Hewlett Packard Enterprise

HPE D2220sb Storage Blade Maintenance and Service Guide

Abstract

This guide describes identification and maintenance procedures, diagnostic tools, specifications, and requirements for hardware components and software. Hewlett Packard Enterprise assumes you are qualified in the servicing of computer equipment, trained in recognizing hazards in products, and are familiar with weight and stability precautions.

Contents

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 Technical 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 Hewlett Packard Enterprise's Customer Self Repair program, contact your local service provider. For the North American program, refer to the Hewlett Packard Enterprise website (http://www.hpe.com/info/selfrepair).

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 bénéficier d'une assistance téléphonique, appelez le Centre d'assistance technique Hewlett Packard Enterprise. Dans les documents envoyés avec la pièce de rechange CSR, Hewlett Packard Enterprise précise s'il est nécessaire de lui retourner la pièce défectueuse. Si c'est le cas, vous devez le faire dans le délai indiqué, généralement cinq (5) jours ouvrés. La pièce et sa documentation doivent être retournées dans l'emballage fourni. Si vous ne retournez pas la pièce défectueuse, Hewlett Packard Enterprise se réserve le droit de vous facturer les coûts de remplacement. Dans le cas d'une pièce CSR, Hewlett Packard Enterprise supporte l'ensemble des frais d'expédition et de retour, et détermine la société de courses ou le transporteur à utiliser.

Pour plus d'informations sur le programme CSR de Hewlett Packard Enterprise, contactez votre Mainteneur Agrée local. Pour plus d'informations sur ce programme en Amérique du Nord, consultez le site Web Hewlett Packard Enterprise (http://www.hpe.com/info/selfrepair).

Service de garantie "pièces seules"

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

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

Riparazione da parte del cliente

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

Obbligatorie – Parti che devono essere necessariamente riparate dal cliente. Se il cliente ne affida la riparazione ad Hewlett Packard Enterprise, deve sostenere le spese di spedizione e di manodopera per il servizio.

Opzionali – Parti la cui riparazione da parte del cliente è facoltativa. Si tratta comunque di componenti progettati per questo scopo. Se tuttavia il cliente ne richiede la sostituzione ad Hewlett Packard Enterprise, potrebbe dover sostenere spese addizionali a seconda del tipo di garanzia previsto per il prodotto.

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

In base alla disponibilità e alla località geografica, le parti CSR vengono spedite con consegna entro il giorno lavorativo seguente. La consegna nel giorno stesso o entro quattro ore è offerta con un supplemento di costo solo in alcune zone. In caso di necessità si può richiedere l'assistenza telefonica di un addetto del centro di supporto tecnico Hewlett Packard Enterprise. Nel materiale fornito con una parte di ricambio CSR, Hewlett Packard Enterprise specifica se il cliente deve restituire dei 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 Hewlett Packard Enterprise (http://www.hpe.com/info/selfrepair).

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 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 technische Support Center anrufen und sich von einem Mitarbeiter per Telefon helfen lassen. Den Materialien, 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 (http://www.hpe.com/info/selfrepair).

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 para los que la 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 para los que la 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 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 siguiente (http://www.hpe.com/info/selfrepair).

Servicio de garantía exclusivo de componentes

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

Para este servicio de garantía exclusivo de componentes, es obligatoria la sustitución de componentes por parte del usuario (CSR). Si solicita a Hewlett Packard Enterprise que realice la sustitución de estos

componentes, tendrá que hacerse cargo de los gastos de desplazamiento y de mano de obra de dicho servicio.

Customer Self Repair

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

Verplicht: Onderdelen waarvoor reparatie door de klant verplicht is. Als u Hewlett Packard Enterprise verzoekt deze onderdelen voor u te vervangen, worden u voor deze service reiskosten en arbeidsloon in rekening gebracht.

Optioneel: Onderdelen waarvoor reparatie door de klant optioneel is. Ook deze onderdelen zijn ontworpen voor reparatie door de klant. Als u echter Hewlett Packard Enterprise verzoekt deze onderdelen voor u te vervangen, kunnen daarvoor extra kosten in rekening worden gebracht, afhankelijk van het type garantieservice voor het product.

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

Afhankelijk van de leverbaarheid en de locatie worden CSR-onderdelen verzonden voor levering op de eerstvolgende werkdag. Levering op dezelfde dag of binnen vier uur kan tegen meerkosten worden aangeboden, indien dit mogelijk is gezien de locatie. Indien assistentie gewenst is, belt u een Hewlett Packard Enterprise Service Partner om via de telefoon technische ondersteuning 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 (http://www.hpe.com/info/selfrepair).

Garantieservice "Parts Only"

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

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

Reparo feito pelo cliente

Os produtos da Hewlett Packard Enterprise são projetados com muitas peças para reparo feito pelo cliente (CSR) de modo a minimizar o tempo de reparo e permitir maior flexibilidade na substituição de peças com defeito. Se, durante o período de diagnóstico, a Hewlett Packard Enterprise (ou fornecedores/parceiros de serviço da Hewlett Packard Enterprise) concluir que o reparo pode ser efetuado pelo uso de uma peça CSR, a peça de reposição será enviada diretamente ao cliente. Existem 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 dentro do período determinado, normalmente cinco (5) 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 (http://www.hpe.com/info/selfrepair).

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。

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

客户自行维修

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

- **强制性的** — 要求客户必须自行维修的部件。如果您请求 Hewlett Packard Enterprise 更换这些部件，则必须为该服务支付差旅费和人工费用。

- **可选的** — 客户可以选择是否自行维修的部件。这些部件也是为客户自行维修设计的。不过，如果您要求 Hewlett Packard Enterprise 为您更换这些部件，则根据为您的产品指定的保修服务类型，Hewlett Packard Enterprise 可能收取或不再收取任何附加费用。

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

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

有关 Hewlett Packard Enterprise 客户自行维修计划的详细信息，请与您当地的服务提供商联系。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frepair (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 융통성을 발휘할 수 있도록 하기 위해 고객 셀프 수리(CSR) 부품을 다량 사용하여 설계되었습니다. 진단 기간 동안 Hewlett Packard Enterprise(또는 Hewlett Packard Enterprise 서비스 공급업체 또는 서비스 협력업체)에서 CSR 부품을 사용하여 수리가 가능하다고 판단되면 Hewlett Packard Enterprise는 해당 부품을 바로 사용자에게 보내어 사용자가 교체할 수 있도록 합니다. CSR 부품에는 두 가지 종류가 있습니다.

- **필수** - 고객 셀프 수리가 의무 사항인 필수 부품. 사용자가 Hewlett Packard Enterprise에 이 부품의 교체를 요청할 경우 이 서비스에 대한 출장비 및 작업비가 청구됩니다.

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

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

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

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

Storage blade components
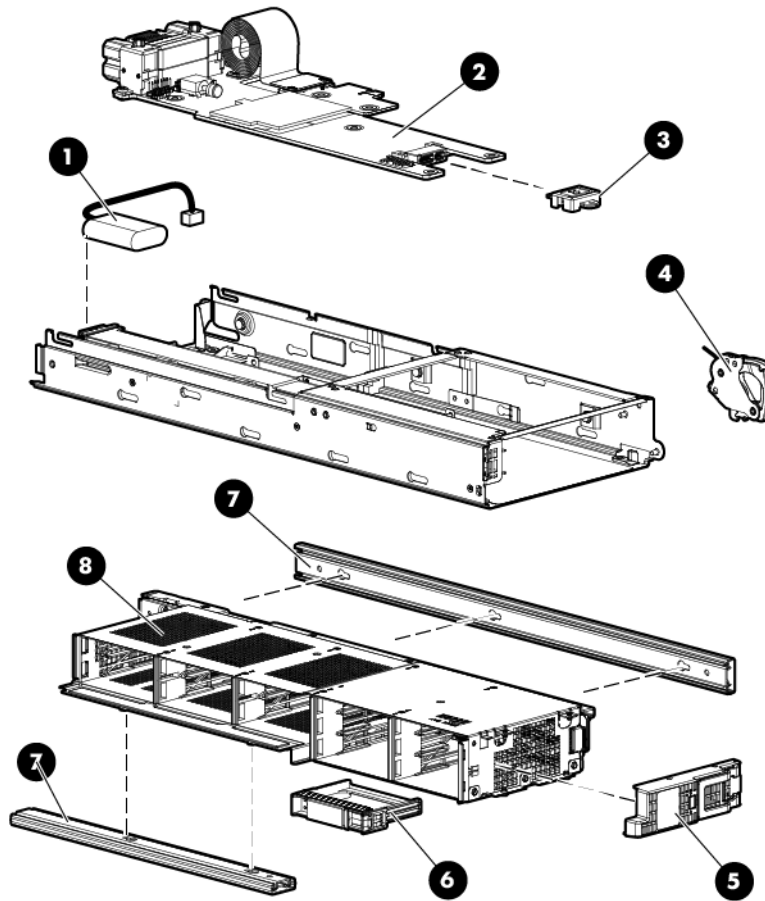
For up-to-date spare parts information, see either of the following websites:

- Hewlett Packard Enterprise PartSurfer website (http://partsurfer.hpe.com/search.aspx)

- Hewlett Packard Enterprise Parts Store website
  (https://parts.hpe.com/Hpparts/CountryChoice.aspx)

Item	Description	Spare part number	Customer self repair (on page 5)
1	FBWC capacitor pack	660091-001	Mandatory
2	System board	685032-001	Optional
3	FBWC module	685033-001	Mandatory

