انواع لایسنس iLO

مطلبی که در ادامه می‌خوانید راهنمای کاملی در زمینه خرید، رجیستر و اکتیو کردن لایسنس‌های HPE iLO است.

نرم‌افزار مدیریتی iLO مخصوص سرورهای hp است. در این سرورها پورت rj-45 و مخصوص iLO در کنار دیگر پورت‌های سرور تعبیه شده و امکان اتصال از راه دور به سرور را از طریق شبکه برایتان فراهم می‌کند و می‌توانید مدیریت سرورتان را به راحتی انجام دهید. با توجه به اهمیت مدیریت و مانیتور کردن سرور و وضعیت آن، از این امکان مدیریتی بهره‌مند شوید اما توجه داشته باشید که برای هر منظور باید لایسنس مختص به آن را برای iLO فعال کنید. سرورهای اچ پی علاوه بر مزایای بی‌نظیری که در زمینه سخت افزاری دارند در زمینه نرم‌افزاری نیز قابلیت‌های بی‌نظیری دارند که iLO تنها یکی از این مزایا است.

برای خرید سرور می‌توانید روی لینک بزنید و وارد فروشگاه فالنیک شوید. همکاران فروش در فالنیک آماده ارایه مشاوره رایگان در زمینه فروش و خدمات به شما هستند.

گردآوری شده توسط تیم تحریریه فالنیک (ایران اچ پی)

فالنیک (ایران اچ پی)، تامین، تعمیر و پشتیبانی تجهیزات IT شما را انجام می‌دهد. سرور و شبکه – پرینتر و ماشین اداری و خدمات مایکروسافت CRM برای سازمانها

خرید سرور – خرید پرینتر – تعمیر سرور – خدمات شبکه – نرم افزار crm مایکروسافت – خرید لپ تاپ – تعمیر پرینتر

تلفن: **۰۲۱۸۳۶۳** | وبسایت: **falnic.com**

Hewlett Packard Enterprise

HPE iLO Licensing Guide

Abstract

This guide provides information about purchasing, registering, and activating HPE iLO licenses.

Contents

What is HPE iLO?

HPE iLO allows a system administrator to monitor and manage servers remotely.

- – Integrated Lights-Out (iLO) is an embedded technology that ships in HPE Servers.
- – It is the core foundation for the intelligence of the HPE Servers.

- – iLO is key to make the server operational and boot.
- – It helps simplify server set up, enable health monitoring as well as power and thermal control.
- – These capabilities are included with the Server (iLO Standard).
- – No installation needed and minimal setup is required.

- – Features that enhance server admin productivity are licensed.
- – Customers can purchase an iLO Advanced license to access all enhanced features.

It addresses the server administrator's concerns and needs.

| *"Server setup takes too long."* | *"I need more performance and streamlined operations at scale."* | *"I need automation that integrates into my existing datacenter tools."* | *"Security threats are getting smarter. I need to protect my business."* |

| Deploy Faster | Simplify Operations | Increase Productivity | End to end Security |
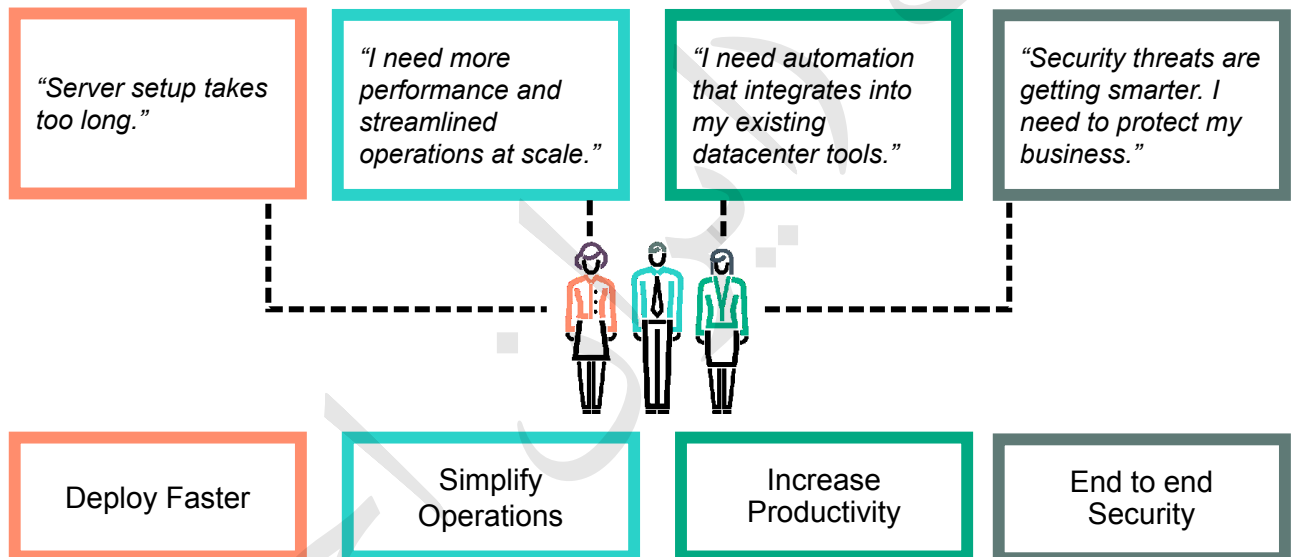
"I'm away from the office and need to access my server."

"I'm a mid-size business with a few servers. I need to manage these servers without purchasing an additional server or complex tools from a single pane of glass."

"My company has asked us to standardize on a method for controlling and monitoring the server."

"How can I protect my server?"

"I want to know when my server needs my attention."

"How can I save on electricity consumption?"

"How can I quickly discover, deploy, manage and update firmware across 100s of servers in my data center?"

"Something has gone wrong with my server and I don't know what to do or how to prevent it."

What's new for iLO licensing?

- **2D security bar code added to all iLO License Entitlement Certificates**

- **Recovering a lost license key**

- **FREE factory-installed iLO Licenses**

- **iLO license key now printing on the License Entitlement Certificate**

- **iLO license key now printing on the electronic email**

- **New packaging for physical/paper licensing**

HPE Edgeline support added

HPE iLO licensing support is available for HPE Edgeline, including Moonshot cartridges with iLO used in an HPE Edgeline chassis.

iLO Essentials, iLO Advanced for BladeSystem, and iLO Advanced Premium Security Edition Licenses discontinued

HPE will discontinue the iLO Essentials and iLO Advanced for BladeSystem licenses and 60-day free trial licenses effective January 31, 2019. Customers are requested to explore the iLO Advanced License at **https://www.hpe.com/us/en/product-catalog/detail/pip.332279.html** for their advanced feature server management needs. For customers with existing iLO Essentials or iLO Advanced for BladeSystem licenses, support will continue as long as they have a valid support contract in place.

HPE will include the iLO Advanced Premium Security Edition features into the iLO Advanced license with iLO 5 v1.40 on Gen10 Servers. HPE will discontinue the iLO Advanced Premium Security Edition license and 60-day free trial license effective effective after the release of iLO 5 v1.40. Customers are requested to explore the iLO Advanced License at **https://www.hpe.com/us/en/product-catalog/detail/pip.332279.html** for their advanced feature server management needs. For customers with existing iLO Advanced Premium Security Edition licenses, support will continue as long as they have a valid support contract in place and customers will continue to have the security features as before.

Please see our *HPE iLO Licensing FAQ* documentation for more details surrounding this transition.

Summary:

- Customers who have iLO Advanced and upgrade to v1.40 will get the security features at no additional cost.

- Customers that already have iLO Advanced Premium Security Edition will continue to get the security features as before.

- The iLO Essentials and iLO Advanced for BladeSystem licenses can no longer be purchased after January 31, 2019.

- The iLO Advanced Premium Security Edition license can no longer be purchased after the release of ILO 5 v1.40.

- All the above changes will not impact our customers support and support agreements.

Table 1: Discontinued iLO Essentials Licenses and Replacement Part Numbers (OBS 31 January, 2019):

SKU	Description	Replacement SKU	Replacement SKU Description
BD775A	HPE iLO Essentials License with 1yr Support on iLO Licensed Features	512485-B21	HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features
BD774A	HPE iLO Essentials License with 3yr Support on iLO Licensed Features	BD505A	HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features
E6U62ABE	HPE iLO Essentials Electronic License with 1yr Support on iLO Licensed Features	E6U59ABE	HPE iLO Advanced Electronic License with 1yr Support on iLO Licensed Features
E6U61ABE	HPE iLO Essentials Electronic License with 3yr Support on iLO Licensed Features	E6U64ABE	HPE iLO Advanced Electronic License with 3yr Support on iLO Licensed Features

Table 2: Discontinued iLO Advanced for BladeSystem Licenses and Replacement Part Numbers (OBS 31 January, 2019):

SKU	Description	Replacement SKU	Replacement SKU Description
512489-B21	HPE iLO Advanced for BladeSystem 8-server License with 1yr Support on iLO Licensed Features	None	None
512488-B21	HPE iLO Advanced for BladeSystem 1-server License with 1yr Support on iLO Licensed Features	512485-B21	HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features

Table Continued

BD502A	HPE iLO Advanced for BladeSystem 1-server License with 3yr Support on iLO Licensed Features	BD505A	HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features
E6U60ABE	HPE iLO Advanced for BladeSystem Electronic License with 1yr Support on iLO Licensed Features	E6U59ABE	HPE iLO Advanced Electronic License with 1yr Support on iLO Licensed Features
E6U63ABE	HPE iLO Advanced for BladeSystem Electronic License with 3yr Support on iLO Licensed Features	E6U64ABE	HPE iLO Advanced Electronic License with 3yr Support on iLO Licensed Features
512490-B21	HPE iLO Advanced for BladeSystem Flexible Quantity License with 1yr Support on iLO Licensed Features	512486-B21	HPE iLO Advanced Flexible Quantity License with 1yr Support on iLO Licensed Features
BD503A	HPE iLO Advanced for BladeSystem Flexible Quantity License with 3yr Support on iLO Licensed Features	BD506A	HPE iLO Advanced Flexible Quantity License with 3yr Support on iLO Licensed Features
512491-B21	iLO Advanced for BladeSystem AKA Tracking License with 1yr Support on iLO Licensed Features	512487-B21	iLO Advanced AKA Tracking License with 1yr Support on iLO Licensed Features
BD504A	iLO Advanced for BladeSystem AKA Tracking License with 3yr Support on iLO Licensed Features	BD507A	iLO Advanced AKA Tracking License with 3yr Support on iLO Licensed Features
BD503AAE	HP iLO Adv-BL incl 3yr TS U E-LTU	E6U64ABE	HPE iLO Advanced Electronic License with 3yr Support on iLO Licensed Features

Table 3: Discontinued iLO Advanced Premium Security Edition Licenses and Replacement Part Numbers (OBS after release of iLO 5 v1.40):

SKU	Description	Replacement SKU	Replacement SKU Description
Q7E12AAE	HPE iLO Advanced Premium Security Upgrade Electronic License with 3yr Support on Licensed Features	None	None
Q7E31A	HPE iLO Advanced Premium Security Edition License with 1yr Support on Licensed Features	512485-B21	HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features

Table Continued

Q7E33A	HPE iLO Advanced Premium Security Edition License with 3yr Support on Licensed Features	BD505A	HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features
Q7E32AAE	HPE iLO Advanced Premium Security Edition Electronic License with 1yr Support on Licensed Features	E6U59ABE	HPE iLO Advanced Electronic License with 1yr Support on iLO Licensed Features
Q7E34AAE	HPE iLO Advanced Premium Security Edition Electronic License with 3yr Support on Licensed Features	E6U64ABE	HPE iLO Advanced Electronic License with 3yr Support on iLO Licensed Features
Q7E32A	HPE iLO Advanced Premium Security Flex Qty License with 1yr Support on Licensed Features	512486-B21	HPE iLO Advanced Flexible Quantity License with 1yr Support on iLO Licensed Features
Q7E34A	HPE iLO Advanced Premium Security Flex Qty License with 3yr Support on Licensed Features	BD506A	HPE iLO Advanced Flexible Quantity License with 3yr Support on iLO Licensed Features
Q7E35A	iLO Advanced Premium Security AKA Tracking License with 1yr Support on Licensed Features	512487-B21	iLO Advanced AKA Tracking License with 1yr Support on iLO Licensed Features
Q7E36A	iLO Advanced Premium Security AKA Tracking License with 3yr Support on Licensed Features	BD507A	iLO Advanced AKA Tracking License with 3yr Support on iLO Licensed Features

NOTE: iLO Scale-Out licenses were discontinued as of February 5, 2018.

Factory Install Option

As of June 2017, the #0D1 option (factory installed), which provided customers the ability have the iLO license installed in the factory, is no longer available with iLO electronic SKUs. However, HPE will still provide the #0D1 option (factory installed) with a physical license.

If you currently use the #0D1 option with iLO electronic SKUs, use the equivalent physical SKU along with the #0D1 option to get the factory-installed facility.

Retired product number	New product number	Description
E6U59ABE 0D1	512485-B21 #0D1	HPE Factory Installed/Pre-installed
		HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features
E6U64ABE 0D1	BD505A #0D1	HPE Factory Installed/Pre-installed
		HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features

For more information, see **HPE iLO license product numbers (SKUs)**.

Security

HPE iLO security features, introduced in Gen10, build on the world's most security industry standard servers by providing premium security capabilities that protect your Hewlett Packard Enterprise servers from attacks, detect intrusions, and allow you to recover your firmware securely. These features are available on all HPE ProLiant Gen10 Servers with iLO5. With iLO5 versions prior to v1.40, these features are available with an iLO Advanced Premium Security Edition License. With iLO5 v1.40, these features will now be available with an iLO Advanced license.

