
HP Universal SLA Manager

Version 4.0



Release Notes

Edition: 1.0

for Linux and Microsoft Windows Operating Systems

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Preface

This document consists of the release notes for the HP Universal SLA Manager software kit.

The software kit name is **USLAM 4.0-MR**. The following installation kits are available for the current version:

- HP_USLAM_Services.bin – *on Linux Only*
- HP_USLAM_ETL.bin – *on Linux Only*
- HP_USLAM_BOE.tar – *on Windows Only*
- HP_USLAM_Reporting.biar – *on Windows Only*
- HP_USLAM_Report_Publisher.exe – *on Windows Only*
- HP_USLAM_MyUSLAMPortal.bin/exe – *on Linux and Windows*

USLAM V4.0 MR is the first official release of USLAM V4.0. It is not backward compatible with USLAM V3.0. To install it, you must stop any prior version and either de-install it or install USLAM V4.0 MR in a new directory. For more details for an installation from scratch, please consult the *HP USLAM Installation and Configuration Guide*.

The V4.0 MR installation kits include all the Universal SLA Manager components:

- Calculation Engines
 - BIF Engine
 - KPI Engine
 - KQI Engine
 - SLA Engine
 - Ticket Engine
- Data Collection framework for Data Records, Performance Metrics, Tickets and Exclusions
- Action Executor framework including standard SNMP and SMTP Action Executors
- Repository manager / Dataload
- Web UI
- ETL (powered by SAP Business Objects Data Services)
- Universe (powered by SAP Business Objects Data Services)
- Reports (powered by SAP Business Objects Enterprise)
- Pre-defined reports
- End-user SLA Intelligence Portal
- Model examples
- MyUSLAM Portal (powered by Liferay Portal)
- MyUSLAM Portlets

It is highly recommended to read this document before installing USLAM.

The prerequisites and other relevant information about installing USLAM are provided in the *HP USLAM Installation and Configuration Guide*.

Intended Audience

This document is intended for Solution Architects, USLAM Solution deployment teams and USLAM Solution administrators.

Software Versions

The term Windows is used as a generic reference to the operating system, unless otherwise specified. The software versions referred to in this document are as follows:

Table 1 List of Software Version

Software	Version
HP Universal SLA Manager	V4.0
Red Hat Linux 6.5 64-bit	6.5 (*)
Oracle client for Linux 64-bit	11g Release 2 (11.2.0.4) (*)
Oracle client for Windows 32-bit	11g Release 2 (11.2.0.4) (*)
Windows	Windows Server 2008
Internet Explorer	9.0 or upper
Firefox	27.0 or upper
Google Chrome	32.0 or upper
SAP Business Objects Enterprise	BO XI 3.1 SP5 (12.5.0.1190)
SAP Business Objects Data Service	BO DS 4.1 SP1 Patch 3 (14.1.1.354)
Liferay Portal	6.1.1 CE GA2

(*) Specified servers versions have been successfully tested by Hewlett-Packard. Incremental releases of the specified versions defined by the last number in the server name will be supported as they are made available, but may not have been tested by Hewlett-Packard. Exceptions in support will be documented.

Associated Documents

The following documents contain useful reference information:

- HP Universal SLA Manager, Installation and Configuration Guide.
- HP Universal SLA Manager, User guide.
- HP Universal SLA Manager, Administration guide.
- HP Universal SLA Manager, Support Matrix.
- HP Universal SLA Manager, Modeling and Integration guide: this guide is available on demand, please contact USLAM-Product-Management@hp.com

Typographical Conventions

Courier font is used for:

- Source code and examples of file contents
- Commands that you enter on the screen
- Path names
- Keyboard key names.

Italic text is used for:

- Filenames, programs, and parameters
- The names of other documents referenced in this manual.

Bold text is used for:

- New terms
- Important words.

Terms and Acronyms

Table 2 List of Terms and Acronyms

Term	Description
USLAM	Universal Service Level Agreement Manager
SLA	Service Level Agreement
ETL	Extract Transform Load
SM	Service Manager
UI	User Interface
Web UI	Web User Interface

Support

Please visit our HP Software Support Online Web site at www.hp.com/go/hpsoftwaresupport for contact information, and details about HP Software products, services, and support.

