Management Port Link LED	Off	A link has not been established
		Solid green	Valid Ethernet link
3	SFP Port 1 Link/Activity LED	Off	A link has not been established
		Solid green	Valid Ethernet link
		Flashing green	Passing traffic; flashing frequency indicates traffic intensity
		Solid amber	Link fault
4	SFP Port 2 Link/Activity LED	Off	A link has not been established
		Solid green	Valid Ethernet link
		Flashing green	Passing traffic; flashing frequency indicates traffic intensity
		Solid amber	Link fault
5	System status LED	Off	System is not powered
		Solid amber	Power is up, software has not booted yet
		Solid green	System is up and fully operational

Cabling

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

Subtopics

Cabling guidelines

Cabling diagrams

Internal cabling management

Storage cabling

Optical drive cabling

HPE NS204i-u Boot Device cabling

M.2 SSD pass-through card cabling

GPU cabling

Pump signal cabling for the CLLC module

OCP bandwidth upgrade cabling

Serial port cabling

Chassis intrusion detection switch cabling

Front I/O cabling

Front USB and DisplayPort cabling

Cabling guidelines

Observe the following:



NOTE

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



CAUTION

To avoid damaging connectors, avoid repeated installation and removal of cables. Excessive handling can shorten the lifespan of the cable.

- For cable option kits, see the product QuickSpecs.
- For cable spare part numbers, see the Illustrated parts catalog in the maintenance and service guide.
- Some diagrams show alphabetical callouts such as A, B, C, etc. These callouts correspond to labels near the connectors on the cable.

- Some cables have more than one connector, such as a Y-cable, but not all connectors are used.
- Observe all guidelines when working with server cables.

Before connecting cables

- Note the port labels on the PCA components. Not all these components are used by all servers:
 - System board ports
 - Drive and power supply backplane ports
 - Expansion board ports (controllers, retimers, adapters, expanders, risers, and similar boards)
- Note the label near each cable connector. This label indicates the destination port for the cable connector.
- Some data cables are prebent. Do not unbend or manipulate the cables.
- To prevent mechanical damage or depositing oil that is present on your hands, and other contamination, do not touch the ends of the connectors.

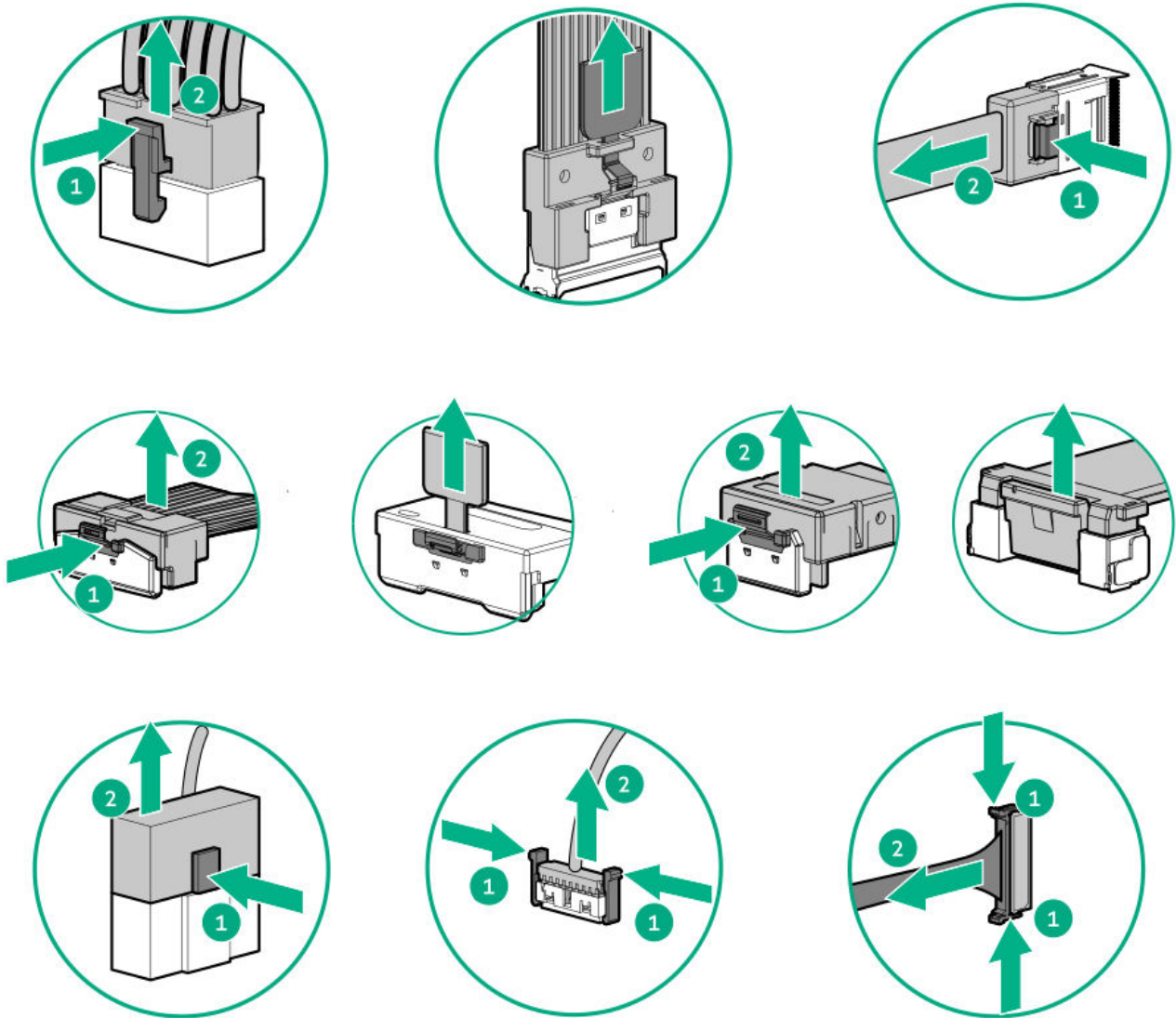
When connecting cables

- Before connecting a cable to a port, lay the cable in place to verify the length of the cable.
- Use the internal cable management features to properly route and secure the cables.
- When routing cables, be sure that the cables are not in a position where they can be pinched or crimped.
- Avoid tight bend radii to prevent damaging the internal wires of a power cord or a server cable. Never bend power cords and server cables tight enough to cause a crease in the sheathing.
- Make sure that the excess length of cables is properly secured to avoid excess bends, interference issues, and airflow restriction.
- Before installing a new component or closing up the server, make sure that all cables are in their appropriate routing position. This cable check prevents component damage and potential signal interference.

When disconnecting cables

- Grip the body of the cable connector. Do not pull on the cable itself because this action can damage the internal wires of the cable or the pins on the port.

- If a cable does not disconnect easily, check for any release latch that must be pressed to disconnect the cable.



- Remove cables that are no longer being used. Retaining them inside the server can restrict airflow. If you intend to use the removed cables later, label and store them for future use.

Cabling diagrams

Observe the following:

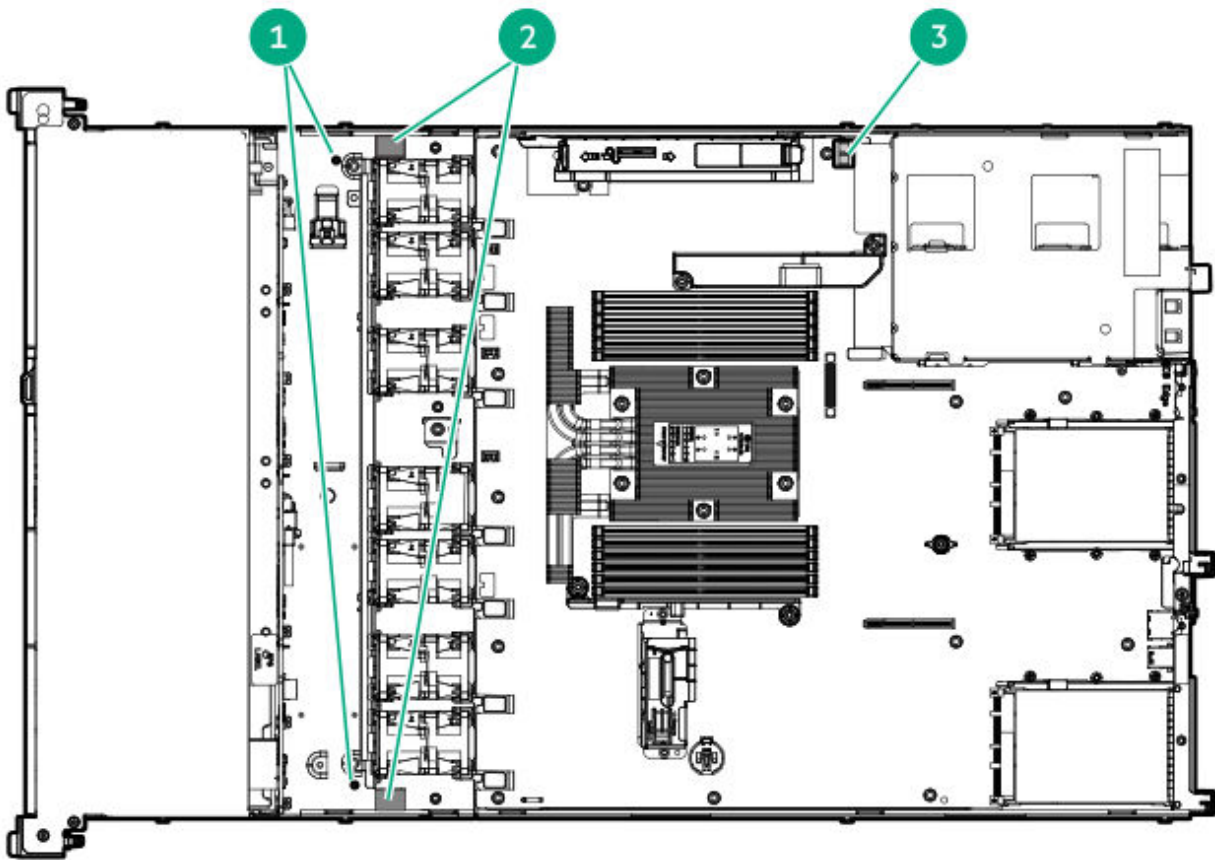
- Before cabling components, see the [Cabling guidelines](#).
- Use the cable part number or search feature to find your diagram.

Component cabling	Cable part number
Storage controller cable—NVMe drive	—
2 SFF drive direct attach cable	P54592-001
2 SFF drive controller cable: Tri-mode type-p storage controller in the secondary riser	P57042-001
4 SFF drive direct attach cable	P63033-001
4 SFF x2 NVMe drive controller cable: Tri-mode type-o storage controller in Slot 22	P57334-002
4 SFF x4 NVMe drive controller cable: Tri-mode type-p storage controller in the secondary riser	P57057-002
8 SFF drive direct attach cable	P54589-001 P54586-001 P54588-001 P54587-001
8 SFF drive controller cable: Type-o storage controller in the Slot 22	P57074-001 P57075-001
8 SFF drive controller cable: Tri-mode type-p storage controller in the primary riser	P57070-001 P57057-001 P57076-001 P57041-001
8 SFF drive controller cabling: Tri-mode type-p storage controller in the secondary riser	P57060-001 P57061-001 P57062-001 P57042-001
8 SFF drive controller cabling: Tri-mode type-p storage controller in the secondary riser	P57064-001 P57065-001
8 + 2 SFF drive direct attach cable	P54589-001 P54586-001 P54588-001 P54587-001 P54592-001

Component cabling	Cable part number
8 + 2 SFF drive controller cable: Tri-mode type-p storage controller in the secondary riser	P57064-001 P57065-001 P57042-001
8 E3.S drive direct attach cable	P57052-001
8 E3.S x4 NVMe drive controller cable: Tri-mode type-p storage controller in the secondary riser	P57057-002
20 E3.S x4 NVMe drive direct attach cable	P59645-001 P59646-001
20 E3.S x2 NVMe drive direct attach cable	P57082-001 P57083-001
4 SFF NVMe drive direct attach cable	P63033-001
8 E3.S x4 NVMe drive direct attach cable	P57052-001
Storage controller cable—SAS / SATA drive	—
4 LFF drive onboard SATA cable	P57037-001
4 LFF drive controller cable: Type-o controller in the Slot 22	P57038-001
2 SFF drive onboard SATA cable	P57045-001
2 SFF drive controller cable: Type-o storage controller in the Slot 22	P57040-001
2 SFF drive controller cable: Type-p storage controller in the secondary riser	P57042-001
8 SFF drive onboard SATA cable	P56679-001
8 SFF drive controller cable: Type-o storage controller in the Slot 22	P57080-001
8 + 2 SFF drive onboard SATA cable	P56679-001 P57045-001
8 + 2 SFF drive controller cable: Type-o storage controller in the Slot 22	P57080-001 P57040-001
Drive power cables	—
4 LFF drive power cable	P56680-001
2 SFF drive power cable	P54591-001
8 SFF drive power cable	P54590-001
20 E3.S drive power cable	P56682-001
4 SFF NVMe drive power Y-cable	P63034-001
8 E3.S drive power cable	P56684-001

Component cabling	Cable part number
Energy pack power extension cable	P56688-001
Storage backup power	—
GPU riser cables	—
GPU Slot 4 riser cable	P51471-001
GPU Slot 5 riser cable	P44002-001
GPU riser power Y-cable	P56683-001
GPU auxiliary power cables	—
Slot 4 double-width GPU auxiliary power cable	P56694-001
Slot 5 double-width GPU auxiliary power cable	P56695-001
Miscellaneous cable options	—
4 LFF drive configuration front I/O cable	P43727-001
8 + 2 SFF / 20 E3.S drive configuration front I/O cable	P43727-001
GPU-optimized configuration front I/O cable	P47750-001
LFF drive configuration front USB and DisplayPort cable	P45619-001
SFF drive configuration front USB and DisplayPort cable	P45620-001
LFF drive configuration optical drive cable	P58696-001
SFF drive configuration optical drive cable	P56685-001
M.2 SSD pass-through card cable	P56689-001
	P56690-001
	P56691-001
HPE NS204i-u Boot Device cable	P54087-001
	P54088-001
Chassis intrusion detection switch cable	P47751-001
Serial port cable	P47752-001
Pump signal cable	P58463-B21
OCP bandwidth upgrade cable for OCP Slot 21	P56686-001

Internal cabling management



Item	Description
1	Cable routing posts ¹
2	Cable routing foams
3	Chassis intrusion detection switch cable clip

¹ These posts are in the LFF or E3.S drive configurations.

Storage cabling

Subtopics

[Storage controller cabling](#)

[Drive power cabling](#)

[Energy pack cabling](#)

Storage controller cabling

Subtopics

4 LFF SAS/SATA drive controller cabling

2 SFF NVMe drive controller cabling

2 SFF SAS/SATA drive controller cabling

8 SFF NVMe drive controller cabling

8 SFF SAS/SATA drive controller cabling

8 + 2 SFF NVMe drive controller cabling

8 + 2 SFF SAS/SATA drive controller cabling

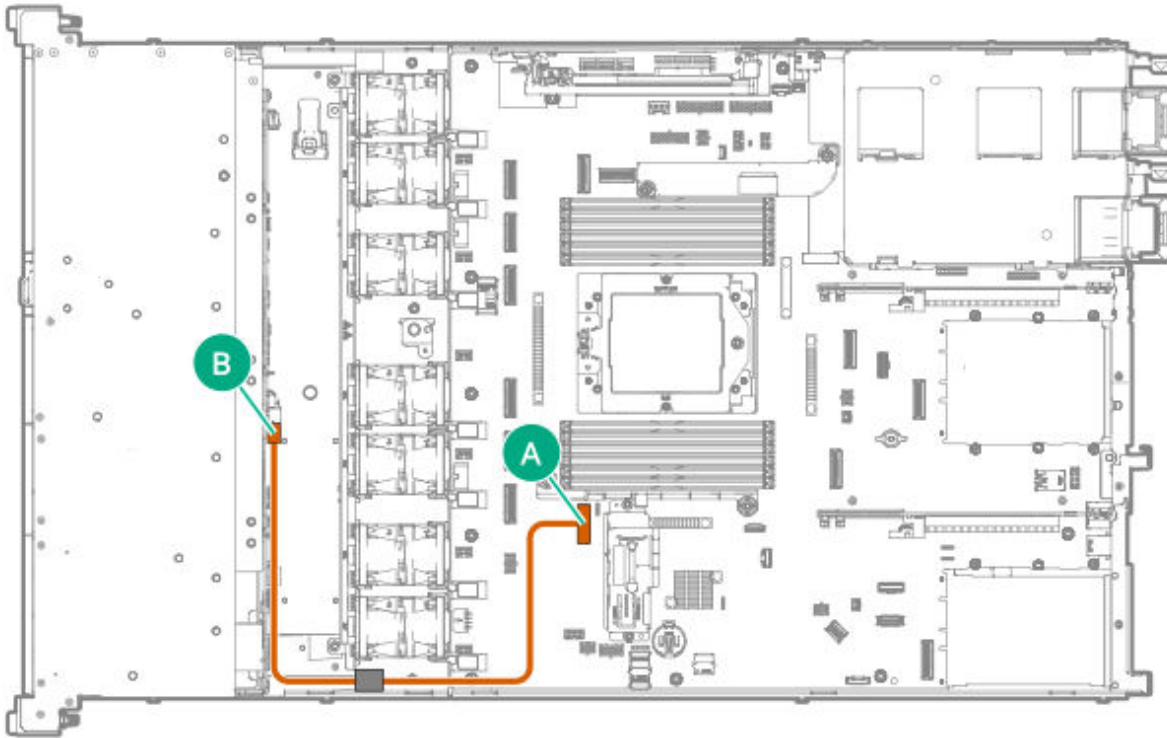
4 SFF NVMe drive controller cabling

8 E3.S drive controller cabling

20 E3.S drive controller cabling

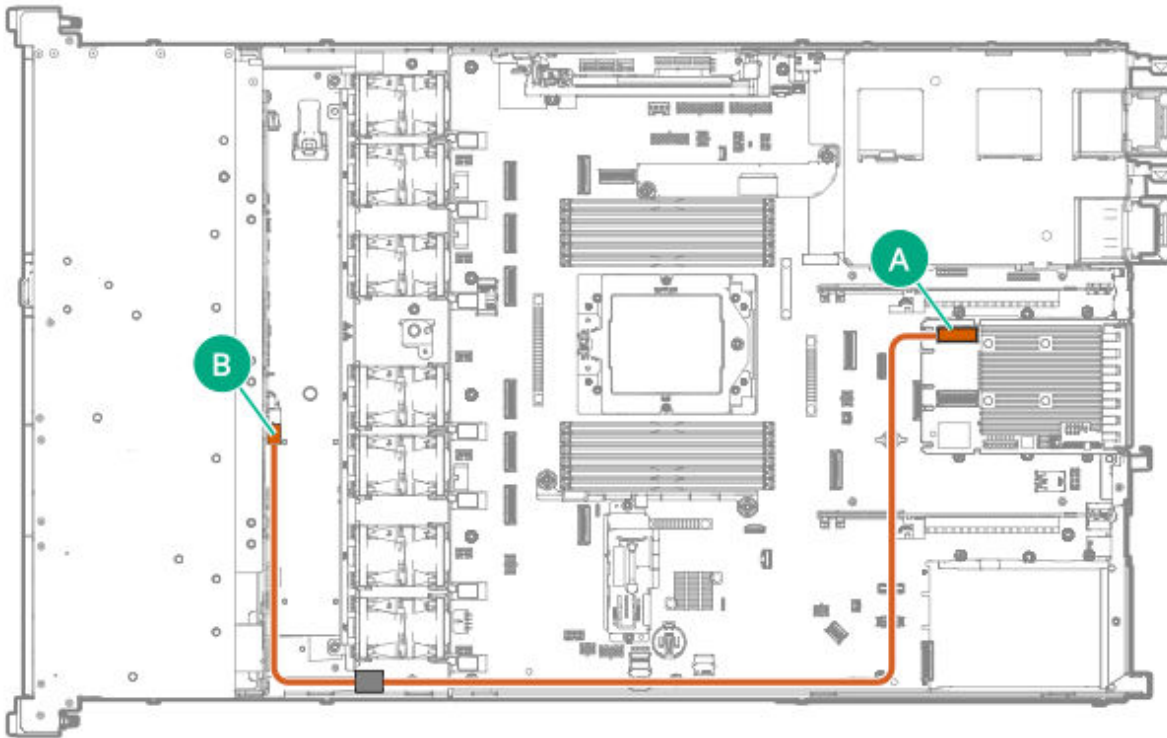
4 LFF SAS/SATA drive controller cabling

4 LFF drive: Onboard SATA cabling



Cable part number	Cable color	From	To
P57037-001	Orange	Port 1	NVMe port 1A

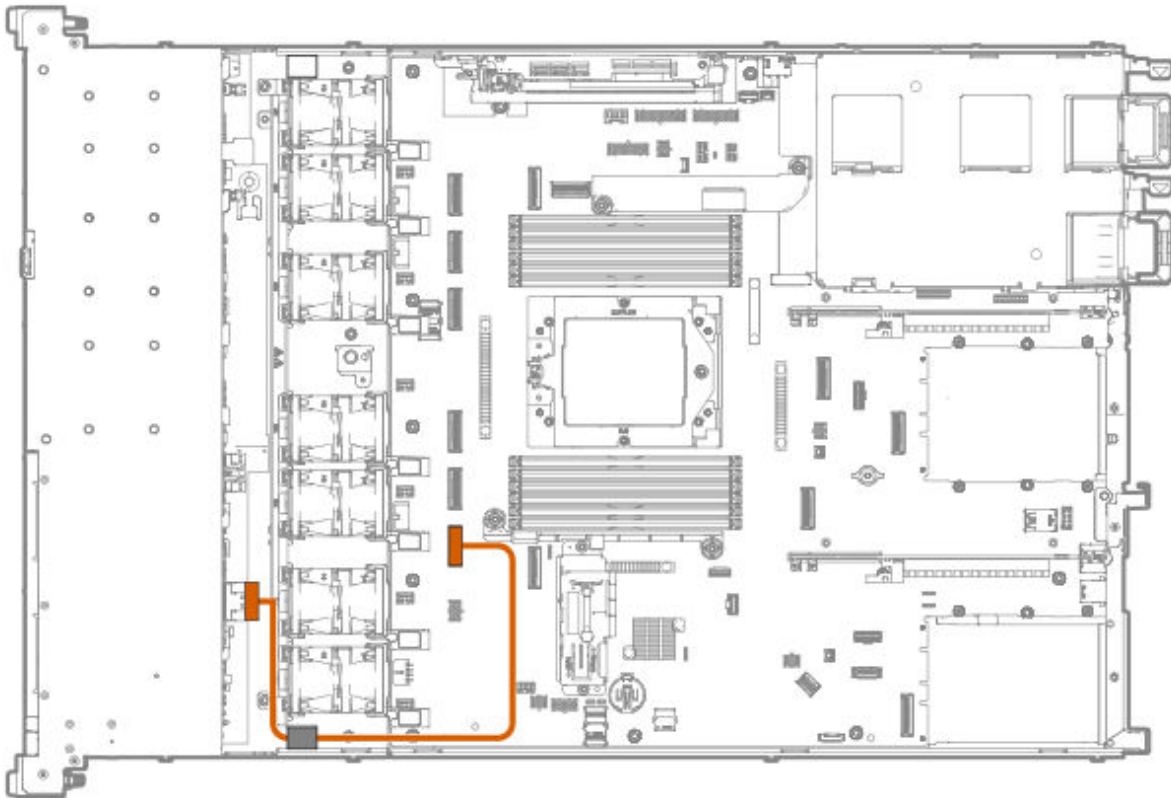
4 LFF drive controller cabling: Type-o controller in Slot 22