- **Commercial National Security Algorithms (CNSA Mode)**: Highest level of security in the industry

- **Runtime Firmware Verification**: Periodic scanning of firmware to verify integrity

- **Automatic Secure Recovery**: Recover to authentic firmware immediately in the unlikely event of compromised firmware

- **Secure Erase of User Data**: Sanitization of flash parts to ensure a pristine server configuration for redeployment or initial production

> (!) **IMPORTANT:** iLO Advanced premium security features are only available with iLO 5 and Gen10 servers.
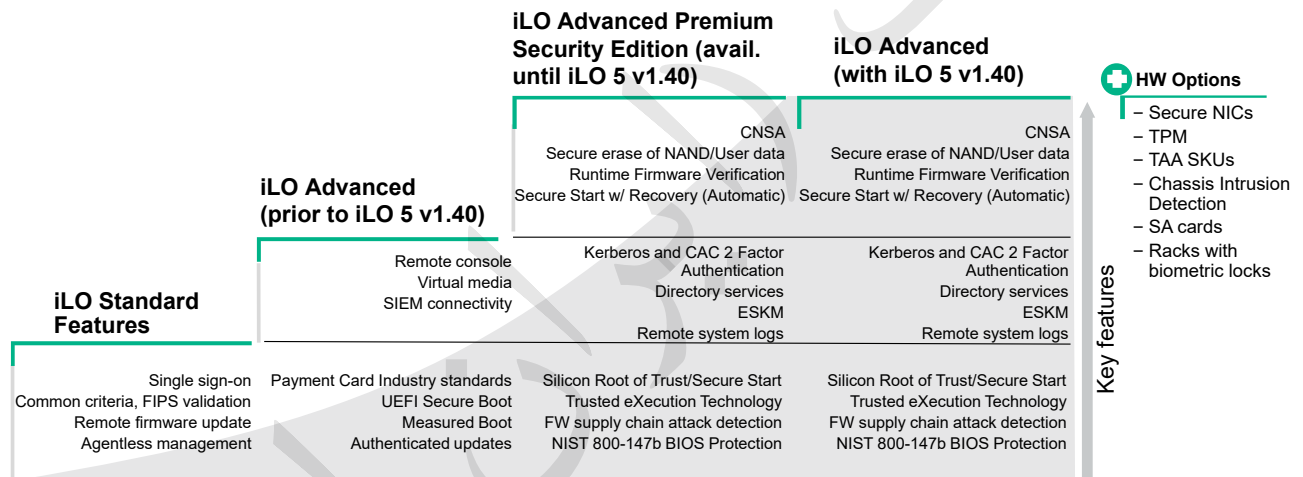
Acronym definitions:

- **CAC**: Common Access Card - 2-factor authentication used by US military and related industries

- **CNSA**: Commercial National Security Algorithm suite - highest level cryptology

- **ESKM**: HPE Enterprise Secure Key Manager - for securing keys for storage encryption

- **FIPS**: Federal Information Processing Standard Publication 140-2

- **NAND**: NAND Flash memory - non-volatile memory storage

- **SIEM**: Security Information and Event Management software - products such as HPE ArcSight, Splunk

- **TAA**: Trade Agreements Act (19 U.S.C. & 2501-2581) - required for many sales to the US government

- **TPM**: Trusted Platform Module

Silicon Root of Trust

- HPE exclusive feature: essential firmware security is anchored directly into the silicon
- HPE builds our iLO silicon and writes our firmware code
- HPE unique FW integration; competitors buy general purpose BMCs off the shelf without ability to tie the firmware to hardware
- HPE Secure Compute protects millions of lines of FW code that run before the OS even boots.

Runtime Verification

- Verify integrity of essential system firmware.
- Customer picks the scheduled scan interval
- Verified good & malware free redundant firmware repository
- Detection of compromised code or malware residing in essential key firmware
- Customer notification of detected compromised essential firmware code

Secure Recovery

- Recovering essential firmware to known good state after detection of compromised code
- Customer Recovery Options:
  - Factory Recovery Set
  - Customer-defined Recovery Set
  - Logging Only (forensics mode)

Commercial NSA

- Commercial National Security Algorithms
- Used for handling the most confidential and secret information
- Uses the highest allowed level of commercial cryptography in the industry

Quick pick: Which HPE iLO license is right for me?

Trial license: Free 60-day

You can sign up for a 60-day free trial iLO license to test drive our licensed features.

⚠ **CAUTION:** Installing a previously purchased HPE iLO Advanced Premium Security Edition free evaluation license on a HPE Gen10 Server with an active iLO license (your purchased iLO License) will overwrite the existing iLO license. Be sure to record your existing iLO license before applying the trial license.

Use one of the following methods to record and retrieve your existing license:

- Register your key at the Licensing Portal. Follow the instructions on your License Entitlement Certificate OR your email if you purchased an electronic license.

- Use the Back Up and Restore feature prior to applying this trial license key.

NOTE: If you have already signed up and applied a trial license to your server, you will not be able to do this. The free trial license key can only be applied to your server once.

Test drive iLO Advanced today: **HPE iLO Advanced**

HPE iLO license options overview

ⓘ **IMPORTANT:**

- **HPE iLO Support for Standard Features**—iLO standard features support is covered under the hardware warranty for your server.

- **HPE iLO Support for Licensed Features**—Purchasing one (1) and three (3) year support licenses refers to the length of the support agreement for **licensed iLO features**. When you register your license, HPE prepares a support agreement. Once the support agreement expires, you can continue to use licensed features. However, support for those licensed features is not available. You have the option to renew licensed features support.

- HPE iLO licenses **do not expire**. Once it is installed on the server, the license will remain on that server even if the license support expires. Licenses are valid for the life of the server on which they are installed.

- HPE iLO license options vary by server platform and sales region. For a detailed list of options available for a specific product number, see **HPE iLO license product numbers (SKUs)**.

Beginning the license options selection process

Procedure

1. To determine the best purchasing option, select the options that best meets your needs in the table below.

iLO Advanced license options	
Supported servers:	All HPE servers with iLO, and Moonshot cartridges with iLO used in an Edgeline chassis.
Includes:	A full set of robust iLO features, and additionally, after the release of iLO 5 v1.40, all the features previously only included in iLO Advanced Premium Security Edition license.
	NOTE: If you are licensing an HPE Server Edgeline Chassis and require iLO Advanced features, you must purchase an iLO Advanced license for EACH cartridge in the enclosure. Select the quantity of iLO licenses based on the number of server cartridges.
	If you are ordering more than five (5) iLO licenses, HPE recommends that you review our Flexible Quantity or Tracking/Activation Key Agreement Licenses.
Purchasing options:	• Single server (1-10 servers): **Advanced Single-server**
	• Flexible quantity (11-99 servers): **Advanced Flexible Quantity**
	• Pay as you go AKA/Tracking (100 or more servers): **Advanced Pay as you go volume (AKA/Tracking)**
Installation options:	• Self-installed
	• Preinstalled
Delivery options:	• Paper/Physical
	• Electronic

2. In the table, click the purchasing options link that corresponds to your selection to go to **HPE iLO license product numbers (SKUs)** and determine the license product number that matches your installation, delivery, and support requirements.

HPE iLO license product numbers (SKUs)

The following tables list available HPE iLO license product numbers (SKUs) and the delivery, support, and registration options available for each.

NOTE: To insure that iLO single-server physical licenses are installed at the factory at no extra cost, you must include 0D1 option in the product number SKU as shown in the following tables.

IMPORTANT:

- You are entitled to a one (1) or a three (3) year support contract on licensed features.

    NOTE: iLO Standard features are supported under the Server Hardware Warranty.

- iLO license part numbers ending in #0D1 are factory pre-installed iLO licenses. They are installed at an HPE factory at NO extra charge. This ensures your iLO Advanced features are ready to go once you set up your server.

- After your one (1) or three (3) year support contract expires, your HPE iLO licensed features still work, and are enabled. However, you will not have HPE support for those licensed features.

- HPE iLO licenses **do not expire**. Once it is installed on the server, the license will remain on that server even if the license support expires. Licenses are valid for the life of the server on which they are installed.

- HPE iLO standard features are shipped at no extra cost as part of your server purchase.

- The HPE Server Edgeline Chassis supports Server Cartridges with iLO. If you require iLO Advanced features, you must purchase an iLO Advanced license for EACH cartridge in the enclosure. Select the quantity of iLO licenses based on the number of server cartridges.

    If you are ordering more than five (5) iLO licenses, HPE recommends that you review our Flexible Quantity or Tracking/Activation Key Agreement Licenses.

Table 4: Advanced > Single-server - iLO 3, 4, and 5

Product number	Delivery	Support term for licensed features [1,2]	Is this HPE factory installed/preinstalled? (the recommended option) [3]	Description
512485-B21	Physical	1-year 24x7	No	NOT HPE Factory Installed/Pre-installed HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features[4]
512485-B21 #0D1	Physical	1-year 24x7	Yes	HPE Factory Installed/Pre-installed HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features - Factory Installed/Pre-installed
BD505A	Physical	3-year 24x7	No	NOT HPE Factory Installed/Pre-installed HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features
BD505A #0D1	Physical	3-year 24x7	Yes	HPE Factory Installed/Pre-installed HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features - Factory Installed/Pre-installed
E6U59ABE	Electronic	1-year 24x7	No	NOT HPE Factory Installed/Pre-installed HPE iLO Advanced Electronic License with 1yr Support on iLO Licensed Features
E6U64ABE	Electronic	3-year 24x7	No	NOT HPE Factory Installed/Pre-installed HPE iLO Advanced Electronic License with 3yr Support on iLO Licensed Features

[1] You are entitled to a one (1) or a three (3) year support contract on licensed features. After your one (1) or three (3) year support contract expires, your iLO licensed features still work, and are enabled. However, you will not have HPE support for those licensed features. Your licenses do not expire. They are valid for the life of the server on which they are applied.

[2] iLO standard features and firmware updates are supported under the Server Hardware Warranty Contract. iLO firmware updates are available at http://www.hpe.com/support/iLO5.

[3] When selecting factory pre-installed (#0D1) iLO licenses, you can only buy one (1) license per server purchased on the same order. If you need to buy more than one (1) license, either select more servers OR select an iLO NON pre-installed license.

[4] License registration is not available in the Americas (AMS) and Asia Pacific or Japan (APJ) regions for these licenses. Your license key is printed on the installations instructions that are shipped with your order. Retain this key for your records and to obtain support.

Table 5: Advanced > Flexible Quantity - iLO 3, 4, and 5

Product number	Delivery	Support term for licensed features [1,2]	Is this HPE factory installed/ preinstalled? (the recommended option)	Description
512486-B21	Physical	1-year 24x7	No	NOT HPE Factory Installed/Pre-installed HPE iLO Advanced Flexible Quantity License with 1yr Support on iLO Licensed Features
BD506A	Physical	3-year 24x7	No	NOT HPE Factory Installed/Pre-installed HPE iLO Advanced Flexible Quantity License with 3yr Support on iLO Licensed Features

[1] You are entitled to a one (1) or a three (3) year support contract on licensed features. After your one (1) or three (3) year support contract expires, your iLO licensed features still work, and are enabled. However, you will not have HPE support for those licensed features. Your licenses do not expire. They are valid for the life of the server on which they are applied.

[2] iLO standard features and firmware updates are supported under the Server Hardware Warranty Contract. iLO firmware updates are available at http://www.hpe.com/support/iLO5.

Table 6: Advanced > Pay as you go volume (AKA/Tracking) - iLO 3, 4, and 5

Product number	Delivery	Support term for licensed features [1,2]	Is this HPE factory installed/ preinstalled? (the recommended option)	Description[3]
512487-B21	Physical	1-year 24x7	No	NOT HPE Factory Installed/Pre-installed HPE iLO Advanced AKA Tracking License 1yr Support on iLO Licensed Features
BD507A	Physical	3-year 24x7	No	NOT HPE Factory Installed/Pre-installed HPE iLO Advanced AKA Tracking License 3yr Support on iLO Licensed Features

[1] You are entitled to a one (1) or a three (3) year support contract on licensed features. After your one (1) or three (3) year support contract expires, your iLO licensed features still work, and are enabled. However, you will not have HPE support for those licensed features. Your licenses do not expire. They are valid for the life of the server on which they are applied.

[2] iLO standard features and firmware updates are supported under the Server Hardware Warranty Contract. iLO firmware updates are available at http://www.hpe.com/support/iLO5.

3 For additional information on AKA, visit **www.hpe.com/info/aka** .

Selecting an HPE iLO license

Selecting license options

To acquire the license that best meets your needs, review and select from:

1. **License options**

2. **Purchasing options**

3. **Delivery options and documentation outputs**

4. **Support options**

HPE iLO license options

HPE iLO licenses activate capabilities, augmenting iLO standard features available on all ProLiant servers.

HPE iLO provides various license types and delivery options that enable you to activate advanced features to suit your infrastructure and business needs. Because licenses are "versionless," you can use any advanced license regardless of the version of iLO you have installed. To determine which licenses are supported for your server model, see **HPE iLO standard and licensed features** .

HPE iLO standard and licensed features

The following table shows standard iLO features that ship at no extra cost in HPE ProLiant, HPE Edgeline, HPE Apollo, and HPE BladeSystem servers with iLO support, and the iLO licensed features that are available with the iLO Advanced license.

> **TIP:** To see a description of a feature, click on its link in the Feature column of the table.

See also:

For descriptions of features, see **Standard and licensed feature descriptions**, or click on the link for the feature in the table.

Table 7: HPE iLO standard and licensed features

Feature	iLO Standard	iLO Essentials[1]	iLO Advanced Premium Security Edition[2]	iLO Advanced iLO Advanced for Blades[1]	iLO Advanced[3]
Platform support	Ships at no extra cost in all servers that support iLO	HPE ProLiant Gen9 100 Series and lower, MicroServer; HPE ProLiant Gen8 SL, BL, and DL160	All Gen10 servers with iLO 5 v1.30 and earlier	All servers (iLO Advanced for BladeSystem for BL and WS servers); plus Moonshot cartridges with iLO used in an Edgeline chassis	All Gen10 servers with iLO 5 v1.40
Active Health System Diagnostics	X	X	X	X	X
Advanced Power Management (Power history graphs, Dynamic Power Capping)			X	X	X
Agentless Management	X	X	X	X	X
Automatic Secure Recovery (Gen10 and later)			X		X
Backup and Restore (Gen10 and later)	X	X	X	X	X

Table Continued

Feature	iLO Standard	iLO Essentials[1]	iLO Advanced Premium Security Edition[2]	iLO Advanced iLO Advanced for Blades[1]	iLO Advanced[3]
Commercial National Security Algorithm (CNSA) Mode (Gen10 and later)			X		X
Core Boosting (Gen10 and later) [4]			X	X	X
Directory Service Authentication			X	X	X
Discovery Services			X	X	X
Email-Based Alerting		X	X	X	X
Embedded Remote Support	X	X	X	X	X
Embedded System Health	X	X	X	X	X
Global Team Collaboration via Integrated Remote Console			X	X	X
iLO Federation Discovery	X	X	X	X	X
iLO Federation Management			X	X	X
iLO Reset [5]	X	X	X	X	X
iLO RESTful API	X	X	X	X	X
iLO Web Interface	X	X	X	X	X

Table Continued

Feature	iLO Standard	iLO Essentials[1]	iLO Advanced Premium Security Edition[2]	iLO Advanced iLO Advanced for Blades[1]	iLO Advanced[3]
Integrated Remote Console (IRC/Virtual KVM —Supports text and graphics)	Pre-OS only for all servers except BL and WS. Standard offering on BL and WS servers	X	X	X	X
Integrated Remote Console Record and Playback			X	X	X
IPMI Over LAN/ DCMI	X	X	X	X	X
IPv6	X	X	X	X	X
Jitter Smoothing (Gen10 and later)			X	X	X
Pre-Boot Health Summary [6]	X	X	X	X	X
Remote Syslog			X	X	X
RIBCL	X	X	X	X	X
Runtime Firmware Verification (Gen10 and later)			X		X
Scripted Virtual Media			X	X	X
Secure Erase of Non-Volatile Storage (NAND/ User Data)			X		X
Silicon Root of Trust (Gen10 and later)	X	X	X	X	X

Table Continued

Feature	iLO Standard	iLO Essentials[1]	iLO Advanced Premium Security Edition[2]	iLO Advanced / iLO Advanced for Blades[1]	iLO Advanced[3]
SSH Command Line Interface	X	X	X	X	X
Text-based Remote Console (Textcons)			X	X	X
Text-Based Remote Console via SSH[7]			X	X	X
Two-Factor Authentication (Kerberos, Smart Card - PIV/ Common Access Card)			X	X	X
Virtual Media via Integrated Remote Console	Standard offering on BL and WS servers only	X	X	X	X
Virtual Power Button	X	X	X	X	X
Virtual Serial Port	X	X	X	X	X
Virtual Serial Port Record and Playback			X	X	X
Workload Matching Profiles (Gen10 and later)	X	X	X	X	X

1   Unavailable for purchase after January 31, 2019.

2   Unavailable for purchase after the release of iLO 5 v1.40.

3   Available for purchase after the release of iLO 5 v1.40.

4   Core Boosting works with selected Intel processors to enable higher performance across more processor cores. For more information, see the HPE Gen10 Servers Intelligent System Tuning white paper, available from www.hpe.com/support/gen10-intelligent-system-tuning-en.