The Software support area of the Software Web site includes the following:

- Downloadable documentation
- Troubleshooting information
- Patches and updates
- Problem reporting
- Training information
- Support program information.

Chapter 1 Introduction

1.1 Product Goals

HP Universal SLA Manager offers a complete and scalable SLA Management solution including:

- Services and SLAs design and repository
- Generic service models, service metrics and SLA clauses design and store capability.
- Automates creation, administration and reporting for high numbers of SLAs.
- Allows integration into existing environment / workflow for automated, secured and efficient dataload and synchronization
- High volume SLAs compliance calculation and reporting
- Business impact for Service Operation for easy and reliable cost management
- Manage financial risks through proactive penalty prediction.
- Data Collection framework for Data Records, Performance Metrics, Tickets and Exclusions
- Telco grade engines to compute real time SLA compliance status.
- Customer portal for end-user reports against contractual agreements and management analytics reports.
- Near real time monitoring of SLA clauses compliance with trending information.
- Root cause analysis available in web UI and Reporting, from SLA to individual downtimes and incidents.
- Support Service Improvement Plan process with SLA history related data and reports.
- Open and easy-to-use Business Objects Universe for developing any reports based on USLAM data model.
- A new end user community portal called 'MyUSLAM'. This highly customizable portal embeds several USLAM portlets that can be used to build private or public business dashboards, extending business metrics visibility to business managers, end customers and partners.

1.2 Product Content

The USLAM product is delivered as 4 software kits:

USLAM Services

The USLAM Services package contains different modules that can be installed either together or separately on different hosts (Linux only):

- **Data Collection framework**
 - A framework that can host and run any number of data collectors from the supported types. USLAM V4.0 supports data collectors for data records, performance records, tickets and exclusions
- **Calculation Engines**
 - The core USLAM engines for real time SLA calculation, compliance assessment and SLA business impact calculation
- **Repository Manager** (incl. dataload tools)
 - The USLAM single and central repository that stores all objects like templates, definitions, services, customers and SLAs.
- **Web UI**
 - Comprehensive Web User Interface allowing the management and monitoring of SLAs, from an operational and business impact standpoint. It is also used to manage USLAM users and to monitor the result of the dataload tools.

Note: In this version, the Web UI is deployed on the same system as the *Repository Manager*.
- **Action Executors**
 - A framework that can host any number of action executors. Standard SNMP and SMTP Action Executors are provided with the product.

USLAM ETL

The USLAM ETL package is used to build and regularly update the datamart that stores and organizes the historical data of the SLAs.

It is powered by SAP Business Objects Data Services (embedded in the USLAM ETL package) and is available on Linux only.

USLAM Reporting

The USLAM Reporting packages offer a complete Reporting solution, including a predefined end-user SLA Intelligence Portal and a set of predefined standard reports (Operational, Contractual, Audit...). An open and easy-to-use BO universe design is provided to ease the production of customized reports. The package also includes a tool that can be scheduled for automatic publishing of contractual reports.

It is powered by SAP Business Objects Enterprise (embedded in the *USLAM Reporting software*) and is available on Windows only.

The USLAM Reporting solution consists in 3 packages:

- [HP USLAM Reporting Software](#) (powered by Business Objects Enterprise).
Note: This package must not be installed if you already have a Business Object Enterprise server installed
- [HP USLAM Universe and Standard Reports](#)
- [HP USLAM Report Publisher](#)

MyUSLAM Portal

The MyUSLAM package offers a new end user community portal powered by Liferay Portal 6.1.1. This highly customizable portal embeds several USLAM portlets that can be used to build private or public business dashboards, extending business metrics visibility to business managers, end customers and partners.