Cable part number	Cable color	From	To
P57038-001	Orange	Port 1	Port 1

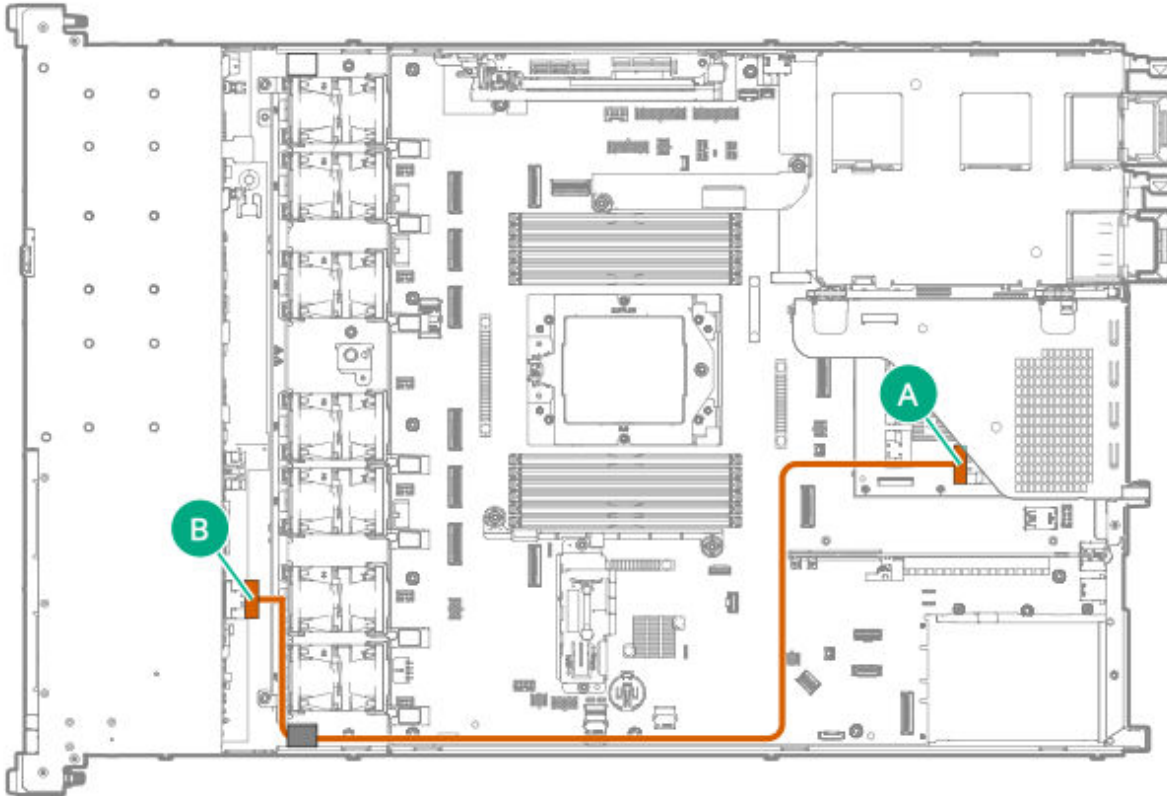
2 SFF NVMe drive controller cabling

2 SFF drive: Direct attached cabling



Cable part number	Cable color	From	To
P54592-001	Orange	Port 1	NVMe/SATA port 2A

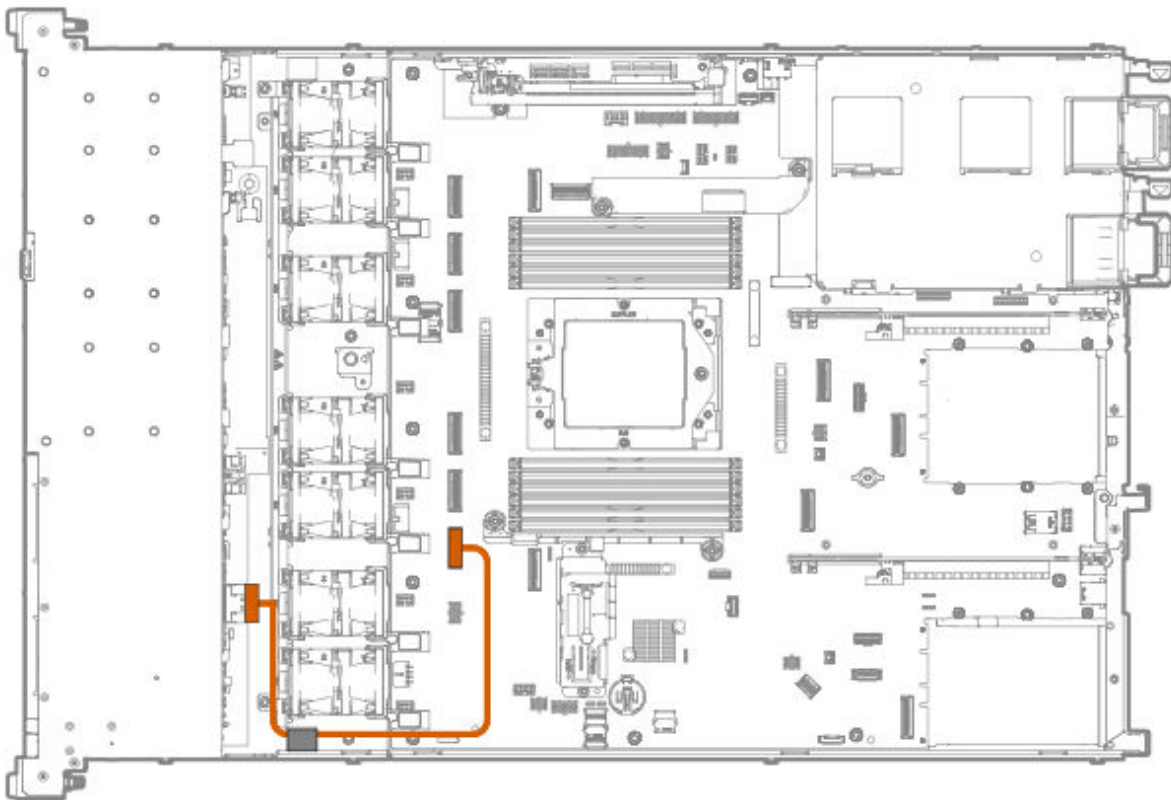
2 SFF drive controller cabling: Tri-mode type-p storage controller in the secondary riser



Cable part number	Cable color	From	To
P57042-001	Orange	Port 1	Port 1

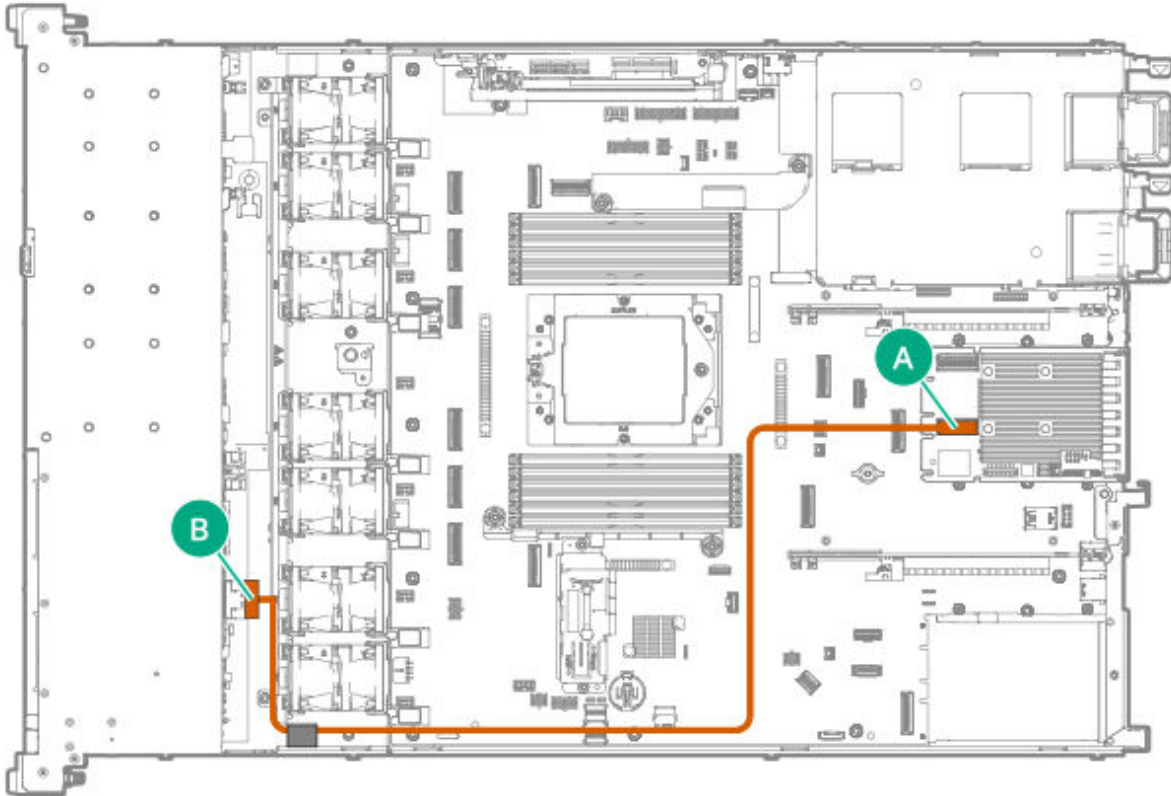
2 SFF SAS/SATA drive controller cabling

2 SFF drive: Onboard SATA cabling



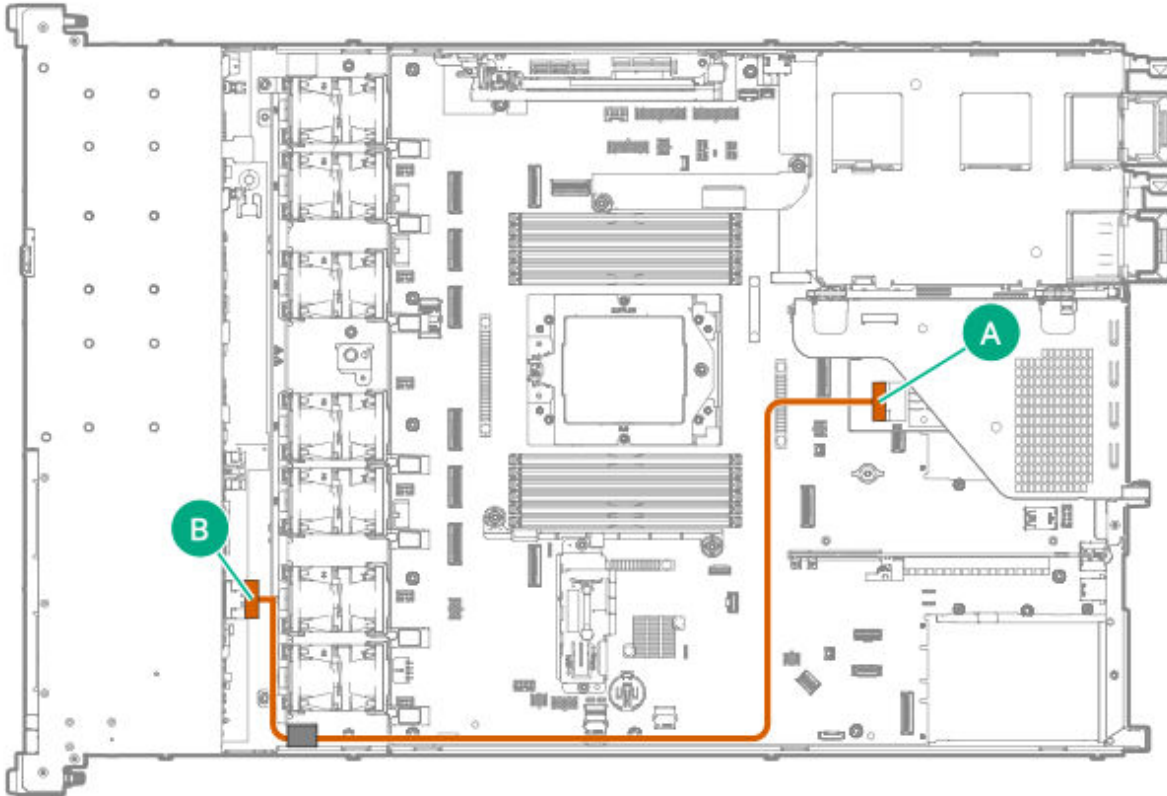
Cable part number	Cable color	From	To
P57045-001	Orange	Port 1	NVMe/SATA port 2A

2 SFF drive controller cabling: Type-o storage controller in Slot 22



Cable part number	Cable color	From	To
P57040-001	Orange	Port 1	Port 1

2 SFF drive controller cabling: Type-p storage controller in the secondary riser



Cable part number	Cable color	From	To
P57042-001	Orange	Port 1	Port 1

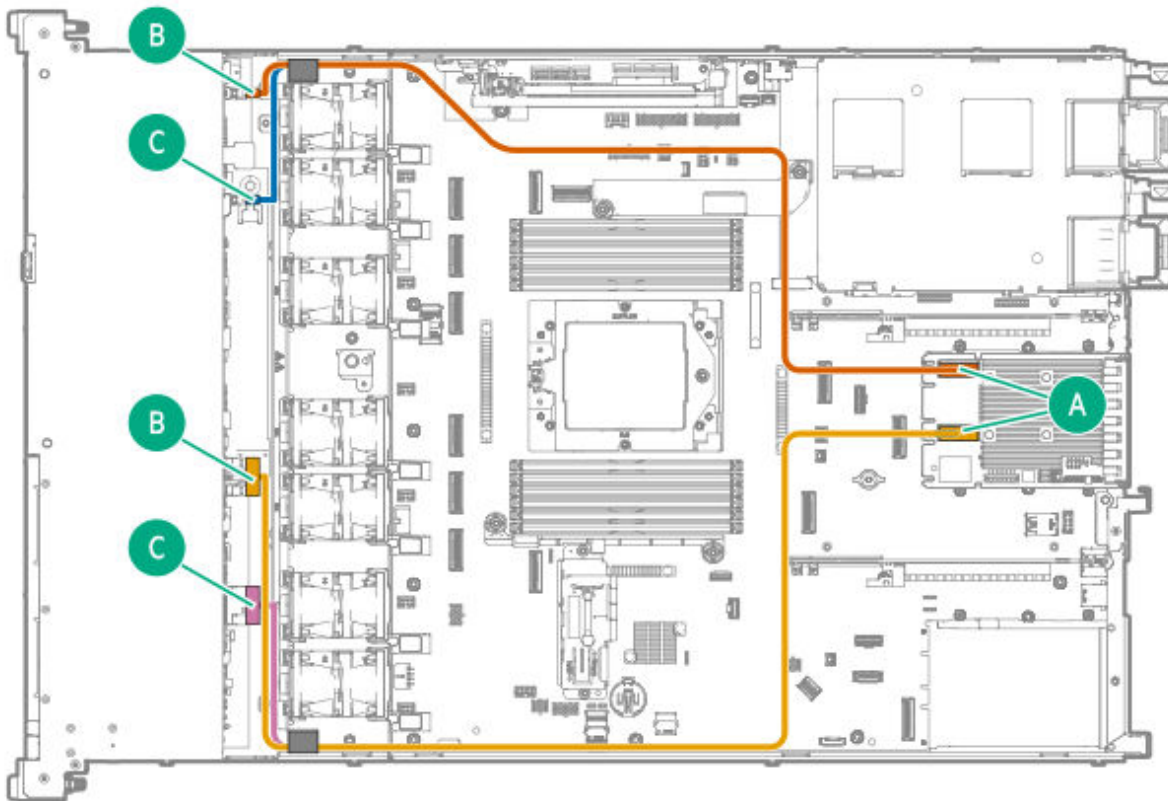
8 SFF NVMe drive controller cabling

8 SFF drive: Direct attached cabling



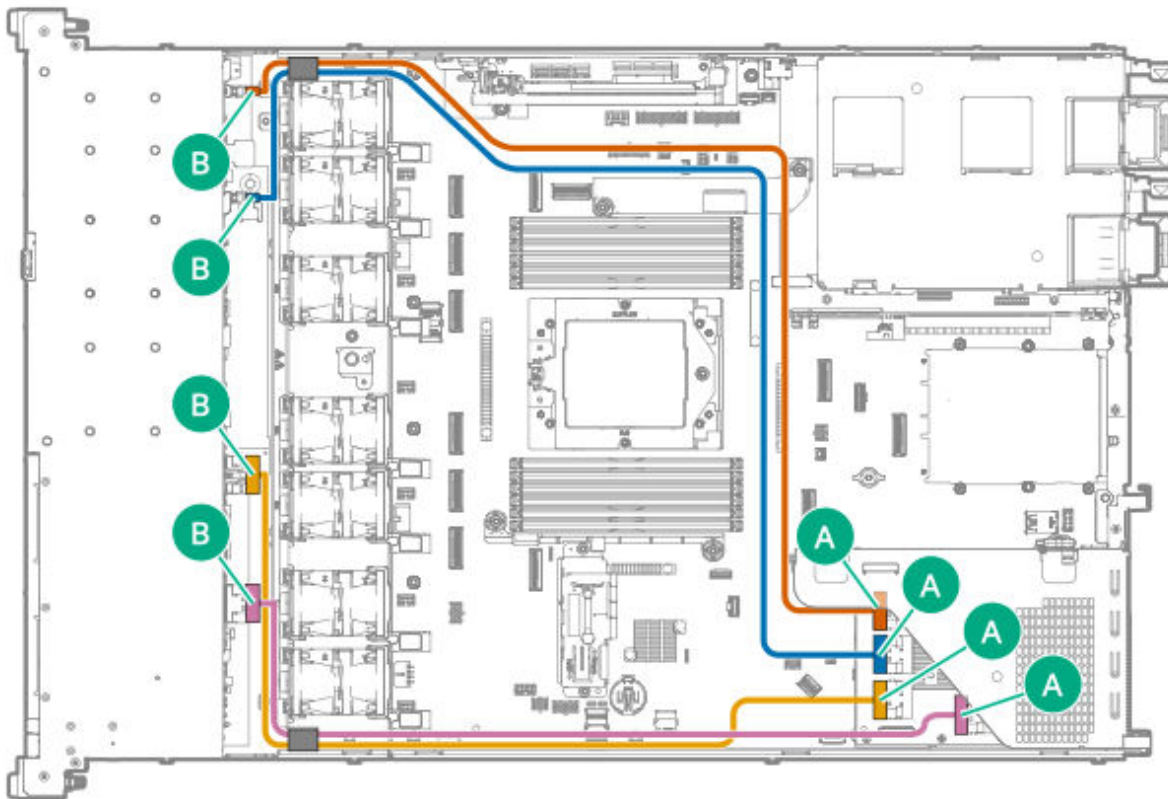
Cable part number	Cable color	From	To
P54589-001	Orange	Port 1	NVMe port 5A
P54586-001	Blue	Port 2	NVMe port 6A
P54588-001	Gold	Port 3	NVMe port 3A
P54587-001	Pink	Port 4	NVMe port 4A

8 SFF drive controller cabling: Type-o storage controller in Slot 22



Cable part number	Cable color	From	To
P57074-001	Orange	Port 1	Port 2
	Blue	Port 2	Port 2
P57075-001	Gold	Port 3	Port 1
	Pink	Port 4	Port 1

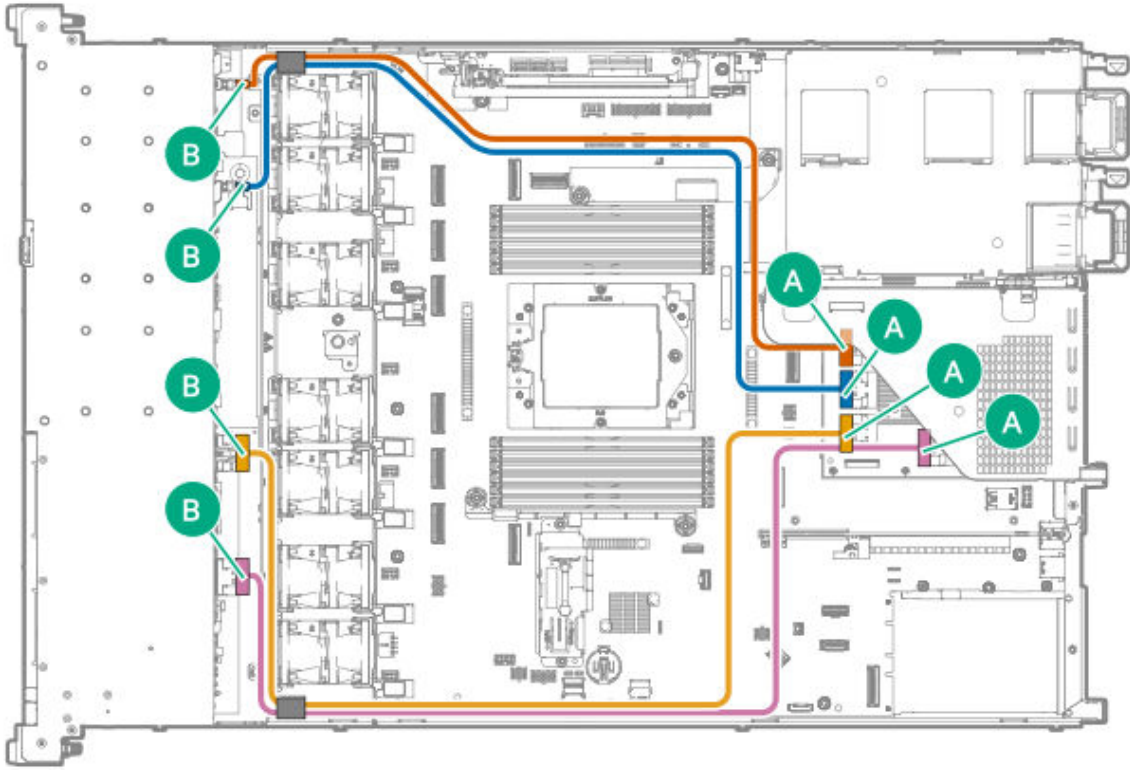
8 SFF drive controller cabling: Tri-mode type-p storage controller in the primary riser



Cable part number	Cable color	From	To
P57070-001	Orange	Port 1	Port 4
P57057-001	Blue	Port 2	Port 3
P57076-001	Gold	Port 3	Port 2
P57041-001	Pink	Port 4	Port 1

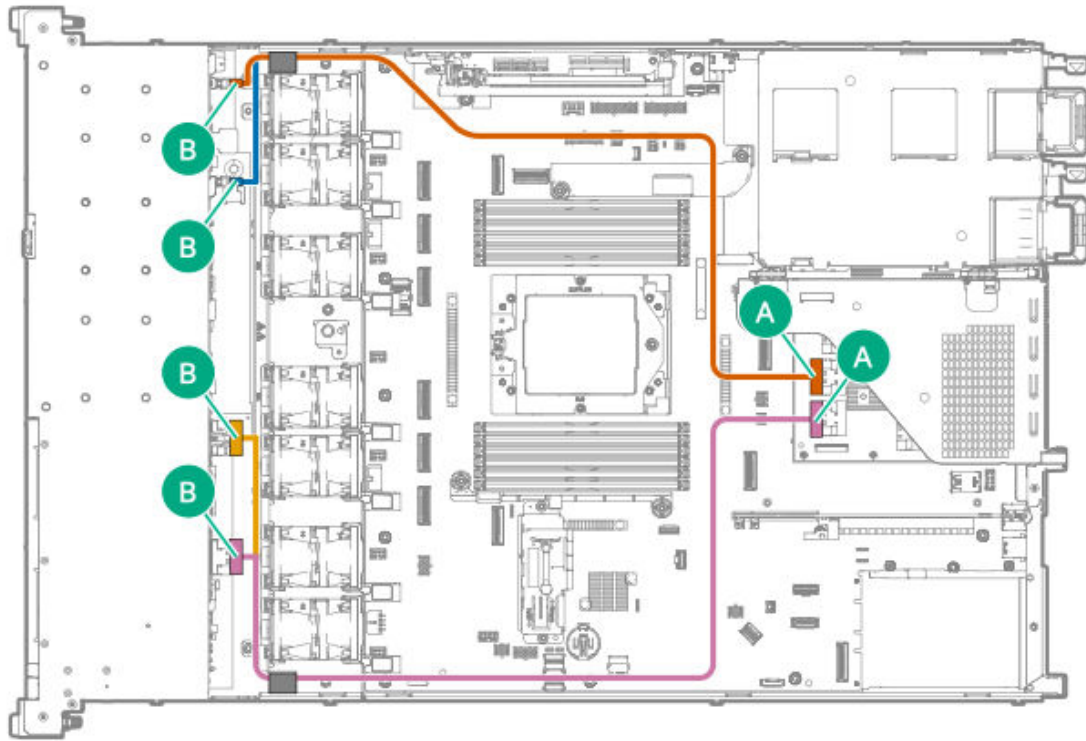
8 SFF drive controller cabling: Tri-mode type-p storage controller in the secondary riser