5   iLO Reset is available only on HPE Gen9 servers and above.

6   Pre-Boot Health Summary is available only on HPE Gen9 servers and above.

Text-Based Remote Console via SSH is supported only on servers that are configured to use the Legacy BIOS boot mode. It is not supported on servers that are configured to use UEFI mode.

Purchasing options

iLO licenses are available directly from HPE and from HPE sales partners. The best way to obtain an iLO license is to purchase the software license at the same time you purchase your HPE server. However, if you are located in the US, you can also purchase your license separately from the HPE Small Business Marketplace site at **http://www.hpe.com/marketplace**.

Options are:

- **Single-Server License**—A single license installation.

- **Flexible Quantity License**—A single license entitlement to install on multiple iLO servers.

- **Volume Licensing or "Tracking License"**—An Activation Key Agreement (AKA) valid for future license activations.

Use the following questions and answers to help you select from the options available.

How many License Entitlement Certificates do I receive, either through paper/physical or electronic delivery?

Single Server	Flexible Quantity	Volume Licensing or "Tracking License"
One entitlement certificate for each license ordered. For example, if you order this license for 10 servers, you receive 10 certificates.	One single software entitlement certificate. When you register the entitlement online, you receive one single key to activate licensed features on multiple iLO servers. For example, if you order this license for 10 servers, you receive a single entitlement that enables you to use iLO advanced features on 10 servers.	None. This option is an "invoice only" option. This option is an efficient Volume Licensing Program delivered through an Activation Key Agreement (AKA). It provides one master key (per product) that is assigned to your company, department, or branch—eliminating the need to maintain multiple keys. Your assigned master key code is valid for all future purchases of license activations for up to three years and can be used worldwide. You can add new products to your AKA under an amendment during the term of your agreement. For more information, see **Volume Licensing or "Tracking License" details** on page 25.

When I register my license online, how many activation keys do I receive?

Single Server	Flexible Quantity	Volume Licensing or "Tracking License"
One for one. You receive one key for each single license ordered.	One for many. You receive one key for all licenses ordered.	No registration is required. A master key is provided when you sign the Activation Key Agreement. For more information, see **Volume Licensing or "Tracking License" details** on page 25.

When is each license type the best option?

Single Server	Flexible Quantity	Volume Licensing or "Tracking License"
This license is the best option if you: • Are purchasing a small number of ProLiant servers at a time • Already own ProLiant servers and need iLO licenses • Do not need the same license for multiple servers	This license is the best option if you: • Require a one-time purchase of iLO licenses for your current ProLiant installed base • Purchased quantities of new ProLiant servers and need an equivalent number of software licenses to match the number of servers purchased • Want to curtail the number of license activation keys in use • Want to minimize physical deliverables, preferring a single license key per quantity of licenses purchased at any given time	This license is the best option if you: • Plan to purchase a volume of iLO over time and on a regular basis • Want a simple software licensing option that provides one key per product for all licenses subsequently purchased over time • Want to eliminate the need to maintain multiple license keys in your data center over time • Want to use your keys worldwide • Want the least number of physical deliverables (no deliverables associated with the tracking licenses) • Want to add iLO licenses as a line item to standard ProLiant configurations purchased regularly from HPE or HPE partners or wanting to add iLO to existing ProLiant sales contracts with HPE For more information, see **Volume Licensing or "Tracking License" details** on page 25.

Volume Licensing or "Tracking License" details

• Each master key that is issued is intended for future purchases of license activation keys.

• A master key is not intended to replace any:

- Existing licenses residing on existing servers

- Entitlement certificates purchased but not redeemed, or redeemed but not deployed

- Entitlement certificates bundled with hardware purchases

- You cannot use a master key to replace any upgrade licenses.

- The maximum term under the AKA contract is three years. You can select a one, two, or three-year contract. At the end of your contract term, you must cease using your master keys. When the original agreement expires, you can add an amendment to continue usage of your master key, or you can process a new AKA if you have reached your forecast.

- There is no entitlement certificate sent, eliminating the need to complete the license entitlement redemption process.

- In most cases, your HPE account manager bundles the AKA tracking SKU with your server configurations (BOM), so when each server is purchased, the license SKU is included and paid for at the same time.

Delivery options and documentation outputs

In most cases, you can select how you want HPE to provide the information you require to activate and install your license. Depending on your location and your product, the following options are available.

- Recommended: Factory installed/pre-installed

- Self-installed

Documentation outputs are as follows.

With paper/physical license delivery, including the factory installed option, you will receive a License Documents envelope.

1. This envelope is marked **License Documents Enclosed**.
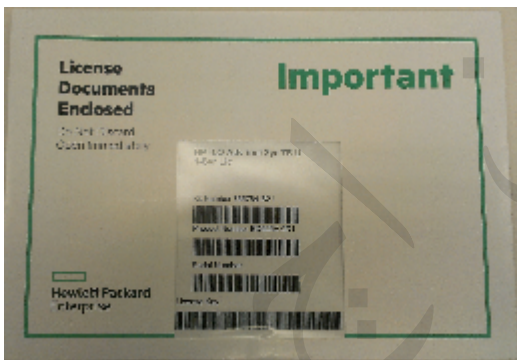
The envelope contains:

- A printed License Entitlement certificate with your iLO license key

- Important information about your Support Contract

- Instructions on how to ensure that you have a valid HPE iLO license key

- Instructions on how to register your iLO license

2. This type of license is no longer available.

IMPORTANT: The type of HPE iLO License shown below has been retired. You should receive an HPE envelope as shown above. If you receive a license in the format shown below, with stickers applied, contact the HPE Licensing Team. Refer to **HPE iLO licensing support contact addresses** for more information.
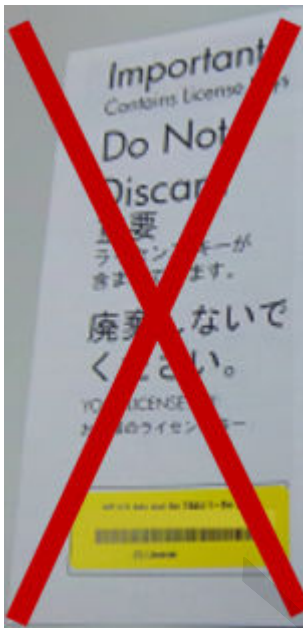
License Entitlement Certificate

IMPORTANT: Retain your License Entitlement Certificate in a secure location. It contains information that you must use to activate your license. If you received your License Entitlement Certificate electronically, print a copy to store for future reference.

The following example shows a License Entitlement Certificate for an HPE iLO Advanced single-server license with a one-year support option. The information listed in this certificate depends on the type of license purchased and the delivery option selected.

License Entitlement Certificate

![Hewlett Packard Enterprise logo]

Please **keep this document** for future reference and as proof of your License To Use.

Certificate Issue Date:
14-Jun-17

Product Quantity: 1

For more information on HPE iLO, visit
http://www.hpe.com/support/iLO LicenseGuide-en

(1) **iLO Advanced Single Server incl 1yr 24x7 support**

(2) Kit Number L9Q79-63101

[barcode]
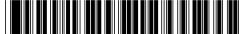
Product Number 512485-B21 0D1

[barcode]

Serial Number

[barcode]

(7) [QR code]
51973034184
www.hpe.com/products/validate

Dear HPE End User Customer

Important Action is required!

Entitlement Order Number

(3) [box]

Register your License(s) at
https://myenterpriselicense.hpe.com to
activate your Support Agreement using the
Entitlement Order Number (EON) above.

Keep track of all your product license keys
in one place via the licensing portal
https://myenterpriselicense.hpe.com.

Access to HPE Support Center
www.hpe.com/downloads/software

Verify your HPE iLO license authenticity,
go to www.hpe.com/products/validate and
enter the code found below the 2D
barcode to the left.

(4) **License Activation:** MyEnterpriseLicense.hpe.com

(5) **Licensing Support:** MyEnterpriseLicense.hpe.com/ContactUs

Your right to use the Software, as well as important restrictions on the use, transfer, and copying of the Software, are set forth in the Software Licensing Terms ("Agreement"), which is either included with this certificate or is accessible during the software installation process. You must review and agree to the Agreement prior to using the Software.

Additional Information **(6)**

License Key	[barcode] **(8)**
	XXXXX-XXXXX-XXXXX-XXXXX-XXXXX

Getting started with HPE iLO is made easy by reading our Guide at http://www.hpe.com/support/iLOLicenseGuide-en
1. Locate your license key (25-digit alphanumeric) on this form.
2. Log in to HPE iLO and navigate to the Administration --> Licensing page.
3. On the Licensing page, enter the 25 alphanumeric license key in the Activation Key box.
4. Press the Tab key or click inside a segment of the Activation Key box to move between segments. The cursor advances automatically when you enter data into the segments of the Activation Key box.
5. Click Install.
6. The EULA confirmation page opens.
7. Review the EULA confirmation details, and click OK.

[barcode]

Template Part Number 5697-0863

Page 1 of 1   Printed in USA

Certificate Part Number

[barcode]

Figure 1: Sample completed License Entitlement Certificate

Information in this document:

1. License product name (abbreviated)

2. Product number (SKU)

3. Entitlement Order Number (EON): Enter this number in the HPE **My License Portal** (**https://myenterpriselicense.hpe.com**) to activate this license. To obtain HPE licensing support, you reference this number.

4. License Activation URL: To complete the optional step of activating your license, click or enter in a browser to access the HPE **My License Portal** (**https://myenterpriselicense.hpe.com**). Benefits of completing this step include:

- Receive important product alerts.

- Access the HPE Support Center (**http://www.hpe.com/support/hpesc**).

- Activate your unique HPE Support Agreement ID (SAID). Your SAID identifies you and keeps track of your products so that HPE can provide fast, personalized support.

5. Licensing Support URL: Click or enter in a browser to access the HPE licensing support portal.

6. Additional Information: Lists additional information about installing your license, including your license key.

7. 2D barcode: As part of our ongoing commitment to security, we've now enabled a new iLO key validation process. Users can now leverage a 2D barcode to seamlessly validate their iLO license keys and feel confident that their license keys are HPE authenticated.

8. License key: Retain this information.

With electronic license delivery, you receive:

This Electronic Delivery Receipt email.
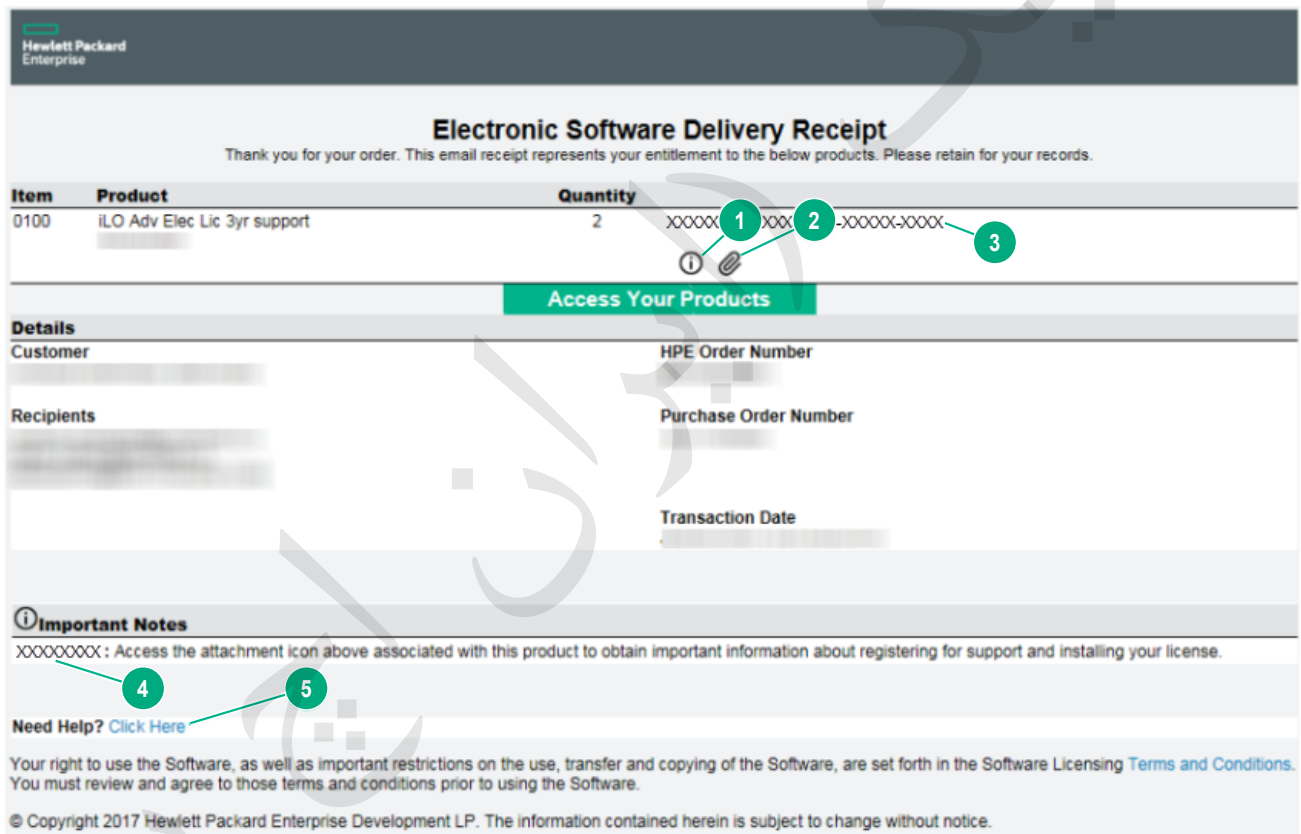
Information in this document:

1. Refer to the Important Notes section below to view important information about the electronic software.

2. Click the paperclip to open a zip file. This file contains two (2) documentation files:

- A PDL provides detailed installation instructions.

- A text document provides a short overview of installation instructions.

3. License key

4. HPE part number

5. Click this link to view frequently asked questions about the licensing portal.

Electronic delivery benefits

- License key is displayed on the electronic delivery receipt

- Provides fast order fulfillment

- Eliminates the need to dispose of physical packaging materials

- Enables you to manage your software assets digitally

Authenticating a license

Always authenticate your license to ensure that your license key is valid and you have a Genuine Hewlett Packard Enterprise Part. There are two ways to authenticate a license:

- Scan the QR/Datamatrix on your License Entitlement Certificate.

- Validating the license by going directly to **https://validate.ext.hpe.com/**. Refer to the steps below.