Chapter 2 Software Prerequisites

2.1 Software Prerequisites

Table 3 Software Prerequisites

Product	Version
Windows Server	2008 32bit or 64 bits
Oracle Server	11g Release 2 (11.2.0.4) (*)
Oracle Client for Linux 64-bit	11g Release 2 (11.2.0.4) (*)
Oracle Client for Windows 32-bit	11g Release 2 (11.2.0.4) (*)
Red Hat Linux 6.5 64-bit	6.5 (*)
Internet Explorer or Firefox or Google Chrome	9.0 or upper 27.0 or upper 32.0 or upper

(*) Specified servers versions have been successfully tested by Hewlett-Packard. Incremental releases of the specified versions defined by the last number in the server name will be supported as they are made available, but may not have been tested by Hewlett-Packard. Exceptions in support will be documented.

Chapter 3 Installation and Upgrade

3.1 Kit

The installation kits bundled with HP USLAM 4.0-MR software are:

Setup File Name	Usage
HP_USLAM_Services.bin	Use this setup to install USLAM Services (Linux)
HP_USLAM_ETL.bin	Use this setup to install USLAM ETL (Linux)
HP_USLAM_BOE.tar	Untar this archive to install USLAM Reporting software (Windows) <u>Note:</u> Once untar-ed, the setup executable is under Disk1/InstData/VM/HP_USLAM_BOE.exe
HP_USLAM_Reporting.biar	Import this file into Business Objects to install the HP USLAM Universe and Standard Reports
HP_USLAM_Report_Publisher.exe	Use this setup to install USLAM Reports Publisher (Windows)
HP_USLAM_MyUSLAMPortal.bin	Use this setup to install MyUSLAM Portal (Linux)
HP_USLAM_MyUSLAMPortal.exe	Use this setup to install MyUSLAM Portal (Windows)

3.2 Code Signing

Below mentioned procedure* allows you to assess the integrity of the delivered Product before installing it, by verifying the signature of the software packages.

Pick the signature (.sig) file shipped along with the product and use following GPG command

```
gpg --verify <product.sig> <product>
```

Example: gpg --verify VPNSVP-X51-3A.zip.sig VPNSVP-X51-3A.zip

Note: Look for the comments shown below in the command output

Good signature from "Hewlett-Packard Company (HP Code signing Service)"

Note: If you are not familiar with signature verification using GPG and intended to verify HP Product signature, follow the steps given below.

1. Check whether gnupg gpg is installed on the system. If no, install gnupg gpg
2. Configure GPG for accepting HP signature. The steps are the following:
 - a. Log as root on your system
 - b. Get the hpPublicKey from following location:
<https://h20392.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=HPLinuxCodeSigning> and save it as hpPublicKey.pub
Note that the hpPublicKey file will be located in the root's home directory.
 - c. Follow the instruction found at above URL in the "Verification using GPG" section.

**HP strongly recommends using signature verification on its products, but there is no obligation. Customers will have the choice of running this verification or not as per their IT Policies.*

3.3 Installation

3.3.1 HP USLAM Services

Please refer to the *HP USLAM Installation and Configuration Guide* for detailed information about the installation requirements and the installation procedures.

3.3.2 USLAM License

After installation, USLAM Product will automatically activate a trial license for 90 days (InstantOnLicense). After expiration of this date, you will need a commercial license to continue using the product.

3.3.2.1 Obtaining a USLAM License

A license key password is required to use HP Universal Service Level Agreement Manager (USLAM).

To get a license, please access the following web site:
<https://webware.hp.com>

3.3.2.2 Installing a USLAM License

If the USLAM license expires, it will not be possible to restart the USLAM services after a stop. To update the USLAM license, you will be required to perform the following steps:

1. Get a new license file for USLAM.
2. Stop USLAM services.
3. Edit and copy / paste the license key to the license file available under <INSTALL_DIR>/license.txt, then save the modified file. The license key is installed.

4. Test the license using the license tool
`<INSTALL_DIR>/bin/uslam_license`. This tool will list all installed licenses and perform a validity check. See the HP USLAM Administration Guide for more details about this tool.
5. Restart USLAM services.

For more information about obtaining a license, stopping or starting USLAM services, please refer to the *HP USLAM Installation and Configuration Guide*.

3.3.3 Starting USLAM

After the installation and configuration of USLAM Services (and before starting USLAM Services):

1. If you need to manage a high volume of SLA (ex: 250K), you must configure some of the USLAM parameters before starting USLAM. Please refer to the *HP USLAM Support Matrix* document.
2. In case the platform is meant to integrate with the HP SM7 database that is configured in a specific time zone, you must configure some of the USLAM parameters before starting USLAM. Please refer to the *Installation and Configuration Guide*.

