

HP Operations Manager Technical White-Paper

Licensing Best Practices and Reporting



Version 2.1

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Abstract

This whitepaper is intended to explain the HP Operations Manager licensing in a more detailed and centralized form than it is done in the HP Operations Manager manuals. This should be understood as an addition to the existing documentation and not as a replacement. This document will explain some backgrounds behind the HP Operations Manager licensing functionality and will give some hints to tools that can be used for troubleshooting.

Because the instance-based HP Operations Manager product structure is quite, this document will try to explain the grouping of the licenses and the licensed features.

Document Structure

Product Structure

- Some aspects of the HP Operations Manager product structure, the license passwords and the licensed features.

Migration Licenses

- Several aspects of the migration licenses

OM License Reporter

- The OM License Report
- License reporting prerequisites
- Reporting on the different OM versions

Best Practices

- License installation / de-installation, migration and management
- Known Issues and Troubleshooting

Appendix

- Technical backgrounds
- File locations
- Supporting tools
- Example Report

Available OMX Licensing Documentation

HP Operations Manager Administrator's Reference: *HPOM Maintenance / HPOM Licenses*

- Licensing Component Configuration: Configuration settings
- License Reports: Generate text and HTML license reports

HP Operations Manager Concepts Guide: *Configuring and Maintaining HPOM / HPOM Licenses*

- Types of Licenses: Instant-On and permanent licenses
- License Notification: Notification levels

HP Operations Manager Installation Guide: *Upgrading HPOM to Version 9.10*

- License Migration to HPOM 9.10: Prerequisites and preparation and migration

Glossary

OMX

HP Operations Manager for Unix (HP-UX, Solaris) and Linux

OprEl

HP Operations Embedded Licensing Component

License Password / License Key

A license password is a character array containing license information in encrypted form. These passwords are added to the license password repository to install licenses.

Product Description File (PD-File)

A Product Description File is a binary file containing the product structure definition that defines which licenses are valid for a product and in which context the licenses are used. Each product has its own PD-File. Licenses are only evaluated according to the rules in the PD-File.

Physical Machine(s) PM(s)

A physical machine (PM) is a physical system that hosts one or more virtual machines.

Virtual Machine(s) or VM(s)

A computer that does not physically exist but is simulated by another computer.

Node Locked (NL)

Node locked means that a license is bound to one node or system and is only valid for that dedicated system.

Non-Production Failover or NP FO

means a non-production failover system which has a HP Operations Center Software product installed on, has processes of this product running but is not collecting any data, nor executing any policies, nor sending/receiving any messages. If the production system breaks down, or needs to be brought out of service, the Licensee is required to use the HP Operations Center product on the non-production failover system in order to take over from the production system while it is physically down or unavailable. No concurrent data collection, policy execution or message send/receive on the Non-Production Failover System and the production system is performed. In case of HP Operations Target Connector, a Non-Production Failover System is setup to be monitored by a HP Operations Center product, but is not actually being monitored until it becomes a production system.

Non-Production Development or NP DV

means a non-production development/test system which has a HP Operations Center Software product installed and is to be used for a) developing Licensee HP Operations Center product add-on applications b) HP Operations Center product migration testing or c) HP Operations Center product pre-production staging.

Note: For an overview of and links to Additional License Authorizations (previously called Additional License Restrictions) that apply to HP Software's Business Technology Optimization and Information Management software products, see [Additional License Authorizations](http://support.openview.hp.com/licenses.jsp) at HP Software Support Online (<http://support.openview.hp.com/licenses.jsp>).

The HP Operations Manager Product Structure

This is a short and rough overview of the HP Operations Manager product structure, which will not try to explain all aspects or details of the OM product structure. Smart Plug-Ins come with their own product structures, which are not covered in this document.

Management Server Licenses

The current HP Operations Manager release needs an OM Management Server license. This is not different from older versions of the HP Operations Manager releases.

Tier-based Agent Licenses

The previous HP Operations Manager product structure used tier-based Agent licenses, meaning that the agent licenses differed depending on a rating of the agent node. Tier-based Agent licenses will still be recognized by the current OM products, but can no longer be ordered.

OS-Instance-based Licenses

Since November 2009, the licensing of the OM Agents has been changed from a tier-based approach to an OS-Instance-based approach. This means that an OM Agent license no longer depends on the system type on which the agent is running and is only licensed per instance.

The Migration Licenses

Migration licenses are provided for the optional migration from the tier-based licensing model to the OS-Instance-based licensing model. These will be provided on request to cover the existing environment, depending on the number and type of the tier-based licenses that are already in use.

Target Connector Licenses

Target Connector licenses are used to license the remote management of nodes that do not have an agent installed.

HP Operations Manager for Windows Limited Edition

HP Operations Manager for Windows provided a Limited Edition license (HP Operations Manager for Windows LE) in the past. This has been replaced by the 'Basic Suite', which is a kind of OS Instance-based variant of the Limited Edition.

For the HP Operations Manager for Windows LE license is a migration program available to migrate from an HP Operations Manager for Windows Limited Edition to OS Instance-based licensing. This allows the use of the same amount of features as the original HP Operations Manager for Windows LE but consist of a number of standard license passwords instead of one special license password.

Passwords versus Features

A product number is bound to a license password (license key). The installation of a license password can license one or more licensed features. This means, that a product is not necessarily the same as a license or licensed feature. Many of the license passwords and products contain more than one license or licensed feature.

License Reporting in HP Operations Manager

HP Operations Manager uses an extra component for license management on the Management Server on all platforms. This component is the "Operations Embedded Licensing" (OprEl) component, which is used in OMX 9.x, HP Operations Manager for Windows 8.1x with patch OMW_00062 or later and HP Operations Manager for Windows 9.00. This OprEl component is a prerequisite to support the instance-based HP Operations Manager product structure.

License passwords are installed via OprEl and the license reports are created using the OM License Reporter. The OM License Reporter comes with the OprEl component and uses the OprEl component to get the license information to report.

HP Operations Manager License Report Password Categories

The current HP Operations Manager product structure is represented by a large number of different license passwords and a large number of licensed OM features, which are licensed via these passwords. This large number of features is separated into a smaller number of functional groups in the license report. This provides a better understanding of the license report. The groups are:

- HP Operations Management Server Group
- HP Operations OS Instance Group
- HP Operations Tier-based Agent Group
- HP Operations Target Connector Group
- HP Operations Migration Group
- HP Operations Performance Agent Group

HP Operations Management Server Group

HP Operations Management Server license passwords enable the management server functionality and always contain one OS Instance for the agent that is running on the management server.

HP Operations OS Instance Group

The HP Operations OS Instance license passwords enable the OM Agent functionality. Some OS Instance license passwords also contain Performance Agent functionality, which is reported in the Performance Agent section.

HP Operations Tier-based Agent Group

HP Operations Tier-based Agent license passwords also enable the OM Agent functionality, but are only reported for backward compatibility. These licenses are replaced by the OS Instance licenses and cannot be ordered anymore.

HP Operations Target Connector Group

HP Operations Target Connector license passwords enable nodes, which are managed remotely. Such nodes are always agent-less.

HP Operations Migration Group

HP Operations Migration license passwords are used for the migration from Tier-based agent licensing to OS Instance-based licensing.

HP Performance Agent Group

HP Performance Agent license passwords enable the performance agent functionality.

The HP Operations Manager License Passwords

The Table “License Password Table” shows all currently available OM license passwords and tries to give an overview together with the information about what license will be reported in which OM version.