Procedure

1. Go to **https://validate.ext.hpe.com/**.

2. Enter your Security ID (SID) in the field provided and click **Validate**.
   If your license is valid, you will see the following information:
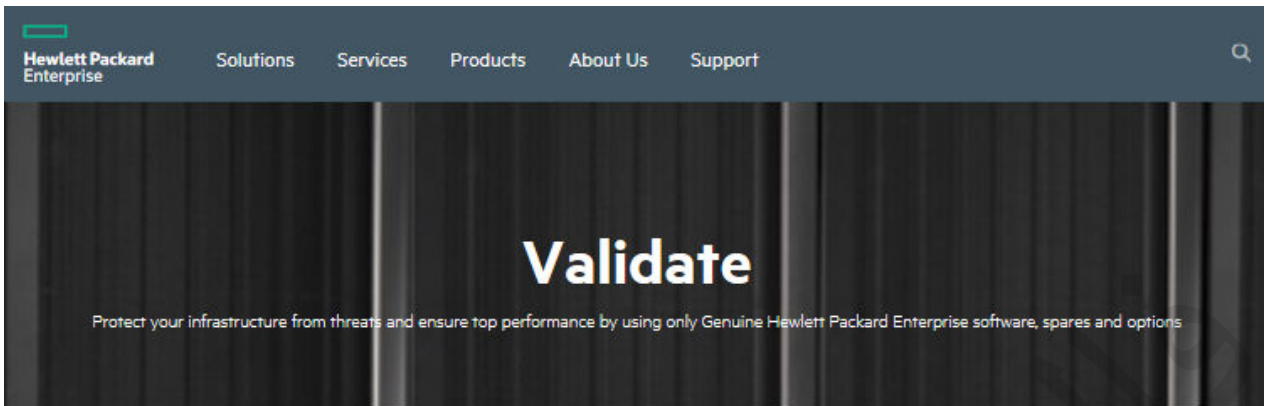
Risks of Counterfeit HPE Software, Spares & Options

HPE starts with the highest quality components. We work with Original Equipment Manufacturers (OEMs) to create specific HPE firmware, drivers, and software that provide optimized performance and manageability.

Around the world, a number of fraudulent HPE parts are being represented as new HPE product. These parts are packaged as HPE Option Kits and Spares Kits. HPE is providing these tools and information to allow validation of authentic HPE parts.

Validate Your Parts

Enter the Security ID (SID) from your product's security label into the field below and click Validate. If you do not see your label here, HPE has additional information on older label revisions found on drives and memory.

XXXXXXXXXXXX
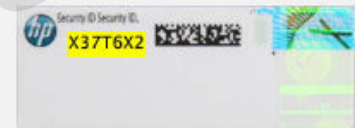
VALIDATE

Hewlett Packard Enterprise Security Labels use several authentication factors, including the Security ID and hologram.

Security ID _____ is valid, and your part is likely a Genuine Hewlett Packard Enterprise Part. Please complete the validation process by performing a visual inspection of the label hologram, using the guidelines found below.

Security Label validation does not indicate whether the part is covered by an active warranty or contract. If you need service or support with this part, please visit the HPE Support website.

Locating the Label

HDD/SSD

Most often found overlapping top or bottom edge of large white label

Memory DIMM

Usually found on the right side of the DIMM – opposite the memory specification label.

Processor & Heatsink

Processor kits can be validated via the label affixed to the bundled heatsink.

Aruba Transceiver

Beginning in 2017, Security ID numbers can be found on HPE Aruba transceivers. The "SID" can be validated on this site.

License Activation: MyEnterpriseLicense.hpe.com
Licensing Support: MyEnterpriseLicense.hpe.com

Software

Beginning in 2017, security features in the form of 2D datamatrix barcodes can be found in some HPE software licenses.

Packaging

The hardware commodities listed here also ship with tamper evident labels on their packaging. You can validate your purchase with the Security ID found on this label.

Visual Inspection - Label Hologram

To help prevent Security Labels from being counterfeited, HPE uses a two-factor authentication system. The Security ID can be validated at the top of this web page, and the hologram can be validated with the guidelines here.

Additional hologram images and details can be found on these pages regarding Security Labels found on Genuine HPE drives and memory.

For the November 2016 release:

1. Rotate label up and down - "HPE" and "Hewlett Packard Enterprise" will move in and out, in opposite directions.

2. Rotate label left and right - "HPE" and "Hewlett Packard Enterprise" will move horizontally, in opposite directions.

For the July 2015 release:

1. Rotate label up and down - the "ok" and ✔ move in and out, in opposite directions.

2. Rotate label left and right - the "ok" and ✔ move in the same direction around the center logo.

For the June 2011 release:

1. Security strip has holographic medallions which switch from HP to ✔ to OK and fade to transparent. The holographic ink is bright green in color.

2. Partial medallions (incomplete circles) are okay, but they must still alternate between the three images and must each be bright green in color.

Introduced in 2016

Introduced in 2015
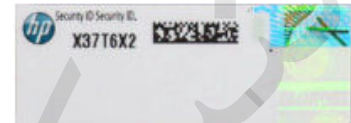
Introduced in 2011

Evidence of Label Tampering

2016 Release

Labels are designed that they cannot be removed whole. Any label that exhibits rips or tears has been tampered with.

2015 Release

Labels are designed that they cannot be removed whole. Any label that exhibits rips or tears has been tampered with.

2011 Release

Labels that have been tampered with or removed will damage the label and leave behind a residue on the part.

If your license is invalid, you will see the following information:

Validate Your Parts

Enter the Security ID (SID) from your product's security label into the field below and click Validate. If you do not see your label here, HPE has additional information on older label revisions found on drives and memory.

XXXXXXXXXXX

VALIDATE

Hewlett Packard Security Labels use several authentication factors, including the Security ID and hologram.

Security ID ▨▨▨▨▨ is invalid, and your part is likely to be counterfeit. Non-HPE parts have not been validated to meet HPE's quality and performance standards. Using non-HPE parts introduces risk to the security and performance of your HPE hardware.

Please help Hewlett Packard Enterprise investigate possible counterfeits by reporting them.

REPORT

If you need help locating the Security Label on your part, please see the information below.

Support options

Each HPE iLO license includes either a one-year, or a three-year support contract. In most cases, when you activate your license as described in the following procedures, HPE sends an email with information about the support you purchased with your license.

> (!) **IMPORTANT:**
>
> - You do not need your support contract to obtain the iLO licensed features. Once you have entered the valid key, iLO licensed features will be enabled on your server.
>
> - You are entitled to a one (1) or a three (3) year support contract on licensed features.
>
> - After your one (1) or three (3) year support contract expires, your **HPE iLO licensed features still work, and are enabled**. However, you will not have HPE support for them.
>
> - **Your licenses do not expire**. They are valid for the life of the server on which they are applied.
>
> - HPE iLO **standard features** are **supported under the server hardware warranty**.

For details about a specific license, see **HPE iLO license product numbers (SKUs)**.

Registering and redeeming a license key

Why register your licenses?

Registering your iLO licenses is important. Doing so:

- Provides important product alerts.

- Provides access to the HPE Support Center.

- Activates your unique HPE Support Agreement ID (SAID).

  Your SAID identifies you and keeps track of your products so that HPE can provide fast, personalized support.

  NOTE: At this time, the HPE Licensing Portal does not track SAID agreements.

- Allows you to keep track of all your HPE product licenses in one convenient place via the HPE Licensing Portal.

To register one or more licenses:

Procedure

1. Locate the Entitlement Order Number (EON) listed on your **License Entitlement Certificate** or **Licensing Confirmation Email**.

2. Follow the steps for **Registering a license**.

Best practices for retaining license information

- If you received your license electronically, retain the Electronic Delivery Receipt email for future reference.

- If you received a non-electronic (paper/physical) license that is shipped in the HPE iLO license envelope, retain your License Entitlement Certificate paperwork for future reference.

- After you purchase and activate a license, forward the confirmation emails you receive from HPE to others in your organization who might need to manage licenses in the future.

  ◦ You can easily forward the activation receipt and confirmation email to an address you specify during the license registration process. See **Activating a license**.

  ◦ If you are not the original purchaser of a license, request a copy from the person in your organization who made the purchase.

  ◦ For licenses that are not shipped in an HPE iLO license package, you can use the licensing portal or XML scripting to retrieve your license information. See **Viewing installed license information**.

    NOTE: For security, license key characters are hidden when you view license information in iLO.

- Because you cannot track a license that is shipped in an HPE iLO license package (physical), you must retain physical copies of paperwork that is supplied using that method.

License documentation and activation

Do I need a license activation key?

You must have a license activation key to install and begin using your license. The license activation key is a 5-by-5-character code in the following format and is printed on your License Entitlement Certificate when ordering a physical (paper) license OR via an electronic email:

```
xxxxx-xxxxx-xxxxx-xxxxx-xxxxx
```

> (!) **IMPORTANT:** Record each license activation key and retain it in a secure location for future reference. To ensure that keys are not used in other systems after installation, the key characters are hidden in the **Activation Key** field on the iLO **Administration** > **Licensing** page.

Next steps: Electronic and paper delivery methods

The license documentation you receive and how you must use it to activate your license depends on the delivery method used. Options are as follows:

* Electronic delivery

* Paper delivery not in an HPE iLO license package

For more information, see **Delivery options and documentation outputs**.

Registering a license

Registering your license is optional. Benefits include:

* Receive important product alerts.

* Access the HPE Support Center (http://www.hpe.com/support/hpesc).

* Access software updates via the HPE Update Center (www.hpe.com/downloads/software).

* Activate your unique HPE Support Agreement ID (SAID). Your SAID identifies you and keeps track of your products so that HPE can provide fast, personalized support.

Procedure

1. Locate and review your License Entitlement Certificate.

2. Go to the **My License Portal https://myenterpriselicense.hpe.com** and sign in with your HPE Passport account email address.

   The HPE License Portal welcome page appears and the **Activate My Products** tab is displayed.

3. Enter your **Entitlement Order Number** (EON) and click **Search**

A **Select Products to Activate** page similar to the following example displays your products that are available for license activation.

4. Do one of the following:

- To activate licenses for all products listed, leave the **Select all Products in this family** check box selected.

- To activate a specific license, select the corresponding check box.

5. Click **Next**.

A **Designate Activatee** page appears.

Activate

By activating the licenses and/or downloading the software from this site, you accept these **Terms and Conditions**.

Step 1: Select Products to Activate ▽

You have selected the following product(s) to be activated.

Product Family: **HPE iLO**

iLO Advanced 1 Server License 1yr Support	512485-B21		Quantity to Activate: 1	Available: 1

Step 2: Designate Activatee ▽

Are you activating for yourself or someone else?

◉ **I am activating for myself**

◯ **I am activating on behalf of another user** ⑦

☑ Email License files to this user

⚠ The activation process can take several minutes to complete. After you click Activate, please do not close your browser or navigate away from this page.

Cancel   **Activate**

---

6. Do one of the following:

- To activate the license for yourself, select **I am activating for myself**.

- To activate on behalf of another user, select **I am activating on behalf of another user**, and complete the information about the user.

7. To have license files emailed to the specified user, leave the **Email License files to this user** check box selected.

8. Click **Next**.

The **Activation Complete** page appears.

9. (Optional) To participate in a survey about your license purchasing experience, click the survey link and follow the instructions.

10. Do any of the following:

- To open the installation instructions, click the PDF file link.

- To open the license key, click the .TXT file link.

- To copy the license key, click the **Copy Key to Clipboard** link.

- To download the installation instructions or license key, click the checkbox next to the file(s) you want and then click **Download**.

An Activation Receipt similar to the following example is generated. If you selected the download or share options, your activation receipt is sent via email with your license activation key and installation instructions in an attached zip file.

Activation Receipt

DO NOT DISCARD - Retain for Future Reference

Registered User
tim.smith@xyz.com
United States

Dear Customer,

Thank you for your license activation at the My License Portal. **Your license keys and additior instructions** (if applicable) **are attached to this email.**

Activation Details

Entitlement Order #	Product #	Product Description	Activated Quantity
XXXXXXXXXXXX		HPE iLO Adv incl 3yr TSU E-LTU	1

License Key Details

Product Family: HPE iLO

Get the most of out of your iLO licensed features! Your purchase of an iLO license entitles you t free web-based training. To access your free HPE iLO training, visit our HPE Education website www.hpe.com/ww/iloBundle To access HPE ProLiant training, visit our HPE Education website http://www.hpe.com/ww/learnproliant

Description	File Name
Installation Instructions	iLO_Installation_Instructions.pdf
HPE iLO License Key	HPE_iLOKey .txt

Attachment: license_HPE_iLO_zip

If you have questions, please contact Licensing Support.

Sincerely,

Hewlett Packard Enterprise

11. Retain the Activation Receipt for future reference.

Verifying license activation

√	**Verify:**
	You receive an **Activation Receipt**.
	You can view information about your activated license on the **Software downloads and licenses** page in your HPE Passport account.

Installing a license

License installation methods

You can use the following methods to install a license:

- **Entering the 25-digit alphanumeric license key (aka 5x5 key) in iLO using a browser**

- **Using XML scripting**

- **Using the iLO CLI**

- **Using the RESTful API**

- **Using iLO Federation group licensing**

Prerequisites

Procedure

- Privileges to configure iLO settings

- A license that is supported on the server on which you want to install it

- A license activation key

Entering the 25-digit alphanumeric license key (aka 5x5 key) in iLO using a browser

Procedure

1. Locate your license activation key.

2. Log in to iLO and navigate to the **Administration** > **Licensing** page.
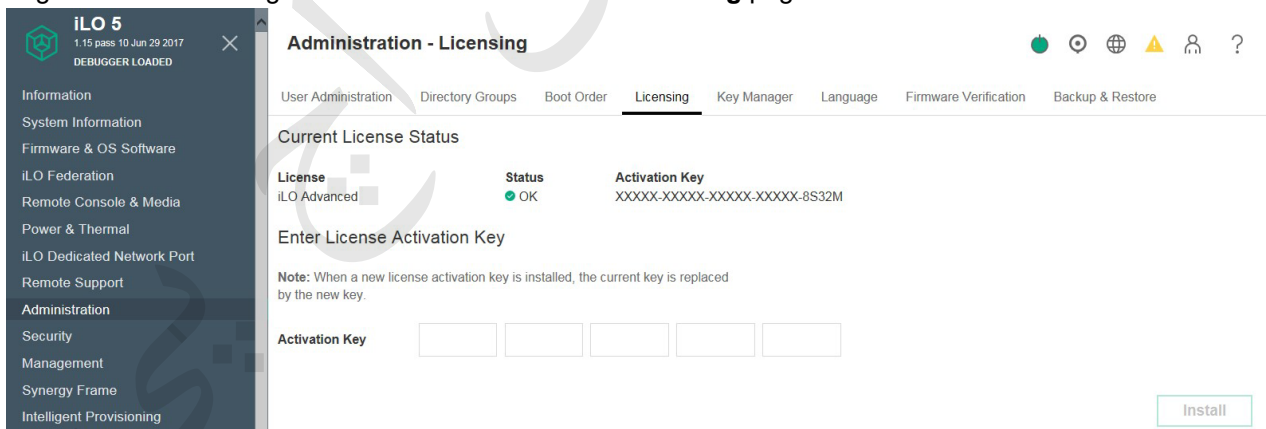
NOTE: Once you enter your activation key in this window, all that will display of it is the last five digits. Record and save your license key somewhere else before you enter it here.

3. On the **Licensing** page, enter the license key in the **Activation Key** box.

To move between segments, press the **Tab** key or click inside a segment of the **Activation Key** box. The cursor advances automatically when you enter data into the segments of the **Activation Key** box.

4. Click **Install**.

The EULA confirmation page opens.

