



**Hewlett Packard
Enterprise**

HPE Synergy 660 Gen9 Compute Module Maintenance and Service Guide

Abstract

This document is for the person who installs, administers, and troubleshoots compute modules and storage systems. Hewlett Packard Enterprise assumes you are qualified in the servicing of computer equipment and trained in recognizing hazards in products with hazardous energy levels.

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Notices

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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 call the Hewlett Packard Enterprise Support Center and a technician will help you over the telephone. 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. For the North American program, go to the [**Hewlett Packard Enterprise CSR website**](#).

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. Pour plus d'informations sur ce programme en Amérique du Nord, consultez le site [**Web Hewlett Packard Enterprise**](#).

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. Per il programma in Nord America fare riferimento **al sito Web**.

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. Informationen über das CSR-Programm in Nordamerika finden Sie auf der **Hewlett Packard Enterprise Website** unter.

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. Si está interesado en el programa para Norteamérica, visite [la página web de Hewlett Packard Enterprise CSR](#).

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. Informatie over Service Partners vindt u op de [**Hewlett Packard Enterprise website**](#).

Garanteservice "Parts Only"

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

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

Reparo feito pelo cliente

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

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

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

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

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

Serviço de garantia apenas para peças

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

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

カスタマーセルフリペア

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

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

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

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

部品のみ保証サービス

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

部品のみ保証サービスにおいては、CSR部品をお客様により交換作業していただくことが必須となります。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退还给 Hewlett Packard Enterprise。如果要求您将缺陷的部件退还给 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。有关北美地区的计划，请访问 Hewlett Packard Enterprise 网站 (<http://www.hpe.com/support/selfrepair>)。

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。至於北美方案，請參閱 Hewlett Packard Enterprise 的 CSR 網站 [repair \(http://www.hpe.com/support/selfrepair\)](http://www.hpe.com/support/selfrepair)。

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. 북미 지역의 프로그램에 대해서는 Hewlett Packard Enterprise CSR 웹 사이트(<http://www.hpe.com/support/selfrepair>)를 참조하십시오.

부품 제공 보증 서비스

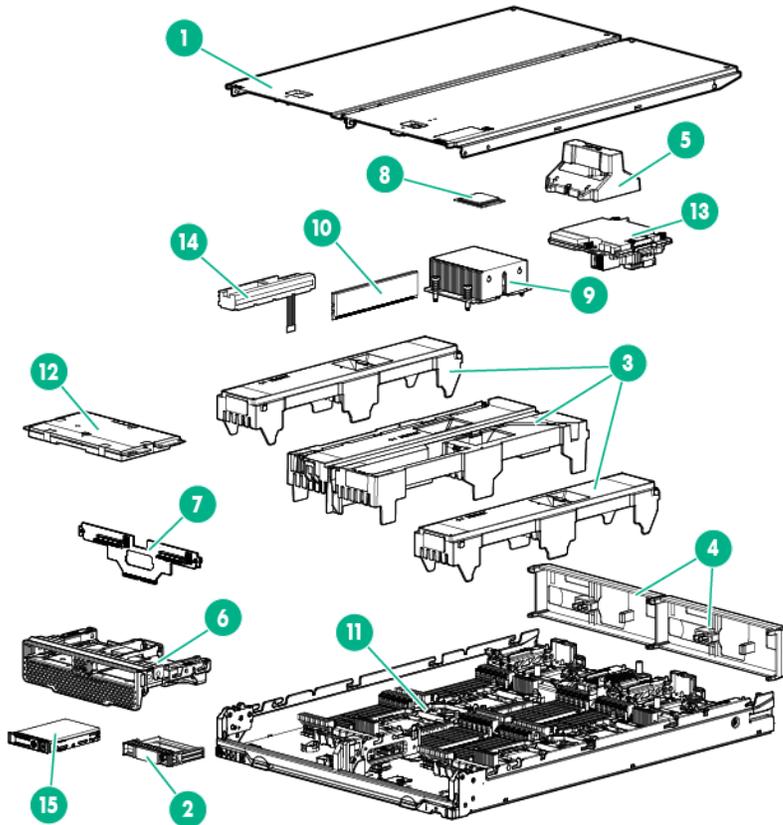
Hewlett Packard Enterprise 제한 보증에는 부품 제공 보증 서비스가 포함될 수 있습니다. 이러한 경우 Hewlett Packard Enterprise는 부품 제공 보증 서비스의 조건에 따라 교체 부품만을 무료로 제공합니다.

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

Compute module components

Hewlett Packard Enterprise continually improves and changes product parts. For complete and current supported parts information, see the [Hewlett Packard Enterprise PartSurfer website](#).



Item	Description	Spare part number	Customer self repair
1	Access panel	813571-001	Mandatory ¹
2	Drive blank	670033-001	Mandatory ¹
3	DIMM baffles (3)	813572-001	Mandatory ¹
4	Compute module end caps (2)	813579-001	Mandatory ¹
5	Heatsink blank	801366-001	Mandatory ¹
6	Front panel/drive cage assembly	—	—
	a) Front panel/drive cage assembly without backplane	801370-001	Mandatory ¹

Table Continued

Item	Description	Spare part number	Customer self repair
	a) Front panel/drive cage assembly with backplane 1*	813573-001	Mandatory ¹
	b) Front panel/drive cage assembly with backplane 2*	813574-001	Mandatory ¹
7	Drive backplane board		
	a) Drive backplane 1 <Are backplanes mandatory or optional?>	801373-001	Mandatory ¹
	b) Drive backplane 2*	813576-001	Mandatory ¹
	c) Drive backplane, NVMe-enabled	801364-001	
8	Processors	—	—
	a) 2.40 GHz Intel Xeon E5-2630 v3 **	762446-001	Optional ²
	b) 2.60 GHz Intel Xeon E5-2640 v3* **	762447-001	Optional ²
	c) 2.30 GHz Intel Xeon E5-2650 v3* **	762448-001	Optional ²
	d) 2.60 GHz Intel Xeon E5-2660 v3* **	762449-001	Optional ²
	e) 2.30 GHz Intel Xeon E5-2670 v3* **	762450-001	Optional ²
	f) 2.50 GHz Intel Xeon E5-2680 v3* **	762451-001	Optional ²
	g) 2.60 GHz Intel Xeon E5-2690 v3* **	762452-001	Optional ²
	h) 2.30 GHz Intel Xeon E5-2695 v3* **	762454-001	Optional ²
	i) 2.30 GHz Intel Xeon E5-2698 v3* **	780760-002	Optional ²
	j) 2.2 GHz Intel Xeon E5-2697A v4* **	841035-001	Optional ²
	k) 2.2 GHz Intel Xeon E5-2699 v4* **	835618-001	Optional ²
	l) 2.2 GHz Intel Xeon E5-2698 v4* **	835617-001	Optional ²
	m) 2.3 GHz Intel Xeon E5-2697 v4* **	835616-001	Optional ²

Table Continued

Item	Description	Spare part number	Customer self repair
	n) 2.1 GHz Intel Xeon E5-2695 v4* **	835615-001	Optional ²
	o) 2.1 GHz Intel Xeon E5-2683 v4* **	835614-001	Optional ²
	p) 2.9 GHz Intel Xeon E5-2667 v4* **	835613-001	Optional ²
	q) 3.2 GHz Intel Xeon E5-2643 v4* **	835612-001	Optional ²
	r) 3.4 GHz Intel Xeon E5-2637 v4* **	835611-001	Optional ²
	s) 2.6 GHz Intel Xeon E5-2623 v4* **	835610-001	Optional ²
	t) 1.7 GHz Intel Xeon E5-2650L v4* **	835609-001	Optional ²
	u) 1.7 GHz Intel Xeon E5-2630L v4* **	835608-001	Optional ²
	v) 2.6 GHz Intel Xeon E5-2690 v4* **	835607-001	Optional ²
	w) 2.4 GHz Intel Xeon E5-2680 v4* **	835606-001	Optional ²
	x) 2.0 GHz Intel Xeon E5-2660 v4* **	835605-001	Optional ²
	y) 2.2 GHz Intel Xeon E5-2650 v4* **	835604-001	Optional ²
	z) 2.4 GHz Intel Xeon E5-2640 v4* **	835603-001	Optional ²
	aa) 2.2 GHz Intel Xeon E5-2630 v4* **	835602-001	Optional ²
	bb) 1.7 GHz Intel Xeon E5-2620 v4* **	835601-001	Optional ²
	cc) 1.7 GHz Intel Xeon E5-2609 v4* **	835600-001	Optional ²
	dd) 1.7 GHz Intel Xeon E5-2603 v4* **	835599-001	Optional ²
9	Heatsink	—	—
	a) Processor 1 heatsink assembly	801368-001	Optional ²
	b) Processor 2 heatsink assembly*	801367-001	Optional ²
10	DIMMs	—	—

Table Continued

Item	Description	Spare part number	Customer self repair
	a) 4 GB, 1Rx8, PC4-2133R	774169-001	Mandatory ¹
	b) 8 GB, 1Rx4, PC4-2133R*	774170-001	Mandatory ¹
	c) 16 GB, 2Rx4, PC4-2133R*	774172-001	Mandatory ¹
	d) 16 GB, 2Rx4, PC4-2133L*	774173-001	Mandatory ¹
	e) 32 GB, 4Rx4, PC4-2133L*	774174-001	Mandatory ¹
	f) 32 GB, 2Gx4, PC4-2400L*	819414-001	Mandatory ¹
	g) 16 GB, 2Gx4, PC4-2400L*	819411-001	Mandatory ¹
	h) 8 GB, 1Gx4, PC4-2400L*	819410-001	Mandatory ¹
11	System board with base pan	801376-001	Optional ²
12	Storage controller	—	—
	a) HPE Smart Array P240nr Controller	754595-001	Mandatory ¹
	b) HPE H240nr Smart Host Bus Adapter*	784512-001	Mandatory ¹
	c) HPE Smart Array P542D Controller	789883-001	Optional ²
13	Mezzanine options	—	—
	a) HPE Synergy 3830C 16G FC HBA	782829-001	Mandatory ¹
	b) HPE Synergy 3820C 10/20Gb CNA*	782833-001	Mandatory ¹
14	HPE Smart Storage Adapter with cable, 96W	827349-001	Optional ²
15	Drives, HDD	—	—
	a) 146 GB, 15,000-rpm, ENT, 6G	653950-001	Mandatory ¹
	b) 300 GB, 10,000-rpm, ENT, 12G	785410-001	Mandatory ¹
	c) 300 GB, 15,000-rpm, ENT, 12G	759546-001	Mandatory ¹
	d) 450 GB, 15,000-rpm, ENT, 12G	759547-001	Mandatory ¹

Table Continued

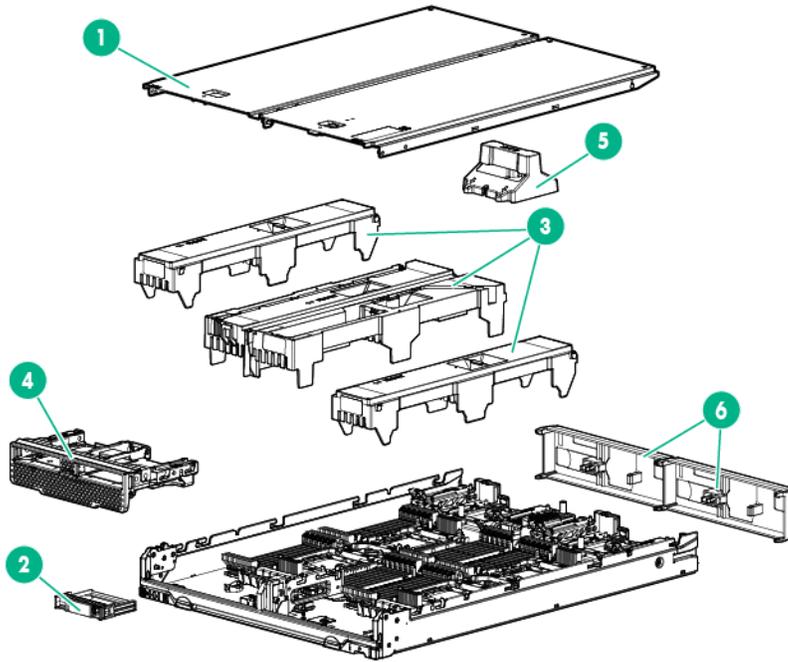
Item	Description	Spare part number	<u>Customer self repair</u>
	e) 500 GB, 7,200-rpm, MDL, 6G	653953-001	Mandatory ¹
	f) 600 GB, 10,000-rpm, ENT, 12G	781577-001	Mandatory ¹
	g) 600 GB, 15,000-rpm, ENT, 12G	759548-001	Mandatory ¹
	h) 600 GB, 15,000-rpm, 512e, 12G	748435-001	Mandatory ¹
	i) 900 GB, 10,000-rpm, ENT, 12G	785411-001	Mandatory ¹
	j) 1.0 TB, 7,200-rpm, MDL, 6G	653954-001	Mandatory ¹
	k) 1.0 TB, 7,200-rpm, MDL, 12G	832984-001	Mandatory ¹
	l) 1.0 TB, 7,200-rpm, 512e, 12G	765872-001	Mandatory ¹
	m) 1.2 TB, 10,000-rpm, ENT, 12G	781578-001	Mandatory ¹
	n) 1.2 TB, 10,000-rpm, ENT, 6G	718292-001	Mandatory ¹
	o) 1.8 TB, 10,000-rpm, 512e, 12G	791055-001	Mandatory ¹
	p) 2.0 TB, 7,200-rpm, 512e, 12G	765873-001	Mandatory ¹
	q) 500 GB, 7,200-rpm, MDL, 6G	656107-001	Mandatory ¹
	r) 1.0 TB, 7,200-rpm, MDL, 6G	656108-001	Mandatory ¹
	s) 1.0 TB, 7,200-rpm, MDL, 512e, 6G	765868-001	Mandatory ¹
	t) 2.0 TB, 7,200-rpm, MDL, 512e, 6G	765869-001	Mandatory ¹
16	a) 200-GB, ME, H2, 12G	780430-001	Mandatory ¹
	b) 200-GB, WI, 12G	802905-001	Mandatory ¹
	c) 400-GB, ME, EM, H2, 12G	780432-001	Mandatory ¹
	d) 400-GB, WI, 12G	802907-001	Mandatory ¹
	e) 400-GB, MU-3, 12G	822784-001	Mandatory ¹
	f) 480-GB, RI-3, 12G	817047-001	Mandatory ¹

Table Continued

Item	Description	Spare part number	Customer self repair
	g) 800-GB, ME, EM, H2, 12G	780434-001	Mandatory ¹
	h) 800-GB, WI, 12G	802909-001	Mandatory ¹
	i) 800-GB, WI-1, 12G	846622-001	Mandatory ¹
	j) 800-GB, MU-1, 12G	846624-001	Mandatory ¹
	k) 800-GB, VE, EV, 12G	762749-001	Mandatory ¹
	l) 800-GB, MU-3, 12G	822786-001	Mandatory ¹
	m) 960-GB, RI-3, 12G	817049-001	Mandatory ¹
	n) 1.6-TB, ME, EM, H2, 12G	780436-001	Mandatory ¹
	o) 1.6-TB, VE, EV, 12G	762751-001	Mandatory ¹
	p) 1.6-TB, WI-1, 12G	846623-001	Mandatory ¹
	q) 1.6-TB, MU-1, 12G	846625-001	Mandatory ¹
	r) 1.6-TB, MU-3, 12G	822788-001	Mandatory ¹
	s) 1.9-TB, RI, 12G	802911-001	Mandatory ¹
	t) 1.92-TB, RI-3, 12G	817051-001	Mandatory ¹
	u) 3.2-TB, MU-3, 12G	822790-001	Mandatory ¹
	v) 3.84-TB, RI-3, 12G	817053-001	Mandatory ¹
17	340 GB 6G SATA SSD, uFF, VE, 2280	830453-001	Mandatory ¹
18	SFF flash storage adapter*	830452-001	Mandatory ¹
19	System battery*	234556-001	Optional ²
20	Trusted Platform Module*	505836-001	No ³
20	Drive backplane cable*	813575-001	Mandatory ¹

Mechanical components

Hewlett Packard Enterprise continually improves and changes product parts. For complete and current supported parts information, see the [Hewlett Packard Enterprise PartSurfer website](#).