License Password Table

License Password		Will be recognized by and reported in			
Product / Component Name	Comment	OMU 8.35	OM Windows 8.1x	OM Windows 9.00	OMX 9.x
HP Operations Management Server Licenses					
HP Operations Manager (Unix) ¹	HPOM Server	- ²	(x)	(x)	x
HP Operations Manager NP FO (Unix)		-	(x)	(x)	x
HP Operations Manager NP DV (Unix)		-	(x)	(x)	x
HP Operations Manager (Windows)		-	x	x	(x)
HP Operations Evaluation		-	x	x	x
HP Operations Complementary Operations Manager		-	x	x	x
HP Operations Manager 8.0 for Windows LE (21 Agents)		Limited Edition with 21 agents	-	x	x
HP Operations Manager 8.0 for Windows LE Ext. (10 Agent Add-On)	Limited Edition Extension with 10 agents	-	x	x	(x)
HP Operations OS Instance Licenses					
HP Operations OS Instance Advanced	HPOM OS Instance Advanced These licenses contain also SiteScope points	x	x	x	x
HP Operations OS Instance Advanced NP FO		x	x	x	x
HP Operations OS Instance Advanced NP DV		x	x	x	x
HP Operations OS Instance	HPOM OS Instance These are only part of password bundles and do not contain SiteScope points	x	x	x	x
HP Operations OS Instance NP FO		x	x	x	x
HP Operations OS Instance NP DV		x	x	x	x
HP Operations Performance OS Instance Upg	Upgrade from performance to OS Instance	x	x	x	x
HP Operations Performance OS Instance Upg NP FO		x	x	x	x
HP Operations Performance OS Instance Upg NP DV		x	x	x	x
HP Operations OS Instance Desktop SW	HPOM Desktop OS Instance	x	x	x	x
HP Operations OS Instance Desktop SW NP-FO		x	x	x	x
HP Operations OS Instance Desktop SW NP-DV		x	x	x	x
HP Operations Complementary OS Instance		x	x	x	x
HP Operations Agent (Tier-based Agent) Licenses					
HP Operations Manager Desktop Agent	Tier-based agents	x	x	x	x
HP Operations Manager Tier 0 Agent		x	x	x	x
HP Operations Manager Tier 1 Agent		x	x	x	x
HP Operations Manager Tier 2 Agent		x	x	x	x
HP Operations Manager Tier 3 Agent		x	x	x	x
HP Operations Manager Tier 4 Agent		x	x	x	x
HP Operations Target Connector Licenses					

¹ 'Unix' means HP-UX, Solaris or Linux

² The OMU 8.35 Operations Manager license will not be reported by the OMU 8.35 License Reporter. The OMU 8.35 Server license information will be taken using the opcltc tool. Please check “The Operations manager License Reporter” in the OMU 8.35 section for more details.

HP Operations TC OS Instance	Target Connector for remote management	x	x	x	x
HP Operations TC OS Instance NP FO		x	x	x	x
HP Operations TC OS Instance NP DV		x	x	x	x
HP Operations Migration Licenses					
HP Ops 1 Floating OS Inst. Migration	HPOM Migration passwords for the migration from tier-based agent licensing to OS Instance-based agent licensing	x	x	x	x
HP Ops 1 OS Inst. PM & 4 OS Inst. VM NL Migration		x	x	x	x
HP Ops 1 OS Inst. PM & 8 OS Inst. VM NL Migration		x	x	x	x
HP Ops 1 OS Inst. PM & 12 OS Inst. VM NL Migration		x	x	x	x
HP Ops 1 OS Inst. PM & 21 OS Inst. VM NL Migration		x	x	x	x
HP Ops + Perf 1 OS Inst. PM & 1 OS Inst. VM NL Migration		x	x	x	x
HP Ops + Perf 1 OS Inst. PM & 6 OS Inst. VM NL Migration		x	x	x	x
HP Ops + Perf 1 OS Inst. PM & 10 OS Inst. VM NL Migration		x	x	x	x
HP Ops + Perf 1 OS Inst. PM & 19 OS Inst. VM NL Migration		x	x	x	x
HP Ops + Perf 1 OS Inst. PM & 32 OS Inst. VM NL Migration		x	x	x	x
HP Ops 1 OS Inst. PM Migration		x	x	x	x
HP Ops 1 OS Inst. PM & 6 OS Inst. VM NL MultiVendor Migration		x	x	x	x
HP Ops 1 OS Inst. Tier 0 Migration NP-FO		x	x	x	x
HP Ops 1 OS Inst. PM & 4 OS Inst. VM NL Migration NP-FO		x	x	x	x
HP Ops 1 OS Inst. PM & 8 OS Inst. VM NL Migration NP-FO		x	x	x	x
HP Ops 1 OS Inst. PM & 12 OS Inst. VM NL Migration NP-FO		x	x	x	x
HP Ops 1 OS Inst. PM & 21 OS Inst. VM NL Migration NP-FO		x	x	x	x
HP Ops + Perf 1 OS Inst. PM & 1 OS Inst. VM NL Migration NP-FO		x	x	x	x
HP Ops + Perf 1 OS Inst. PM & 6 OS Inst. VM NL Migration NP-FO		x	x	x	x
HP Ops + Perf 1 OS Inst. PM & 10 OS Inst. VM NL Migration NP-FO		x	x	x	x
HP Ops + Perf 1 OS Inst. PM & 19 OS Inst. VM NL Migration NP-FO		x	x	x	x
HP Ops + Perf 1 OS Inst. PM & 32 OS Inst. VM NL Migration NP-FO		x	x	x	x
HP Ops 1 OS Inst. Migration NP-DV		x	x	x	x
HP Ops + Perf 1 OS Inst. PM & 1 OS Inst. VM NL Migration NP-DV		x	x	x	x
HP Ops Desktop 1 OS Inst. Migration		x	x	x	x
HP Ops + Perf Desktop 1 OS Inst. Migration		x	x	x	x
HP Ops 1 OS Inst. Compliance Migration		x	x	x	x
HP Performance Agent Licenses (Tier-based)					
HP Performance Agent Tier 3 (1)	Tier-based Performance Agent	-	x	x	(x)
HP Performance Agent Tier 2 (1)		-	x	x	(x)
HP Performance Agent Tier 1 (1)		-	x	x	(x)
HP Performance Agent Tier 0 (1)		-	x	x	(x)

HP Performance Agent Desktop (1)		-	x	x	(x)
HP Performance Agent Tier 4 (1)		-	x	x	(x)
HP Performance Agent Licenses (Instance-based)					
HP Performance OS Instance	OS Instance-based Performance Agent	-	x	x	x
HP Performance OS Instance NP FO		-	x	x	x
HP Performance OS Instance NP DV		-	x	x	x

- x Regularly reported in the corresponding OM version
- Not reported in that OM version
- (x) Will be reported, but is not dedicated for that OM version (see example)
- (1) Appears as “HP Operations Manager 8.0 for Windows Performance Agent Tier n / Desktop” in the license report

Example for (x):

It is technically possible to install a license password for “HP Operations Manager 8.0 for Windows LE” on a HP Operations for Unix system. This will then reported in the license report, even though it is an OM Windows license.

Note: Password bundles such as the ‘HP Operations Basic Suite’ or the migration license ‘HP Operations Manager for Windows LE to OS Instances’ are not reported as a bundle. Password bundles consist of normal license passwords that cannot be distinguished from the others.

License Password Priorities

The license passwords have, dependent on functionality or purpose, different ‘priorities’. This means that one installed license password can hide another installed license password. This is an important feature to make sure that license passwords, that have a higher value, are used to license the product or feature, while passwords with a lower value will no longer be recognized.

An example:

An HP Operations Manager for Windows Limited-Edition password is installed. This enables the HP Operations Manager for Windows server, the agent on the server node and 20 additional agents. A migration of the HP Operations Manager for Windows LE to OS Instance-based licensing will be done by installing the passwords from the LE to OS Instance migration password bundle. This includes a normal HP Operations Manager for Windows server license password, an OS Instance password containing 20 OS Instances and several SPI passwords. The normal HP Operations Manager for Windows server license password has a higher priority than the HP Operations Manager for Windows LE password and disables the still installed HP Operations Manager for Windows LE password. The HP Operations Manager for Windows LE password is no longer recognized and none of the licensed features of the LE password will be counted any longer.

