OPENWAVE®

License Administration
Tool—Script Edition

**Release 2.2**

**December 2011**

# Administration Guide

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## Legal Notice

# About This Book

This Administration Guide describes the Openwave License Administration Tool—Script Edition (LAT SE) software. It includes details about the architecture and the operations of Openwave LAT SE.

**In this preface**



## Audience

This book is intended for the following types of users:

- Openwave field level engineers and technical support personnel who are responsible for installing and using LAT SE
- Openwave finance personnel who use the reports generated by LAT SE

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**IMPORTANT** This document assumes that you have broad understanding of UNIX system administration, and that you have decided on the configuration required for your site.

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## In This Document

This document contains the following information:

- Chapter 1, "Overview" on page 11 provides an overview of LAT SE.
- Chapter 2, "Configurations" on page 17 describes the configuration of LAT SE.
- Chapter 3, "Product-Specific Configurations" on page 73 describes how to configure LAT SE specific to each product.

- Chapter 4, "Operations" on page 87 describes how to run LAT SE.
- Chapter 5, "Performance Tuning" on page 93 describes how to tune LAT SE for better performance.
- Chapter 6, "Report Interpretation" on page 95 provides the details of how LAT SE supports or generates different reports based on the licensing models.
- Appendix A, "Record Based Accounting Schemata" on page 103 describes the Integra `MEP_HTTP` Accounting Record Schemata, and also shows various sample schemata.

## Related Documentation

The following documents are of interest to users and administrators of License Administration Tool—Script Edition:

- The *Openwave License Administration Tool—Script Edition 2.2 Release Notes* summarize new features and documentation, and describe known and resolved issues.
- The *License Administration Tool—Script Edition 2.2 Installation Guide* describes how to install the Openwave License Administration Tool—Script Edition (LAT SE) software.

You can download these documents from the Openwave Technical Support site.

### To access product documentation

1. Log in to the Openwave Technical Support site: `http://mysupport.openwave.com`.
2. Click the **Product Documentation** link.
3. If you are prompted for additional credentials, supply the user ID and password that you use to access the Openwave ftp server.
4. On the **Product Documentation** landing page, click the appropriate product link.
5. Navigate to the document that you want to view.

## Conventions

This document uses the following conventions:

- *`Italicized monospace type`* indicates a placeholder for a value. For example:
  `imctrl` *`host`* `start` *`server`*
- Square brackets denote optional items. For example:
  `imctrl [-lists] [-verbose]`
- A vertical bar separates exclusive items, only one of which can be used. For example:
  `imctrl` *`host`* `start|drain|stop|kill` *`server`*

- Braces surround a list of items, one of which is required. For example:
  `imservctrl {start|stop|restart|drain|kill|exit|drainStart|killStart}`
- An ellipsis following an item indicates that the item can be repeated. For example:
  `imservctrl start [server...[server]]`

## Getting Support and Sending Comments to Openwave

The Openwave support site lets you do the following:

- Create, browse, view, and update technical support issues. You can use filters to identify issues that require action.
- Browse and download product documentation.
- View the procedure for contacting technical support.
- Search for product tips and solutions in the knowledge base.
- View technical product alerts.

#### To access the support site

1. Go to http://mysupport.openwave.com/.
2. Log in using your support account credentials.

### Reporting Issues

To report issues with http://mysupport.openwave.com, send email to `mysupport-feedback@openwave.com`.

To provide comments on product documentation, file a support ticket on http://mysupport.openwave.com/.

# Contents

# 1 Overview

This chapter provides an overview of LAT SE.

**In this chapter**



## Overview of LAT SE

License Administration Tool—Script Edition (LAT SE) 2.2 supports processing of Single Line RBA (SLRBA) logs and Multi Line RBA logs for Integra Core and other Openwave products. In this release, the throughput calculations functionality of Media Optimizer has changed, and the report name has changed from GBPS to Throughput. For more information, see Throughput of Media-Optimizer.

LAT SE 2.2 supports processing of the log file formats, and the license measurement requirements of the products shown in the following table.

**Table 1-1.** Supported License Models and Log Formats

| Product | Version | TPS | PHT | ASU | TPQ | TPSREG | TPQREG | TOTAL-REGION-TPS | TOTAL-REGION-TPQ | TPS Based PHT | Throughput | Single Line | Multi Line |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Guardian | 1.0, 1.1 | Y | Y | Y | N | Y | N | Y | N | N | N | N | Y |
| | 1.2.1 | Y | Y | Y | N | Y | N | Y | N | N | N | Y | Y |
| Guardian Anti-Virus | 1.0, 1.1 | Y | Y | Y | N | Y | N | Y | N | N | N | N | Y |
| | 1.2.1 | Y | Y | Y | N | Y | N | Y | N | N | N | Y | Y |
| Integra | 2.7 | Y | Y | Y | N | Y | N | Y | N | N | N | N | Y |

**Table 1-1.** Supported License Models and Log Formats

| Product | Version | TPS | PHT | ASU | TPQ | TPSREG | TPQREG | TOTAL-REGION-TPS | TOTAL-REGION-TPQ | TPS Based PHT | Throughput | Single Line | Multi Line |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2.9 | Y | Y | Y | N | Y | N | Y | N | N | N | N | Y |
| | 3.0 | Y | Y | Y | N | Y | N | Y | N | N | N | N | Y |
| | 3.1.1 | Y | Y | Y | N | Y | N | Y | N | N | N | N | Y |
| | 3.1.2.1, 3.1.2.3 | Y | Y | Y | N | Y | N | Y | N | N | N | Y | Y |
| | 3.2 | Y | Y | Y | N | Y | N | Y | N | N | N | Y | Y |
| Location | 2.5 | Y | Y | Y | N | Y | N | Y | N | N | N | NA | NA |
| Media Optimizer | 2.0 | N | N | N | N | N | N | N | N | N | Y | N | Y |
| | 2.1 | N | N | N | N | N | N | N | N | N | Y | Y | Y |
| | 2.2 | N | N | N | N | N | N | N | N | N | Y | Y | Y |
| | 2.3 | N | N | N | N | N | N | N | N | N | Y | Y | Y |
| Mobile Messaging Gateway (MMG) Router Edition | 3.2 | N | N | N | N | N | N | N | N | Y | N | NA | NA |
| OpenWeb | 5.7 | Y | Y | Y | N | Y | N | Y | N | N | N | N | Y |
| | 5.8.1, 5.8.2 | Y | Y | Y | N | Y | N | Y | N | N | N | N | Y |
| | 5.8.3.1 | Y | Y | Y | N | Y | N | Y | N | N | N | Y | Y |
| Passport | 2.0 | N | N | Y | Y | N | Y | N | Y | N | N | N | Y |
| | 2.1 | N | N | Y | Y | N | Y | N | Y | N | N | N | Y |
| | 3.1 | N | N | Y | Y | N | Y | N | Y | N | N | Y | Y |
| Web Optimizer | 2.0 | Y | Y | Y | N | Y | N | Y | N | N | N | N | Y |
| | 2.1 | Y | Y | Y | N | Y | N | Y | N | N | N | N | Y |
| | 2.3.1 | Y | Y | Y | N | Y | N | Y | N | N | N | Y | Y |

**NOTE** For Passport SLRBA logs, LAT SE 2.2 release supports licensing only for transactions that contain `PASSPORT_LICENSE_RECORD`. For OpenWeb SLRBA logs, LAT SE 2.2 release supports licensing only for transactions that contain OWA records.

**NOTE** LAT SE backward compatibility means that it also supports earlier versions of these products.

**NOTE** This release does not support the rba.cfg and slrba.cfg files of LAT SE Release 2.1 and earlier versions.

## Architecture of LAT SE

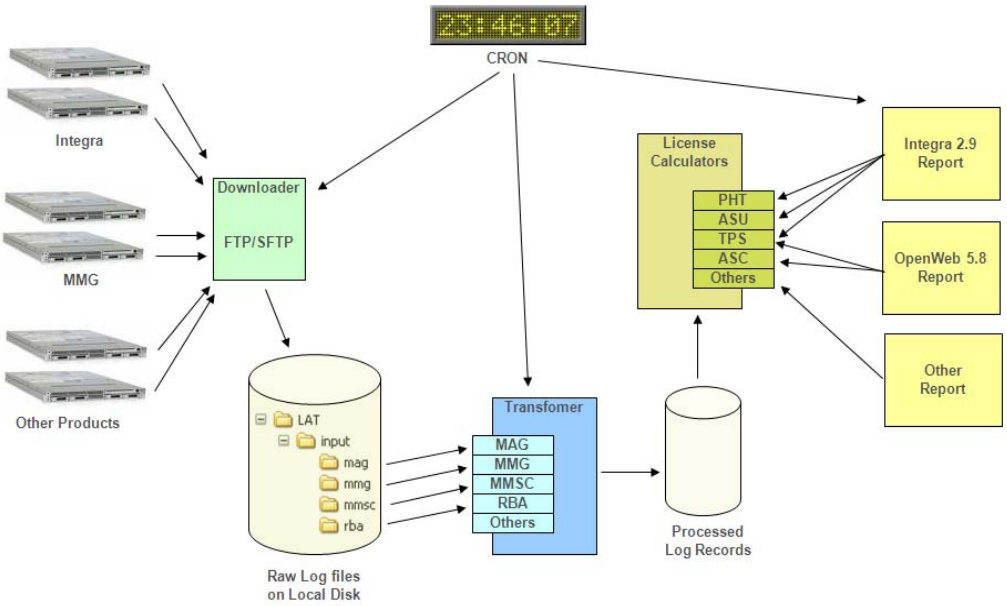
LAT SE has the following main modules:

- Cleanup
- Downloader
- Transformer
- Reporting
- Email Notification

With the help of these modules, you can generate reports that reveal the license metric for the supported Openwave products. You can run these modules manually or from `cron`. If you require special options, then you can create a wrapper script with the optional arguments that you require.

For the list of supported products, see "Overview of LAT SE" on page 11.

**Figure 1-1.** Architecture of LAT SE




## Cleanup

This module runs daily, and deletes old data based on a configurable retention policy. This is a Perl script invoked by `cron`, which specifies the policies used to determine which files to delete and when to delete them.

## Downloader

In this module, raw log files of Openwave products are copied from the server nodes to the local disk for later processing. The downloader is a Perl script called by `cron`. This script uses a configuration file to copy files via ftp or sftp from a remote host to a location on the local disk.

The configuration file contains template entries for default settings. You can edit the `download.cfg` file to make entries that download the logs from the installed Openwave products.

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**NOTE** For LAT SE to operate correctly, the `download.cfg` file must set the remote directory to the appropriate location where the Openwave products on that remote system will place the product log files.

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The downloader places the downloaded log files in the directory

```
$LAT_DATA/input/TTT/HHH
```

where `TTT` is the type of log file and `HHH` is the host name, configured as host in `download.cfg`, from where the log or billing files are downloaded.

## Transformer

In this module, the raw log files are processed into a standard format for report generation. LAT SE 2.2 supports processing of Single Line RBA (SLRBA) logs and Multi Line RBA logs for Integra Core and other Openwave products for the Transformer module.

The Transformer is another Perl script called by cron. This script identifies the right transformer blade for the log type of any log file under `$LAT_HOME/input`, and runs it against the file. Each transformer module is responsible for converting the raw log files into a standard format that is used for report generation.

The Transformer is 100% data-driven. It identifies the transformer module for a log file by the name of the subdirectory.

The transformer reads data from the location where the downloader places the files. It places the output of the transformed data into the directory:

```
$LAT_DATA/data/TTT/SSSS/HHH
```

where `TTT` is the type of the log file, `SSSS` is a sub-type depending on the type of the log file, and `HHH` is the host name from where the original raw data files were downloaded. The raw log files are deleted after the transform process is complete.

An example of a sub-type for a log type of "`rba`" is "`MEP_HTTP_RECORD`."

### Throughput of Media-Optimizer

This is the throughput, measured in Mbps, of the traffic that is processed by the Media Optimizer for Optimization (counted as the pre-optimized throughput). Throughput is calculated from un-optimized bytes depending on source of the video.

- If video is dynamically optimized, then internetBytesIn are considered as un-optimized bytes.

  Un-optimized bytes = `internetBytesIn`

- If video is served from cache, then un-optimized bytes are calculated from fields in video record.

  Un-optimized bytes = (`OptimizedBytesSent / OptimizedSize`) * `OriginalSize`

## Reporting

LAT SE 2.2 supports processing of Single Line RBA (SLRBA) logs and Multi Line RBA logs for Integra Core and other Openwave products for the Reporting module. In this module, the license calculators required for each Openwave product are executed against the processed records to generate the desired license metric. Each report indicates the ProductID of the Openwave products being measured.

The license calculators modules currently work with the following license models:

- Active Subscriber Usage (ASU)
- Peak Hour Transactions (PHT)
- Transactions per Second (TPS)
- Total Transactions per Quarter (TPQ)

- Hourly Transactions Per Second per region (TPSREG)
- Total Transactions Per Quarter per region (TPQREG)
- Total Region TPS
- Total Region TPQ
- Transactions per second based on Peak Hour Transaction of each day for last 90 day of a quarter
- Throughput

License calculators recognize the data file format processed by the transformer, and are able to generate the correct license model metric from it.

You can create a wrapper script that can be called from `cron` to generate the desired LAT SE reports on a periodic basis.

The license calculators read data from the transformer output directories, and place the report files in the directory:

```
$LAT_DATA/output/PPP
```

where `PPP` is the product type, such as Integra, with a unique identifier indicating when the report was run. You can configure LAT SE so that these report files can be emailed automatically, such as `Integra-1234-2009-5-19-17-55-11`.

### Email Notification

This module sends email notifications for the following:

- Generated reports
- Critical errors in the Download or Transform modules

You can configure the email addresses of the recipients for such notifications. You can also configure the email address of the sender for these notifications.

# 2 Configurations

You can configure LAT SE with the help of the configuration files located in the `LAT_HOME/config/` directory. These files help you to define the behavior of LAT SE. (`LAT-HOME` is the installation directory specified when installing LAT SE.)

You can specify how to download the log files, transform them, and generate reports from them. You can also define the parameters for generating reports, enabling email notifications for the reports, and so on.

A backup of each configuration file is present in the `LAT_HOME/config/template/` directory.

**In this chapter**



## Configuring Download Module

The Download module uses the `download.cfg` file to download the billing log files from a remote host, or to copy the billing log files from a local host.

### Configuration Parameters and Keys in LAT SE Download

The following table lists the configuration parameters in the `download.cfg` file. You can configure these parameters in the following format using "|" as a delimiter:

```
log-type|protocol-type|host|userid|remote-directory|file-pattern-type|
```

**Table 2-1.** Configuration Parameters in `download.cfg`

| Field Name | Valid Values | Description | Suggestions |
|---|---|---|---|
| `log-type` | `rba`, `slrba`, `metrica`, `location`, and `smgstats` | Identifies the type of log files that LAT SE Download is downloading.<br>Based on this information, LAT SE copies the downloaded files into a separate input directory located at `LAT_HOME/input/<logtype>` | |
| `protocol-type` | `sftp`, `ftp` and `copy` | Helps identify the type of protocol that LAT SE Download must use to download files.<br>LAT SE Download uses the `sftp` protocol to download files in a secured manner. The `ftp` protocol is used to download files from remote host, but this download is not secured. The `copy` protocol is used to copy files from a local host. | |

**Table 2-1.** Configuration Parameters in `download.cfg`

| Field Name | Valid Values | Description | Suggestions |
|---|---|---|---|
| `host` | A fully qualified hostname | The fully qualified HostName of the remote host from where LAT SE Download is downloading the log files.<br><br>The `ftp` and `sftp` protocols use this host to connect to the remote server.<br><br>LAT SE creates a directory with the host value in the `LAT_HOME/input/<logtype>` input directory, and downloads or copies all the log files there. For example, `LAT_HOME/input/<logtype>/<host>/`<br><br>**Note:** For the `copy` protocol, you must enter a value for the `hostname`. `localhost` is sufficient. | Specify a separate entry for each host if you want to download billing files from multiple hosts or front ends. |
| `userid` | A fully qualified user id | The user id that LAT SE Download uses to log in to a remote host.<br><br>**Note:** The `copy` protocol does not use the `userid` value. You must delimit an empty string by `\|`. | |

**Table 2-1.** Configuration Parameters in `download.cfg`

| Field Name | Valid Values | Description | Suggestions |
|---|---|---|---|
| `remote-directory` | `/var/opt/opwv/accounting/Archives/` or the path of the remote input directory | This is the remote input directory from where LAT SE Download downloads the billing files or log files.<br>**Note:** For Integra or any VAS products, the actual directory where the logs files are created does not have completed files. We recommend configuring the Archives accounting directory instead of the actual directory. The default path of the Archives directory is `/var/opt/opwv/accounting/Archives/`. | Specify a separate line in the configuration file for each remote directory if you want to download billing files or log files from multiple remote input directories. |
| `file-pattern-type` | | The pattern of the files that LAT SE Download copies either from a remote host or from a local host.<br>**Note:** For the `rba` log-type, LAT SE supports `.log` or `.gz` files. For any other file type, LAT SE Transform fails.<br>**Note:** Only `*` and `.` are supported as a part of the regular expression in configuring a pattern. | Specify a separate entry for each pattern if you want to download billing files or log files based on multiple patterns. |

**IMPORTANT** Ensure that you configure the download.cfg file with a single entry for a particular log type and host. This is because the marker file is overwritten when a duplicate entry is made for the same host and same log type. This may cause reprocessing of same files in successive runs, generating incorrect count in the report.

The following table describes the only configuration key in the download.cfg file.

**Table 2-2.** Configuration Key in download.cfg

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| MAX_DISK_SPACE | 1 to 100 | 95 | The maximum disk space in percentage. If the LAT SE input directory reaches or exceeds the configured maximum disk space, LAT SE Download does not download files from a remote host, or does not copy files from a local host. In that case, you must free the disk space.<br>**Note:** You can configure the MAX_DISK_SPACE based on the system TPS and the size of the input file. |

## Configuring Performance of LAT SE Download

For each entry in download.cfg, the LAT SE Download module creates a separate process to download files. You can improve the performance of LAT SE download by configuring unique entries in download.cfg.

You can create these unique entries based on the following parameters:

- file-pattern-type (for example, based on PID, date, or filenames)
- different host names.

For example, if Integra and Passport are installed, you can configure two separate entries in download.cfg based on different file names under the <file-pattern-type> configuration.

In case of the copy protocol, you can configure a unique entry for the host configuration parameter to create a scenario of having multiple front ends.

If you configure more front ends or hosts in download.cfg, performance of the LAT SE Transform Module enhances.

## download.cfg Template with Default values

The template of the download.cfg file with default entries for the RBA log type files is as follows:

```
## Template - Download Entries for RBA LogType
#rba|ftp|hostname2|userid||/var/opt/opwv/logs/accounting/Archives/|account_http*.log|
#rba|copy|hostname1|||/var/opt/opwv/logs/accounting/Archives/|account_http_200904*.log|
#rba|sftp|hostname3|userid||/var/opt/opwv/logs/accounting/Archives/|account*.log|
```

The template of the download.cfg file with default entries for the Metrica log type files is as follows:

```
## Template - Download Entries for Metrica LogType
#metrica|copy|hostname1|||/var/opt/opwv/logs/accounting/|EMS*.log|
```

```
#metrica|ftp|hostname1|userid|/var/opt/opwv/logs/accounting/|EMS-2009*.log|
#metrica|sftp|hostname1|userid|/var/opt/opwv/logs/accounting/|EMS*.log|
```

The template of the `download.cfg` file with default entries for the `Location` log type files is as follows:

```
## Template - Download Entries for Location LogType
#location|copy|hostname1||/var/opt/opwv/logs/accounting/|LM0L*.gz|
#location|ftp|hostname1|userid|/var/opt/opwv/logs/accounting/|LM0L2009*.gz|
#location|sftp|hostname1|userid|/var/opt/opwv/logs/accounting/|LM0L*.gz|
```

The template of the `download.cfg` file with default entries for the MMG log type files is as follows:

```
## Template - Download Entries for MMG LogType
#smgstats|copy|hostname1||/var/opt/opwv/logs/smgstats/|smgstats*.sta|
#smgstats|ftp|hostname1|userid|/var/opt/opwv/logs/smgstats/|smgstats*.sta|
#smgstats|sftp|hostname1|userid|/var/opt/opwv/logs/smgstats/|smgstats*.sta|
## Template - Download Entries for SLRBA (Single Line RBA) LogType
#slrba|copy|hostname1||/var/opt/opwv/logs/accounting/Archives/|account_SL_HTTP_*.log|
#slrba|ftp
|hostname2|userid|/var/opt/opwv/logs/accounting/Archives/|account_SL_HTTP_*.log|
#slrba|sftp|hostname3|userid|/var/opt/opwv/logs/accounting/Archives/|aaccount_SL_HTTP_
*.log|
```

## Configuring Passwords

There is no separate configuration file for the LAT SE Password module, but the LAT SE Download module requires a password for each `remotehost-userid` combination that you configure in `download.cfg`.