- Straight cables



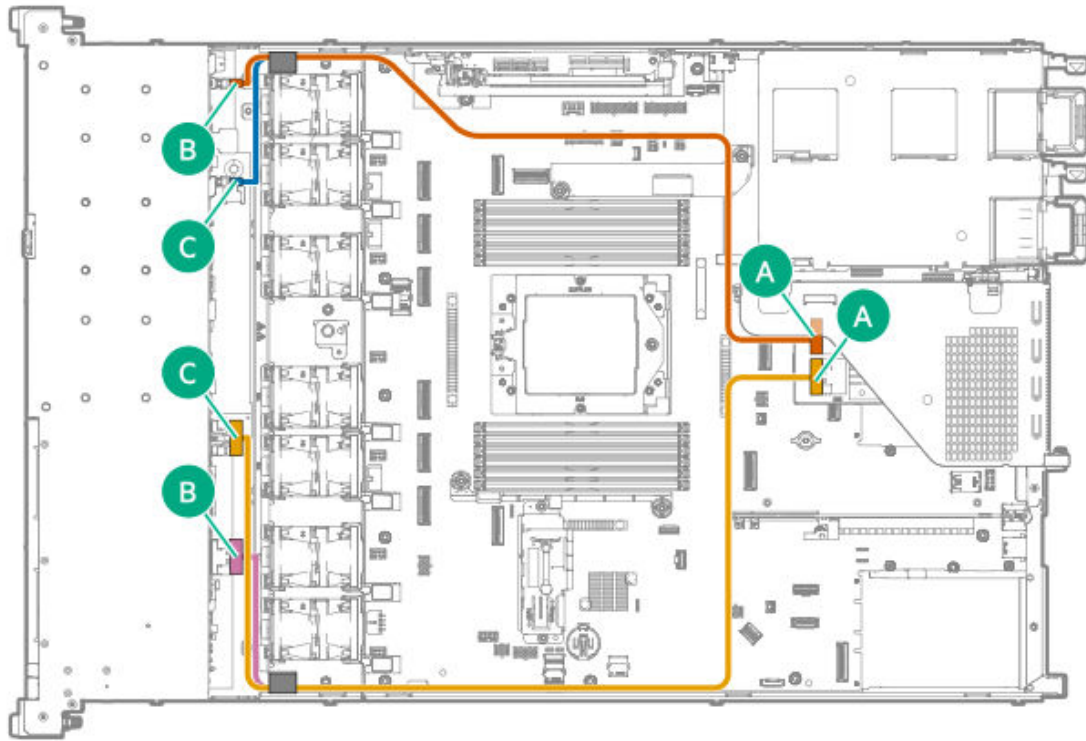
Cable part number	Cable color	From	To
P57060-001	Orange	Port 1	Port 4
P57061-001	Blue	Port 2	Port 3
P57062-001	Gold	Port 3	Port 2
P57042-001	Pink	Port 4	Port 1

- Y-cables
 - HPE SR932i-p Gen11 storage controller



Cable part number	Cable color	From	To
P57064-001	Orange	Port 1	Port 3
	Blue	Port 2	
P57065-001	Gold	Port 3	Port 2
	Pink	Port 4	

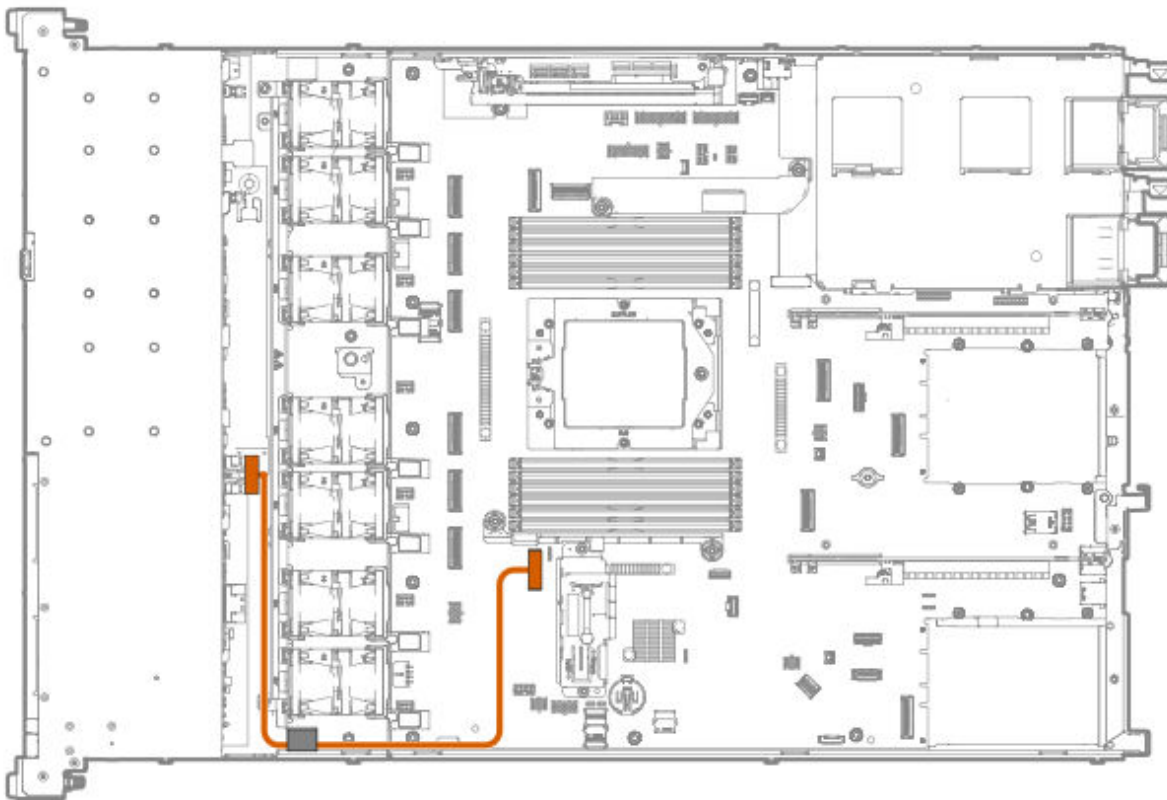
- HPE MR416i-p Gen11 storage controller



Cable part number	Cable color	From	To
P57064-001	Orange	Port 1	Port 2
	Blue	Port 2	
P57065-001	Gold	Port 3	Port 1
	Pink	Port 4	

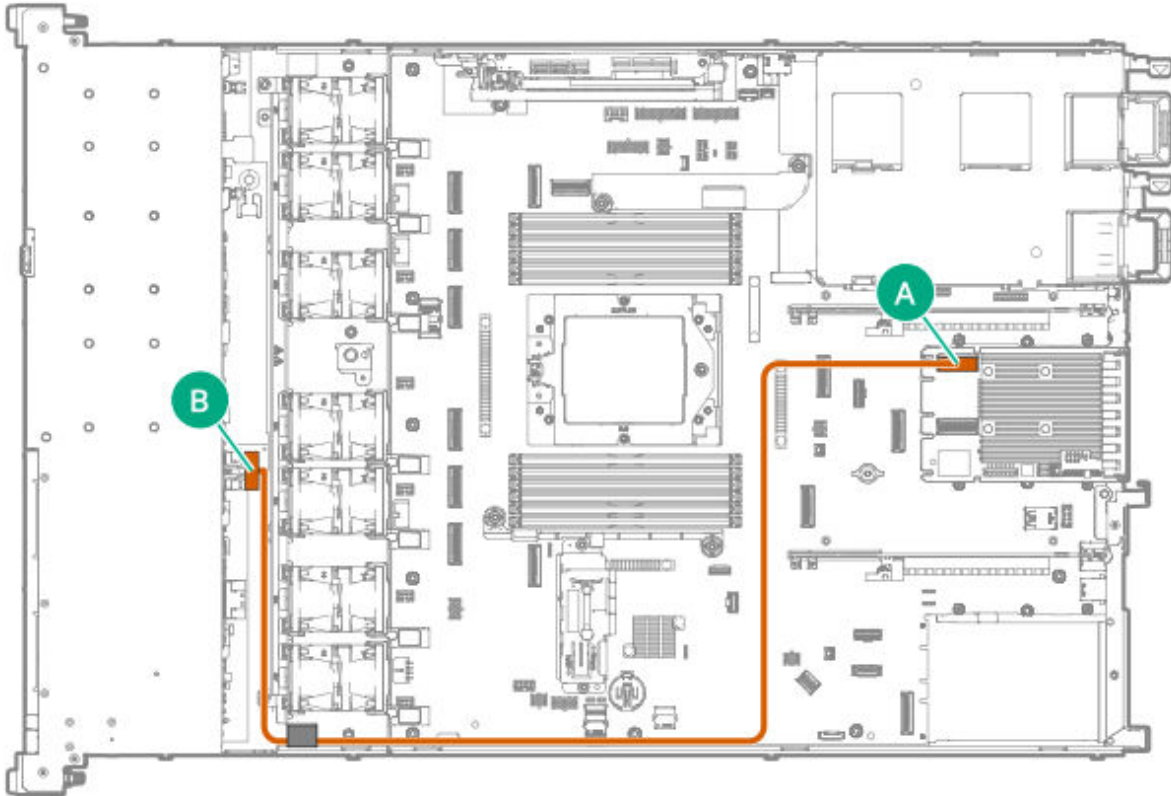
8 SFF SAS/SATA drive controller cabling

8 SFF drive: Onboard SATA cabling



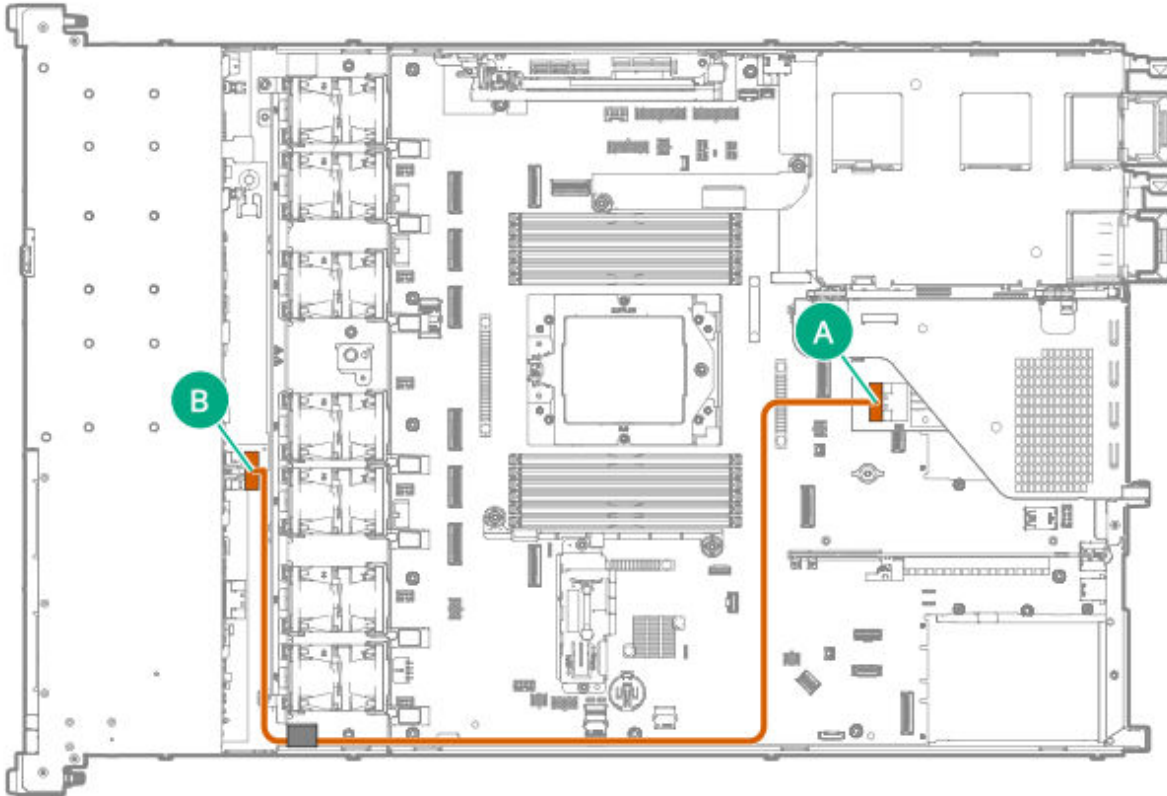
Cable part number	Cable color	From	To
P56679-001	Orange	Port 1	NVMe / SATA port 1A

8 SFF drive controller cabling: Type-o storage controller in Slot 22



Cable part number	Cable color	From	To
P57080-001	Orange	Port 1	Port 2

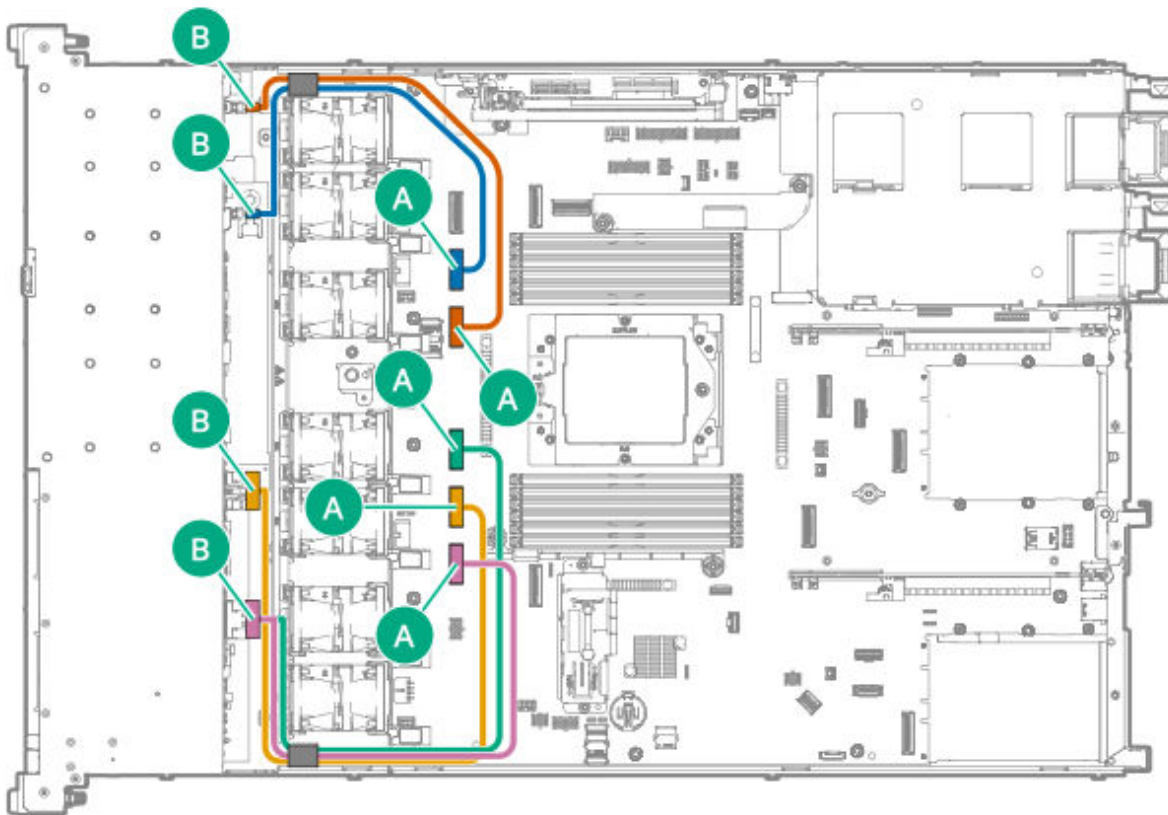
8 SFF drive controller cabling: Type-p storage controller in the secondary riser



Cable part number	Cable color	From	To
P57077-001	Orange	Port 1	Port 1

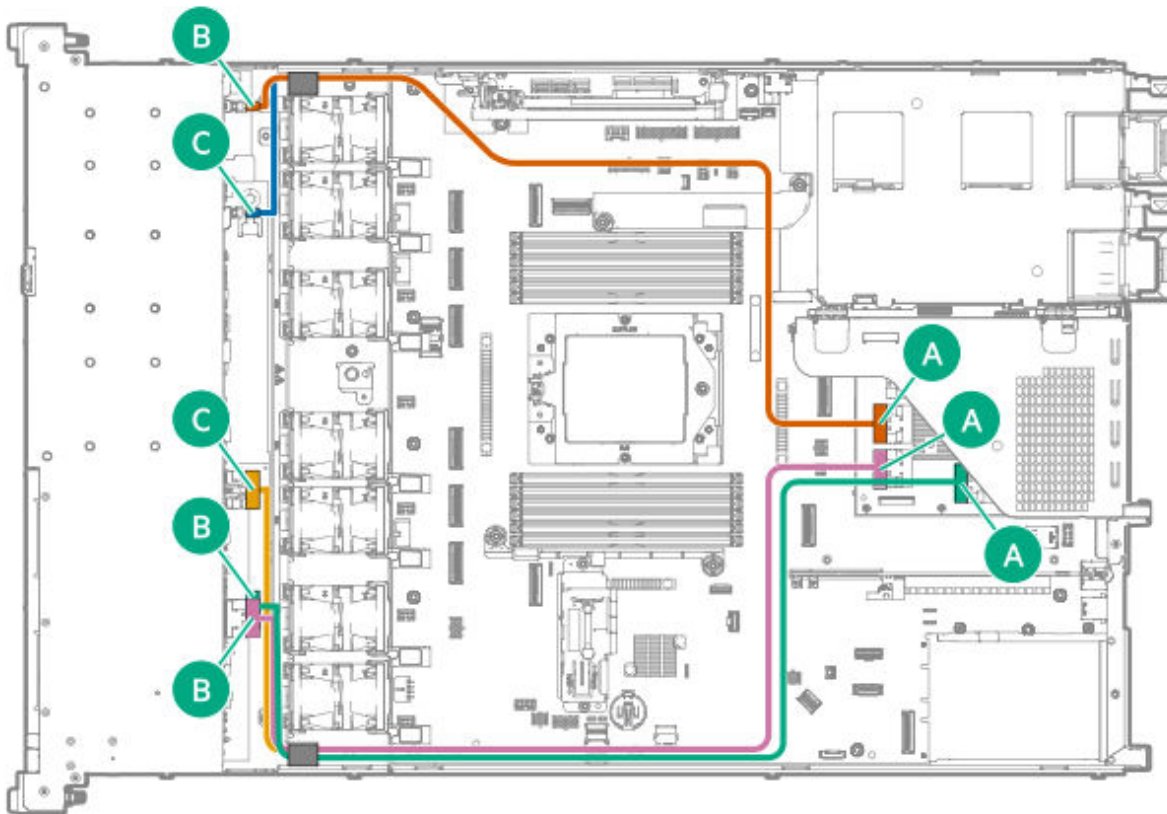
8 + 2 SFF NVMe drive controller cabling

8 + 2 SFF drive: Direct attached cabling



Cable part number	Cable color	From	To
P54589-001	Orange	Box 1 Port 1	NVMe port 5A
P54586-001	Blue	Box 1 Port 2	NVMe port 6A
P54588-001	Gold	Box 1 Port 3	NVMe port 3A
P54587-001	Green	Box 1 Port 4	NVMe port 4A
P54592-001	Pink	Box 2 Port 1	NVMe/SATA port 2A

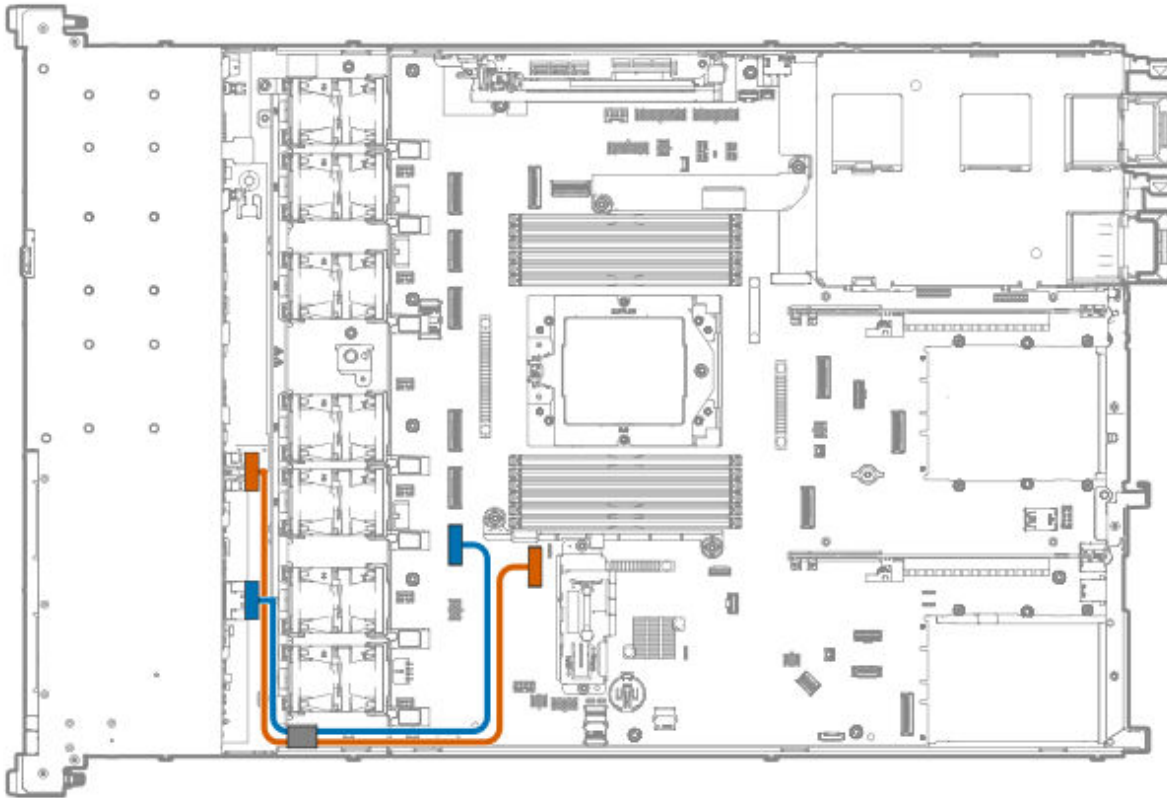
8 + 2 SFF drive controller cabling: Tri-mode type-p storage controller in the secondary riser



Cable part number	Cable color	From	To
P57064-001	Orange	Box 1 Port 1	Port 3
	Blue	Box 1 Port 2	
P57065-001	Gold	Box 1 Port 3	Port 2
	Pink	Box 1 Port 4	
P57042-001	Green	Box 2 Port 1	Port 1

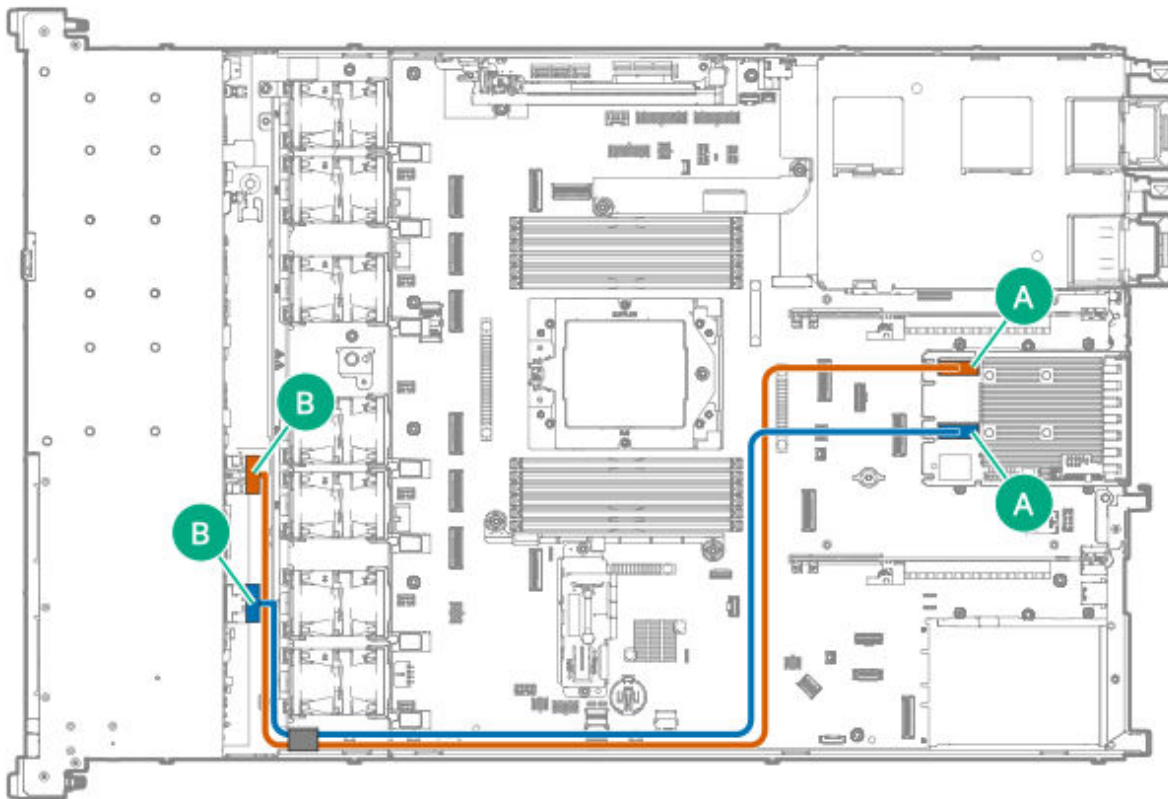
8 + 2 SFF SAS/SATA drive controller cabling