Item	Description	Spare part number	Customer self repair (on page 5)
4	Enclosure release latch	621522-001	Mandatory
5	Front panel assembly and LED panel	685035-001	Mandatory
6	Drive blank	670033-001	Mandatory
7	Drive drawer slides**	—	—
8	Drive drawer assembly	685034-001	Optional
9	Hard drives*	—	—
	a) 146-GB, SAS, SFF, 15,000-rpm, 6G	653950-001	Mandatory
	b) 500-GB, SAS, SFF, 7,200-rpm, 6G	653953-001	Mandatory
	c) 1-TB, SAS, SFF, 7,200-rpm, 6G	653954-001	Mandatory
	d) 300-GB, SAS, SFF, 10,000-rpm, 6G	653955-001	Mandatory
	e) 450-GB, SAS, SFF, 10,000-rpm, 6G	653956-001	Mandatory
	f) 600-GB, SAS, SFF, 10,000-rpm, 6G	653957-001	Mandatory
	g) 300-GB, SAS, SFF, 15,000-rpm, 6G	653960-001	Mandatory
	h) 900-GB, SAS, SFF, 10,000-rpm, 6G	653971-001	Mandatory
	500-GB, SATA, SFF, 7,200-rpm, 6G	656107-001	Mandatory
	i) 1-TB, SATA, SFF, 7,200-rpm, 6G	656108-001	Mandatory
	j) 1.2-TB, SAS, SFF, 10,000-rpm, 6G	697631-001	Mandatory
10	Solid state drives*	—	—
	a) 200-GB, SAS, SLC, SFF, 6G	653961-001	Mandatory
	b) 400-GB, SAS, SLC, SFF, 6G	653962-001	Mandatory
	c) 100-GB, SATA, MLC, SFF, 3G	653965-001	Mandatory
	d) 200-GB, SATA, MLC, SFF, 3G	653966-001	Mandatory
	e) 400-GB, SATA, MLC, SFF, 3G	653967-001	Mandatory

* Not shown
** This component is shown for illustrative purposes.

Removal and replacement procedures

Required tools

You need the following items for some procedures:

- T-10 Torx screwdriver
- HPE Insight Diagnostics software ("HPE Insight Diagnostics" on page 40)

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 need to 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.

Symbols on equipment

The following symbols may be placed on equipment to indicate the presence of potentially hazardous conditions.
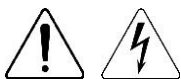
⚠⚡	This symbol indicates the presence of hazardous energy circuits or electric shock hazards. Refer all servicing to qualified personnel. **WARNING:** To reduce the risk of injury from electric shock hazards, do not open this enclosure. Refer all maintenance, upgrades, and servicing to qualified personnel.
⚠⊗	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.
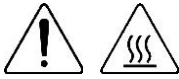
This symbol indicates the presence of a hot surface or hot component. If this surface is contacted, the potential for injury exists.

WARNING: To reduce the risk of injury from a hot component, allow the surface to cool before touching.
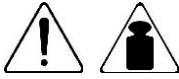
5.0 kg
11.0 lb

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

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

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

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

Storage blade warnings and cautions

WARNING: To reduce the risk of shock or injury from high-current electrical energy, do not remove the D2220sb access panel and then install the D2220sb into the enclosure.

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 D2220sb with the access panel removed. Operating the D2220sb 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 D2220sb and/or the system. However, it may be necessary to leave the D2220sb powered up when performing other operations, such as hot-plug installations or troubleshooting.

Storage blade preparation

Servicing internal storage blade components

To service any internal D2220sb component, do the following:

1. Power down the partner server blade (on page 20).
2. Remove the D2220sb (on page 20).

Power down the partner server blade

In systems that use the D2220sb as external data storage, be sure that the partner server blade is the first unit to be powered down and the last to be powered back up. Taking this precaution ensures that the system and the OS are shut down in an orderly manner.

> **IMPORTANT:** If installing a hot-plug device, it is not necessary to power down the D2220sb.

To power down the D2220sb, power down the partner server blade. See the server blade documentation.

Remove the D2220sb

> **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 D2220sb before beginning any installation procedure. Improper grounding can cause ESD.

To remove the component:

1. Identify the proper D2220sb.
2. Power down the partner server blade (on page 20).
3. If the partner server blade is a full-height server blade, do one of the following:
   o Remove the blank installed above the D2220sb.
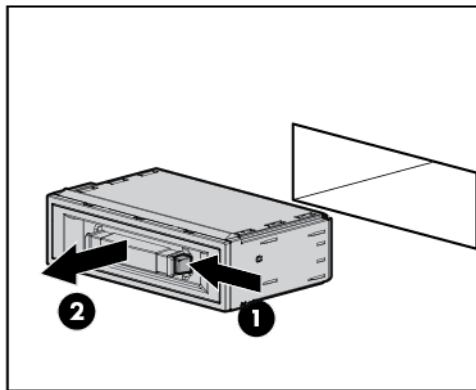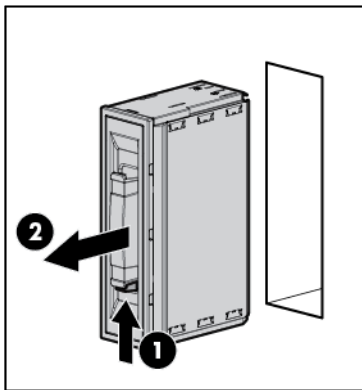
   o Remove the half-height device installed above the D2220sb.

   For information about removing a half-height device, see the half-height device user guide.
4. Remove the D2220sb:

o   Partnered with a half-height server blade
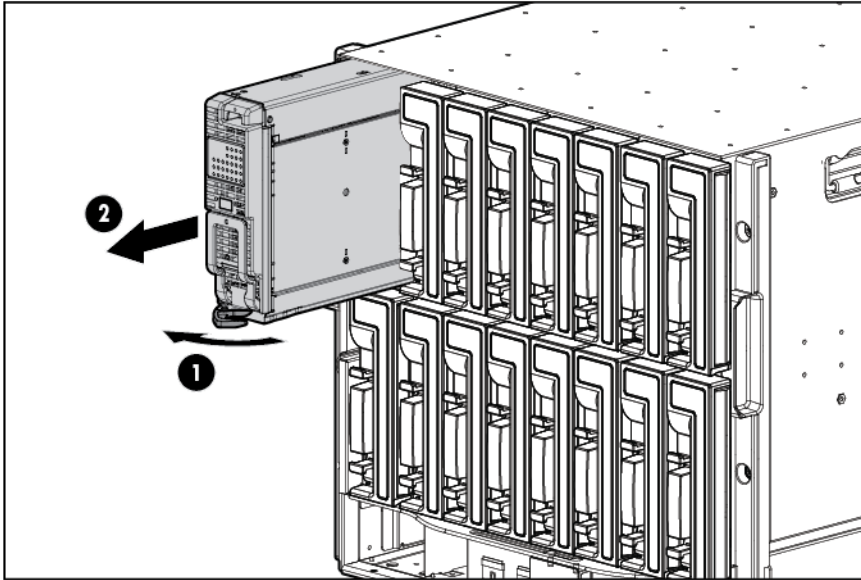
o   Partnered with a full-height server blade
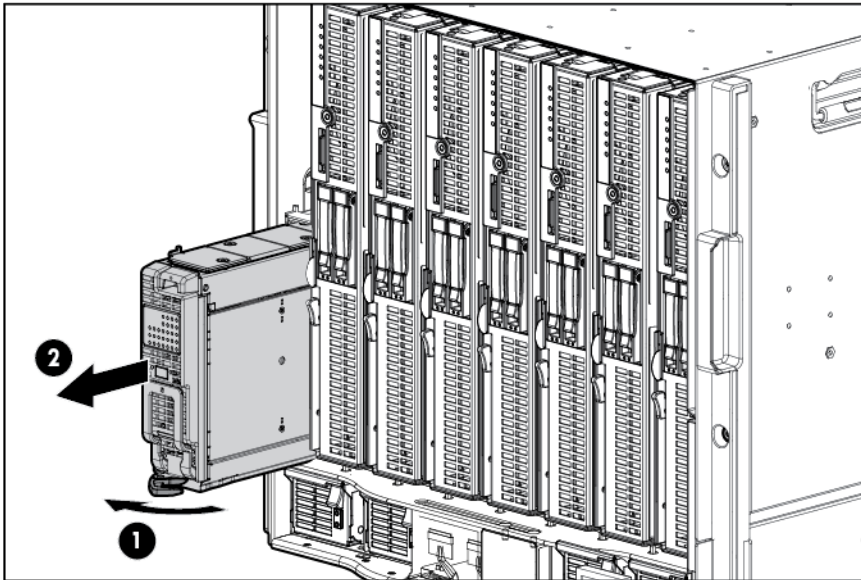
5.   Place the D2220sb on a flat, level work surface.

Avoiding equipment damage and data loss

To avoid possible equipment damage and data loss when performing service on the D2220sb, remove the following components and store them in a static-free environment any time the access panel must be removed:

- Remove the drives (on page 22).
- Remove the FBWC module (on page 23).