Item	Description
1	<u>Access panel spare part</u>
2	<u>Drive blank spare part</u>
3	<u>DIMM baffle spare parts</u>
4	<u>Front panel/drive cage assembly spare parts</u>
5	<u>Rear heatsink blank spare part</u>
6	<u>Compute module end cap spare part</u>

Access panel spare part

Customer self repair: mandatory

Description	Spare part number
Access panel	813571-001

Drive blank spare part

Customer self repair: mandatory

Description	Spare part number
Drive blank	670033-001

DIMM baffle spare parts

Customer self repair: mandatory

Description	Spare part number
DIMM baffles (3)	813572-001

Front panel/drive cage assembly spare parts

Customer self repair: mandatory

Description	Spare part number
Front panel/drive cage assembly without backplane	801370-001
Front panel/drive cage assembly with backplane 1*	813573-001
Front panel/drive cage assembly with backplane 2*	813574-001

Rear heatsink blank spare part

Customer self repair: **mandatory**

Description	Spare part number
Rear heatsink blank	801366-001

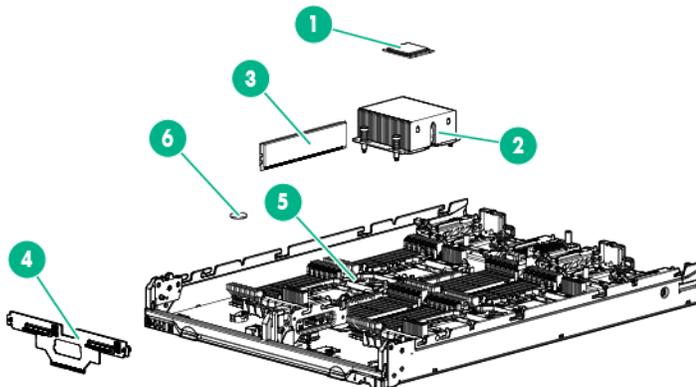
Compute module end cap spare part

Customer self repair: mandatory

Description	Spare part number
Compute module end caps (2)	813579-001

System components

Hewlett Packard Enterprise continually improves and changes product parts. For complete and current supported parts information, see the [Hewlett Packard Enterprise PartSurfer website](#).



Item	Description
1	Processor spare parts
2	Processor heatsink spare parts

Table Continued

Item	Description
3	<u>DIMM spare parts</u>
4	<u>Drive backplane spare parts</u>
5	<u>System board spare part</u>
6	<u>System battery spare part</u>

Processor spare parts

Customer self repair: optional

All Intel Xeon processors in this HPE ProLiant server must have the same cache size, speed, number of cores, and rated maximum power consumption.

Description	Spare part number
E5-4610 v4, 1.8 GHz	852377-001
E5-4620 v4, 2.1 GHz	852378-001
E5-4627 v4, 2.6 GHz	852382-001
E5-4640 v4, 2.1 GHz	852379-001
E5-4650 v4, 2.2 GHz	852380-001
E5-4655 v4, 2.5 GHz	852383-001
E5-4660 v4, 2.2 GHz	852381-001
E5-4667 v4, 2.5 GHz	852384-001
E5-4669 v4, 2.2 GHz	852385-001

Processor heatsink spare parts

Customer self repair: optional

Description	Spare part number
Processor 1 heatsink	801368-001
Processor 2 heatsink	801367-001

DIMM spare parts

Customer self repair: optional

Description	Spare part number
4 GB, 1 Rx8, PC4-2133R	774169-001
8-GB, 1Rx4, PC4-2133R	774170-001
8-GB, 1Gx4, PC4-2400L	819410-001
16-GB, 2Rx4, PC4-2133R	774172-001
16-GB, 2Rx4, PC4-2133L	774173-001
16-GB, 2Gx4, PC4-2400L	819411-001

Table Continued

Description	Spare part number
32-GB, 4Rx4, PC4-2133L	774174-001
32-GB, 2Gx4, PC4-2400L	819414-001

Drive backplane spare parts

Customer self repair: optional

Description	Spare part number
Drive backplane 1	801373-001
Drive backplane 2	813576-001
NVMe-enabled drive backplane	801364-001

System board spare part

Customer self repair: optional

Description	Spare part number
System board with base pan	801376-001

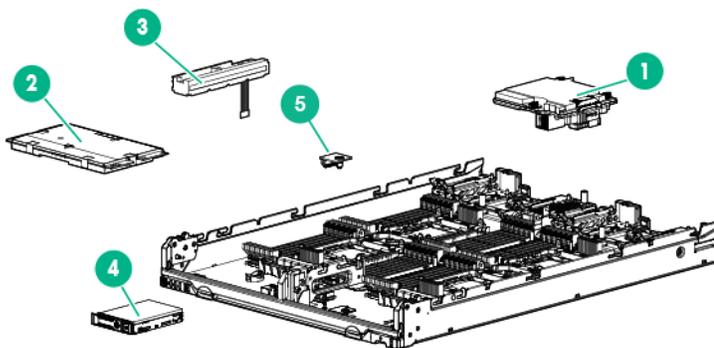
System battery spare part

Customer self repair: optional

Description	Spare part number
System battery	234556-001

Compute module options

Hewlett Packard Enterprise continually improves and changes product parts. For complete and current supported parts information, see the [Hewlett Packard Enterprise PartSurfer website](#).



Item	Description
1	Mezzanine option spare parts
2	Storage controller spare parts

Table Continued

Item	Description
3	HPE Smart Storage Battery spare part
4	Drive spare parts
	• SFF SAS HDD spare parts
	• SFF SATA HDD spare parts
	• SFF SAS SSD spare parts
	• SFF SATA SSD spare parts
5	HP Trusted Platform Module spare part

Mezzanine option spare parts

Customer self repair: mandatory

Description	Spare part number
HPE Synergy 3820C 10/20Gb CNA	782833-001
HPE Synergy 3830C 16G FC HBA	782829-001

Storage controller spare parts

Customer self repair: **mandatory**

Description	Spare part number
HPE Smart Array P240nr Controller	754595-001
HPE H240nr Smart Host Bus Adapter	784512-001
HPE Smart Array P542D Controller	789883-001
HPE Smart Array P542D SAS cable	847711-001

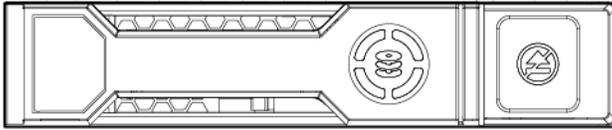
HPE Smart Storage Battery spare part

Customer self repair: **mandatory**

Description	Spare part number
HPE Smart Storage Battery with cable, 96W	827349-001

Drive spare parts

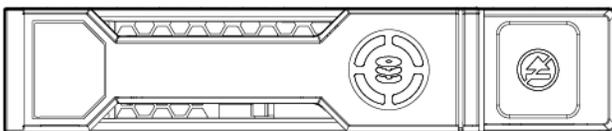
SFF SAS HDD spare parts



Customer self repair: **mandatory**

Description	Spare part number
146 GB, 15,000-rpm, ENT, 6G	653950-001
300 GB, 10,000-rpm, ENT, 12G	785410-001
300 GB, 15,000-rpm, ENT, 12G	759546-001
450 GB, 15,000-rpm, ENT, 12G	759547-001
500 GB, 7,200-rpm, MDL, 6G	653953-001
600 GB, 10,000-rpm, ENT, 12G	781577-001
600 GB, 15,000-rpm, ENT, 12G	759548-001
600 GB, 15,000-rpm, 512e, 12G	748435-001
900 GB, 10,000-rpm, ENT, 12G	785411-001
1.0 TB, 7,200-rpm, MDL, 6G	653954-001
1.0 TB, 7,200-rpm, MDL, 12G	832984-001
1.0 TB, 7,200-rpm, 512e, 12G	765872-001
1.2 TB, 10,000-rpm, ENT, 12G	781578-001
1.2 TB, 10,000-rpm, ENT, 6G	718292-001
1.8 TB, 10,000-rpm, 512e, 12G	791055-001
2.0 TB, 7,200-rpm, 512e, 12G	765873-001

SFF SATA HDD spare parts



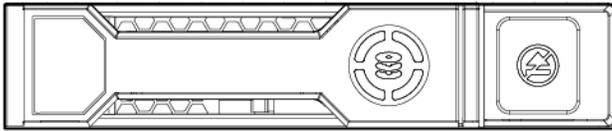
Customer self repair: **mandatory**

Description	Spare part number
500 GB, 7,200-rpm, MDL, 6G	656107-001
1.0 TB, 7,200-rpm, MDL, 6G	656108-001

Table Continued

Description	Spare part number
1.0 TB, 7,200-rpm, MDL, 512e, 6G	765868-001
2.0 TB, 7,200-rpm, MDL, 512e, 6G	765869-001

SFF SAS SSD spare parts



Customer self repair: mandatory

Description	Spare part number
200-GB, ME, H2, 12G	780430-001
200-GB, WI, 12G	802905-001
400-GB, ME, EM, H2, 12G	780432-001
400-GB, WI, 12G	802907-001
400-GB, MU-3, 12G	822784-001
480-GB RI, SC, 6G	789356-001
480-GB, RI-3, 12G	817047-001
800-GB, ME, EM, H2, 12G	780434-001
800-GB, WI, 12G	802909-001
800-GB, WI-1, 12G	846622-001
800-GB, MU-1, 12G	846624-001
800-GB, VE, EV, 12G	762749-001
800-GB, MU-3, 12G	822786-001
800-GB SC, EV, 12G	762749-001
960-GB, RI-3, 12G	817049-001
1.2-TB VE, SC2, PLP, NVMe	765068-001
1.6-TB, ME, EM, H2, 12G	780436-001
1.6-TB, VE, EV, 12G	762751-001
1.6-TB, WI-1, 12G	846623-001
1.6-TB, MU-1, 12G	846625-001
1.6-TB, MU-3, 12G	822788-001
1.6-TB SAS, SC, 12G	762751-001
1.9-TB, RI, 12G	802911-001
1.92-TB, RI-3, 12G	817051-001

Table Continued

Description	Spare part number
2-TB ME, SC2, PLP, NVMe	765062-001
3.2-TB, MU-3, 12G	822790-001
3.84-TB, RI-3, 12G	817053-001

HP Trusted Platform Module spare part

Customer self repair: **no**

Description	Spare part number
HP Trusted Platform Module	505836-001
HP Trusted Platform Module 2.0	812119-001

Removal and replacement procedures

Required tools

You need a T-15 Torx screwdriver for performing procedures listed in this document.

Safety considerations

Before performing service procedures, review all the safety information.

Preventing electrostatic discharge

To prevent damaging the system, be aware of the precautions you must follow when setting up the system or handling parts. 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 device.

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.

Compute module warnings and cautions

 **WARNING:**
To reduce the risk of shock or injury from high-current electrical energy, do not remove the compute module access panel, and then install the compute module into the frame.

 **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:**
Do not operate the compute module with the access panel removed. Operating the compute module in this manner results in improper airflow and improper cooling that can lead to thermal damage.

 **CAUTION:**
When performing non-hot-plug operations, you must power down the compute module and/or the system. However, it might be necessary to leave the compute module powered up when performing other operations, such as hot-plug installations or troubleshooting.

Symbols on equipment

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



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.
-



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 the risk of injury from electric shock hazards, do not open this enclosure.
-



This symbol on an RJ-45 receptacle indicates a network interface connection.

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



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.
-



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.
-



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 disconnect power from the system completely.

Compute module preparation

To service any internal compute module component:

Procedure

1. **Power down the compute module.**
2. Remove the compute module from the frame.

Powering down the compute module

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



IMPORTANT:

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



IMPORTANT:

Always attempt a graceful shutdown before forcing the shutdown of applications and the OS with a non-graceful shutdown.

To power down the compute module, use one of the following methods:

- To perform a graceful shutdown of applications and the OS when powering down the compute module to standby mode, use one of the following methods:
 - Press and release the Power On/Standby button.
 - Select the Momentary press power off selection in HPE OneView.
 - Select the Momentary press virtual power button selection in HPE iLO.

Always attempt a graceful shutdown first before forcing the compute module to power off.

- If a graceful shutdown fails to power down the compute module to standby mode when an application or OS stops responding, use one of the following methods to force a non-graceful shutdown of applications and the OS:
 - Press and hold the Power On/Standby button for more than four seconds.
 - Select the Press and hold power off selection in HPE OneView.
 - Select the Press and hold virtual power button selection in HPE iLO.