License Priorities

License Password(s)	Disabled passwords
Any of the HP Operations Manager for Unix or Windows license passwords	HP Operations Manager 8.0 for Windows Limited Extension HP Operations Manager 8.0 for Windows Limited Extension 10 Agent add-on

	HP Operations Evaluation
Any license password in the group "HP Operations Migration Licenses"	HP Operations Manager Desktop Agent HP Operations Manager Tier 0 Agent HP Operations Manager Tier 1 Agent HP Operations Manager Tier 2 Agent HP Operations Manager Tier 3 Agent HP Operations Manager Tier 4 Agent

OM Features

The OM license passwords are currently enabling more than 40 different licensed features, which are grouped into the previously described groups in the license report.

One of these groups is the "HP Operations Agent" group, which consist of the "Agent Licenses" feature. This "Agent Licenses" feature represents the total number of licenses that allow the use of the OM Agent functionality. This is the summarized number of licenses of the groups "Operations OS Instances", "Operations Tier-based Agents", "Operations Migration features" and "Upgrade for Real-Time OS Instance".

Licensed Features of HP Operations Manager

HPOM Licensed Features		
Feature Name	OprEI Plugin-ID	Comment
HP Operations Agent		
Agent Licenses	ovoagt	For license accumulation only No passwords for this license
HP Operations Management Server		
HP Operations Manager	ovosv	
HP Operations OS Instance		
HP Operations OS Instance Advanced	osiadv	OS Instance Advanced Including SiS points
HP Operations OS Instance Advanced NP FO	osiadvnpfo	
HP Operations OS Instance Advanced NP DV	osiadvnpdv	
HP Operations OS Instance	osinstance	OS Instance Only part of password bundles Not including SiS points
HP Operations OS Instance NP FO	osinpfo	
HP Operations OS Instance NP DV	osinpdv	
HP Operations Performance OS Instance Upg	perfosiupg	OS Instance upgrade from performance
HP Operations Performance OS Instance Upg NP FO	perfosiupgnpfo	
HP Operations Performance OS Instance Upg NP DV	perfosiupgnpdv	
HP Operations OS Instance Desktop SW	osidt	Desktop Agents
HP Operations OS Instance Desktop SW NP-FO	osidtnpfo	
HP Operations OS Instance Desktop SW NP-DV	osidtnpdv	
HP Operations Complementary OS Instance	complosi	
HP Operations Tier-based Agent		
HP Operations Manager Desktop Agent	ovoagtdt	For compatibility reasons Disabled when a migration license is installed
HP Operations Manager Tier 0 Agent	ovoagtt0	
HP Operations Manager Tier 1 Agent	ovoagtt1	
HP Operations Manager Tier 2 Agent	ovoagtt2	
HP Operations Manager Tier 3 Agent	ovoagtt3	
HP Operations Manager Tier 4 Agent	ovoagtt4	
HP Operations Target Connector		
HP Operations TC OS Instance	ovoagtless	Remote Monitoring
HP Operations TC OS Instance NP FO	agtlessnpfo	
HP Operations TC OS Instance NP DV	agtlessnpdv	

Unlimited Features		
HP Operations OS Instance Evaluation	ovoagteval	For feature evaluation only Number not limited
HP Operations Real-Time OS Instance Evaluation	rtimeeval	
HP Operations Migration Features		
Physical Machine OS Instance	migpmosi	Floating Host OS Instance
Physical Machine OS Instance NP-FO	migpmosinpfo	
Physical Machine OS Instance NP-DV	migpmosinpdv	
Virtual Machine OS Instance	migvmosi	Virtual Host OS Instance
Virtual Machine OS Instance NP-FO	migvmosinpfo	
Virtual Machine OS Instance NP-DV	migvmosinpdv	
HP Operations Desktop OS Instance Migration	migdtosi	
HP Operations Performance Agent		
HP Operations Performance Agent	pa	Tier-based Performance Agent
HP Operations Performance OS Instance	paosi	Instance-based Performance Agent
HP Operations Performance OS Instance NP FO	paosinpfo	
HP Operations Performance OS Instance NP DV	paosinpdv	

NP FO (~npfo) = Non-Production Failover

NP DV (~npdv) = Non-Production Development

Migration Licenses

Migration licenses are provided to accomplish a change from the tier-based licensing to the current OS Instance-based licensing.

Note: A license migration to the OS Instance-based licensing model is not mandatory and can be done when the OS Instance-based licensing will better fit to the managed environment than the old licensing model.

Tier-based Agent licenses to OS Instance-based licenses

The HP Operations Migration licenses are used for the migration of existing tier-based agent licenses to OS Instance migration licenses. The migration licenses will replace the tier licenses so that the tier licenses will no longer be reported and no longer be recognized.

The migration licenses introduced three features:

1. *Floating Host OS Instance.*
This licensed feature is used for the physical machines, which run the virtual nodes. The "Floating Host OS Instance" license is shown as "Physical Machine OS Instance".
2. *Virtual Nodes OS Instance - node locked and bound to a physical machine.*
This licensed feature is used for the virtual systems, which are running on the physical machines. The "Virtual Nodes OS Instance" is shown as "Virtual Machine OS Instance" in the license report.
3. *HP Operations Desktop OS Instance Migration.*

All these features are also added to the general "Agent Licenses".

Note: Because the migration features cannot be bound to specific managed nodes, the "Virtual nodes OS Instance – node locked and bound to a physical machine" belongings are not enforced.

HP Operations Manager for Windows Limited Edition

A migration license is also available for HP Operations Manager for Windows Limited Edition. This is for the migration from the limited HP Operations Manager for Windows LE license to the OS Instance-based licensing model. This HP Operations Manager for Windows LE migration license does not use any special features and consists of normal license passwords that activate general OM server and OS Instance features. This migration license will disable the installed HP Operations Manager for Windows LE license.

Migration License Reporting Prerequisites

The reporting of the migration licenses requires the installation of the product structure patch or hotfix for HP Operations Manager. The patch numbers are (as of Q4 2010):

HP Operations Manager for Windows 8.1x

Patch OMW_00070 + hotfix for QCCR1A114117 or
Patch OMW_00090

Hotfix for QCCR1A114117: "EL hotfix PSP2: License report doesn't show installed migration licenses on HP Operations Manager for Windows 8.16 + OMW_00070 patch"

The hotfix is required for the migration license reporting.

HP Operations Manager for Windows 9.00

HP Operations Manager for Windows 9.00 is currently not capable to report the OM migration licenses. A hotfix is planned for January 2011.

OMU 8.35

Hotfix for QCCR1A101762: *"opclm does not handle Instance Based license keys"*

This hotfix contains the contributed tool for the license reporting.

OMX 9.0x

HP-UX: PHSS_41410

Solaris: ITOSOL_000742

Linux: OML_00030

OMX 9.10

HP-UX: PHSS_41600

Solaris: ITOSOL_000746

Linux: OML_00033

Please check "Migration from tier-based agent licensing to OS Instance-based licensing" and "Migration from HP Operations Manager for Windows Limited Edition to OS instance-based licensing" in the "Best Practices" section to learn, how to migrate an existing HP Operations Manager installation from tier-based licensing to OS Instance-based licensing.

The Operations Manager License Reporter

The OM License Reporter is a tool that creates HTML license reports using the information, provided by the OprEl component.

How the OM License Reporter works

The license reporter relies on the information coming from the OprEl License Manager. The `ovolicense` tool is called several times to get all information such as the category mapping information, the license password list and the license status of all licensed features for the license report creation. This information will then be used and combined to create the three different license report pages: the Feature License Report, the License Password Report and the Node License Report.

The OprEl license reporting functionality is provided by three different tools:

omlicreporter (.bat): This script calls the OM License Reporter in a convenient way.

ovolicense: The `ovolicense` tool is used to get the license status information, the list of installed license passwords and the feature to category mappings.

OMLicenseReporter.jar: This is the text formatter that gets the provided information, processes it and formats it into HTML pages.

The License Reports

The most important license reports are the “Feature License Report” and the “License Password Report”. These reports are separated because it is not possible to combine them. The license passwords cannot be mapped one-on-one to features. While the product numbers are bound to license passwords, this is not possible between passwords and features. One password is mapped to one or more different OM features.