Remove the drives

Use this procedure to remove the drives when servicing other components. To replace a failed or broken drive, see "Drive (on page 26)."
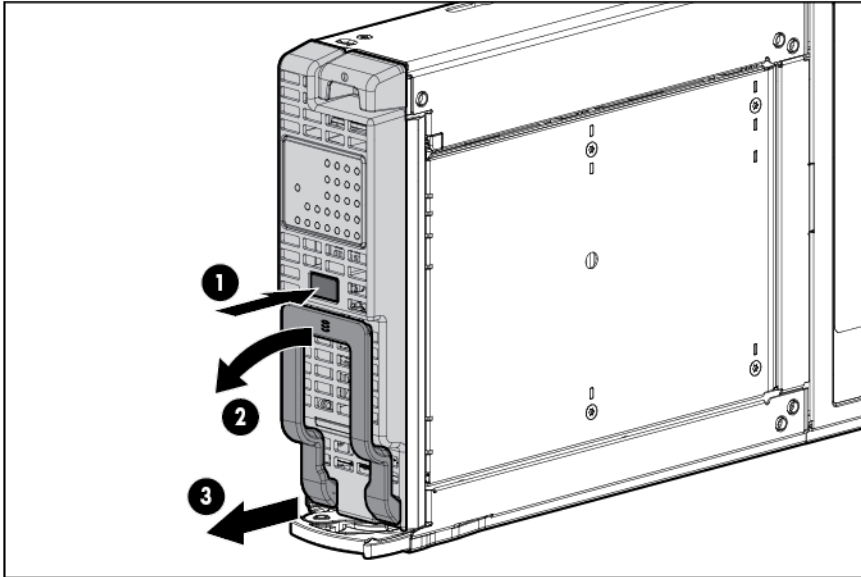
⚠ **WARNING:** To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

⚠ **CAUTION:** To prevent damage to electrical components, properly ground the D2220sb before beginning any installation procedure. Improper grounding can cause ESD.
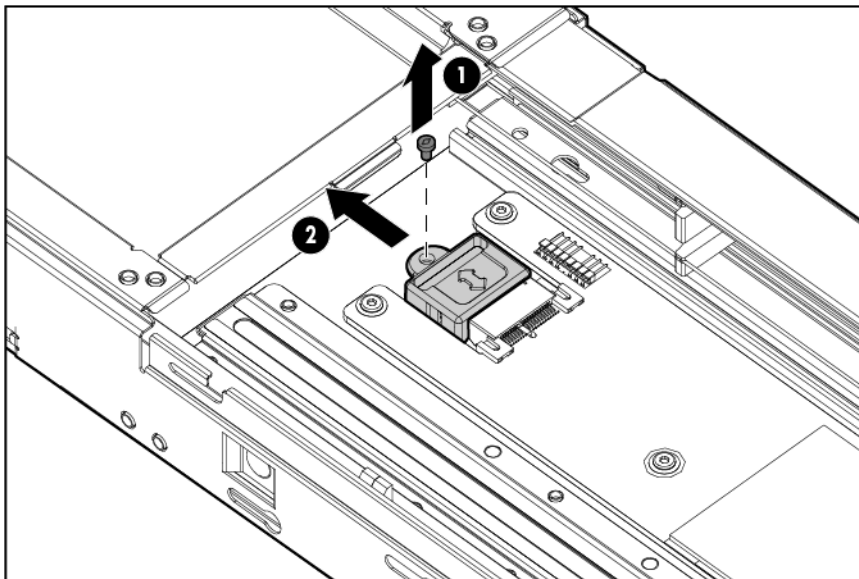
⚠ **CAUTION:** To prevent improper cooling and thermal damage, do not operate the D2220sb or the enclosure unless all enclosure device bays and the first three storage drive bays are populated with either a component or a blank.

⚠ **CAUTION:** Thermal regulation is maintained only when the drive drawer is closed. The drive drawer open alarm is triggered under the following conditions:
- A slow beep and flash (1 every 5 seconds) indicate that the drive drawer is open. The drives are not fully protected by system air flow.
- A fast beep and flash (2 per second)—To avoid drive damage or data loss and storage blade shutdown, close the drive drawer immediately.

When the drives reach critical temperatures, the system shuts down.

⚠ **CAUTION:** Thermal regulation is maintained only when the drive drawer is closed. The drive drawer open alarm is triggered under the following conditions:
- A slow beep and flash (1 every 5 seconds) indicate that the drive drawer is open. The drives are not fully protected by system air flow.
- A fast beep and flash (2 per second)—To avoid drive damage or data loss and storage blade shutdown, close the drive drawer immediately.

When the drives reach critical temperatures, the system shuts down.

1. Back up all data on the D2220sb.
2. Power down the partner server blade (on page 20).
3. Remove the D2220sb (on page 20).
4. Open the drive drawer.

   📝 **IMPORTANT:** The drive drawer is not fully extended until the rail lock is engaged. To engage the rail lock, extend the drive drawer approximately 2.54 cm (1 inch) past the initial resistance.
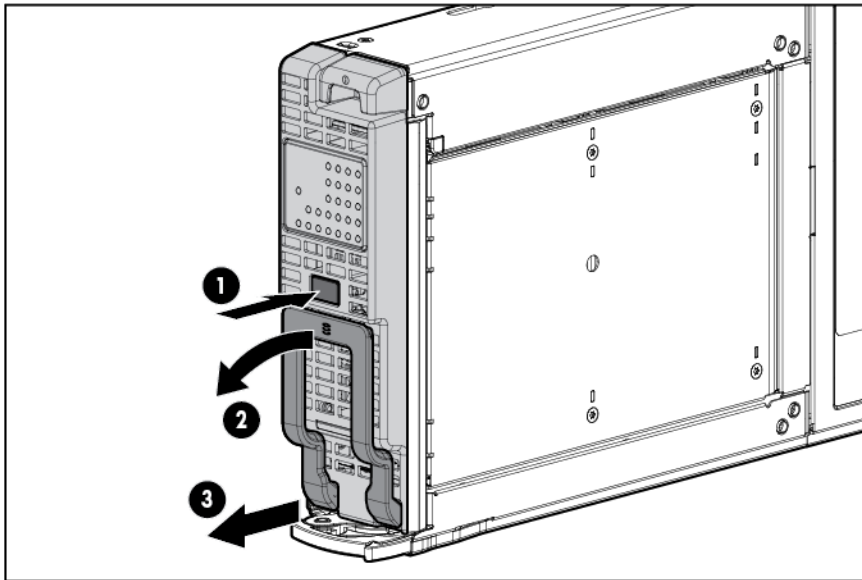
5. Remove the drives.
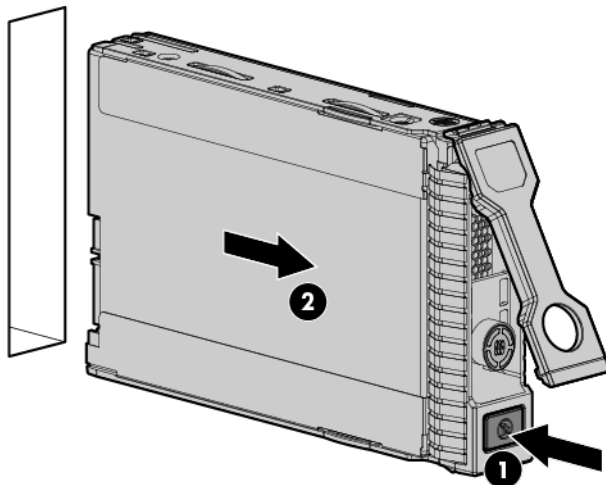
6. Place an identifying label on each drive to indicate the drive bay from which it was removed.

7. Place the drives in a static-free environment.

When the service procedures are complete, return each drive to the bay in the drive drawer from which it was removed.

Remove the FBWC module

Use this procedure to remove the FBWC module when servicing other components. To replace a failed or broken module, see "FBWC module (on page 29)."

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

⚠ **CAUTION:** To prevent damage to electrical components, properly ground the server blade before beginning any installation procedure. Improper grounding can cause ESD.

⚠ **CAUTION:** Do not operate the D2220sb with the access panel open or removed. Operating the D2220sb in this manner results in improper airflow and improper cooling that can lead to thermal damage.

To remove the component:

1. Back up all data on the D2220sb.

2. Power down the partner server blade (on page 20).

3. Remove the D2220sb (on page 20).

4. Remove the access panel (on page 25).

5. Open the drive drawer. Extend the drawer to gain access to the FBWC module.

6. Remove the cache module from the system board.

   The drive drawer and cable spool are not shown for clarity.

7. Place the module in a static-free environment.

When the service procedures are complete, install the module by reversing the removal procedure.

Remove the access panel

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

⚠️ **CAUTION:** To prevent damage to electrical components, properly ground the server blade before beginning any installation procedure. Improper grounding can cause ESD.

⚠️ **CAUTION:** Do not operate the D2220sb with the access panel open or removed. Operating the D2220sb in this manner results in improper airflow and improper cooling that can lead to thermal damage.

To remove the component:

1. Power down the partner server blade (on page 20).
2. Remove the D2220sb (on page 20).
3. Press the access panel release button.
4. Slide the access panel toward the rear of the D2220sb.
5. Remove the access panel.

Install the access panel

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

⚠️ **CAUTION:** To prevent damage to electrical components, properly ground the server blade before beginning any installation procedure. Improper grounding can cause ESD.

⚠️ **CAUTION:** Do not operate the D2220sb with the access panel open or removed. Operating the D2220sb in this manner results in improper airflow and improper cooling that can lead to thermal damage.

To install the component:

1. Place the access panel on top of the D2220sb. Allow the panel to extend past the rear of the D2220sb approximately 0.8 cm (0.2 in).
2. Slide the access panel toward the front of the D2220sb. The access panel locks into position.

Drive blank

⚠️ **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 D2220sb before beginning any installation procedure. Improper grounding can cause ESD.
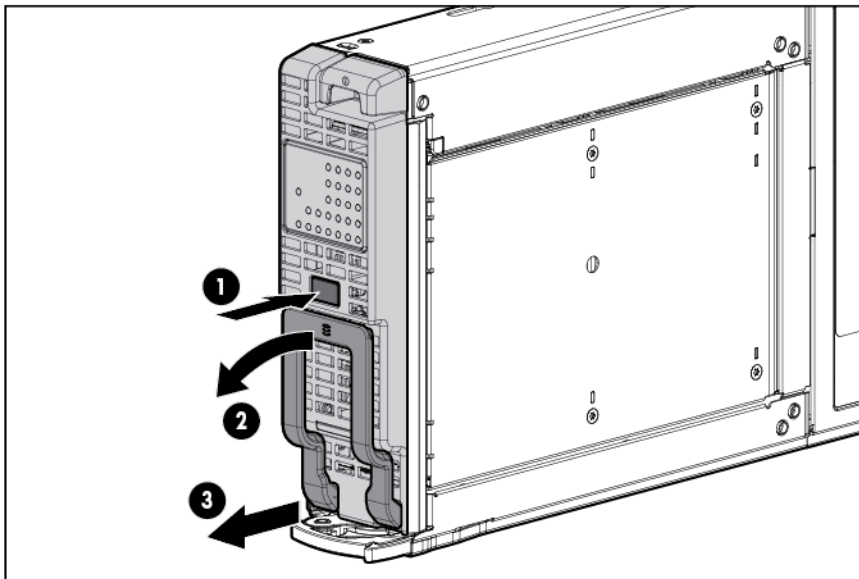
CAUTION: To prevent improper cooling and thermal damage, do not operate the D2220sb or the enclosure unless all enclosure device bays and the first three storage drive bays are populated with either a component or a blank.

