



**Hewlett Packard**  
Enterprise

# Additional License Authorizations

## For HPE CMS OSS Orchestration Products

### Products and suites covered

PRODUCTS	E-LTU OR E-MEDIA AVAILABLE *	NON-PRODUCTION USE CATEGORY **
HPE Service Director vCPE	Yes	
HPE Service Director Mobile Core Services	Yes	
HPE Service Director Generic Service Chains	Yes	
HPE Service Director Provisioning	Yes	
HPE Service Director Closed Loop	Yes	
HPE Service Director Quality Management	Yes	
HPE Service Director - 1 tkn bnd 1	Yes	
HPE Service Director - 1 tkn bnd 2	Yes	
HPE Service Director - 1 tkn bnd 3	Yes	
HPE Service Director Adapter Function	Yes	
HPE NFV Director	Yes	
HPE NFV Director Adapter Function	Yes	

\* Any product sold as E-LTU or E-Media shall be delivered electronically regardless of any contrary designation in a purchase order.

\*\* Non-production use rights, if any, can be found at [www.hpe.com/software/SWlicensing](http://www.hpe.com/software/SWlicensing).

### Definitions

Capitalized terms not otherwise defined in this ALA document are defined in the governing agreement.

TERM	DEFINITION
<i>Cluster Node</i>	<i>means a Server installed in a cluster</i>



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<i>Cold Standby System</i>	<i>means a non-production standby system which is NOT up and running. If the production system breaks down, or needs to be taken out of service, You are required to switch on and start the Cold Standby System in order to take over for the Production System.</i>
<i>Core</i>	<i>means the sub-component of the CPU that actually performs the reading and executing of the instruction. Single-core processors can only process one instruction at a time. Multiple-core processor a processing system composed of two or more independent cores.</i>
<i>Device or Dev</i>	<i>means an addressable entity, physical or virtual, including but not limited to router, switch, bridge, hub, server, PC, laptops, handheld device or printer that resides within the range defined for interrogation and asset tracking.</i>
<i>E-LTU and E-Media</i>	<i>means products which are electronically delivered only, and as such any reference to FOB Destination or delivery methods that are stated on your purchase order other than electronic shall be null and void with respect to these E-LTU or E-Media products.</i>
<i>Instance</i>	<i>means each implementation of the application installed on a Server.</i>
<i>Low end platform</i>	<i>means platform for licensees with limited functionality such as no cluster support and only 32 bits Java runtime environment.</i>
<i>Internal Use</i>	<i>means access and Use of the software for purposes of supporting your internal operations or functions.</i>
<i>LTU</i>	<i>means License To Use</i>
<i>Mobile Subscriber</i>	<i>means an individual receiving a service for a given mobile device.</i>
<i>NFV</i>	<i>means Network Function Virtualization</i>
<i>Operating System Instance or OS Inst or OSI</i>	<i>means each implementation of the bootable program that can be installed onto a physical system or a partition, such as system Virtual Machines, virtual environments, virtual private servers, containers, guests and zones within the physical system. A physical system can contain multiple Operating System Instances. A container means a system partition based on software rather than hardware. Guests means a VM system running on a host system where the host runs its own complete OS Instance (as opposed to a hypervisor), like VMware Workstation. Zone means Oracle®/Sun Solaris specific nomenclature for a software partition which can run a virtual OS instance including but not limited to Sparse, native, and ipkg</i>
<i>PAYG or "Pay as you grow"</i>	<i>means a perpetual license scheme based on evolution of a specific usage criterion with pre-defined thresholds. As threshold is reached, the customer is required to purchase additional license as part of jointly agreed monitoring process involving HPE and customer. Detailed PAYG conditions need to be agreed in the commercial agreement.</i>
<i>Production System</i>	<i>means a system which has a HPE software product installed and is running some or all of the product's processes to be used for collecting data, executing product logic, or sending/receiving messages.</i>
<i>RTU or Right To Use</i>	<i>Right to Use is used when there is no license key required to enable the product use.</i>
<i>Server</i>	<i>means any designated computer system in which an Instance or Instances of the software is installed.</i>