The Password module creates a separate file of encrypted passwords. The Download module needs the encrypted password every time it downloads files.

### Executing Password Script

The following is an example of how LAT SE Download calls an encrypted password to download files:

```
% bin/latse password
Validating the list of host configured in
/opt/opwv/latse/config/download.cfg ...
0. To Exit
1. Password for (Host-Userid) ads-dev3-z3-opwv
2. Password for (Host-Userid) ads-dev5-login
Enter Option based on above list : 1
Enter password :
Do you want to continue(Type e to exit or c to continue) : c

1. Password for (Host-Userid) ads-dev3-z3-opwv
2. Password for (Host-Userid) ads-dev5-login
Enter Option based on above list : 2
Enter password :
Do you want to continue(Type e to exit or c to continue) : e
```

**NOTE** Passwords are not used for the `download.cfg` entries that use the `copy` protocol.

## Configuring Transform Module

The LAT SE Transform module supports transformation of the following log types into intermediate files:

- RBA—See "Configuring RBA Transform Module" on page 23
- Metrica—See "Configuring Metrica Transform Module" on page 47
- Location—See “Configuring Location Transform Module” on page 49
- MMG-Antispam—See "Configuring MMG Transform Module" on page 52
- Single Line RBA—See "Configuring Single Line RBA (SLRBA) Transform Module" on page 34

For each supported log type, LAT SE Transform calls a separate transform blade based on the input directories created by the Download module.

### Configuring RBA Transform Module

The configuration parameters and keys associated with the RBA Transform module are present in the `rba.cfg` file. The RBA Transform Blade uses `rba.cfg` to transform the raw RBA billing files into intermediate files, which LAT SE Licensing Calculators can process.

RBA Transform creates three types of intermediate files—based on subscribers, transactions, or throughput. These intermediate files support the ASU, TPS, PHT, TPQ, TPSREG, TPQREG, TOTAL-REGION-TPS, TOTAL-REGION-TPQ, and Throughput Licensing Models.

**IMPORTANT** You must exercise caution while editing the `rba.cfg` file, otherwise the LAT SE Transform will fail. See “Configuration Parameters and Keys in RBA Transform.” for more details.

#### Configuration Parameters and Keys in RBA Transform

The following table lists the configuration parameters that `rba.cfg` uses for product specific schema entries that support RBA Transform. You can configure the entries that you want to edit in the following format using `|` as a delimiter:

```
schema-name|attribute-name|data-model
```

The following table describes the configuration parameters in the `rba.cfg` file.

**Table 2-3.** Configuration Parameters in `rba.cfg`

| Field Name | Valid Values | Description | Suggestions |
|---|---|---|---|
| `schema-name` | Any valid schema name that is supported by Integra and the VAS products | The schema name that RBA Transform Blade uses to validate each RBA record.<br>LAT SE is certified for the following schema names:<br>• `MEP_HTTP_RECORD` for Integra, Accelerator and Guardian, Guardian AV, OpenWeb 5.8.1, andMediaOptimizer(MO)<br>• `PASSPORT_LICENCE_RECORD` or Passport<br>• `OPENWEB_RECORD` for OpenWeb 5.7<br>**Note:** LAT SE considers a transaction as valid only if the configured `schema-name` matches with the schema name in the RBA record. If the configured `schema-name` does not match with the schema name, then LAT SE skips the record, and does not consider it for further processing. | |

| Field Name | Valid Values | Description | Suggestions |
|---|---|---|---|
| attribute-name | Valid values of attributes are: SUBSCRIBER_ID, INPUT_BYTES, START_TIME, END_TIME | You can configure the attribute-name in any one of the following formats:<br>attribute1=field1,attribute2=field2,attribute3=field3,field4(value1).<br>attribute1=field1,field2(value1) - Use this format if Accelerator or Guardian is installed.<br>attribute1=field1,field2(value1&value2) - Use this format if Accelerator and Guardian, both are installed.<br>For Accelerator, use SUBSCRIBER_ID=subId,additionalData(Acc:).<br>For Guardian, use SUBSCRIBER_ID=subId,additionalData(Gdn:).<br>For Guardian AV, use SUBSCRIBER_ID=subId,additionalData(GDN-AV:).<br>For OpenWeb 5.7, use SUBSCRIBER_ID=subId,additionalData(OWA:).<br>For Accelerator and Guardian, use SUBSCRIBER_ID=subId,additionalData(Gdn:&Acc:).<br>For Integra, Guardian, Accelerator, OpenWeb, Guardian AV, use SUBSCRIBER_ID=subId,additionalData(Gdn:&Acc:&OWA:&GDN-AV:).<br>For Media Optimizer, use START_TIME=requestReceivedTime,END_TIME=txnCompleteTime,INPUT_BYTES=internetBytesIn,additionalData(VDO:)" | While specifying the attribute-name, remember the following:<br>• Use & as the delimiter between multiple values without any space on either sides.<br>• Make sure the attribute entries are in the same order as the RBA logs. If the order is wrong, the output of the Transform module may not be correct.<br>• You can change the field names in the various RBA records by using the OAM GUI. In this case, LAT SE is unable to find the data it needs in the RBA log files. If any RBA changes are performed using OAM, then you must edit the rba.cfg file with corresponding changes. |

| Field Name | Valid Values | Description | Suggestions |
|---|---|---|---|
| data-model | SUB-BASED, TRANS-BASED, and SUB-TRANS-BASED, and THROUGHPUT-BASED | The type of licensing model that LAT SE supports. Based on this information, the RBA Transform creates the intermediate data files.<br>LAT SE supports three licensing models—Subscriber-based, Transaction-based, and Throughput-based.<br>If the value is SUB-BASED, RBA Transform Blade creates the intermediate data files based on the subscriber data, such as phone number, MIN, MSIDN, and so on.<br>If the value is TRANS-BASED, RBA transform Blade creates the intermediate data files based on the transaction data.<br>If the value is SUB-TRANS-BASED, RBA Transform Blade creates the intermediate data files based on both the subscriber and transactions data.<br>If the value is THROUGHPUT-BASED, then RBA Transform Blade creates the intermediate data files based on the un-optimized data of the transaction.<br>**Note:** If you do not configure any value for this parameter, LAT SE Transform exits. | |

The following table describes the configuration keys in the `rba.cfg` file.

**Table 2-4.** Configuration Keys in `rba.cfg`

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| `ARCHIVE_FILES` | `0` or `1` | `1` | Based on this configuration, RBA Transform Blade decides whether to archive the input RBA files after processing.<br>If the value is `1`, LAT SE archives the files in `gz` format in `LAT_HOME/input/<logtype>/<hostname>/archive/`<br>If the value is `0`, LAT SE removes or deletes the files. |
| `LOG_FILE_PATTERN` | `*.*`, or `*.log`, or `*.gz`, or any regular expression with "*" and ".", such as `account*` | `*.*` | The pattern of files that LAT SE Transform processes.<br>**Note:** RBA Transform Blade supports only `.log` files or `.gz` files. |
| `NUM_OF_INSTANCES` | Integer value equal to or greater than `1` | `5` | The number of child RBA Transform instances.<br>Based on this value, RBA Transform Blade shares the total number of input files to be transformed with the processes. |
| `DATE_TIME` | String value | `AccountRecord` | The attribute name that has the date and time information in the RBA record.<br>By default, Integra logs the `AccountRecord` attribute for each record that holds the date and time.<br>At present, LAT SE supports the date format as `yyyy-mm-dd hh:mm:ss`. |
| `SCHEMA_NAME` | String value | `SchemaName` | The attribute name that has the `SchemaName` value in the RBA log. By default, all RBA logs have `SchemaName` specified. |

**Table 2-4.** Configuration Keys in `rba.cfg`

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| `VOLUME_FIELDS` | String value | `VOLUME_FIELDS=<Version Value>:<Field 1><, Field 2><..., Field N>`<br>`VOLUME_FIELDS=3:Ver,OptLevel,Source,OriginalSize,OriginalBytesProcessed,OptimizedSize,OptimizedBytesSent,Container,VideoInput,VideoOutput,AudioInput,AudioOutput,Duration,BWShaping,JIT,JITAdditionalTime,TotalRespTime,SeekOffset,CTOStatus,TransactionStatus,InlineCachingStatus,StatusCode`<br>**Note:** Also supports Media Optimizer 2.2 transaction; you must specify MO 2.2 volume field. | This configuration helps the Transform Blade to know all the fields and the version of Media Optimizer. Transformer uses these fields to interpret video fields in the Media Optimizer record. For example, the first video field in the Media Optimizer record is considered as a version of the VDO, the fourth video field is considered as `OriginalSize`, and so on.<br>Template for configuring Media Optimizer 2.3.<br>**Note:** Supported only for VDO Service Enabler. |
| `VOLUME_VERSION` | String value | Ver | This configuration helps the Transform Blade to decide the field to use for the version field. Value is defined in `VOLUME_FIELDS`. |
| `VOLUME_SOURCE` | String value | Source | This configuration helps the Transform Blade to decide the field to use for the source field. Value is defined in `VOLUME_FIELDS`. |

**Table 2-4.** Configuration Keys in `rba.cfg`

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| `VOLUME_ORIGINAL_SIZE` | String value | `OriginalSize` | This configuration helps the Transform Blade to decide the field to use for the original size field. Value is defined in `VOLUME_FIELDS`. |
| `VOLUME_OPTIMIZED_SIZE` | String value | `OptimizedSize` | This configuration helps the Transform Blade to decide the field to use for the optimized size field. Value is defined in `VOLUME_FIELDS`. |
| `VOLUME_OPTIMIZED_BYTES_SENT` | String value | `OptimizedBytesSent` | This configuration helps the Transform Blade to decide the field to use for the optimized bytes sent field. Value is defined in `VOLUME_FIELDS`. |

**NOTE** Make sure the attribute entries are in the same order as the RBA logs. If the order is wrong, RBA Transform fails to create a correct output. By default, each RBA record must have `AccountRecord` and `SchemaName`.

### Configuring RBA Transform Specific to a Host

To enhance the performance of LAT SE, you can configure `rba.cfg` specifically for each host configured in `download.cfg`. Maintain the format of the file name as `rba.<hostname>.cfg`. The `hostname` in the file name must match with the host configured in `download.cfg`.

For example, if Integra and Accelerator are installed on `host1.domain.com`, and Passport and Guardian are installed on `host2.domain.com`, then you can create two separate RBA configuration files `rba.host1.domain.com.cfg` and `rba.host2.domain.com.cfg`.

Ensure that you have a separate entry for each product. You can separately configure the configuration parameters, such as `LOG_FILE_PATTERN`, or `NUM_OF_INSTANCES`. You can also enable the product-specific schema entries based on the products that are installed on the host.

**NOTE** For Accelerator and Guardian, the transaction is logged as a part of the `MEP_HTTP_RECORD` schema.

### Configuring RBA Transform Module for Better Performance

This section helps you in enhancing the performance of RBA Transform Blade. Here are a few tips:

- The total number of parent transform instances is based on the number of front ends to be processed. To increase the performance, create as many front ends or hosts as possible in `LAT_HOME/rba/input/` by configuring multiple entries in `download.cfg`.
- By default, `NUM_OF_INSTANCES` is configured to 5. This configuration is applicable separately for each running parent transform instance. This variable determines how many parallel transformers will be run for each host configured in the download.cfg file.

---

**NOTE** To maximize performance, configure `NUM_OF_INSTANCES` to the total number of available hardware threads on the system divided by the number of hosts configured in the download.cfg file. For example, if there are 5 hosts, and `NUM_OF_INSTANCES` is set to 10, then there will be 50 parallel instances of the transformer running. The number of parallel instances of the transformer should not exceed the number of hardware threads for your system. If this system is being shared with other applications (such as Openwave OAM), you do not want to allocate all of the hardware threads to LAT SE.

---

- All products are not enabled for the transform process by default; you must enable the product according to the report that you want to generate. To enhance the performance, disable the products that are not installed. See "Product-Specific Configurations" on page 73.
- To enable throughput-based model for Media Optimizer, you must enable the following entry:

  ```
  MEP_HTTP_RECORD|START_TIME=requestReceivedTime,END_TIME=txnCompleteTim
  e,INPUT_BYTES=internetBytesIn,additionalData(VDO:)|THROUGHPUT-BASED|
  ```

  For dynamically optimized videos, `INPUT_BYTES` are considered as the un-optimized volume; and for videos served from the cache, `OriginalSize`, `OptimizedSize`, and `OptimizedBytesSent` are considered as the un-optimized volume.
- Configure `rba.cfg` specific to hosts. For more details, see "Configuring RBA Transform Specific to a Host" on page 29.

### RBA Transform Template with Default Values

This is a common template file used for transforming RBA (Record Based Accounting) records into LAT SE Intermediate files, which will be later used by Licensing Calculating Modules. The template of the `rba.cfg` file with default entries is as follows:

```
# This template will be used for any product type that writes billing records
# in RBA format.
##############################################################################
#
## This configuration will help the RBA transform blade to decide whether to archive
```

```
## the input RBA files after processing.
## By default, LAT SE will archive the input RBA files under
LAT_HOME/input/<nodename>/archive/
## directory. Also the archive files will be in gz format.
## 1 - LAT SE will Archive the files in gz format
## 0 - LAT SE will remove or delete the files
#
ARCHIVE_FILES=1
#
## Based on this configuration, the RBA transform blade will transform the list of
## files in to intermediate files. It can be configured based on files or dates like
## account*.log or 200911*.log or based or PID
## The transformer blade supports parsing ".log" and ".gz" filetypes.
#
LOG_FILE_PATTERN=*.*
#
## This configuration will allow user to create more RBA Transform instance.
## Total input files that needs to transformed will be shared by the below configured
## RBA instances.
## Min Value - 1
## Recommended Max Value - 15
#
NUM_OF_INSTANCES=5
#
##
## This configuration holds the attribute name which has the Date and Time information
## in the RBA record. By default Integra logs AccountRecord field for each record, and
## user doesnt have the option to enable or disable this field.
## So LAT SE assumes that this attribute will always present and same for all Integra
## + VAS products and thats the reason its configured generally and not per product.
#
## Note: Currently LAT SE expects the date format as yyyy-mm-dd hh:mm:ss
#
DATE_TIME=AccountRecord
#
##
## This configuration holds the attribute name which has the SchemaName value in the
## RBA log. By default, all RBA logs will have SchemaName populated and user doesnt
## have any option to change the name unless the application changes.
## So LAT SE assumes that this attribute will always present and same for all Integra
## + VAS products and thats the reason its configured generally and not per product.
#
SCHEMA_NAME=SchemaName
#
################################################################################
#
# Uncomment below line, to create index file for subscriber tracing.
# Entries for SUBSCRIBER_TRACING must be provided in sequence as they appear in logs
#
#SUBSCRIBER_TRACING=subId,deviceIP
#
#
################################################################################
#
#
#This configuration will help the transform blade to know all the fields and the
version of Media Optimizer
#
# Media Optimizer 2.3 VDO Fields
```

```
#VOLUME_FIELDS=<Version Value>:<Field 1><, Field 2><..., Field N>
#
#NOTE: The order of the VOLUME_FIELDS should be similar to the actual record
#
VOLUME_FIELDS=3:Ver,OptLevel,Source,OriginalSize,OriginalBytesProcessed,OptimizedSize,
OptimizedBytesSent,Container,VideoInput,VideoOutput,AudioInput,AudioOutput,Duration,BW
Shaping,JIT,JITAdditionalTime,TotalRespTime,SeekOffset,CTOStatus,TransactionStatus,Inl
ineCachingStatus,StatusCode
#
#
#This configuration will help the transform blade to decide which field should be used
for version field. Value should be defined in VOLUME_FIELDS
VOLUME_VERSION=Ver
#
#
#This configuration will help the transform blade to decide which field should be used
for source field. Value should be defined in VOLUME_FIELDS
VOLUME_SOURCE=Source
#
#
#This configuration will help the transform blade to decide which field should be used
for original size field. Value should be defined in VOLUME_FIELDS
VOLUME_ORIGINAL_SIZE=OriginalSize
#
#
#This configuration will help the transform blade to decide which field should be used
for optimized size field. Value should be defined in VOLUME_FIELDS
VOLUME_OPTIMIZED_SIZE=OptimizedSize
#
#
#This configuration will help the transform blade to decide which field should be used
for optimized bytes sent field. Value should be defined in VOLUME_FIELDS
VOLUME_OPTIMIZED_BYTES_SENT=OptimizedBytesSent
################################################################################
##
################################################################################
# NOTE: [Suggestion] Any new key-value pair should be added above the
SUBSCRIBER_TRACING,
# if not the RBA scripts requires a change.
#################### End of Key-value Pair Configuration Value #################
#
#
######## Few Things to be considered while editing the below template.##########
#
#
# 1) All configuration variables are needed.
# 2) For each different product, we should have separate entry.
# 3) All the configurations are separated by "|" as delimiter
# 4) Make sure the attribute entries are in the same order as the RBA logs, wrong
#   order will not create the transform output correctly.
#
#######
#
#SCHEMA-NAME=<MEP_HTTP_RECORD>
## This configuration is used to validate the given SchemaName against each record.
## Only if the schemaname matches with the record, LAT will consider a valid
transaction.
## If present and the schema name doesnt match with request schemaname, then the
record
```

```
## will be skipped.
## For eg, in case of Integra Core, the value will be MEP_HTTP_RECORD.
#
#ATTRIBUTE-NAME=<SUBSCRIBER_ID=subId,additionalData>
## List the Field names that LAT SE Transformer need to search for in the RBA record.
## NOTE: All the below attributes are required.
## Also the attributes should be separated with comma(,) as delimiter.
#
## phoneNumber -Field or Attribute name which holds the Subscriber Number.
##
#DATA-MODEL
## This configuration will enable or disable creation of Intermediate Data files. For
## LATSE 1.0, we support two Licensing models ( Subscriber Based and Transaction
Based).
## If the value is SUB-BASED, RBA transform will create Intermediate Data files based
## on Subscriber(MIN) data.
## If the value is TRANS-BASED, RBA transform will create Intermediate Data files
based
## on Transaction data.
## In LATSE-2.0, we have added support for VOLUME-BASED model.
## In LATSE-2.2, we have replaced VOLUME-BASED with THROUGHPUT-BASED model.
## If the value is THROUGHPUT-BASED, RBA transform will create Intermediate Data files
based
## on Throughput data.
## Data models can be configured in any order.
## For example, Subscriber based and transaction based files can be generated by
configuring SUB-TRANS-BASED or TRANS-SUB-BASED.
## Any number of data models can be configured at a time for a product.
## For example, SUB-THROUGHPUT-TRANS-BASED is allowed.
## However, data models for a product should be configured according to licensing
models supported by that product
## , as reporting script of that product could not process intermediate files of
unsupported licensing model.
#
##SCHEMA-NAME|ATTRIBUTE-NAME|DATA-MODEL
#
# ATTRIBUTE-NAME can be configured in the below format
# attribute1=field1,attribute2=field2,attribute3=field3,field4(value1)
# SPACE character is not allowed in ATTRIBUTE-NAME configuration.
# value1 is interpreted as SERVICE ENABLER and it should contain ":".
# Different values of attribute<N> are SUBSCRIBER_ID, INPUT_BYTES, START_TIME,
END_TIME.
# Definitions of attributes:
# SUBSCRIBER_ID : subscriber ID field in RBA record.
# INPUT_BYTES : input volume field in RBA record.
# START_TIME : transaction start/ request receive time field in RBA record.
# END_TIME : transaction end time field in RBA record.
# Note: Currently LAT SE supports value configuration only at the end.
##
################################################################################
#
# NOTE: 1) The below lines should be commented or uncommented based on the
installation.
#       2) In LATSE-2.1, when Integra VAS is enabled, then intermediate files for
Integra core will also get generated
#          along with intermediate files of that VAS.
#          In LATSE-2.2, intermediate files for that VAS only will be generated but
not for Integra Core.
```

```
#          To generate intermediate files for Integra Core, entry for Integra should
be enabled.
#
################################################################################
#
# Uncomment below line, only if Integra is installed.
# Note: The below line should be commented if either Accelerator or Guardian is
installed
#
# If Guardian or Accelerator is installed, comment the below entry and enable the
# relevant entry.
#MEP_HTTP_RECORD|SUBSCRIBER_ID=subId|SUB-TRANS-BASED|
#
# Uncomment below line, if BOTH Integra and Accelerator is installed.
#MEP_HTTP_RECORD|SUBSCRIBER_ID=subId,additionalData(Acc:)|SUB-TRANS-BASED|
#
# Uncomment below line, if BOTH Integra and Guardian is installed.
#MEP_HTTP_RECORD|SUBSCRIBER_ID=subId,additionalData(Gdn:)|SUB-TRANS-BASED|
#
# Uncomment below line, if Passport is installed.
#PASSPORT_LICENCE_RECORD|SUBSCRIBER_ID=subId|SUB-TRANS-BASED|
#
# Uncomment below line, if Standalone Openweb is installed.
#OPENWEB_RECORD||TRANS-BASED|
#
# Uncomment below line, if Integra is installed and Openweb is installed as VAS.
#MEP_HTTP_RECORD|SUBSCRIBER_ID=subId,additionalData(OWA:)|SUB-TRANS-BASED|
#
# Uncomment below line, if BOTH Integra and Guardian AV is installed.
#MEP_HTTP_RECORD|SUBSCRIBER_ID=subId,additionalData(GDN-AV:)|SUB-TRANS-BASED|
#
# Uncomment below line, if Integra,Guardian,Accelerator,Openweb,Guardian-AV is
installed.
# Note: & is the delimiter and dont have any space between the values
#MEP_HTTP_RECORD|SUBSCRIBER_ID=subId,additionalData(Gdn:&Acc:&OWA:&GDN-AV:)|SUB-TRANS-
BASED|
#
# Uncomment below line, if Media Optimization is installed.
# This configuration will only generate Intermediate data for Throughput Base
Licensing.
# Note: & is the delimiter and dont have any space between the values
#MEP_HTTP_RECORD|START_TIME=requestReceivedTime,END_TIME=txnCompleteTime,INPUT_BYTES=i
nternetBytesIn,additionalData(VDO:)|THROUGHPUT-BASED|
MEP_HTTP_RECORD|START_TIME=requestReceivedTime,END_TIME=txnCompleteTime,INPUT_BYTES=in
ternetBytesIn,additionalData(VDO:)|THROUGHPUT-BASED|
#
################################################################################
```

## Configuring Single Line RBA (SLRBA) Transform Module

The configuration parameters and keys associated with the SLRBA Transform module are present in the `slrba.cfg` file. The SLRBA Transform Blade uses `slrba.cfg` to transform the raw SLRBA billing files into intermediate files, which LAT SE Licensing Calculators can process.