8 + 2 SFF drive: Onboard SATA cabling



Cable part number	Cable color	From	To
P56679-001	Orange	Box 1 Port 1	NVMe port 1A
P57045-001	Blue	Box 2 Port 1	NVMe/SATA port 2A

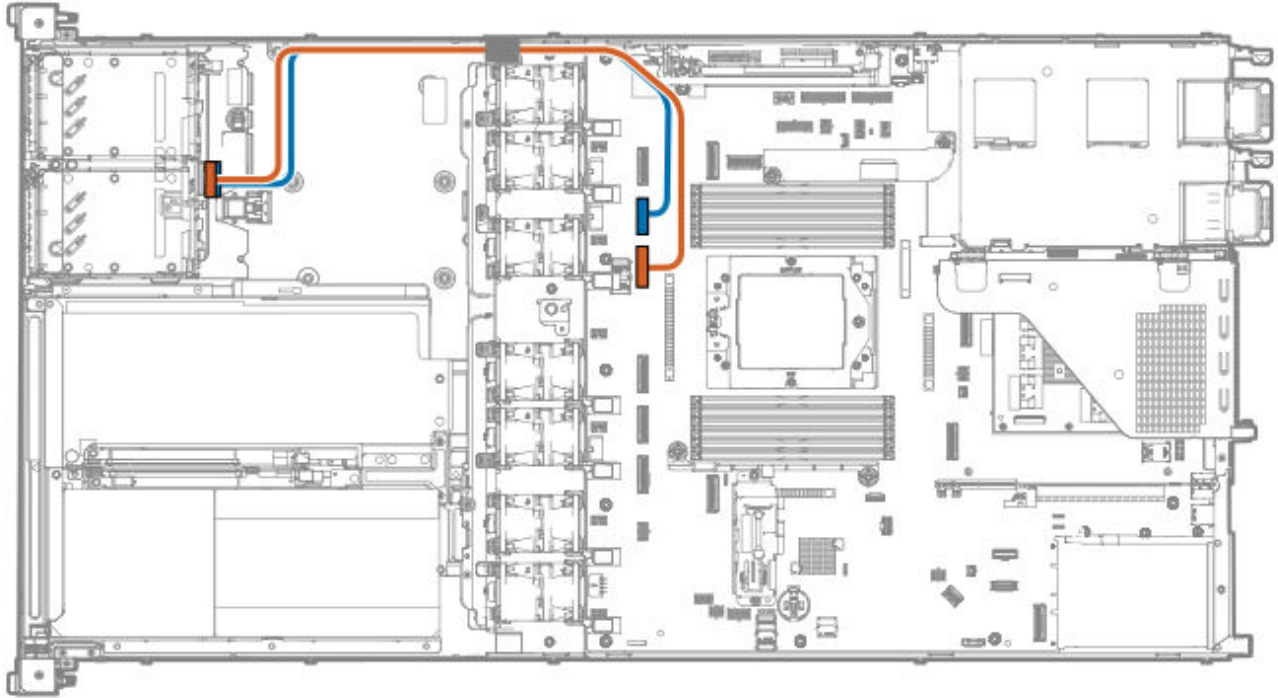
8 + 2 SFF drive controller cabling: Type-o storage controller in Slot 22



Cable part number	Cable color	From	To
P57080-001	Orange	Box 1 Port 1	Port 2
P57040-001	Blue	Box 2 Port 1	Port 1

4 SFF NVMe drive controller cabling

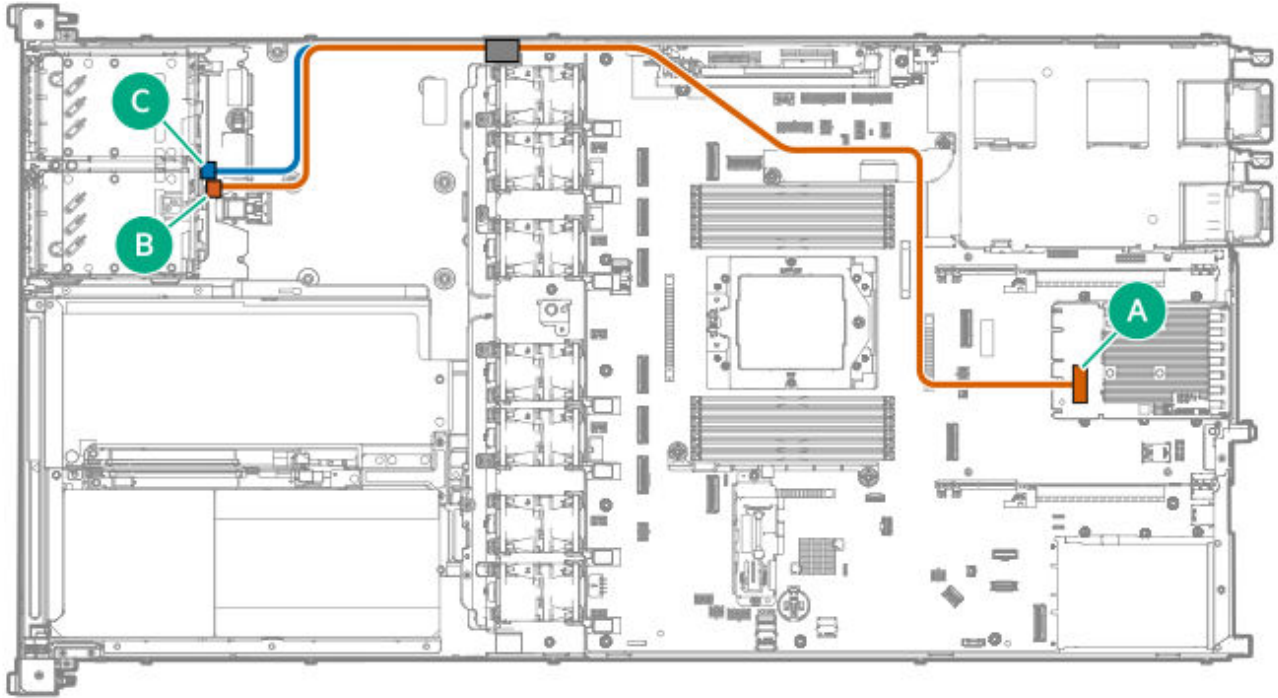
4 SFF drive: Direct attached cabling



Cable part number	Cable color	From	To
P63033-001	Orange	Box 1, Port 1	NVMe port 5A
	Blue	Box 2, Port 1	NVMe port 6A

4 SFF x2 NVMe cabling: Tri-mode type-o storage controller in Slot 22

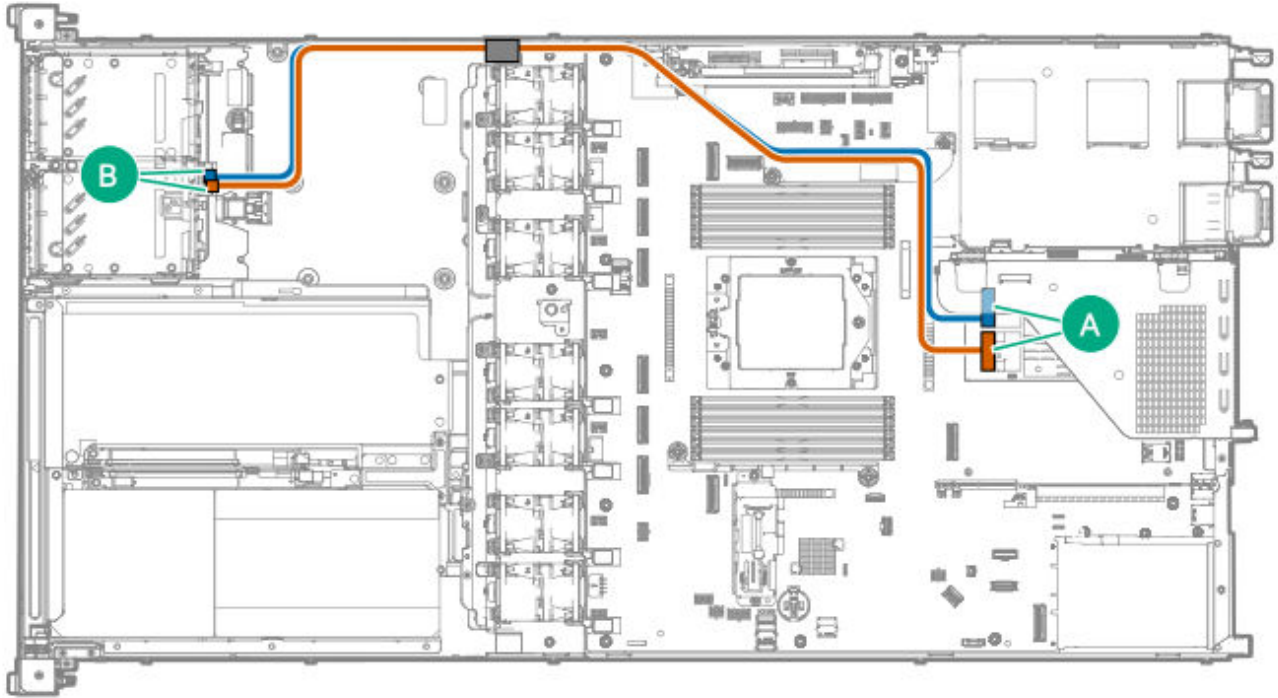
MR408i-o controller



Cable part number	Cable color	From	To
P57334-002	Orange	Box 1	Type-o storage controller
	Blue	Box 2	

4 SFF x4 NVMe cabling: Tri-mode type-p storage controller in the secondary riser

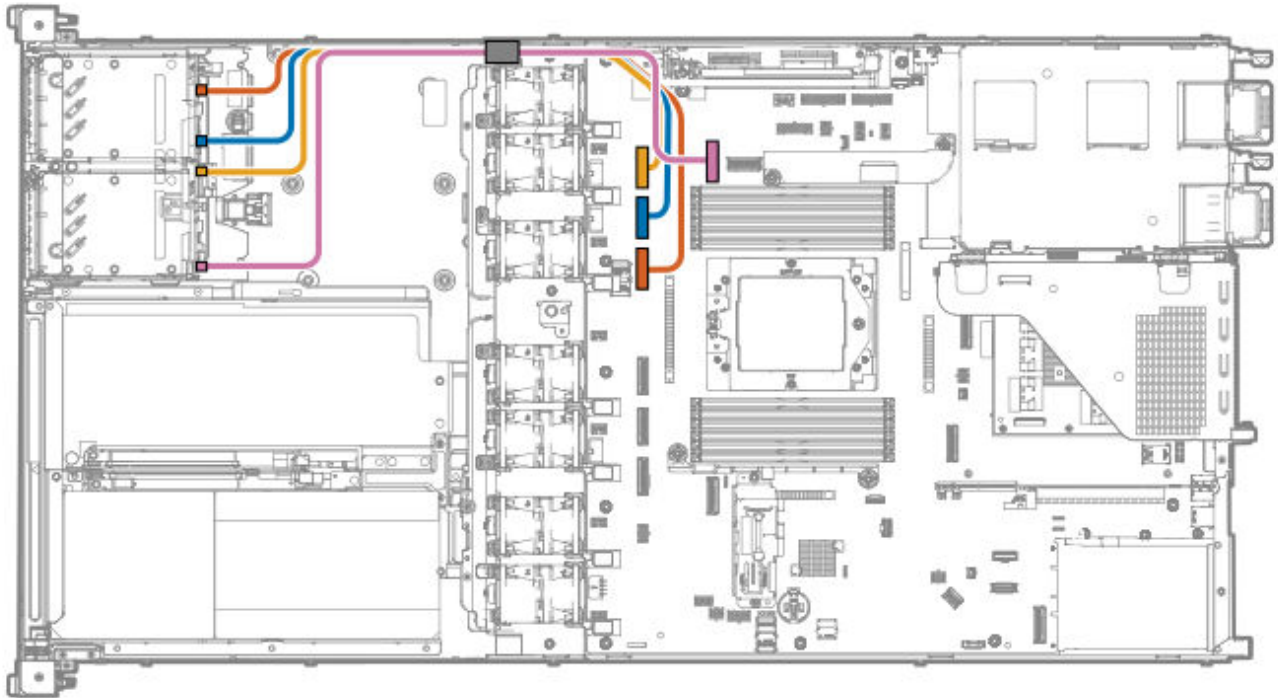
MR416i-p controller



Cable part number	Cable color	From	To
P57057-002	Orange	Box 1	Type-o storage controller port 1
	Blue	Box 2	Type-o storage controller port 2

8 E3.S drive controller cabling

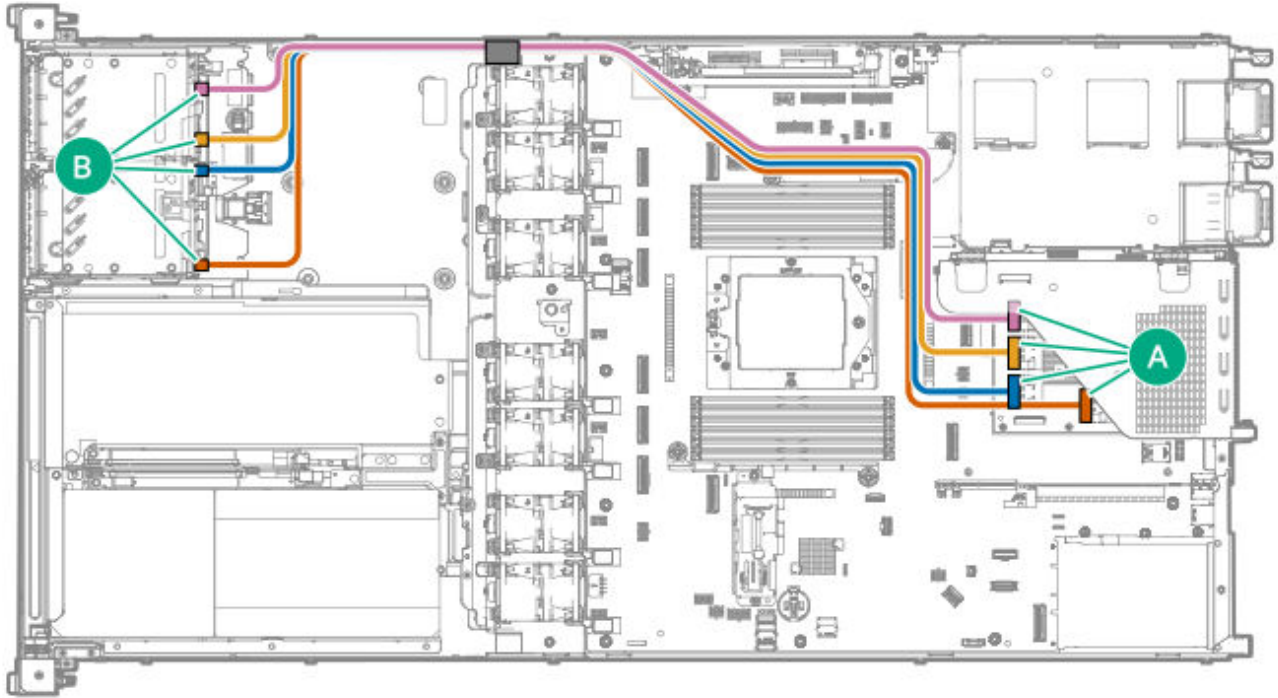
8 E3.S drive: Direct attached cabling



Cable part number	Cable color	From	To
P57052-001	Orange	Port 1	NVMe port 5A
	Blue	Port 2	NVMe port 6A
	Gold	Port 3	NVMe port 7A
	Pink	Port 4	NVMe port 8A

8 E3.S cabling: Tri-mode type-p storage controller in the secondary riser

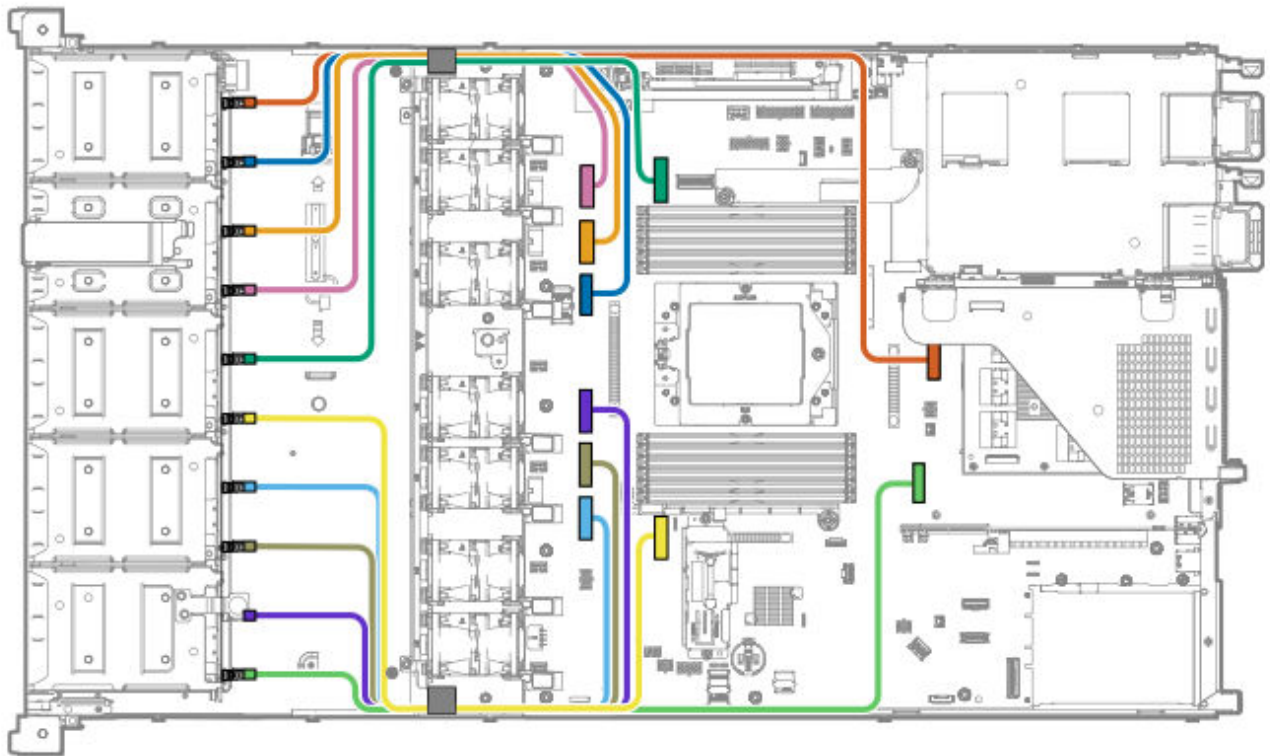
SR932i-p controller



Cable part number	Cable color	From	To
P57057-002	Pink	Port 1	Type-p storage controller port 4
	Gold	Port 2	Type-p storage controller port 3
	Blue	Port 3	Type-p storage controller port 2
	Orange	Port 4	Type-p storage controller port 1

20 E3.S drive controller cabling

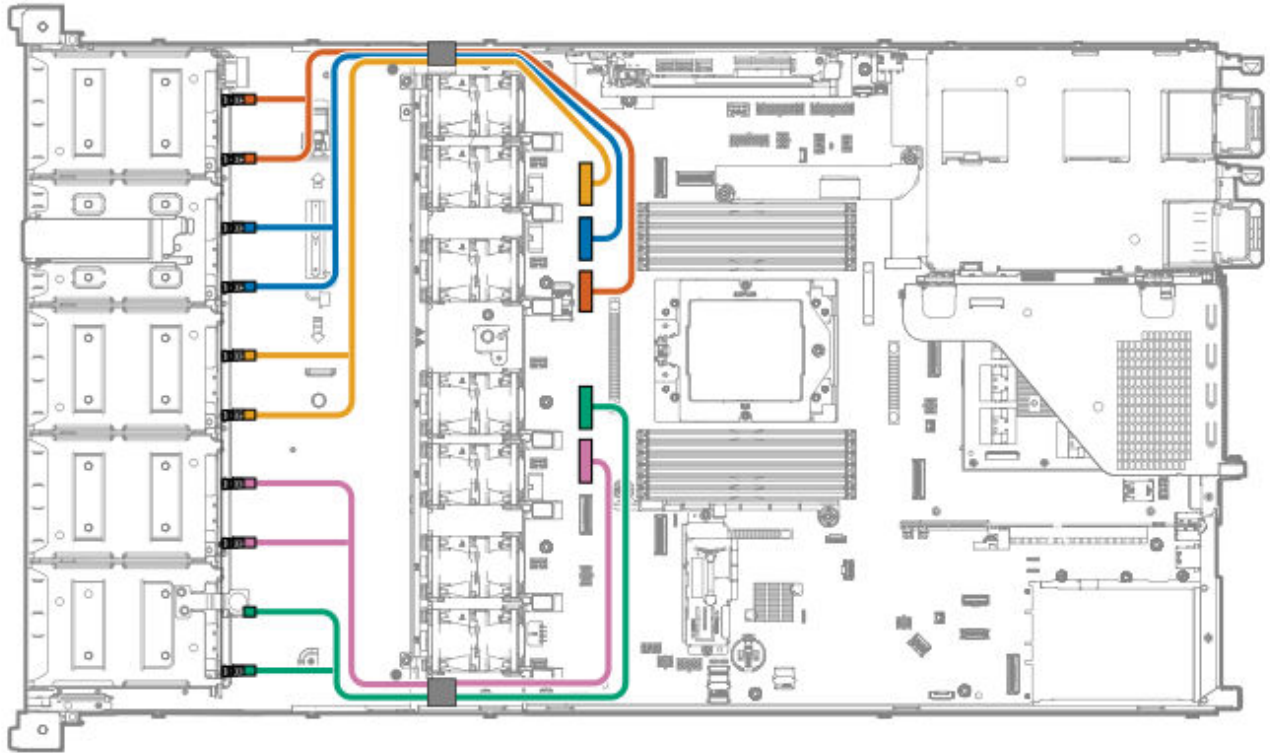
20 E3.S x4 NVMe drive: Direct attached cabling



Cable part number	Cable color	From	To
P59645-001	Orange	Port 1	NVMe / SATA port 1B
	Blue	Port 2	NVMe port 5A
	Gold	Port 3	NVMe port 6A
	Pink	Port 4	NVMe port 7A
	Green	Port 5	NVMe port 8A
P59646-001	Yellow	Port 6	NVMe / SATA port 1A
	Light blue	Port 7	NVMe / SATA port 2A
	Olive	Port 8	NVMe port 3A
	Purple	Port 9	NVMe port 4A

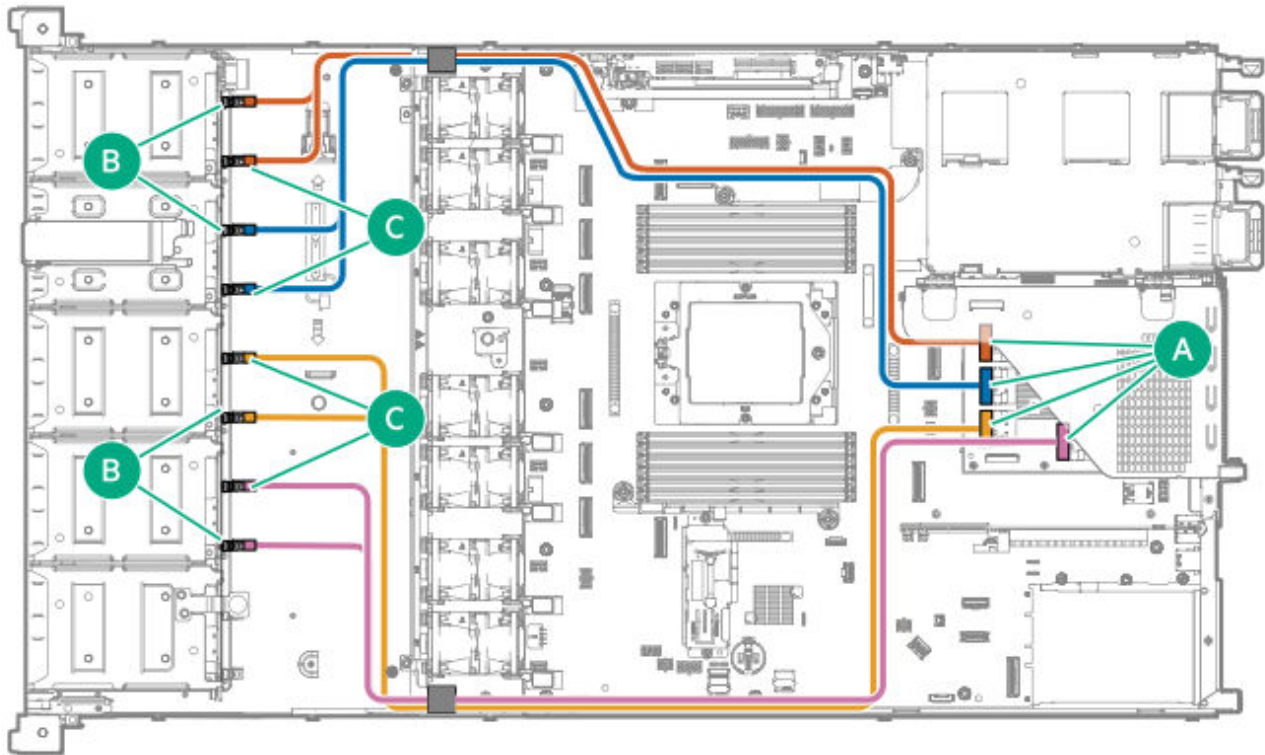
Cable part number	Cable color	From	To
	Light Green	Port 10	NVMe port 9A