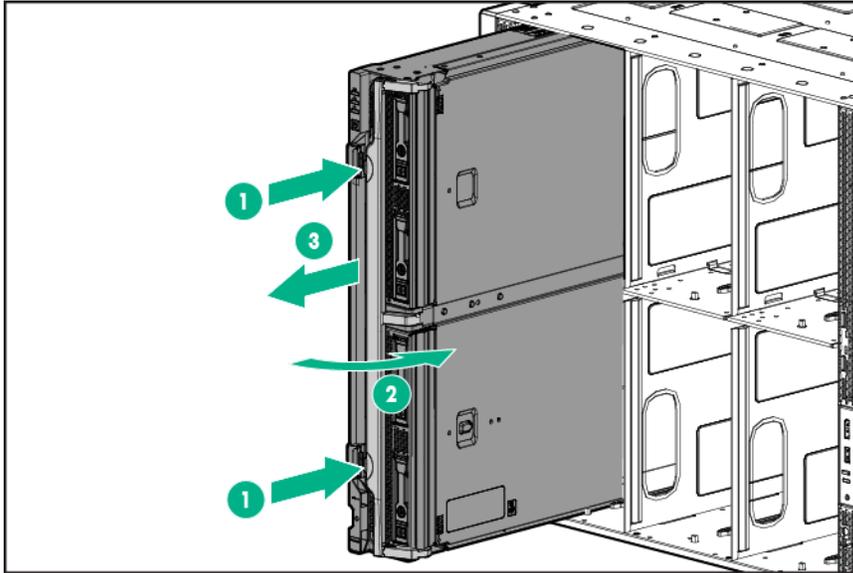
Application data can be lost when performing a non-graceful shutdown of applications and the OS.

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

Removing the compute module

Procedure

1. Identify the proper compute module.
2. **Power down the computer node.**
3. Remove the compute module.



4. Place the compute module on a flat, level work surface.



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:

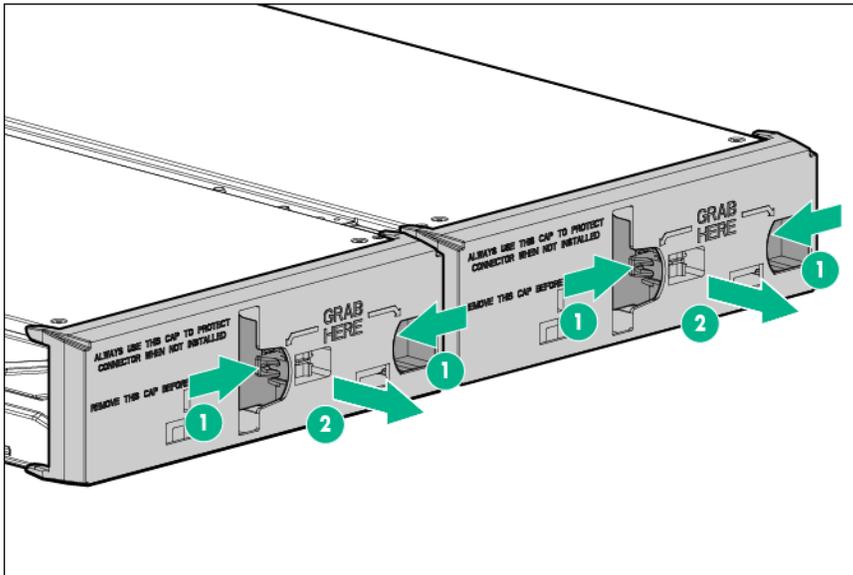
To prevent damage to electrical components, properly ground the compute module before beginning any installation procedure. Improper grounding can cause ESD.

Installing the compute module

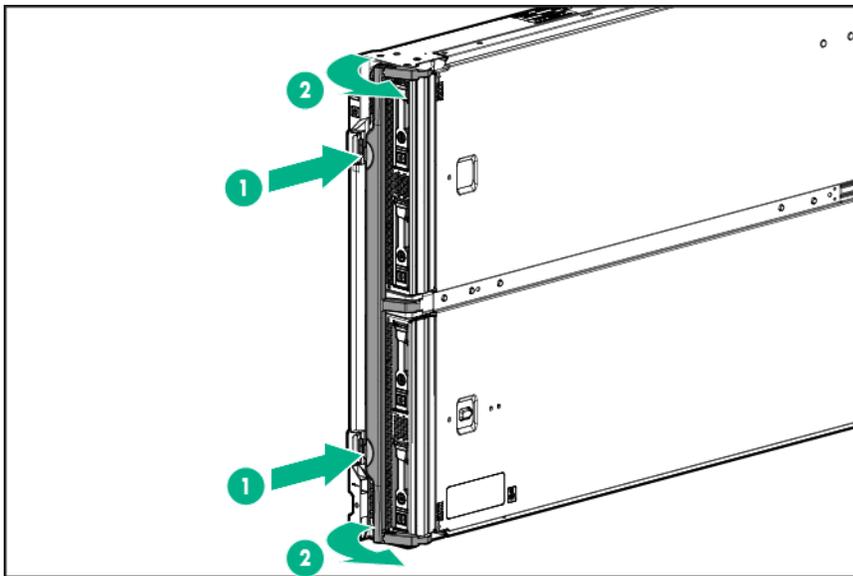
To install the compute module:

Procedure

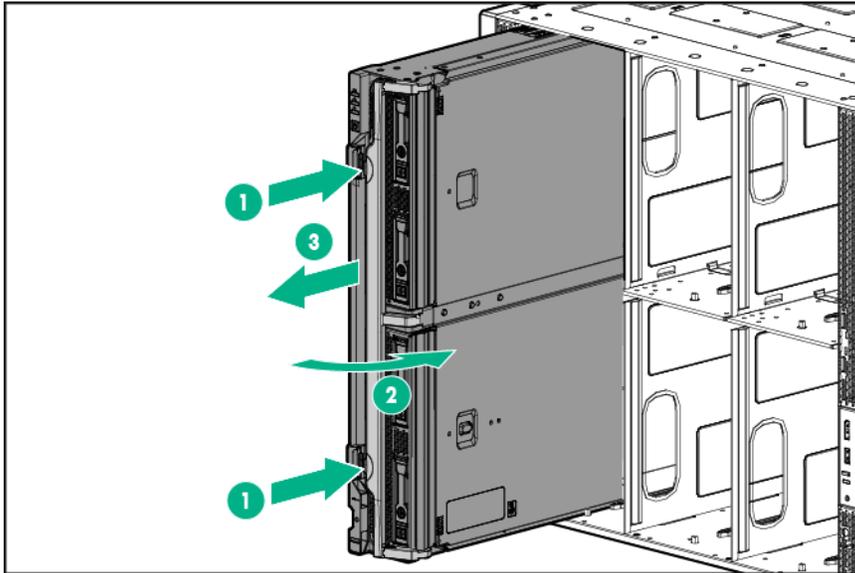
1. Verify that the device bay is configured for a full-height compute module. For more information, see the setup and installation guide for the compute module on the [Hewlett Packard Enterprise website](#).
2. Remove the compute module end cap.



3. Prepare the compute module for installation by opening the compute module handle.



4. Install the compute module. Press the compute module handle near each release button to completely close the handle.



5. Review the compute module front panel LEDs to determine the compute module status. For more information on the compute module LEDs, see "[Component identification](#)."

Removing and replacing an access panel

To remove the component:

Procedure

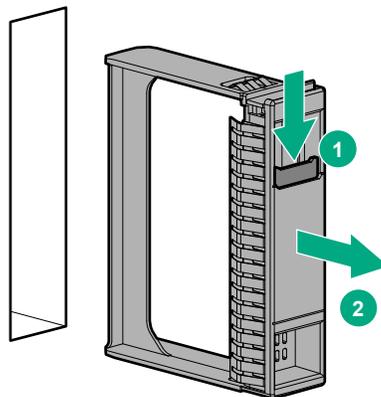
1. **Power down the compute module.**
2. **Remove the compute module.**
3. Press the access panel release button.
4. Slide the access panel towards the rear of the compute module, and then lift to remove the panel.

To replace the component:

1. Place the access panel on top of the compute module.
2. Slide the access panel forward until it clicks into place.

Removing and replacing a drive blank

Remove the component as indicated.



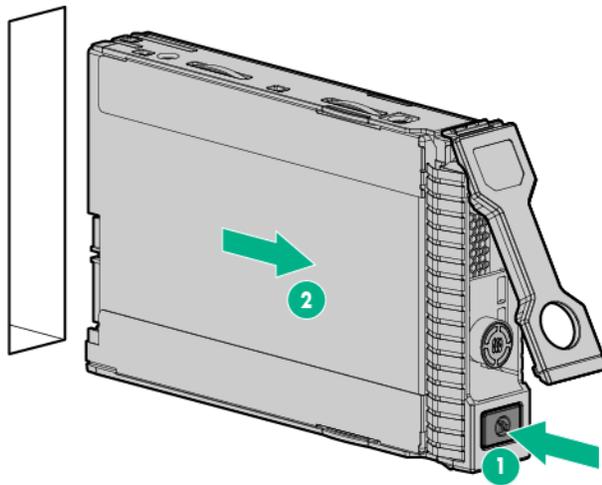
-
- ⚠ CAUTION:**
To prevent improper cooling and thermal damage, do not operate the compute module unless all bays are populated with either a component or a blank.
-

To replace the blank, slide the blank into the bay until it locks into place.

Removing and replacing a drive

Procedure

1. Determine the status of the drive from the [drive LED definitions](#).
2. Back up all data on the drive.
3. Remove the drive.



To replace the drive, slide the drive into the bay until it is fully seated, and then close the latch handle to lock the drive in the bay.

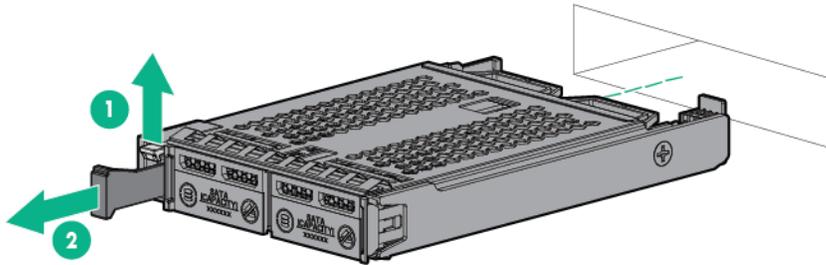
Removing and replacing an SFF flash adapter

To remove the component:

-
- ⚠ CAUTION:**
Removing the SFF Flash Adapter will remove two uFF drives and might cause one or more logical drives to fail.
-

Procedure

1. **Power down the compute module.**
2. Slide the adapter ejection handle release latch up. The handle will eject from the adapter.
3. Pull the adapter handle to remove the SFF flash adapter.



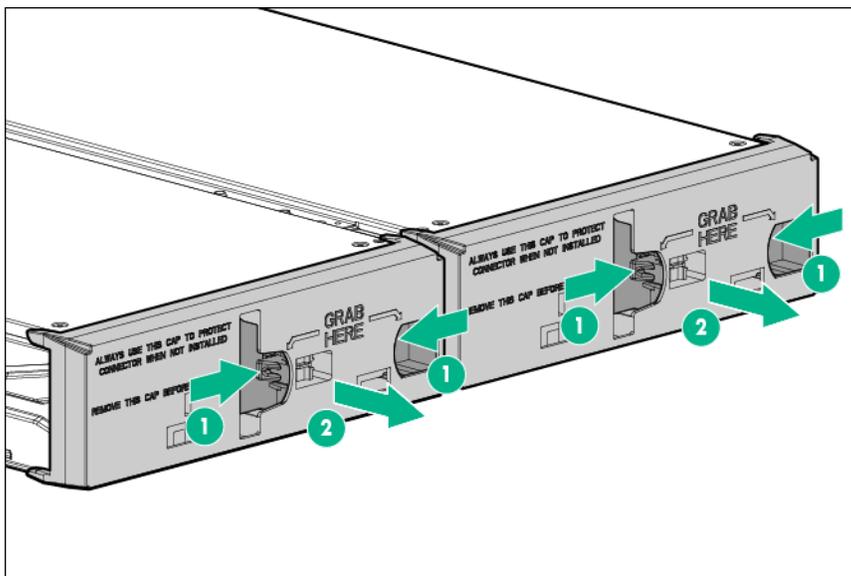
To replace the component, reverse the removal procedure.

Removing and replacing a compute module end cap

To remove the component:

Procedure

1. Place the compute module on a flat, level work surface.
2. Remove the compute module end cap.



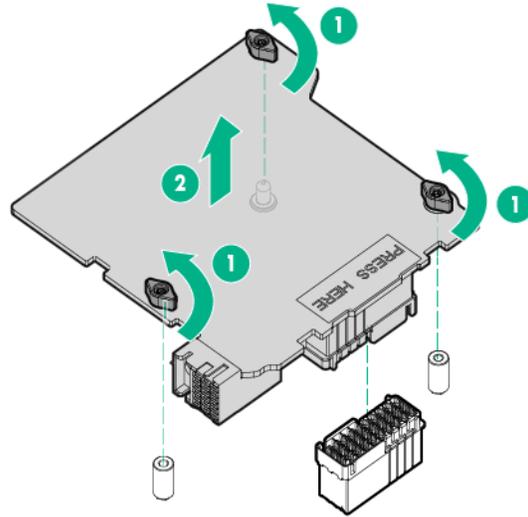
To replace the component, reverse the removal procedure.

Removing and replacing a mezzanine option

To remove the component:

Procedure

1. **Power down the compute module.**
2. Remove the compute module.
3. Place the compute module on a flat, level work surface.
4. Remove the access panel.
5. Remove the mezzanine card.



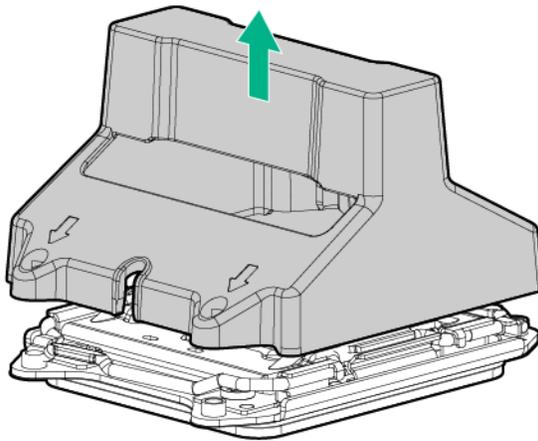
To replace the component, reverse the removal procedure.