SLRBA Transform creates three types of intermediate files—based on subscribers, transactions, or throughput. These intermediate files support the ASU, TPS, PHT, TPQ, TPSREG, TPQREG, TOTAL-REGION-TPS, TOTAL-REGION-TPQ, and Throughput Licensing Models.

---

**IMPORTANT** You must exercise caution while editing the `slrba.cfg` file, otherwise the LAT SE Transform fails.

---

Table 2-5 lists the configuration parameters that `slrba.cfg` uses for product-specific schema entries that support SLRBA Transform. You can configure the entries that you want to edit in the following format using | as a delimiter:

**Table 2-5.** Configuration Parameters in slrba.cfg

| Field Name | Valid Values | Description | Suggestions |
|---|---|---|---|
| `schema-name` | Any valid schema name that is supported by Integra and VAS products | The schema name that SLRBA Transform Blade uses to validate each SLRBA record. LAT SE is certified for the following schema names:<br>• `MEP_HTTP_RECORD` for Integra, MO-2.1, Accelerator and Guardian, Guardian AV, OpenWeb 5.8.1<br>• `PASSPORT_LICENCE_RECORD` for Passport<br>• `OPENWEB_RECORD` for OpenWeb 5.7<br>**Note**: LAT SE considers a transaction as valid only if the configured schema-name matches with the schema name in the SLRBA record. If the configured schema-name does not match with the schema name, then LAT SE skips the record and does not consider it for further processing. | |

| Field Name | Valid Values | Description | Suggestions |
|---|---|---|---|
| attribute-name | Valid values of attributes are: SUBSCRIBER_ID, INPUT_BYTES ,START_TIME, END_TIME | You can configure the attribute name in any one of the following formats:<br>For Media Optimizer, use START_TIME=<position of reqReceivedtime>,END_TIME=<position of txnCompletetime>,INPUT_BYTES=internetBytesIn,additionalData(VDO:).<br>attribute1=field1—Use this format only if Integra Core, Passport is installed.<br>attribute1=field1,field2(value1)—Use this format if Accelerator, Guardian, Guardian AV, MO-2.1 or OpenWeb-5.8.X is installed.<br>attribute1=field1,field2(value1&value2) - Use this format if more than one product is installed.<br>For Accelerator, use SUBSCRIBER_ID=11,additionalData(Acc:)<br>For Guardian, use SUBSCRIBER_ID=11,additionalData(Gdn:)<br>For Guardian AV, use SUBSCRIBER_ID=11,additionalData(GDN-AV:)<br>And for Integra, Guardian, Accelerator, OpenWeb, Guardian AV, use SUBSCRIBER_ID=11,additionalData(Gdn:&Acc:&OWA:&GDN-AV:) | While specifying the attribute-name, remember the following:<br>• Use & as the delimiter between multiple values without any space on either sides.<br>• You can change the field position in the various SLRBA records by using the OAM GUI. In this case, LAT SE is unable to find the required data in the SLRBA log files. If any SLRBA changes are performed using OAM, you must edit the slrba.cfg file with the corresponding changes. |

| Field Name | Valid Values | Description | Suggestions |
|---|---|---|---|
| data-model | TRANS-BASED, SUB-BASED, SUB-TRANS-BASED, and THROUGHPUT-BASED | The type of licensing model that LAT SE supports. Based on this information, the SLRBA Transform creates the intermediate data files. LAT SE supports the subscriber-, transaction-, and throughput-based licensing models.<br><br>If the value is TRANS-BASED, SLRBA transform Blade creates the intermediate data files based on the transaction data.<br><br>If the value is SUB-BASED, SLRBA Transform Blade creates the intermediate data files based on the subscriber data.<br><br>If the value is SUB-TRANS-BASED, SLRBA Transform Blade creates the intermediate data files based on both the subscriber and transactions data.<br><br>If the value is THROUGHPUT-BASED, SLRBA Transform Blade creates the intermediate data files based on the un-optimized data of the transaction. | |

| Field Name | Valid Values | Description | Suggestions |
|---|---|---|---|
| ARCHIVE_FILES | 1 and 0 | 1 | Based on this configuration, SLRBA Transform Blade decides whether to archive the input SLRBA files after processing.<br>If the value is 1, LAT SE archives the files in gz format in LAT_HOME/input/<logtype>/<hostname>/archive/.<br>If the value is 0, LAT SE removes or deletes the files. |
| LOG_FILE_PATTERN | *.*, or *.log, or *.gz, or any regular expression with "*" and ".", such as account* | *.* | The pattern of files that LAT SE Transform processes.<br>**NOTE:** SLRBA Transform Blade supports only .log files, or .gz files. |
| NUM_OF_INSTANCES | Integer value equal to or greater than 1 | 5 | The number of child SLRBA Transform instances. Based on this value, SLRBA Transform Blade shares the total number of input files to be transformed with the processes. |

| Field Name | Valid Values | Description | Suggestions |
|---|---|---|---|
| DATE_TIME | Integer | 3 | This configuration holds the attribute position that has the Date and Time information in the SLRBA record. By default, SLRBA logs Transaction Completion (3rd) field for each record containing the timestamp information.<br>**NOTE:** LATSE currently supports two date formats: `dd/MMM/yyyy:hh:mm:ss` and `yyyy-MM-dd hh:mm:ss`<br>Example:<br>`[25/Jun/2011:12:16:11 - BST]` and `2011-05-12 12:22:23` |
| SCHEMA_NAME | Integer | 1 | This configuration holds the attribute position that has the Schema Name value in the SLRBA log. By default, all SLRBA logs have Schema Name populated at the 1st position. |

| Field Name | Valid Values | Description | Suggestions |
|---|---|---|---|
| VOLUME_FIELDS | String value | VOLUME_FIELDS=<Version Value>:<Field 1><, Field 2><..., Field N><br>VOLUME_FIELDS=3:Ver,OptLevel,Source,OriginalSize,OriginalBytesProcessed,OptimizedSize,OptimizedBytesSent,Container,VideoInput,VideoOutput,AudioInput,AudioOutput,Duration,BWShaping,JIT,JITAdditionalTime,TotalRespTime,SeekOffset,CTOStatus,TransactionStatus,InlineCachingStatus,StatusCode<br>**Note:** Also supports Media Optimizer 2.2 transaction; you must specify MO 2.2 volume field. | This configuration helps the Transform Blade to know all the fields and the version of Media Optimizer. Transformer uses these fields to interpret video fields in the Media Optimizer record. For example, the first video field in the Media Optimizer record is considered as a version of the VDO, the fourth video field is considered as OriginalSize, and so on.<br>Template for configuring Media Optimizer 2.3.<br>**Note:** Supported only for VDO Service Enabler. |
| VOLUME_VERSION | String value | Ver | This configuration helps the Transform Blade to decide the field to use for the version field. Value is defined in VOLUME_FIELDS. |
| VOLUME_SOURCE | String value | Source | This configuration helps the Transform Blade to decide the field to use for the source field. Value is defined in VOLUME_FIELDS. |

| Field Name | Valid Values | Description | Suggestions |
|---|---|---|---|
| VOLUME_ORIGINAL_SIZE | String value | OriginalSize | This configuration helps the Transform Blade to decide the field to use for the original size field. Value is defined in VOLUME_FIELDS. |
| VOLUME_OPTIMIZED_SIZE | String value | OptimizedSize | This configuration helps the Transform Blade to decide the field to use for the optimized size field. Value is defined in VOLUME_FIELDS. |
| VOLUME_OPTIMIZED_BYTES_SENT | String value | OptimizedBytesSent | This configuration helps the Transform Blade to decide the field to use for the optimized bytes sent field. Value is defined in VOLUME_FIELDS. |

The following requirements define the SLAdaptor output format.

- An SLRBA record must be contained on a single line, terminated with a single line-feed character.
- The SLRBA record must consist of multiple fields, separated by a single space character.
- All fields must be delimited by double quotes.
- If the field value needs to contain a double quote, you must escape this by prefixing a backslash(\).
- Escape a backslash as two backslash characters.
- The first set of fields in the SLRBA record are mandatory. These fields must always be present, and must always be in a set order.
- If the data for a mandatory field is not available, you must output "-". This occurs if the data does not exist at all, or the SLRBA schema for MEP_HTTP_RECORD has not enabled the field.

- To enable throughput-based model for Media Optimizer, you must enable the following entry:

  ```
  MEP_HTTP_RECORD| START_TIME= 4, END_TIME =
  5,INPUT_BYTES=internetBytesIn,additionalData(VDO:)|THROUGHPUT-BASED|
  ```

  For dynamically optimized videos, `INPUT_BYTES` are considered as the un-optimized volume; and for videos served from the cache, `OriginalSize`, `OptimizedSize`, and `OptimizedBytesSent` are considered as the un-optimized volume.

- The mandatory fields must be output in the order listed in Table A-4.

### SLRBA Transform Template with Default Values

The template of the `slrba.cfg` file is a common template file used for transforming Single Line Record Based Accounting (SLRBA) records into LAT SE Intermediate files, which will be used later by Licensing Calculating Modules.

The template of the `slrba.cfg` file with default entries is as follows:

```
#####################################################################
# This template will be used for any product type that writes billing
records in SLRBA format.

ARCHIVE_FILES=1
LOG_FILE_PATTERN=*.*
NUM_OF_INSTANCES=5
DATE_TIME=3
SCHEMA_NAME=1
#####################################################################
## This configuration will help the SLRBA transform blade to decide
whether to archive
## the input SLRBA files after processing.
## By default, LAT SE will archive the input SLRBA files under
LAT_HOME/input/<nodename>/archive/
## directory. Also the archive files will be in gz format.
## 1 - LAT SE will Archive the files in gz format
## 0 - LAT SE will remove or delete the files
#
ARCHIVE_FILES=1
#
## Based on this configuration, the SLRBA transform blade will
transform the list of
## files in to intermediate files. It can be configured based on files
or dates like
## account*.log or 200911*.log or based or PID
## The transformer blade supports parsing ".log" and ".gz" filetypes.
#
LOG_FILE_PATTERN=*.*
#
## This configuration will allow user to create more SLRBA Transform
instance.
## Total input files that needs to transformed will be shared by the
below configured
## SLRBA instances.
## Min Value - 1
## Recommended Max Value - 15
#
NUM_OF_INSTANCES=5
#
##
## This configuration holds the attribute position which has the Date
and Time information
## in the SLRBA record. By default SLRBA logs Transaction Completion
(3rd) field for each record contain the information of time, and
## user doesnt have the option to enable or disable this field.
## So LAT SE assumes that this attribute will always present and same
for all Integra
## + VAS products and thats the reason its configured generally and
not per product.
#
## Note: Currently LAT SE expects the date format as
```

```
dd/mmm/yyyy:hh:mm:ss -
#
DATE_TIME=3
#
##
## This configuration holds the attribute position which has the
Schema Name value in the
## SLRBA log. By default, all SLRBA logs will have Schema Name
populated at 1st positon and user doesnt
## have any option to change the value unless the application changes.
## So LAT SE assumes that this attribute will always present and same
for all Integra
## + VAS products and thats the reason its configured generally and
not per product.
#
SCHEMA_NAME=1
#
#
#####################################################################
#
#This configuration will help the transform blade to know all the
fields and the version of Media Optimizer
#
# Media Optimizer 2.3 VDO Fields
#VOLUME_FIELDS=<Version Value>:<Field 1><, Field 2><..., Field N>
#
#NOTE: The order of the VOLUME_FIELDS should be similar to the actual
record
#
VOLUME_FIELDS=3:Ver,OptLevel,Source,OriginalSize,OriginalBytesProcesse
d,OptimizedSize,OptimizedBytesSent,Container,VideoInput,VideoOutput,Au
dioInput,AudioOutput,Duration,BWShaping,JIT,JITAdditionalTime,TotalRes
pTime,SeekOffset,CTOStatus,TransactionStatus,InlineCachingStatus,Statu
sCode
#
#
#This configuration will help the transform blade to decide which
field should be used for Version identifier. Value should be defined
in VOLUME_FIELDS
VOLUME_VERSION=Ver
#
#
#This configuration will help the transform blade to decide which
field should be used for source. Value should be defined in
VOLUME_FIELDS
VOLUME_SOURCE=Source
#
#
#This configuration will help the transform blade to decide which
field should be used for original size field. Value should be defined
in VOLUME_FIELDS
VOLUME_ORIGINAL_SIZE=OriginalSize
#
#
```

```
#This configuration will help the transform blade to decide which
field should be used for optimized size field. Value should be defined
in VOLUME_FIELDS
VOLUME_OPTIMIZED_SIZE=OptimizedSize
#
#
#This configuration will help the transform blade to decide which
field should be used for optimized bytes sent field. Value should be
defined in VOLUME_FIELDS
VOLUME_OPTIMIZED_BYTES_SENT=OptimizedBytesSent
######################################################################
###########
# NOTE: [Suggestion] Any new key-value pair should be added above the
SCHEMA_NAME,
# if not the SLRBA scripts requires a change.
#################### End of Key-value Pair Configuration Value
#################
#
#
######## Few Things to be considered while editing the below
template.##########
#
#
# 1) All configuration variables are needed.
# 2) For each different product, we should have separate entry.
# 3) All the configurations are separated by "|" as delimiter
# 4) Make sure the attribute entries are in the same order as the
SLRBA logs, wrong
#   order will not create the transform output correctly.
#
#######
#
#SCHEMA-NAME=<MEP_HTTP_RECORD>
## This configuration is used to validate the given SchemaName against
each record.
## Only if the schemaname matches with the record, LAT will consider a
valid transaction.
## If present and the schema name doesnt match with request
schemaname, then the record
## will be skipped.
## For eg, in case of Integra Core, the value will be MEP_HTTP_RECORD.
#
#ATTRIBUTE-NAME=<SUBSCRIBER_ID=subId,additionalData>
## List the Field names that LAT SE Transformer need to search for in
the SLRBA record.
## NOTE: All the below attributes are required.
## Also the attributes should be separated with comma(,) as delimiter.
#
## phoneNumber -Field position or Attribute position which holds the
Subscriber Number.
##
#DATA-MODEL
## This configuration will enable or disable creation of Intermediate
Data files. For
```

```
## LATSE 2.0, we support one Licensing models ( Volume Based).
## If the value is VOLUME-BASED, SLRBA transform will create
Intermediate Data files based
## on Volume data.
## For LATSE 2.1, we have added support for two Licensing models (
Subscriber Based and Transaction Based).
## If the value is SUB-BASED, SLRBA transform will create Intermediate
Data files based
## on Subscriber(MIN) data.
## If the value is TRANS-BASED, SLRBA transform will create
Intermediate Data files based
## on Transaction data.
## In LATSE-2.2, we have replaced VOLUME-BASED with THROUGHPUT-BASED
model.
## If the value is THROUGHPUT-BASED, SLRBA transform will create
Intermediate Data files based
## on Throughput data.
## Data models can be configured in any order.
## For example, Subscriber based and transaction based files can be
generated by configuring SUB-TRANS-BASED or TRANS-SUB-BASED.
## Any number of data models can be configured at a time for a
product.
## For example, SUB-THROUGHPUT-TRANS-BASED is allowed.
## However, data models for a product should be configured according
to licensing models supported by that product
## , as reporting script of that product could not process
intermediate files of unsupported licensing model.

#
##SCHEMA-NAME|ATTRIBUTE-NAME|DATA-MODEL
#
# ATTRIBUTE-NAME can be configured in the below format
# attribute1=field1,attribute2=field2,attribute3=field3,field4(value1)
# SPACE character is not allowed in ATTRIBUTE-NAME configuration.
# value1 is interpreted as SERVICE ENABLER and it should contain ":".
# field<N> should be position of the attribute in SLRBA logs, if that
attribute is mandatory parameter.
# field<N> should be name of the attribute in SLRBA logs, if that
attribute is optional parameter.
# Different values of attribute<N> are SUBSCRIBER_ID, INPUT_BYTES,
START_TIME, END_TIME.
# Definitions of attributes:
# SUBSCRIBER_ID : subscriber ID field in SLRBA record.
# INPUT_BYTES : input volume field in SLRBA record.
# START_TIME : transaction start/ request receive time field in SLRBA
record.
# END_TIME : transaction end time field in SLRBA record.
# Note: Currently LAT SE supports value configuration only at the end.
##
#########################################################################
#############
#
# NOTE: 1) The below lines should be commented or uncommented based on
the installation.
```

```
#       2) In LATSE-2.1, when Integra VAS is enabled, then
intermediate files for Integra core will also get generated
#          along with intermediate files of that VAS.
#          In LATSE-2.2, intermediate files for that VAS only will be
generated but not for Integra Core.
#          To generate intermediate files for Integra Core, entry for
Integra should be enabled.
#####################################################################
#############
#
# If Integra Core is installed, enable the relevant entry.
# For subscriber and transaction based model, uncomment the below
entry. Here, Subscriber ID is at 11th position
# MEP_HTTP_RECORD|SUBSCRIBER_ID=11|SUB-TRANS-BASED|
# For transaction based model, uncomment the below entry.
# MEP_HTTP_RECORD||TRANS-BASED|
# For subscriber based model, uncomment the below entry. Here,
Subscriber ID is at 11th position
# MEP_HTTP_RECORD|SUBSCRIBER_ID=11|SUB-BASED|

# Uncomment below line, only if Integra for Media Optimization is
installed.
#
# If Media Optimization is installed, uncomment the below entry
#MEP_HTTP_RECORD|START_TIME=4,END_TIME=5,INPUT_BYTES=internetBytesIn,a
dditionalData(VDO:)|THROUGHPUT-BASED|
#

#
# Uncomment below line, if BOTH Integra and Accelerator is installed.
MEP_HTTP_RECORD|SUBSCRIBER_ID=11,additionalData(Acc:)|SUB-TRANS-BASED|
#
# Uncomment below line, if BOTH Integra and Guardian is installed.
#MEP_HTTP_RECORD|SUBSCRIBER_ID=11,additionalData(Gdn:)|SUB-TRANS-BASED
|
#
# Uncomment below line, if Passport is installed.
#PASSPORT_LICENCE_RECORD|SUBSCRIBER_ID=11|SUB-TRANS-BASED|
#
# Uncomment below line, if Standalone Openweb is installed.
#OPENWEB_RECORD||TRANS-BASED|
#
# Uncomment below line, if Integra is installed and Openweb is
installed as VAS.
#MEP_HTTP_RECORD|SUBSCRIBER_ID=11,additionalData(OWA:)|SUB-TRANS-BASED
|
#
# Uncomment below line, if BOTH Integra and Guardian AV is installed.
#MEP_HTTP_RECORD|SUBSCRIBER_ID=11,additionalData(GDN-AV:)|SUB-TRANS-BA
SED|
#
# Uncomment below line, if
Integra,Guardian,Accelerator,Openweb,Guardian-AV is installed.
# Note: & is the delimiter and dont have any space between the values
```

```
#MEP_HTTP_RECORD|SUBSCRIBER_ID=11,additionalData(Gdn:&Acc:&OWA:&GDN-AV
:)|SUB-TRANS-BASED|
#####################################################################
```

## Configuring Metrica Transform Module

The configuration parameters and keys associated with the Metrica Transform module are present in the `metrica.cfg` file. The LAT SE Metrica Transform Blade uses `metrica.cfg` to transform the metrica log files into intermediate files, which LAT SE Licensing Calculators can process.