CAUTION: Thermal regulation is maintained only when the drive drawer is closed. The drive drawer open alarm is triggered under the following conditions:

- A slow beep and flash (1 every 5 seconds) indicate that the drive drawer is open. The drives are not fully protected by system air flow.
- A fast beep and flash (2 per second)—To avoid drive damage or data loss and storage blade shutdown, close the drive drawer immediately.

When the drives reach critical temperatures, the system shuts down.

1. Open the drive drawer.

2. Remove the drive blank.
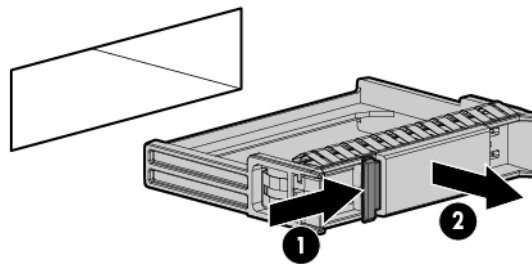
To replace the component, reverse the removal procedure.

Drive

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 D2220sb before beginning any installation procedure. Improper grounding can cause ESD.

△ **CAUTION:** To prevent improper cooling and thermal damage, do not operate the D2220sb or the enclosure unless the first drive bay is populated with a drive, and drive bays 2 and 3 and all device bays are populated with either a component or a blank.

△ **CAUTION:** Thermal regulation is maintained only when the drive drawer is closed. The drive drawer open alarm is triggered under the following conditions:
- A slow beep and flash (1 every 5 seconds) indicate that the drive drawer is open. The drives are not fully protected by system air flow.
- A fast beep and flash (2 per second)—To avoid drive damage or data loss and storage blade shutdown, close the drive drawer immediately.

When the drives reach critical temperatures, the system shuts down.

To remove the component:

1. Determine the status of the drives from the drive LED definitions (on page 46).

2. Back up all server data.

3. Open the drive drawer.

IMPORTANT: The drive drawer is not fully extended until the rail lock is engaged. To engage the rail lock, extend the drive drawer approximately 2.54 cm (1 inch) past the initial resistance.
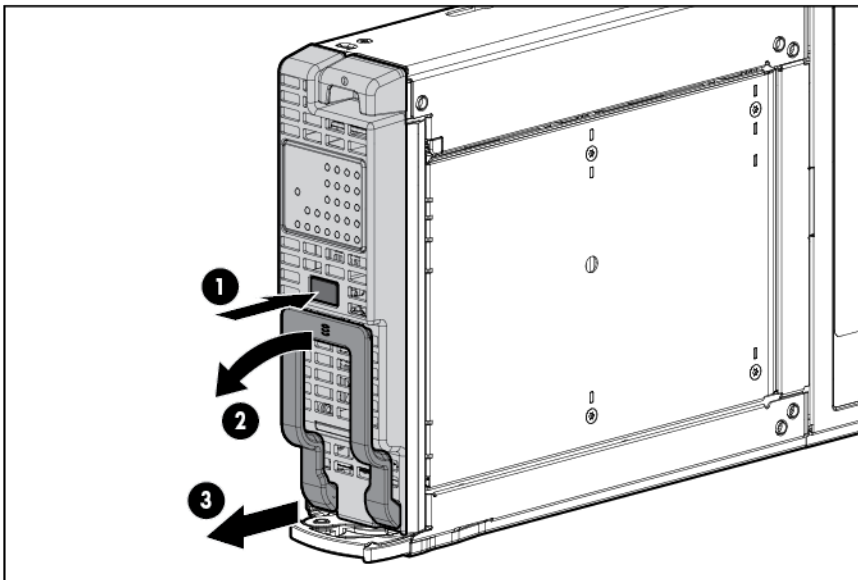
4. Remove the drive.
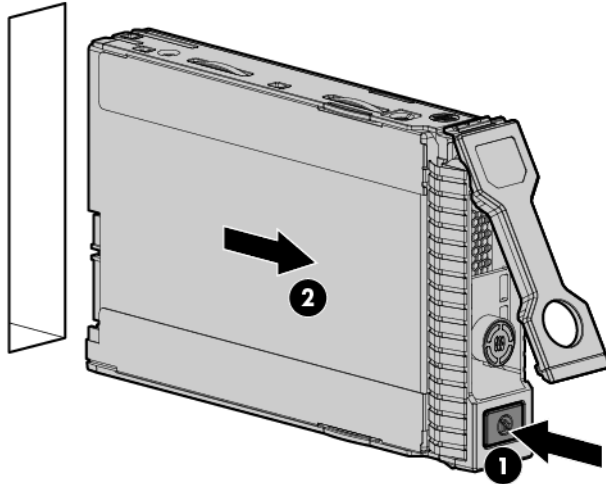
To replace the component, reverse the removal procedure.

FBWC capacitor pack

⚠ **WARNING:** To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.
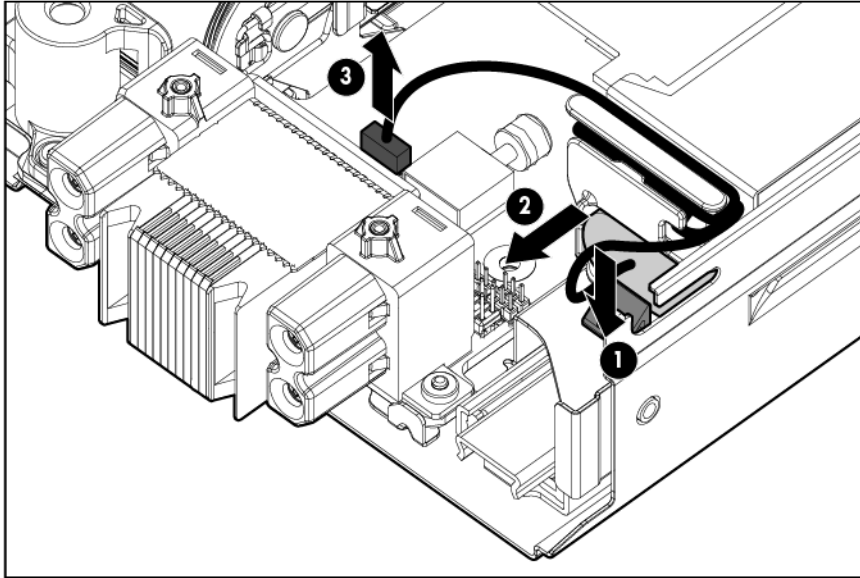
⚠ **CAUTION:** To prevent damage to electrical components, properly ground the server blade before beginning any installation procedure. Improper grounding can cause ESD.

⚠ **CAUTION:** Do not operate the D2220sb with the access panel open or removed. Operating the D2220sb in this manner results in improper airflow and improper cooling that can lead to thermal damage.

To remove the component:

1. Back up all data on the D2220sb.
2. Power down the partner server blade (on page 20).
3. Remove the D2220sb (on page 20).
4. Remove the access panel (on page 25).