20 E3.S x2 NVMe drive: Direct attached cabling



Cable part number	Cable color	From	To
P57082-001	Orange	Ports 1 and 2	NVMe port 5A
	Blue	Ports 3 and 4	NVMe port 6A
	Gold	Ports 5 and 6	NVMe port 7A
P57083-001	Pink	Ports 7 and 8	NVMe port 3A
	Green	Ports 9 and 10	NVMe port 4A

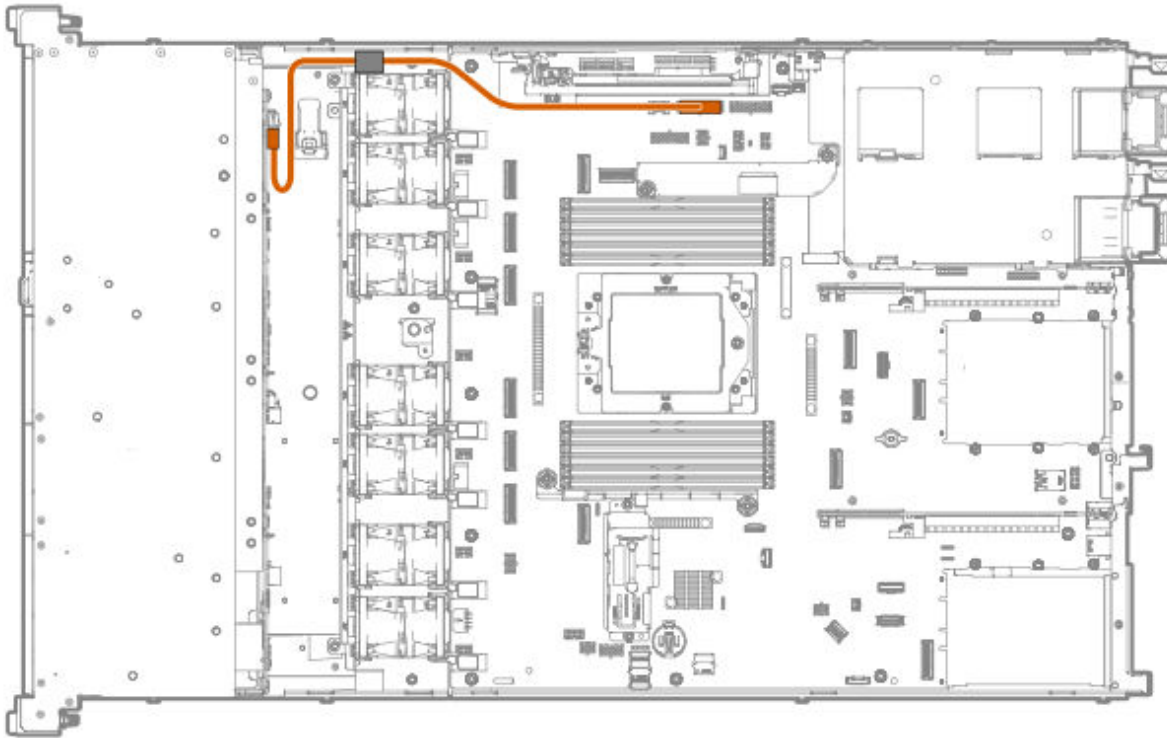
16 E3.S x2 NVMe cabling: Tri-mode type-p storage controller in the secondary riser



Cable part number	Cable color	From	To
P58692-001	Orange	Ports 1 and 2	Type-p storage controller port 4
	Blue	Ports 3 and 4	Type-p storage controller port 3
	Gold	Ports 5 and 6	Type-p storage controller port 2
	Pink	Ports 7 and 8	Type-p storage controller port 1

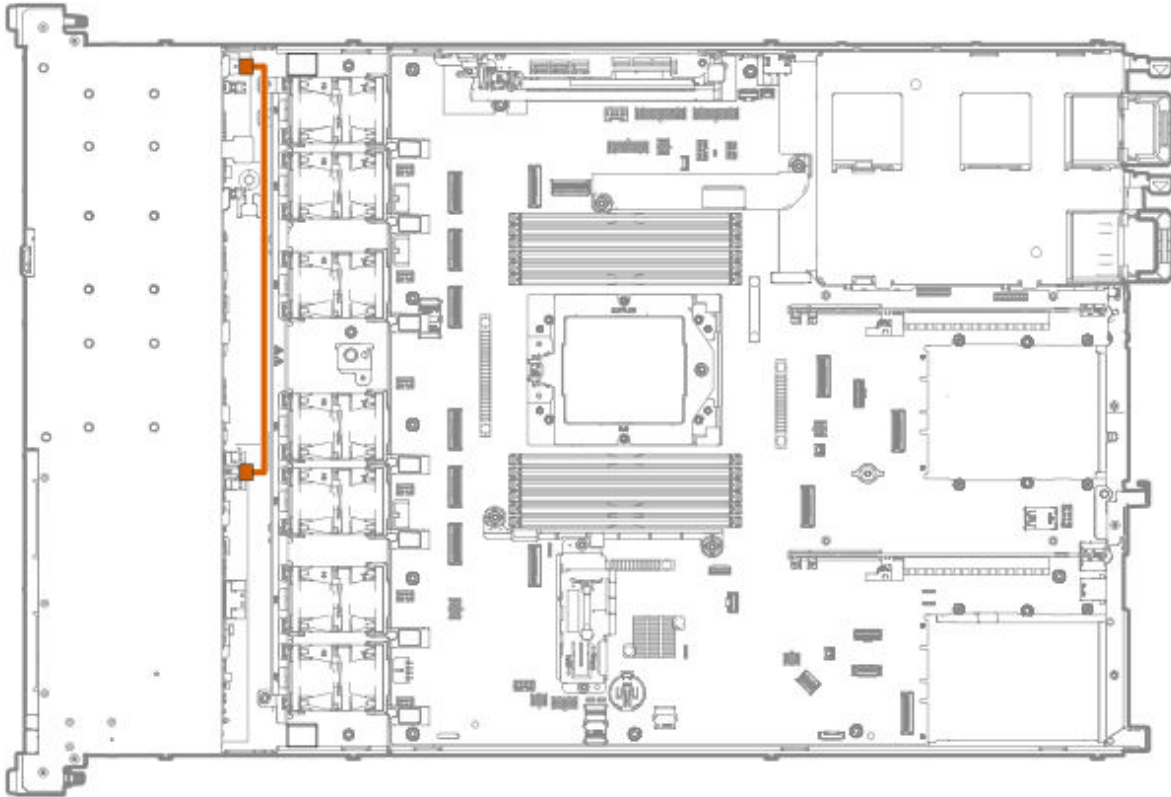
Drive power cabling

4 LFF drive power cable



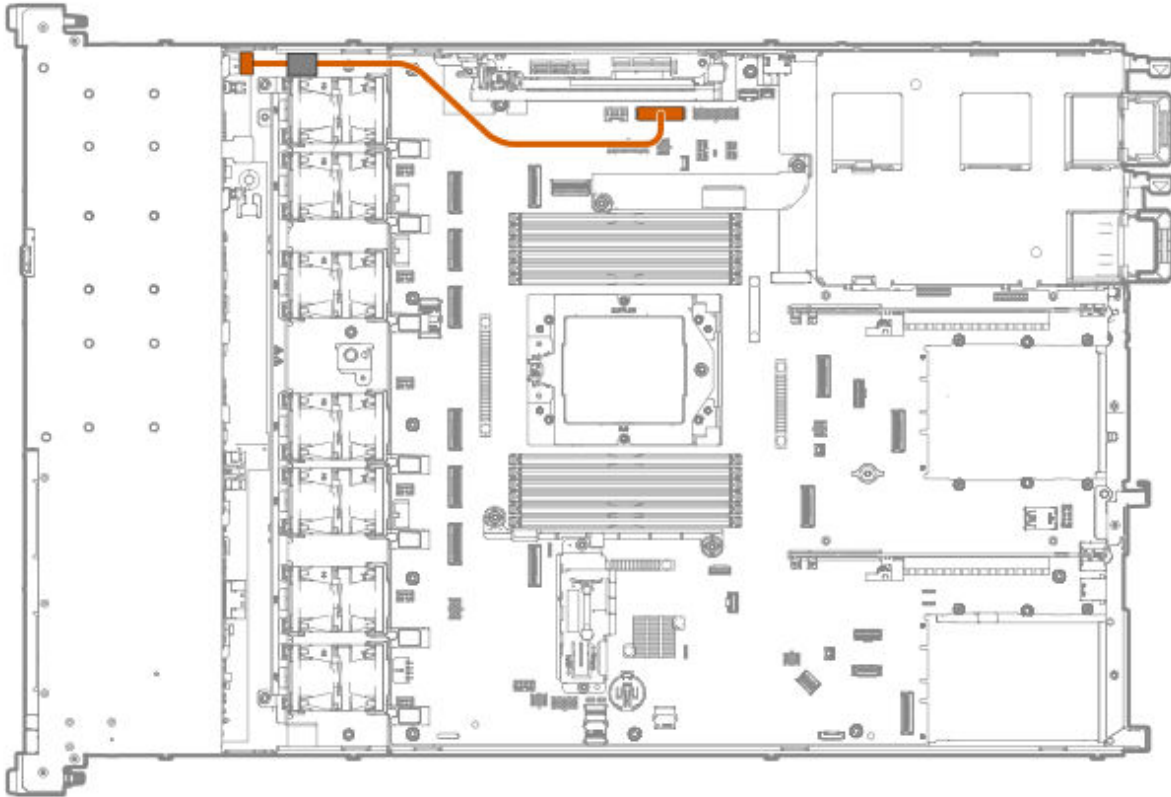
Cable part number	Cable color	From	To
P56680-001	Orange	Box 1	Drive backplane / Graphics card power connector A (J9017)

2 SFF drive power cable



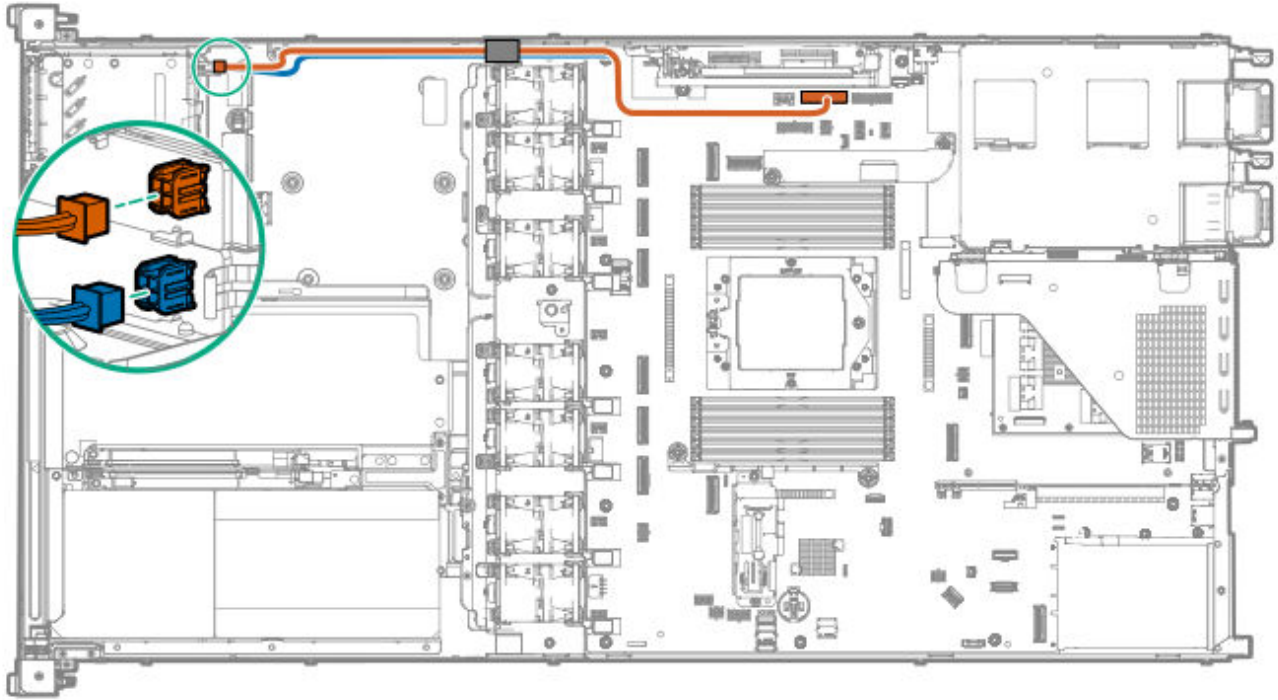
Cable part number	Cable color	From	To
P54591-001	Orange	Box 2	Box 1

8 SFF drive power cable



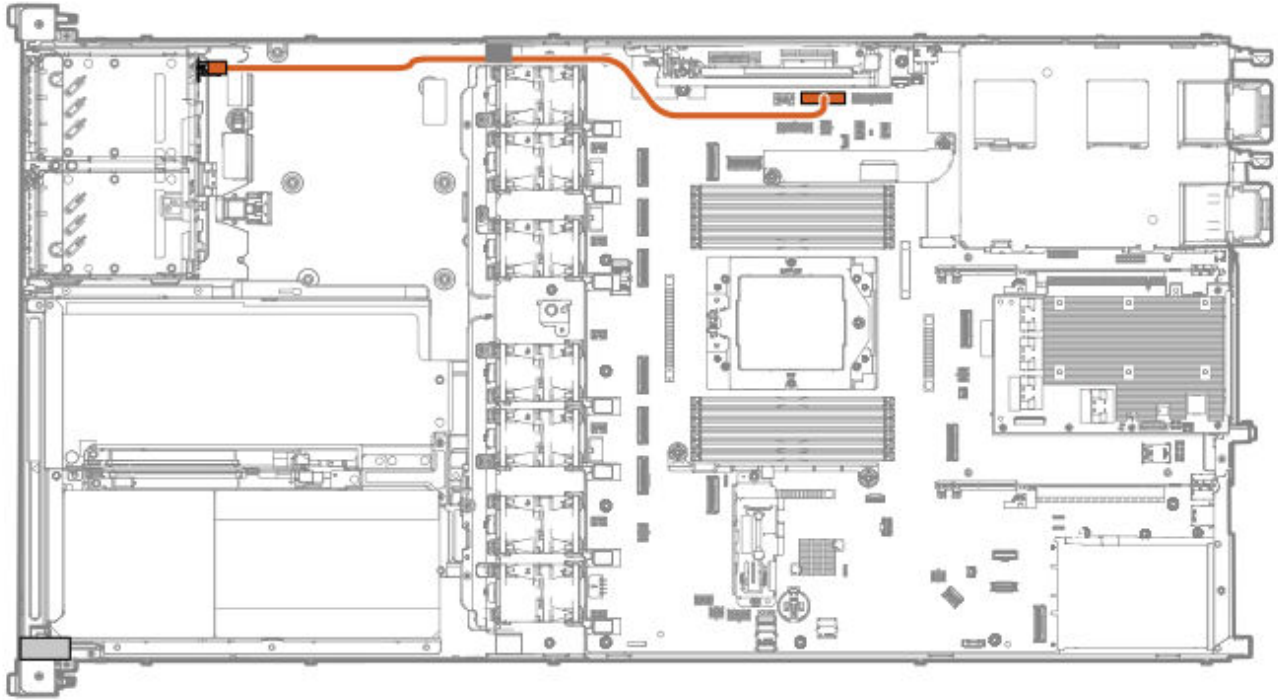
Cable part number	Cable color	From	To
P54590-001	Orange	Box 1	Drive backplane / Graphics card power connector A (J9017)

4 SFF NVMe drive power Y-cable



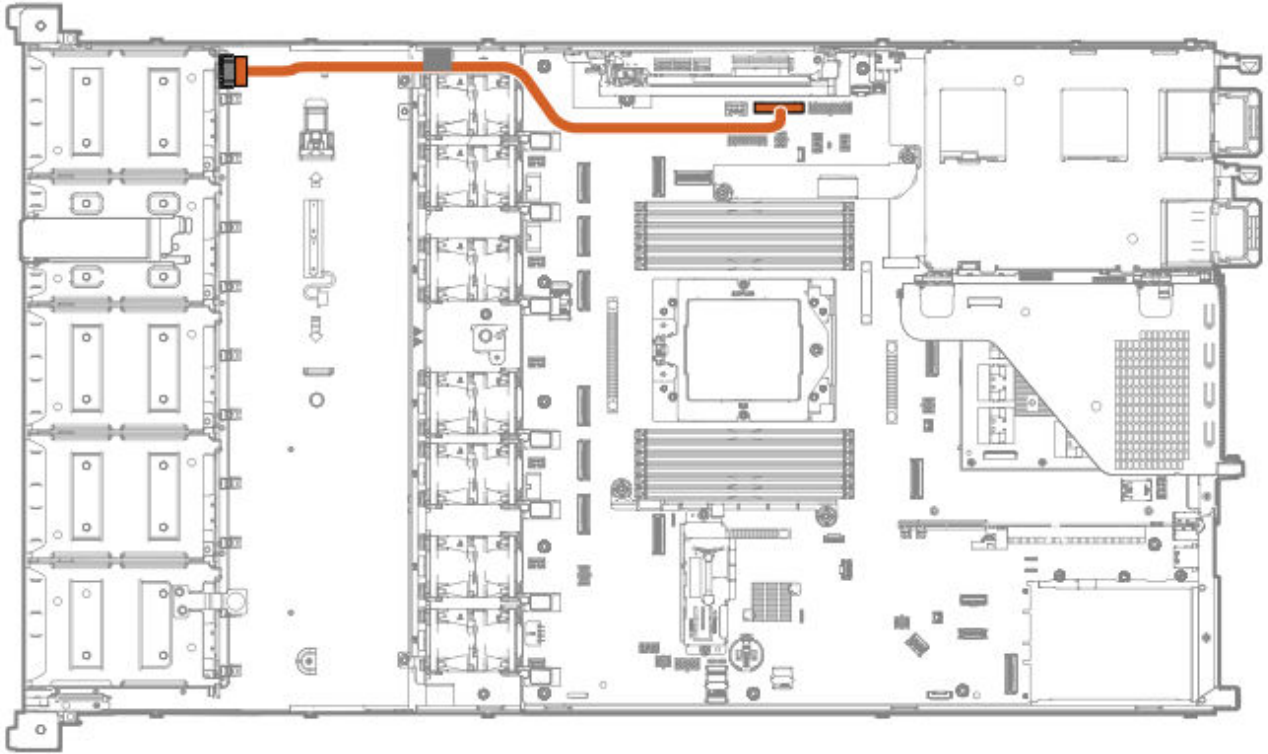
Cable part number	Cable color	From	To
P63034-001	Orange	Box 1	Drive backplane / Graphics card power connector A (J9017)
	Blue	Box 2	

8 E3.S drive power cable



Cable part number	Cable color	From	To
P56684-001	Orange	Box 1	Drive backplane / Graphics card power connector A (J9017)

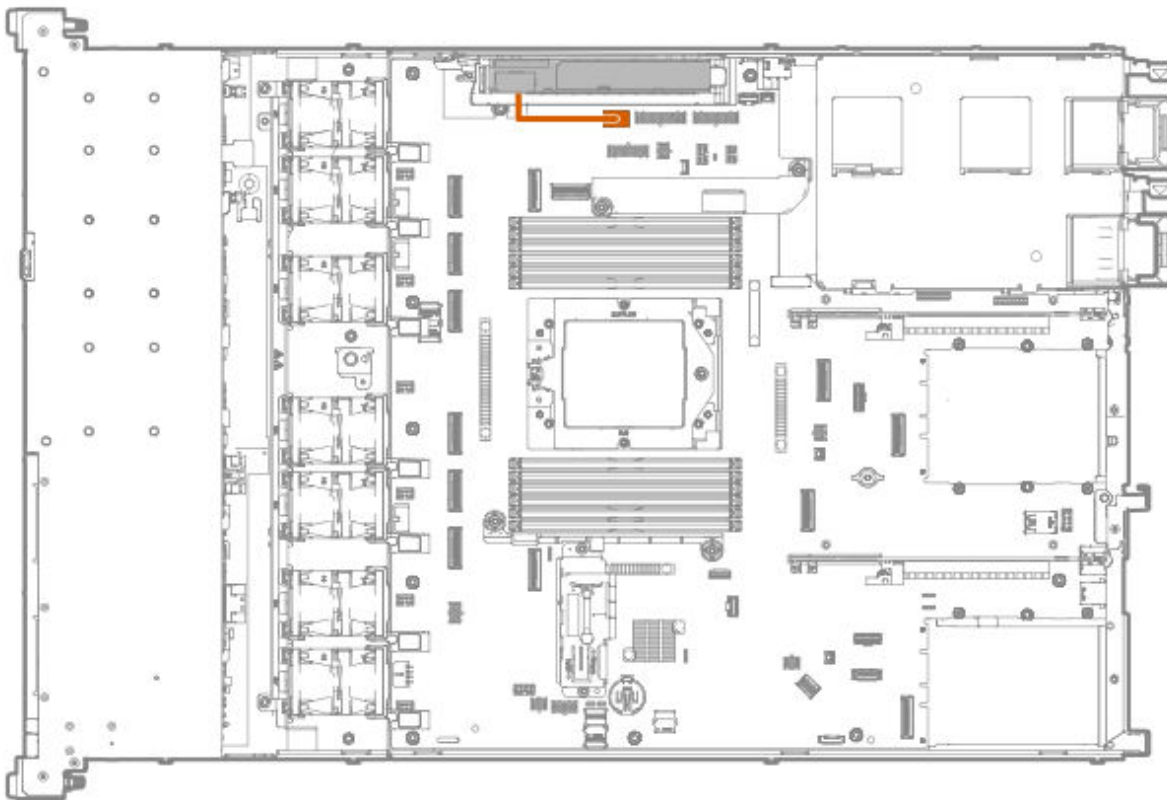
20 E3.S drive power cable



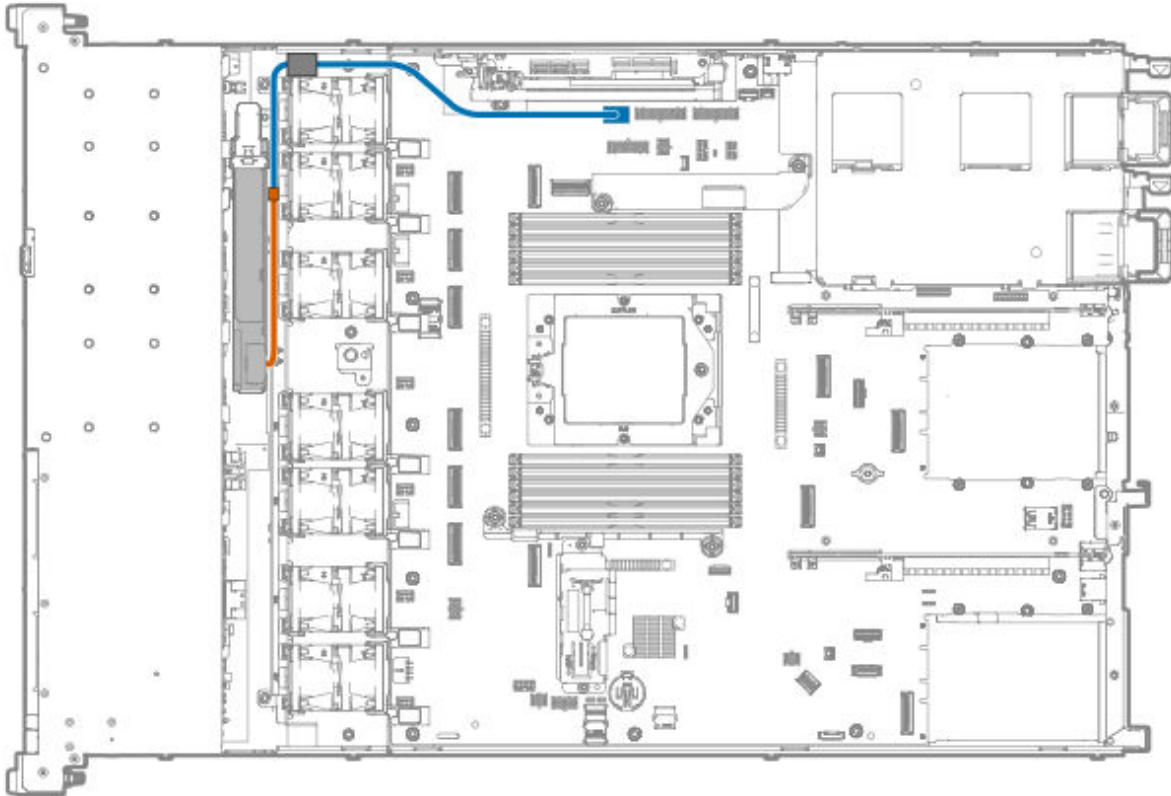
Cable part number	Cable color	From	To
P56682-001	Orange	Box 1	Drive backplane / Graphics card power connector A (J9017)