Metrica Transform creates two types of intermediate files based on subscribers or transactions. These intermediate files support the ASU, TPS, and PHT and Licensing Models.

### Configuration Keys in Metrica Transform

The following table lists the configuration keys that `metrica.cfg` uses. You can configure the entries that you want to edit in the following format using `|` as a delimiter:

```
DATE|STIME|INTERVAL|HTTPStatsAggregator|Instance TotalTransactionCount|ENDSECTION
```

**Table 2-6.** Configuration Keys in `metrica.cfg`

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| ARCHIVE_FILES | 0 or 1 | 1 | Based on this configuration, Metrica Transform Blade decides whether to archive the input Metrica files after processing.<br>If the value is 1, LAT SE archives the files in gz format in LAT_HOME/input/<logtype>/<hostname>/archive/<br>If the value is 0, LAT SE removes or deletes the files. |
| LOG_FILE_PATTERN | *.*, or *.log, or *.gz, or any regular expression with "*" and ".", such as account* | *.* | The pattern of files that LAT SE Transform processes. |

**Table 2-6.** Configuration Keys in `metrica.cfg`

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| `NUM_OF_INSTANCES` | Integer value equal to or greater than 1 | 5 | The number of child Metrica Transform instances.<br>Based on this value, Metrica Transform Blade shares the total number of input files to be transformed with the processes. |

### Configuring Metrica Transform for Better Performance

This section describes how to enhance the performance of Metrica Transform Blade.

- The total number of parent transform instances is based on the number of front ends to be processed. To increase the performance, create as many front ends or hosts as possible in `LAT_HOME/metrica/input/` by configuring multiple entries in `download.cfg`.
- By default, `NUM_OF_INSTANCES` is configured to 5. This configuration is applicable separately for each running parent transform instance. This variable determines how many parallel transformers will be run for each front end host.

---

**NOTE** As the Metrica transform is less CPU intensive and has faster performance than the RBA transform, it is not necessary to change the `NUM_OF_INSTANCES` to use the maximum number of available threads. However, if this is changed, it also follows the same rules for the `rba.cfg` `NUM_OF_INSTANCES` described above.

---

- By default, the transform process is enabled for all the supported products. To enhance the performance, disable the products that are not installed. See "Product-Specific Configurations" on page 73.

### Metrica Transform Template with Default values

The template of the `metrica.cfg` file with default entries is as follows:

```
# This is a common template file used for transforming Metrica (Record generated
# by OAM) records into LAT SE Intermediate files, which will be later used by
# Licensing Calculating Modules.
ARCHIVE_FILES=1
LOG_FILE_PATTERN=*.*
NUM_OF_INSTANCES=5
## DATE - Date of the transaction YYYYMMDD
## STIME - Start Time of the 5 minute Interval HHMM
## INTERVAL - Difference of ETIME and STIME. LAT SE Supports only 5 Minute interval.
## HTTPStatsAggregator - Aggregator Name that collects the transaction statistics.
## Instance - Instance Name in which the Statistics are collected like Integra V2.9
## TotalTransactionCount - Transaction Count for the 5 minute interval
## Uncomment below line, only if Integra is installed.
DATE|STIME|INTERVAL|HTTPStatsAggregator|Instance TotalTransactionCount|ENDSECTION
```

## Configuring Location Transform Module

The configuration parameters and keys associated with the Location Transform module are present in the `location.cfg` file. The LAT SE Location Transform Blade uses `location.cfg` to transform the Location log files into intermediate files, which LAT SE Licensing Calculators can process.

The file `location.cfg` is similar to the `rba.cfg` file, and the same warnings that apply to the `rba.cfg` file apply to the `location.cfg` file.

The following table describes the configuration keys in the `location.cfg` file.

**Table 2-7.** Configuration Keys in `location.cfg`

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| `ARCHIVE_FILES` | `0` or `1` | `1` | Based on this configuration, Location Transform Blade decides whether to archive the input Location files after processing.<br>If the value is `1`, LAT SE archives the files in `gz` format in `LAT_HOME/input/<logtype>/<hostname>/archive/`<br>If the value is `0`, LAT SE removes or deletes the files. |
| `LOG_FILE_PATTERN` | `*.*`, or `*.log`, or `*.gz`, or any regular expression with "`*`" and "`.`", such as `account*` | `*.*` | Based on this configuration, the Location transform blade will transform the list of files in to intermediate files. It can be configured based on files or dates like `account*.log` or `200911*.log` or based or `PID`. The transformer blade supports parsing `.log` and `.gz` file types. |
| `NUM_OF_INSTANCES` | Integer value equal to or greater than `1` | `5` | The number of child Location Transform instances.<br>Based on this value, Location Transform Blade shares the total number of input files to be transformed with the processes. |

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| PROV-ID | Integer | 22 | This configuration holds the attribute name which has the Provisional ID value in the Location log. By default, this is 22nd field in all Location logs and user cannot change the name unless the application changes. LAT SE assumes that this attribute will always be present and the same for all Location products. |
| DATE_TIME | Integer | 6 | This configuration holds the attribute name which has the Date and Time information in the LOCATION record. By default, this is 6th field in all Location logs and user cannot enable or disable this field. LAT SE assumes that this attribute will always be present and the same for all Location products.<br>**Note:** LAT SE expects the date format as yyyy/mm/dd hh:mm:ss |

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| DATA-MODEL | SUB-BASED, TRANS-BASED, SUB-TRANS-BASED | SUB-TRANS-BASED | This configuration enables or disables creation of Intermediate Data files. For LATSE 2.2, three Licensing models are supported—Subscriber Based (SUB-BASED), Transaction Based (TRANS-BASED) and Subscriber Transaction Based (SUB-TRANS-BASED).<br>• If the value is SUB-BASED, the Location transform will create Intermediate Data files based on Subscriber(MIN) data.<br>• If the value is TRANS-BASED, the Location transform will create Intermediate Data files based on Transaction data.<br>• If the value is SUB-TRANS-BASED, the Location transform will create Intermediate Data files based on both Subscriber and Transactions.<br>• If no value is configured, LAT SE Transform will exit. |

These parameters are configured within the file location.cfg as follows:-

```
ARCHIVE_FILES=1
LOG_FILE_PATTERN=*.*
NUM_OF_INSTANCES=5
PROV-ID=22
DATE_TIME=6
DATA-MODEL=SUB-TRANS-BASED
```

## Configuring MMG Transform Module

This is a common template file used for transforming MMG records into LAT SE. Intermediate files, which are later used by Licensing Calculating Modules. This template is used for any product type that writes billing records in MMG format.

This configuration helps the MMG transform blade to decide whether to archive the input MMG ANTI-SPAM files after processing. By default, LAT SE archives the input MMG ANTI-SPAM files under LAT_HOME/input/<nodename>/archive/ directory. Also, the archive files are in .gz format.

- 1 - LAT SE archives the files in .gz format
- 0 - LAT SE removes or deletes the files

The following table describes the configuration keys in the smgstats.cfg file:

**Table 2-8.** Configuration Keys in smsgstats.cfg

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| ARCHIVE_FILES | 1 and 0 | 1 | Based on this configuration, the MMG transform blade transforms the list of files into intermediate files. It can be configured based on files or dates like:<br>account*.log or 200911*.log, or based or PID. The transformer blade supports parsing ".sta" and ".gz" file types. |
| LOG_FILE_PATTERN | *.sta | | This configuration allows user to create more MMG Transform instance. Total input files that needs to be transformed are shared by the following configured:<br>• MMG instances.<br>• Min Value - 1<br>• Recommended Max Value – 15. |
| NUM_OF_INSTANCES | Recommended Max Value - 15<br>Min Value - 1 | 5 | This configuration holds the attribute name which has the transaction count of 5 minute interval value in the MMG log for each record. By default, all MMG logs have MmgDelivers populated, and the user has no option to change the name unless the application changes. Hence, LAT-SE assumes that this attribute is always present. |

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| TRANSACTION_TYPE | MmgDelivers | MmgDelivers | This configuration allows user to specify to the type of log. |
| LOG_TYPE | MMG | MMG | This configuration allows the user to specify the type of log. LOG_TYPE value is mapped in report.cfg file. If user changes the LOG_TYPE value then user also has to change the mapped parameter in report.cfg file. By default, the LOG_TYPE value is MMG LOG_TYPE=MMG. |

## Configuring Report Module

LAT SE generates Licensing Reports for each Openwave product that is enabled in rba.cfg, based on the data model configured for each product. All the configurations related to reports are specified in report.cfg. The following Licensing Calculators use report.cfg to generate reports:

- TPS (Transactions per Second)—Average number of transactions per second in the top N busiest 5 minutes (N is a configurable integer).
- PHT (Peak Hour Transactions)—Average number of transactions per hour in the top N busiest hours of the quarter (N is a configurable integer).
- ASU (Active Subscriber Usage) —Active subscribers performing N transactions in a given quarter (N is a configurable integer).
- TPQ (Total Transactions per Quarter)—Total Number of transactions performed in given quarter (Implemented for only Passport Product).
- TPSREG (Hourly Transactions Per Second per Region)—Average number of transactions per second in the top N (N is a configurable integer) busiest hours for a region.

**NOTE** The TPSREG report is the same as the TPS report except, that it is run in 1-hour intervals instead of 5-minute intervals.

- TPQREG (Total Transactions Per Quarter per Region)—Total Number of transactions performed in given quarter (At present implemented for only Passport Product) for a region.
- TOTAL-REGION-TPS—Sum of all regions TPS average of Top N (N is a configurable integer) busiest hours.
- TOTAL-REGION-TPQ—Sum of all regions number of transactions performed in given quarter (At present implemented for only Passport Product).

- Throughput—Sum of  throughput of the media traffic received from the Internet, and the throughput of the un-optimized media traffic served from the cache. Throughput is calculated from un-optimized bytes depending on the source of the video.

## Configuration Parameters and Keys in Reports

The following table lists the configuration parameters that `report.cfg` uses.

**Table 2-9.** Configuration Parameters in `report.cfg`

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| `Report-Version` | `2.2` or any other LAT SE version | `2.2` | The default value is the version of LAT SE. You must NOT edit this configuration |
| `Site-Id` | A unique string that identifies this installation | | The installer should set this to be a string that anyone who receives the license reports can use to identify the customer installation. |
| `Customer-Name` | Customer name | | Specify the name of the customer organization |
| `Contract-Id` | The contract ID of the customer | | Specify the contract ID of the customer |

The following table lists the configuration parameters related to the reporting output of License Calculators.

**Table 2-10.** Configuration Parameters Related to the Reporting Output

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| `APPEND-DATA` | `0` and `1` | `1` | This configuration enables or disables appending of log files or intermediate files created by the Transform process as part of the reporting output.<br>You can enable this parameter by specifying 1, or disable it by specifying `0`.<br>**Note:** This configuration is valid for TPS, ASU, MPS, and Throughput Licensing Models. |

**Table 2-10.** Configuration Parameters Related to the Reporting Output

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| TRANSACTION-BAND-FREQUENCY | Any positive integer | 20 | This configuration provides the total number of subscribers who have at least *N* transactions (where *N* is a configurable integer).<br>It gives the frequency level to create a band.<br>**Note:** This configuration is only available for ASU licensing model.<br>Use 0 to disable transaction banding. |
| MAX-TRANSACTION-BAND | 0 to 100 | 100 | This configuration parameter is the maximum transactions that ASU looks for. Must be an integral multiple of TRANSACTIONBAND-FREQUENCY.<br>The value of 0 disables transaction banding. |
| TPS-THRESHOLD | Any positive integer | 0 | This configuration is applicable only for the TPS licensing model.<br>Based on this value, the TPS Licensing report for the product reports the total count of intervals which are less than or equal to TPS threshold in a 5-minute interval. |
| PHT-THRESHOLD | Any positive integer | 0 | This configuration is applicable only for the PHT licensing model.<br>Based on this value, the PHT licensing report for the product reports the total count of intervals which are less than or equal to PHT threshold, and each interval contains an hour's data. |

**Table 2-10.** Configuration Parameters Related to the Reporting Output

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| ASU-N | Any positive integer | 20 | This configuration is applicable only for the ASU licensing model.<br>Use this parameter to set the top *N* transactions to be shown in ASU Report. |
| TPS-N | Any positive integer | 10 | This configuration is applicable only for the TPS licensing model.<br>Use this parameter to set the top *N* transactions to be shown in TPS Report. |
| PHT-N | Any positive integer | 10 | This configuration is applicable only for the PHT licensing model.<br>Use this parameter to set the top *N* transactions to be shown in PHT Report. |
| TPSREG-N | Any positive integer | 10 | This configuration is applicable only for the TPSREG licensing model.<br>Use this parameter to set the top *N* transactions to display in TPS REGION based Report. |
| THROUGHPUT-N | Any positive integer | 10 | This configuration is applicable only for the throughput licensing model. Use this parameter to set the top *N* throughput to display in Throughput Report. |

**Table 2-10.** Configuration Parameters Related to the Reporting Output

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| APPEND-CONFIG-FILES | All configuration files separated with \| as a delimiter | download.cfg\|metrica.cfg\|notification.cfg\|rba.cfg\|location.cfg\|smgstats.cfg\|slrba.cfg\|report.cfg\|cleanup.cfg | This configuration appends the configuration entries as a part of the report output. The configuration entry takes the list of file names as a value. Specify multiple files with \| as delimiter.<br>By default, the licensing calculators read configuration in the LAT_HOME/config/ directory.<br>If the value is empty, then LAT SE does not append any configuration as a part of the output.<br>**Note:** The listed configuration files are only read from the config directory. |
| EMAIL-NOTIFICATION | 0 and 1 | 0 | This configuration enables or disables the individual licensing calculator to send email notifications. By default, it is disabled because the Email Notification module sends all the Licensing Reports in a single email.<br>You can enable this parameter by specifying 1, or disable it by specifying 0.<br>Enable notifications if you want to send reports in separate emails. |

**Table 2-10.** Configuration Parameters Related to the Reporting Output

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| key=value | A key=value pair | | Any key=value pair where the key is not one of the pre-defined configuration parameters described above, and the key is a directory name in the data directory. This directory contains the output from the Transformer modules, and forms a mapping between the schema name (that is the key) and the product name (that is the value). Each product supported by LAT SE has a key=value pair. Do NOT modify this.<br>Examples:<br>`MEP_HTTP_RECORD=Integra`<br>`MEP_HTTP_RECORD_Acc=Acc elerator`<br>`MEP_HTTP_RECORD_Gdn=Gua rdian`<br>`MEP_HTTP_RECORD_GDN-AV= Guardian-AV`<br>`MEP_HTTP_RECORD_OWA=Ope nweb-Integra`<br>`PASSPORT_LICENCE_RECORD =Passport`<br>`OPENWEB_RECORD=Openweb`<br>`LOCATION_RECORD=Locatio n`<br>`MMG=MMG-Antispam`<br>`MEP_HTTP_RECORD_VDO=Med ia-Optimizer`<br>**Note:** For MMG-Antispam logs, the parameter name is mapped to `LOG_TYPE` value in `smgstats.cfg`. In other words, if `LOG_TYPE` value in `smgstats.cfg` is MMG, the parameter name in `reports.cfg` must be MMG. If you change `LOG_TYPE` value in `smgstats.cfg`, the parameter name given below must be changed accordingly. By default, the parameter name is MMG. |

**NOTE** If the value for TRANSACTION-BAND-FREQUENCY or the value for MAX-TRANSACTION-BAND is 0, this means that you cannot calculate the total number of subscribers who have at least N transactions.

## Report Configuration Template with Default Values

The template of the report.cfg file with default entries is as follows:

```
# This is a common configuration file used for LAT SE Licensing Calculator to generate
# reports.
# Some of the configuration will also present/needed in the generated report.
#
For LAT SE 2.2, this configuraiton file will be used by licensing calculator scripts
# asu.pl, pht.pl, tps.pl and tpsreg.pl. Any change in the key, might requires change
in Licensing
# scripts.
#
#
################################################################################
#
## The following configuartions will be used in report generation. Most of the
configurations
## are key-value pair.
################################################################################
#
## By default the value will be LATSE version and this will be part of generated
report.
## User doesnt need to modify this configuartion.
#
Report-Version=2.2
#
## By default the value will be the report generation hostname and this will be part
## of generated report.
#.# User can set any default value to identify the report.
#
Site-Id=latse
#
## User has to set the Customer Name, which will be part of the generated report.
#
Customer-Name=Ho5
#
## This is the customer contract Id for the product.
#
Contract-Id=LAT
#
################################################################################
# The below configuration are related to Reporting Output in Licensing Calculators.
#
################################################################################
## This configuration will enable or disable appending of LOG Datas (Intermediate
data,
## created by LAT SE Transform process) as part of report output.
## NOTE: This configuration is valid only for PHT and TPS Licensing model.
## 1 - enable 0 - disable
#
```

```
APPEND-DATA=1
#
## This Configuration is only available for ASU Licensing Model support Transaction
Banding.
## Transaction Banding gives a depth analysis of number of subscribers vs
## number of transactions. Basically it provides the total number of subscribers
## who have atleast N transactions.
## This is controlled by below two configuration parameter.
##
## NOTE: 0 value for any of below configuraiton means, its DISABLED.
##
## The below configuration parameter gives the frequency level to create band.
#
TRANSACTION-BAND-FREQUENCY=20
#
## The below configuration parameter is maximum of transaction that ASU will look for.
#
MAX-TRANSACTION-BAND=100
#
##
## This configuration is available only for TPS Licensing Model.
## Based on the below value, the TPS Licensing report for the product will report
## total count of intervals which are <= TPS threshold in a 5 minute interval.
#
TPS-THRESHOLD=0
#
##
## This configuration is available only for PHT Licensing Model.
## Based on the below value, the PHT Licensing report for the product will report
## total count of intervals which are <= PHT threshold and each interval contains
## an hour worth of data.
#
PHT-THRESHOLD=0
#
## Uncomment below line, and set TopN transactions to be shown in ASU Report.
#
#ASU-N=20
#
## Uncomment below line, and set TopN transactions to be shown in TPS Report.
#
#TPS-N=10
#
## Uncomment below line, and set TopN transactions to be shown in PHT Report.
#
#PHT-N=10
#
#
## Uncomment below line, and set TopN transactions to be shown in TPS REGION based
Report.
#
#TPSREG-N=10
#
## Uncomment below line, and set TopN transactions to be shown in Throughput Report.
#THROUGHPUT-N=10
#
################################################################################
#
## This configuration is used to append configuration entries as part of the report
output.
```

```
## The configuration entry will take the list of file names as value and multiple
## files can be configured with | as delimitter.
## By default the Licensing calculators read configuration under LAT_HOME/config/
## directory.
## NOTE : Any configuration files outside the directory or bad filenames are not
## considered. The filename should have .cfg extension.
## If the value is empty, then no configuration is appended as part of the output.
#
APPEND-CONFIG-FILES=download.cfg|metrica.cfg|notification.cfg|rba.cfg|location.cfg|smg
stats.cfg|slrba.cfg|report.cfg|cleanup.cfg|
##
#
## This configuraiton will enable or disable the individual Licensing calculator to
send email
## notification. By default its disabled, because the Email Notification Feature
## will send all Licensing Reports in one email.
## This can be enabled if we need to reports in seperate emails.
## 1 - enable 0 - disable
#
EMAIL-NOTIFICATION=0
#
################################################################################
#
################################################################################
## Product Name equivalent to Schema Name.
## NOTE: Space or comma or pipe is not allowed in defining a string.
################################################################################
## In case of Integra Core, the schema name is MEP_HTTP_RECORD. The product name
## equivalent is Integra. This will be used in report output.
#
MEP_HTTP_RECORD=Integra
#
## Schema Name mapping with Product name. The below configuration will be used in
## reports of Accelerator Product.
## MEP_HTTP_RECORD_Acc is generated by RBA transform script. The actual Accelerator
## RBA records will be logged as part of MEP_HTTP_RECORD.
#
MEP_HTTP_RECORD_Acc=Accelerator
#
## Schema Name mapping with Product name. The below configuration will be used in
## reports of Guardian Product.
## MEP_HTTP_RECORD_Gdn is generated by RBA transform script. The actual Guardian
## RBA records will be logged as part of MEP_HTTP_RECORD.
#
MEP_HTTP_RECORD_Gdn=Guardian
#
## Schema Name mapping with Product name. The below configuration will be used in
## reports of Guardian AV Product.
## MEP_HTTP_RECORD_GDN-AV is generated by RBA transform script. The actual Guardian
## AV RBA records will be logged as part of MEP_HTTP_RECORD.
#
MEP_HTTP_RECORD_GDN-AV=Guardian-AV
#
## Schema Name mapping with Product name. The below configuration will be used in
## reports of Openweb Product.
## MEP_HTTP_RECORD_OWA is generated by RBA transform script. The actual Openweb
## RBA records will be logged as part of MEP_HTTP_RECORD.
#
MEP_HTTP_RECORD_OWA=Openweb-Integra
```

```
#
## In case of Passport, the schema name is PASSPORT_LICENCE_RECORD. This will be used
## in report output.
#
PASSPORT_LICENCE_RECORD=Passport
#
## In case of Openweb, the schema name is OPENWEB_RECORD. This will be used
## in report output.
#
OPENWEB_RECORD=Openweb
#
## In case of Location, the schema name is LOCATION_RECORD. This will be used
## in report output.
#
LOCATION_RECORD=Location

## In case of MMG-re, This will be used in report output.
# NOTE: **  Parameter name - MMG should be mapped to LOG_TYPE value in smgstats.cfg
file.
# i.e. if LOG_TYPE value in smgstats.cfg is MMG then parameter name in reports.cfg
should be "MMG".
# If user changes LOG_TYPE value in smgstats.cfg then below parameter name should be
changed accordingly.
MMG=MMG-AntiSpam

## In case of Media Optimizer, the schema name is MEP_HTTP_RECORD_VDO. This will be
used
## in report output.
#
MEP_HTTP_RECORD_VDO=Media-Optimizer
#
#######################################
```