The feature report shows how many licenses are installed and used for the features, while the license password report shows what passwords and thereby which products are installed.

The license reports look the same on Unix and Windows. The same OprEl component is used on Unix and Windows and thus the same functionality is provided on all platforms.

The Feature License Report

The features shown in the Feature License Report try to represent the installed license passwords, as far as possible, aligned to the passwords (products). An example is the OS Instance Advanced and the OS Instance feature. While the OS Instance Advanced license contains SiteScope points in addition to the OS Instance features, the OS Instance license does not contain SiteScope points.

HP Operations OS Instance Advanced

This product includes 1x OS Instance (Operations Agent + Performance Agent) and SiteScope points.

OS Instance Advanced licenses are only sold in separate license passwords and are not included in any other license password sets or products.

HP Operations OS Instance

This license includes 1. OS Instance (Operations Agent + Performance Agent).

This license is only part of other products or license password sets and is not sold separately. For example the Management Server license contains one OS Instance license to license the agent running on the management server. This OS Instance does not include SiteScope points and is different from the OS Instance Advanced license.

License Report Example:

Operations Management Server				
HP Operations Manager	1	1	OK	ovosv
Total number of agent licenses				
Agent licenses	255 ³	186	OK	ovoagt
Operations OS Instance				
HP Operations OS Instance Advanced	234	0 ¹	--	osiadv
HP Operations OS Instance Advanced NP FO	0	0 ¹	--	osiadvnpfo
HP Operations OS Instance Advanced NP DV	0	0 ¹	--	osiadvnpdv
HP Operations OS Instance	21	0 ¹	--	osinstance
HP Operations OS Instance NP FO	0	0 ¹	--	osinpfo
HP Operations OS Instance NP DV	0	0 ¹	--	osinpdv

The number of licenses shown for OS Instance Advanced allows a direct conclusion to the installed licenses and license passwords for that feature, because this can be directly mapped. OS Instance Advanced licenses are only installed via the corresponding license password. On the other side is the number of licenses shown for the OS Instance feature the result of the content of several different license passwords. One example of these is the OM server license, which contains one OS Instance, but not OS Instance Advanced. Another example is the migration license that allows the migration from the OM Windows Light Edition to OS Instance-based licenses. This contains 20 OS Instances.

Target Connector License Reporting

Operations Target Connector				
HP Operations TC OS Instance	200	183 ²	OK	ovoagtlless
HP Operations TC OS Instance NP FO	0	0 ¹	--	agtllessnpfo
HP Operations TC OS Instance NP DV	0	0 ¹	--	agtllessnpdv

The reporting of the Target Connector license requirements is different from the reporting of the other licenses and features. The number of required Target Connector licenses is calculated using the node information in the messages in the OM data repository. This is detected once a day and the procedure is:

- The number of different nodes in all messages of the past day (00:00h – 24:00h) is detected. Only nodes that have no agent installed are recognized.
- This number is stored in the OM data repository for that day.
- The number for required Target Connector licenses in the report is the average number of these nodes over the past 30 days.

The detected numbers in the OM data repository can be checked by calling 'opcremsyschk -list' on OMX. Please see also section 'Target Connector tools' in the appendix. HP Operations Manager for Windows unfortunately does not provide such a tool.

Note: The reported number of the required Target Connector licenses has a footnote saying "This number is not 100% accurate, because of technical reasons".

This is caused by some exceptions. No Target Connector license is needed for nodes that are managed by other HP products or that are routers or appliances (the list of exceptions may change). If a message is caused on such a node or device cannot be detected and thus not differentiated. This can cause to not 100% accurate numbers for the required Target Connector licenses.

Target Connector check assistance tool

An additional Target Connector license check utility is available and is designed to provide structured assistance to determine the correct number of TC licenses that your installation requires. Because it is not always possible to programmatically determine when a Target Connector LTU is required, this tool cannot be considered as license accounting or auditing tool. It provides assistance only.

The documentation for that tool can be downloaded from

<http://support.openview.hp.com/selfsolve/manuals>

search for "Operations Center for Unix" / "9.00" / "HP-UX" and find the "OMU9_TargetConnectorCheckUtility.pdf" in the list.

The Target Connector check utility can be downloaded from

<ftp://ovweb.external.hp.com/pub/cpe/ito/tcl>

Note: This check utility is not part of the licensing component.

The License Password Report

The License Password Report shows what passwords are installed and what features result from these passwords.

Example:

HP Operations OS Instance Advanced			
Total number of passwords: 3			
Password 1: TB056AAE HP Operations OS Instance Advanced SW E-L...	200	Never	
Password 2: TB056AAE HP Operations OS Instance Advanced SW E-L...	14	Never	
Password 3: TB056AAE HP Operations OS Instance Advanced SW E-L...	20	Never	
Features enabled by these passwords:			
HP Operations OS Instance Advanced	234		
HP Operations Performance OS Instance	234		
HP Operations OS Instance			
Total number of passwords: 1			
Password 1: OVOW LightEdition to OS Instance	20	Never	
Features enabled by these passwords:			
HP Operations OS Instance	20		
HP Operations Performance OS Instance	20		
HP Operations Manager (password for Windows)			
Total number of passwords: 1			

Node License Report

The Node License Report shows what has been reported by the nodes. This includes several node attributes as well as the license requirement information received from the OM Agents.

Nodes with actual license requirement information

Nodes with actual license requirement information							
Node Name	CPUs	OS-Type	OS-Name	OS-Version	OS-Bits	License Usage	
ora01.company.com	2	Linux	Red Hat 5.3	2.6.18	64	<i>Req. License Name</i>	<i>License Manager</i>
						1 Agent licenses	omserver1.company.com
						1 HP Operations Real-Time OS Instance Evaluation	omserver1.company.com
						1 HP Operations Smart Plug-in for Virtualization Infrastructure	omserver1.company.com
						1 HP Operations Smart Plug-in for Oracle	omserver1.company.com
						4 HP Operations Smart Plug-in for Oracle for remote monitoring	omserver1.company.com

In "License Usage" the numbers are reported, as they were sent from the agent to the server and stored in the OM data repository.

Note: The here 'per node' reported license requirement information is raw data and cannot be mapped directly to the real license needs for a feature. The real license needs depend in addition on the 'license calculation rule' for the feature. This license calculation rule can change the number.

License Reporting on Cluster Nodes

The reporter reports all valid licenses on the system. All licenses that are considered as valid by the AutoPass component are reported by the license reporter. This is important on cluster nodes, because these have physical and virtual IP addresses.

On Unix: If license passwords for a license are installed for the physical and the virtual IP address, then both will be reported as valid together. The number of installed licenses, shown in the license report, will be too high in that case.

On Windows: Only license passwords for the virtual IP address recognized as valid. License passwords for physical IP addresses will be ignored on Windows cluster.

Note: The installation of license passwords for virtual and physical IP address on a cluster system might cause wrong numbers in the license report.

License reporting on Windows

HP Operations Manager for Windows 8.1x

The installation of the patches OMW_00070 + hotfix or OMW_00090 on HP Operations Manager for Windows 8.1x will install a new license reporter. The previously installed license reporter will be re-named to "Legacy License Reporter".

With the switch to the new license reporter, which was necessary to support the current product structure, it was also necessary to change the location of the AutoPass license password repository. The legacy license reporter is not aware of the new location and not aware of the current product structure. This means that the legacy license reporter on HP Operations Manager for Windows 8.1x can only be used to check the licenses that are installed on the old location and is therefore only useful for reference.

Note: On HP Operations Manager for Windows 8.1x, the old license tools (legacy license tools) must not be used to manage the OM licenses. Only the new tools must be used. Using the legacy license tools will cause incorrect license reports and incorrect license status checks.

HP Operations Manager for Windows 9.00

Because HP Operations Manager for Windows 9.00 intentionally uses the current product structure, this version does not provide the legacy report or the old tools. Please use the "License Reporter" tool in the HP Operations Manager for Windows console to create and view the license report.