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<i>Solution</i>	<i>means a collection of software to address a specific business issue.</i>
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<i>Solution Pack</i>	<i>means a collection of software within a business solution, to implement a sub function.</i>
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<i>Unlimited or Unltd</i>	<i>means without restrictions in terms of number of systems, devices, or media depending on the context.</i>
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<i>Use</i>	<i>means to install, store, load, execute and display one copy of the software.</i>
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<i>User</i>	<i>Means a specific individual or entity authorized by you to access the software regardless of whether he/she is actively using the software</i>
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<i>vCPE</i>	<i>means virtual customer premises equipment</i>
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<i>Virtual Machine(s) or VM(s)</i>	<i>means a computer that does not physically exist but is simulated by another computer.</i>
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## Software specific license terms

Software products with software specific license terms are described below.

### HPE Service Director

HPE Service Director (HPE SD) provides agile, automated, and adaptable end-to-end service orchestration across both physical and virtual functions. Service Director automates the full service lifecycle, combining Fulfillment & Assurance across PNF, VNF, SDN and Digital Services. Service Director is 100% catalog driven – all business processes and services are fully configurable using the new Intent-based Modeling approach – automatically generating workflows, policies & rules, APIs and User Interfaces. A single pane of glass ensures a consistent user experience.

HPE Service Director is sold as LTU. The license key will be tied to the Customer Name.

HPE Service Director license may be used for a single legal entity only.

The licensing philosophy of Service Director follows a PAYG model, unless explicitly licensed using a different model in a separate commercial agreement.

All Service Director licenses are based on the notion of a “token”. A token is a way to measure capacity usage of a software product. **Generic tokens have been introduced to keep the product structure simple for a given solution.**

Three parameters are required to define the licensing scheme and hence the required number of tokens:

- The use CASE: Which Business Problem does the Service Director solution address?
- The CAPABILITY: What functionality is enabled in the Service Director solution to solve the Business Problem?
- The CAPACITY: How much capacity is required to address the Business Problem?

The number of tokens is specified by defining the Use Case, the Capabilities used for this Use Case and the expected Capacity required for this Use Case and Capabilities.

The mapping between generic token and a concrete and measurable metric is defined in a separate mapping table (see Table 5).

In the event of growth of the solution, additional capacity needs to be purchased. No minimum configuration is required for upsell. The license is based on the maximum number reached (and will not go down if the capacity decreases).

Purchase of extra capacity needs to happen as soon as the limit of the current system is reached (and not as a result of verification by HPE).

To ensure license auditing, the Customer shall provide a regular audit report to HPE listing the usage of Service Director for all its production platforms.

### Service Director Use Cases

The use case addresses a concrete business problem.

This ALA defines the available Use Cases (Application Domains) in **Table 1** and associated mappings in **Table 5**. The customer has the right to use Service Director only in the use cases for which an LTU has been provided. For example, a license to deploy “vCPE for Retail” does not entitle to use Service Director for “Mobile Core services”.



**Table 1: HPE Service Director Use Cases**

USE CASE	DESCRIPTION
HPE Service Director vCPE for Retail HPE Service Director vCPE for Business	Manage customer-facing services that are produced in a vCPE environment (VSR or SD-WAN) with Connectivity Services (Site2Site, Site2Internet) and Business Services (e.g. Firewall, ...)
HPE Service Director Mobile Core services	Manage shared services produced in a mobile core environment. Service Director orchestrates the configuration of services across the various network functions, ensuring their end-to-end consistency.
HPE Service Director Generic Service Chains	Manage customer-facing services or shared services that are service-chained and configured across PNF and/or VNF and/or SDN and/or Digital Services.

### Service Director Capabilities

HPE SD is built in a modular fashion providing different capabilities to be included into the solution. The capabilities currently available in Service Director are listed in **Table 2**. The purchase of the E-LTU enables the use of the appropriate functionality on the defined platform.

Each capability has a base price, providing the equivalent capacity of the number of Band-1 tokens.

The LTU can be deployed on multiple production platforms.

Note, HPE may decide in its sole discretion to include certain HPE CMS software components in the orchestration solution.