Energy pack cabling

Energy pack cabling without the M.2 SSD pass-through card

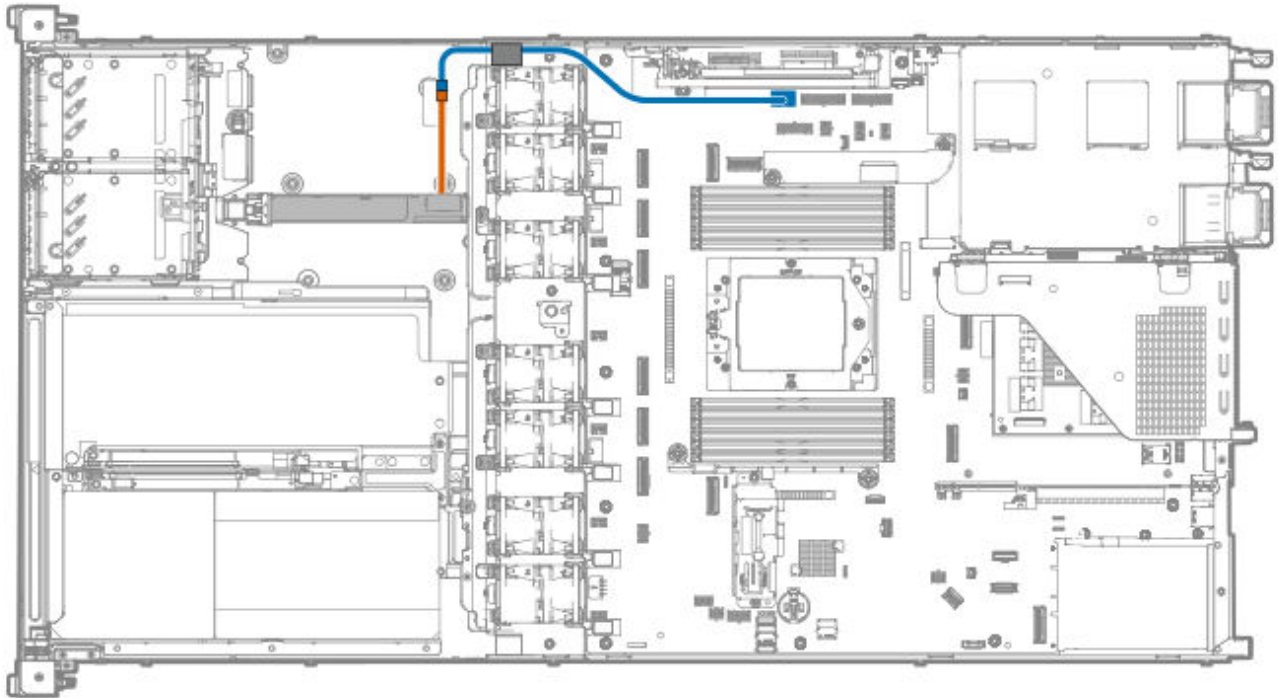


Energy pack cabling with the M.2 SSD pass-through card



Cable part number	Cable color	From	To
P56688-001	Blue	Energy pack	Energy pack connector

Energy pack cabling in the GPU-optimized drive configurations



Cable part number	Cable color	From	To
P56688-001	Blue	Energy pack	Energy pack connector

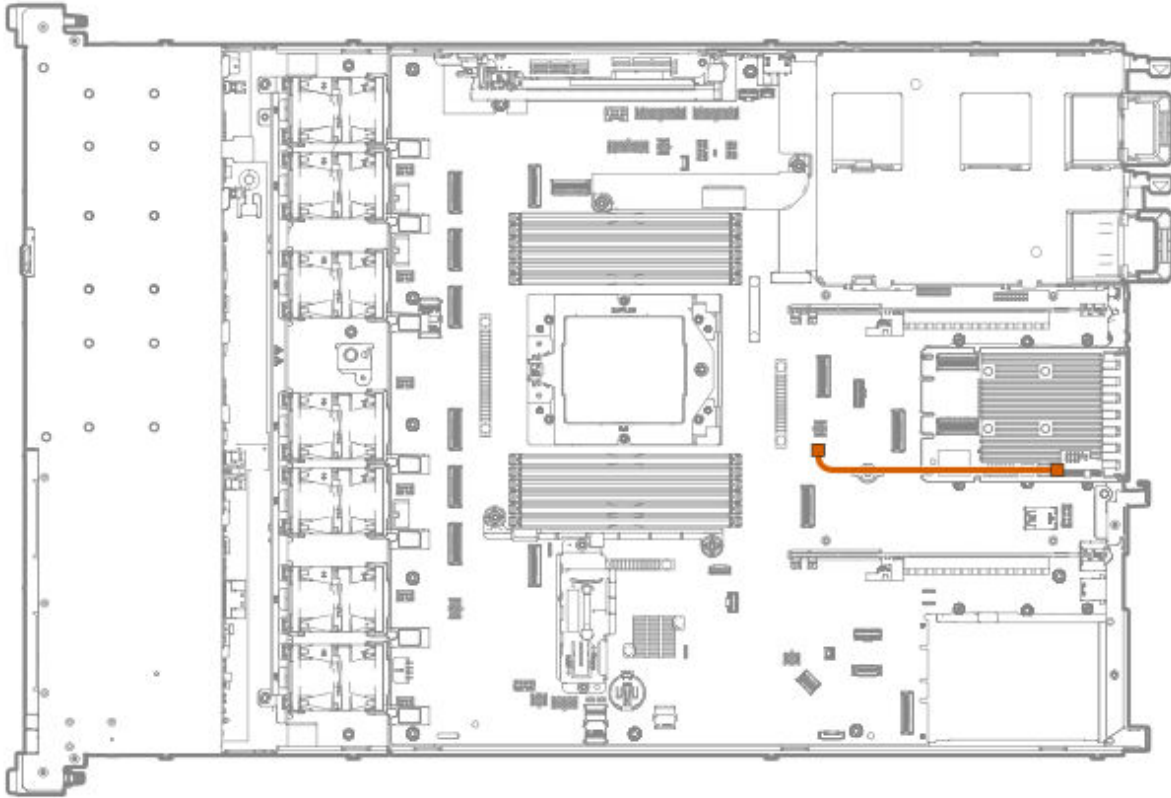
Storage controller backup power cabling

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

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

Use the following diagrams for reference only.

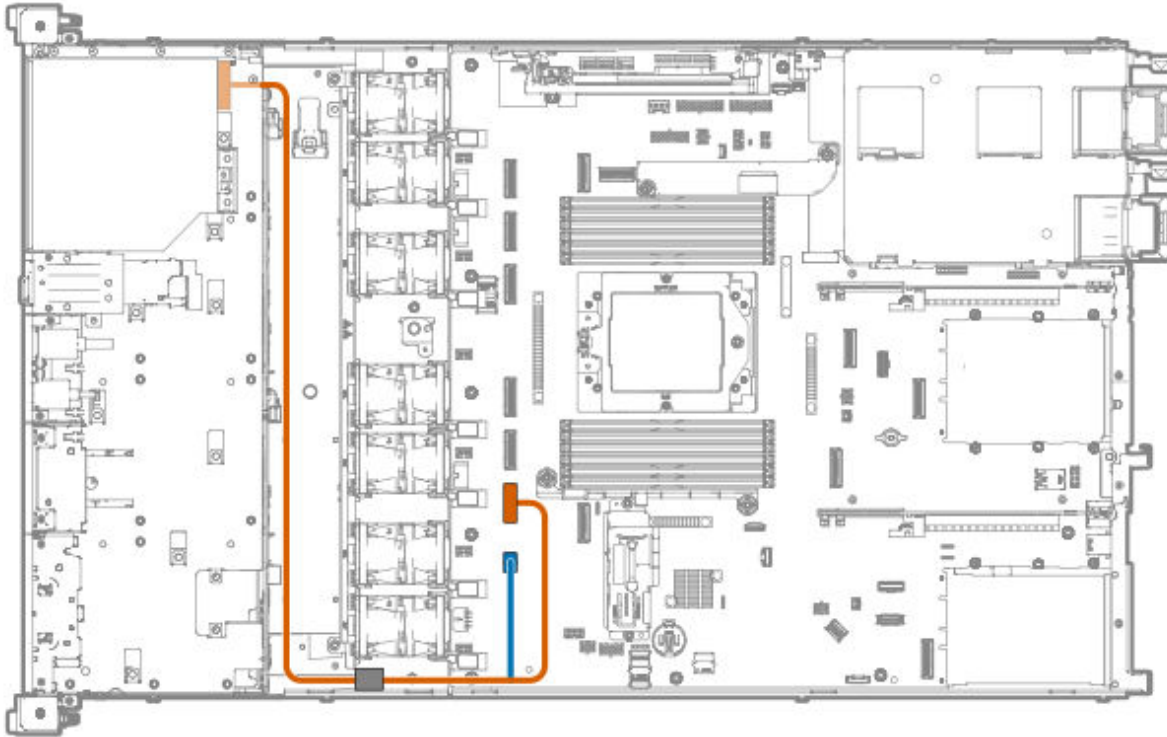
Storage controller backup power cabling from type-o storage controller in Slot 22



Cable color	From	To
Orange	Type-o controller in Slot 22	Slot 22 OROC storage backup power connector

Optical drive cabling

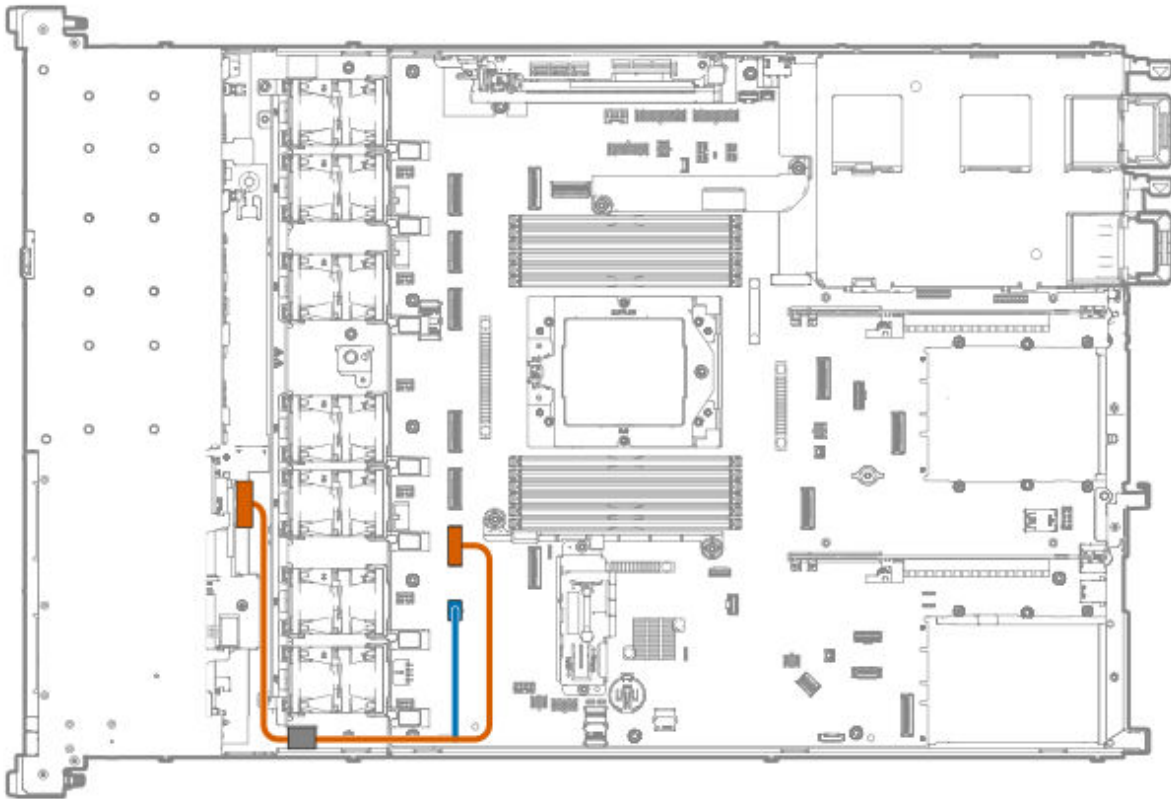
LFF drive configuration



Cable part number	Cable color	From	To
P58696-001 ¹ _—	Orange	Optical drive	NVMe/SATA port 2 A
	Blue		Optical drive power connector

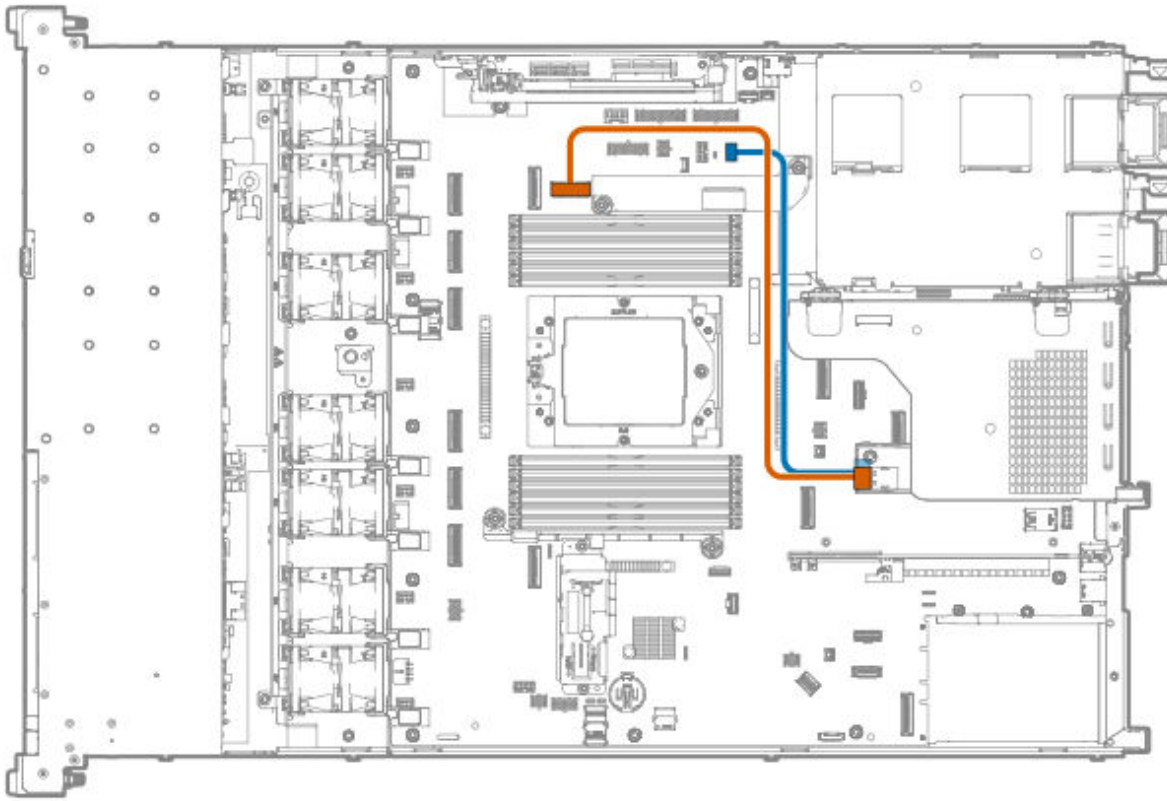
¹_— Option kit: P56655-B21

SFF drive configuration



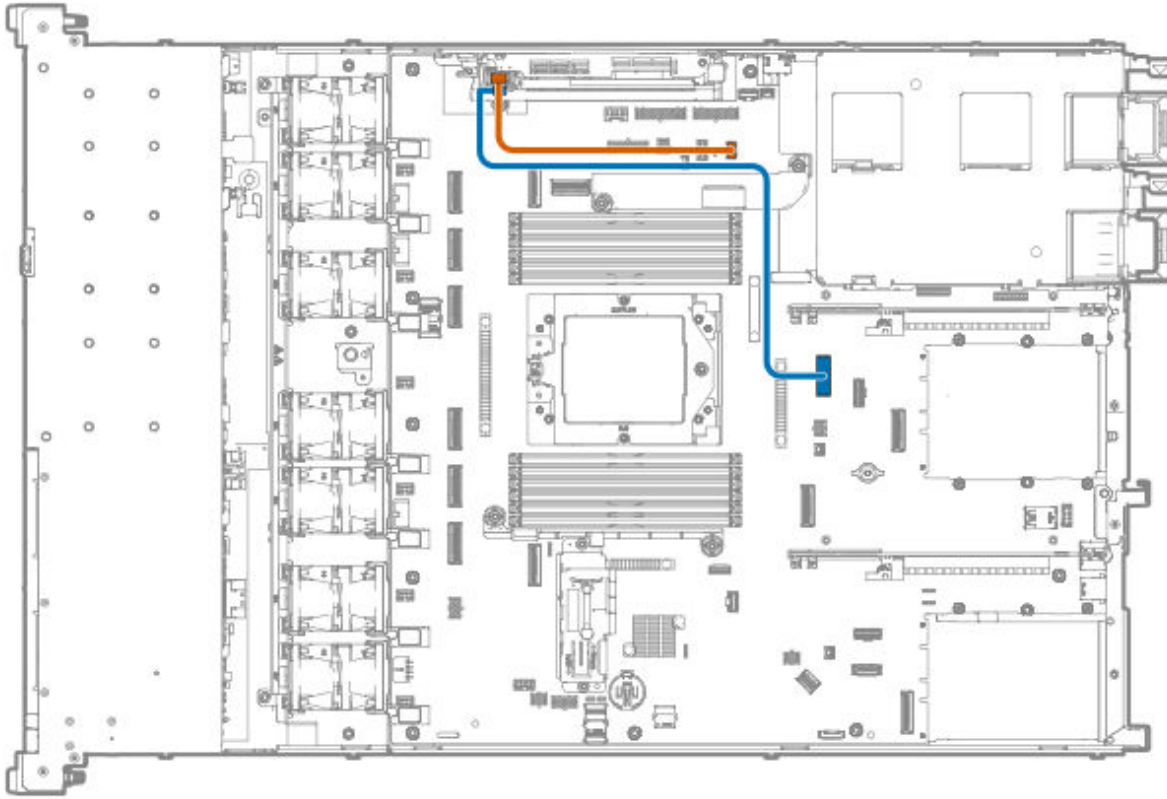
Cable part number	Cable color	From	To
P56685-001	Orange	Optical drive	NVMe/SATA port 2 A
	Blue		Optical drive power connector

HPE NS204i-u Boot Device cabling



Cable part number	Cable color	From	To
P54087-001	Orange	HPE NS204i-u Boot Device	NS204i-u signal connector
P54088-001	Blue		M.2 SSD power connector

M.2 SSD pass-through card cabling



Cable part number	Cable color	From	To
P56689-001 ¹ / _—	Orange	M.2 SSD pass-through card	M.2 SSD power connector
P56690-001 ¹ / _—	Blue		NVMe / SATA port 1B
P56691-001 ¹ / _—			

¹/_— The P56690-001 cable is for SATA SSDs while the P56691-001 cable is for NVMe SSDs.

GPU cabling

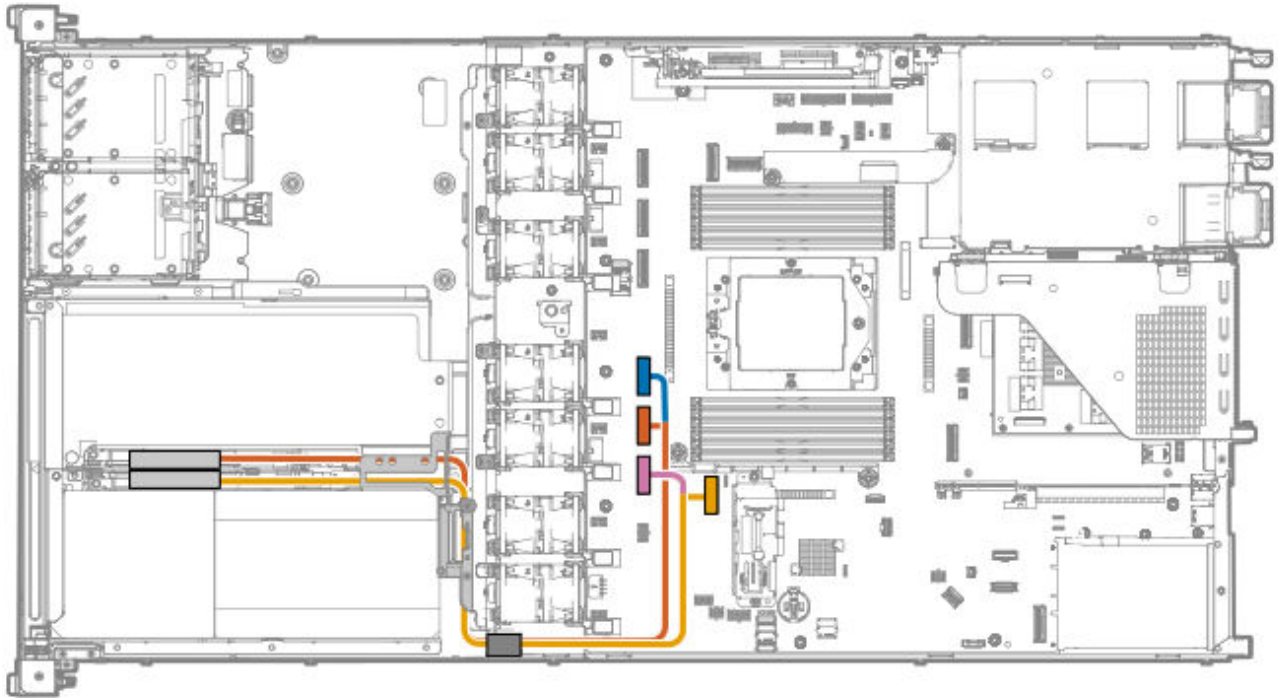
Subtopics

[GPU riser cabling](#)

[GPU auxiliary power cabling](#)