## Configuring Reports for Regions

The file `region.cfg` is a common configuration file used by LAT SE to generate region wise reports. A LAT SE Region is logical collection of hostnames against which single report is to be generated - this may or may not coincide with the configured Integra regions.

The file `region.cfg` allows the user to define regions against which report can be generated. The user can add any number of region names & hostnames against these regions should be specified in same way as specified in `download.cfg`.

Each region should have a separate entry, the format of which is illustrated below

```
REGION-NAME1=HOSTNAME1,HOSTNAME2,HOSTNAME3
```

---

**NOTE** Pattern-based matching on the hostname is supported.

---

Multiple Region names can be specified with same Host names repeated as below

```
REGION-NAME1=HOSTNAME1,HOSTNAME2,HOSTNAME3
REGION-NAME2=HOSTNAME4,HOSTNAME5
REGION-NAME3=HOSTNAME6,HOSTNAME7
```

Each generated report for region will contain the region name in its filename. For example, the report for an region would be generated as

```
tps_<REGION-NAME1>_PID-TIMESTAMP.csv
```

## Configuring Email Notification Module

LAT SE sends email notifications based on the configurations in `notification.cfg`. You can configure the Email Notification module to support the following conditions:

- Email Notifications for Licensing Reports for each configured product
- Email Notifications for Critical Errors in Download and Transform modules

You can configure the Email Notification module to support notifications via SMTP Server or via Sendmail.

---

**IMPORTANT** This is one of the important configuration files that you can configure. If this file is not configured properly, LAT SE fails to send notifications of reports or errors.

---

### Configuring Licensing Reports

By default, the email notifications for Licensing Reports are enabled. You can disable these reports by setting `REPORT-EMAIL-NOTIFICATION` to `0`. By default, users receive an email attachment of zipped reports for the configured Licensing Calculators for each product specified in `rba.cfg`. You can specify the users who should receive these reports by specifying their email addresses in the `EMAIL-TO` parameter.

For example, for Integra and Passport, users receive the following files in a zipped format:

- ASU report and `checksum` for that report
- TPQ report and `checksum` for that report
- TPQREG report and `checksum` for that report
- TOTAL-REGION-TPQ report and `checksum` for that report

### Configuring Error Reports

LAT SE sends email notifications for critical errors only during the Download or Transform processes. By default, this feature is disabled. To enable the feature, set the `EMAIL-ERRORS-TO` configuration value.

If configured, the users receive a list of critical errors reported during the Download and Transform processes as an email attachment.

## Configuration Parameters and Keys in Email Notification

The following table lists the configuration parameters that `notification.cfg` uses. You can configure the entries that you want to edit.

**Table 2-11.** Configuration Parameters in `notification.cfg`

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| `SMTP-SERVER` | Valid host name or IP address of the server | | By default, no value is set for this parameter, and this configuration is disabled. It is an optional configuration.<br><br>If you specify the SMTP server, LAT SE Notification sends the notification via the specified host. If you do not configure the SMTP server, LAT SE Notification uses SendMail.<br><br>**Note:** The `SMTP-SERVER` parameter must be the host name of an email server that is configured to accept the email from LAT SE, and to allow it to be sent to Openwave for processing. Any firewalls between the LAT SE server and the designated `SMTP-SERVER` must permit LAT SE to send email to the `SMTP-SERVER`. |
| `SMTP-TIMEOUT` | Integer value in Seconds | 120 secs | Time interval in seconds after which the email server times out.<br><br>**Note:** The same interval is applicable for each SMTP operation. |

**Table 2-11.** Configuration Parameters in `notification.cfg`

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| `SENDMAIL-PATH` | Path to sendmail | `/usr/lib/sendmail` | Path where the sendmail binary is installed. By default, sendmail is enabled.<br><br>**Note:** If sendmail is used, it must be configured to deliver email to the official mail servers for the designated email domains. Any firewalls between the LAT SE server and email servers for the designated email domain must permit LAT SE to send email to the destination domain. |
| `EMAIL-FROM` | Valid email address | | A valid email address from which LAT SE sends the email notification to the users. If you do not specify a valid email address for this parameter, LAT SE logs an error. |
| `EMAIL-REPORTS-TO` | Valid email address | `opwv_lat@openwave.com` | A valid email address to which LAT SE sends the email notifications for the License Calculator reports.<br><br>You can configure multiple recipients by using a comma (**,**) as a delimiter.<br><br>**Note:** If an email address of one of the multiple recipients is invalid, LAT SE sends emails to other valid email addresses. Also, the sender email address receives an undelivered email message. |

**Table 2-11.** Configuration Parameters in `notification.cfg`

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| `EMAIL-ERRORS-TO` | Valid email address | | A valid email address to which LAT SE sends the email notifications for the critical errors during the download and transform processes.<br>This is an optional configuration and is disabled by default. You can configure multiple recipients by using a comma (`,`) as a delimiter.<br>If you do not specify a valid email address for this parameter, the error email messages are not sent.<br>**Note:** If an email address of one of the multiple recipients is invalid, LAT SE sends emails to other valid email addresses. Also, the sender email address receives an undelivered email message.<br>**Note:** This parameter is not related to the email message header `Errors-To` mentioned in RFC-1035 and RFC-2076. |
| `EMAIL-REPLY-TO` | Valid email address | `dont-reply-to@openwave.com` | A valid email address, which receives the replies sent to the email notifications.<br>By default, Openwave does not recommend to reply to any of the email notifications that users receive. |

**Table 2-11.** Configuration Parameters in `notification.cfg`

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| SUBJECT | Unique value to identify the reports or errors from the email subject | OPWV | LAT SE uses this string as the email subject for both reports and errors email notification.<br>This is an optional configuration. You can configure it if you want to have a subject in an email notification.<br>For report notifications, the format is:<br>`<SUBJECT>: LAT SE <Product Name> Licensing Report`<br>For instance, in case of Integra, the subject can be `OPWV: LAT SE Integra Licensing Report`.<br>For error notifications, the format is `<SUBJECT>: LAT SE <Operation> Critical Errors`. The value of `Operation` can be Download or Transform. For instance, in case of critical errors in the Download module, the subject can be `OPWV: LAT SE Download Critical Errors`. |
| REPORT-EMAIL-NOTIFICATION | Integer value 0 or 1 | 1 | This configuration enables or disables the Report Email Notification. By default, it is enabled. You can disable it by setting it to 0.<br>This configuration enables LAT SE to send all Licensing Calculator reports for each product in a single email attachment. |

## Notification Template with Default values

```
################################################################################
# This is a common configuration file used for LAT SE Modules to generate
# email notification.
################################################################################
SMTP-SERVER=
SMTP-TIMEOUT=120
```

```
SENDMAIL-PATH=/usr/lib/sendmail
EMAIL-FROM=
EMAIL-REPORTS-TO=opwv_lat@openwave.com
EMAIL-ERRORS-TO=
EMAIL-REPLY-TO=dont-reply-to@openwave.com
SUBJECT=OPWV
REPORT-EMAIL-NOTIFICATION=1
```

## Configuring Cleanup Module

LAT SE Cleanup supports aging of files to prevent running out of disk space. The Cleanup module runs daily to delete old data.

The Cleanup module uses the Policy based Aging. In Policy based Aging, each listed directory tree has a policy age, which is the maximum age in days that a file can exist. By default, `cleanup.cfg` is configured to support aging of files for `input`, `data`, `output`, and `logs` directories in `LAT_HOME`.

For each directory tree listed in the `POLICY_DIRLIST`, the Cleanup module looks for all file path names that match the specified regular expression for this tree. Then Cleanup deletes each matching file older than the policy age.

### Deciding When to Run Cleanup

The formula for the data disk space required for LAT SE operation is:

```
G = ((T * 2.5)/1024) * ( (D / 10) + 1)
```

Where

D = Number of days of input log retention (specified in the `POLICY_DIRLIST` for the input tree in the `cleanup.cfg` file)

T = Number of thousands of expected transactions per day handled by the Openwave applications measured by LAT SE

G = Gigabytes of data disk space required by LAT SE Operation

You can adjust the number of days of retention in the `POLICY_DIRLIST` of the `cleanup.cfg` file so that the above formula does not exceed the available disk space. The two variables are T, the expected transactions per day (in thousands), and D, the days of retention of input files. The simpler way to calculate the retention days, if G (the available disk space in gigabytes) is known, is:

*D = 10 * (((1024 * G)/(2.5 * T)) - 1)*

Generally, you do not need to modify `cleanup.cfg` unless you do not have sufficient disk space to hold the expected amount of transaction data based on the transactions per second and the aging policy. In that case the aging policy must be adjusted according to the above formula so that there will be sufficient free disk space each day.

## Configuration Parameters and Keys for Cleanup

The following table lists the configuration parameters that `cleanup.cfg` uses. You can configure the policy age for directories, but do NOT change the specified directories.

**Table 2-12.** Configuration Parameters in `cleanup.cfg`

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| `MIN_AGE` | Integer values | *7* | The minimum age of a file in days.<br>Cleanup deletes the file after this age. The age is calculated in days and is based on the time of file modification.<br>Openwave recommends to go by the default value. However, you can configure the minimum age as per your environment. |
| `POLICY_DIRLIST` | Any regular expression with `*` and `.` | `30:input:.*`<br>`450:data:.*`<br>`600:output:.*`<br>`120:logs:.*` | Each entry in the `POLICY_DIRLIST` is separated from the next one by one or more spaces, and each entry has the form `AAA:DDD:PPP`, where `AAA` is the policy age in days, `DDD` is the directory path relative to `LAT_DATA`, and `PPP` is a regular-expression in the file path name.<br>By default, downloaded log files have a policy age of 30 days, transform output has a policy age of 450 days, license calculator reports have a policy age of 600 days, and log files have a policy age of 120 days.<br>**Note:** You can change the policy age for these files, but do NOT change the list of directories. You can add additional directory entries, with each one having different file name patterns. For example, `.*\.log$` and `.*\.gz$`. |

**Table 2-12.** Configuration Parameters in `cleanup.cfg`

| Field Name | Valid Values | Default Value | Description |
|---|---|---|---|
| SPACE_DIRLIST | | 14:input:.*/archive 180:data:.* 7:logs:.* | All the directories to be considered for space-based aging. This is a separate list from POLICY_DIRLIST as you may not want to apply the on-demand space-based deletions to the same set of trees and with the same aging.<br><br>Cleanup scans the directory tree in each SPACE_DIRLIST entry for files, and sorts the files by modification date. It deletes the oldest files even though they are in the minimum age, until the necessary free space is created. If there are no more matching files in that tree, Cleanup uses the next entry in the SPACE_DIRLIST. If sufficient free disk space is not created after scanning all the entries, then the cleanup operation fails with an exit status of 1.<br><br>Separate each entry in the SPACE_DIRLIST from the next one by one or more spaces. Each entry has the form AAA:DDD:PPP, where AAA is the minimum age, DDD is the directory path relative to LAT_DATA, and PPP is a regular-expression in the file name.<br><br>**Note:** Space-based aging is not supported in the current version of LAT SE. |

Run Cleanup daily. Even if it runs multiple times per day, it has no effect because the minimum granularity for file ages in days.

## Cleanup Template with Default values

```
MIN_AGE=7
POLICY_DIRLIST=30:input:.* 450:data:.* 600:output:.* 120:logs:.*
SPACE_DIRLIST=14:input:.*/archive 180:data:.* 7:logs:.*
```

## Location of Log Files

In LAT SE, there is no specific configuration file for logging. Each module creates its own logging file in `LAT_HOME/logs/`.

The following table lists the directories that each module uses to create the log files.

**Table 2-13.** Modules and their Log Directories

| Module | Log Directory |
|---|---|
| Download | `LAT_HOME/logs/download/` |
| Transform | `LAT_HOME/logs/transform/` |
| Licensing Calculators | `LAT_HOME/logs/reports/` |
| Notification | `LAT_HOME/logs/notification/` |

**NOTE** All logs files are appended with PID, year, month, data, hour, minutes and seconds.

# Product-Specific Configurations 3

In order to make LAT SE generate the reports for the supported Openwave products, you need to configure LAT SE specific to each product. This chapter describes such configurations.

**In this chapter**



## Validating Configurations for RBA, SLRBA, and Metrica Logs

LAT SE supports the following log types:

- RBA for Integra and VAS
- SLRBA for Integra and VAS
- OAM Metrica

In order for LAT SE to work properly, you need to correctly configure the RBA, SLRBA, and Metrica logs on the installed Openwave products.

Record Based Accounting (RBA) is a feature of Integra that allows LAT SE to capture useful information for billing, Management Information Systems, license revenue recognition, and so on.

**To validate RBA configuration**

1. Log in to OAM. Click **RBA**, and then click **General**. Select the **Enable Accounting** check box in the **Configuration** section.
2. In **RBA**, click **ExportAdaptors**. Enable the **OAM Text Export Adaptor** by selecting the check box.

3 In **RBA**, click **RecordSchemas**. Enable the record type of the product for which you want LAT SE to collect information and generate reports.

For Integra, Accelerator, and Guardian, select the **`MEP_HTTP_RECORD`** check box.

For OpenWeb, select the **`OPENWEB_RECORD`** check box.

For Passport, select the **`PASSPORT_LICENSE_RECORD`** check box.

4 In the record types, select the necessary **members**, such as **`phoneNumber`**. LAT SE uses these members to calculate the licensing metrics for Integra, Accelerator, and Guardian.

### To validate Metrica configuration

1 Log in to the OAM Web Start Client at `http://<hostname>:9090`

---

**NOTE** You need separate login credentials for the Web Start Client.

---

2 Click **Policy**.

3 On the **Policy Configuration** screen, verify the existing policy and confirm whether a policy based on `MetricaReporterPolicy` is already configured to collect Transaction Statistics for every 300 seconds.

4 If there is no such policy configured, add a new policy by performing the following steps:

a Click **Policy**, and then click **Add Policy**.

OR

Right-click **Policies**, and then click **Add Policy**.

b In the **Select Policy** list, click `MetricaReporterPolicy`.

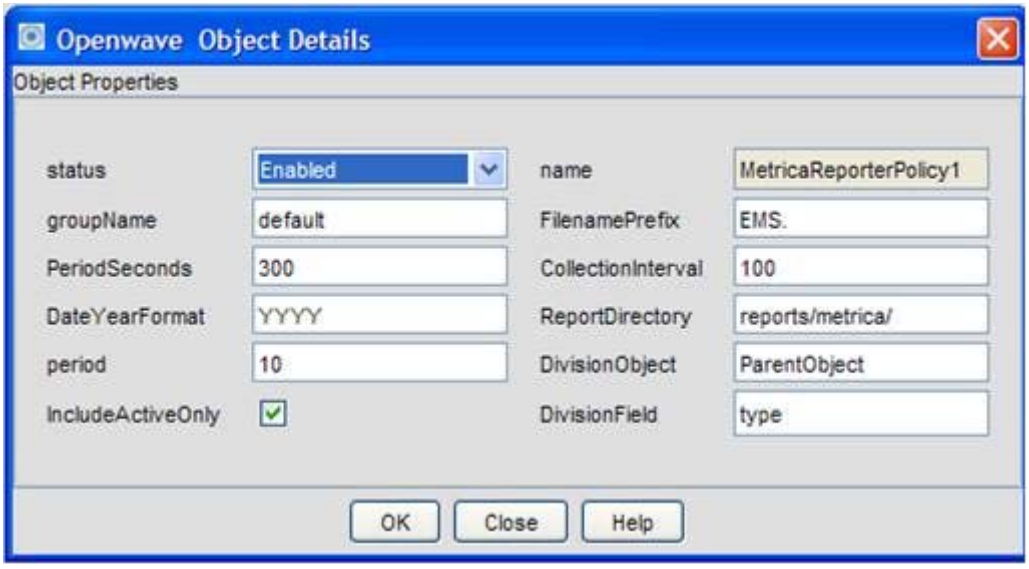
c Type an instance name in the **Instance Name** box.

d Click **OK**.

The **Openwave Object Details** dialog box appears.

e Complete the dialog box by giving appropriate inputs. Figure 3-1 shows a sample **Openwave Object Details** dialog box.

**Figure 3-1.** Openwave Object Details




**NOTE** Set `PeriodSeconds` to 300, and the `status` to `Enabled`.

f Click **OK**.

A new policy is added in the **Policy list**.

5 Enable the existing or newly added policy based on `MetricaReporterPolicy` that collects Transaction Statistics for every 300 seconds.

## Supporting Individual Openwave Products

This section covers following product-specific configurations:

## Configurations for Integra Core (RBA)

Perform the following steps so that LAT SE uses RBA records to generate Licensing Calculator Reports for Core Integra:

### To configure Integra/OAM

1. Enable the `MEP_HTTP_RECORD` schema in OAM. For the detailed steps, see "To validate RBA configuration" on page 73.
2. In the `MEP_HTTP_RECORD` record type, enable the appropriate members, such as `phoneNumber` , `subId` , and so on.

Now configure LAT SE by performing the following steps.

### To configure LAT SE for Integra Core (RBA)

1. Configure `download.cfg` to download log files from a remote host, or copy log files from a local host. See "Configuring Download Module" on page 17.
2. If you have configured `download.cfg` to download log files based on `sftp` or `ftp` protocol, make sure Download creates encrypted passwords for each `hostname-userid` combination. See "Configuring Passwords" on page 22.
3. Configure `rba.cfg` is to support the LAT SE Transform process. See "Configuring RBA Transform Module" on page 23.