Removing and replacing a heatsink blank

To remove the component:

Procedure

1. **Power down the compute module.**
2. **Remove the compute module.**
3. Place the compute module on a flat, level work surface.
4. **Remove the access panel.**
5. Remove the heatsink blank. Retain the heatsink blank for future use.



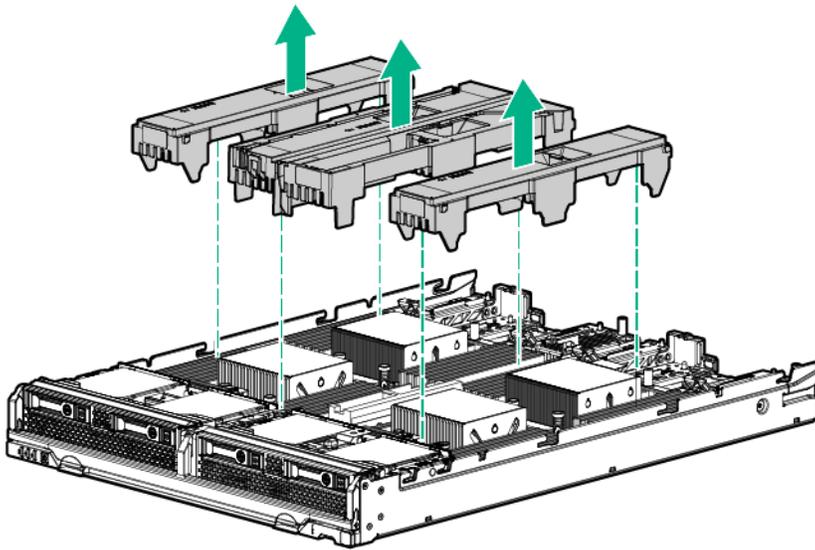
To replace the component, reverse the removal procedure.

Removing and replacing DIMM baffles

To remove the component:

Procedure

1. **Power down the compute module.**
2. **Remove the compute module.**
3. Place the compute module on a flat, level work surface.
on a flat, level work surface. Place the
4. **Remove the access panel.**
5. When removing the center baffle, disconnect the HPE Smart Storage Battery cable if installed. For more information, see "**Smart Storage Battery cabling.**"
."When removing the center baffle, disconnect the HPE Smart Storage Battery cable if installed. For more information, see "
6. Remove one or more DIMM baffles.



7. Remove the Smart Storage Battery from the DIMM baffle, if installed.

To replace the component, reverse the removal procedure.

Removing and replacing DIMMs



CAUTION:

To prevent improper cooling and thermal damage, always install DIMMs of the same height on the compute module. This compute module does not support mixing standard and non-standard height DIMMs.

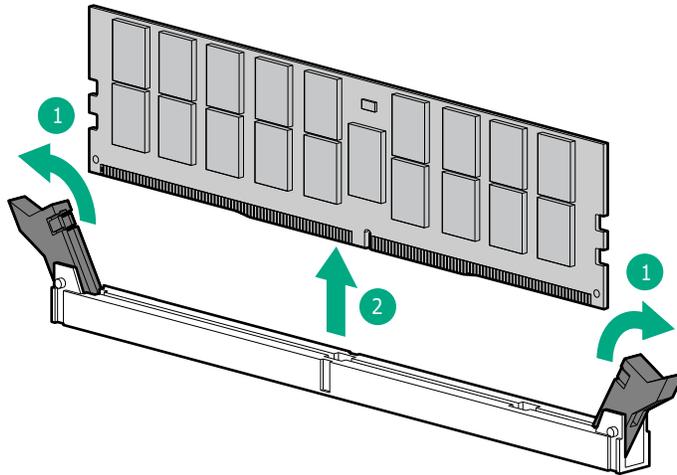
To identify the DIMM s installed in the compute module, see "DIMM identification."

To remove the component:

Procedure

1. **Power down the compute module.**
2. **Remove the compute module.**
3. Place the compute module on a flat, level work surface.
4. **Remove the access panel.**

5. **Remove all DIMM baffles.**
6. Remove the DIMM.



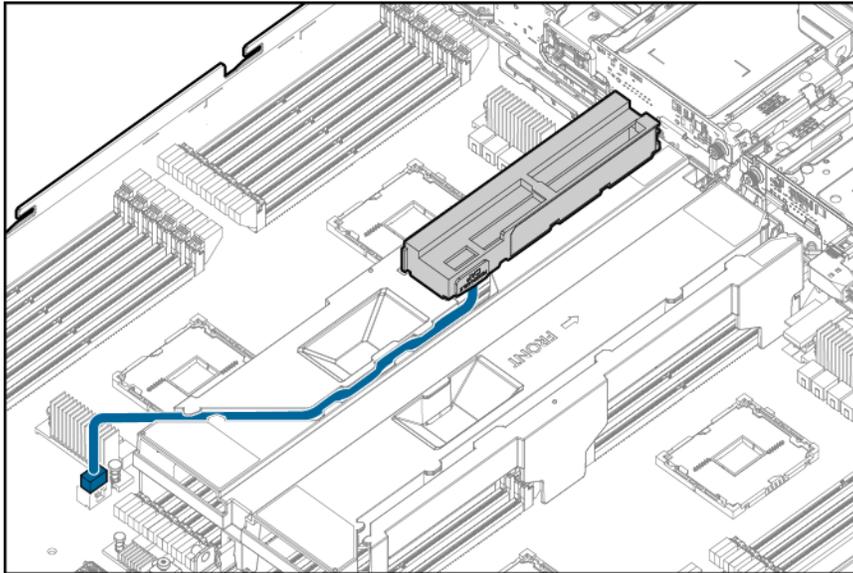
To replace the component, reverse the removal procedure. To configure the memory mode, use HPE UEFI System Utilities.

Removing and replacing an HPE Smart Storage Battery

To remove the component:

Procedure

1. **Power down the compute module .**
2. **Remove the compute module .**
3. Place the compute module on a flat, level work surface.
on a flat, level work surface. Place the
4. **Remove the access panel.**
5. **Remove the DIMM baffle.**
6. Remove the HPE Smart Storage Battery. (the image below is being worked by the illustrator to show removal)



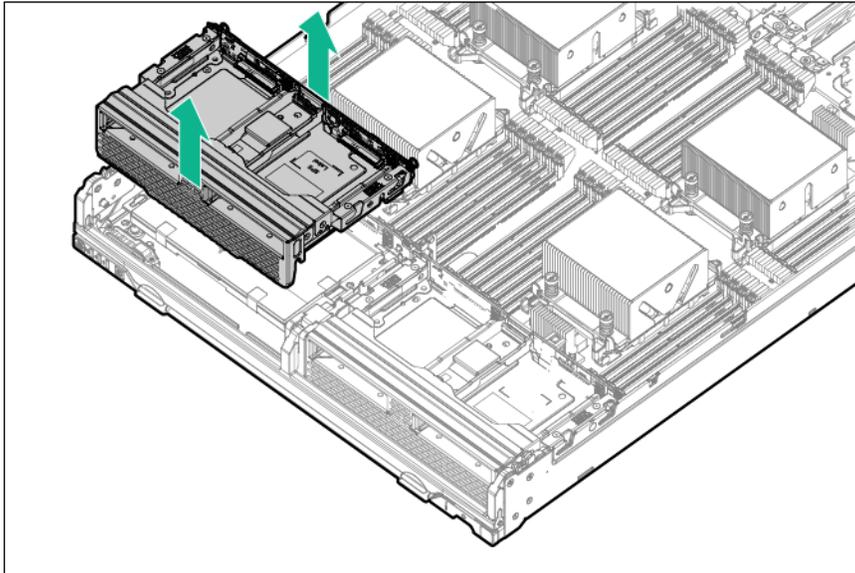
To replace the component, reverse the removal procedure.

Removing and replacing a front panel/drive cage assembly

To remove the component:

Procedure

1. **Power down the compute module.**
2. **Remove the compute module.**
3. Place the compute module on a flat, level work surface.
on a flat, level work surface. Place the
4. **Remove the access panel.**
5. **Remove all drives.**
6. **Remove all drive blanks.**
7. Remove the front panel/drive cage assembly.



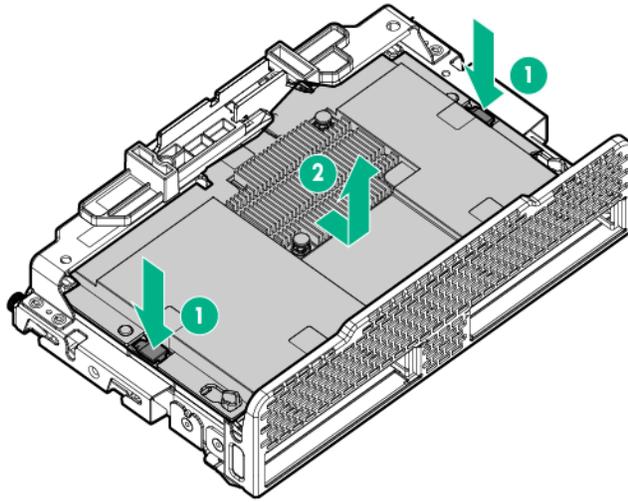
To replace the component, reverse the removal procedure.

Removing and replacing a storage controller

To remove the component:

Procedure

1. **Power down the compute module .**
2. **Remove the compute module .**
3. Place the compute module on a flat, level work surface.
on a flat, level work surface. Place the
4. **Remove the access panel.**
5. **Remove front panel/drive cage assembly 1.**
6. Remove the storage controller.



To replace the component, reverse the removal procedure.

Removing and replacing the drive backplane

To remove the component:

Procedure

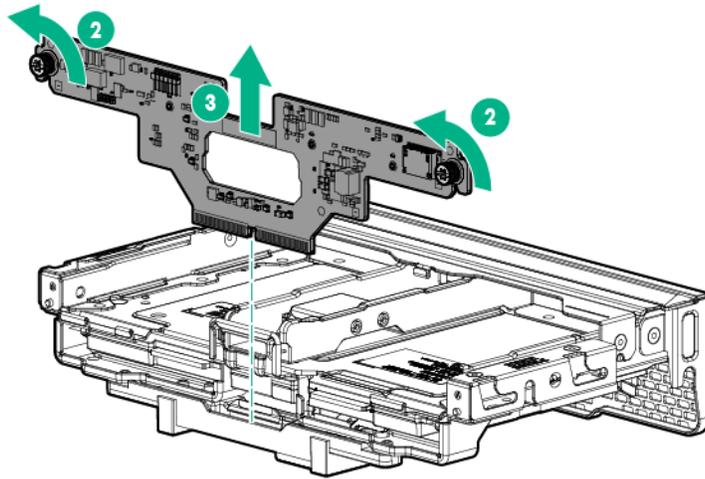
1. **Power down the compute module.**
2. **Remove the compute module.**
3. Place the compute module on a flat, level work surface.
4. **Remove the access panel.**
5. **Remove all drives.**
6. **Remove all drive blanks.**
7. **Remove the front panel/drive cage assembly.**



CAUTION:

Remove all drives and drive blanks before removing the drive backplane.

8. Remove the drive backplane from the front panel/drive cage assembly.



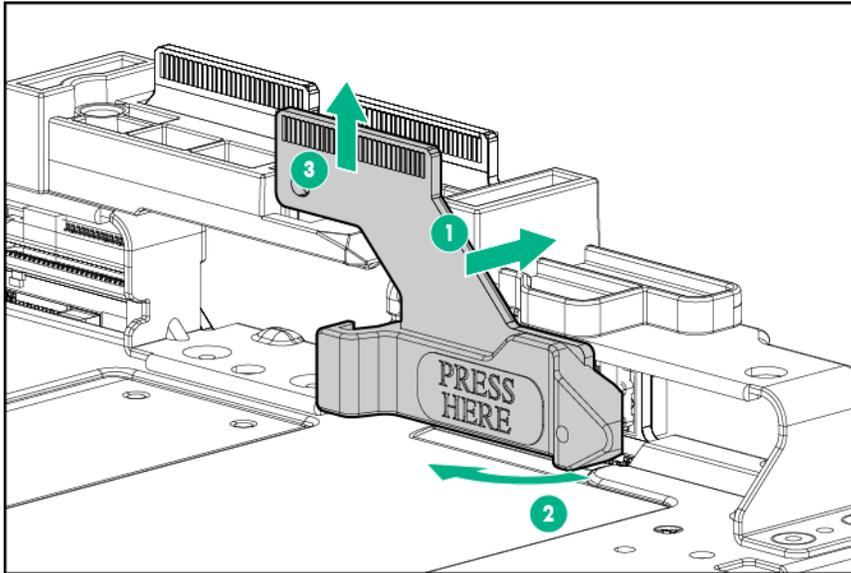
To replace the component, reverse the removal procedure.

Removing and replacing the internal SATA board

To remove the component:

Procedure

1. **Power down the compute module.**
2. **Remove the compute module.**
3. Place the compute module on a flat, level work surface.
on a flat, level work surface. Place the
4. **Remove the access panel.**
5. **Remove all drives.**
6. **Remove all drive blanks.**
7. **Remove the front panel/drive cage assembly.**
8. Remove the Internal SATA board.



To replace the component, reverse the removal procedure.

Removing and replacing the system battery

If the compute module 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 to 10 years.

⚠ WARNING:

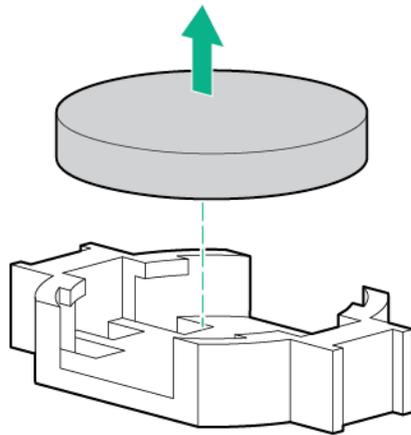
The computer contains an internal lithium manganese dioxide, a vanadium pentoxide, or an alkaline battery pack. A risk of fire and burns exists if the battery pack is not properly handled. To reduce the risk of personal injury:

- Do not attempt to recharge the battery.
- Do not expose the battery to temperatures higher than 60°C (140°F).
- Do not disassemble, crush, puncture, short external contacts, or dispose of in fire or water.
- Replace only with the spare designated for this product.