5. Disconnect the FBWC capacitor pack cable from the system board, and then remove the component.

⚠ **CAUTION:** Be sure to wind the cable counterclockwise and to seat the cable firmly in the connector. Otherwise, the cable may become disconnected and data may be lost.
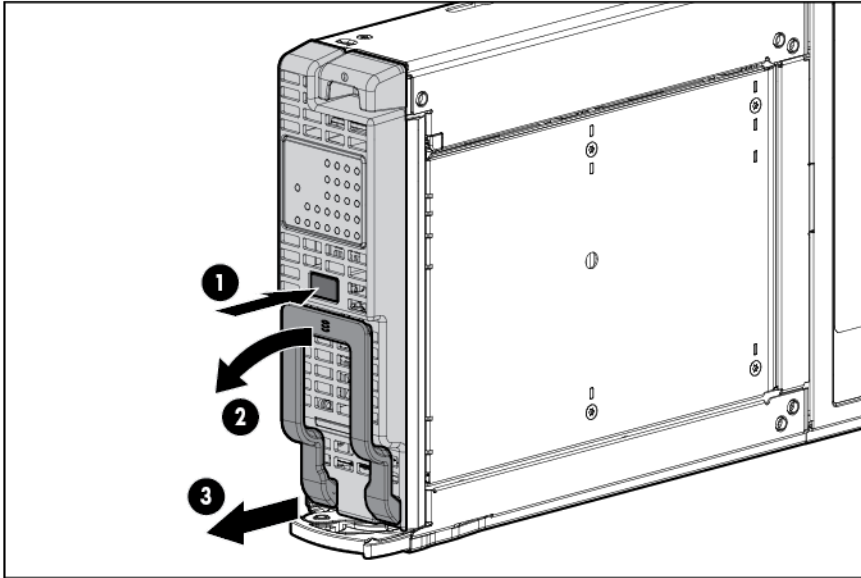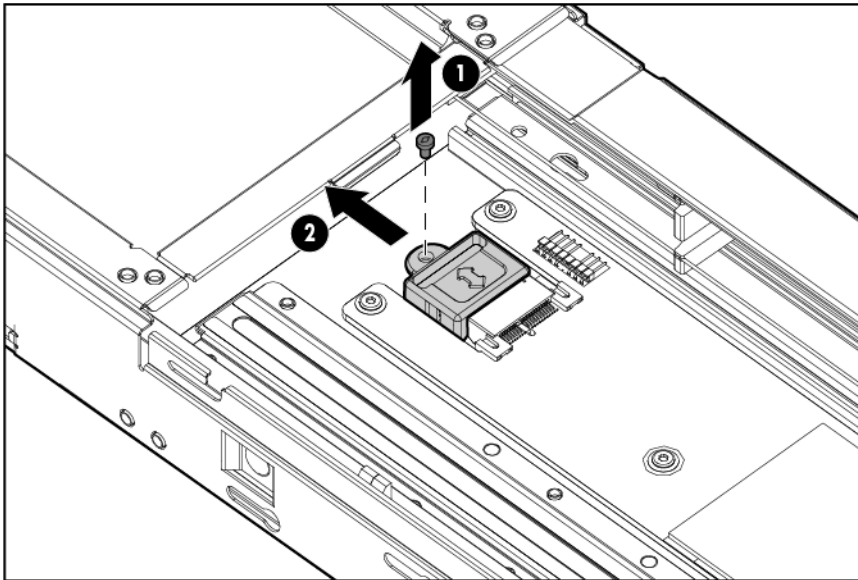
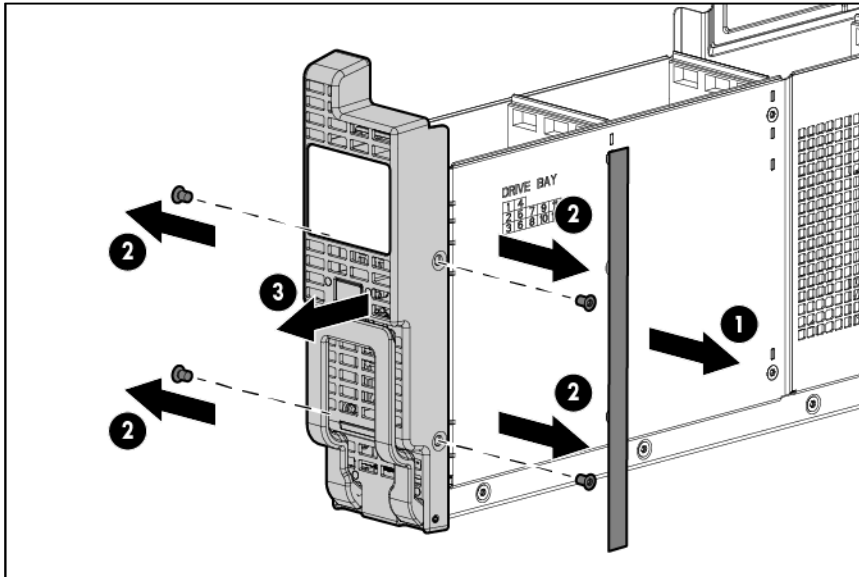To replace the component, reverse the removal procedure.

FBWC module

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

⚠ **CAUTION:** To prevent damage to electrical components, properly ground the server blade before beginning any installation procedure. Improper grounding can cause ESD.

⚠ **CAUTION:** Do not operate the D2220sb with the access panel open or removed. Operating the D2220sb in this manner results in improper airflow and improper cooling that can lead to thermal damage.

To remove the component:

1. Back up all data on the D2220sb.
2. Power down the partner server blade (on page 20).
3. Remove the D2220sb (on page 20).
4. Remove the access panel (on page 25).

5. Open the drive drawer. Extend the drawer to gain access to the FBWC module.

6. Remove the cache module from the system board.

    The drive drawer and cable spool are not shown for clarity.

> **IMPORTANT:** To avoid possible damage to the D2220sb, be sure that the FBWC module is fully seated before installing the retaining screw.

To replace the component, reverse the removal procedure.

Front panel

> ⚠ **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 D2220sb before beginning any installation procedure. Improper grounding can cause ESD.

To remove the component:

1. Power down the partner server blade (on page 20).
2. Remove the D2220sb (on page 20).
3. Remove the front panel.

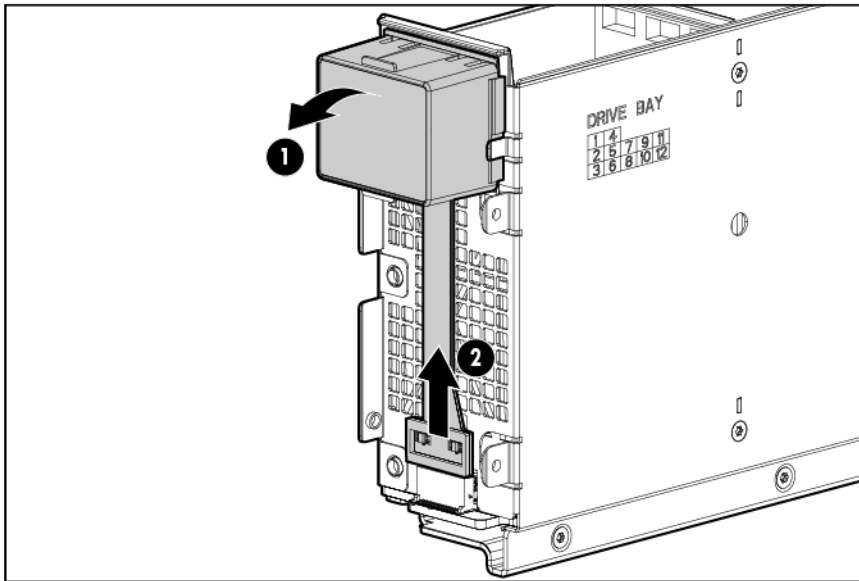To replace the component, reverse the removal procedure.

LED panel

⚠ **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 D2220sb before beginning any installation procedure. Improper grounding can cause ESD.

To remove the component:

1. Power down the partner server blade (on page 20).
2. Remove the D2220sb (on page 20).
3. Remove the front panel ("Front panel" on page 30).

4. Tilt the LED panel away from the front of the D2220sb until the retaining clips are clear of the back of the LED panel, and then remove the LED panel.

To replace the component, reverse the removal procedure.

System board

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

⚠ **CAUTION:** To prevent damage to electrical components, properly ground the server blade before beginning any installation procedure. Improper grounding can cause ESD.

⚠ **CAUTION:** Do not operate the D2220sb with the access panel open or removed. Operating the D2220sb in this manner results in improper airflow and improper cooling that can lead to thermal damage.

To remove the component:

1. Back up all data on the D2220sb.
2. Power down the partner server blade (on page 20).
3. Remove the D2220sb (on page 20).
4. Remove all drives ("Remove the drives" on page 22).
5. Remove the access panel (on page 25).
6. Remove the FBWC capacitor pack ("FBWC capacitor pack" on page 28).
7. Remove the FBWC module ("FBWC module" on page 29).

8. Remove the pass-through cable cover from the drive drawer.
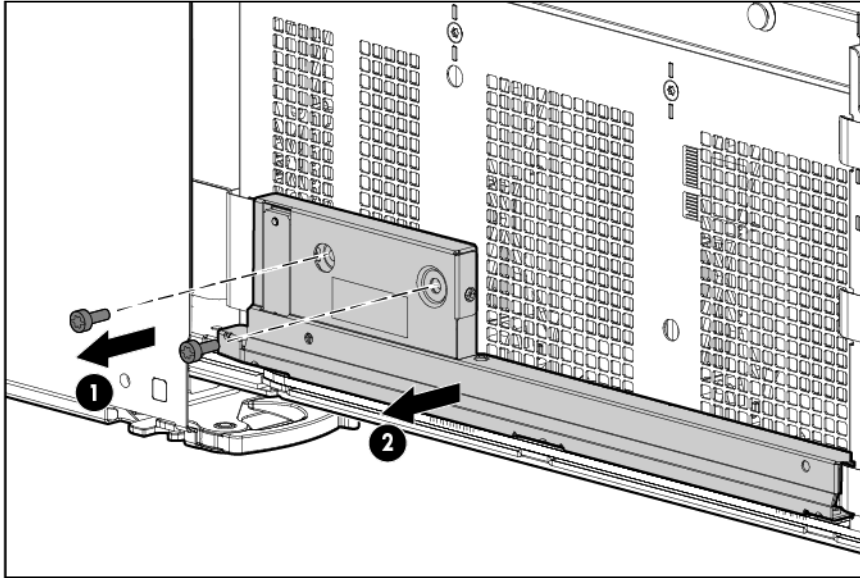
⚠ **CAUTION:** The pass-through cable is under tension. Hold the end of the cable firmly when removing, and guide the cable back to the coiled position in the chassis.
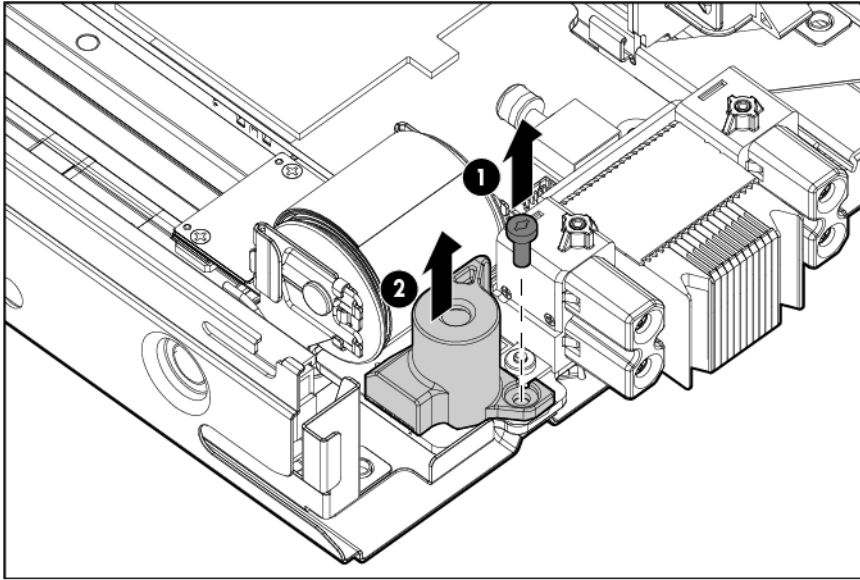
9. Remove the pass-through board and cable from the drive drawer.
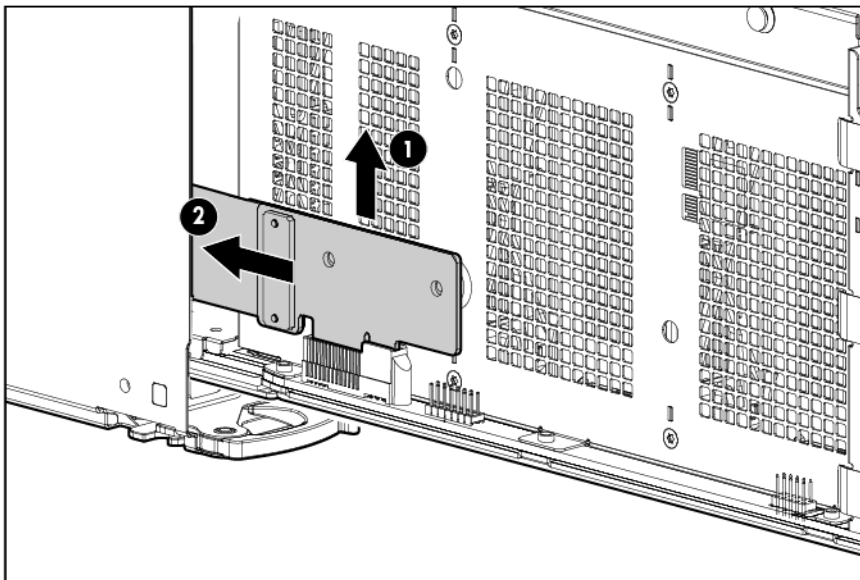