License reporting on Unix

OMX 9.x

The script 'omlicreporter' is used to create the license report on Unix. This ensures that the OM License Reporter will be called in the correct manner.

The OMU 8.35 License Reporter

Since OMU 8.35 does not provide the functionality to report on OS Instance licenses, a contributed license reporter tool can be obtained from the HP Support on request.

The contributed license reporter tool for OMU 8.35 installs the reporter in

```
/opt/OV/contrib/OpC/OMU8-LicReporter
```

The wrapper script 'omu8licreporter.sh' makes sure that the reporter is called in a correct manner.

Differences to the HPOM 9 License Reporter

The contributed license reporter tool for OMU 8.35 is completely different from the license reporter, coming with OMX 9.xx. The differences are:

1. The contributed license reporter tool is a complete replacement for the reporting functionality of the opclitool. The opclitool cannot be used any longer to check the license status.
2. The contributed license reporter tool is provided as contributed tool only. The OprEl component requires several technical prerequisites that cannot be established in OMU 8.35 via a patch. These circumstances prevent the offer of a fully supported license reporter on OMU 8.35.

Note: The limitations only affect the reporting of licenses, but not any Operations Manager or Agent functionality.

Limitations of the OMU 8.35 License Reporter

The contributed license reporter tool must create the report without the functionality of the OprEl component and thus cannot report the license requirements for other features than the 'Agent licenses'. This data is not available on OMU 8.35. The license requirement information for the Agents is read by calling the opclitool, which does not provide any additional license information than for the Server and the Agents.

SPI Reporting

The contributed license reporter tool is not able to report SPI features because of the missing license registration functionality on OMU 8.35. The SPI license reporting requires the OprEl functionality.

How the OMU 8.35 contributed license reporter tool works

The OprEl ovolicentool and thereby the OprEl License Manager is not available on OMU 8.35. This makes it necessary to use other ways to get the license information, and some information cannot be discovered on OMU 8.35 at all. It is especially the license requirement information for other licenses than the agent licenses, which is not available.

The OMU 8.35 contributed license reporter tool uses a Perl script (omu8licreporter.pl) to get the information, process it, convert it in a format that the OM License Reporter can understand and to call the OM License Reporter. The Perl script makes use of the OMU 8.35 opclitool to find out, if an OMU server license is installed and how many agent licenses are required. The steps in detail are:

1. Get the information about the available licenses. The script uses AutoPass tools, which return this information. The current HPOM 9 PD-File is used to get the information according to the current product structure.
2. Get the information about the required licenses, as available. The script calls the OMU 8.35 opclitool for that to get the server license status and the number of required agent licenses.
3. Collect this information and convert it in XML format, so that the OM License Reporter can use it. This XML file contains the feature license information after the conversion.

4. Collect the license password information and convert it in a format that the OM License Reporter can use.
5. Call the OM License Reporter to create the Feature License Report and the License Password Report.

The contributed license reporter tool is not a complete replacement for all the functionality in the opclit tool. The opclit tool is still needed for the license installation and to call the old AutoPass GUI. The contributed license reporter tool comes with a newer version of AutoPass, which is needed to support the new licenses. This new AutoPass version should not be used to install licenses - this should only be used for the reporting or for troubleshooting.

Note: Use the opclit tool to install license passwords in OMU 8.35. Please check the sections “Install licenses on OMU 8.35” and “Create a license report in OMU 8.35” in the ‘Best Practices’ section to learn more about how to install licenses and how to create a license report.

The contributed license reporter tool reports all valid licenses on the system. All licenses that are considered as valid by the AutoPass component are reported by the license reporter. This is important on cluster nodes, because these have physical and virtual IP addresses.

Note: If license passwords for a license are installed for the physical and the virtual IP address, then both will be reported as valid together. The number of installed licenses, shown in the license report, will be too high in that case.

That the physical and the virtual IP addresses are used for the license check is the intended functionality of the contributed license reporter tool. The licenses that are installed twice can be disabled in such a case. How this can be done is described in ‘Disable or Enable Licenses’ in the Best Practices section.

Best Practices

License Installation

There are several ways to install licenses. Licenses are installed via the ovolicense tool or using the AutoPass GUI.

Note: AutoPass allows the installation of licenses that are dedicated for other IP addresses without any notification. This means that it can happen that unsuitable licenses are installed on the system that are not recognized and not reported.

Install all licenses stored in a file

License passwords, that are stored in a file, can be installed all at once by calling

```
# ovolicense -i -a HPOM -f <password_file>
```

All licenses stored in the license password file will then be installed. It is not possible to select a subset of licenses from the passwords in the file.

Install passwords from a file using the GUI

License passwords, that are store in a file, can be installed selectively via the AutoPass GUI:

1. Call the ovolicense tool to open the AutoPass GUI:
ovolicense -g -a HPOM
2. In the GUI, select "Install License Key -> Install/Restore License Key from file"
3. Press the button "Browse" to select the password file
4. Press "View file contents"
5. Select the license passwords in the list and press "Install"

Install licenses using the order number

Licenses that are part of an order number can be installed using the AutoPass GUI.

1. Call the ovolicense tool to open the AutoPass GUI:
ovolicense -g -a HPOM
2. In the GUI, select "Retrieve/Install License Key"
3. Enter the order number in the field "HP Order Number" and press "Next >"
4. Select the desired IP address in the "System Information" section
5. Select the desired licenses and amounts in the license list and press "Next >"
6. Enter your credentials and press "Next >"
7. Verify the contact data and press "Next >"
8. Check the license owner and press "Next >"
9. Check the licenses in the list for correctness and press "Next >"
10. The licenses will be installed

Disable or Enable Licenses

It is possible to disable or enable installed license passwords via the AutoPass GUI. License passwords can either be disabled by marking them as 'disabled' or by removing them completely from the license password repository. License passwords marked as disabled can be re-enabled later while removed license passwords cannot be re-enabled. Removed passwords need to be reinstalled to enable them again.

To disable license passwords:

1. Call the `ovolicense` tool to open the AutoPass GUI:
`# ovolicense -g -a HPOM`
2. In the GUI, select "Remove License Key"
3. Select the license passwords to remove in the list
4. When the check box "Remove Licenses permanently" is enabled, then the license password(s) will be removed completely and cannot be re-enabled later.
5. Press "Remove" to disable the selected license passwords

To (re-)enable license passwords:

1. Call the `ovolicense` tool to open the AutoPass GUI:
`# ovolicense -g -a PHOM`
2. Select "Recover License Key"
3. Select the license passwords in the list
4. Press "Recover"

Migration from tier-based agent licensing to OS Instance-based licensing

The tier-based OM Agent licenses are no longer available and are replaced by Instance-based licenses. Migration licenses are available for the migration of existing OM Agent Tier licenses to OS Instance licenses.

Please contact your local sales representative if you plan to do a migration.

In general the steps for a migration of OM Agent Tier licenses to OS Instance licenses are:

1. Compare the number of OM Agent Tier licenses in the support contract with the number of needed OM Agent Tier licenses in the license report.
 - If the number of required licenses shown in the license report is less or equal to the number of licenses in the support contract, then the migration licenses will cover all nodes that were licensed via the OM Agent Tier licenses.
 - If the number of required licenses shown in the license report is higher than the number of licenses in the support contract, then additional licenses are needed to license the whole number of managed nodes.
 - If the number of licenses in the support contract is spread over more than one OM server, then care must be taken that an according number of matching migration licenses will be used on each OM server system.
2. Install the migration licenses. For license installation see the 'License Installation' in the 'Best Practices' section.

3. Check the license report to make sure that the installed migration licenses are working as expected.

After the installation of the migration licenses, the Tier-based agent licenses are no longer listed in the license report and also no longer recognized. The report will now list the migration licenses in the section "Operations Migration features".