To remove the component:

Procedure

1. **Power down the compute module.**
2. **Remove the compute module.**
3. Place the compute module on a flat, level work surface.
on a flat, level work surface. Place the
4. **Remove the access panel.**
5. **Remove front panel/drive cage assembly.**
6. **Locate the battery on the system board.**
7. Remove the battery.



ⓘ **IMPORTANT:**

Replacing the system board battery resets the system ROM to its default configuration. After replacing the battery, use BIOS/Platform Configuration (RBSU) in the UEFI System Utilities to reconfigure the system.

To replace the component, reverse the removal procedure.

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

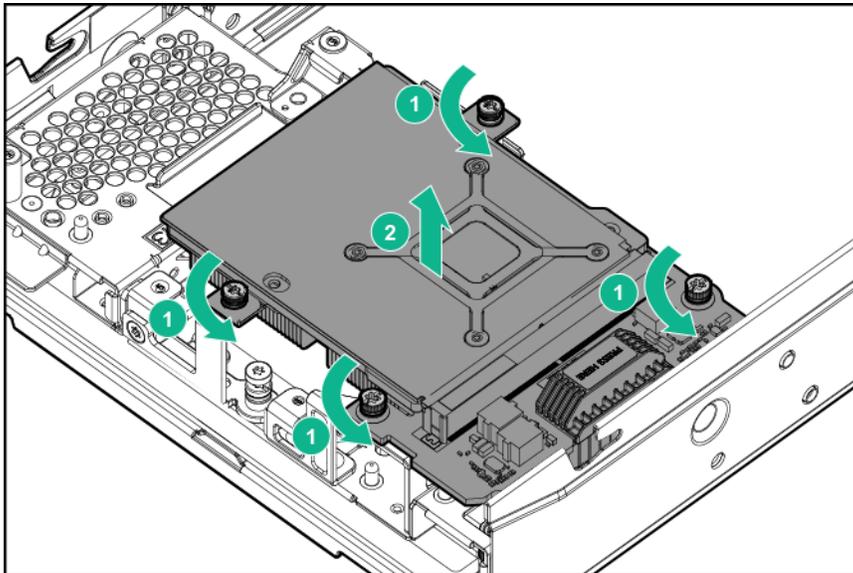
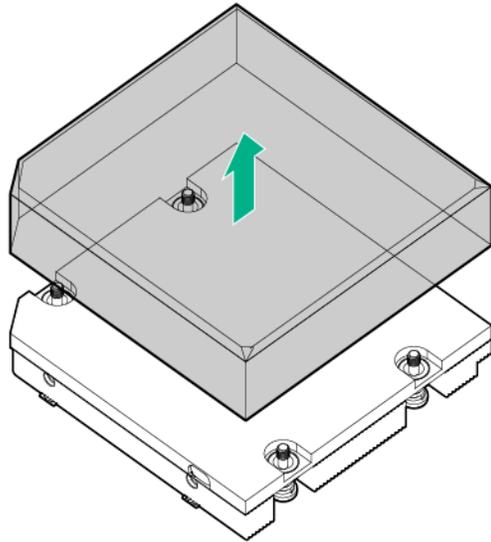
Removing and replacing a heatsink

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

To remove the component:

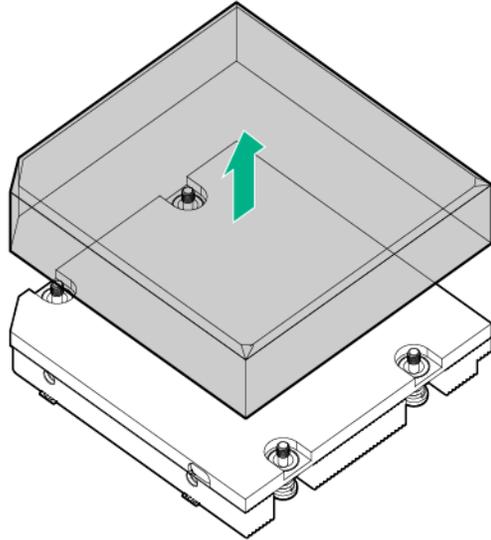
Procedure

1. **Power down the compute module.**
2. **Remove the compute module.**
3. Place the compute module on a flat, level work surface.
4. **Remove the access panel.**
5. **Remove all DIMM baffles.**
6. Remove the heatsink.



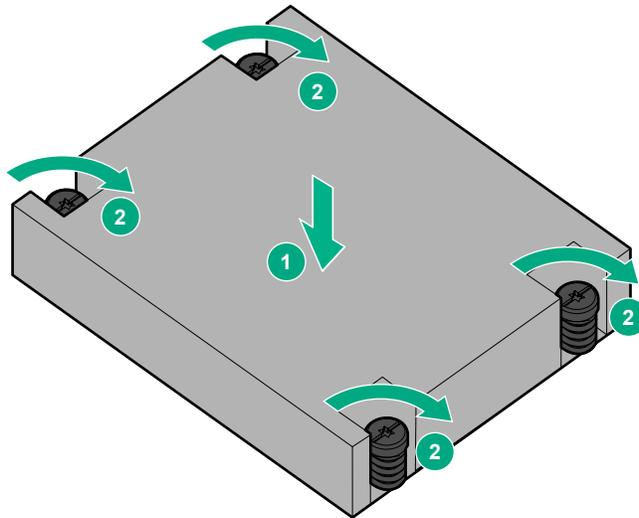
To replace the component:

1. Remove the thermal interface protective cover from the heatsink.



⚠ CAUTION:
To avoid damage to the system board, processor socket, and screws, do not overtighten the heatsink screws.

2. Align and install the heatsink. Alternate tightening the screws until the heatsink is seated properly.



3. Install all DIMM baffles.
4. Install the access panel.
5. Installing the compute module on page 32.

Removing and replacing a processor

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

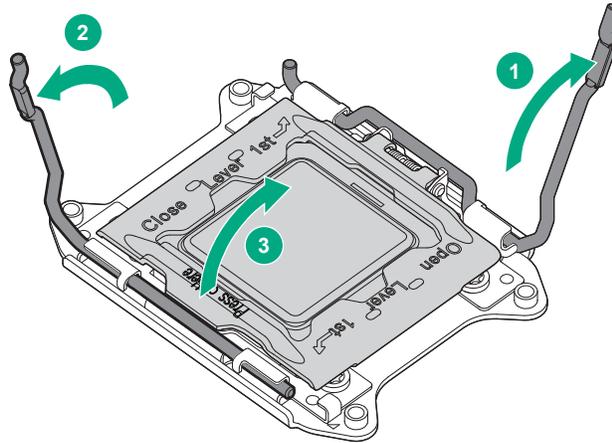
-
- ⚠ CAUTION:**
To prevent possible compute module malfunction, do not mix processors of different speeds or cache sizes. Refer to the label on the processor heatsink for a description of the processor.
-
- ⚠ CAUTION:**
To prevent possible compute module overheating, always populate each processor socket with a processor socket cover and a heatsink blank or a processor and a heatsink.
-
- ⚠ CAUTION:**
To prevent damage to electrical components, properly ground the compute module before beginning any installation procedure. Improper grounding can cause ESD.
-
- ❗ IMPORTANT:**
Processor socket 1 must always be populated. If processor socket 1 is empty, the compute module does not power up.
-

For any memory configuration and processor model, the memory speed will run at 2133MHz. For more information, see the *HPE Synergy 660 Gen9 Compute Module User Guide* on the [Hewlett Packard Enterprise website](#). For more information about compute module memory, see the [Hewlett Packard Enterprise website](#).

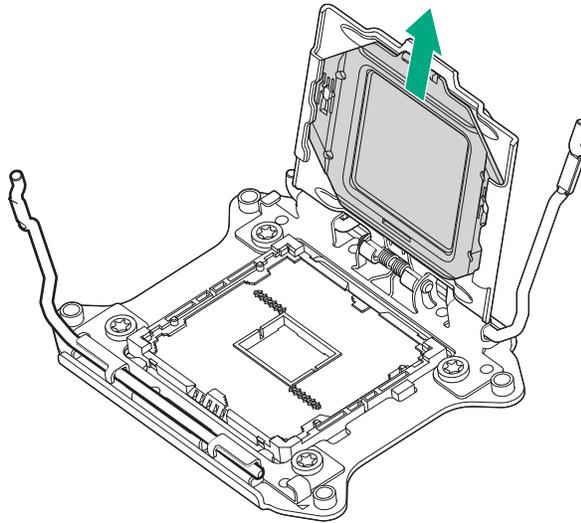
To remove the component:

Procedure

1. Update the system ROM.
Locate and download the latest ROM version from the [Hewlett Packard Enterprise Support Center website](#). Follow the instructions on the website to update the system ROM.
2. **Power down the compute module.**
3. **Remove the compute module.**
4. Place the compute module on a flat, level work surface.
5. **Remove the access panel.**
6. **Remove all DIMM baffles.**
7. **Remove the heatsink.**
8. Open each of the processor locking levers in the order indicated, and then open the processor retaining bracket.



9. Remove the processor from the processor retaining bracket.

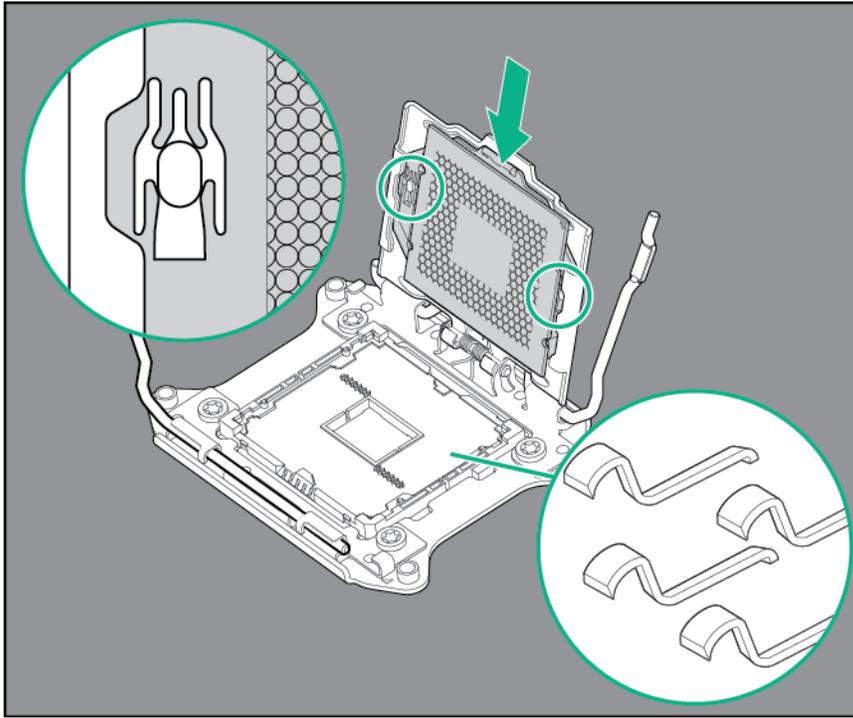


⚠ CAUTION:
To avoid damage to the processor, do not touch the bottom of the processor, especially the contact area.

To replace the component:

⚠ CAUTION:
To avoid damage to the system board, processor socket, and screws, do not overtighten the heatsink screws.

1. Install the processor. Verify that the processor is fully seated in the processor retaining bracket by visually inspecting the processor installation guides on either side of the processor. **THE PINS ON THE SYSTEM BOARD ARE VERY FRAGILE AND EASILY DAMAGED.**

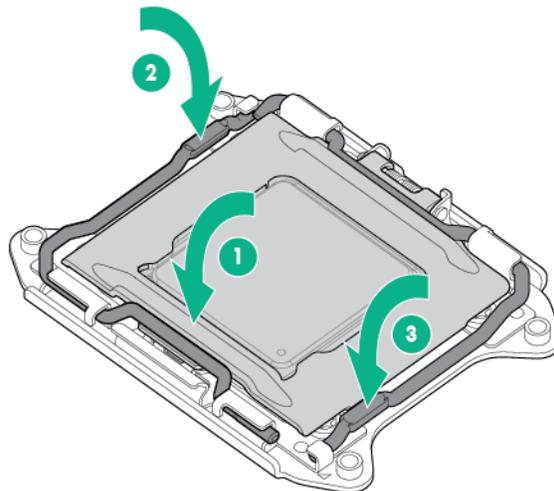


⚠ CAUTION:
THE PINS ON THE SYSTEM BOARD ARE VERY FRAGILE AND EASILY DAMAGED. To avoid damage to the system board, do not touch the processor or the processor socket contacts.

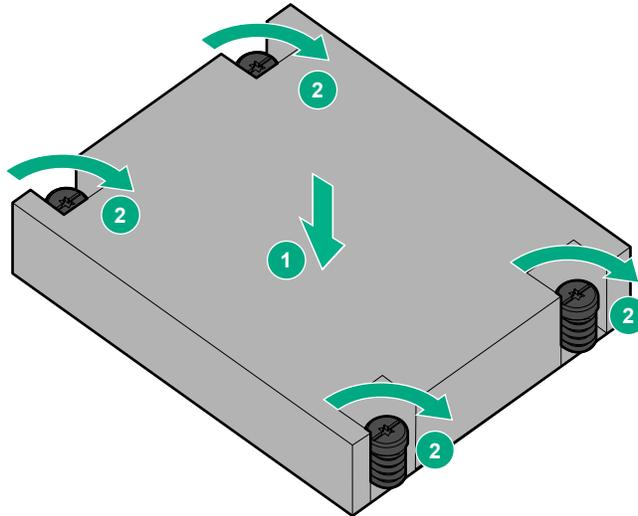
2. Close the processor retaining bracket. When the processor is installed properly inside the processor retaining bracket, the processor retaining bracket clears the flange on the front of the socket.

⚠ CAUTION:
Do not press down on the processor. Pressing down on the processor might damage the processor socket and the system board. Press only in the area indicated on the processor retaining bracket.

3. Press and hold the processor retaining bracket in place, and then close each processor locking lever. Press only in the area indicated on the processor retaining bracket.



4. Align and install the heatsink. Alternate tightening the screws until the heatsink is seated properly.



5. **Install all DIMM baffles.**
6. **Install the access panel.**
7. **Installing the compute module** on page 32.