Confirm EULA

You must read and accept the End User License Agreement ("EULA") included with the iLO License Pack to activate these advanced features. This EULA grants Licensee rights to license the advanced features ONLY if the installation keys are Authorized Copies as defined in the EULA. Except as expressly provided in the EULA regarding use of such Authorized Copies, nothing shall be construed as granting any other rights to Licensee. Click the button to acknowledge that you have read and agree to the terms and conditions of the iLO License Pack End User License Agreement.

I agree

5. Review the EULA confirmation details, and click **OK**.

Using XML scripting

You can use XML commands and an advanced scripting interface to install your licenses. This method is useful when you want to roll out license keys as part of a large-scale server deployment. Scripts are XML files written for a scripting language called RIBCL. The following methods are available:

- **Recommended method**: HPQLOCFG (HP Lights-Out Configuration Utility)—A utility that replaces the previous HP Lights-Out Configuration Utility (CPQLOCFG). This utility is a Windows command-line utility that sends XML configuration and control scripts over the network to iLO.

  NOTE: The HPQLOCFG (HP Lights-Out Configuration Utility) has the same command formatting as the CPQLOCFG utility.

- HPONCFG (HP Lights-Out Online Configuration Utility)—A local online scripted setup utility that runs on the host and passes RIBCL scripts to the local iLO. This utility requires the HPE ProLiant iLO 3 or 4 Channel Interface Driver.

- LOCFG (Lights-Out Configuration Utility)—A custom iLO scripting environment that includes a Perl sample you can use to send RIBCL scripts to iLO over the network.

> **NOTE:** Because the HPONCFG and LOCFG utilities run on the server itself, you do not need to enter the server IP address, FQDN, or login credentials when using either of those utilities. All other commands for installing a single-server license are the same for all utilities.

For more information, see:

- The **HPE iLO 5 Scripting and Command-Line Guide**

- **How to Install an iLO License Key Through Scripting**

Sample license XML script

```
<RIBCL VERSION="2.0">
 <LOGIN PASSWORD="password" USER_LOGIN="adminname">
  <RIB_INFO MODE="write">
   <LICENSE>
    <ACTIVATE KEY="11223-34455-66778-89900-AABBC"/>
   </LICENSE>
  </RIB_INFO>
 </LOGIN>
</RIBCL>
```

Recommended procedure: Installing a single license using HPQLOCFG (HP Lights-Out Configuration Utility)

Procedure

1. Locate your license activation key.

2. Go to **www.hpe.com/support/ilo5** and download the latest utility.

3. Locate the folder in which your utility is installed.

4. Move the `License.xml` file into the same folder as the utility.

5. Open a command prompt, navigate to the folder containing the utility and XML file, and open the XML file.

6. Do one of the following:

   - To execute the generic script without modifying it:

     ```
     UtilityName.exe -s IPAddress/fqdn -f xmlFileName.xml -l
     logfile.txt -u username -p password -t KEY="KEY"
     ```

     Example

     ```
     hpqlocfg.exe -s mydl360server.mydomain.com -f License.xml -l
     mylogfile.txt -u adminaccount -p myadminpass123 -t
     KEY="abcde-fghij-klmno-pqrst-uvwxy"
     ```

   - To modify the `License.xml` file:

     a. Enter the login information for the system on which you are installing the license.

        For example: `<LOGIN PASSWORD="myAdminPass123"\6 USER_LOGIN="adminAccount">`

     b. Enter the license key you purchased.

```
<ACTIVATE KEY="abcde-fghij-klmno-pqrst-uvwxy"/>
```

    c. Save the changes to your file, and then execute as follows. To specify verbose (detailed) output, add the `-v` tag.

UtilityName.exe -s *IPAddress/fqdn* -f *xmlFileName*.xml -l *logfile*.txt -v

Example

```
hpqlocfg.exe -s mydl360server.mydomain.com -f License.xml -l
mylogfile.txt -v
```

Sample output

When the non-verbose form of the command is successful, no output is displayed. Verbose output looks similar to the following.

```
<?xml version="1.0"?>
<RIBCL VERSION="2.23">
<RESPONSE
    STATUS="0x0000"
    MESSAGE='No error'
     />
</RIBCL>
<?xml version="1.0"?>
<RIBCL VERSION="2.23">
<RESPONSE
    STATUS="0x0000"
    MESSAGE='No error'
     />
</RIBCL>
```

Installing a single license using HPONCFG (HP Lights-Out Online Configuration Utility) or LOCFG (Lights-Out Configuration Utility)

Procedure

1. Locate your license activation key.

2. Go to **http://www.hpe.com/support/iLO5** and download the latest utility.

3. Locate the folder in which your utility is installed.

4. Move the `License.xml` file into the same folder as the utility.

5. Open a command prompt, navigate to the folder containing the utility and XML file, and open the XML file.

6. At the command prompt, do one of the following:

   • To execute the generic script without modifying it:

   UtilityName.exe -f *xmlFileName*.xml -l *logfile*.txt

   Example
   hponcfg.exe -f License.xml -l mylogfile.txt

   • To modify the `License.xml` file:

a. Enter the license key you purchased.

```
<ACTIVATE KEY="abcde-fghij-klmno-pqrst-uvwxy"/>
```

b. Save the changes to your file, and then execute as follows. To specify verbose (detailed) output, you can add the `-v` tag.

UtilityName`.exe -f `*xmlFileName*`.xml -l `*logfile*`.txt`

Example
```
hponcfg.exe -f License.xml -l mylogfile.txt
```

Using the iLO CLI

Procedure

1. Open a connection in an SSH client application, such as PuTTY.

2. Leave the SSH port as **22**, and the **Connection type** as **SSH**.

3. At the login prompt, enter your user name and password.

   The `hpiLO->` prompt appears.

4. To navigate to the license page, enter `cd map1/oemhp_license1`, and then enter `show`.

   The license information is displayed, including the license type (`oemhp_name1`), and the license key that is partially redacted for security reasons.

5. To add a license, replace `KEY` with your 5X5 license key in the following command:

   ```
   oemhp_licenseinstall KEY
   ```

   Valid formats for entering a license key are:

   - `oemhp_licenseinstall "AAAAA-BBBBB-CCCCC-DDDDD-EEEEE"`

   - `oemhp_licenseinstall AAAAA-BBBBB-CCCCC-DDDDD-EEEEE`

   - `oemhp_licenseinstall AAAAABBBBBCCCCCDDDDDEEEEE`

   - `oemhp_licenseinstall "AAAAABBBBBCCCCCDDDDDEEEEE"`

   The following output is displayed:

   - `status=0`

   - `status_tag=COMMAND COMPLETED`

   - `New license key installed`

Using the RESTful Interface Tool

Procedure

1. Locate your license activation key.

2. Download the RESTful Interface Tool (Windows MSI package, or Linux RPM package) from **https://hewlettpackard.github.io/python-redfish-utility/**.

3. Locate the folder in which you specified the utility to install.

4. Move the `License.json` file into the same folder as the utility.

   Sample license JSON script:

```
{
    "body": {
            "LicenseKey": "XXXXX-XXXXX-XXXXX-XXXXX-XXXXX"
        },
        "path": "/rest/v1/managers/1/LicenseService"
}
```

5. Open a command prompt, navigate to the folder containing the utility and JSON file, and open the JSON file.

6. Replace the default (invalid) license key with your valid key.

7. Save the changes to your file, and execute the RESTful command as follows:

```
ilorest.exe rawpost license.json --url mydl360server.mydomain.com –u
adminaccount -p myadminpass123
```

8. If the command is successful, a message stating that `The resource has been created successfully` appears.

Using iLO Federation group licensing

You can use iLO Federation, a licensed feature, to manage your iLO license keys. The iLO Federation **Group Licensing** page displays the license status for iLO Federation group members, and you can use the **Group Licensing** page to activate iLO licensed features within a configured group.

Consider the following when you use iLO Federation group licensing feature to install a license in these scenarios:

• On the servers in an iLO Federation group, each member of the group must have the **Configure iLO Settings** privilege.

• On multiple servers, you must use a key that is authorized for the number of selected servers.

• On a server that already has a key installed, the new key replaces the current key. If you do not want to replace existing licenses, click **Unlicensed** in the License Information Status table to install licenses only on servers that are unlicensed.

Installing license keys (iLO Federation group)

The **Group Licensing** page displays the license status for members of a selected iLO Federation group. Use the following procedure to enter a key to activate iLO licensed features.

Prerequisites

• Configure iLO Settings privilege

• Each member of the iLO Federation group has granted the Configure iLO Settings privilege to the group.

• The license key is authorized for the number of selected servers.

Procedure

1. Optional: To filter the list of affected systems, click a license type or status link.

For example: If you install a license key on a server that already has a key installed, the new key replaces the installed key. If you do not want to replace existing licenses, click **Unlicensed** in the **Status** section to install licenses only on servers that are unlicensed.

2. Enter a license key in the **Activation Key** box.

   To move the cursor between the segments in the **Activation Key** box, press the **Tab** key or click inside a segment of the box. The cursor advances automatically when you enter data into the segments of the **Activation Key** box.

3. Click **Install**.

   iLO prompts you to confirm that you have read and accept the EULA.

4. Click **I agree**.

   The license is installed and the **License Information** section is updated to show the new license details for the selected group.

Viewing iLO Federation group license information

Procedure

1. Select a group from the **Selected Group** menu.

2. Optional: To filter the list of servers, click a license type or status link in the **License Information** section.

Verifying license installation

√	**Verify:**
	No installation error messages are displayed.
	You can view information about your installed licenses.

Managing licenses

Prerequisites

- An HPE Passport account
- Privileges to configure iLO settings
- An installed license

Viewing installed license information

Viewing installed licenses in iLO

Procedure

1. Log in to iLO and navigate to the **Administration** > **Licensing** page.

2. Under **Current License Status**, view the following information for each installed license:

   - **License**—The license type
   - **Status**—The license status. A green check indicates that the license is installed and active.
   - **Activation Key**—The installed key

     NOTE: For security, key characters are hidden.

Viewing installed licenses in the licensing portal

Procedure

1. Go to **My License Portal** (**https://myenterpriselicense.hpe.com**).

2. Enter your HPE Passport account email address and password, and click **Sign In**.

3. On the **Welcome to My License Portal** page, select **Manage My Assets**.

4. To view information for each installed license, click **My Entitlements**.

5. Log out and close your browser.

Viewing installed licenses using XML scripting

You can use XML commands and one of these **scripting utilities** to view your installed licenses.

NOTE:

Because the HPONCFG and LOCFG utilities run on the server itself, you do not need to enter the server IP address or FQDN when using either of those utilities. All other commands for viewing installed licenses are the same for all utilities.

Sample Get_all_licenses script

```
<RIBCL VERSION="2.0">
 <LOGIN PASSWORD="password" USER_LOGIN="adminname">
   RIB_INFO MODE="read    <GET_ALL_LICENSES/>
  </RIB_INFO>
 </LOGIN>
</RIBCL>
```

Using HPQLOCFG (HP Lights-Out Configuration Utility)

Open a command prompt in the HPQLOCFG utility and do one of the following:

Procedure

- To execute the generic script without modifying it:

  UtilityName.exe -s *IPAddress/fqdn* -f *xmlFileName*.xml -l *logfile*.txt -u
  username -p *password*

  Example

  ```
  hpqlocfg.exe -s mydl360server.mydomain.com -f Get_All_Licenses.xml -l
  mylogfile.txt -u adminaccount -p myadminpass123
  ```

- To modify the `Get_All_Licenses.xml` file:

  1. Enter the login information for the system on which you are installing the license. For example: `<LOGIN PASSWORD="myAdminPass123" USER_LOGIN="adminAccount">`

  2. Save the changes to your file, and then execute as follows. To specify verbose (detailed) output, you can add the `-v` tag.

     UtilityName.exe -s *IPAddress/fqdn* -f *xmlFileName*.xml -l *logfile*.txt

     Example

     ```
     hpqlocfg.exe -s mydl360server.mydomain.com -f Get_All_Licenses.xml -l
     mylogfile.txt
     ```

Using HPONCFG (HP Lights-Out Online Configuration Utility) or LOCFG (Lights-Out Configuration Utility)

Open a command prompt in the HPONCFG or LOCFG utility and do one of the following:

Procedure

- To execute the generic script without modifying it:

  UtilityName.exe -f *xmlFileName*.xml -l *logfile*.txt

  Example

  ```
  hponcfg.exe -f Get_All_Licenses.xml -l mylogfile.txt
  ```

- To modify the `Get_All_Licenses.xml` file:

  1. Modify the file.

  2. Save the changes to the file, and then execute as follows. To specify verbose (detailed) output, you can add the `-v` tag.

```
UtilityName.exe -f xmlFileName.xml -l logfile.txt -v
```

Example

```
hponcfg.exe -f Get_All_Licenses.xml -l mylogfile.txt -v
```
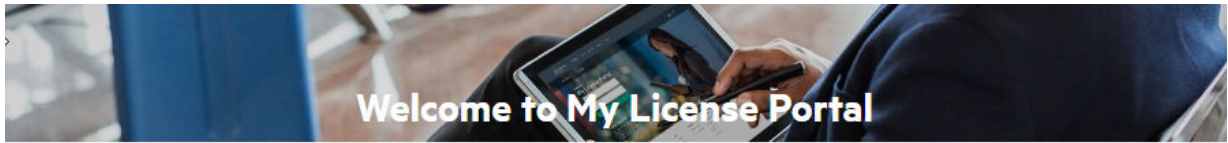
Viewing installed licenses using the iLO CLI

For information, see the **HPE iLO Scripting and Command Line Guide**.

Recovering a lost license key

There are three situations in which you might need to recover a lost license key:

- **System board replacement**: If a system board replacement is required to address a hardware issue, you can use this feature to transfer the iLO configuration from the original system board to the new system board.

  1. Replace the system board and transfer the hardware components from the old system board to the new system board.

  2. Power on the system and ensure that all components are working correctly.

  3. Log in to iLO with the default user credentials for the new system board.

  4. Click **Administration** in the navigation tree, and then click **Backup & Restore**.

  5. Click **Restore**.

  6. Depending on your browser, click **Browse** or **Choose File**, and then navigate to the backup file.

  7. If the backup file is password protected, enter the password.

  8. Click **Upload and Restore**. iLO will prompt you to confirm the request.

  9. Click **Restore**. iLO resets and closes your browser connection. It might take several minutes before you can re-establish a connection.

- **Lost license key**: If a license key is accidentally replaced, or you reset iLO to the factory default settings, and you are not sure which key to install, you can restore the license key and other configuration settings from a backup file.

  1. Log in to iLO with the default user credentials for the new system board.

  2. Click **Administration** in the navigation tree, and then click **Backup & Restore**.

  3. Click **Restore**.

  4. Depending on your browser, click **Browse** or **Choose File**, and then navigate to the backup file.

  5. If the backup file is password protected, enter the password.

  6. Click **Upload and Restore**. iLO will prompt you to confirm the request.

  7. Click **Restore**. iLO resets and closes your browser connection. It might take several minutes before you can re-establish a connection.

- **Retrieving a registered license key from the licensing portal:**

  1. Go to the **My License Portal https://myenterpriselicense.hpe.com** and sign in with your HPE Passport account email address.

  2. Click the **Manage My Assets** link near the top of the page.

3. Click the **Download** icon to the right of your entitlement number. The following screen displays.

4. Retrieve your license key by doing one of two things:

- Click the **HPE_ILOKEY_[###].TXT** link to download a text version of the license key.