Migration from HP Operations Manager for Windows Limited Edition to OS Instance-based licensing

The HP Operations for Windows Limited Edition license is no longer sold. A similar bundle is now offered with the 'Basic Suite'. To allow customers the migration from the HP Operations Manager for Windows LE license to the OS Instance-based licensing, a migration license is provided. This consists of a set of license passwords that allow the use of the same number of features as the HP Operations Manager for Windows LE license.

The steps for the migration of HP Operations Manager for Windows LE to OS Instance licenses are:

1. Request the HP Operations Manager for Windows LE to OS Instance license.
2. Install all license passwords of the license. For license installation see 'License Installation' in the 'Best Practices' section.
3. Check the license report to make sure, that the installed licenses are working as expected. This is the case when a corresponding number of installed licenses is reported for "HP Operations OS Instance".

The HP Operations Manager for Windows LE to OS Instance license passwords are general OM license passwords that are not different from other OM license passwords and are thus not reported in any special way in the license report.

OM Cluster on Unix

The licensing of OM cluster systems has changed with OMX 9.xx. In contrast to OMU 8.xx, the licensing component in OMX 9.xx is fully cluster aware. This means that licenses must no longer be installed twice and should be encoded for the virtual node IP address only.

Warning: Do not install licenses twice on an OMX cluster system. Use only license passwords for the virtual IP address of the cluster and do not install licenses for a physical IP address on a cluster node. Installing license passwords for the physical IP address on a cluster node will cause the license report to indicate that too many licenses are installed.

Note: It is no longer necessary to install licenses on both cluster nodes. A license password that is for the virtual IP address and that has already been installed on one cluster node will be recognized also on the other cluster node.

OM Cluster on Windows

The licensing of OM cluster systems has changed with HP Operations Manager for Windows 9.00 and for HP Operations Manager for Windows 8.1x with the patch OMW_00062 and later. In contrast to HP Operations Manager for Windows 8.1x on patch level OMW_00062 or greater is the

licensing component in HP Operations Manager for Windows 9.00 and HP Operations Manager for Windows 8.1x + patch fully cluster aware. This means that licenses must no longer be installed twice and must be encoded for the virtual node IP address only.

Warning: Licenses for a physical IP address of a cluster node will not be recognized by the license component and thus not reported and not taken into account. Do not install licenses for a physical IP address on a cluster node.

Install licenses on OMU 8.35

The OMU 8.35 license tool 'opcllic' should be used to install licenses in OMU 8.35. Install the licenses as described in the OMU 8.35 manuals. If the license passwords are already available in a file, then run the following command:

```
/opt/OV/bin/opcllic -add [-force] <pwd_file>
```

The '-force' parameter is only needed when one of the license password file contains an OM Server password.

Create a license report on OMX 9.xx

The OM License Report is created on OMU 9.xx by calling the according tool without any parameter:

```
/opt/OV/bin/omlicreporter
```

The report that is created can be found at this location:

```
/opt/OV/www/htdocs/ito/OMLicenseReport.html
```

and can be accessed via

<http://<omserver>:8081/ITO/OMLicenseReporter.html>

or

<https://<omserver>:8444/ITO/OMLicenseReporter.html>

Create a license report on OMU 8.35

The OM License Report is created on OMU 8.35 by calling the according script in the license reporter installation directory:

```
/opt/OV/contrib/OpC/OMU8-LicReporter/omu8licreporter.sh
```

The report that is created can be found at this location:

```
/opt/OV/www/htdocs/ito/OMLicenseReport.html
```

and can be accessed via

<http://<omserver>:3443/ITO/OMLicenseReporter.html>

HP Operations Manager for Windows 7.5

A license reporter for the current HP Operations Manager product structure is not available for HP Operations Manager for Windows 7.5x, because HP Operations Manager for Windows 7.5x does not have the technical prerequisites for it. This makes it necessary to administer the licenses differently.

When instance-based licenses are used for HP Operations Manager for Windows 7.5x, then these cannot be installed, or more precisely, are not recognized when installed. Such instance-based licenses are paper licenses only for HP Operations Manager for Windows 7.5x.

- All OS-Instance license passwords, migration license passwords or any other instance-based license password cannot be installed.
- For the Target Connector licenses, only the normal Target Connector license password can be installed. The non-production failover or the non-production development version of the Target Connector license passwords will not be recognized.

Known Issues

Performance Agent license reporting

QCCR1A117395: Performance licenses are not reported correctly

The license reporting of the Performance Agent has still some weaknesses. The problem is that no license passwords are available for the PA migration licenses and that the Instance-based PA license are currently not fully compared against the PA license requirements.

Example:

PA							
HP Operations Performance Agent OS Instance NP-FO	0	0	OK	paosinpfo			
HP Operations Performance Agent OS Instance	255	0	OK	paosi			
HP Operations Performance Agent OS Instance NP-DV	0	0	OK	paosinpdv			
HP Operations Performance Agent	0	17	CRITICAL	pa			

Workarounds

This is the workaround when no migration licenses are used:

- Take the summarized number of all installed licenses for all four reported Performance Agent features. This is $0 + 255 + 0 + 0 = 255$ in the example.
- Compare this number with the reported number of needed licenses. This is 17 in the example.
- If the number of license needs is less than or equal to the summarized number of installed PA licenses, then the license status is 'OK'. In this example: 255 installed vs. 17 needed = OK.

Note: There is no workaround available when migration licenses are used, because these are currently paper licenses only.

SPI DVDs

On Windows:

The SPI DVDs of 2008 and 2009 install its Instant-On licenses into the old license password repository on Operations Manager for Windows. The consequence is that these licenses are not reported by the OM License Reporter. Use the 'Legacy License Report' in the OM Console to check these licenses.

Troubleshooting

In case of unexpected issues

A number of different files can be useful in case of an unexpected issue. These should be sent to your support contact for further investigations. These files are:

OMX 9.xx

The registration files and the PD files:

```
/opt/OV/misc/EL/registration/*  
/opt/OV/misc/EL/pd_files/*
```

The HTML report files:

```
/opt/OV/www/htdocs/ito/OM*.html
```

The intermediate license report files:

```
/var/opt/OV/tmp/el_*
```

The installed license passwords:

```
/var/opt/OV/shared/server/OprEl/AutoPass/LicFile.txt
```

HP Operations Manager for Windows 8.1x and HP Operations Manager for Windows 9.xx

The registration files and the PD files:

```
%OvInstallDir%\OV\misc\EL\registration\*.*  
%OvInstallDir%\OV\misc\EL\pd_files\*.*
```

The HTML report files:

```
%OvDataDir%\temp\OM*.htm
```

The intermediate license report files:

```
%OvDataDir%\temp\el_*.*
```

The installed license passwords:

```
%OvDataDir%\shared\server\OprEl\AutoPass\LicFile.txt
```

OMU 8.35

The contributed license reporting tool for OMU 8.35 is provided as it is, but for completeness, this is the same list for OMU 8.35:

The HTML report files:

```
/opt/OV/www/htdocs/ito/OM*.html
```

The intermediate license report files:

```
/var/opt/OV/tmp/lic_*  
/var/opt/OV/tmp/opcllic_report.txt
```

The installed license passwords:

```
/var/opt/OV/shared/server/OprEl/AutoPass/LicFile.txt
```

Appendix

Understanding OprEl

This will give a short overview of the OprEl component.

AutoPass

AutoPass is a component that is embedded in the OprEl component. AutoPass is responsible for the decryption and validation of the installed license passwords. It also manages the license passwords in the license password repository (license file). If the licensing GUI is opened, then the GUI of AutoPass is opened. AutoPass is responsible for the following:

1. Managing the license passwords in the license password repository – installing, removing, disabling and enabling license passwords
2. Checking the validity of license passwords – IP address and runtime of licenses
3. Returning the number of installed licenses for a feature

AutoPass uses 'Product Description Files' (PD-Files) for the mapping from the license passwords to the licensed features. What features are licensed by a license password is defined in that PD-File.

OprEl and its functionality rely on the AutoPass functionality for everything regarding the installed license passwords.

The ovolicense tool

The OprEl ovolicense tool is the central command to access the license information. It makes use of the OprEl License Manager, which collects the information from the license passwords via AutoPass and the license requirement information stored in the OM data repository.