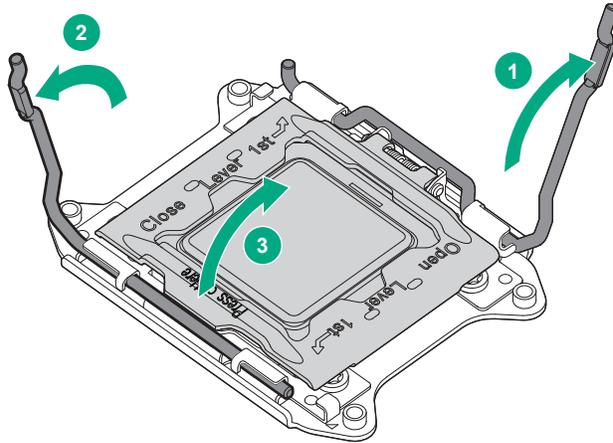
Removing and replacing the system board

- ⚠ CAUTION:**
When returning a damaged system board to Hewlett Packard Enterprise, always install all processor socket covers to prevent damage to the processor sockets and system board.

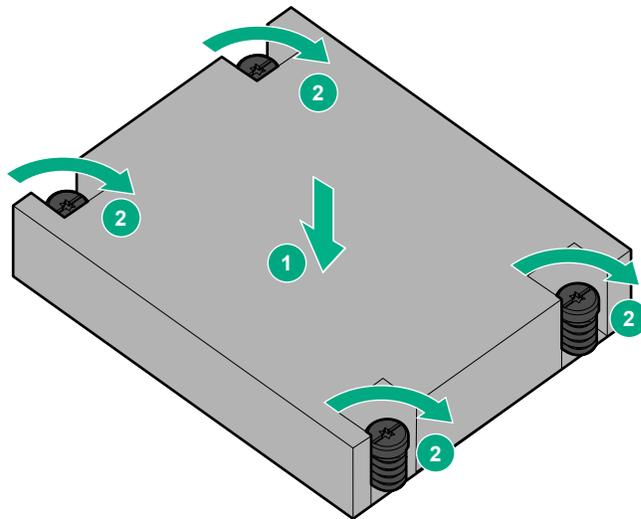
To remove the component:

Procedure

1. **Power down the compute module.**
2. **Remove the compute module.**
3. Place the compute module on a flat, level work surface.
on a flat, level work surface. Place the
4. **Remove the access panel.**
5. **Remove all drives.**
6. **Remove all drive blanks.**
7. **Remove the front panel/drive cage assembly.**
8. Remove the internal USB drive, if installed. To locate the internal USB connector, see "**System board components.**"
9. Remove the microSD card, if installed. To locate the microSD card, see "**System board components.**"
10. **Remove all DIMM baffles.**
11. **Remove all DIMMs.**
12. **Remove all mezzanine cards.**
13. **Remove the heatsink.**
14. Open each of the processor locking levers in the order indicated, and then open the processor retaining bracket.



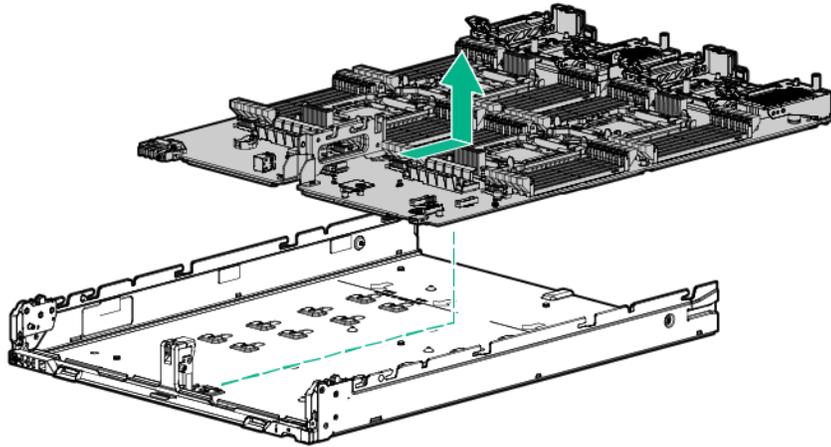
15. Remove the processor from the processor retaining bracket.



CAUTION:

To avoid damage to the processor, do not touch the bottom of the processor, especially the contact area.

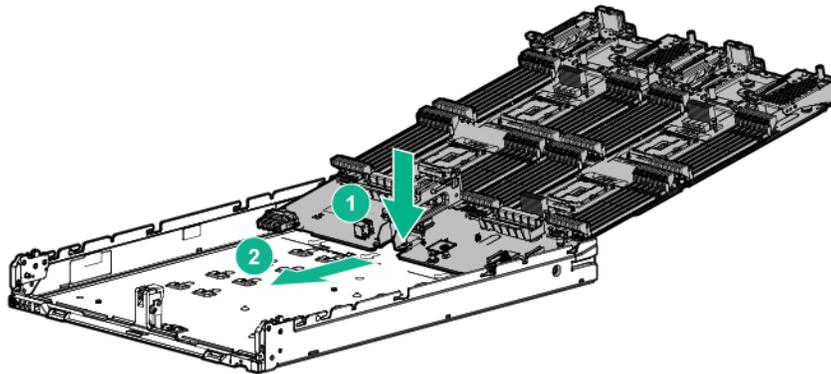
16. Remove the system board from the base pan.



17. Install the processor socket protective cover in each processor socket on the damaged system board.

To replace the system board:

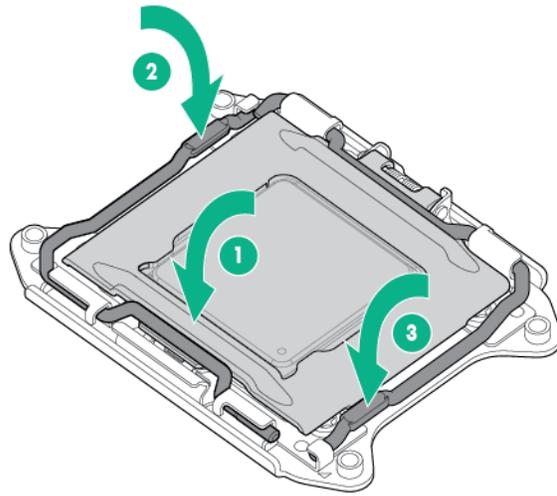
1. Install the system board in the base pan.



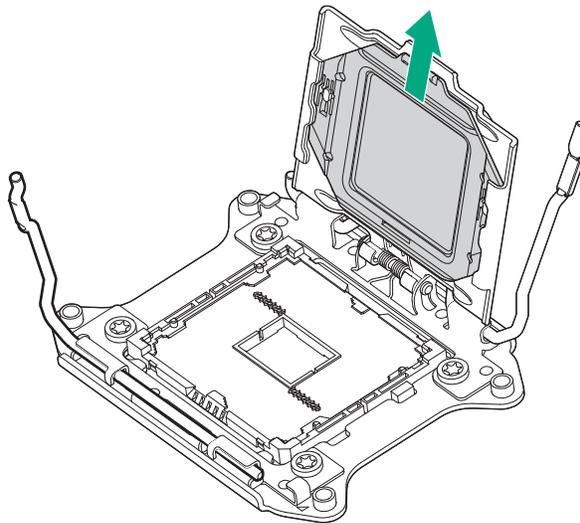
IMPORTANT:

Install all components in the same configuration prior to removing the system board.

2. **If the compute module had only one processor installed, install the heatsink blank in processor socket 2.**
3. Open each of the processor locking levers in the order indicated in the following illustration, and then open the processor retaining bracket.

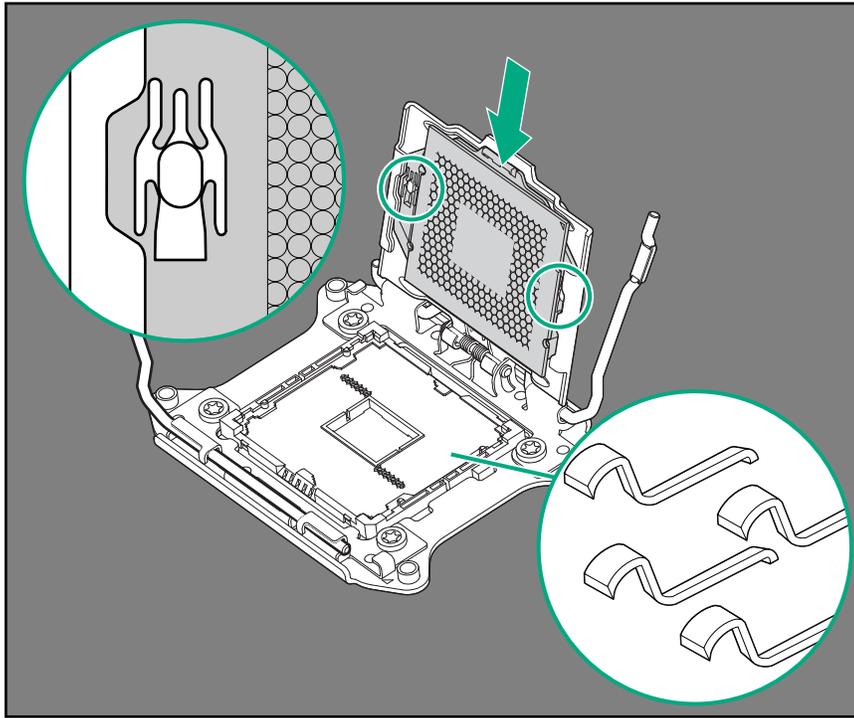


4. Remove the clear processor socket cover. Retain the processor socket cover for future use.



⚠ CAUTION:
THE PINS ON THE SYSTEM BOARD ARE VERY FRAGILE AND EASILY DAMAGED. To avoid damage to the system board, do not touch the processor or the processor socket contacts.

5. Install the processor. Verify that the processor is fully seated in the processor retaining bracket by visually inspecting the processor installation guides on either side of the processor. **THE PINS ON THE SYSTEM BOARD ARE VERY FRAGILE AND EASILY DAMAGED.**



6. Close the processor retaining bracket. When the processor is installed properly inside the processor retaining bracket, the processor retaining bracket clears the flange on the front of the socket.



CAUTION:

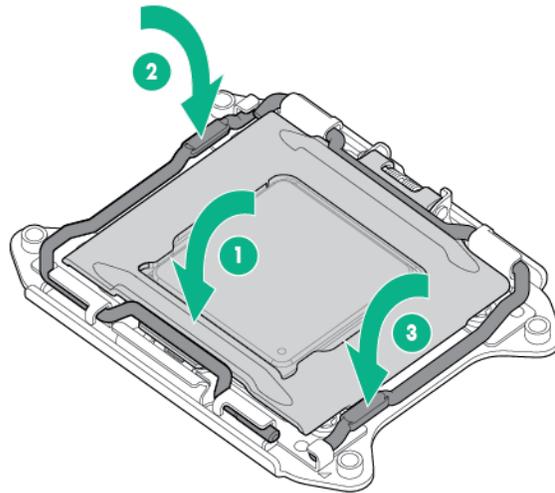
Do not press down on the processor. Pressing down on the processor might damage the processor socket and the system board. Press only in the area indicated on the processor retaining bracket.



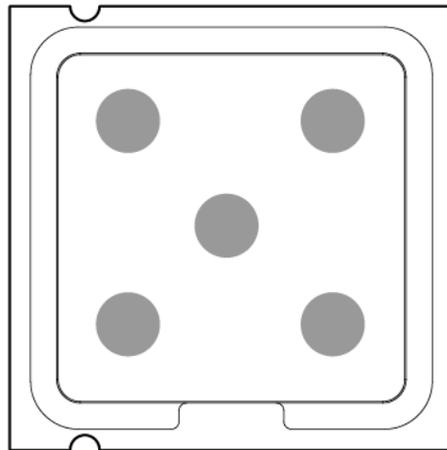
CAUTION:

Close and hold down the processor cover socket while closing the processor locking levers. The levers should close without resistance. Forcing the levers closed can damage the processor and socket, requiring system board replacement.

7. Press and hold the processor retaining bracket in place, and then close each processor locking lever. Press only in the area indicated on the processor retaining bracket.



8. Install the processor socket cover onto the processor socket of the failed system board.
9. Clean the old thermal grease from the heatsink and the top of the processor with the alcohol swab. Allow the alcohol to evaporate before continuing.
10. Apply all the grease to the top of the processor in the following pattern to ensure even distribution.



11. Install the heatsink.
12. **Remove all mezzanine cards.**
13. **Install all DIMMs.**
14. **Install all DIMM baffles.**
15. **Install the internal USB drive.**
16. **Install the front panel/drive cage assembly.**
17. **Install the drives.**
18. **Install the drive blanks.**
19. **Install the access panel.**
20. **Install the compute module.**

After you replace the system board, you must re-enter the compute module serial number and the product ID:

1. During the compute module startup sequence, press the **F9** key to access UEFI System Utilities.
2. Select **System Configuration > BIOS/Platform Configuration (RBSU) > Advanced Options > Advanced System ROM Options > Serial Number**, and then press the **Enter** key.
3. Enter the serial number and press the **Enter** key.

The following message appears:

```
The serial number should only be modified by qualified service personnel.  
This value should always match the serial number located on the chassis.
```

4. To clear the warning, press the **Enter** key.
5. Enter the serial number and press the **Enter** key.
6. Select **Product ID**.

The following warning appears:

```
Warning: The Product ID should ONLY be modified by qualified service  
personnel. This value should always match the Product ID located on the  
chassis.
```

7. Enter the product ID and press the **Enter** key.
8. To confirm exiting System Utilities, press the **F10** key.
9. The compute module automatically reboots.

HP Trusted Platform Module

The TPM is not a customer-removable part.



CAUTION:

Any attempt to remove an installed TPM from the system board breaks or disfigures the TPM security rivet. Upon locating a broken or disfigured rivet on an installed TPM, administrators should consider the system compromised and take appropriate measures to ensure the integrity of the system data.

If you suspect a TPM board failure, leave the TPM installed and **remove the system board**. Contact a Hewlett Packard Enterprise authorized service provider for a replacement system board and TPM board.

Documentation and troubleshooting resources for HPE Synergy

HPE Synergy documentation

The Hewlett Packard Enterprise Information Library (www.hpe.com/info/synergy-docs) is a task-based repository. It includes installation instructions, user guides, maintenance and service guides, best practices, and links to additional resources. Use this website to obtain the latest documentation, including:

- Learning about HPE Synergy technology
- Installing and cabling HPE Synergy
- Updating the HPE Synergy components
- Using and managing HPE Synergy
- Troubleshooting HPE Synergy

HPE Synergy Configuration and Compatibility Guide

The *HPE Synergy Configuration and Compatibility Guide* is in the Hewlett Packard Enterprise Information Library (www.hpe.com/info/synergy-docs). It provides an overview of HPE Synergy management and fabric architecture, detailed hardware component identification and configuration, and cabling examples.