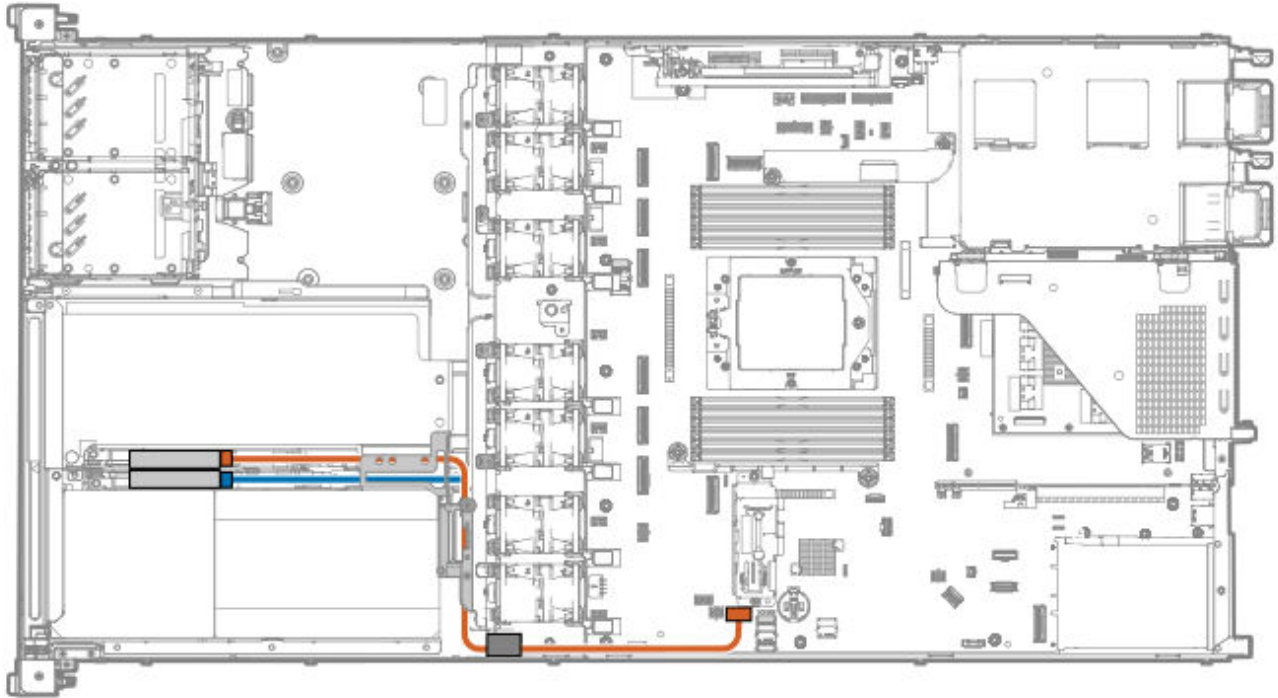
GPU riser cabling

GPU riser signal cables



Cable part number	Cable color	From	To
P51471-001	Orange	Slot 4 GPU riser	NVMe port 3A (PRIM)
	Blue		NVMe port 4A (SEC)
P44002-001	Gold	Slot 5 GPU riser	NVMe/SATA port 1A (PRIM)
	Pink		NVMe/SATA port 2A (SEC)

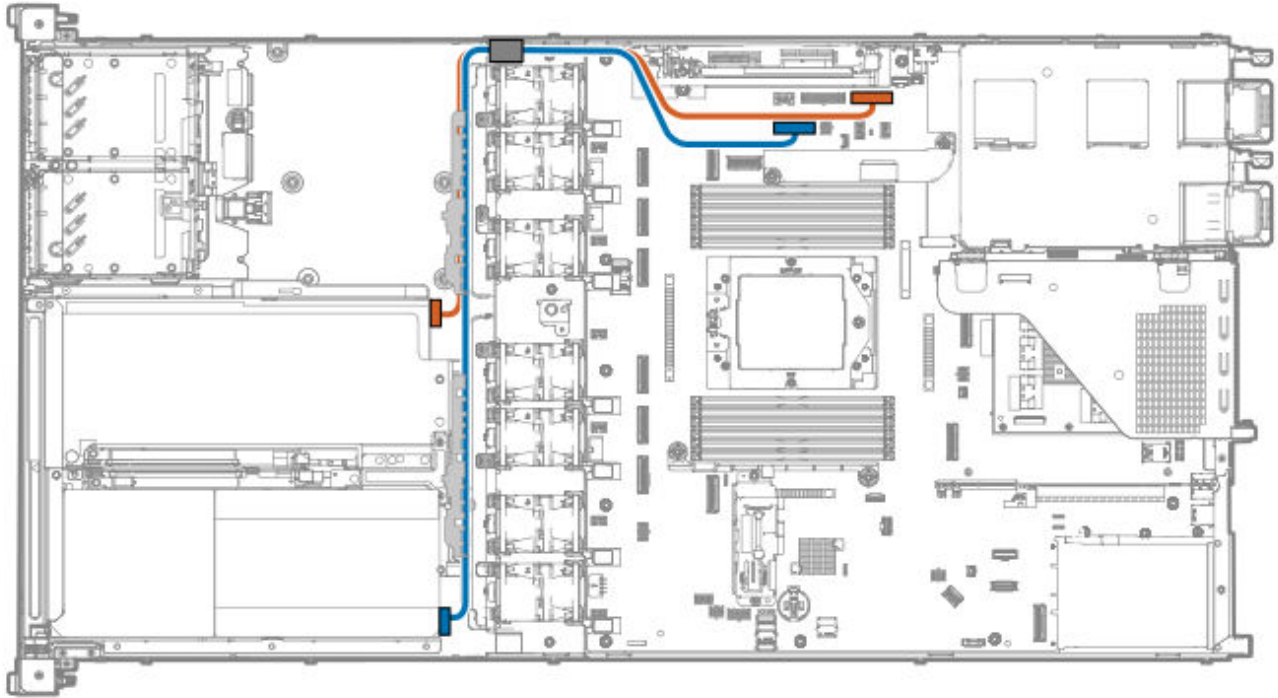
GPU riser power Y-cable



Cable part number	Cable color	From	To
P56683-001	Orange	Slot 4 GPU riser (GPU 4 Riser)	GPU riser power connector (GPU RISER PWR 1)
	Blue	Slot 5 GPU riser (GPU 5 Riser)	

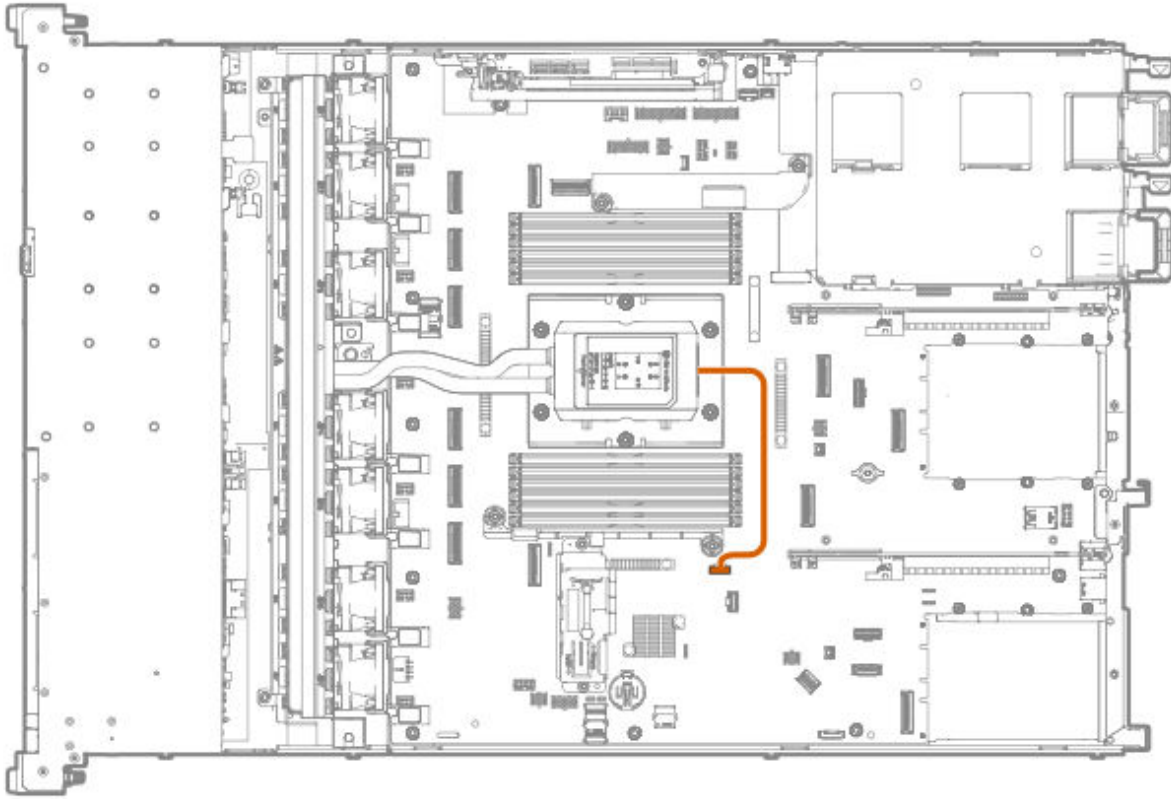
GPU auxiliary power cabling

- Double-width GPUs:



Cable part number	Cable color	From	To
P56694-001	Orange	Slot 4 double-width high-power GPU (P1 and P2)	Drive backplane / Graphics card power connector B (J9018) (Cage B PWR)
P56695-001	Blue	Slot 5 double-width high-power GPU (P1 and P2)	Drive backplane / Graphics card power connector C (J9019) (Cage C PWR)

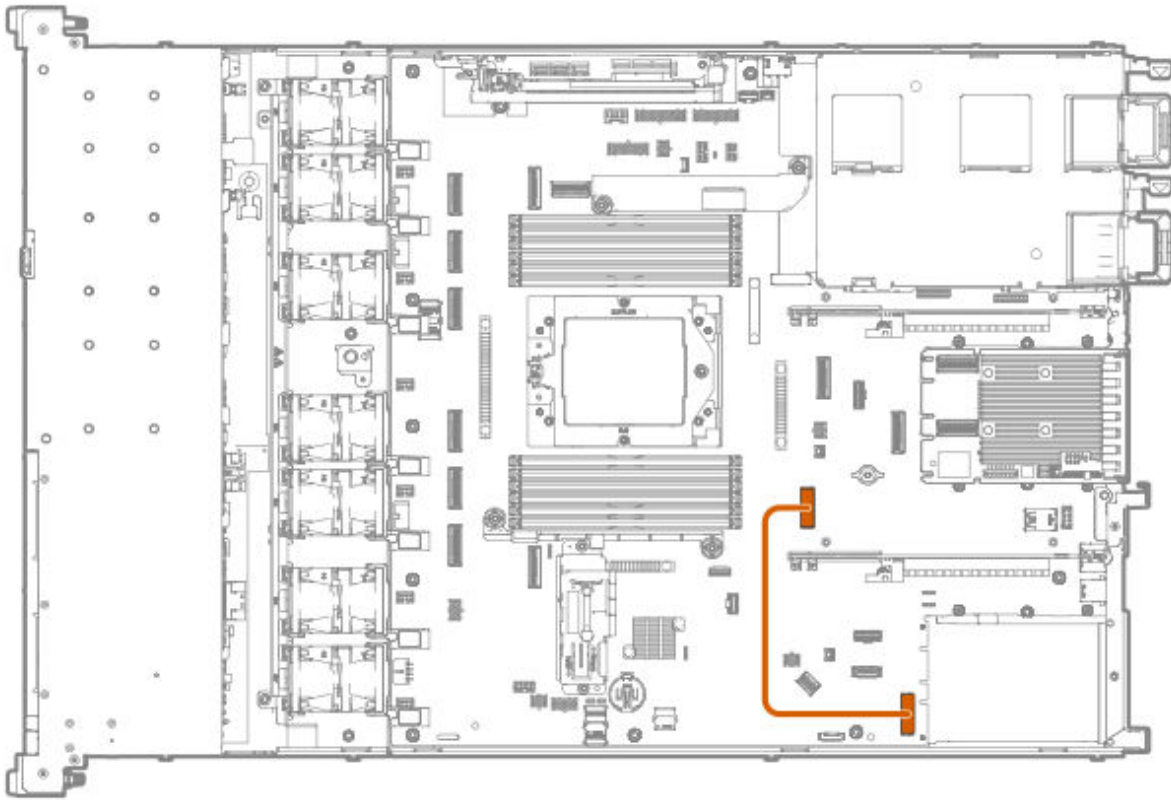
Pump signal cabling for the CLLC module



Option part number	Cable color	From	To
P58463-B21	Orange	Pump-cold plate	Pump signal connector

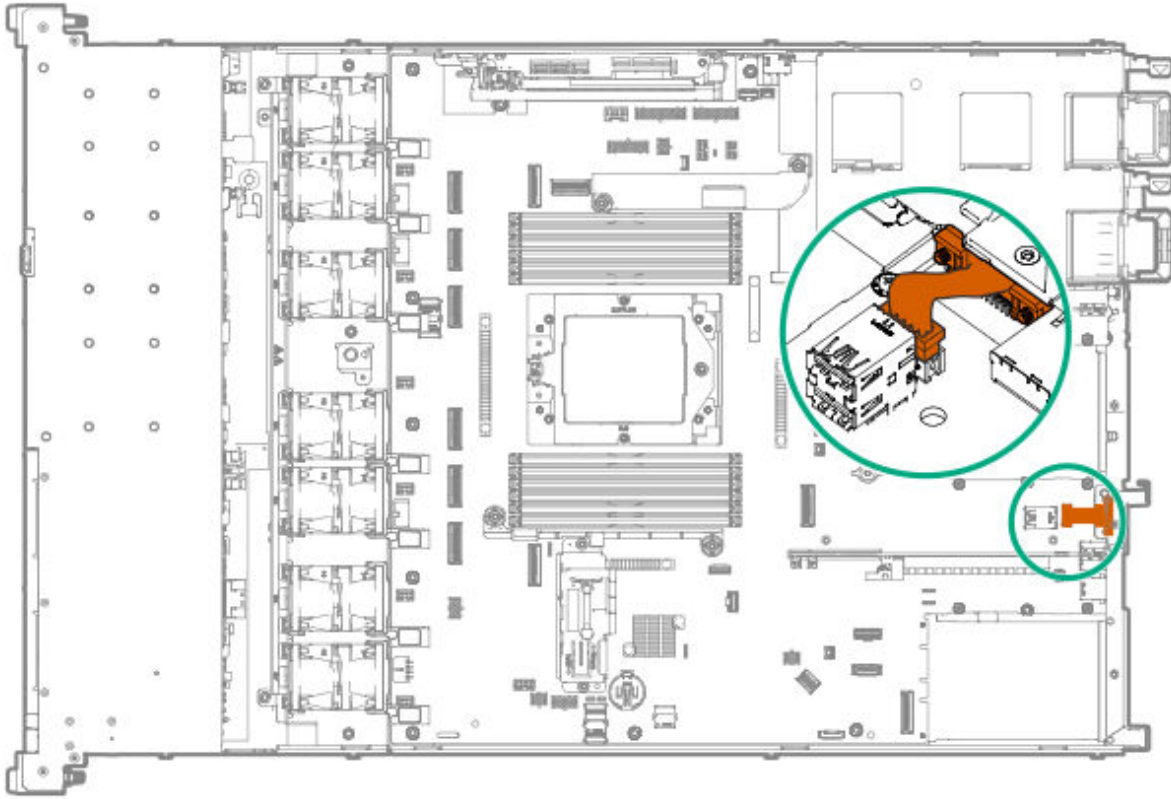
OCP bandwidth upgrade cabling

In the Slot 21 OCP, the OCP bandwidth upgrade cable is required to support a x16 OCP expansion option.



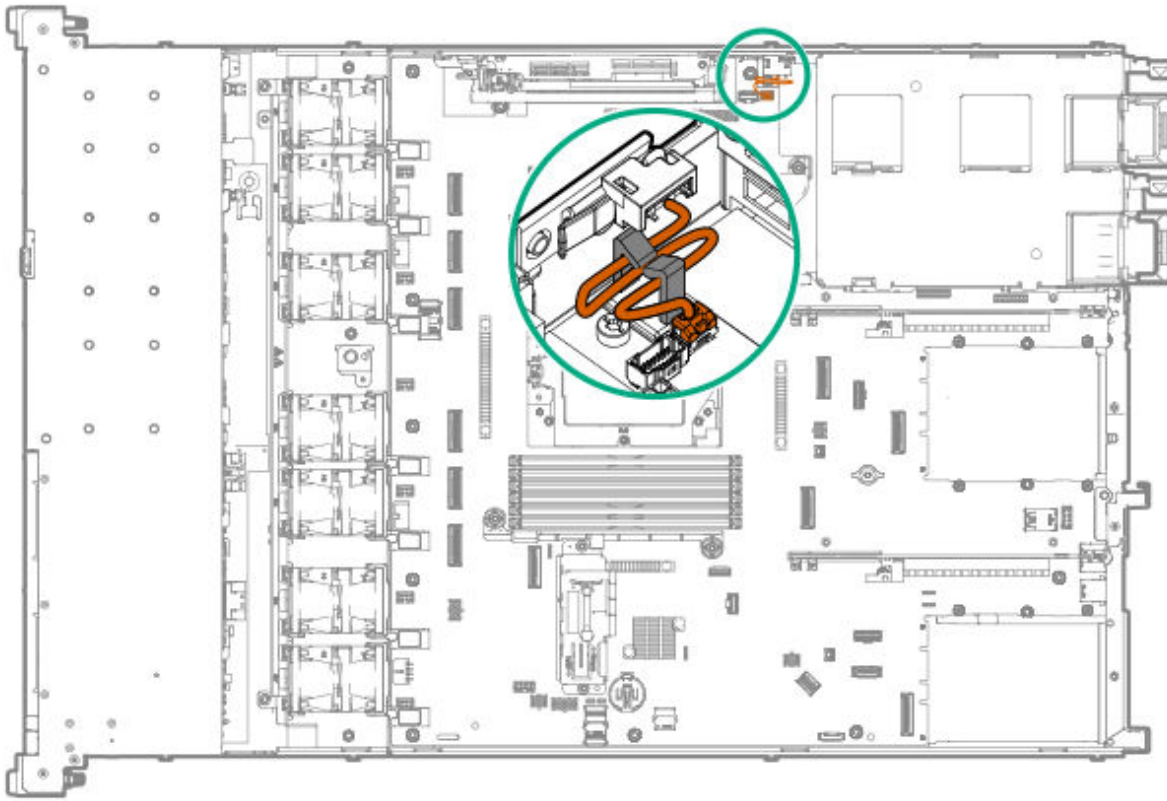
Cable part number	Cable color	From	To
P56686-001	Orange	NVMe port 9A	Slot 21 OCP x16 up grade connector

Serial port cabling



Cable part number	Cable color	From	To
P47752-001	Orange	Serial port	Serial port connector

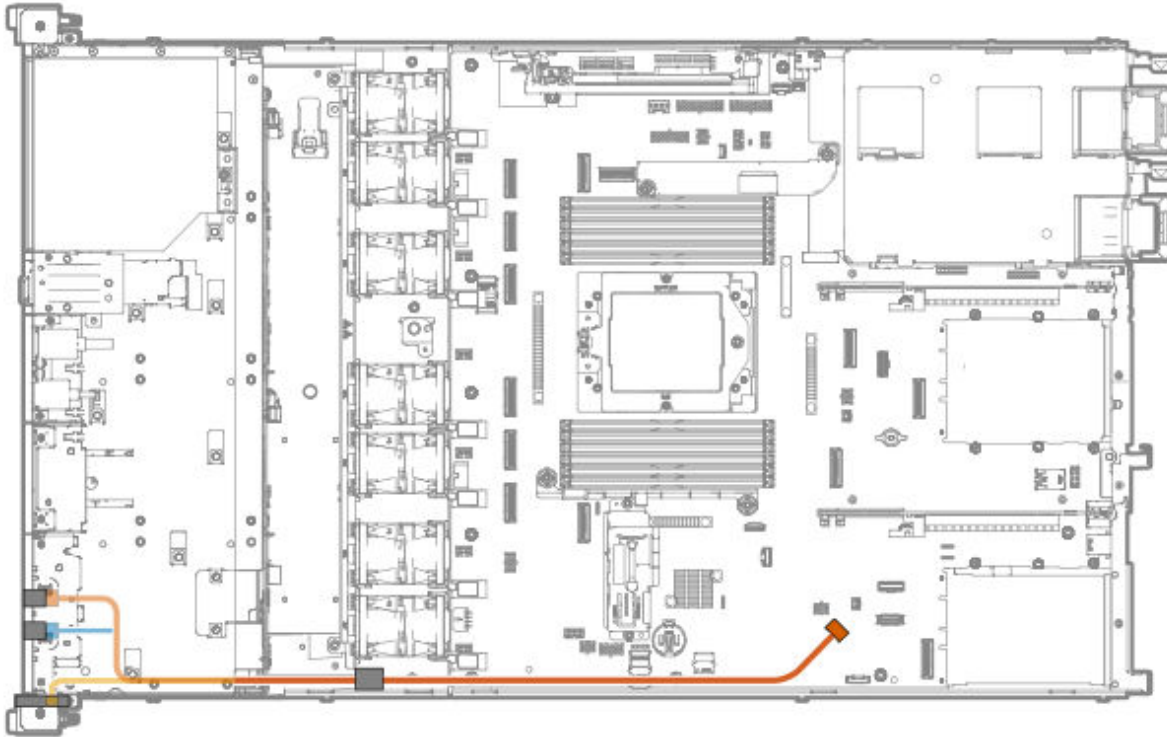
Chassis intrusion detection switch cabling



Cable part number	Cable color	From	To
P47751-001	Orange	Chassis intrusion de tection switch	Chassis intrusion de tection switch conn ector

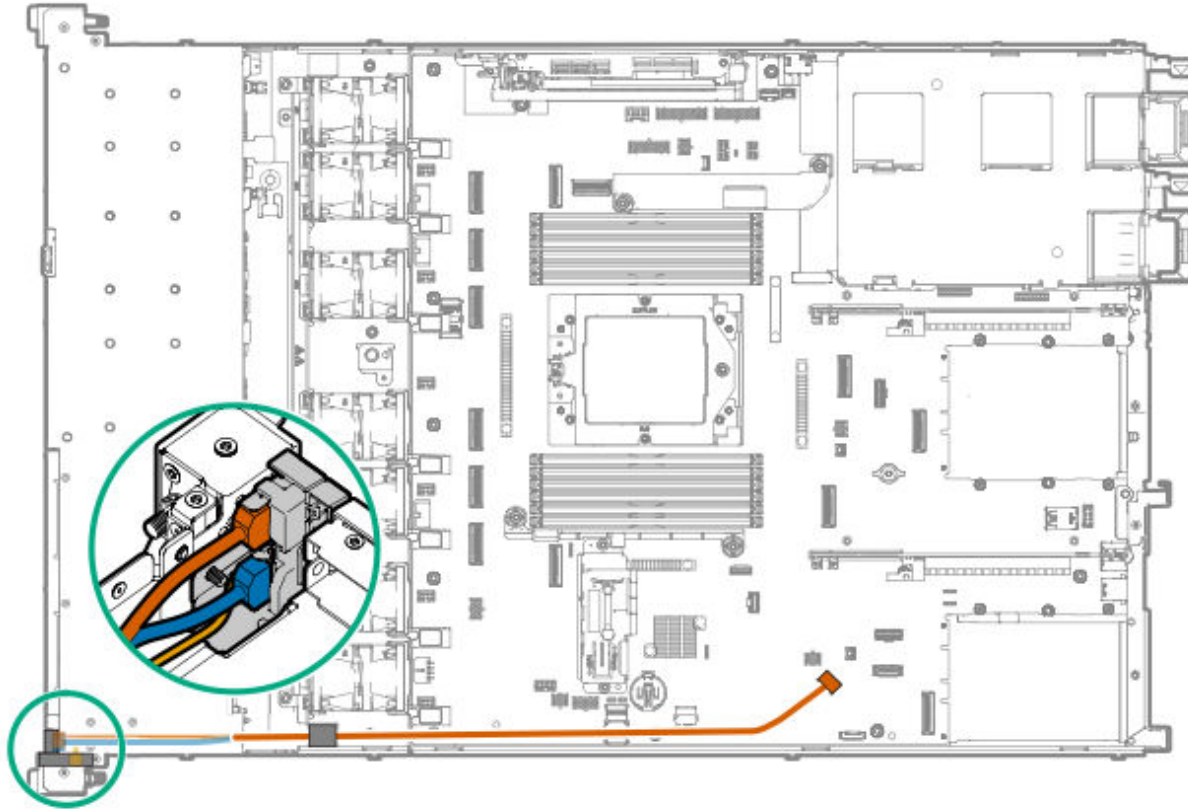
Front I/O cabling

4 LFF drive configuration



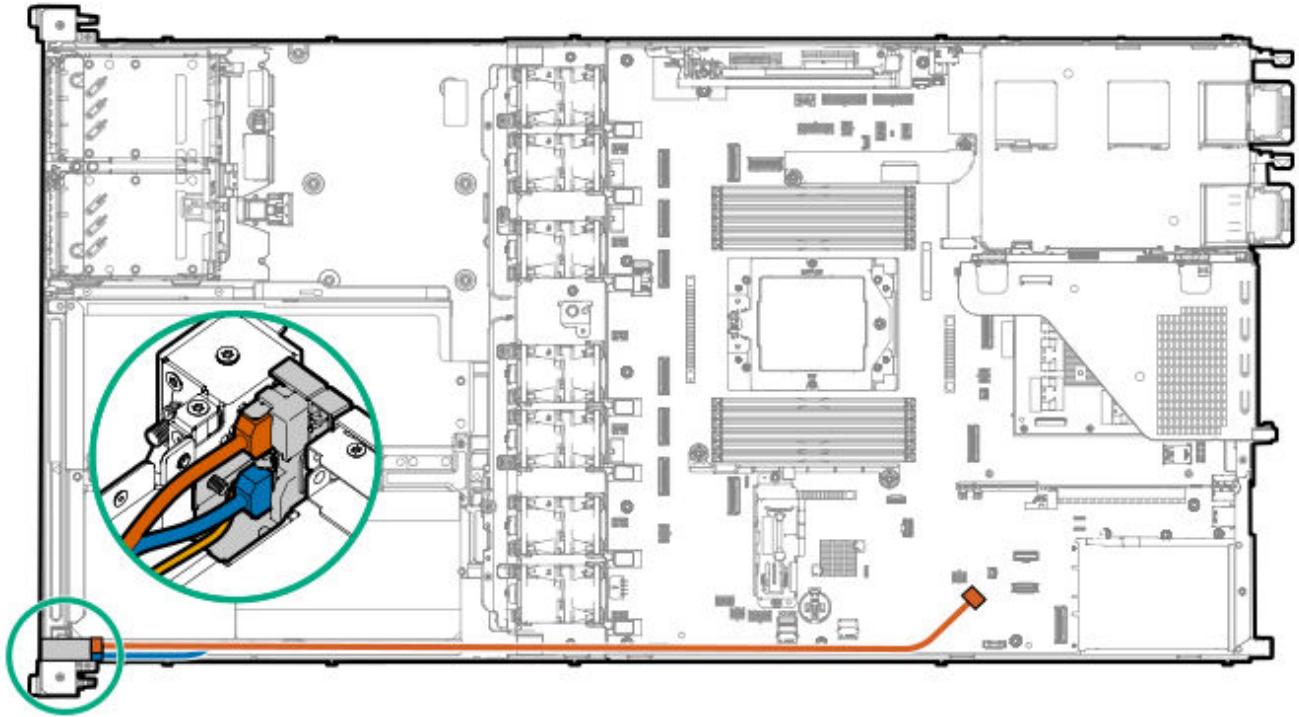
Cable part number	Cable color	From	To
P43727-001	Orange	USB 3.2 Gen 1 port	Front I/O connector
	Blue	iLO service port	
	Gold	Front I/O	