   By default, all the supported products are disabled in `rba.cfg`. In order to support Integra Core only, un-comment the following line:

   ```
   MEP_HTTP_RECORD|SUBSCRIBER_ID=subId|SUB-TRANS-BASED|
   ```

---

**NOTE** Disable all the other entries by commenting them to improve performance of RBA Transform Blade.

---

4. Configure `notification.cfg` to support the LAT SE Notification process. See "Configuring Email Notification Module" on page 62.
5. Configure `report.cfg` to support LAT SE Licensing Calculators to generate Licensing reports. See "Configuring Report Module" on page 53.
6. Configure `cleanup.cfg` to support LAT SE to perform the aging functionality on log files. See "Configuring Cleanup Module" on page 68.

## Configurations for Integra Core and Accelerator

Perform the following steps so that LAT SE uses RBA records to generate Licensing Calculator Reports for Core Integra and Accelerator:

### To configure Integra/OAM

1. Enable the `MEP_HTTP_RECORD` schema in OAM. For the detailed steps, see "To validate RBA configuration" on page 73.

2 In the MEP_HTTP_RECORD record type, enable the appropriate members, such as phoneNumber , subId , and so on.

3 Enable the additionalData member in the seData in the MEP_HTTP_RECORD types.

Now configure LAT SE by performing the following steps.

#### To configure LAT SE for Integra Core and Accelerator

1 Configure download.cfg to download log files from a remote host, or copy log files from a local host. See "Configuring Download Module" on page 17.

2 If you have configured download.cfg to download log files based on sftp or ftp protocol, make sure Download creates encrypted passwords for each hostname-userid combination. See "Configuring Passwords" on page 22.

3 Configure or create a host-specific rba.cfg to support the LAT SE Transform process. See "Configuring RBA Transform Specific to a Host" on page 29.

By default, rba.cfg enables all the supported products. In order to support Integra Core and Accelerator only, un-comment the following line:

```
MEP_HTTP_RECORD|SUBSCRIBER_ID=subId,additionalData(Acc:)|SUB-TRANS-BASED|
```

Disable all the other entries by commenting them to improve performance of RBA Transform Blade.

---

**NOTE** If you are creating a host-specific configuration, make sure that the installed products are enabled.

---

4 Configure notification.cfg to support the LAT SE Notification process. See "Configuring Email Notification Module" on page 62.

5 Configure report.cfg to support LAT SE Licensing Calculators to generate Licensing reports. See "Configuring Report Module" on page 53.

6 Configure cleanup.cfg to support LAT SE to perform the aging functionality on log files. See "Configuring Cleanup Module" on page 68.

### Configurations for Integra Core and Guardian

Perform the following steps so that LAT SE uses RBA records to generate Licensing Calculator Reports for Core Integra and Guardian:

#### To configure Integra/OAM

1 Enable the MEP_HTTP_RECORD schema in OAM. For the detailed steps, see "To validate RBA configuration" on page 73.

2 In the MEP_HTTP_RECORD record type, enable the appropriate members, such as phoneNumber , subId , and so on.

3 Enable the additionalData member in the seData in the MEP_HTTP_RECORD types.

Now configure LAT SE by performing the following steps.

#### To configure LAT SE for Integra Core and Guardian

1. Configure `download.cfg` to download log files from a remote host, or copy log files from a local host. See "Configuring Download Module" on page 17.
2. If you have configured `download.cfg` to download log files based on `sftp` or `ftp` protocol, make sure Download creates encrypted passwords for each `hostname-userid` combination. See "Configuring Passwords" on page 22.
3. Configure or create a host-specific `rba.cfg` to support the LAT SE Transform process. See "Configuring RBA Transform Specific to a Host" on page 29.

   By default, `rba.cfg` enables all the supported products. In order to support Integra Core and Guardian only, un-comment the following line:

   ```
   MEP_HTTP_RECORD|SUBSCRIBER_ID=subId,additionalData(Gdn:)|SUB-TRANS-BASED|
   ```

   Disable all the other entries by commenting them to improve performance of RBA Transform Blade.

---

**NOTE** If you are creating a host-specific configuration, make sure that the installed products are enabled.

---

4. Configure `notification.cfg` to support the LAT SE Notification process. See "Configuring Email Notification Module" on page 62.
5. Configure `report.cfg` to support LAT SE Licensing Calculators to generate Licensing reports. See "Configuring Report Module" on page 53.
6. Configure `cleanup.cfg` to support LAT SE to perform the aging functionality on log files. See "Configuring Cleanup Module" on page 68.

### Configurations for Integra Core, Accelerator, and Guardian

Perform the following steps so that LAT SE uses RBA records to generate Licensing Calculator Reports for Core Integra, Accelerator, and Guardian:

#### To configure Integra/OAM

1. Enable the `MEP_HTTP_RECORD` schema in OAM. For the detailed steps, see "To validate RBA configuration" on page 73.
2. In the `MEP_HTTP_RECORD` record type, enable the appropriate members, such as `phoneNumber` , `subId` , and so on.
3. Enable the `additionalData` member in the `seData` in the `MEP_HTTP_RECORD` types.

Now configure LAT SE by performing the following steps.

#### To configure LAT SE for Integra Core, Accelerator, and Guardian

1. Configure `download.cfg` to download log files from a remote host, or copy log files from a local host. See "Configuring Download Module" on page 17.
2. If you have configured `download.cfg` to download log files based on `sftp` or `ftp` protocol, make sure Download creates encrypted passwords for each `hostname-userid` combination. See "Configuring Passwords" on page 22.
3. Configure or create a host-specific `rba.cfg` to support the LAT SE Transform process. See "Configuring RBA Transform Specific to a Host" on page 29.

   By default, `rba.cfg` enables all the supported products. In order to support Integra Core and Guardian only, un-comment the following line:

   ```
   MEP_HTTP_RECORD|SUBSCRIBER_ID=subId,additionalData(Gdn:&Acc:)|SUB-TRANS-BASED|
   ```

   Disable all the other entries by commenting them to improve performance of RBA Transform Blade.

---

**NOTE** If you are creating a host-specific configuration, make sure that the installed products are enabled.

---

4. Configure `notification.cfg` to support the LAT SE Notification process. See "Configuring Email Notification Module" on page 62.
5. Configure `report.cfg` to support LAT SE Licensing Calculators to generate Licensing reports. See "Configuring Report Module" on page 53.
6. Configure `cleanup.cfg` to support LAT SE to perform the aging functionality on log files. See "Configuring Cleanup Module" on page 68.

### Configurations for Integra Passport

Perform the following steps so that LAT SE uses RBA records to generate Licensing Calculator Reports for Integra Passport:

#### To configure Integra/OAM

1. Enable the `PASSPORT_LICENSE_RECORD` schema in OAM. For the detailed steps, see "To validate RBA configuration" on page 73.
2. In the `PASSPORT_LICENSE_RECORD` record type, enable the `subId` member.

Now configure LAT SE by performing the following steps.

#### To configure LAT SE for Integra Passport

1. Configure `download.cfg` to download log files from a remote host, or copy log files from a local host. See "Configuring Download Module" on page 17.
2. If you have configured `download.cfg` to download log files based on `sftp` or `ftp` protocol, make sure Download creates encrypted passwords for each `hostname-userid` combination. See "Configuring Passwords" on page 22.

3 Configure rba.cfg is to support the LAT SE Transform process. See "Configuring RBA Transform Module" on page 23.

By default, rba.cfg enables all the supported products. In order to support Integra Passport only, un-comment the following line:

```
PASSPORT_LICENCE_RECORD|SUBSCRIBER_ID=subId|SUB-BASED|
```

**NOTE** Disable all the other entries by commenting them to improve performance of RBA Transform Blade.

4 Configure notification.cfg to support the LAT SE Notification process. See "Configuring Email Notification Module" on page 62.

5 Configure report.cfg to support LAT SE Licensing Calculators to generate Licensing reports. See "Configuring Report Module" on page 53.

6 Configure cleanup.cfg to support LAT SE to perform the aging functionality on log files. See "Configuring Cleanup Module" on page 68.

## Configurations for Standalone OpenWeb

Perform the following steps so that LAT SE uses RBA records to generate Licensing Calculator Reports for OpenWeb:

### To configure Integra/OAM

Enable the OPENWEB_RECORD schema in OAM. For detailed steps, see "To validate RBA configuration" on page 73.

Now configure LAT SE by performing the following steps.

### To configure LAT SE for OpenWeb

1 Configure download.cfg to download log files from a remote host, or copy log files from a local host. See "Configuring Download Module" on page 17.

2 If you have configured download.cfg to download log files based on sftp or ftp protocol, make sure Download creates encrypted passwords for each hostname-userid combination. See "Configuring Passwords" on page 22.

3 Configure rba.cfg is to support the LAT SE Transform process. See "Configuring RBA Transform Module" on page 23.

By default, rba.cfg enables all the supported products. In order to support OpenWeb only, un-comment the following line:

```
OPENWEB_RECORD||TRANS-BASED|
```

**NOTE** Disable all the other entries by commenting them to improve performance of RBA Transform Blade.

4 Configure `notification.cfg` to support the LAT SE Notification process. See "Configuring Email Notification Module" on page 62.

5 Configure `report.cfg` to support LAT SE Licensing Calculators to generate Licensing reports. See "Configuring Report Module" on page 53.

6 Configure `cleanup.cfg` to support LAT SE to perform the aging functionality on log files. See "Configuring Cleanup Module" on page 68.

## Configurations for Integra Core and OpenWeb as a VAS

Perform the following steps so that LAT SE uses RBA records to generate Licensing Calculator Reports for Core Integra and OpenWeb as a VAS:

### To configure Integra/OAM

1 Enable the `MEP_HTTP_RECORD` schema in OAM. For the detailed steps, see "To validate RBA configuration" on page 73.

2 In the `MEP_HTTP_RECORD` record type, enable the appropriate members, such as `phoneNumber` , `subId` , and so on.

3 Enable the `additionalData` member in the `seData` in the `MEP_HTTP_RECORD` types.

### To configure LAT SE for Integra Core and OpenWeb as a VAS

1 Configure `download.cfg` to download log files from a remote host, or copy log files from a local host. See "Configuring Download Module" on page 17.

2 If you have configured `download.cfg` to download log files based on `sftp` or `ftp` protocol, make sure Download creates encrypted passwords for each `hostname-userid` combination. See "Configuring Passwords" on page 22.

3 Configure or create a host-specific `rba.cfg` to support the LAT SE Transform process. See "Configuring RBA Transform Specific to a Host" on page 29.

By default, `rba.cfg` enables all the supported products. In order to support Integra Core and OpenWeb as a VAS only, un-comment the following line:

```
MEP_HTTP_RECORD|SUBSCRIBER_ID=subId,additionalData(OWA:)|SUB-TRANS-BAS
ED|
```

Disable all the other entries by commenting them to improve performance of RBA Transform Blade.

---

**NOTE** If you are creating a host-specific configuration, make sure that the installed products are enabled.

---

4 Configure `notification.cfg` to support the LAT SE Notification process. See "Configuring Email Notification Module" on page 62.

5 Configure `report.cfg` to support LAT SE Licensing Calculators to generate Licensing reports. See "Configuring Report Module" on page 53.

6 Configure `cleanup.cfg` to support LAT SE to perform the aging functionality on log files. See "Configuring Cleanup Module" on page 68.

## Configurations for Integra Core and Guardian AV

Perform the following steps so that LAT SE uses RBA records to generate Licensing Calculator Reports for Core Integra and Guardian AV :

### To configure Integra/OAM

1 Enable the `MEP_HTTP_RECORD` schema in OAM. For the detailed steps, see "To validate RBA configuration" on page 73.

2 In the `MEP_HTTP_RECORD` record type, enable the appropriate members, such as `phoneNumber`, `subId` , and so on.

3 Enable the `additionalData` member in the `seData` in the `MEP_HTTP_RECORD` types.

4 Configure LAT SE by performing the steps described in the following section.

### To configure LAT SE for Integra Core and Guardian AV

1 Configure `download.cfg` to download log files from a remote host, or copy log files from a local host. See "Configuring Download Module" on page 17.

2 If you have configured `download.cfg` to download log files based on `sftp` or `ftp` protocol, make sure Download creates encrypted passwords for each `hostname-userid` combination. See "Configuring Passwords" on page 22.

3 Configure or create a host-specific `rba.cfg` to support the LAT SE Transform process. See "Configuring RBA Transform Specific to a Host" on page 29.

By default, `rba.cfg` enables all the supported products. In order to support Integra Core and Guardian AV only, uncomment the following line:

```
MEP_HTTP_RECORD|SUBSCRIBER_ID=subId,additionalData(GDN-AV:)|SUB-TRANS-BASED|
```

Disable all the other entries by commenting them to improve performance of RBA Transform Blade.

---

**NOTE** If you are creating a host-specific configuration, make sure that the installed products are enabled.

---

4 Configure `notification.cfg` to support the LAT SE Notification process. See "Configuring Email Notification Module" on page 62.

5 Configure `report.cfg` to support LAT SE Licensing Calculators to generate Licensing reports. See "Configuring Report Module" on page 53.

6 Configure `cleanup.cfg` to support LAT SE to perform the aging functionality on log files. See "Configuring Cleanup Module" on page 68.

## Configurations for Integra, Guardian, Accelerator, OpenWeb and Guardian AV

Perform the following steps so that LAT SE uses RBA records to generate Licensing Calculator Reports for Integra, Guardian, Accelerator, OpenWeb and Guardian AV:

### To configure Integra/OAM

1 Enable the `MEP_HTTP_RECORD` schema in OAM. For the detailed steps, see "To validate RBA configuration" on page 73.

2 In the `MEP_HTTP_RECORD` record type, enable the appropriate members, such as `phoneNumber`, `subId` , and so on.

3 Enable the `additionalData` member in the `seData` in the `MEP_HTTP_RECORD` types.

Now configure LAT SE by performing the following steps.

### To configure LAT SE for Integra, Guardian, Accelerator, OpenWeb and Guardian AV

1 Configure `download.cfg` to download log files from a remote host, or copy log files from a local host. See "Configuring Download Module" on page 17.

2 If you have configured `download.cfg` to download log files based on `sftp` or `ftp` protocol, make sure Download creates encrypted passwords for each `hostname-userid` combination. See "Configuring Passwords" on page 22.

3 Configure or create a host-specific `rba.cfg` to support the LAT SE Transform process. See "Configuring RBA Transform Specific to a Host" on page 29.

By default, `rba.cfg` enables all the supported products. In order to support Integra, Guardian, Accelerator, OpenWeb and Guardian AV, un-comment the following line:

```
MEP_HTTP_RECORD|SUBSCRIBER_ID=subId,additionalData(Gdn:&Acc:&OWA:&GDN-AV:)|SUB-TRANS-BASED|
```

Disable all the other entries by commenting them to improve performance of RBA Transform Blade.

---

**NOTE** If you are creating a host-specific configuration, make sure that the installed products are enabled.

---

4 Configure `notification.cfg` to support the LAT SE Notification process. See "Configuring Email Notification Module" on page 62.

5 Configure `report.cfg` to support LAT SE Licensing Calculators to generate Licensing reports. See "Configuring Report Module" on page 53.

6 Configure `cleanup.cfg` to support LAT SE to perform the aging functionality on log files. See "Configuring Cleanup Module" on page 68.

## Configurations for Media Optimizer

Perform the following steps so that LAT SE uses RBA records to generate Licensing Calculator Reports for Media Optimizer:

### To configure Integra/OAM

1. Enable the `MEP_HTTP_RECORD` schema in OAM. For detailed steps, see "To validate RBA configuration" on page 73.
2. In the `MEP_HTTP_RECORD` record type, enable the appropriate members such as phoneNumber, subId , and so on.
3. Enable the additionalData member in the seData in the `MEP_HTTP_RECORD` types.
4. Configure LAT SE by performing the steps described in the following section.

### To configure LAT SE for Media Optimizer (RBA)

1. Configure `download.cfg` to download log files from a remote host, or copy log files from a local host. See "Configuring Download Module" on page 17.
2. If you have configured `download.cfg` to download log files based on sftp or ftp protocol, ensure that Download creates encrypted passwords for each hostname-userid combination. See "Configuring Passwords" on page 22.
3. Configure or create a host-specific `rba.cfg` to support the LAT SE Transform process. See "Configuring RBA Transform Specific to a Host" on page 29. By default, `rba.cfg` enables all the supported products. In order to support Media Optimizer, uncomment the following line:

```
MEP_HTTP_RECORD|START_TIME=requestReceivedTime,END_TIME=txnCompleteTim
e,INPUT_BYTES=internetBytesIn,additionalData(VDO:)|THROUGHPUT-BASED|
```

### To configure LAT SE for Media Optimizer (SLRBA)

For Media-Optimizer SLRBA logs, configure `slrba.cfg`. See "Configuring Single Line RBA (SLRBA) Transform Module" on page 34.

In order to support Media Optimizer, uncomment the following line:

```
MEP_HTTP_RECORD|START_TIME=4,END_TIME=5,INPUT_BYTES=internetBytesIn,ad
ditionalData(VDO:)|THROUGHPUT-BASED|
```

## Configurations for Integra Core (Metrica)

Perform the following steps so that LAT SE uses Metrica records to generate Licensing Calculator Reports for Integra Core:

### To configure Integra/OAM

1. Ensure that Metrica files are generated by OAM. For the detailed steps, see “To validate Metrica configuration” on page 74.

Now configure LAT SE by performing the following steps.

#### To configure LAT SE for Integra Core (Metrica)

1 Configure `download.cfg` to download log files from a remote host, or copy log files from a local host. See "Configuring Download Module" on page 17.

2 If you have configured `download.cfg` to download log files based on `sftp` or `ftp` protocol, make sure Download creates encrypted passwords for each `hostname-userid` combination. See "Configuring Passwords" on page 22.

3 Configure `metrica.cfg` is to support the LAT SE Transform process. See "Configuring Metrica Transform Module" on page 47.

By default, metrica.cfg supports the LAT SE Transform process for metrica logs. Un-comment the following line:

```
DATE|STIME|INTERVAL|HTTPStatsAggregator|Instance TotalTransactionCount|ENDSECTION
```

---

**NOTE** Disable all the other entries by commenting them to improve performance of Metrica Transform Blade.

---

4 Configure `notification.cfg` to support the LAT SE Notification process. See "Configuring Email Notification Module" on page 62.

5 Configure `report.cfg` to support LAT SE Licensing Calculators to generate Licensing reports. See "Configuring Report Module" on page 53.

6 Configure `cleanup.cfg` to support LAT SE to perform the aging functionality on log files. See "Configuring Cleanup Module" on page 68.

### Configurations for Location

Perform the following steps so that LAT SE uses RBA records to generate Licensing Calculator Reports for Location.

#### To configure Location

Ensure that `LOCATION_RECORD` LTDR files are generated by Location. Now configure LAT SE by performing the following steps:

#### To configure LAT SE for Location

1 Configure `download.cfg` to download log files from a remote host, or copy log files from a local host. See "Configuring Download Module" on page 17.

2 If you have configured `download.cfg` to download log files based on `sftp` or `ftp` protocol, make sure Download creates encrypted passwords for each `hostname-userid` combination. See "Configuring Passwords" on page 22.

3 Configure or create a host-specific `location.cfg` to support the LAT SE Transform process. See "Configuring RBA Transform Specific to a Host" on page 29.

By default, `location.cfg` enables transforms on all Location log files, so there should be nothing that requires changed in this file.

**NOTE** If you are creating a host-specific configuration, make sure that the installed products are enabled.

4 Configure `notification.cfg` to support the LAT SE Notification process. See “Configuring Email Notification Module” on page 62.

5 Configure `report.cfg` to support LAT SE Licensing Calculators to generate Licensing reports. See “Configuring Report Module” on page 53.

6 Configure `cleanup.cfg` to support LAT SE to perform the aging functionality on log files. See “Configuring Cleanup Module” on page 68.

## Configurations for Smgstats

Perform the following steps so that LAT SE uses MMG records to generate Licensing Calculator Reports for Smgstats.

### To configure Smgstats

Configure LAT SE by performing the following steps:

1 Configure download.cfg to download log files from a remote host, or copy log files from a local host. See "Configuring Download Module" on page 17.

2 If you have configured download.cfg to download log files based on sftp or ftp protocol, make sure that Download creates encrypted passwords for each hostname-userid combination. See "Configuring Passwords" on page 22.