10. Remove the capacitor cover.

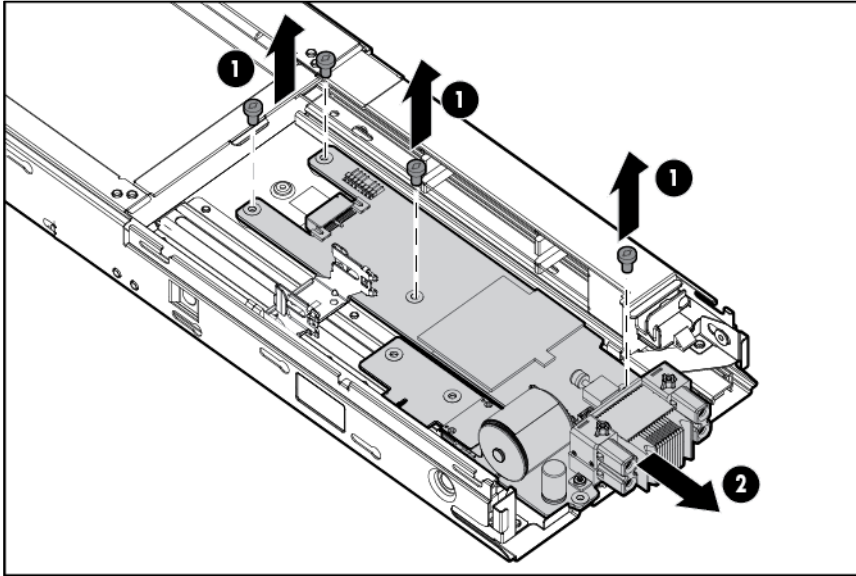📝 **IMPORTANT:** The capacitor cover screw is longer than the remaining system board screws.

⚠ **CAUTION:** To avoid damage to the cable spool guides, do not pull them outwards.

11. To remove the pass-through cable from the carrier, pull the cable spool guides toward you with both index fingers, and then push the cable spool away from you with both thumbs.
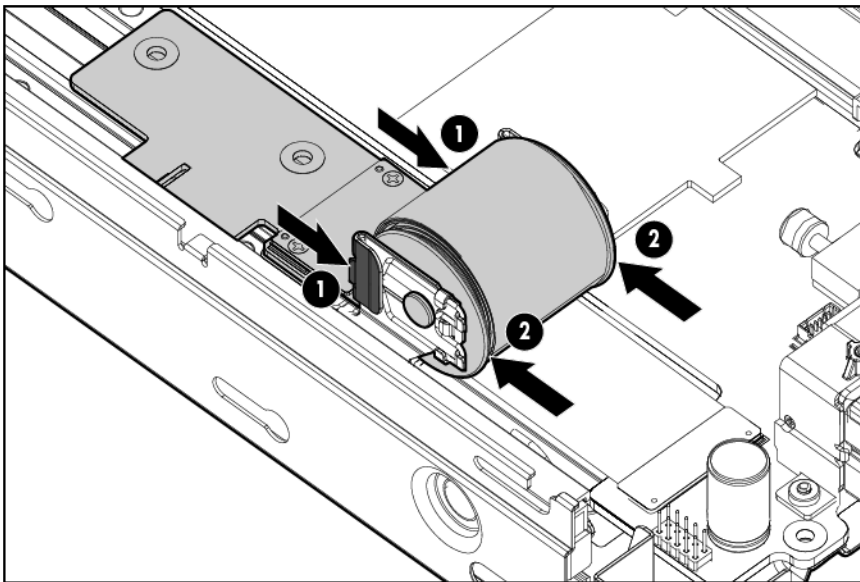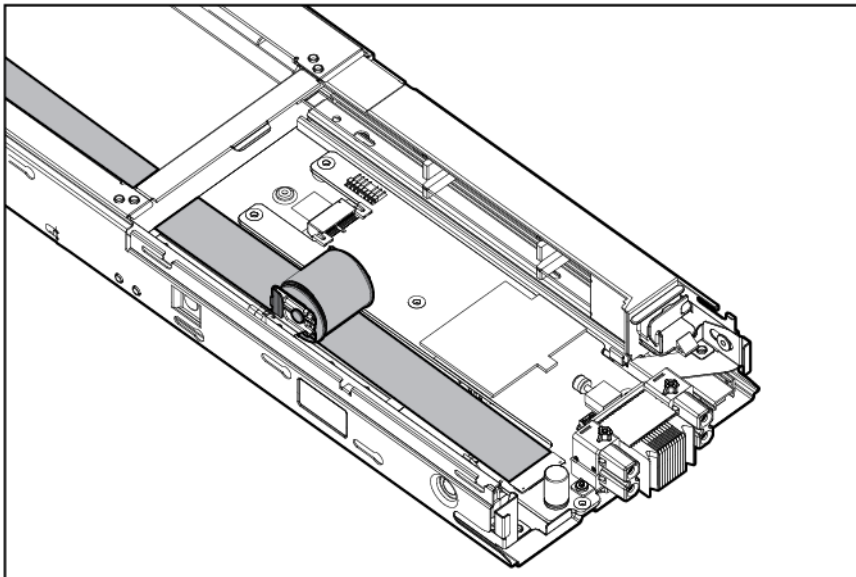
12. Remove the system board.

To replace the component:

1. Install the system board.
2. Install the pass-through cable in the carrier.

   Be sure to route the cable under the chassis support rail.

3. Install the pass-through board and cable in the drive drawer.
4. Install the capacitor cover.
5. Install the pass-through cable cover on the drive drawer.
6. Install the FBWC module.
7. Install the FBWC capacitor pack.
8. Install the access panel.
9. Install all drives.

10. Install the storage blade.

11. Power up the partner server blade.

After you replace the system board, you must re-enter the product identification and serial number in the Onboard Administrator using the command line. The Onboard Administrator CLI can be accessed locally from a laptop connected to a serial port connector on the rear of the Onboard Administrator module or remotely through a Telnet or SSH session.

To enter the product information:

1. Obtain the serial number from the product information tag.

2. Access the Onboard Administrator CLI.

3. Issue the following command in the CLI:
   ```
   SET DEVICE SERIAL_NUMBER BLADE <bay number> <serial number>
   ```
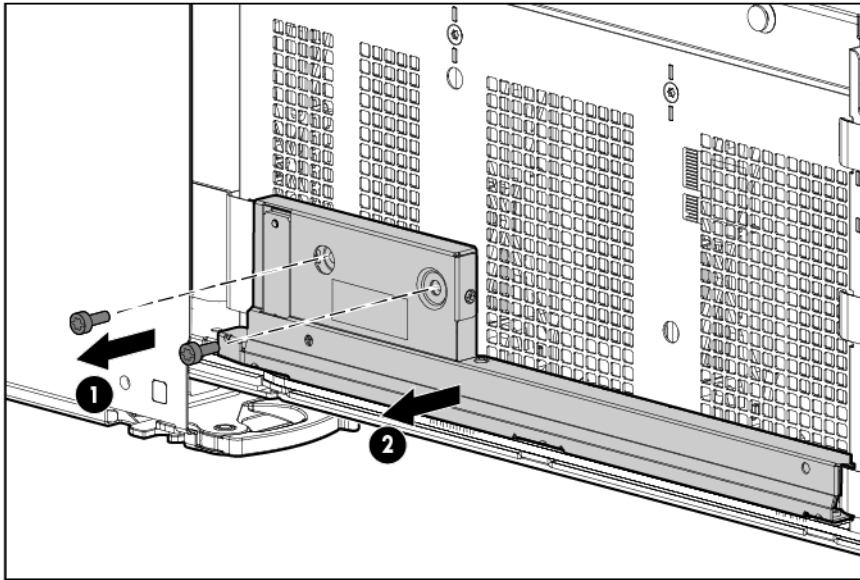
Drive drawer

⚠ **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 D2220sb before beginning any installation procedure. Improper grounding can cause ESD.

⚠ **CAUTION:** Do not operate the D2220sb with the access panel open or removed. Operating the D2220sb in this manner results in improper airflow and improper cooling that can lead to thermal damage.

⚠ **CAUTION:** If the pass-through board and cable are not removed before removing the drive drawer, then damage could occur to the drive drawer, cable, and controller board.