HPE OneView User Guide for HPE Synergy

The *HPE OneView User Guide for HPE Synergy* is in the Hewlett Packard Enterprise Information Library (www.hpe.com/info/synergy-docs). It describes resource features, planning tasks, configuration quick start tasks, navigational tools for the graphical user interface, and more support and reference information for HPE OneView.

HPE OneView Global Dashboard

The HPE OneView Global Dashboard provides a unified view of health, alerting, and key resources managed by HPE OneView across multiple platforms and data center sites. The *HPE OneView Global Dashboard User Guide* is in the Hewlett Packard Enterprise Information Library (www.hpe.com/info/synergy-docs). It provides instructions for installing, configuring, navigating, and troubleshooting the HPE OneView Global Dashboard.

HPE Synergy Image Streamer User Guide

The *HPE Synergy Image Streamer User Guide* is in the Hewlett Packard Enterprise Information Library (www.hpe.com/info/synergy-docs). It describes the OS deployment process using Image Streamer, features of Image Streamer, and purpose and life cycle of Image Streamer artifacts. It also includes authentication, authorization, and troubleshooting information for Image Streamer.

HPE Synergy Image Streamer GitHub

The HPE Synergy Image Streamer GitHub repository (github.com/HewlettPackard) contains sample artifacts and documentation on how to use the sample artifacts. It also contains technical white papers explaining deployment steps that can be performed using Image Streamer.

HPE Synergy Software Overview Guide

The *HPE Synergy Software Overview Guide* is in the Hewlett Packard Enterprise Information Library (www.hpe.com/info/synergy-docs). It provides detailed references and overviews of the various

software and configuration utilities to support HPE Synergy. The guide is task-based and covers the documentation and resources for all supported software and configuration utilities available for:

- HPE Synergy setup and configuration
- OS deployment
- Firmware updates
- Troubleshooting
- Remote support

Best Practices for HPE Synergy Firmware and Driver Updates

The *Best Practices for HPE Synergy Firmware and Driver Updates* is in the Hewlett Packard Enterprise Information Library (www.hpe.com/info/synergy-docs). It provides information on recommended best practices to update firmware and drivers through HPE Synergy Composer, which is powered by HPE OneView.

HPE OneView Support Matrix for HPE Synergy

The *HPE OneView Support Matrix for HPE Synergy* is in the Hewlett Packard Enterprise Information Library (www.hpe.com/info/synergy-docs). It maintains the latest software and firmware requirements, supported hardware, and configuration maximums for HPE OneView.

HPE Synergy Image Streamer Support Matrix

The *HPE Synergy Image Streamer Support Matrix* is in the Hewlett Packard Enterprise Information Library (www.hpe.com/info/synergy-docs). It maintains the latest software and firmware requirements, supported hardware, and configuration maximums for HPE Synergy Image Streamer.

HPE Synergy Glossary

The *HPE Synergy Glossary*, in the Hewlett Packard Enterprise Information Library (www.hpe.com/info/synergy-docs), defines common terminology associated with HPE Synergy.

HPE Synergy troubleshooting resources

HPE Synergy troubleshooting resources are available within HPE OneView and in the Hewlett Packard Enterprise Information Library (www.hpe.com/info/synergy-docs).

Troubleshooting within HPE OneView

HPE OneView graphical user interface includes alert notifications and options for troubleshooting within HPE OneView. The UI provides multiple views of HPE Synergy components, including colored icons to indicate resource status and potential problem resolution in messages.

You can also use the Enclosure view and Map view to quickly see the status of all discovered HPE Synergy hardware.

HPE Synergy Troubleshooting Guide

The *HPE Synergy Troubleshooting Guide* is in the Hewlett Packard Enterprise Information Library (www.hpe.com/info/synergy-docs). It provides information for resolving common problems and courses of action for fault isolation and identification, issue resolution, and maintenance for both HPE Synergy hardware and software components.

HPE Error Message Guide for HPE Synergy

The *HPE Error Message Guide for HPE Synergy* is in the Hewlett Packard Enterprise Information Library (www.hpe.com/info/synergy-docs). It provides information for resolving common problems associated with specific error messages received for both HPE Synergy hardware and software components.

HPE OneView and HPE OneView REST API scripting help

The *HPE OneView Help*, the *HPE OneView REST API Scripting Help*, and the *HPE OneView API Reference* are readily accessible, embedded online help available within the HPE OneView user interface. These help files include “Learn more” links to common issues, as well as procedures and examples to troubleshoot issues within HPE Synergy.

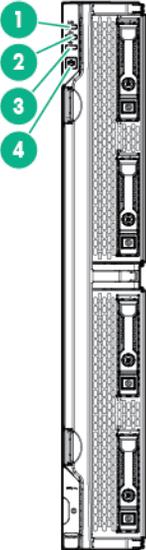
The help files are also available in the Hewlett Packard Enterprise Information Library (www.hpe.com/info/synergy-docs).

HPE Synergy QuickSpecs

HPE Synergy has system specifications as well as individual product and component specifications. For complete specification information, see the HPE Synergy and individual HPE Synergy product QuickSpecs on the Hewlett Packard Enterprise website (www.hpe.com/info/qs).

Component identification

Front panel LEDs and buttons



Item	Description	Status
1	UID LED	Solid blue = Activated Flashing blue (1 Hz/cycle per sec) = Remote management or firmware upgrade in progress Off = Deactivated
2	Health status LED	Solid green = Normal Flashing green (1 Hz/cycle per sec) = iLO is rebooting Flashing amber = System degraded Flashing red (1 Hz/cycle per sec) = System critical

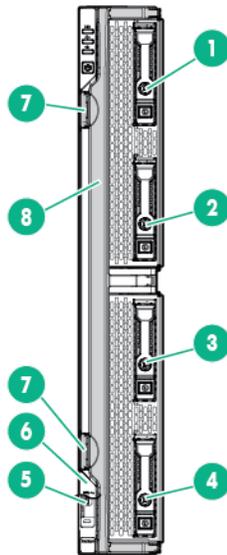
Table Continued

Item	Description	Status
3	Mezzanine NIC status LED	Solid green= Link on any Mezzanine NIC Flashing green= Activity on any Mezzanine NIC Off = No link or activity on any Mezzanine NIC
4	Power On/Standby button and system power LED	Solid green = System on Flashing green (1 Hz/cycle per sec) = Performing power on sequence Solid amber = System in standby Off = No power present*

*If all other LEDs are off, then no power is present to the compute module. If the health LED is flashing green while the system power LED is off indicates that the Power On/Standby button service is initializing or that an iLO reboot is in progress.

*Facility power is not present, power cord is not attached, no power supplies are installed, power supply failure has occurred, or the compute module is not properly seated.

Front panel components



Item	Description
1	Drive bay 1*
2	Drive bay 2*
3	Drive bay 3*
4	Drive bay 4*

Table Continued

Item	Description
5	External USB 3.0 connector (behind the serial label pull tab)
6	Serial label pull tab
7	Compute module handle release latch
8	Compute module handle

*If uFF drives (the SFF Flash Storage Adapter) are installed in the drive bays, the drive bay numbering is different. For more information, see [Drive numbering](#).

Serial label pull tab information

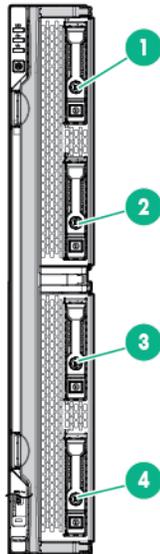
The serial label pull tab is located on the front panel of the compute module. To locate the serial label pull tab, see [Front panel components](#). The serial label pull tab provides the following information:

- Product serial number
- HPE HPE iLO information
- QR code that points to mobile-friendly documentation

Drive numbering

Depending on the configuration, the drive bay numbering on this compute module will vary. Supported configurations on this compute module are as follows:

Compute module model	Configuration	Drive support	
Item	SAS configuration	SATA configuration*	Expansion storage configuration
SAS model	Standard backplane with embedded controller or supported controller option	Four SFF hot-plug SAS drive bays with support for up to 4 SFF HDDs or SSDs.	
SATA model	Chipset SATA with embedded controller or supported controller option	Four SFF hot-plug SATA drive bays with support for the following: <ul style="list-style-type: none"> • Up to 4 SFF HDDs or SSDs • Up to 8 uFF drives (with the SFF flash adapter for each 2 uFF drives) 	

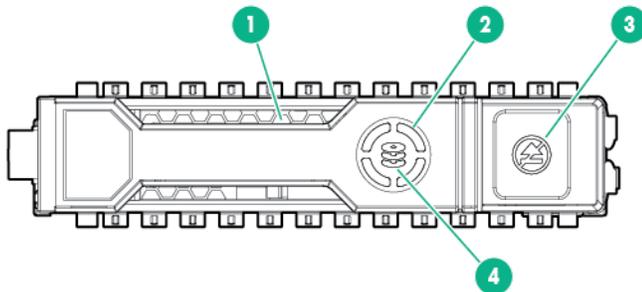


Item	SAS configuration	SATA configuration*	Expansion storage configuration
1	1	Drive box 1, drive bay 1 and 101	Drive box 1, drive bay 1
2	2	Drive box 1, drive bay 2 and 102	Drive box 1, drive bay 2
3	3	Drive box 2, drive bay 1 and 101	Drive box 2, drive bay 1
4	4	Drive box 2, drive bay 2 and 102	Drive box 2, drive bay 2

The driveless model is not shown as it does not have drive bays and does not provide support for any drives.

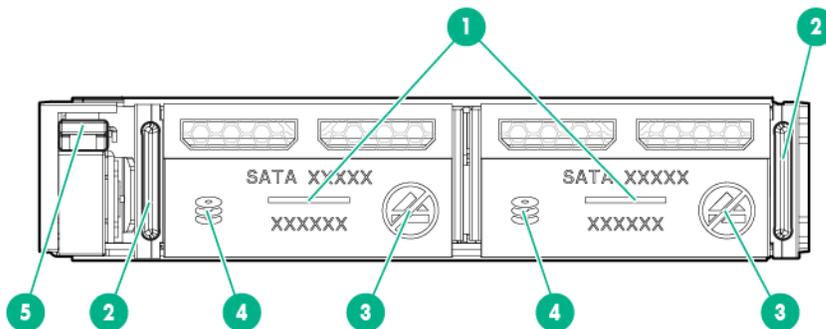
*SATA drives are supported only with the HPE Synergy 480 Gen9 compute module backplane.

Hot-plug drive LED definitions



Item	LED	Status	Definition
1	Locate	Solid blue	The drive is being identified by a host application.
		Flashing blue	The drive carrier firmware is being updated or requires an update.
2	Activity ring	Rotating green	Drive activity
		Off	No drive activity
3	Do not remove	Solid white	Do not remove the drive. Removing the drive causes one or more of the logical drives to fail.
		Off	Removing the drive does not cause a logical drive to fail.
4	Drive status	Solid green	The drive is a member of one or more logical drives.
		Flashing green	The drive is rebuilding or performing a RAID migration, strip size migration, capacity expansion, or logical drive extension, or is erasing.
		Flashing amber/green	The drive is a member of one or more logical drives and predicts the drive will fail.
		Flashing amber	The drive is not configured and predicts the drive will fail.
		Solid amber	The drive has failed.
		Off	The drive is not configured by a RAID controller.

SFF flash adapter components and LED definitions

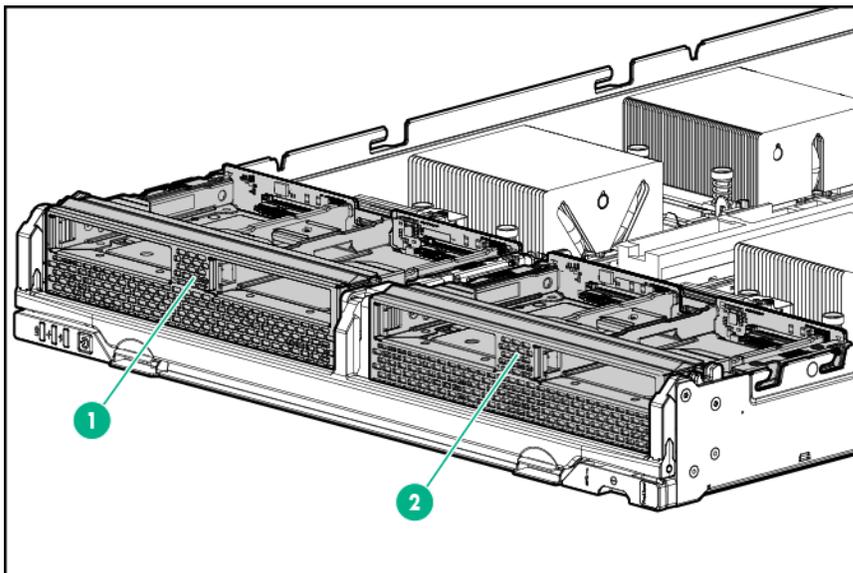


Item	Component	Description
1	Locate	<ul style="list-style-type: none"> Off—Normal Solid blue—The drive is being identified by a host application. Flashing blue—The drive firmware is being updated or requires an update.
2	uFF drive ejection latch	Removes the uFF drive when released