- Click **Copy Key to Clipboard** to copy the license key. Then paste the license key into another document and save it.

Reactivating your HPE iLO license key after your server reverts to factory defaults

ⓘ **IMPORTANT:**

If your server reverts to factory defaults, you must reactivate and reinstall your license key on that server.

Troubleshooting

License key network error

Symptom

You are installing a license and you see a `Network error: Connection refused` message.

Cause

You entered an invalid host name or IP address during license installation.

Action

Check for errors in the host name and IP address, and then try again.

Server disconnect error

Symptom

You are installing a license using the iLO CLI and you see a `Server sent disconnect` message.

Cause

The CLI serial console session has been acquired by someone else.

Action

Try establishing a new telnet session and, when can do so, try the command again.

License key installation errors

Symptom

You see a `License Key Error` or a `License Installation Failed` message.

Solution 1

Cause

The key is not an iLO license key.

Action

Obtain an iLO license key, and then try again.

Solution 2

Cause

An evaluation key was submitted when a regular license was previously installed.

Action

None. iLO does not support installing an evaluation key when a regular key was previously installed.

Solution 3

Cause

The iLO date and time settings are incorrect.

Action

Check the iLO date and time settings, and then try again.

Solution 4

Cause

The license key entered is incorrect.

Action

Check for errors in the license key, and then try again.

License key not received after completing the activation process

Symptom

You completed the license activation process but did not receive your license activation key.

Action

1. Locate the Entitlement Order Number (EON) on your **License Entitlement Certificate**.
2. For further assistance, contact the HPE licensing support team, and provide the EON See **HPE iLO licensing support contact addresses**.

HPE iLO license return policy

You can obtain a replacement iLO license if:

- The license is purchased in error, and the associated License Entitlement Certificate key is not yet redeemed. A redeemed license is one that is registered in the **My License Portal** and has an iLO 25-character license key assigned to it.

- The license is self-installed.

- The license is preinstalled at the factory, you lose your EON, and need a new license for a replaced motherboard.

  (!) **IMPORTANT:** Customers that have purchased an EOL license may only receive the same license as replacement. An upgraded iLO Advanced license will not be issued as replacement.

To begin the return policy, contact the licensing team. See **HPE iLO licensing support contact addresses**.

Websites

Websites

General websites
Hewlett Packard Enterprise Information Library
   www.hpe.com/info/EIL

For additional websites, see **Support and other resources**.

Product websites
iLO
   http://www.hpe.com/info/ilo
iLO 5 Information Library
   http://www.hpe.com/support/ilo-docs
iLO Support

   http://www.hpe.com/support/ilo5

iLO Advanced

   http://www.hpe.com/servers/iloadvanced

iLO Advanced Premium Security Edition

   http://www.hpe.com/servers/ilopremium

iLO mobile app
   http://www.hpe.com/info/ilo/mobileapp
Active Health System Viewer

   http://www.hpe.com/servers/ahsv

Intelligent System Tuning

   http://www.hpe.com/info/ist

HPE ProLiant Gen10 servers

   http://www.hpe.com/info/proliantgen10-docs

HPE ProLiant Gen10 and HPE Synergy compute module troubleshooting
   http://www.hpe.com/info/Gen10-troubleshooting
UEFI System Utilities
   http://www.hpe.com/info/ProLiantUEFI/docs
SUM
   http://www.hpe.com/info/sum-docs
SPP
   http://www.hpe.com/info/spp/documentation
Intelligent Provisioning
   http://www.hpe.com/info/intelligentprovisioning/docs
iLO RESTful API and RESTful Interface Tool
   http://www.hpe.com/info/redfish
Remote Support
   http://www.hpe.com/info/insightremotesupport/docs

HPE OneView

http://www.hpe.com/info/oneview/docs

OA

http://www.hpe.com/support/oa/docs

HPE SIM

http://www.hpe.com/info/insightmanagement/sim/docs

Related information

Website	Link
HPE Integrated Lights-Out (iLO) helpful links and resources	**www.hpe.com/support/ilo-resource-ref-en**
Activation Key Agreement (AKA)/Tracking License	**www.hpe.com/info/aka**
HPE iLO	**http://www.hpe.com/info/ilo**
HPE iLO Advanced License video	**https://www.youtube.com/watch?v=8MTcDsS7yQY**
HPE iLO Documentation	**http://www.hpe.com/info/ilo/docs**
HPE iLO Essentials License video	**https://www.youtube.com/watch?v=bTSxIwy5010**
HPE iLO Free Online Training	**http://www.hpe.com/ww/iloBundle**
HPE iLO Licensing	**http://www.hpe.com/info/ilo/licensing**
HPE iLO Licensing (Spanish)	**https://www.youtube.com/watch?v=xYzlph2ZrUE&feature=youtu.be/h**
HPE iLO Mobile App	**http://www.hpe.com/info/ilo/mobileapp**
HPE iLO Technical How-to Videos	**http://www.hpe.com/info/ilo/videos**
HPE Licensing Portal	**https://myenterpriselicense.hpe.com**
HPE ProLiant training	**http://www.hpe.com/ww/learnproliant**
HPE Technical Support	**http://www.hpe.com/assistance**

Support

HPE iLO licensing support contact addresses

NOTE:

- To obtain support, you must provide proof of a license purchase.

- You cannot exchange a license that is redeemed (activated).

- Americas: **licensing.ams@hpe.com**

- Europe, Middle East, and Africa: **licensing.emea@hpe.com**

- Asia-Pacific and Japan: **licensing.apj@hpe.com**

Obtaining your Service Agreement ID (SAID) and accessing updates

The SAID is a 12 digit number assigned for entitlement to a service agreement contract. You must have a SAID to access HPE Technical Support and Software Updates for HPE hardware and software products.

When your license is registered on the **My License Portal**, you receive a Welcome to Support letter or email that includes your SAID, along with other contract information.

After you receive your SAID, you can link it to your HPE Passport account so that you can access updates directly from the Software updates and licensing portal (**http://www.hpe.com/downloads/software**).

Procedure

1. Go to the Hewlett Packard Enterprise Support Center at **www.hpe.com/support/hpesc** and log in using your HPE Passport account.

2. On the left navigation menu, click **Manage my contracts & warranties**.

3. Click **Link support agreements** and follow the instructions.

To access software updates if you have not yet linked your SAID to your HPE Passport account:

- Go to the Software updates and licensing portal at **http://www.hpe.com/downloads/software**, and sign in with your HPE Passport account.

- Select **Directly enter an SAID**, enter your SAID, and click **View available products**.

Renewals for iLO license technical support and software updates

All iLO license activation keys are sold with 1 year or 3 years included HPE Foundation Care 24 x 7 technical support. Once the support reaches the expiration date, you will receive a notification letter and offer for additional support coverage. Contact your HPE account representative or reseller if you do not receive the renewal offer letter before your support expiration date. For continued software updates support, ensure that the HPE hardware product used with your iLO license maintains a valid warranty or support maintenance agreement.

Support and other resources

Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:

  http://www.hpe.com/assistance

- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:

  http://www.hpe.com/support/hpesc

Information to collect

- Technical support registration number (if applicable)

- Product name, model or version, and serial number

- Operating system name and version

- Firmware version

- Error messages

- Product-specific reports and logs

- Add-on products or components

- Third-party products or components

Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.

- To download product updates:

  Hewlett Packard Enterprise Support Center
  > **www.hpe.com/support/hpesc**

  Hewlett Packard Enterprise Support Center: Software downloads
  > **www.hpe.com/support/downloads**

  Software Depot
  > **www.hpe.com/support/softwaredepot**

- To subscribe to eNewsletters and alerts:

  www.hpe.com/support/e-updates

- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page:

  www.hpe.com/support/AccessToSupportMaterials

  ⓘ **IMPORTANT:** Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Passport set up with relevant entitlements.

Customer self repair

Hewlett Packard Enterprise customer self repair (CSR) programs allow you to repair your product. If a CSR part needs to be replaced, it will be shipped directly to you so that you can install it at your convenience. Some parts do not qualify for CSR. Your Hewlett Packard Enterprise authorized service provider will determine whether a repair can be accomplished by CSR.

For more information about CSR, contact your local service provider or go to the CSR website:

http://www.hpe.com/support/selfrepair

Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

Remote support and Proactive Care information
HPE Get Connected
> **www.hpe.com/services/getconnected**

HPE Proactive Care services
> **www.hpe.com/services/proactivecare**

HPE Proactive Care service: Supported products list
> **www.hpe.com/services/proactivecaresupportedproducts**

HPE Proactive Care advanced service: Supported products list
> **www.hpe.com/services/proactivecareadvancedsupportedproducts**

Proactive Care customer information
Proactive Care central
> **www.hpe.com/services/proactivecarecentral**

Proactive Care service activation
> **www.hpe.com/services/proactivecarecentralgetstarted**

Warranty information

To view the warranty information for your product, see the links provided below:

HPE ProLiant and IA-32 Servers and Options
> **www.hpe.com/support/ProLiantServers-Warranties**

HPE Enterprise and Cloudline Servers
> **www.hpe.com/support/EnterpriseServers-Warranties**

HPE Storage Products
> **www.hpe.com/support/Storage-Warranties**

HPE Networking Products
> **www.hpe.com/support/Networking-Warranties**

Regulatory information

To view the regulatory information for your product, view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products*, available at the Hewlett Packard Enterprise Support Center:

www.hpe.com/support/Safety-Compliance-EnterpriseProducts

Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

www.hpe.com/info/reach

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

www.hpe.com/info/ecodata

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

www.hpe.com/info/environment

Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback (**docsfeedback@hpe.com**). When submitting your feedback, include the document title, part number, edition, and publication date located on the front cover of the document. For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.

HPE iLO customer scenarios

Business requirements and solutions

Managing multiple servers from one system

> **NOTE:** On an HPE Gen10 Server with iLO 5 v1.40, all of the following features are available with the iLO Advanced license. With the release of iLO 5 v1.40, all iLO Essentials, iLO Advanced for BladeSystem, and iLO Advanced Premium Security Edition features will be included in the iLO Advanced license.

Requirement

You are a mid-size business with a few servers, and many virtual machines. You must manage these servers from a single pane of glass without purchasing an additional server or complex tools.

Solution

Use HPE iLO Federation to:

- Manage multiple servers from one system by running the iLO web interface.

- Communicate with other iLO systems via multi-cast discovery, peer-to-peer communication, and iLO Federation groups.

- Retrieve iLO Federation data. When data is loaded on an iLO Federation page in the iLO web interface, a request for data is sent from the iLO system running the web interface to its peers, and from those peers to other peers, until all the data for the selected iLO Federation group is retrieved.

- View information from iLO Federation nodes.

- Deploy settings to iLO Federation nodes. (Required license: iLO Advanced)

Configuring, managing, and optimizing server performance

Requirement

You want to create, read, update, or delete information on a server using simple HTTPS calls.

Solution

Use the iLO RESTful API implementation in UEFI and iLO. It provides:

- A new, single command-line interface tool

- Redfish Protocol compliance

- A programmable, intelligent management solution that helps ensure that your servers are scalable, secured, discoverable, and extensible

Protecting your data

Requirement

You want to protect your server from unauthorized access and data breaches.

Solution

Use UEFI and HPE iLO.

- With UEFI server configuration you can:

- ◦ Create a chain of trust for installation authentication.

- ◦ Increase server security with four new levels of Secure Boot options

- With iLO server access and management, featuring two-factor user authentication, you can protect your server with:
  - ◦ The iLO Event Log

  - ◦ Agentless Management

  - ◦ Directory services integration (Required license: iLO Advanced)

  - ◦ LDAP

  - ◦ Role-based access control within iLO

  - ◦ Kerberos-based Single-Sign-on (Required license: iLO Advanced)

Implementing a standardized method for server control and monitoring

Requirement

Your company has asked you to implement a standardized method for controlling and monitoring your server.

Solution

Use the Intelligent Platform Management Interface (IPMI) in iLO to:

- Manage events and status independently of the host system processor, firmware (BIOS or UEFI), and operating system, including:
  - ◦ Monitoring system information, such as fans, temperatures, and power supplies

  - ◦ Utilizing recovery capabilities, such as system resets and power on/off operations

  - ◦ Reviewing logging details about abnormal events, such as over-temperature readings or fan failures

  - ◦ Viewing inventories of hardware components

Connecting to a network

Requirement

You want to connect your server to a network.

Solution

Use HPE iLO to connect your server to a network port. iLO standard provides two options:

- A dedicated network management port on HPE ProLiant Gen9 Servers with 4 GB NAND

- A shared network port that enables VLAN tagging on HPE ProLiant Gen9 Servers with 2 GB NAND

Maximizing power efficiency

Requirement

You want to conserve the energy consumption of your server.

Solution

Use HPE iLO power control options to:

- Securely turn servers on or off remotely.
- Monitor power consumption and server power settings.
- Dynamically change power capping (Required license: iLO Advanced)

Identifying and resolving problems

Requirement

You want to be alerted to problems as they occur with your server and to resolve them quickly.

Solution

Use the iLO Integrated Management Log to:

- View detailed event logs, including server outages and resets.
- Configure event notifications via:
  - SNMP alerts
  - Remote Syslog (Required license: iLO Advanced)
  - Email alerts (Required license: iLO Advanced)

Discovering all servers in your infrastructure

Requirement

Your team installed 100 new servers in your data center and they must be discovered immediately.

Solution

Use iLO Federation to discover hundreds of servers in seconds. It provides:

- Query and display capabilities
- Group health status updates
- Group configuration details
- DNS name registration information

Remotely managing servers

Requirement

You are away from your office and need to access your server.

Solution

Use the iLO web interface or mobile app to manage your server anytime from anywhere. With iLO, you can remotely:

- Inventory and deploy servers using ROM-based tools
- Launch and monitor the progress of iLO scripts
- Use the remote console
- Power your server on and off
- Troubleshoot and diagnose issues
- Mount an ISO CD/DVD image via virtual media (Required license: iLO Advanced)

- Engage with up to six coworkers in different locations at once (Required license: iLO Advanced)

- Record and play back for later reference the steps you need to administer servers (Required license: iLO Advanced)

Deploying, managing, and updating firmware across your data center

Requirement

You want to quickly, deploy, manage, and update firmware across hundreds of servers in your data center.

Solution

Use the full management capabilities of iLO Federation provided by an iLO Advanced license. This license enables iLO Federation options for performing:

- Group firmware updates (Required license: iLO Advanced)

- Group license activation (Required license: iLO Advanced)

- Group virtual media (Required license: iLO Advanced)

- Group power control (Required license: iLO Advanced)

- Group power capping (Required license: iLO Advanced)

Standard and licensed feature descriptions

NOTE: On an HPE Gen10 Server with iLO 5 v1.40, all of the following features are available with the iLO Advanced license. With the release of iLO 5 v1.40, all iLO Essentials, iLO Advanced for BladeSystem, and iLO Advanced Premium Security Edition features will be included in the iLO Advanced license.

The following list describes features that are standard HPE iLO server features, and features that require a license. Where applicable, it shows which required licenses are needed for a feature.

Active Health System Diagnostics

Provides a 24/7 control center for your server that enables you to continuously monitor more than 1600 system parameters and receive consolidated health and service alert.

Recommended for

All customers

Active Health System Viewer

A free tool that enables you to view and self-diagnose any issues with your server. Obtain the viewer at www.hpe.com/servers/ahsv.