**Table 2: HPE Service Director Capabilities**

CAPABILITY	PRECONDITION	DESCRIPTION
HPE Service Director Provisioning (SD.P)	none	Implements the following processes: <ul style="list-style-type: none"> <li>Idea-2-Implementation (I2I)</li> <li>Order-2-Service (O2S)</li> </ul> HPE Service Director Provisioning configures the service models using Service Descriptors and provides the following functionality: <ul style="list-style-type: none"> <li>Service Order Management</li> <li>Service Catalog</li> <li>Service Inventory</li> <li>Service Provisioning &amp; Activation</li> <li>User Interface for the functions listed here</li> </ul>
HPE Service Director Closed Loop (SD.CL)	requires SD.P	Extends Service Director Provisioning with: <ul style="list-style-type: none"> <li>Trouble-2-Resolution (T2R) based on alarms</li> </ul> HPE Service Director Closed Loop is configured using DSDs and provides the following functionality: <ul style="list-style-type: none"> <li>Configuration of Assurance monitors</li> <li>Automatic Service Impact Analysis</li> <li>Manual Root Cause Analysis</li> <li>Self-Healing through predefined actions</li> <li>User Interface for the functions listed here</li> </ul>
HPE Service Director Quality Management (SD.QM)	requires SD.CL	Enhances: <ul style="list-style-type: none"> <li>Trouble-2-Resolution with support of metrics</li> </ul> HPE Service Director Quality Management is configured using DSDs and provides the following functionality based on SD.CL: <ul style="list-style-type: none"> <li>Supports metrics to extend Service Impact Analysis,</li> <li>Supports metrics to extend Manual Root Cause Analysis</li> <li>Self-Healing through proposed resolution actions</li> <li>User Interface for the functions listed here</li> </ul>



A Service Director platform can run one or more use cases concurrently. The installed capabilities will apply to all use cases running on the platform. In the example below, Platform 1 will provide Provisioning capabilities to vCPE for Business and mobile Core, while Platform 2 provides Provisioning, Closed Loop and Quality Management to vCPE for Residential. The required number of tokens is hence derived on the installed use cases and capabilities.

	PLATFORM 1	PLATFORM 2
Installed Use Cases	<ul style="list-style-type: none"> <li>vCPE for Business</li> <li>mobile Core</li> </ul>	<ul style="list-style-type: none"> <li>vCPE for Residential</li> </ul>
Installed Capabilities	<ul style="list-style-type: none"> <li>SD.P</li> </ul>	<ul style="list-style-type: none"> <li>SD.P</li> <li>SD.CL</li> <li>SD.QM</li> </ul>

The SD.CL and SD.QM contain the embedded HPE Service DB based on Vertica technology. The capacity of this database is measured in Terrabytes and is licensed separately as described in **Table 3**. A minimum of 1 license is required and is ordered separately.

**Table 3: HPE Service Director OSS DB Licensing**

CAPABILITY	DESCRIPTION
HPE OSS DB T2 1TB Bnd	1 Terrabyte per E-LTU

The purchase of HPE Service director token licenses entitles licensee to use the HPE Unified OSS Console software by any number of Users only in connection with to the HPE Service Director solution it was sold with (refer to Table 1). This right to use does not include the HPE Unified OSS Console View Designer software which must be ordered separately. The Use of HPE Unified OSS Console software for different capabilities, products and/or solutions is not permitted under the HPE Service Director token licenses.

**Service Director Capacity**

An HPE Service Director production license allows to deploy one or more non-production systems (development, test, pre-production) irrespective of the number and type of Servers deployed, including high-availability.

HPE Service Director tokens are provided in three licensing bands. The overall price of the solution is defined by the sum of all tokens across all production platforms.