The categories

The licensed features are grouped in 'categories', which can be checked using 'ovolicense -m'. Each OM product part has its own category. The OM 'core' category is "HPOM" and the performance agent category is "PA". The SPIs introduce its own categories.

Each category refers to its own PD-File for the feature mapping. All licensed features that are defined in a PD-File are generally grouped in one category or can also be spread over several categories.

OprEl File Locations

Each licensed feature needs to be registered in OprEl to get it reported. Not registered features will not be reported. The registration is done by placing a feature registration XML file in the registration file directory. In addition is a PD-File required for each component category, which is placed into the PD-File directory.

Registration Files

The registration files are stored in

Unix: /opt/OV/misc/EL/registration
Windows: %OvInstallDir%\misc\EL\registration

PD-Files

The PD-Files are stored in

```
Unix:          /opt/OV/misc/EL/pd_files
Windows:      %OvInstallDir%\misc\EL\pd_files
```

OMU 8.35

The OMU 8.35 license reporter does not provide the OprEl component and thus the licensed features are not registered

Supporting Tools

The OprEl component comes with a support script in addition to the ovlicense tool. This is the tool

```
Unix:          /opt/OV/lbin/oprel/ovoaptool
Windows:      %OvInstallDir%\lbin\oprel\ovoaptool.bat
```

It allows you to call the AutoPass demo utility or the AutoPass GUI in a convenient way. To start the AutoPass demo utility run the following command:

```
Unix:          /opt/OV/lbin/oprel/ovoaptool -d <pd_file>
Windows:      %OvInstallDir%\lbin\oprel\ovoaptool.bat -d <pd_file>
```

To start the AutoPass GUI run the following command:

```
Unix:          /opt/OV/lbin/oprel/ovoaptool -g <pd_file>
Windows:      %OvInstallDir%\lbin\oprel\ovoaptool.bat -g <pd_file>
```

Note: The output of the AutoPass demo utility is not intended for use by end-users. It may look quite cryptic for a person who is unfamiliar with AutoPass.

AutoPass Demo Utility

The AutoPass demo utility allows you to call many AutoPass API functions, and is useful to check what AutoPass will return to OprEl. While the most of the functions that the demo utility provides are not of interest, two of them are very useful. These are two of the functions that are also used by the OprEl component. These are:

```
Unix:          -r 5 /opt/OV/misc/EL/pd_files/hpom91pd.txt
Windows:      -r 5 C:\Program Files\HP\HP BTO Software\misc\EL
               \pd_files\hpom91pd.txt
```

'-r 5' returns the list of licensed features. This is roughly the information that is shown in the Feature License Report.

```
Unix:          -r 7 /opt/OV/misc/EL/pd_files/hpom91pd.txt
Windows:      -r 7 C:\Program Files\HP\HP BTO Software\misc\EL
               \pd_files\hpom91pd.txt
```

'-r 7' returns the list of installed and valid HPOM license passwords. This is roughly the information that is shown in the License Password Report.

Note: The path to the PD-Files on Windows depends on %OvInstallDir%. Please use the path matching to your system.

Note: When the PD-File 'hpom91pd.txt' is used for the call of the AutoPass tools, then only the HPOM licenses and license passwords are shown. This does not include the Performance Agent

licenses. To check the Performance Agent licenses, the PD-File 'perfactpd.txt' must be used for the call.

OMU 8.35

Also the contributed license reporting tool for OMU 8.35 provides the AutoPass tools that can be called via the script

```
/opt/OV/contrib/OpC/OMU8-LicReporter/omu8aptool.sh
```

This can be used to call the AutoPass demo utility or the AutoPass GUI in a similar manner as the OprEl tool. The omu8aptool.sh script has the location of the HPOM PD-File pre-defined so that it is not required to specify it in the call. Example: Calling

```
omu8aptool.sh -d
```

will start the AutoPass demo utility with the correct HPOM PD-File path.

Target Connector Tool (Unix only)

OMX uses a separate tool to find out, how many nodes are monitored remotely. This is the tool

```
/opt/OV/bin/OpC/opcremsyschk [-list]
```

'opcremsyschk -list' shows the database entries of the past 30 days of the number of counted nodes, relevant for the Target Connector license. When the tool is called without any parameter, then a new database entry will be generated.

Note: This tool is unfortunately not available for HP Operations Manager for Windows, because the Target Connector requirements are determined in a different way on Windows.

Example:

```
> /opt/OV/bin/OpC/opcremsyschk -list
```

These are the values of the last 30 days for 'ovoagtless' as they are stored in the database.

```
-----  
11/27/2010 17:33:06      148  
11/28/2010 17:33:07      139  
11/29/2010 17:33:04      108  
11/30/2010 17:33:02      156  
12/01/2010 17:52:02      143  
12/02/2010 17:52:04      152  
12/03/2010 13:30:57      122  
12/04/2010 13:30:56      168  
12/05/2010 13:30:57      157  
12/06/2010 13:30:57      139
```

```
:
```

Example Report

This is an example report that shows a correct license status.

Example OM Feature License Report (part 1):

HP Operations Manager Feature License Report

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HP Operations Manager Feature License Report				
HP Operations Manager Server Information				
Product Name:	HP Operations Manager for Windows			
Product Version:	Management Server : A.08.16			
Patches:	OMW_00016 ... OMW_00070 OMW_00071 OMW_00090			
Management Server Name:	omserver.company.com			
Report Creation Time:	Tuesday, December 14, 2010 2:02:57 PM			
Component Name	Installed Licenses	Used Licenses	License Status	Plugin-ID
HP Operations Manager for Unix				
Operations Management Server				
HP Operations Manager	1	1	OK	ovosv
Total number of agent licenses				
Agent licenses	260 ³	1	OK	ovoagt
Operations OS Instance				
HP Operations OS Instance Advanced	5	0 ¹	--	osiadv
HP Operations OS Instance Advanced NP FO	0	0 ¹	--	osiadvnpfo
HP Operations OS Instance Advanced NP DV	0	0 ¹	--	osiadvnpdv
HP Operations OS Instance	21	0 ¹	--	osinstance
HP Operations OS Instance NP FO	0	0 ¹	--	osinpfo
HP Operations OS Instance NP DV	0	0 ¹	--	osinpdv
HP Operations OS Instance Desktop SW	5	0 ¹	--	osidt
HP Operations OS Instance Desktop SW NP FO	0	0 ¹	--	osidtnpfo
HP Operations OS Instance Desktop SW NP DV	0	0 ¹	--	osidtnpdv
HP Operations Performance OS Instance Upgrade	0	0 ¹	--	perfosiupg
HP Operations Performance OS Instance Upgrade NP FO	0	0 ¹	--	perfosiupgnpfo
HP Operations Performance OS Instance Upgrade NP DV	0	0 ¹	--	perfosiupgnpdv
HP Operations Complementary OS Instance	0	0 ¹	--	complosi
Operations Migration features				
Physical Machine OS Instance	23	0 ¹	--	migpmosi
Physical Machine OS Instance NP FO	0	0 ¹	--	migpmosinpfo
Physical Machine OS Instance NP DV	0	0 ¹	--	migpmosinpdv
Virtual Machine OS Instance	206	0 ¹	--	migvmosi
Virtual Machine OS Instance NP FO	0	0 ¹	--	migvmosinpfo
Virtual Machine OS Instance NP DV	0	0 ¹	--	migvmosinpdv
HP Operations Desktop OS Instance Migration	0	0 ¹	--	migdtosi
Operations Target Connector				
HP Operations TC OS Instance	1	0 ²	OK	ovoagtlless
HP Operations TC OS Instance NP FO	0	0 ¹	--	agtllessnpfo
HP Operations TC OS Instance NP DV	0	0 ¹	--	agtllessnpdv

Example OM Feature License Report (part 2):