3. Go to `<InstallDir>/bin` and type `uslam_start.sh` to start USLAM. Then, execute the following command to check if USLAM is started.

```
<InstallDir>/jboss/bin/twiddle.sh get "jboss.system:type=Server"  
Started
```

When this command returns: `"Started=true"`, it means that USLAM is started.

Starting from this point, you can:

1. Launch the USLAM Web UI at <http://<yourserver>:8080/sla-repository>
2. Run the USLAM dataload tool located at
`<InstallDir>/bin/uslam_load.sh`

3.3.4 HP USLAM ETL

Please refer to the *HP USLAM Installation and Configuration Guide* for detailed information about the installation requirements and the installation procedures.

3.3.5 HP USLAM Reporting

Please refer to the *HP USLAM Installation and Configuration Guide* for detailed information about the installation requirements and the installation procedures.

3.3.6 HP MyUSLAM Portal

Please refer to the *HP USLAM Installation and Configuration Guide* for detailed information about the installation requirements and the installation procedures.

Chapter 4 Enhancements and CR Fixes

4.1 Enhancements

4.1.1 Compared to previous version

Compared to **HP USLAM V3**, this **USLAM V4 Manufacturing Release** provides:

- **SLA Definition**
 - Metric KQIs: It's now possible to define Key Quality Indicators based on Performance Metrics and inject them as input of SLIs (Service Level Indicators).
 - Additional reference period recurrences: In addition to Weekly and Monthly recurrences, it is now possible to build offerings with a Quarterly recurrence.
 - Depending on the reference period recurrence it is now possible to define some additional parameters to specify when the reference periods actually start:
 - If recurrence is Weekly: the day of the week (ex: Monday, Tuesday...)
 - If recurrence is Monthly: the day of the month (1 to 31)
 - If recurrence is Quarterly: the month of the year (January, February...) and the day of the month (1 to 31)
 - Improved alerting mechanism: In addition to existing Service Level Compliance (SLC) Alerts and Time To Resolve (TTR) Alerts, it's now possible to define:
 - Business Impact alerts to track events when a calculated BIF value crosses a defined threshold. The latter is defined per-SLA.
 - Exclusion Creation creation/deletion alerts to track events when exclusions are created/deleted
 - It's now possible to define an SLA clause as an input argument for another SLA clause
 - Map coordinates (Longitude, Latitude) can be specified at several levels: SLA, SLA Item, Service and Parties (Customer, Provider, Supplier) and are available through the public API.
 - Objectiveless SLA Clauses: It's possible to define clause with no compliance objective. This kind of clause can be used either as an 'Informational SLI' or as input of a Business Impact rule.
 - Planned outage: For a given Service Offering, it can be specified that exclusions of a certain type will decrease or not the total activity time of the period (sometimes called "agreed service time")

- Platform management
 - New offline tool (uslam_core_drop_sla.sql) allowing to remove from the platform a given SLA and all calculated data linked with this SLA.
 - Collectors can be suspended/resumed via the JMX console
- Service Update / Versioning
 - It's now possible to have several version of the same Service instance (SI). Each SI version has a validity period and compliance calculation is done using the information of the SI version which is valid in the considered period. Differences between 2 SI versions can be Addition/Removal/Move of Service Component or modification of attribute values.
- SLA operations
 - As an option, USLAM delivers a new end user community portal called 'MyUSLAM'. This highly customizable portal embeds several USLAM portlets that can be used to build private or public business dashboards, extending business metrics visibility to business managers, end customers and partners. Portlets bundled by MyUSLAM are: SLA Status Snapshot, SLA Status, SLA Item Status, Clause Status, User Import
 - The classic Web UI offers now a more modern design and some new functionalities such as:
 - Service Component tree displaying, for a given Service Instance version, the Service structure as well as the Service and Service Component attributes.
 - Ability to navigate between reference periods directly from the Agreement Status Details, Clause Status drilldown and Data records details screens
 - Data record details are available, in addition to the timeline view, for SLA Clauses of type 'Incidents'
 - It's now possible to schedule the Termination of an SLA by updating its end date. This can be done either graphically using the classic UI (per SLA or per bulk of SLAs) or via the dataloader tool.
- Reporting
 - Library of pre-defined reports in different categories: Achievements, Audit, Business Impact Analysis, Contractual, Inventory, Statistics
 - Predefined end-user SLA Intelligence dashboard

4.2 CR Fixes

Here is the list of defects present in the USLAM V3 Patch 6 which are fixed in this USLAM V4 Manufacturing Release.