**Table 4: HPE Service Director Capacity DB Licensing**

CAPABILITY	DESCRIPTION
HPE Service Director - 1 tkn bnd 1	Band 1: 1-100 tokens
HPE Service Director - 1 tkn bnd 2	Band 2: 101 – 200 tokens
HPE Service Director - 1 tkn bnd 3	Band 3: > 201 tokens



**Table 5: HPE Service Director Token License Capacity Mapping Table**

USE CASE	SOFTWARE CAPABILITY	MAPPING	COMMENT
vCPE (Business)	Provisioning (SD.P)	1 token = 250 service instances	<p>A service instance* is a service that is delivered to an enterprise customer either on a site (aka distributed service) or in a POP (aka centralized service). There are two types of service instances:</p> <ul style="list-style-type: none"> <li>• Connectivity services such as Site2Site and Site2Internet</li> <li>• Business Services (like Firewall)</li> </ul> <p>The number of service instances is estimated as Sites x (Connectivity Services + Business Services)</p>
	Closed Loop (SD.CL)	1 token = 500 service instances	
	Quality Management (SD.QM)	1 token = 250 service instances	
vCPE (Retail)	Provisioning (SD.P)	1 token = 1,000 service instances	<p>A service instance is a service that is delivered to a retail customer either on a site (aka distributed service) or in a POP (aka centralized service). Calculation see vCPE (Business)</p>
	Closed Loop (SD.CL)	1 token = 2,000 service instances	
	Quality Management (SD.QM)	1 token = 1,000 service instances	
Mobile Core	Provisioning (SD.P)	4 token = 1 network instance	<p>Service Director applied in a shared services (e.g. mobile core) environment is priced per network service configuration. The measurement is the number of network instances** under management.</p>
	Closed Loop (SD.CL)	2 token = 1 network instance	
	Quality Management (SD.QM)	2 token = 1 network instance	
Generic Service Chain (GSC)	Provisioning (SD.P)	1 token = 10 service chains (independent if its across VNF of PNF)	<p>The metric for the GSC*** use case are the number of service chains under management of Service Director. Example of Generic Service Chains include «Enterprise Business Partners» where service chains between the application consumers (Business Partners) and the application providers (CSP datacenter) across multiple VNF and PNF. Each service chain ordered over the NBI or UI is counted individually.</p>
	Closed Loop (SD.CL)	1 token = 20 service chains	
	Quality Management (SD.QM)	1 token = 20 service chains	

\* A Service Instance is defined as a decomposed service which is being orchestrated with Service Director. The service decomposition of a Service Instance includes a) per end customer b) per site and c) per service component. A Service Component is a service which is bundled with a broader service offering but requires separate activation/provisioning from the broader service offering.

\*\* A network instance (Network Functions with an individual name) can be a PCRF instance, a DNS instance or any other network function, independent whether it's a VNF or a PNF.

\*\*\* A generic service chain (GSC) links together network or service functions to form a defined service (either customer facing service or network service).

## HPE Service Director Adapter Function

A target is a network function, network element, OSS, element manager or application which is needed to be configured, monitored or automated for orchestration with Service Director or acts as a data source for monitoring or performance data (e.g. as a collector).

A HPE Service Director adaptor is the component which knows how to interact with a specific target (e.g. login, logout, activation template, target-specific business logic, target-specific collection logic for events, target-specific collection logic for metrics). Only one HPE Service Director Adaptor is built for each target type. An adaptor may evolve with additional functions over time.

A HPE Service Director Adapter Function is associated with only one orchestration capability associated with the target. The capabilities currently supported are configuration, automation, collection or a combination of them.



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A library of Adapters is available centrally. Each Adapter is assigned a number of Adapter Functions, based on its complexity.

The HPE Service Director Adapter Function is sold as RTU and requires an Service Director platform installation (with associated capabilities), which must be ordered separately

The HPE Service Director Adapter Function license is valid for the use of one orchestration capability per target.

The HPE Service Director Adapter Function license can be used for production or non-production systems (development, test, pre-production) irrespective of the number and type of Servers deployed.

The HPE Service Director Adapter Function license may be used for a single legal entity only

**Table 6: HPE Service Director Adapter Function License**

CAPABILITY	DESCRIPTION
HPE Service Director Adapter Function	A HPE Service Director adaptor is the component which knows how to interact with a specific target. Only one HPE Service Director Adaptor is built for each target type. An adaptor may evolve with additional functions over time.