3 Configure smgstats.cfg to support the LAT SE Transform process. See "Configuring MMG Transform Module" on page 52.

4 Configure notification.cfg to support the LAT SE Notification process. See "Configuring Email Notification Module" on page 62.

5 Configure report.cfg to support LAT SE Licensing Calculators to generate Licensing reports. See "Configuring Report Module" on page 53.

6 Configure cleanup.cfg to support LAT SE to perform the aging functionality on log files. See "Configuring Cleanup Module" on page 68.

## Configurations for Single Line RBA for Integra Core and VAS

Configure SLRBA to support service enablers. See “Configuring Single Line RBA (SLRBA) Transform Module.”

# 4 Operations

This chapter describes how to run LAT SE. You must run LAT SE periodically to gather and process log data of all the Openwave products.

**In this chapter**



## Execution from Cron

The `crontab.example` file in the `<INSTALLDIR>/doc` directory is a guide to establish the crontab entries.

To install the entries in cron, use the "`crontab -e`" command, which starts a text editor to edit any existing cron entries for the user ID that runs the crontab command. You must add an entry in the crontab for each of the four LAT SE steps—cleanup, download, transform, reports. When you save the file in the editor and exit the editor, the cron updates are installed and become effective in the system.

### To Run LAT SE from cron

1. To install the entries in cron, use the `crontab -e` command.

   This starts a text editor that edits the existing cron entries for the user ID that runs the `crontab` command.

2. Add an entry to the `crontab` for each of the four LAT SE steps—cleanup, download, transform, and reports.

---

**NOTE** See the `crontab.example` file in the `<INSTALLDIR>/doc` directory for sample crontab entries.

---

3 Save the file and close the editor.

The cron updates are installed and effective in the system.

Here is a sample `crontab.example` file:

```
Example crontab file to run every day the LAT SE
# cleanup at midnight, the downloader at 12:30 am,
# the transformer at 4am; also the report generator
# (licensing-calculator) will run every quarter at 8am on the first day
# after a calendar quarter (1-Jan, 1-Apr, 1-Jul, 1-Oct).
#
# The crontab file consists of one line per command in the following
format
# where each field is delimited from the next by a space:
#     Minute(0-60) hour(0-23) dayOfMonth(1-31) Month(1-12)
#     dayOfWeek(0=Sunday to 6) command
# Each field is an integer, range of integers, or * (for all)
# See the crontab(1) manual page for more information
#
# Edit the crontab file using the command "crontab -e" and add the lines
# below:
#
0 0 * * * <INSTALLDIR>/bin/latse cleanup
30 0 * * * <INSTALLDIR>/bin/latse download
0 4 * * * <INSTALLDIR>/bin/latse transform
0 8 1 1,4,7,10 *<INSTALLDIR>/bin/latse licensing-calculator
```

This sample crontab file only runs the download and transform functions once per day. If your LAT SE installation has high transaction rates, you can run these files multiple times per day, as often as every 2 to 4 hours. This depends on the volume of log files to be processed steadily during the day.

## Manual Execution of LAT SE

There are four top-level LAT SE tasks:

- Deleting old data
  `<INSTALLDIR>/bin/latse cleanup`
- Transferring log files for analysis
  `<INSTALLDIR>/bin/latse download`
- Extracting log data to a standard format
  `<INSTALLDIR>/bin/latse transform`
- Generating license reports
  `<INSTALLDIR>/bin/latse licensing-calculator`

You must perform the above steps in the specified order. This is because each step takes the output generated by the previous step as its input. Run the cleanup before the download to ensure old files are deleted to free the space required for the new downloaded files.

**NOTE** You can copy the `<INSTALLDIR>/bin/latse` script to any directory that is in your path. This way you can execute a LAT SE command by merely typing "`latse`" with the argument. For example, `latse download`.

## Manual Report Execution with Non-Default Arguments

If you need to manually run individual reports with non-default arguments, use the following commands:

- Integra Report for RBA logs:

```
<INSTALLDIR>/bin/latse reports/integra.pl \
-lic=all -asuN=5 -tpsN=10 -tpsregN=10 -phtN=10 -year=2008 -quarter=4
-logtype=rba
```

- Integra Report for SLRBA logs:

```
<INSTALLDIR>/bin/latse reports/integra.pl \
-lic=all -asuN=5 -tpsN=10 -tpsregN=10 -phtN=10 -year=2008 -quarter=4
-logtype=slrba
```

- Integra Report for Metrica logs:

```
<INSTALLDIR>/bin/latse reports/integra2.X-metrica.pl \
-lic=all -tpsN=10 -tpsregN=10 -phtN=10 -year=2008 -quarter=4
```

- Accelerator Report for SLRBA logs:

```
<INSTALLDIR>/bin/latse reports/accelerator.pl \
 -lic=all -asuN=5 -tpsN=10 -tpsregN=10 -phtN=10 -year=2008 -quarter=4
-logtype=slrba
```

- Guardian Report for SLRBA logs:

```
<INSTALLDIR>/bin/latse reports/guardiancf.pl \
 -lic=all -asuN=5 -tpsN=10 -tpsregN=10 -phtN=10 -year=2008 -quarter=4
-logtype=slrba
```

- Passport Report for SLRBA logs:

```
<INSTALLDIR>/bin/latse reports/passport.pl \
-lic=asu -asuN=5 -year=2009 -quarter=1 -logtype=slrba
```

- OpenWeb Report:

```
<INSTALLDIR>/bin/latse reports/openweb5.7.X.pl \
-lic=all -phtN=10 -tpsN=10 -year=2009 -quarter=1
```

- Location Report:

```
<INSTALLDIR>/bin/latse reports/location2.X.pl \
-lic=all -phtN=10 -tpsN=10 -year=2009 -quarter=1
```

- OpenWeb on Integra Report for SLRBA logs:

```
<INSTALLDIR>/bin/latse reports/openweb5.8.X.pl \
-lic=all -phtN=10 -tpsregN=10 -tpsN=10 -year=2009 -quarter=1
-logtype=slrba
```

- Guardian AV Report for SLRBA logs:

```
<INSTALLDIR>/bin/latse reports/guardianav.pl \
-lic=all -phtN=10 -tpsregN=10 -tpsN=10 -year=2009 -quarter=1
-logtype=slrba
```

- MMG Report:

```
<INSTALLDIR>/bin/latse reports/mmg-re.pl-year=2010 -quarter=1
[-cfg=<INSTALLDIR>/config/smgstats.cfg]
```

- Media Optimizer Report for RBA and SLRBA log format:

```
<INSTALLDIR>/bin/latse reports/media_optimize.pl -lic=throughput
throughputN=10 -year=2011 -quarter=3
```

---

**NOTE** The log type is slrba, rba, or all, depending on the logs that are used for processing. If not specified, reports are generated for both RBA and SLRBA logs. This parameter is supported for only the following reports scripts: `integra.pl`, `accelerator.pl`, `guardiancf.pl`, `guardianav.pl`, `openweb5.8.X.pl`, `openweb5.7.X.pl`, `passport.pl`, and `media_optimize.pl`.

---

---

**NOTE** In the above examples, `<INSTALLDIR>` represents the LAT SE installation directory specified at the time the installation script was run, such as `/opt/opwv/latse`.

---

- To get help information from a report, run it with the `-h` option. Here is an example for the `reports/integra.pl` report:

```
*** Expected Arguments ***
#1. lic = Type of Licensing Model (optional - default = all, various
options are all/asu/pht/tps)
#2. asuN = Top N transactions. (numeric value. optional default value
= 20, need for ASU license model)
#3. phtN = Top N busiest hours. (numeric value. optional default value
= 10, needed for PHT license model)
#4. tpsN = Top N busiest 5-minutes. (numeric value. optional default
value = 10, needed for TPS license model)
#5. year = For which Year LAT SE has to generate reports. (optional -
default = current year.)
#6. quarter= For which Quarter LAT SE has to generate reports.
(optional - default = previous quarter. various option are 1/2/3/4)

#7. logtype= For which log type LAT has to generate reports. (optional
-
default = all. various options are rba/slrba/all)
usage : bin/latse report/integra.pl -lic=all -asuN=n -phtN=n -tpsN=n
-tpsregN=n -year=2009 -quarter=1
```

## Rerunning Download and Transform on Already Processed Logs

When logs are downloaded, the .marker file records the entries of all these processed logs; and the download process will not download the same log again. After log files undergo the transform process, all these files are archived in the archive folder. In case you run the transform process again, it will not pick up these log files from the archive folder. In this scenario, if you need to download and transform again, you must remove the .marker file from the input folder, or remove the input folder, and then try to download and transform these files.

---

**NOTE** The transform process may transform the already-processed logs and add them in an intermediate file. In this case, download and transform will create duplicate entries.

---

# 5 Performance Tuning

This chapter describes how to tune LAT SE for better performance.

**In this chapter**



## Tuning Guidelines for the Download Module

For better performance of the download module, perform the following configurations:

- Configure unique entries in `download.cfg` based on `file-pattern-type` and host names.
- In case of the `copy` protocol, configure a unique entry for the host configuration parameter to create a scenario of having multiple front ends.

For more information on configuring the Download module, see "Configuring Performance of LAT SE Download" on page 21.

## Tuning Guidelines for the Transform Module

The performance of LAT SE Transform depends on the following:

- The configuration value for `NUM_OF_INSTANCES` for each hostname in the `rba.cfg` or `slrba.cfg/metrica.cfg/location.cfg/smgstats.cfg` file.
- The schemas enabled in `rba.cfg` or `slrba.cfg`.
- The size of `input` log files.

The following are the recommended settings:

- For maximum CPU utilization, the value of `NUM_OF_INSTANCES` can be set to the number of available hardware threads divided by the number of frontend hosts defined in the `download.cfg` file.

  The value of `NUM_INSTANCES` in the `rba.cfg` or `/smgstats.cfg/slrba.cfg/metrica.cfg/location.cfg` file is the number of parallel transform processes running per host or front end. Thus, if the value of `NUM_OF_INSTANCES` is set to 10 and there are 5 hosts defined in the `download.cfg` file, 50 parallel instances of the transform process will be run. The number of parallel instances of the transform should not exceed the number of available hardware threads on the system.

- Enable only the necessary schemas for transform in `rba.cfg` or `slrba.cfg`.

  If you enable schemas for uninstalled products in `rba.cfg`, the transform process takes longer to complete. Hence, enable only the products that are installed.

  For example, for RBA Transform, if we have only Integra RBA logs, then enable only the following entry:

  ```
  MEP_HTTP_RECORD|SUBSCRIBER_ID=subId|SUB-TRANS-BASED||
  ```

- Usually performance increases with the increase in file size of input logs. The performance on 50MB input logs is better than that on 10MB logs by around 10%.

- Configure `rba.cfg` specific to hosts if all products are not installed on all the nodes. See “Configuring RBA Transform Specific to a Host” on page 29.

  For more information on configuring RBA Transform, see “Configuring RBA Transform Module for Better Performance” on page 29.

  For more information on configuring SLRBA transform, see "Configuring Single Line RBA (SLRBA) Transform Module" on page 34.

  For more information on configuring Metrica Transform, see “Configuring Metrica Transform for Better Performance” on page 48.

  For more information on configuring Location transform, see "Configuring Location Transform Module" on page 49.

  For more information on configuring MMG transform, see "Configuring MMG Transform Module" on page 52.

# 6 Report Interpretation

This chapter provides the details of how LAT SE supports or generates different reports based on the licensing models.

**In this chapter**



## Overview of LAT SE Reports

LAT SE supports or generates the following type of reports based on the licensing models:

- TPS (Transactions Per Second) Report—This report is based on TPS Licensing Calculator. It captures the average number of transactions per second in the top N busiest 5-minute intervals, where N is a configurable integer.
- PHT (Peak Hour Transactions) Report—This report is based on PHT Licensing Calculator. It captures the average number of transactions per hour in the top N busiest hours of the quarter, where N is a configurable integer.
- ASU (Active Subscriber Usage) Report—This report is based on ASU Licensing Calculator. It captures the active subscribers performing minimum N transactions in a given quarter, where N is a configurable integer.
- TPQ (Total Transactions per Quarter) Report—This report is based on TPQ Licensing Calculator. Total Number of transactions performed in given quarter (Implemented for only Passport Product)
- TPSREG (Hourly Transactions Per Second per Region) Report—This report is based on TPS Licensing Calculator. Average number of transactions per second in the top N (N is a configurable integer) busiest hours for a region.
- TPQREG (Total Transactions Per Quarter per Region) Report—This report is based on TPQ Licensing Calculator. Total Number of transactions performed in given quarter (At present implemented for only Passport Product) for a region

- TOTAL-REGION-TPS Report—This report is based on TPS Licensing Calculator.Sum of all regions TPS average of Top N (N is a configurable integer) busiest hours.
- TOTAL-REGION-TPQ Report—This report is based on TPQ Licensing Calculator. Sum of all regions number of transactions performed in given quarter (At present implemented for only Passport Product).
- TPS_PHT-LAST-N Report—This report is based on PHT based TPS for last 90 days of a quarter.
- Throughput Report—This report is based on Throughput Licensing Calculator. This report captures the throughput for the top *N* busiest 5-minute intervals, where *N* is a configurable integer.

## Structure of Reports

All LAT SE reports are separated into four sections, though each report may not contain all the sections:

- "Header Section"
- "Report Section"
- "Configuration Section"
- "Data Section"

### Header Section

The header section gives general information about the licensing report. Most of the header section is populated based on the configuration from `report.cfg`.

The following table explains the fields in the header section:

**Table 6-1.** Fields in the Header Section

| Header Name | Header Value | Description |
|---|---|---|
| Report-Version | 2.2<br>(Default value in `report.cfg`) | This is the LAT SE version that generated the report. By default, all reports generated by LAT SE have the value of 2.2. |
| Site-Id | Name of the host where the report is generated<br>(Default value in `report.cfg`) | This is used to uniquely identify the report. By default, if no string is configured, host name that generates the report is added. |
| Customer-Name | Empty string<br>(Default value in `report.cfg`) | This value helps to identify the customer for whom this report is generated. |
| Contract-Id | Empty string<br>(Default value in `report.cfg`) | This value helps to identify the contract with the customer. Openwave Finance Team can use it to verify whether the customer is on the right contract. |
| Product Name | Generated by Licensing Calculator | The Openwave product for which this report is generated. |
| Log Type | RBA, SLRBA, Metrica, Smgstats, or Location<br>Generated by Licensing Calculator | Based on the type of logs from which the report is generated. |
| Current Date | Generated by Licensing Calculator | The date and time on which the report is generated. |
| Reporting Period | Generated by Licensing Calculator | Start date and end date for which the report is generated. |

**IMPORTANT** Based on the customer name, contract id, and licensing report, Openwave FinanceTeam can validate the records.

## Report Section

The report section contains the actual Licensing Calculation that Openwave Finance Team uses to bill the customer.

### ASU Report

The ASU Report logs the Transaction Summary Report for the reporting period.

The following table explains the fields in the report section for ASU Licensing Reports:

**Table 6-2.** Fields in the Report Section for ASU Reports

| Report Output | Description |
|---|---|
| Total Active Subscribers | Total number of subscribers who are considered as active based on the configured Transaction Threshold during the reporting period. |
| Active Subscriber Transaction Threshold | Transaction Threshold. It is the minimum number of transactions that subscribers must perform during the reporting period to qualify as Active Subscribers. |
| Active Subscriber below Transaction Threshold | Total number of subscribers who perform fewer transactions than the configured Transaction Threshold value during the reporting period. |
| Total Transactions by Active Subs | Total number of subscribers who are exceeding the configured Transaction Threshold value during the reporting period. |
| Total Transactions by Active Subs below Transaction Threshold | Total number of transactions done by subscribers with at least one transaction, but where the total transactions for that subscriber are below the Transaction Threshold. |
| Total Transactions by Anonymous Subs | Total number of transactions performed by anonymous subscribers during the reporting period.<br>Subscribers are considered as anonymous, if the `phoneNumber` or `subId` is not logged as a part of the billing record. |
| Total transactions by all subscribers (including anonymous) | Total number of transactions by all subscribers including the anonymous subscribers during the reporting period. |
| Average Transactions per Active Subs | Total number of transactions per subscriber during the reporting period. |

### PHT Report

The PHT Report logs the average number of transactions per hour in the top N busiest hours of the quarter, where N is a configurable integer specific to each product. All the values in this report are generated by Licensing Calculator based on the Transformed Data.

The following table explains the fields in the report section for PHT Licensing Reports:

**Table 6-3.** Fields in the Report Section for PHT Reports

| Field | Description |
|---|---|
| Ranking | The ordinal ranking in decreasing order of the hours with the most transactions. "1" indicates the hour with the most transactions. |

**Table 6-3.** Fields in the Report Section for PHT Reports

| Field | Description |
|---|---|
| Date | Date on which maximum transactions were performed during the reporting period. |
| Hour | Hour in which maximum transactions were performed on that Date during the reporting period. |
| Total | Total number of transactions for the Date and in the Hour. |
| PHT Average of top 10 PHT for the period | This is calculated by the Licensing Calculator.<br>Average number of transactions per hour in the top N busiest hours during the reporting period. |
| Total number of intervals where PHT is less than or equal to PHT_THRESHOLD (configured in report.cfg) | This is generated based on PHT-THRESHOLD configured in report.cfg.<br>It is the total number of intervals in which the Peak Hour Transactions are less than or equal to the configured PHT_THRESHOLD value.<br>**Note:** This value is at the end of the report. |

### TPS Report

The TPS Report logs the average number of transactions per second in the top N busiest 5-minute intervals during the reporting period. The value of N is the threshold number used for the report generation for that product. All the values in this report are generated by Licensing Calculator based on the Transformed Data.

The following table explains the fields in the report section for TPS Licensing Reports:

**Table 6-4.** Fields in the Report Section for TPS Reports

| Field | Description |
|---|---|
| Ranking | The ordinal ranking in decreasing order of the intervals with the most transactions. "1" indicates the interval with the most transactions. |
| Date | Date on which maximum transactions were performed during the reporting period. |
| Time | The time of the day when the 5-minute interval starts. |
| TPS | The average number of transactions per second in the 5 minute interval. |
| Total number of intervals where 5-min TPS is less than or equal to TPS_THRESHOLD configured in report.cfg | This is generated based on TPS-THRESHOLD configured in report.cfg.<br>It is the total number of intervals where the 5-minute transactions are less than or equal to the configured TPS_THRESHOLD.<br>**Note:** This value is at the end of the report. |

#### TPQ Report

The TPQ Report logs the Total Number of Transactions performed for specified quarter. This value is generated by Licensing Calculator based on the Transformed Data.

#### TPSREG Report

The TPSREG Report is the same as the TPS Report, but is specific to regions mentioned in `region.cfg`.

#### TPQREG Report

The TPQREG Report is the same as the TPQ Report, but is specific to regions mentioned in `region.cfg`.

#### TOTAL-REGION-TPS Report

This report contains a sum of all regions TPS average of TOP N transactions.

#### TOTAL-REGION-TPQ Report

This report contains sum of all regions number of transactions performed in a quarter.

#### TPS-PHT-last N

This report contains average TPS for a quarter.

#### Throughput Report

This report logs the throughput in the top *N* busiest 5-minute intervals during the reporting period, where *N* is the threshold number used for report generation for that product. All the values in this report are generated by the Licensing Calculator based on the Transformed Data. This report contains the average throughput for a quarter.

### Configuration Section

The configuration section contains all the configuration values used by LAT SE at the time of report generation.

The `APPEND-CONFIG-FILES` value defined in `report.cfg` has the list of configuration files that need to append as a part of the reports.

### Data Section

The data section contains the Transformed Data that is used to generate the Licensing Report.

- For ASU Licensing Reports, the data section is NOT populated with the list of active subscribers, because the total active subscribers will be in millions and populating that list in the report is not feasible. However, the report contains a "Transaction Band," which gives the in-depth analysis or summary of "Number of Subscribers" versus "Number of Transactions." Essentially, it provides the total number of subscribers who have exceeded the minimum number of transactions configured in `report.cfg` to classify as active subscribers.
- For PHT Licensing Reports, the data section contains hourly data for each day based on the reporting period. The rows in the report represent the date, and the columns represent the hour. The values represent the total number of transactions for that hour on that day.
- For TPS Licensing Report, the data section contains TPS data for each day based on the reporting period. The rows in the table represent the date, and the columns represent the 5-minute intervals. The values represent the total number of transactions for that 5-minute interval on that day.
- For TPQ Licensing Report, the data section contains the total number of transactions performed in given quarter
- In next section TPSREG & TPQREG licensing Report information can be added
  - TPQREG report information is same as TPQ information.
  - TPSREG report is the same as TPS report but is run hourly, instead of 5min intervals.