Upgrade for Real-Time OS Instance					
HP Operations Real-Time OS Instance Upgrade	0	0 ¹	--		realtime
HP Operations Real-Time OS Instance Upgrade NP-FO	0	0 ¹	--		rtnpfo
HP Operations Real-Time OS Instance Upgrade NP-DV	0	0 ¹	--		rtnpdv
HP Operations Complementary Real-Time Upg OS Instance	0	0 ¹	--		complrtupg
Unlimited features					
HP Operations OS Instance Evaluation	unlimited	0	OK		ovoagteval
HP Operations Real-Time OS Instance Evaluation	unlimited	1	OK		rtimeeval
Other Component Features					
Virtualization Infrastructure					
HP Operations Smart Plug-in for Virtualization Infrastructure	1	0	OK		vispi
PA					
HP Operations Performance Agent OS Instance NP-FO	0	0	OK		paosinpfo
HP Operations Performance Agent OS Instance	25	0	OK		paosi
HP Operations Performance Agent OS Instance NP-DV	0	0	OK		paosinpdv
HP Operations Performance Agent	0	0	OK		pa
Unregistered Features					
Unregistered Components					
<p>1. The number of used LTUs cannot be detected for this feature, because of technical reasons.</p> <p>2. This number is not 100% accurate, because of technical reasons.</p> <p>3. This number represents the number of all Agent licenses. This is the sum of all licenses in the groups "Operations OS Instance", "Operations Tier based Agents" and "Operations migration features".</p>					
Notes:					
<ul style="list-style-type: none"> - The group "Operations Tier based Agents" is not reported and not counted when migration licenses are installed. - The group "Operations Tier based Agents" is not reported when no Tier based Agent licenses are installed. - The group "Operations Migration features" is not reported when no migration licenses are installed. 					

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Licenses in this example

This example license report shows a system that has the following permanent licenses installed:

- BA217AA:-Operations Manager 7.5 for Windows LE to OS-Instance SW
This is the migration license from HP Operations Manager for Windows LE to OS-Instance.
- TB056AA: HP Operations OS Instance Advanced SW (5 LTU)
- TB969AA: HP operations OS Instance Desktop SW (5 LTU)
- BB165ZA: HP Operations Manager 8.0 for Windows Remote Management (1 LTU)
- TB919AA: HP Ops 1 OS Inst. PM & 8 OS Inst. VM NL Migration (4 LTU + 1 LTU)
- TB920AA: HP Ops 1 OS Inst. PM & 12 OS Inst. VM NL Migration (4 LTU + 1 LTU)
- TB924AA: HP Ops + Perf 1 OS Inst. PM & 10 OS Inst. VM NL Migration (1 LTU + 8 LTU)

Example OM License Password Report (part 1):

HP Operations Manager License Password Report		
HP Operations Manager Server Information		
Product Name:	HP Operations Manager for Windows	
Product Version:	Management Server : A.08.16	
Patches:	OMW_00016 ... OMW_00070 OMW_00071 OMW_00090	
Management Server Name:	omsrver.company.com	
Report Creation Time:	Tuesday, December 14, 2010 2:02:57 PM	
Category: HPOM		
Password Information	Capacity	Expiration Time
HP Ops 1 OS Inst. PM & 4 OS Inst. VM NL Migration		
Total number of passwords: 2		
Password 1: HP Ops 1 OS Inst. PM and 4 OS Inst. VM NL Migration Perman...	1	Never
Password 2: HP Ops 1 OS Inst. PM and 4 OS Inst. VM NL Migration Perm Li...	3	Never
<i>Features enabled by these passwords:</i>		
Physical Machine OS Instance	4	
Virtual Machine OS Instance	16	
HP Operations OS Instance Advanced		
Total number of passwords: 1		
Password 1: IPP10I32Z53F30ML TB056AAE HP Operations OS Instance Advance...	5	Never
<i>Features enabled by these passwords:</i>		
HP Operations OS Instance Advanced	5	
HP Operations Performance OS Instance	5	
HP Operations Manager Target Connector OS Instance		
Total number of passwords: 1		
Password 1: HP Operations Manager 8.0 for Windows Remote Management per...	1	Never
<i>Features enabled by these passwords:</i>		
HP Operations Manager Target Connector OS Instance	1	
HP Operations OS Instance Desktop SW		
Total number of passwords: 1		
Password 1: HP Ops 1 OS Inst. Desktop SW Permanent License locked to IP...	5	Never
<i>Features enabled by these passwords:</i>		
HP Operations OS Instance Desktop SW	5	
HP Ops + Perf 1 OS Inst. PM & 10 OS Inst. VM NL Migration		
Total number of passwords: 2		
Password 1: HP Ops + Perf 1 OS Inst. PM and 10 OS Inst. VM NL Migration...	1	Never
Password 2: HP Ops + Perf 1 OS Inst. PM and 10 OS Inst. VM NL Migration...	8	Never
<i>Features enabled by these passwords:</i>		
Physical Machine OS Instance	9	
Virtual Machine OS Instance	90	
HP Ops 1 OS Inst. PM & 12 OS Inst. VM NL Migration		
Total number of passwords: 2		
Password 1: HP Ops 1 OS Inst. PM and 12 OS Inst. VM NL Migration Perm L...	4	Never
Password 2: HP Ops 1 OS Inst. PM and 12 OS Inst. VM NL Migration Perman...	1	Never
<i>Features enabled by these passwords:</i>		
Physical Machine OS Instance	5	
Virtual Machine OS Instance	60	

Example OM License Password Report (part 2):

HP Ops 1 OS Inst. PM & 8 OS Inst. VM NL Migration			
Total number of passwords: 2			
Password 1: HP Ops 1 OS Inst. PM and 8 OS Inst. VM NL Migration Perm Li...	4	Never	
Password 2: HP Ops 1 OS Inst. PM and 8 OS Inst. VM NL Migration Permane...	1	Never	
Features enabled by these passwords:			
Physical Machine OS Instance	5		
Virtual Machine OS Instance	40		
HP Operations OS Instance			
Total number of passwords: 1			
Password 1: IPP10K10E55J44MF BA217AA HP Ops Mgr 7.5 Windows Limited Edi...	20	Never	
Features enabled by these passwords:			
HP Operations OS Instance	20		
HP Operations Performance OS Instance	20		
HP Operations Manager (password for Windows)			
Total number of passwords: 1			
Password 1: IPP10K10E55J44MF BA217AA HP Ops Mgr 7.5 Windows Limited Edi...	1	Never	
Features enabled by these passwords:			
HP Operations Manager	1		
HP Operations OS Instance	1		
HP Operations OS Instance Evaluation	Unlimited		
HP Operations Real-Time OS Instance Evaluation	Unlimited		
HP Operations Manager Instant-On			
Total number of passwords: 1			
Password 1: Instant On License for HPOM9.1	1	Fri Jan 28 23:59:59 2011	
Features enabled by these passwords:			
HP Operations Manager	1		
HP Operations OS Instance	Unlimited		
HP Operations OS Instance Evaluation	Unlimited		
HP Operations Real-Time OS Instance Evaluation	Unlimited		
Category: PA			
Password Information		Capacity	Expiration Time
HP Operations OS Instance Advanced			
Total number of passwords: 1			
Password 1: IPP10I32Z53F30ML TB056AAE HP Operations OS Instance Advance...	5	Never	
Features enabled by these passwords:			
HP Operations OS Instance Advanced	5		
HP Operations Performance OS Instance	5		
HP Operations OS Instance			
Total number of passwords: 1			
Password 1: IPP10K10E55J44MF BA217AA HP Ops Mgr 7.5 Windows Limited Edi...	20	Never	
Features enabled by these passwords:			
HP Operations OS Instance	20		
HP Operations Performance OS Instance	20		
Category: VirtualizationInfrastructure			
Password Information		Capacity	Expiration Time
HP Operations Smart Plug-in for Virtualization Infrastructure InstantOn			
Total number of passwords: 1			
Password 1: InstantOn vispi	1	Fri Jan 28 23:59:59 2011	
Features enabled by these passwords:			
HP Operations Smart Plug-in for Virtualization Infrastructure InstantOn	1		