Recommended for

All customers

Advanced Power Management

Provides access to power related data from any of the three iLO interfaces (browser, script, or command line). Available information includes time spent in Power Regulator Dynamic Savings mode, average, peak, and minimum power consumption over 24-hour intervals, and iLO Power Meter (when supported by the host).

Recommended for

Enterprise, financial, government, security conscious customers

Required license

iLO Advanced, or iLO Advanced for BladeSystem

Agentless Management

Monitors and generates SNMP traps and additional operating system data independently of the operating system and processor.

Recommended for

All customers

Automatic Secure Recovery

Validates the iLO firmware when power is applied. If the firmware is invalid, the iLO firmware is flashed automatically (iLO Standard license). Also validates the system ROM during server startup. If valid system ROM is not detected, the server is prevented from booting. Recovery options include swapping the active and redundant ROM, and initiating a firmware verification scan and recovery action (iLO Advanced Premium Security Edition license).

Required license

iLO Advanced Premium Security Edition

Backup and Restore

The Backup and Restore feature allows you to restore the iLO configuration on a system with the same hardware configuration as the system that was backed up. This feature is not meant to duplicate a configuration and apply it to a different iLO system.

In general, it is not expected that you will need to perform an iLO restore operation. However, there are cases in which having a backup of the configuration eases and expedites the return to a normal operating environment.

As with any computer system, backing up your data is a recommended practice to minimize the impact from failures. Hewlett Packard Enterprise recommends performing a backup each time that you update the iLO firmware.

Commercial National Security Algorithm (CNSA) Mode

Commercial National Security Algorithm (CNSA) mode (also known as SuiteB security state) is available only when the FIPS security state is enabled.

When set to this security state:

- iLO operates in a mode intended to comply with the SuiteB requirements defined by the NSA, and intended to secure systems used to hold United States government top secret classified data.

- You cannot use SUM to directly install iLO Secure Flash components, TPM components, or NVDIMM components. To install these component types, use SUM to add files or install sets to the iLO installation queue, or install each update individually by using the iLO Firmware or Group Firmware Update pages.

- You cannot connect to the server with network-based tools that do not support TLS 1.2.

- The system maintenance switch setting to bypass iLO security (sometimes called the iLO Security Override switch) does not disable the password requirement for logging in to iLO.

   Required license

   iLO Advanced Premium Security Edition

Core Boosting

Core boosting works with selected Intel processors to enable higher performance across more processor cores. For more information, see the HPE Gen10 Servers Intelligent System Tuning white paper, available from www.hpe.com/support/gen10-intelligent-system-tuning-en.

Directory Service Authentication

Integrates directory services, such as Microsoft® Active Directory, to authorize directory users with assigned user roles to Integrated Lights-Out processors.

   Required license

   iLO Advanced Premium Security Edition, iLO Advanced, or iLO Advanced for BladeSystem

Discovery Services

Automatically reports server locations to HPE SIM and Insight Control. Power Discovery Services is an enhancement to the iPDU technology. It automatically reports iPDU power status.

   Required license

   iLO Advanced Premium Security Edition, iLO Advanced, or iLO Advanced for BladeSystem

Email-Based Alerting

Sends iLO alert conditions that are detected independently of the host operating system to a specified email address.

   Recommended for

All customers

Required license

iLO Advanced Premium Security Edition, iLO Essentials, iLO Advanced, or iLO Advanced for BladeSystem

Embedded Remote Support

Enables you to register servers for HPE remote support.

Recommended for

All customers

Embedded System Health

Monitors fans, temperature sensors, power supply sensors, and VRMs without loading the System Management Driver.

You can access the status of these components from all HPE iLO for ProLiant user interfaces (browser, SMASH CLP command line, and script), independently of the host operating system. The management processor also reports sensor status to the operating system through an IPMI specified interface. The intelligence of iLO manages the Sea of Sensors thermal control, directs the Dynamic Power Capping technology, and monitors the health of server components.

Recommended for

All customers performing system maintenance

Global Team Collaboration via Integrated Remote Console

Enables up to six iLO users with remote console privileges in different locations to collaborate using the Integrated Remote Console to troubleshoot, maintain, and administer remote servers.

Required license

iLO Advanced Premium Security Edition, iLO Advanced, or iLO Advanced for BladeSystem

iLO Federation Discovery

Queries using any iLO in the Federation Group of multiple systems to return results from the full group. When data is loaded on an iLO Federation page in the iLO web interface, a request for data is sent from the iLO system running the web interface to its peers, and from those peers to other peers until all the data for the selected iLO Federation group is retrieved.

Recommended for

Enterprise customers with a large number of HPE servers

iLO Federation Group License Activation

Activates licensed features on all servers within a configured iLO Federation group.

Required license

iLO Advanced, or iLO Advanced for BladeSystem

iLO Federation Management

Enables you to manage multiple servers from one system running the iLO web interface.

Recommended for

Enterprise customers with a large number of HPE servers

Required license

iLO Advanced Premium Security Edition, iLO Advanced, or iLO Advanced for BladeSystem

iLO Reset

When the UID button is pressed for five seconds, initiates a manual iLO reset without bringing down the server.

Recommended for

All customers

iLO RESTful API

The iLO RESTful API is a management interface that server management tools can use to perform server configuration, inventory, and monitoring via iLO. A REST client, such as the RESTful Interface Tool, sends HTTPS operations to the iLO web server to `GET` and `PATCH` JSON-formatted data, and to configure supported iLO and server settings.

iLO RESTful API with Redfish Compliance

Operates iLO via Redfish-compliant HPE RESTful API

Recommended for

Customers with multi-vendor data centers who want a common way to manage them, and don't like the insecure nature of IPMI.

iLO Web Interface

Adds web-based monitoring and management of licensed features to the standard iLO user interface.

Recommended for

All customers

Integrated Remote Console (IRC)

Turns a supported browser into a virtual desktop, giving you full control over the display, keyboard, and mouse of the host server. You can use the Remote Console to access the remote file system and network drives, observe POST boot messages as the remote host server restarts, and initiate ROM-based setup routines to configure the remote host server hardware. When you are installing operating systems remotely, the Integrated Remote Console enables you to view and control the host server monitor throughout the installation process.

Recommended for

All customers with remote management needs.

Required license

With iLO Standard license, support for this feature is pre-OS text mode only. Full support is available with all other iLO license types.

Integrated Remote Console Record and Playback

Records and plays back video streams of events, such as startup, ASR events, and sensed operating system faults. You can manually start and stop the recording of console video. You can use the Integrated Remote Console applet to view saved iLO video files.

Recommended for

Enterprise customers

Required license

iLO Advanced Premium Security Edition, iLO Advanced or iLO Advanced for BladeSystem

IPMI over LAN/DCMI

Uses the LAN or Data Center Management Interface function of the Intelligent Platform Management Interface specification to establish remote connectivity independently of the processor, firmware, and operating system.

Recommended for

Customers with multi-vendor data centers who want a common way to manage them.

IPv6

Provides IPv6 network support.

Jitter Smoothing

HPE's Jitter Smoothing technology mitigates processor frequency fluctuation to reduce latency and deliver deterministic and reliable performance. In variable workloads where processor frequency changes occur often, Jitter Smoothing can improve overall throughput above turbo boost mode alone.

Kerberos Authentication

Integrates iLO authentication into a customer security system. If the client workstation is logged in to the domain, and the user is a member of a directory group for which iLO is configured, enables a user to log in to iLO without supplying a user name and password.

Recommended for

Enterprise, financial, government, security conscious customers

Required license

iLO Advanced Premium Security Edition, iLO Advanced, or iLO Advanced for BladeSystem

Pre-Boot Health Summary

You can use iLO to display the Pre-Boot Health Summary on an external monitor when the server is powered on or off. This feature is useful for troubleshooting when the server will not start up, and can also be used to view the server IP address and other health information.

Recommended for

All customers

Remote Insight Board Command Language (RIBCL)

Provides Remote Insight Board Command Language for server administration.

Remote Syslog

Sends event notification messages to Syslog servers.

Recommended for

Enterprise customers with Security and Event Management (SIEM) systems

Required license

iLO Advanced Premium Security Edition, iLO Advanced, or iLO Advanced for BladeSystem

Runtime Firmware Verification

The Firmware Verification feature allows you to run an on-demand scan or implement scheduled scans. To respond to detected issues, choose between logging the results or logging the results and initiating a repair action that uses a recovery install set.

Required license

iLO Advanced Premium Security Edition

Scripted Virtual Media

Connects scripted media for access by the servers in an iLO Federation group.

Required license

iLO Advanced Premium Security Edition, iLO Advanced, or iLO Advanced for BladeSystem

Secure Erase of Non-Volatile Storage (NAND/User Data)

This will trigger a secure hardware erase of all user and warranty info. It may take up to 24 hours and cannot be aborted until it completes. This feature needs an iLO Advanced Premium Security Edition license in order to be displayed and functioning in the GUI.

Required license

iLO Advanced Premium Security Edition

Secure Shell (SSH) Command Line Interface

Provides monitoring and management via a Secure Shell CLI.

Recommended for

All customers who have remote management needs.

Silicon Root of Trust

With HPE Gen10 Servers, HPE offers the first industry-standard servers to include a silicon root of trust built into the hardware. The silicon root of trust provides a series of trusted handshakes from lowest level firmware to BIOS and software to ensure a known good state.

The iLO 5 chipset acts as a silicon root of trust and includes an encrypted hash embedded in silicon hardware at the chip fabrication facility. This makes it virtually impossible to insert any malware, virus, or compromised code that would corrupt the boot process. Rather than the iLO firmware checking the integrity of the firmware every time it boots, the iLO 5 hardware determines whether to execute the iLO firmware, based on whether it matches the encryption hash that is permanently stored in the iLO chipset silicon. These improvements help ensure that, if iLO 5 is running, your server is trusted.

Smart Array Secure Encryption

Supports HPE Smart Array controllers, providing data-at-rest encryption for direct-attached HDD or SSD storage connected to servers. This encryption provides an integrated solution to encrypting HDD or SSD volumes by using 256-bit XTS-AES algorithms.

Recommended for

Enterprise, financial, government, security conscious customers

Required license

iLO Advanced, or iLO Advanced for BladeSystem

Text-Based Remote Console (Textcons)

The Text-Based Remote Console (Textcons) allows you to perform two-way data stream communication via BIOS in the server.

Recommended for

Hyperscale customers who mainly use Linux in BIOS mode

Required license

iLO Advanced Premium Security Edition, iLO Advanced, or iLO Advanced for BladeSystem

Text-Based Remote Console via SSH

Provides a text-based remote console you can customize that is protected by the SSH encryption.

Recommended for

Hyperscale customers

Required license

iLO Advanced Premium Security Edition, iLO Advanced, or iLO Advanced for BladeSystem

Two-Factor Authentication (Kerberos, Smart Card - PIV/Common Access Card)

You can implement two-factor authentication by configuring Kerberos authentication or PIV/CAC Smartcard authentication.

Required license

iLO Advanced Premium Security Edition or iLO Advanced

Virtual Media via Integrated Remote Console

Enables you to use the Integrated Remote Console to control virtual media.

Recommended for

All customers with remote management needs.

Required license

iLO Standard for BladeSystem, iLO Essentials; iLO Advanced, or iLO Advanced for BladeSystem

Virtual Power Button

Remotely operates the power button of a host.

For example, if the host server is off, you can turn it on from the HPE ProLiant iLO browser, command line (SM CLP), XML scripting, or WS Management interfaces. You can also power off and on the server in one step. A "press and hold" option is available for the Virtual Power Button in the event a momentary press is insufficient to power off a server experiencing an operating system failure.

Recommended for

All customers who have remote management needs.

Virtual Serial Port

Provides a bidirectional data flow with a server serial port. Using the remote console, this feature enables you to operate as if a physical serial connection exists on the remote server serial port.

Recommended for

Hyperscale customers who are predominantly Linux users

Virtual Serial Port Record and Playback

Provides a bidirectional data flow with a server serial port, enabling you to operate as if a physical serial connection exists on the remote server serial port. The iLO Virtual Serial Port is displayed as a text-based console, but the information is rendered through graphical video data. iLO displays this information through an SSH client when the server is in a pre-operating-system state, enabling a nonlicensed iLO to observe and interact with the server during POST activities.

Required license

iLO Advanced Premium Security Edition, iLO Advanced, or iLO Advanced for BladeSystem

Workload Matching Profiles

HPE Workload Matching allows you to tune the resources in your HPE ProLiant server by choosing a preconfigured workload profile. The server will automatically configure the BIOS settings to match the selected workload.

HPE iLO Licensing FAQs

End of Life (EOL) SKU consolidation plan

HPE is reducing the number of HPE iLO license options, simplifying the license selection and purchase process for customers. This consolidation is in line with the HPE SKU simplification strategy, both internally and externally, for customers.

HPE is eliminating the iLO Essentials and iLO Advanced for BladeSystem licenses. iLO Essentials and iLO Advanced for BladeSystem licenses can no longer be purchased from HPE after January 31, 2019. These two licenses will be replaced by the iLO Advanced license.

Security is a top priority for our customers. Therefore HPE decided to include the iLO Advanced Premium Security Edition features in the iLO Advanced license. Starting with the release of iLO 5 v1.40 on Gen10 servers in early 2019, when a customer upgrades to iLO 5 v1.40 (and has an existing iLO Advanced license) they will automatically receive the iLO Advanced Premium Security Edition features at no extra cost. After the release of iLO 5 v1.40, the iLO Advanced Premium Security Edition license will no longer be available for purchase.

Summary:

- Customers who have iLO Advanced and upgrade to v1.40 will get the security features at no additional cost.

- Customers that already have iLO Advanced Premium Security Edition will continue to get the security features as before.

- The iLO Essentials and iLO Advanced for BladeSystem licenses can no longer be purchased after January 31, 2019.

- The iLO Advanced Premium Security Edition license can no longer be purchased after the release of iLO 5 v1.40.

- These changes will not impact our customer support or support agreements.

General questions

Does the new license approach apply to iLO 2, iLO 3, iLO 4, iLO 5, Gen8, Gen9, and Gen10?

iLO Essentials and iLO Advanced for BladeSystem licenses are available on Gen8, Gen9, and Gen10 servers. iLO Advanced Premium Security Edition is available only for Gen10 servers. This new license approach is applicable to all generations to which the license is applicable.

What happens if a customer downgrades to firmware older than iLO 5 v1.40?

When a customer downgrades firmware to a version older than iLO 5 v1.40, installed license keys revert to tiered behavior, as determined by the license key.

For example, if an iLO Advanced license customer downgrades to iLO 5 v1.30, the iLO Advanced Premium Security Edition features will not be enabled.

If a customer has pre-v1.40 iLO Advanced license, upgrades to 1.40 Advanced (enabling iLO Advanced Premium Security Edition features), then downgrades back to pre-v1.40, will the customer lose iLO Advanced Premium Security Edition features?

Yes, the customer would lose iLO Advanced Premium Security Edition features. When firmware is downgraded to a version older than iLO 5 v1.40, installed license keys revert to tiered behavior, as determined by the license key.

For example, if an iLO Advanced license customer downgrades to iLO 5 v1.30, the iLO Advanced Premium Security Edition license features will not be enabled.