Table Continued

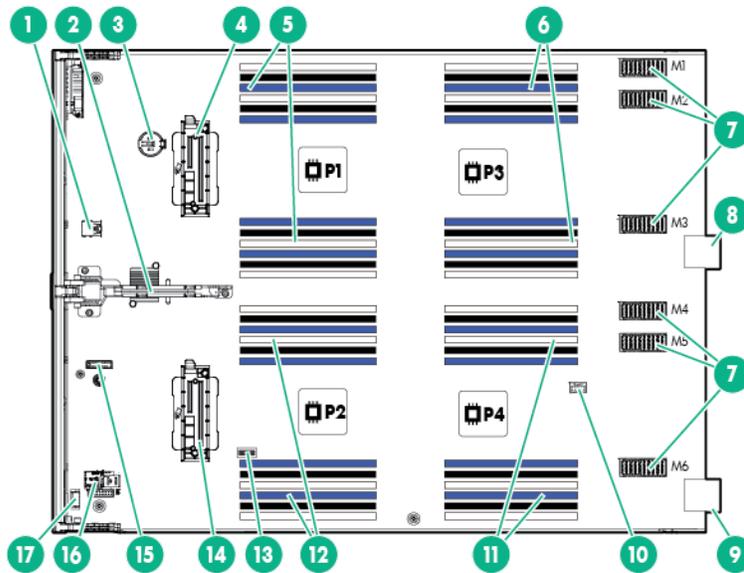
Item	Component	Description
3	Do not remove LED	<ul style="list-style-type: none"> Off—OK to remove the drive. Removing the drive does not cause a logical drive to fail. Solid white—Do not remove the drive. Removing the drive causes one or more of the logical drives to fail.
4	Drive status LED	<ul style="list-style-type: none"> Off—The drive is not configured by a RAID controller Solid green—The drive is a member of one or more logical drives. Flashing green (4 Hz)—The drive is operating normally and has activity. Flashing green (1 Hz)—The drive is rebuilding or performing a RAID migration, stripe size migration, capacity expansion, logical drive extension, or is erasing. Flashing amber/green (1 Hz)—The drive is a member of one or more logical drives that predicts the drive will fail. Solid amber—The drive has failed. Flashing amber (1 Hz)—The drive is not configured and predicts the drive will fail.
5	Adapter ejection release latch and handle	Removes the SFF flash adapter when released

Front panel/drive cage numbering



Item	Drive cage number
1	1, 2
2	3, 4

System board components



Item	Description
1	Internal USB 3.0 connector
2	System board handle
3	System battery
4	Drive backplane connector 1
5	Processor 1 DIMM slots (12)
6	Processor 3 DIMM slots (12)
7	Mezzanine connectors (M1–M6)
8	Management/power connector 1
9	Management/power connector 2
10	HPE Smart Storage Battery connector
11	Processor 4 DIMM slots (12)
12	Processor 2 DIMM slots (12)
13	System maintenance switch
14	Drive backplane connector 2
15	TPM connector
16	microSD card slot
17	External USB connector

System maintenance switch

Position	Default	Function
S1	Off	Off = HPE iLO security is enabled. On = HPE iLO security is disabled.
S2	Off	Off = System configuration can be changed. On = System configuration is locked.
S3	Off	Reserved
S4	Off	Reserved
S5	Off	Off = Power-on password is enabled. On = Power-on password is disabled.
S6	Off	Off = No function On = ROM reads system configuration as invalid.
S7	Off	Off = Set default boot mode to UEFI. On = Set default boot mode to legacy.
S8	—	Reserved
S9	—	Reserved
S10	—	Reserved
S11	—	Reserved
S12	—	Reserved

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

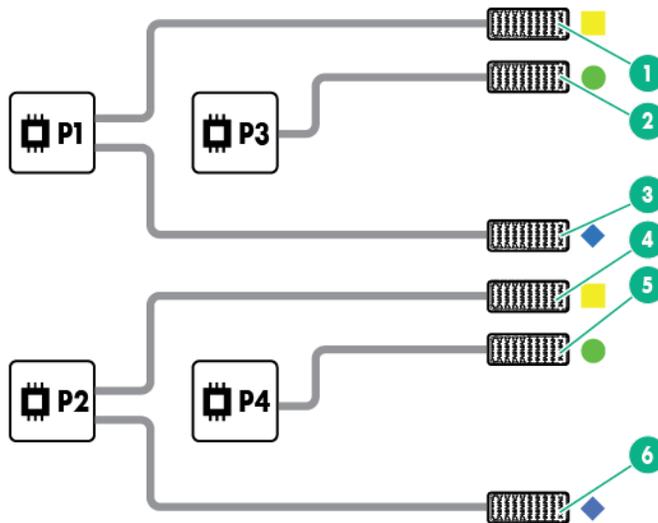
When system maintenance switch S6 is set to the On position, the system is prepared to erase all system configuration settings from both CMOS and NVRAM.



IMPORTANT:

Before using the S7 switch to change to Legacy BIOS Boot Mode, be sure the HPE Dynamic Smart Array B140i Controller is disabled. Do not use the B140i controller when the compute module is in Legacy BIOS Boot Mode.

Mezzanine connector definitions



Item	Connector identification	Supported card types	Fabric	Supported ICM bays
1	Mezzanine connector 1 (M1)	Type C and Type D	1	ICM 1 and 4
2	Mezzanine connector 2 (M2)*	Type C and Type D	2	ICM 2 and 5
3	Mezzanine connector 3 (M3)	Type C only	3	ICM 3 and 6
4	Mezzanine connector 4 (M4)	Type C and Type D	1	ICM 1 and 4
5	Mezzanine connector 5 (M5)**	Type C and Type D	2	ICM 2 and 5
6	Mezzanine connector 6 (M6)	Type C	3	ICM 3 and 6

*When installing a mezzanine option on mezzanine connector 2, processor 3 must be installed.

**When installing a mezzanine option on mezzanine connector 5, processor 4 must be installed.

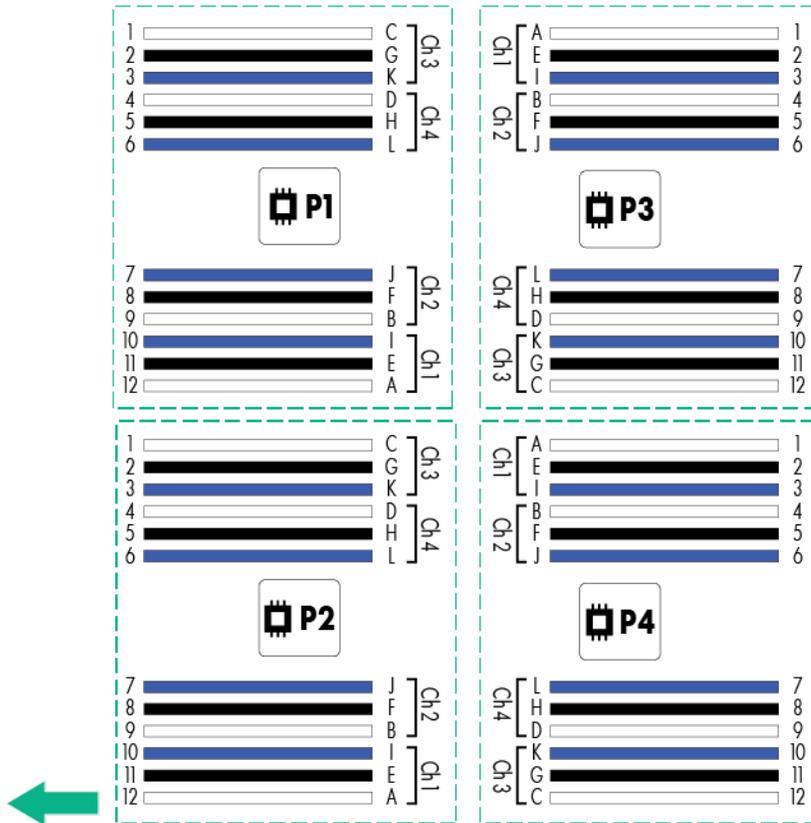
DIMM slot locations

DIMM slots are numbered sequentially (1 through 12) for each processor. The supported AMP modes use the alpha assignments for population order, and the slot numbers designate the DIMM slot ID for spare replacement.

The colored slots indicate the slot order within each channel:

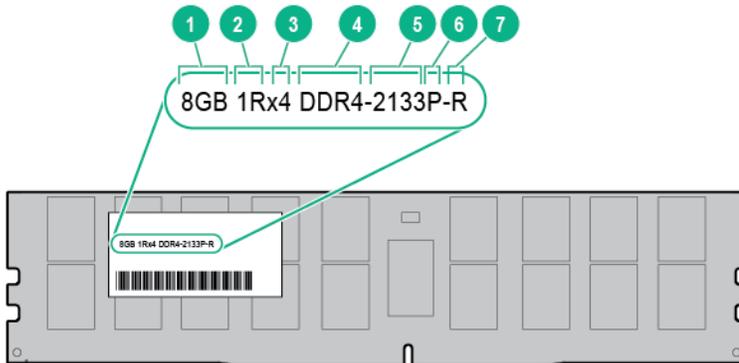
- White — First slot of a channel
- Black — Second slot of a channel
- Blue — Third slot of a channel

The arrow points to the front of the compute module.



DIMM identification

To determine DIMM characteristics, see the label attached to the DIMM and refer to the following illustration and table.



Item	Description	Definition
1	Capacity	8 GB 16 GB 32 GB 64 GB
2	Rank	1R = Single rank 2R = Dual rank 4R = Quad rank
3	Data width on DRAM	x4 = 4-bit x8 = 8-bit
4	Memory generation	DDR4
5	Maximum memory speed	2133 MT/s 2400 MT/s
6	CAS latency	P=15 T=17
7	DIMM type	R = RDIMM (registered) L = LRDIMM (load reduced)

For more information about product features, specifications, options, configurations, and compatibility, see the product QuickSpecs on the Hewlett Packard Enterprise website (<http://www.hpe.com/info/qs>).

Component and LED identification for HPE Synergy hardware

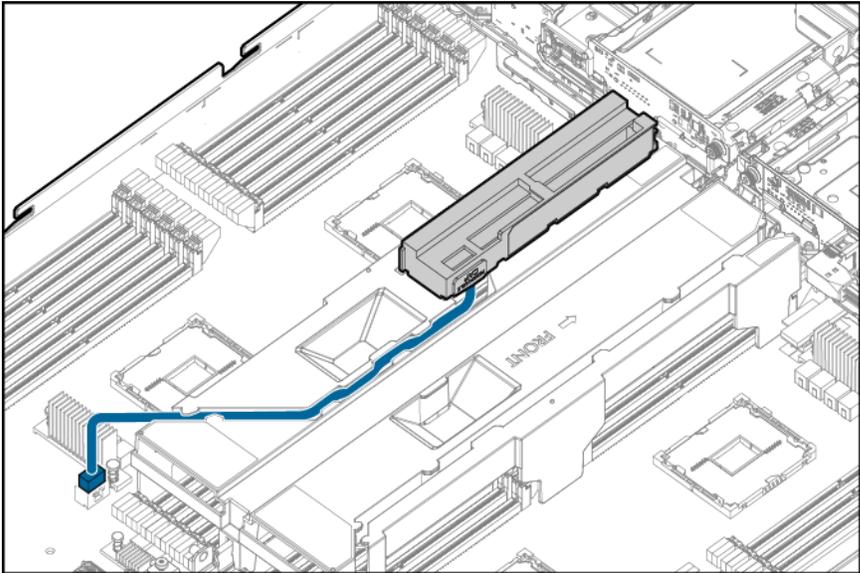
For more information about component and LED identification for HPE Synergy components, see the product-specific maintenance and service guide or the *HPE Synergy 12000 Frame Setup and Installation Guide* in the [Hewlett Packard Enterprise Information Library](#).

Cabling

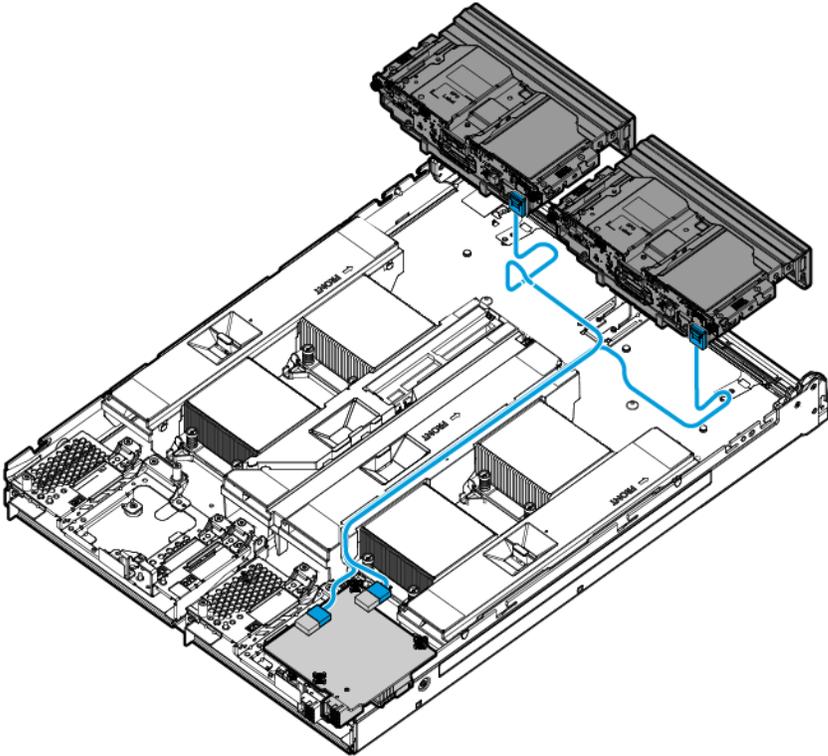
Cabling resources

Cabling configurations and requirements vary depending on the product and installed options. For more information about product features, specifications, options, configurations, and compatibility, see the product QuickSpecs on the [Hewlett Packard Enterprise website](#).

HPE Smart Storage Battery cabling



HPE Smart Array P542D Controller cabling



Specifications

Environmental specifications

Specification	Value
Temperature range*	—
Operating	10°C to 35°C (50°F to 95°F)
Non-operating	-30°C to 60°C (-22°F to 140°F)
Relative humidity (noncondensing)**	—
Operating	10% to 90% @ 28°C (82.4°F)
Non-operating	5% to 95% @ 38.7°C (101.7°F)
Altitude†	—
Operating	3050 m (10,000 ft)
Non-operating	9144 m (30,000 ft)

* The following temperature conditions and limitations apply:

- All temperature ratings shown are for sea level.
- An altitude derating of 1°C per 304.8 m (1.8°F per 1,000 ft) up to 3048 m (10,000 ft) applies.
- No direct sunlight is allowed.
- The maximum permissible rate of change is 10°C/hr (18°F/hr).
- The type and number of options installed might reduce the upper temperature and humidity limits.
- Operating with a fan fault or above 30°C (86°F) might reduce system performance.

** Storage maximum humidity of 95% is based on a maximum temperature of 45°C (113°F).

† Maximum storage altitude corresponds to a minimum pressure of 70 kPa (10.1 psia).

Compute module specifications

Specification	Value
Height	430.30 mm (16.94 in)
Depth	599.20 mm (23.59 in)
Width	63.50 mm (2.50 in)
Weight (maximum)	8.16 kg (18.00 lb)
Weight (minimum)	2.04 kg (4.50 lb)