#	Component	Description
CR#1816	Repository Manager Web UI	It is not possible to set the end date of an already active SLA.
CR#1828	Repository Manager	Wrong error message when loading Service Definition with a relationship referring to an unknown ID
CR#1876	Repository Manager	Can not update service attribute value if the value was initially null
CR#1899	Reporting	List reference periods of a given Year (or quarter) does not give correct results
CR#1989	Web UI	Some Advanced Filter criteria name do not match the table column names
CR#1990	Web UI	JMX Console uslam.indicators.ui shows blank page with Turkish characters
CR#2094	Web UI	Issue:Error when trying to overwrite an user filter on ManageUsers WebUI
CR#2370	Reporting	'Compliance' reports: some clauses are mixed when 2 SLA Items have the same name
CR#2434	Repository Manager	The enrichment threads block for a long time if the selector uses a CI attribute which has the same value in almost all CIs.
CR#2522	Web UI	We should have different User role for SLA Agreement Status Snapshot and Business Impact Status Snapshot
CR#2570	Repository Manager	BIF Attachment without scope must be rejected at semantic check else it leads to a Null pointer exception during enrichment
CR#2571	Web UI	Bad "trend indicator" displayed in case of SLA with MTTR clause only
CR#2572	Web UI	Business Impact Dashboard : Missing information
CR#2576	Web UI	"Illegal Navigation" error when use back arrow of the IE
CR#2618	Web UI	Language selection must be persisted in user profile
CR#2660 CR#2665	Repository Manager Web UI	SLA Clause Objective not correctly displayed/stored (compared to objective loaded)
CR#2702	Web UI	Criteria Windows in the timeline view should have scrollbars when not all content can be shown
CR#2703	Web UI	Parallel scroll bar should also exist on the top of the screen when many columns are visible
CR#2786	Web UI	Clause Details table missing built-in service component fields and custom attributes in tooltip

CR#2787	Web UI	Adjustment on SLA Item status / Clause Status is only visual and cannot be used as a search/sort criteria
CR#2788	Web UI / BIF Engine	Business Impact snapshot - capability to show an "Adjustment" indicator at this level

Chapter 5 Problems & Limitations

5.1 Known Limitations

#	Component	Description
CR#1223	Data Collector	The Data Record collector cannot read raw data having different date pattern <u>Workaround:</u> Make sure that all dates in your raw data are using the same date pattern
CR#1407	Data Collector	USLAM must be stopped when deploying a new Collector datasource file (xxxx-ds.xml). <u>Workaround:</u> After loading a DB-based collector, always stop and restart USLAM
CR#2056	Install/Config	USLAM Configuration tools cannot be used when Oracle is configured in RAC. <u>Workaround:</u> On the USLAM Service system, during post-installation, modify the connection-url in <InstallDir>/jboss/server/default/deploy/uslam-ds.xml
2237	Repository Manager	When a DB access problem occurs in the middle of a dataload operation, all entities after the DB failure will be in failure, even if the DB access problem is fixed. <u>Workaround:</u> Reload the XML file

5.2 Known Issues

This section includes the issues and defects in USLAM that are known to us. Temporary workarounds for some issues are also included in this section.