What features will existing HPE customers who have a Gen10 (or higher) iLO 5 (or higher) server get with these licensing consolidation efforts?

Refer to **iLO Features and Supported Servers** on the HPE website. OEM profiles will not change, only HPE branded iLO profiles.

When will I be able to take advantage of all the features the HPE iLO Advanced Premium Security Edition license provides after I buy an HPE iLO Advanced license?

Customers who have iLO Advanced licenses today and update to iLO 5 v.1.40 will receive all HPE iLO Advanced Premium Security Edition features at no extra charge. Security features will be applied and activated immediately after the upgrade. Release notes will include the security features that will be applied to your server through the upgrade. Your license type in the GUI will NOT change. It will still state iLO Advanced. Downgrading to versions older than 1.40 reverts license behavior.

If I update to iLO 5 v1.40, are there any configuration changes I must roll out?

No, configuration changes will not be required.

If you started with iLO Advanced, the update will allow you to configure settings previously only activated using iLO Advanced Premium Security Edition. These settings include:

- On-demand or periodic firmware scanning

- Automatic secure flash recovery

- Use of CNSA encryption

- OS recovery events

What about existing customers with licenses other than iLO Advanced? Do they get the additional security features?

No, there is no upgrade policy in place to enable iLO Advanced for BladeSystem or iLO Essentials licenses to upgrade to iLO Advanced.

If I bought an iLO Essentials license and installed it on a Gen10 iLO 5 server, will I get iLO Advanced and iLO Advanced Premium Security Edition features?

No, you will only get iLO Essentials features.

Do the existing installed licenses retain their name, but activate different feature capabilities? Will iLO Essentials be rebranded as iLO Advanced?

License rebranding will not take place. If a customer buys an iLO Essentials license, it will be labeled iLO Essentials. Branding also stays the same for iLO Advanced for BladeSystem licenses.

Will I lose any features if I have already applied the HPE iLO Advanced Premium Security Edition or HPE iLO Advanced for BladeSystem features?

No, all features will still be available. You can only gain features, depending on the version of iLO and the server.

Can I buy a less expensive key now, and plan to activate the additional features later?

Example: If I buy iLO Advanced now and wait to get the iLO Advanced Premium Security Edition features, will that be viable?

Both licenses are available at the same price until the license change occurs, so you there is no need to wait.

If I have purchased one of the EOL licenses and I have not installed them on my server, how does this impact me?

Once a license has been purchased, there is no impact when HPE stops selling or EOLs an iLO license. A valid license will always be accepted under the same terms and conditions as in the past.

iLO will honor all license tiers that have been supported, but support terms and conditions may differ.

What steps must my customers take if they have not installed a license that will EOL?

Customers must still install the purchased license key on the server for which they bought the license. iLO will honor the license key. Apart from installing the license key HPE strongly recommends that you register your license.

What steps must a customer take if they have an installed license that will EOL?

Nothing, the license is still supported. iLO will honor the license key, but support terms and conditions may vary.

How long will HPE honor my EOL license if I have not yet installed it?

HPE will honor the EOL license as per terms and conditions of the purchase. iLO licenses are perpetual and valid for the life of the server, while support durations depends on the SKU purchased.

Are there plans for iLO to reject iLO Essentials or iLO Advanced Premium Security Edition license keys?

No, iLO will keep reporting them as iLO Essentials or iLO Advanced Premium Security Edition licenses.

AKA impact

Is there any change in the AKA license agreement for HPE iLO Advanced Premium Security Edition or HPE iLO Advanced for BladeSystem?

Yes, HPE will issue amendments for each customer.

Will it be necessary for AKA customers to update their MSA if it includes iLO EOL products?

Yes, through the issued amendments.

What is the impact on my current iLO Advanced AKA/Tracking/Volume license agreement?

Based on the agreement in place and amendments that would be issued, new SKUs to be ordered will be notified.

Will the master key for an iLO EOL product work with the replacement iLO product?

The master key is the key provided in an AKA contract. Yes, the master key will work with the replacement SKU.

What will happen with the AKA contracts that are already active for the iLO Advanced Premium Security Edition and iLO Advanced for BladeSystem? Must the AKAs be canceled?

No, HPE will issue amendments for each customer. Customers must order the iLO transition SKU.

Support

Does HPE still support iLO Essentials, iLO Advanced for BladeSystem, and iLO Advanced Premium Security Edition licenses on my server?

Yes, a support contract is purchased with an iLO license. The support contract is based on support of the licensed features. iLO Standard customers have iLO support under the server warranty. iLO licenses have

one or three-year support. iLO Essentials license customers will not get an upgrade to iLO Advanced or the enhanced security features.

What happens if I replace my motherboard and must reapply my license key from a product that HPE no longer sells?
This scenario will work the same as it does today. Customers must record their license key prior to sending the board back for replacement, using one or both of the following methods:

• Registering in the licensing portal

• Using the backup and restore feature that iLO offers today in iLO 5

Is the support contract tied to the license type? Or is it tied to the one or three-year support of licensed features, regardless of what iLO license I purchase?

Bundled 24x7 Foundation Care software support is tied to the iLO license product SKU. Customers receive a unique Support Agreement ID (SAID) for each registered license.

Is there any impact to support or training?

There is a limited impact.

• Pointnext will continue to support existing licenses and allow for support agreement renewals.

• Support training for all iLO license types and their specific features and functions is complete within the ProLiant hardware support teams.

• No change to service strategy or upfront attach on iLO Advanced licenses is expected.

• Training at the beginning of launches will include the new license information.

Will there be support confusion because what I purchased now has a different label?

There will not be a different label.

Free trial license keys

Will my free trial license expire prior to the 60 days if it is an EOL license?

No, the feature set change does not impact the duration of an evaluation license key.

What if I upgrade to iLO 1.40 on a server that has an active iLO Advanced free trial license? Does the customer obtain the enhanced security features?

Yes, it will unlock all features.

Bundled SKUs and licenses

How does this impact my bundled license that combined HPE OneView and iLO Advanced?

Customer will get all the security features, but HPE OneView cannot see or set these settings.

Replacement keys, lost keys, and keys not installed

What happens when an Essentials, Scale Out, or Advanced for Blades customer loses their key before they install it?

Customers should contact the HPE license team and provide requisite proof of purchase. HPE licensing team will determine a course of action based on the proof submitted.

How does HPE replace a key when they no longer sell or have these license keys available?

While HPE will no longer sell the licenses, HPE still has the ability to generate appropriate license keys.

Will replacement keys be of the same value, or an upgrade?

HPE would generate a key for customer based on HPE licensing teams recommendations. The customer will get a key for the product that they purchased.

License registration

Why is it important to register even though my license key is already installed?

Registration is important because:

- If you lose your license key, you can obtain it through the **My License Portal** (**https://myenterpriselicense.hpe.com**).

- You receive your support contract that is included in the price of your iLO license.

Lost license keys

What happens if I lose my license key?

There are three situations in which you might need to recover a lost license key:

- System board replacement

- Lost license key

- Retrieving a registered license key from the licensing portal

System board replacement

If a system board replacement is required to address a hardware issue, you can use this feature to transfer the iLO configuration from the original system board to the new system board.

1. Replace the system board and transfer the hardware components from the old system board to the new system board.

2. Power on the system and ensure that all components are working correctly.

3. Log in to iLO with the default user credentials for the new system board.

4. Click **Administration** in the navigation tree, and then click **Backup & Restore**.

5. Click **Restore**.

6. Depending on your browser, click **Browse** or **Choose File**, and then navigate to the backup file.

7. If the backup file is password protected, enter the password.

8. Click **Upload and Restore**. iLO will prompt you to confirm the request.

9. Click **Restore**. iLO resets and closes your browser connection. It might take several minutes before you can re-establish a connection.
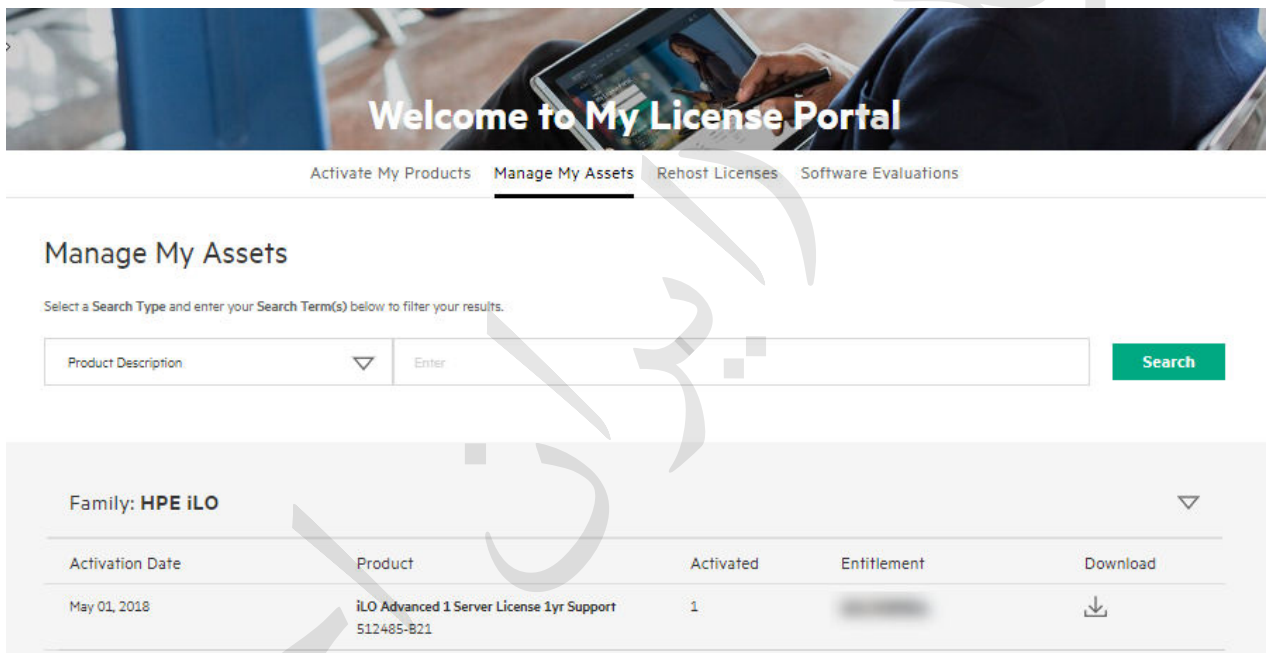
Lost license key

If a license key is accidentally replaced, or you reset iLO to the factory default settings, and you are not sure which key to install, you can restore the license key and other configuration settings from a backup file.

1. Log in to iLO with the default user credentials for the new system board.

2. Click **Administration** in the navigation tree, and then click **Backup & Restore**.

3. Click **Restore**.

4. Depending on your browser, click **Browse** or **Choose File**, and then navigate to the backup file.

5. If the backup file is password protected, enter the password.

6. Click **Upload and Restore**. iLO will prompt you to confirm the request.

7. Click **Restore**. iLO resets and closes your browser connection. It might take several minutes before you can re-establish a connection.

Retrieving a registered license key from the licensing portal:

1. Go to the **My License Portal https://myenterpriselicense.hpe.com** and sign in with your HPE Passport account email address.

2. Click the **Manage My Assets** link near the top of the page.

3. Click the **Download** icon to the right of your entitlement number. The following screen displays.

4. Retrieve your license key by doing one of two things:

- Click the **HPE_ILOKEY_[###].TXT** link to download a text version of the license key.

- Click **Copy Key to Clipboard** to copy the license key. Then paste the license key into another document and save it.

License expiration

Does my license expire?

No. Your license is valid for the life of the server.

Do I lose functionality of licensed features when my one or three year Technical and Support Contract expires?

No. Your licensed features, and standard features, continue to be available. If you require support on licensed features, you must obtain a support contract.

Are standard iLO features covered in my one or three year Technical Support Contract?

No. Standard iLO features are covered under your server hardware warranty.

License upgrade

Can I upgrade from an Essentials license to an iLO Advanced license?

While there is no upgrade SKU, customers can buy an iLO Advanced license and install it over the iLO Essentials license.

Can I upgrade any of my iLO licenses to the HPE iLO Advanced Premium Security license?

Yes, you can. Part No/Product # is Q7E12AAE - HPE iLO Advanced Premium Security Upgrade Electronic License.

License transfer

Can I transfer my license to another server?

No. Your license key is only valid for the server on which it is installed.

SAID

What is a SAID?

A SAID (Service Agreement Identification) is a 12-digit number assigned for entitlement to a service agreement contract. You must have it to access HPE Technical Support and Software Updates for HPE Hardware and Software products.

How do I get a SAID and what do I do with it?

After you register your license on the **My License Portal** (**https://myenterpriselicense.hpe.com**), HPE sends your SAID in a welcome letter similar to the following example.

Hewlett Packard Enterprise
8000 Foothills Blvd
Roseville, CA 95747 MS/5509

January 1, 2016

John Smith
Acme Corporation
999 Company Dr
Issaquah, WA 99999

Dear John Smith,

Thank you for purchasing HPE Packaged Support Services with your HPE product. These services are designed to supplement the product warranty. The support you have purchased is detailed below:

Service Agreement ID	1111 2222 3333
Coverage Dates	01/01/2016 – 12/31/2019
HP Sales Order Number	26R190026001
SAR (Support Account Reference)	ACMECORPHPSW1
Contract #	2151234567

If you require service, please call: **HP Response Center: 1-800-633-3600**

Our service entitlement process is new. This new process will increase security and facilitate global service delivery and access. The 12-digit system-generated number is unique to you. **When you place a call you will need the SAID listed above* and the Serial Number of the product requiring service (for hardware).** Note: SAID replaces the system handle, obligation ID or access numbers previously used for entitlement purposes.

Please forward or share this information with your System Manager(s) or any personnel placing Support Service calls against this service contract/agreement.

Please verify your Serial Numbers with the attached document. If the Serial Numbers do not appear on the enclosed list or are incorrect, please call your HP Contact as soon as possible to make the changes and ensure appropriate support.

If you have additional questions about these services, please call **HP Customer Service Center 1-800-386-1115.**

Hewlett Packard
Enterprise

Figure 2: Sample SAID welcome letter

After you receive your SAID, you can link it to your HPE Passport account so that you can access updates directly from the Software updates and licensing portal (**http://www.hpe.com/downloads/software**).

When do I use my SAID?

Use your SAID to access:

*   HPE Technical Phone Support

*   The HPE Support Center (**http://www.hpe.com/support/hpesc**)

*   Software updates for HPE Software products via the HPE Update Center (**http://www.hpe.com/downloads/software**)

What if I have not received my welcome letter with my SAID, or I lost my SAID?

*   If you purchased your license directly from HPE, send an email requesting a welcome letter and SAID to the address for your region. Make sure to include your HPE sales order number.

- ◦ Americas: **licensing.ams@hpe.com**

  - ◦ Europe, Middle East, and Africa: **licensing.emea@hpe.com**

  - ◦ Asia-Pacific and Japan: **licensing.apj@hpe.com**

- If you purchased your license from a reseller, contact the reseller and provide your sales order number to request your SAID and welcome letter.

USB 2.0 Ethernet cable

How can I obtain the USB 2.0 Ethernet cable to pull data from HPE iLO 5 Service Port?

HPE does not sell these USB cables. HPE recommends ordering the cable through a third-party vendor. See the iLO Quickspecs. The third part option number is Q7Y55A.