To remove the component:

1. Back up all data on the D2220sb.

2. Power down the partner server blade (on page 20).

3. Remove the D2220sb (on page 20).

4. Remove all drives ("Remove the drives" on page 22).

5. Remove the access panel (on page 25).

6. Remove the pass-through cable cover from the drive drawer.

> ⚠ **CAUTION:** The pass-through cable is under tension. Hold the end of the cable firmly when removing, and guide the cable back to the coiled position in the chassis.

7. Remove the pass-through board and cable from the drive drawer.

8. Remove the drive drawer.

To replace the component, reverse the removal procedure.

> △ **CAUTION:**   Be sure the pass-through board is fully installed before installing the drive drawer. Otherwise, damage may occur to the pass-through board or drive drawer.

Enclosure release latch assembly

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

> △ **CAUTION:**   To prevent damage to electrical components, properly ground the server blade before beginning any installation procedure. Improper grounding can cause ESD.

> △ **CAUTION:**   Do not operate the D2220sb with the access panel open or removed. Operating the D2220sb in this manner results in improper airflow and improper cooling that can lead to thermal damage.
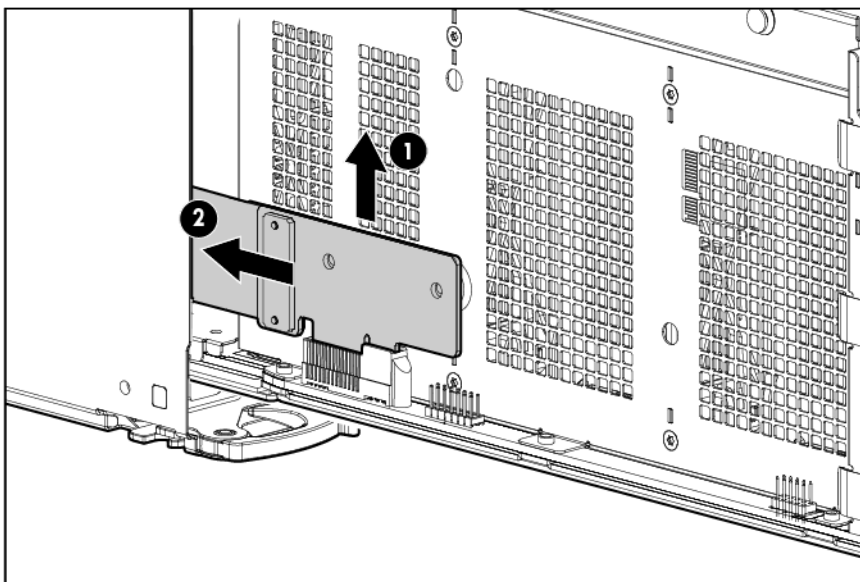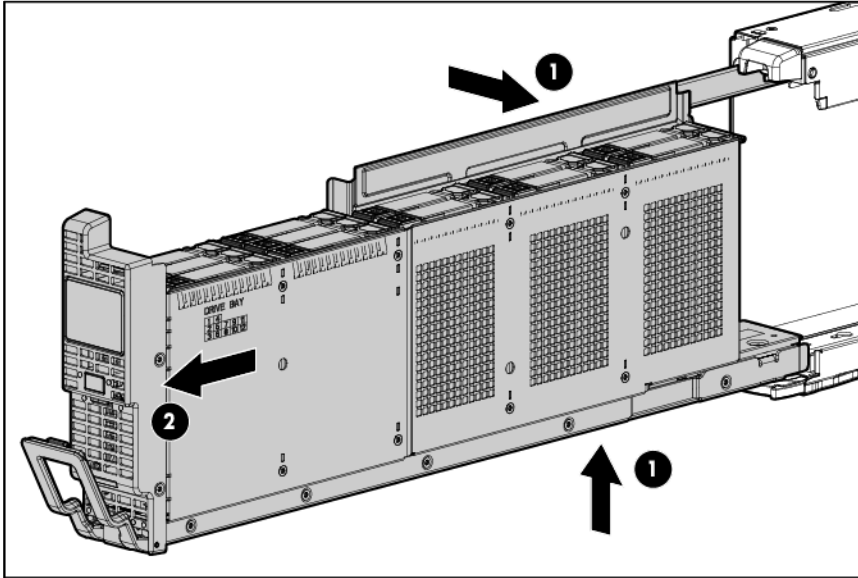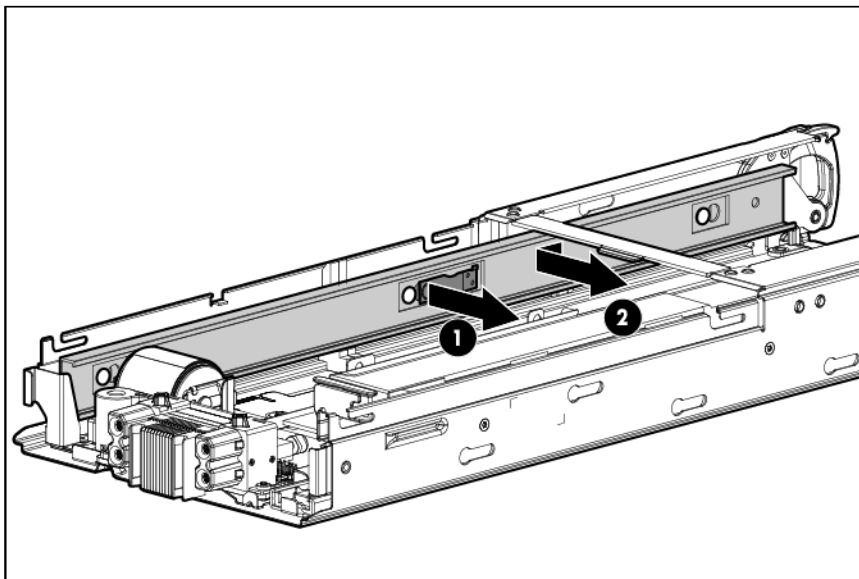
To remove the component:

1. Back up all data on the D2220sb.
2. Power down the partner server blade (on page 20).
3. Remove the D2220sb (on page 20).
4. Remove all drives ("Remove the drives" on page 22).
5. Remove the access panel (on page 25).
6. Remove the drive drawer ("Drive drawer" on page 36).
7. Remove the bottom drive drawer slide assembly from the chassis.

You do not need to remove the remaining slide assembly from the chassis or either slide assembly from the drive drawer.

8. Remove the failed enclosure release latch assembly.
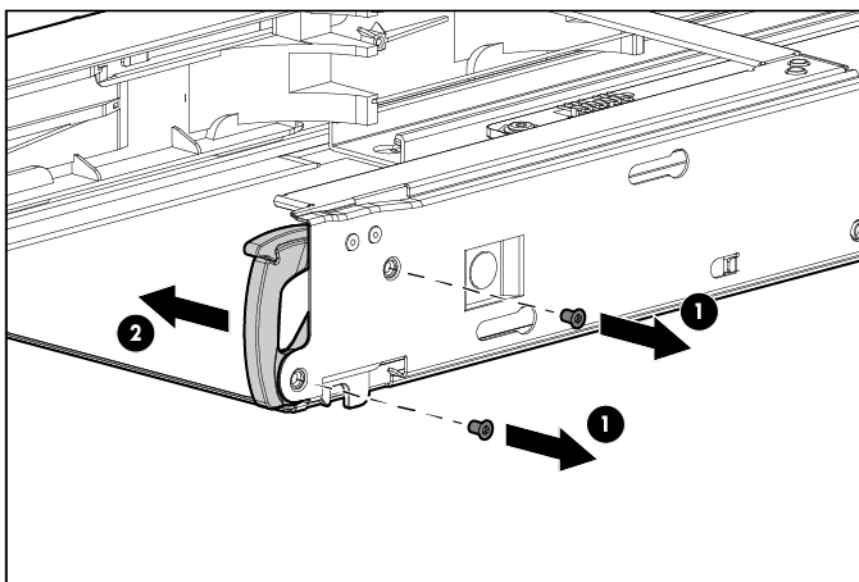
To replace the component, reverse the removal procedure.

Diagnostic tools

HPE ROM-Based Setup Utility

RBSU is a configuration utility embedded in HPE ProLiant servers that performs a wide range of configuration activities that can include the following:

- Configuring system devices and installed options
- Enabling and disabling system features
- Displaying system information
- Selecting the primary boot controller
- Configuring memory options
- Language selection

For more information on RBSU, see the *HPE ROM-Based Setup Utility User Guide* on the Documentation CD or the Hewlett Packard Enterprise website (http://www.hpe.com/support/RBSU_UG_en).

Using RBSU

To use RBSU, use the following keys:

- To access RBSU, press the **F9** key during power-up when prompted.
- To navigate the menu system, use the arrow keys.
- To make selections, press the **Enter** key.
- To access Help for a highlighted configuration option, press the **F1** key.

    IMPORTANT: RBSU automatically saves settings when you press the **Enter** key. The utility does not prompt you for confirmation of settings before you exit the utility. To change a selected setting, you must select a different setting and press the **Enter** key.

Default configuration settings are applied to the server at one of the following times:

- Upon the first system power-up
- After defaults have been restored

Default configuration settings are sufficient for proper typical server operation, but configuration settings can be modified using RBSU. The system will prompt you for access to RBSU with each power-up.

HPE Insight Diagnostics

HPE Insight Diagnostics is a proactive server blade management tool, available in both offline and online versions, that provides diagnostics and troubleshooting capabilities to assist IT administrators who verify server blade installations, troubleshoot problems, and perform repair validation.

HPE Insight Diagnostics Offline Edition performs various in-depth system and component testing while the OS is not running. To run this utility, boot the server blade using Intelligent Provisioning.

HPE Insight Diagnostics Online Edition is a web-based application that captures system configuration and other related data needed for effective server blade management. Available in Microsoft Windows and Linux versions, the utility helps to ensure proper system operation.