CR ID	Component	Summary
1821	Data loader	Worst or Best aggregation rule for an SLO of type Incident should be rejected as an invalid model by the Data Loader. Workaround: Fix the model in XML files
2245	Repository Manager	uslam_export of Service Offerings produces wrong output for Service Offering containing 'unselected' clauses Workaround: Modify the generated XML manually
2257	Reporting	'SLA contractual details report on current or last period' fails to open (if BIF model does not contain BIF at sla level) Workaround: Define an UpperAggregationRule in the SLR to create a BIF at SLA level
2451	Install / Config	Calling uslam_start.sh a second time without stopping it the first instance should not be allowed Workaround: None
2531	Universe	Universe does not indicate if the BIF parameter for a clause is global or specific to the clause. Workaround: None
2559	Universe	Universe does not detail to which service component the exclusion period apply. Universe only associates exclusion periods to SLA Items (Services). Workaround: None
2751	Engines	There are 2 use cases where the DR KQI Engine display the ERROR message "Cannot find any model" when it should not. Case 1: a Data Record is consumed which impacts a monitored resource which was removed from an Service Instance version to another Case 2: a Data Record is consumed but clauses impacted by this data record are marked as 'Unselected' in the Service Offering.. The message can be safely ignored. Workaround: None
2881	ETL	Error message of ETL running script is not correct when DB is down. The following is displayed: log4j:WARN No appenders could be found for logger (com.hp.sqm.slam.etlcmd.util.DatabaseTool). log4j:WARN Please initialize the log4j system properly. In addition, after all jobs are completed, it shows "Finished processing all ETL jobs successfully." but it is not the case. Workaround: None

CR ID	Component	Summary
2936	ETL	The ETL job dealing with BIF parameters (JB_Fct_Bif_Parameter) can last very long time (several hours) when dealing with high number of BIF instances, and simple/matrix BIF parameters (>100K) Workaround: None
2972	Engines	In case of conditional SLOs, using the same Objective Identifiers in two different SLIs definition causes wrong KQI calculation Workaround: In the SLR definition, make sure that all Objective IDs are different (regardless of the SLI they belong to) when you define the conditional SLOs of your SLIs
2981	Reports	If you terminate a SLA in the past, the SLA details report of the current reference period still shows clause details, and collected data, as if the SLA was not terminated. Workaround: Modify the SLA details report to display information only for non terminated SLA
3001	MyUSLAM Portlets	The Agreement Status Snapshot portlet shows bad performances in case of High number of SLAs ; from 15s to 30s (depending on the search criteria) for 50K SLAs. Workaround: None
3002	Reports	The JB_Fct_Perf_Metric_Event lasts several hours in case ETL has already loaded in datamart high number of Performance Metrics per aligned calculation periods (> 1 million) which have no SLO defined. Workaround: None
3007	Engines	Too much BIF Alerts (with same information) are generated in case of recalculation, potentially leading to the generation of duplicate emails by the SMTP Action Executor. Workaround: None
3012	Engines	In case of late arrival of performance metrics, in some conditions, the downtime events are not correctly calculated. Workaround: None

Chapter 6 Troubleshooting

This section includes the different operations that you can perform to trace different errors during several stages of the USLAM lifecycle.

More details are available in the *HP USLAM Administration guide*.

6.1 Tracing

For debug and investigation purpose, you might need to activate some additional traces on specific components.

To do that:

For USLAM Services (Engines + UI):

Please edit the file `jboss-log4j.xml` located at `<installDir>/jboss/server/default/conf` and find the section named “Limit categories”.

Then, for each USLAM component, you can change the priority value of the relevant component to INFO or DEBUG.

It is not required to stop or restart the USLAM Services to change the debug level.

For MyUSLAM portlets:

Follow instructions in the *HP USLAM Administration guide*

6.2 Viewing Logs

For USLAM Services (Engines + UI), log files are located at `<installDir>/jboss/server/default/log`.

For MyUSLAM portlets, log files are located at `<installDir>/jboss/standalone/log`.

Chapter 7 Documentation

The guides and manuals for USLAM 4.0-MR are shipped as PDF files.

The set of documentation includes the following:

- *HP Universal SLA Manager Installation and Configuration Guide*
- *HP Universal SLA Manager Administration Guide*
- *HP Universal SLA Manager Support Matrix*
- *HP Universal SLA Manager User Guide*
- *HP Universal SLA Manager Modeling and Integration guide*: this guide is available on demand, please contact USLAM-Product-Management@hp.com