8 + 2 SFF / 20 E3.S drive configuration



Cable part number	Cable color	From	To
P43727-001	Orange	iLO service port	Front I/O connector
	Blue	USB 3.2 Gen 1 port	Front I/O connector
	Gold	Front I/O	Front I/O connector

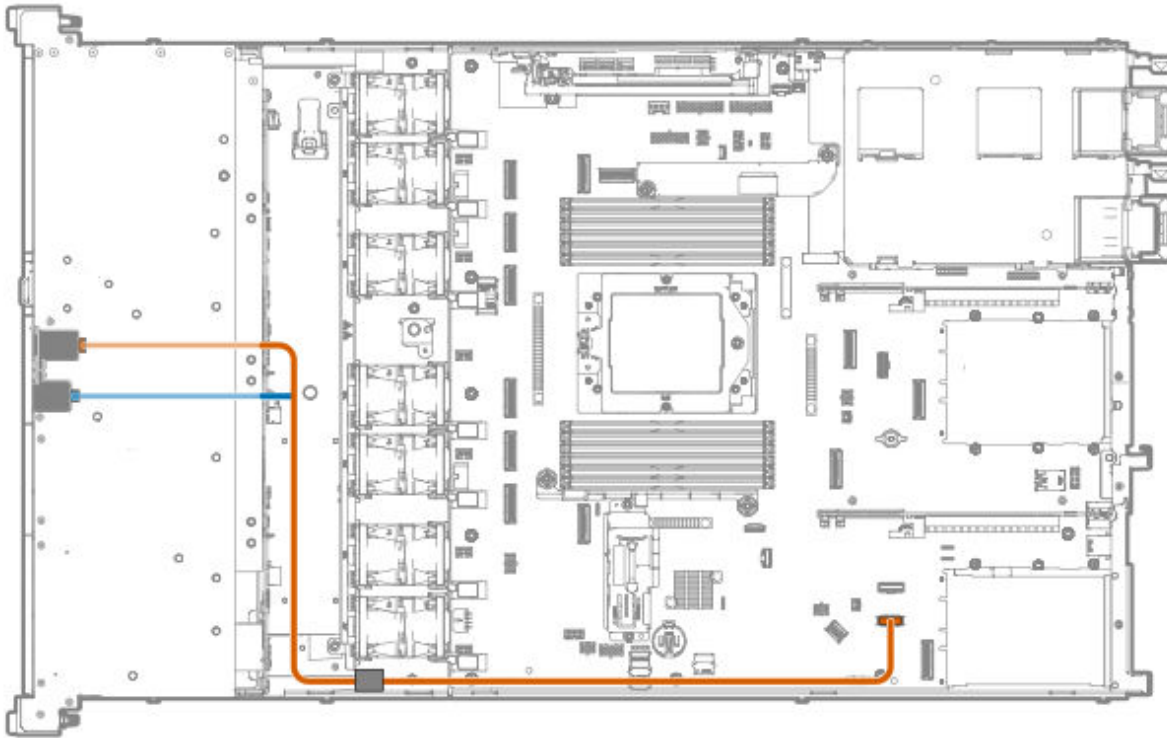
GPU-optimized configuration



Cable part number	Cable color	From	To
P47750-001	Orange	iLO service port	Front I/O connector
	Blue	USB 3.2 Gen 1 port	
	Gold	Front I/O	

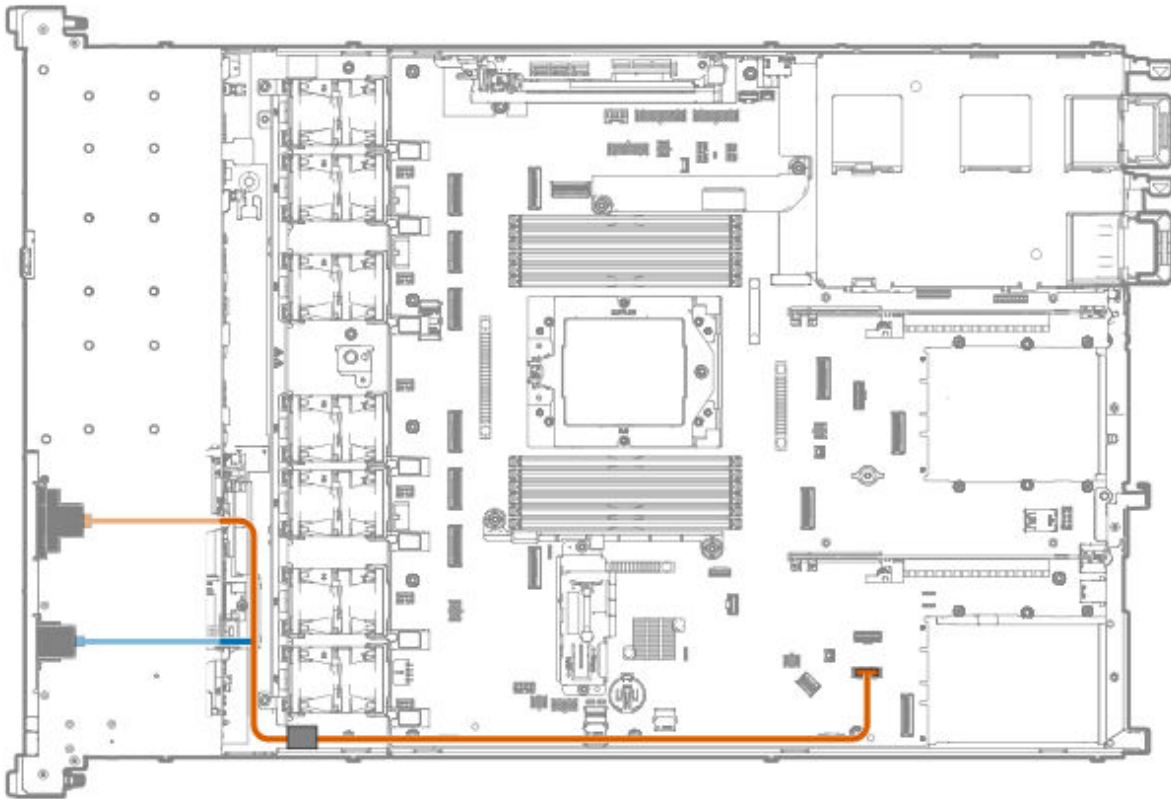
Front USB and DisplayPort cabling

LFF drive configuration



Cable part number	Cable color	From	To
P45619-001	Orange	DisplayPort	Front USB and DisplayPort connector
	Blue	USB 2.0 port	

SFF drive configuration



Cable part number	Cable color	From	To
P45620-001	Orange	DisplayPort	Front USB and DisplayPort connector
	Blue	USB 2.0 port	

Configuration resources

Use the following resources to find documentation for configuring and managing your server.

- Some utilities might not apply to your server. For information about server compatibility with the products listed in this chapter, see the product QuickSpecs (<https://www.hpe.com/info/quickspecs>).
- Products ordered from HPE Factory Express might have already been configured with some or all the configurations in this chapter. To determine if any additional setup is required, see your HPE Factory Express order.

- For one-stop access to version-specific software and firmware documentation, including the latest product release notes, see this quick links page:

<https://www.hpe.com/support/hpeproductdocs-quicklinks>

Subtopics

[Updating firmware or system ROM](#)

[Configuring the server](#)

[Configuring storage controllers](#)

[Deploying an OS](#)

[Configuring security](#)

[Server management](#)

[Managing Linux-based high performance compute clusters](#)

Updating firmware or system ROM

To	Use
Download service packs	<ul style="list-style-type: none"> • Service Pack for ProLiant (SPP) <ul style="list-style-type: none"> https://www.hpe.com/servers/spp/download • Get an overview of SPP and its ecosystem <ul style="list-style-type: none"> https://www.hpe.com/support/SPP-overview-views-en
Deploy service packs to a single server	Smart Update Manager (SUM) <ul style="list-style-type: none"> https://www.hpe.com/support/hpesmartupdatemanager-quicklinks
Deploy service packs to multiple servers	HPE OneView <ul style="list-style-type: none"> https://www.hpe.com/support/hpeoneview-quicklinks
Updating iLO or system firmware in a single server or multiple servers	HPE iLO <ul style="list-style-type: none"> https://www.hpe.com/support/hpeilodocs-quicklinks

To	Use
<ul style="list-style-type: none"> • 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 	<p>HPE Compute Ops Management</p> <p>https://www.hpe.com/support/hpe-gl-com-quicklinks</p>

Configuring the server

To configure	Use
Single server (GUI)	<ul style="list-style-type: none"> • Intelligent Provisioning https://www.hpe.com/support/hpeintelligentprovisioning-quicklinks • iLO remote console or web interface https://www.hpe.com/support/hpeilodocs-quicklinks • UEFI System Utilities https://www.hpe.com/support/hpeuefisystemutilities-quicklinks • HPE Compute Ops Management https://www.hpe.com/support/hpe-gl-com-quicklinks
Single server (scripting)	<ul style="list-style-type: none"> • RESTful Interface Tool https://www.hpe.com/support/restfulinterface/docs

To configure

Use

- Python iLO Redfish Library (python-ilorest-library)
<https://github.com/HewlettPackard/python-ilorest-library>
- Scripting Tools for Windows Powershell
<https://www.hpe.com/info/powershell/docs>
- iLO RESTful API
<https://servermanagementportal.ext.hpe.com/>
- HPE Compute Ops Management API
<https://developer.greenlake.hpe.com/>

Multiple servers (either UI or scripting)

- HPE OneView ¹
<https://www.hpe.com/support/hpeoneview-quicklinks>
- HPE Compute Ops Management
<https://www.hpe.com/support/hpe-gl-com-quicklinks>
 - **Server settings:** Define server-specific parameters such as firmware baselines, and then apply them to server groups.
 - **Server groups:** Organize servers into custom-defined sets with associated server settings, and then apply group-specific policies to create a consistent configuration across the servers in the group.

¹ For servers running HPE OneView, do not use another tool, such as iLO, to delete or change certain settings. For more information about using HPE OneView and iLO to manage the same server, see the iLO user guide at <https://www.hpe.com/support/hpeilodocs-quicklinks>.

Configuring storage controllers

Controller type	Documentation
HPE SR Gen11 controllers	<ul style="list-style-type: none">• HPE SR Gen11 Controller User Guide https://hpe.com/support/SR-Gen11-UG• SR Gen11 controller RAID creation: https://www.hpe.com/support/SR-RAID-creation <p>Configuration guides:</p> <ul style="list-style-type: none">• HPE Smart Storage Administrator GUI User Guide https://www.hpe.com/support/SSA-UG• HPE Smart Storage Administrator CLI User Guide https://www.hpe.com/support/SSACLI-UG
HPE MR controller user guides	<ul style="list-style-type: none">• HPE MR Gen11 Controller User Guide https://hpe.com/support/MR-Gen11-UG<ul style="list-style-type: none">◦ MR Gen11 controller configuration: https://www.hpe.com/support/MR-Gen11-configuration◦ MR Gen11 controller RAID creation: https://www.hpe.com/support/MR-Gen11-RAID-creation
HPE MR controller configuration guides	<ul style="list-style-type: none">• HPE MR Storage Administrator User Guide https://www.hpe.com/support/MRSA• HPE StorCLI User Guide https://www.hpe.com/support/StorCLI• HPE StorCLI2 User Guide

Controller type**Documentation**

<https://www.hpe.com/support/StorCLI2>

Storage controller documents library

<https://www.hpe.com/support/hpestoragecontrollerdocs-quicklinks>

Deploying an OS

For a list of supported operating systems, see the HPE Servers Support & Certification Matrices:

<https://www.hpe.com/support/Servers-Certification-Matrices>

To**See**

Deploy an OS using HPE Compute Ops Management

HPE Compute Ops Management User Guide

<https://www.hpe.com/support/hpe-gl-com-quicklinks>

Deploy an OS using Intelligent Provisioning

Intelligent Provisioning user guide

<https://www.hpe.com/support/hpeintelligentprovisioning-quicklinks>

Deploy an OS using iLO virtual media

iLO user guide

<https://www.hpe.com/support/hpeilodocs-quicklinks>

Configure the server to boot from a PXE server

UEFI System Utilities User Guide for HPE ProLiant Gen11 Servers and HPE Synergy

<https://www.hpe.com/support/UEFIGen11-UG-en>

Configure the server to boot from a SAN

HPE Boot from SAN Configuration Guide

<https://www.hpe.com/info/boot-from-san-config-guide>

Configuring security

To	See
Implement server security best practices.	<ul style="list-style-type: none">• HPE Compute Security Reference Guide https://www.hpe.com/info/server-security-reference-en• HPE iLO 6 Security Technology Brief https://www.hpe.com/support/ilo6-security-en
Configure and use the Server Configuration Lock feature on HPE Trusted Supply Chain servers and other servers that have the Server Configuration Lock feature enabled.	Server Configuration Lock User Guide for HPE ProLiant servers and HPE Synergy https://www.hpe.com/info/server-config-lock-UG-en

Server management

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

Managing Linux-based high performance compute clusters

To	Use
Provision, manage, and monitor clusters.	HPE Performance Cluster Manager https://www.hpe.com/support/hpcm_manuals
Optimize your applications.	HPE Performance Analysis Tools https://www.hpe.com/info/perftools
Optimize software library for low latency and high bandwidth, both on-node and off-node, for point-to-point and collective communications.	HPE Cray Programming Environment User Guide https://www.hpe.com/info/cray-pe-user-guides

Specifications

Subtopics

[Environmental specifications](#)

[Mechanical specifications](#)

[Power supply specifications](#)

Environmental specifications

Specifications	Value
Temperature range	—
Operating	10°C to 35°C (50°F to 95°F)
Nonoperating	Air-cooled systems: -30°C to 60°C (-22°F to 140°F) Liquid-cooled systems (DLC, CLLC): -10°C to 60°C (14°F to 140°F) CAUTION: To prevent freezing the coolant and damaging the liquid cooling module, do not keep the liquid-cooled systems below -10°C (14°F).

Specifications	Value
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

Non-GPU-optimized configuration

Specification	Value
Dimensions	—
Height	4.28 cm (1.69 in)
Depth	64.94 cm (25.57 in)
Width	43.46 cm (17.11 in)
Weight, approximate values	—
Minimum	13.76 kg (30.33 lb)
Maximum	14.57 kg (32.12 lb)

GPU-optimized configuration

Specification	Value
Dimensions	—
Height	4.28 cm (1.69 in)
Depth	81.85 cm (32.22 in)
Width	43.46 cm (17.11 in)
Weight, approximate values	—
Minimum	15.62 kg (34.44 lb)
Maximum	21.0 kg (46.3 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 500 W Flex Slot Platinum Hot-plug Low Halogen Power Supply**](#)

[**HPE 800 W Flex Slot Platinum Hot-plug Low Halogen Power Supply**](#)

HPE 1000 W Flex Slot Titanium Hot-plug Power Supply

HPE 1600 W Flex Slot Platinum Hot-plug Low Halogen Power Supply

HPE 1600 W Flex Slot -48 VDC Hot-plug Power Supply

HPE 1800-2200 W Flex Slot Titanium Power Supply

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

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

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

Specification	Value
Input requirements	—
Rated input voltage	100 VAC to 127 VAC 200 VAC to 240 VAC 240 VDC for China only
Rated input frequency	50 Hz to 60 Hz Not applicable to 240 VDC
Rated input current	9.4 A at 100 VAC 4.5 A at 200 VAC 3.8 A at 240 VDC for China only
Maximum rated input power	940 W at 100 VAC 900 W at 200 VAC 897 W at 240 VDC for China only
BTUs per hour	3067 at 100 VAC 2958 at 200 VAC 2949 at 240 VAC for China only
Power supply output	—
Rated steady-state power	800 W at 100 VAC to 127 VAC input 800 W at 100 VAC to 240 VAC input 800 W at 240 VDC input for China only
Maximum peak power	800 W at 100 VAC to 127 VAC input 800 W at 100 VAC to 240 VAC input 800 W at 240 VDC input for China only

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

HPE 1600 W Flex Slot Platinum Hot-plug Low Halogen Power Supply

Specification	Value
Input requirements	—
Rated input voltage	200 VAC to 240 VAC 240 VDC for China only
Rated input frequency	50 Hz to 60 Hz

Specification	Value
Rated input current	8.7 A at 200 VAC
	7.5 A at 230 VAC
	7.2 A at 240 VDC
Maximum rated input power	1734 W at 200 VAC
	1720 W at 240 VAC
BTUs per hour	5918 at 200 VAC
	5891 at 230 VAC
Power supply output	—
Rated steady-state power	1600 W at 200 VAC to 240 VAC input
	1600 W at 240 VDC input
Maximum peak power	1600 W for 1 ms (turbo mode) at 200 VAC to 240 VAC input

HPE 1600 W Flex Slot -48 VDC Hot-plug Power Supply

Specification	Value
Input requirements	—
Rated input voltage	-40 VDC to -72 VDC
Rated input frequency	DC
Nominal input current	45 A DC at -40 VDC input
	36.6 A DC at -48 VDC input
	24.4 A DC at -72 VDC input
Maximum Rated Input Wattage Rating	1798 W at -40 VDC input
	1758 W at -48 VDC input
	1755 W at -72 VDC input
BTUs per hour	6026 at -40 VDC input
	6000 at -48 VDC input

Specification	Value
	5989 at -72 VDC input
Power supply output	—
Rated steady-state power	1600 W at -40 VDC to -72 VDC
Maximum peak power	1600 W at -40 VDC to -72 VDC

HPE 1800-2200 W Flex Slot Titanium Power Supply

Specification	Value
Input requirements	—
Rated input voltage	200 VAC to 240 VAC 240 VDC for China only
Rated input frequency	50 Hz to 60 Hz
Rated input current	10 A at 200 VAC 10 A at 240 VAC 10 A at 240 VDC for China only
Maximum rated input power	1946 W at 200 VAC 2375 W at 240 VAC 2375 W at 240 VDC for China only
BTUs per hour	6497 at 200 VAC 7962 at 240 VAC
Power supply output	—
Rated steady-state power	1800 W at 200 VAC 2200 W at 240 VAC
Maximum peak power	2200 W for 1 ms (turbo mode) at 200 VAC to 240 VAC input

Appendix I: Server coolant spill response

Subtopics

Eye and skin protection

Server coolant leak

Eye and skin protection

The coolant used in the liquid cooling module is a mixture of purified water and ethylene glycol with additional additives for corrosion resistance. Observe the following when cleaning up a coolant leak:

- The coolant might cause slight temporary eye irritation.
 - To prevent any accidental eye contact with the coolant, use safety glasses with side shields.
 - If eye contact occurs, immediately flush eye with plenty of water. If any discomfort persists, seek medical attention.
- The coolant might cause slight temporary skin irritation.
 - Use hand protection in the form of chemically resistant gloves when cleaning up coolant leak.
 - If gloves are not worn, wash hands with plenty of water after cleanup.

Server coolant leak

Symptom

Spill or leak of the electrically conductive server coolant from the liquid cooling module.

Cause

The supply hose of the liquid cooling module is damaged.

Action

Preparing for coolant leak cleanup

1. Have the following items ready for the coolant leak cleanup:
 - Dry paper towels or any absorbent material intended for cleaning up a chemical spill
 - Container to collect the leaked coolant

- Dry cleanroom wipes
- Deionized water

2. Read the following safety information:

- Rack warnings and cautions
- Server warnings and cautions

Assessing the spill

3. Inspect the server room first and determine if the spill has spread to other servers in the same rack.

Removing the server

4. Power down the server.

5. If the server uses a DLC cold plate module, disconnect the DLC hoses from the rack manifolds.

6. If installed, open the cable management arm.

7.



WARNING



To reduce the risk of electric shock, make sure that you use the necessary safety equipment compliant with local occupational health and safety code when disconnecting the power cords.

Remove all power:

- a. Disconnect each power cord from the power source.
 - b. Disconnect each power cord from the server.
8. Disconnect all peripheral cables from the server.
9. Remove the server from the rack.
10. Place the server on a flat, level work surface.

Locating the spill point

11. Observe proper eye and skin protection.
12. Remove the access panel.
13. Look for any potential contact between the coolant and any of the internal cables and components, especially power connectors.
14. Locate the spill point.

25. Cover the spill point with a dry absorbent material.

Cleaning up the coolant leak

16. Remove the leaky liquid cooling module. Avoid pushing out more coolant during removal.
17. Remove the system board.
18. If the leak has made it to the system board or the chassis, do the following:
 - a. Use a dry absorbent material to clean the coolant leak.
 - b. Wring the absorbed coolant into a container.
 - c. Lightly dampen a cleanroom wipe with deionized water. Wring out any excess water, and gently wipe over areas with coolant residue.
 - d. Ensure that there is no more visible colored coolant or liquid residue.
 - e. Dry the system board in a 70°C environment for at least 8 hours.
 - f. Confirm the system board is completely dry before reinstallation.
19. Follow the procedure in the server maintenance and service guide to reinstall the system board.
20. Repeat steps 12–19 on other servers affected by the spill.

Handling waste

21. Fill the container with tap water and dispose of the residue in accordance with local safety requirements.
22. Use plenty of fresh water to clean the container used to collect the leaked coolant.
23. Dispose of used absorbent material and paper towels in accordance with local safety requirements.

Replacing damaged components

24.



WARNING

Water and electricity combined pose a significant safety hazard.

Hardware electrical components that have been in contact with the spilled coolant might be damaged.

To ensure a functional and safe server operation, identify and replace all damaged components.

Restoring system operation



IMPORTANT

After the spill is properly cleaned up, do not rush to power on the system immediately. Instead, leave the system in Standby Mode first and observe the front panel LEDs after connecting the power cables.

Verify if the system power LED is illuminated. If not, replace the system board.

26. If the server uses a DLC cold plate module, reconnect the DLC hoses to the rack manifolds.

27. Power on the server.

If the system fails to boot, replace the system board.

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 DL325 Gen11 user documents

<https://www.hpe.com/info/dl325gen11-docs>

Support and other resources

Subtopics

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Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:

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

- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:

<https://www.hpe.com/support/hpesc>

Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
- To download product updates:

Hewlett Packard Enterprise Support Center

<https://www.hpe.com/support/hpesc>

My HPE Software Center

<https://www.hpe.com/software/hpesoftwarecenter>

- To subscribe to eNewsletters and alerts:

<https://www.hpe.com/support/e-updates>

- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page:

<https://www.hpe.com/support/AccessToSupportMaterials>



IMPORTANT

Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Account set up with relevant entitlements.

Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which initiates a fast and accurate resolution based on the service level of your product. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

HPE Get Connected

<https://www.hpe.com/services/getconnected>

HPE Tech Care Service

<https://www.hpe.com/services/techcare>

HPE Complete Care Service

<https://www.hpe.com/services/completecure>

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, click the **Feedback** button on the page of an opened document on the Hewlett Packard Enterprise Support Center portal (<https://www.hpe.com/support/hpesc>). Use this feature to send any errors, suggestions, or comments. This process captures all document information.