For more information or to download the utility, see the Hewlett Packard Enterprise website (http://www.hpe.com/info/insightdiagnostics). HPE Insight Diagnostics Online Edition is also available in the SPP. For more information, see the Hewlett Packard Enterprise website (http://www.hpe.com/servers/spp/download).

HPE Insight Diagnostics survey functionality

HPE Insight Diagnostics (on page 40) provides survey functionality that gathers critical hardware and software information on ProLiant server blades.

This functionality supports operating systems that are supported by the server blade. For operating systems supported by the server blade, see the Hewlett Packard Enterprise website (http://www.hpe.com/info/supportos).

If a significant change occurs between data-gathering intervals, the survey function marks the previous information and overwrites the survey data files to reflect the latest changes in the configuration.

Survey functionality is installed with every Intelligent Provisioning-assisted HPE Insight Diagnostics installation, or it can be installed through the SPP.

Active Health System

HPE Active Health System provides the following features:

- Combined diagnostics tools/scanners
- Always on, continuous monitoring for increased stability and shorter downtimes
- Rich configuration history
- Health and service alerts
- Easy export and upload to Service and Support

The HPE Active Health System monitors and records changes in the server hardware and system configuration. The Active Health System assists in diagnosing problems and delivering rapid resolution when server failures occur.

The Active Health System collects the following types of data:

- Server model
- Serial number
- Processor model and speed
- Storage capacity and speed
- Memory capacity and speed
- Firmware/BIOS

HPE Active Health System does not collect information about Active Health System users' operations, finances, customers, employees, partners, or data center, such as IP addresses, host names, user names, and passwords. HPE Active Health System does not parse or change operating system data from third-party error event log activities, such as content created or passed through by the operating system.

The data that is collected is managed according to the Hewlett Packard Enterprise Data Privacy policy. For more information see the Hewlett Packard Enterprise website (http://www.hpe.com/info/privacy).

The Active Health System log, in conjunction with the system monitoring provided by Agentless Management or SNMP Pass-thru, provides continuous monitoring of hardware and configuration changes, system status, and service alerts for various server components.

The Agentless Management Service is available in the SPP, which is a disk image (.iso) that you can download from the Hewlett Packard Enterprise website (http://www.hpe.com/servers/spp/download). The Active Health System log can be downloaded manually from iLO 4 or HPE Intelligent Provisioning and sent to Hewlett Packard Enterprise. For more information, see the *HPE iLO User Guide* or *HPE Intelligent Provisioning User Guide* on the Hewlett Packard Enterprise website (http://www.hpe.com/info/ilo/docs).

Integrated Management Log

The IML records hundreds of events and stores them in an easy-to-view form. The IML timestamps each event with 1-minute granularity.

You can view recorded events in the IML in several ways, including the following:

- From within HPE SIM

- From within operating system-specific IML viewers

    o   For Windows: IML Viewer

    o   For Linux: IML Viewer Application

- From within the iLO 4 user interface

- From within HPE Insight Diagnostics (on page 40)

Troubleshooting

Troubleshooting resources

The *HPE ProLiant Gen8 Troubleshooting Guide, Volume I: Troubleshooting* provides procedures for resolving common problems and comprehensive courses of action for fault isolation and identification, issue resolution, and software maintenance on ProLiant servers and server blades. To view the guide, select a language:

- English (http://www.hpe.com/support/ProLiant_TSG_v1_en)
- French (http://www.hpe.com/support/ProLiant_TSG_v1_fr)
- Spanish (http://www.hpe.com/support/ProLiant_TSG_v1_sp)
- German (http://www.hpe.com/support/ProLiant_TSG_v1_gr)
- Japanese (http://www.hpe.com/support/ProLiant_TSG_v1_jp)
- Simplified Chinese (http://www.hpe.com/support/ProLiant_TSG_v1_sc)

The *HPE ProLiant Gen8 Troubleshooting Guide, Volume II: Error Messages* provides a list of error messages and information to assist with interpreting and resolving error messages on ProLiant servers and server blades. To view the guide, select a language:

- English (http://www.hpe.com/support/ProLiant_EMG_v1_en)
- French (http://www.hpe.com/support/ProLiant_EMG_v1_fr)
- Spanish (http://www.hpe.com/support/ProLiant_EMG_v1_sp)
- German (http://www.hpe.com/support/ProLiant_EMG_v1_gr)
- Japanese (http://www.hpe.com/support/ProLiant_EMG_v1_jp)
- Simplified Chinese (http://www.hpe.com/support/ProLiant_EMG_v1_sc)
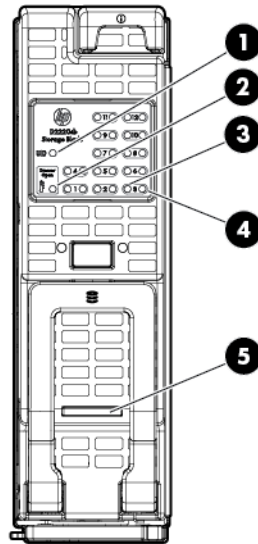
Component identification

Front panel components
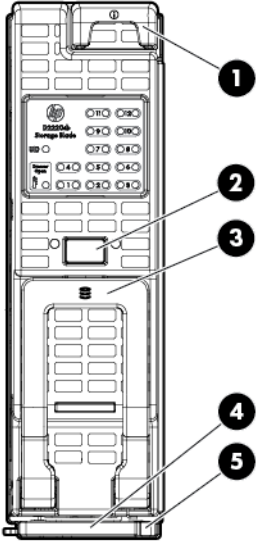
Item	Description
1	Product information tag
2	Hot-plug drive drawer release button
3	Hot-plug drive drawer handle
4	Storage blade release latch
5	Storage blade release button*

* Removing the storage blade from the enclosure removes power from the drives.

Front panel LEDs

Item	Description	Status
1	UID LED	Blue = Identified Off = Not identified
2	Drawer open LED	Off = Drawer is closed, or thermal shutdown has occurred. Flashing amber (1 per 5 seconds)* = Drawer is open. Flashing amber (2 per second)* = Drives have reached near-critical temperatures.
3	Drive fault LED	Off = Normal operation Solid amber = Drive failed Flashing amber = Predictive failure
4	Drive activity LED	Solid green = Drive installed Flashing green = Drive activity established Flashing green (slow) = Drive rebuilding
5	Health status LED bar**	Green = Normal operation Flashing amber = No partner blade, or not yet recognized Solid amber = Degraded condition Flashing red = System critical Red = Drive over-temperature triggered shutdown

*The drawer open LED flashes when the drive drawer open alarm (on page 46) is activated.
** The health status LED bar flashes amber when the storage blade establishes a connection with the enclosure, either immediately after installation or when the storage blade is removed and reinstalled. If the LED continues to flash for more than 2 minutes, there is a fault. Make sure the partner server blade is powered down before the storage blade is installed.

Drive drawer open alarm

Slow beep (every 5 seconds)—The drive drawer is open, and drives are not fully protected by system air flow.

Fast beep (every 0.5 seconds)—Close the drive drawer immediately to avoid drive damage or data loss and storage blade shutdown.

The Health status LED bar turns green when drives return to normal operating temperature.

Drive LED definitions
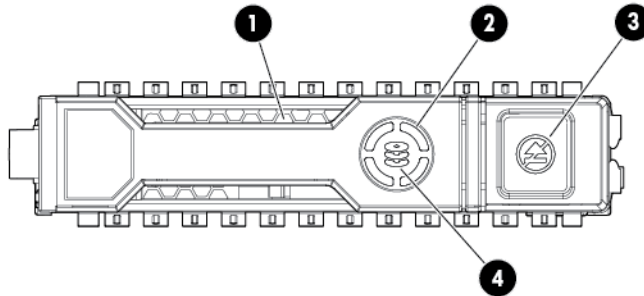
Item	LED	Status	Definition
1	Locate	Solid blue	The drive is being identified by a host application.
		Flashing blue	The drive carrier firmware is being updated or requires an update.
2	Activity ring	Rotating green	Drive activity
		Off	No drive activity
3	Do not remove	Solid white	Do not remove the drive. 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, stripe 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.

Specifications

Environmental specifications

Specification	Value
Temperature range*	
Operating	10°C to 35°C (50°F to 95°F) Maximum rate of change is 10° C/hr (50° F/hr)
Storage	-30°C to 60°C (-22°F to 140°F) Maximum rate of change is 20° C/hr (68° F/hr)
Relative humidity**	
Operating	20% to 80% relative humidity (Rh), 28° C (82.4° F) maximum wet bulb temperature, non-condensing
Storage	5% to 90% relative humidity (Rh), 38.7° C (101.66° F) maximum wet bulb temperature, non-condensing
Altitude †	
Operating	3048 m (10,000 ft) This value may be limited by the type and number of options installed.
Non-operating	9144 m (30,000 ft)

* Temperature ratings shown are for sea level. An altitude derating of 1°C per 300 m (1.8°F per 1,000 ft) to 3048 m (10,000 ft) is applicable. No direct sunlight is allowed. The upper limit may be limited by the type and number of options installed.

** Storage maximum humidity of 90% is based on a maximum temperature of 45°C (113°F). Altitude maximum for storage corresponds to a pressure minimum of 70 KPa.

† Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Storage blade specifications

Specification	Value
Height	5.56 cm (2.19 in)
Depth	50.95 cm (20.06 in)
Width	18.16 cm (7.15 in)
Weight (maximum)	5.0 kg (11.0 lb)
Weight (no drives installed)	3.6 kg (8.0 lb)

Acronyms and abbreviations

ACU

Array Configuration Utility

CSR

Customer Self Repair

ESD

electrostatic discharge

FBWC

flash-backed write cache

HPE SIM

HPE Systems Insight Manager

iLO 4

Integrated Lights-Out 4

IML

Integrated Management Log

SAS

serial attached SCSI

SATA

serial ATA

SFF

small form factor

SIM

Systems Insight Manager

UID

unit identification

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Index