## HPE NFV Director

The HPE NFV Director software is licensed using the PAYG model, unless explicitly licensed using a different model in a separate commercial agreement.

HPE NFV Director is sold as LTU. The license key will be tied to Customer Name.

HPE NFV Director is licensed using a combination of a mandatory Base platform license and a PAYG model measured by the number of tokens. No minimum configuration is defined. In the event of growth of the solution, additional capacity needs to be purchased.

The HPE NFV Base platform license can be used for production or non-production system (development, test, pre-production) irrespective of the number and type of Servers deployed.

The HPE NFV Director Base platform license includes the following common base adapter functions that do not need to be purchased separately: Helion, Openstack and Cloud OS adapters (for configuration and monitoring), generic SNMP adapter (for monitoring), generic CLI, http, LDAP adapters (for configuration)

The purchase of HPE NFV Director Base platform license(s) entitles licensee to Use the HPE Unified OSS Console software on its HPE NFV Director platform by any number of Users only in connection with the capabilities exposed by the HPE NFV Director platform. The Use of HPE Unified OSS Console software for different capabilities, products and/or solutions is not permitted under the HPE NFV Direct Base platform license(s).

The PAYG license is based on maximum number reached (and will not go down if the capacity decreases).

Purchase of extra capacity needs to happen as soon as limit of current system is reached (and not as a result of verification by HPE)

The PAYG license applies only to production environment.

Generic tokens have been introduced to keep the product structure simple. The mapping between token and capacity is defined in a separate mapping table (See Table 7)

HPE may decide in its sole discretion to include certain HPE CMS software components in the NFV Director solution

HPE NFV Director License may be used for a single legal entity only and a specified purpose.

**Table 7: Capacity Mapping Table**

COMPONENT	TOKEN USAGE	COMMENT
VM	0.2 token (1 token for 5 VMs)	A VM component is a VM on which a Virtual Network Function instance has been deployed by NFV Director and registered in its instance production database
vCPE VM	0.05 token (1 token for 20 VMs)	A vCPE VM component is a VM on which a Virtual Network Function instance part of a vCPE has been deployed by NFV Director and registered in its instance production database
Physical server or physical device	0.01 token (1 token for 100 servers/devices)	A Physical server or physical device instance stored in NFV Director instance production database

## HPE NFV Director Adapter Function

HPE Service Provisioner components need to be configured for each given network technology.

A target is a VNF manager, Virtual Infrastructure manager (VIM), network element, element manager or application which is needed to be configured, monitored or automated for orchestration with NFV Director.

A HPE NFV Director adaptor is the component which knows how to interact with a specific target. Only one HPE NFV Director adaptor is built for each target type. An adaptor may evolve with additional functions over time.



A HPE NFV Director Adapter Function is associated with only one orchestration capability associated with the target. The capabilities currently supported are configuration, monitoring and automation.

The HPE NFV Director Adapter Function is sold as RTU and requires an HPE NFV Director Base platform installation, which must be ordered separately

The HPE NFV Director Base platform license includes the following common base adapter functions that do not need to be purchased separately: Helion, Openstack and Cloud OS adapters (for configuration and monitoring), generic SNMP adapter (for monitoring), generic CLI, http, LDAP adapters (for configuration)

The HPE NFV Director Adapter Function license is valid for the use of one orchestration capability per target.

The HPE NFV Director Adapter Function license can be used for production or non-production systems (development, test, pre-production) irrespective of the number and type of Servers deployed.

The HPE NFV Director Adapter Function license may be used for a single legal entity only



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## Additional license terms

### TERM

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- A. Software contains software and associated specifications licensed from third parties that are confidential to, and trade secrets of, such parties. You will not take any action other than to Use it as authorized under the agreement as part of the software products and will not disclose it to third parties.
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- B. You shall install and use the software as authorized in the applicable agreement only as a complete product and may not use portions of such software on a standalone basis separate from the complete software unless expressly authorized in the Supporting Material, specifications or an applicable agreement.
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- C. Unless stated otherwise, you are authorized to Use one Device at a time for your Internal Use.
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5200-0733 June 2017; replaces 5200-0679 (March 2017)