  For both TPSREG & TPQREG reports there will be one single report per Region. This region is passed to it as `-reg=<RegionName>` option, as specified in `region.cfg`.
- For TOTAL-REGION-TPS Licensing Report, the data section contains the sum of all regions TPS average of TOP N transactions
- For TOTAL-REGION-TPQ Licensing Report, the data section contains the sum of all regions number of transactions performed in a quarter
- For TPS-PHT-last N Licensing Report, the data section contains transaction of all 24 hrs for all days in a quarter.
- For Throughput Licensing Report, the data section contains the total un-optimized data sent in 5-min intervals for all days of a quarter.

# Record Based Accounting Schemata

A

**In this appendix**



## Integra MEP_HTTP Accounting Record

This section describes the data associated with an Integra transaction, and recorded in `MEP_HTTP_RECORD`. Either `subId` or `phoneNumber` must be included in the exported record.

---

**NOTE** All Accelerator or Guardian transactions are also considered as Integra Transactions.

---

The following table lists the record names in the Integra `MEP_HTTP` Accounting records and their descriptions.

**Table A-1.** Integra MEP_HTTP Accounting Records

| Record Name | Description |
|---|---|
| `protocolVersion` | External representation of the version number of the export record definition; this must be added by the export adaptor, not the core REBA library. |
| `hostName` | Fully qualified domain name of the host on which the record was created. |

| Record Name | Description |
|---|---|
| recordDiscriminator | Value used to identify duplicate ADRs. 32 bit value unique per host for a given short 5 minute period. This can be combined with the hostName and requestReceivedTime to uniquely identify an ADR. If a record is received by a customer system with the same discriminator value as one received from the same host within the last 5 minutes, then it is a duplicate. |
| anonAddress | Address of an anoymous subscriber |
| transactionStatus | The status of the transaction for example whether it was progressed or not. |
| planData | PlanDataSet (For more details, see the Plan Data Set Accounting Data section of the *Integra Administration Guide*.) |
| deviceIP | Source IP address of request (IP address of the Mobile or other device) |
| devicePort | Source port for request |
| internetSideIP | IP address presented from gateway to origin server |
| deviceBytesIn | Volume of data received for the request, that is the volume of data on ingress to MEP for the request. |
| deviceBytesOut | Volume of data generated for a response, that is the volume of data that MEP generates on egress of the response. |
| internetBytesIn | Volume of data received from the origin server in response to the request. |
| internetBytesOut | Volume of data sent to the origin server as a request by the gateway. |
| contentDelivered | This Boolean value will indicate whether a successful response was delivered to the client, say a handset. Note that "successful" here means that the response from the origin server was successfully delivered, but not that that response was "successful." For example, if the protocol is HTTP, a 404 from the origin server may still be successfully delivered to the handset. |
| protocol | Specifies the type of protocol, such as HTTP, SMTP, and so on. |

| Record Name | Description |
|---|---|
| timeZone | The number of seconds west of GMT. For example the value for Paris (GMT+1) will be -3600. This value is not affected by daylight savings time. |
| requestReceivedTime | Timestamp of receipt of request from device |
| internetLatency | Latency in milliseconds between start of write of request to orgin server and end of read of response. |
| clientResponseSendTime | Timestamp of start of send of response to client. |
| clientResponseSendLatency | Latency in milliseconds of send of response to client. |
| txnCompleteTime | Timestamp of transaction complete (following Post Response stage). |
| requestURI | URL of the request including query arguments and parameters.<br>**Note:** The 'https://' scheme does not appear in the accounting logs when connecting securely. This scheme is not part of the requested URI as the CONNECT method does not use it. You can assume any request without any scheme are secure connections. |
| method | The HTTP method used in the request.<br>For secure connections the request method recorded is CONNECT. |
| statusToClient | The HTTP status of the response sent to the client. |
| statusFromOrigin | The HTTP response actually received from the origin server, prior to any processing before returning a response to the client. |
| protocolType | Specifies the type of protocol, secure or unsecure. |
| phoneNumber | Mobile device phone number (MSISDN/MIN, where available from the network). |
| subId | Subscriber Identifier. This is an arbitrary string assigned by the operator to identify an individual subscriber |

| Record Name | Description |
|---|---|
| IMSI | International Mobile Subscriber Identity value |
| NASIP | IP address of the NAS if available. |
| SGSNIP | IP address of the SGSN if available. |
| originContentType | Content-Type header received from the origin server, if different from that sent to the client. |
| originContentLength | Content-Length header received from the origin server, if different from that sent to the client. |
| reqHdrs | List of HTTP1.1 headers from the request The list of the headers is detailed in the related links information. |
| rspnsHdrs | List of HTTP1.1 headers from the response The list of the headers is detailed in the related links information. |
| seData | SeDataSet (For more details, see the Service Enabler Accounting Data section of the *Integra Administration Guide*.) |
| planNames | The list of plans that applied to this request, including their categories. |

## Passport Accounting Record

This section describes the data associated with Passport transactions, and recorded in the PASSPORT_LICENSE_RECORD.

The following table lists the record names in the Passport Accounting record and their descriptions.

**Table A-2.** Passport Accounting Records

| Record Name | Description |
|---|---|
| subId | Device identity that purchased the pass |
| applicationId | Application ID used |
| serviceId | Service ID and hence gateway plan provisioned |
| acceptTime | Time the pass purchase was accepted |
| expiryTime | Expiry time for the pass |
| cost | Cost of the pass |
| reqHdrs | HTTP1.1 headers in the request from the user device |

### OpenWeb Accounting Record

This section describes the data associated with an OpenWeb Transaction, and recorded in the `OPENWEB_RECORD`.

The following table lists the record names in the OpenWeb Accounting record and their descriptions.

**Table A-3.** OpenWeb Accounting Record

| Record Name | Description | Source |
|---|---|---|
| `sessionId` | Session Id | `OpenWeb/SessionId Data` Dictionary Entry |
| `requestTime` | Timestamp | Generated at time of logging |
| `requestMethod` | Request Method | From `TPluginHttpRequestResponseBase::getMethod()` |
| `requestURL` | Request URL | This must be the real URL that is un-tokenized, and hence known only by OpenWeb |
| `httpStatusCode` | HTTP Status Code | From `TPluginHttpRequestResponseBase::getStatusCode()` |
| `referrerURL` | Referrer URL | Known by OpenWeb |
| `userAgent` | Client User-Agent | From "`User-Agent`" request header |
| `compressionRatio` | Compression Ratio | Calculated using the original content length from OpenWeb, and the length of the content returned to the client |
| `responseDuration` | Response Duration | Known by OpenWeb |
| `echoHeader` | Echo Header | From the request headers |
| `requestContext` | Context | From the context in which the SE is running |
| `responseFromCache` | Cache Flag | Only known by OpenWeb |
| `proxyInstance` | Proxy Instance | The instance ID of the front end proxy logging the request |
| `openwebInstance` | OpenWeb Instance | The instance ID of the OpenWebServer that processed or made the request. This is empty in True Proxy requests. |

## Single Line RBA Records

This section describes the data associated with the Single line RBA Record.

The following table lists the record names in the Single line RBA Record and their descriptions.

**Table A-4.** Single Line RBA Record

| Record Name | Description |
|---|---|
| Schema Name | "MEP_HTTP_RECORD" |
| Version | "1" |
| Transaction Completion | "[10/Oct/2000:13:55:36 -0700]" |
| Transaction Start | Elapsed seconds from Epoch |
| Transaction End | Elapsed seconds from Epoch |
| Offset from UTC in seconds | |
| Integra Instance ID | |
| Process ID | |
| Thread ID | |
| Client IP Address | |
| Subscriber ID | "1.2.3.4" or IPv6 equivalent |
| Phone Number | |
| Full HTTP Request Line | |
| HTTP Response Code from OS | |
| HTTP Response Code sent to device | |
| Integra status code | |
| Original Content Type | |
| Original HTTP Response Body Size | |
| Internet Latency | |
| Client Send Latency | |
| Total Transaction Elapsed Time | |
| Device Bytes In | |
| Device Bytes Out | |
| Plan Names | |

| Record Name | Description |
|---|---|
| User Agent Header | |

## Mandatory Fields

The following requirements define the mandatory fields:

- After the mandatory fields, there must be zero or more optional fields.
- The order of the optional fields is undefined.
- All optional fields must be enclosed in double quotes.
- All enabled fields in MEP_HTTP_RECORD that are not included in the mandatory set must be output as key/value pairs.
- The additional data fields created by Integra SEs must be output as optional fields.
- Each additional data field will begin with a prefix that defines what the field contains. For example, the prefix "VDO" will be used to identify a Media Optimizer additional data field.
- After the initial prefix, the internal format of the additional data field is undefined and must be defined by the service that creates it.
- The following data must be recorded as optional fields:
  - SE Elaped times
  - Request Headers
  - Response Headers
  - Radius Attributes
  - LDAP Attributes

In order to support Analytics reports, some new data must be added to the Media Optimizer "additional data" RBA entry.

- The Media Optimizer 2.1, 2.2, and 2.3 RBA data must include the time in microseconds, added to the response due to Just-In-Time delivery. This must be expressed as an Integer. This will allow Analytics to calculate the bandwidth savings.
- The Media Optimizer 2.1, 2.2, and 2.3 RBA data must include the input video and audio codecs.
- The Media Optimizer 2.1, 2.2, and 2.3 RBA data must include the seek offset in seconds. When this request was not a seeked video, the offset must be reported as 0.
- Due to the change of format, the version number contained in the RBA data must be increased to version 3. This will allow LAT/Analytics to distinguish between versions.

- When these changes are included, the log format must be:

```
"VDO:<Ver>;<OptLevel>;<Source>;<OriginalSize>;<OriginalBytesProcessed>
;<OptimizedSize>;<OptimizedBytesSent>;<Container&gt;;<VideoInput>;<Vid
eoOutput>;<AudioInput>;<AudioOutput>;<Duration>;<BWShaping>;<JIT>;<JIT
AdditionalTime>;<TotalResponseTime>;<SeekOffset>;<CTOStatus>;<Transact
ionStatus>,<InlineCachingStatus>,<StatusCode>"
```

## Sample Accounting Records

This section shows sample accounting records that LAT SE expects for calculating the licensing metric.

### MEP Accounting Record for Integra Core only

The following accounting record considers an Integra transaction.

```
AccountRecord:HTTP_NGP:1005 2008-02-20 16:27:39
SchemaName MEP_HTTP_RECORD
protocolVersion 1.0
hostName bfs-v240-10.bfs.phone.com
recordDiscriminator 59768832
deviceIP 10.20.60.14
deviceBytesOut 3077
requestReceivedTime 1203524858
requestURI http://www.google.com/xhtml
method GET
statusToClient 200
statusFromOrigin 200
subId 1234567890
protocolType HTTP/1.1
reqHdrs.accept */*
reqHdrs.userAgent curl/7.16.3 (i686-pc-cygwin) libcurl/7.16.3
OpenSSL/0.9.8g zlib/1.2.3 libssh2/0.15-CVS
seData.0.seName AUTHORIZATION
seData.1.seName BasicACL
seData.2.seName DEVICE_MGMT
seData.3.seName HDREXPORT
seData.4.seName HDRIMPORT
seData.5.seName HDRMANIPULATION
seData.6.seName IDENTITY
seData.7.seName PLAN_MANAGEMENT
planNames System:System,Anonymous
```

## MEP Accounting Record for Integra Core and Guardian

LAT SE uses `MEP_HTTP_RECORD` schema to identify Guardian transaction. If a `MEP_HTTP_RECORD` schema has a string "`Gdn:`" in *`additionalData`* attribute, then it is considered as a valid Guardian transaction.

```
AccountRecord:HTTP_NGP:1000 2009-03-27 10:19:47
RecordSize 1293
SchemaName MEP_HTTP_RECORD
protocolVersion 1.0
hostName bfs-kiso01-z6.bfs.phone.com
recordDiscriminator 5242882
deviceIP 10.20.60.66
deviceBytesOut 6564
requestReceivedTime 1238149186
internetLatency 82
txnCompleteTime 1238149187
requestURI http://www.google.co.uk/images/nav_logo3.png
method GET
statusToClient 200
statusFromOrigin 200
protocolType HTTP/1.1
originContentType image/png
originContentLength 6339
reqHdrs.userAgent Mozilla/5.0 (Windows; U; Windows NT 5.1; en-US;
rv:1.9.0.7) Gecko/2009021910 Firefox/3.0.7
planNames System:System,Anonymous
seData.14.additionalData Gdn: CF Invoked; Access Denied
seData.15.additionalData Gdn: SafeSearch Invoked; URL modified to
http://www.google.co.uk/SS=T
```

## MEP Accounting Record for Integra Core and Accelerator

LAT SE uses MEP_HTTP_RECORD schema to identify Accelerator transaction. If a MEP_HTTP_RECORD schema has a string "Acc: " in the additionalData attribute, then it is considered as a valid Accelerator transaction.

```
AccountRecord:HTTP_NGP:1000 2009-03-27 10:19:47
RecordSize 1293
SchemaName MEP_HTTP_RECORD
protocolVersion 1.0
hostName bfs-kiso01-z6.bfs.phone.com
recordDiscriminator 5242882
deviceIP 10.20.60.66
deviceBytesOut 6564
requestReceivedTime 1238149186
internetLatency 82
txnCompleteTime 1238149187
requestURI http://www.google.co.uk/images/nav_logo3.png
method GET
statusToClient 200
statusFromOrigin 200
protocolType HTTP/1.1
originContentType image/png
originContentLength 6339
reqHdrs.userAgent Mozilla/5.0 (Windows; U; Windows NT 5.1; en-US;
rv:1.9.0.7) Gecko/2009021910 Firefox/3.0.7
planNames System:System,Anonymous
seData.17.additionalData Acc: OriginalCache:Hit; AdaptedCache:Miss;
GIFOpt:High
seData.17.additionalData Acc: OriginalCache:Hit; AdaptedCache:Hit;
MarkupOpt; deflated
seData.17.additionalData Acc: OriginalCache:Miss; PNGOpt
```

## MEP Accounting Record for Integra Core, Accelerator and Guardian

If a `MEP_HTTP_RECORD` schema has a string "`Acc: `" and "`Gdn:`"in `additionalData` attribute, then it is considered as a valid Accelerator and Guardian transaction.

```
AccountRecord:HTTP_NGP:1000 2009-03-27 10:19:47
RecordSize 1293
SchemaName MEP_HTTP_RECORD
protocolVersion 1.0
hostName bfs-kiso01-z6.bfs.phone.com
recordDiscriminator 5242882
deviceIP 10.20.60.66
deviceBytesOut 6564
requestReceivedTime 1238149186
internetLatency 82
txnCompleteTime 1238149187
requestURI http://www.google.co.uk/images/nav_logo3.png
method GET
statusToClient 200
statusFromOrigin 200
protocolType HTTP/1.1
originContentType image/png
originContentLength 6339
reqHdrs.userAgent Mozilla/5.0 (Windows; U; Windows NT 5.1; en-US;
rv:1.9.0.7) Gecko/2009021910 Firefox/3.0.7
planNames System:System,Anonymous
seData.14.additionalData Gdn: CF Invoked; Access Denied
seData.15.additionalData Gdn: SafeSearch Invoked; URL modified to
http://www.google.co.uk/SS=T
seData.17.additionalData Acc: OriginalCache:Hit; AdaptedCache:Miss;
GIFOpt:High
seData.17.additionalData Acc: OriginalCache:Hit; AdaptedCache:Hit;
MarkupOpt; deflated
seData.17.additionalData Acc: OriginalCache:Miss; PNGOpt
```

## Passport2.0 Accounting Record

LAT SE uses `PASSPORT_LICENSE_RECORD` schema to identify a valid Passport transaction.

```
AccountRecord:PassportServer:1000 2009-03-24 17:53:29,023
Record Size 157
SchemaName PASSPORT_LICENCE_RECORD
deviceNetId 777123456
applicationId 0
serviceId 1
acceptTime 2009-03-24T17:53:28
expiryTime 2009-03-25T17:53:28
cost 1.99
```

### OAM Metrica Log

LAT SE uses the following format to identify a valid Metrica Log file. `HTTPStatsAggregator`, `Instance` and `TotalTransactionCount` must be in the same format mentioned below:

```
$STARTREPORT
$STARTCOMMON
SOURCE OPENWAVE-EMS
DATE 20090407
STIME 1005
ETIME 1010
INTERVAL 300
$ENDCOMMON
$STARTSECTION
HTTPStatsAggregator
Instance TotalTransactionCount
integra-v2.9 40
$ENDSECTION
$ENDREPORT
```

### OpenWeb 5.7.1 Accounting Record

LAT SE uses `OPENWEB_RECORD` schema to identify a valid OpenWeb transaction.

```
AccountRecord:HTTP_NGP:1000 2009-03-16 13:30:06
RecordSize 393
SchemaName OPENWEB_RECORD
sessionId 1488578212183E9
requestTime 16/Mar/2009:13:30:06 +0000
requestMethod GET
requestURL
http://reviews.cnet.com/4864-6501_7-31475448.html?messageID=2222207
httpStatusCode 301
responseLength 0
referrerURL
userAgent Samsung E250
compressionRatio 0
responseDuration 0
echoHeader
requestContext OpenWeb
responseFromCache 0
proxyInstance 1000
openwebInstance 1003
```

## OpenWeb 5.8.1 Accounting Log

The following is a sample of an accounting log for OpenWeb 5.8.1.

```
AccountRecord:HTTP_NGP:1000 2009-09-27 05:34:45
RecordSize 1404
SchemaName MEP_HTTP_RECORD
protocolVersion 1.0
hostName bfs-x4150-05.bfs.phone.com
recordDiscriminator 65265027
deviceIP 10.20.56.157
deviceBytesOut 27793
requestReceivedTime 1254026084
txnCompleteTime 1254026085
requestURI http://openweb.net/www.boostmobile.com/
method GET
statusToClient 200
protocolType HTTP/1.0
reqHdrs.userAgent LG-LX150 AU-MIC-LX150/2.0 MMP/2.0 Profile/MIDP-1.0
Configuration/CLDC-1.0
seData.0.seName 3013
seData.0.resLatency 0
seData.1.seName 3017
seData.1.reqLatency 0
seData.10.seName HDRIMPORT
seData.10.reqLatency 0
seData.11.seName HDRMANIPULATION
seData.11.reqLatency 0
seData.12.seName IDENTITY
seData.12.reqLatency 0
seData.13.seName OPENWEB_ROUTER
seData.13.reqLatency 1015
seData.13.additionalData OWA: FullAdaptation
seData.14.seName OpenWebAccountingSE
seData.14.pdLatency 0
seData.15.seName PLAN_MANAGEMENT
```

## Location Accounting Record

The following is a sample of a Location accounting record.

```
L_25_05|MPCA_LRP_MLP300|16|0-2338039|0891D159AC7ACA84_0891D159AC7ACAD8|20
07/11/30 06:17:29.736|2007/11/30 06:17:42.444|2007/11/30
06:20:21.855|0||1|||Operator_Name|1|||Operator_Name|1|1|1|1000000095|1000
000095|002e5f18|39|7||5|1000000095|5|||21|client2||1||2|1|||100||||||25||
|||0|103|2|00000008|0|00000001||||2|2007/11/30 06:17:40.247|2007/11/30
06:12:02.945|4326|19.680043|-77.705076|||||||90||0|2007/11/30
06:17:29.760||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
||||
```

## MMG Records

The following is a sample Location accounting record.

```
21-Oct-2009:00:03:51.84 ---- SME Gateway Statistics Report ----
Resource Usage Statistics:
  MsgInUse             Cur: 203
  ParInUse             Cur: 2
  MsgReads            Cur: 0          Day: 276        Tot: 9581
  DceInUse             Cur: 27
  MceInUse             Cur: 195
  RdbInUse             Cur: 2
  SubInUse             Cur: 5
  DceDelPend           Cur: 13
RDB Statistics:
  RdbAdds              Cur: 6113        Day: 1999660     Tot:
118029082
  RdbDeletes           Cur: 6115        Day: 1999658     Tot:
118029636
DBA Statistics:
  SubLookups           Cur: 8625        Day: 2485160     Tot:
161920714
  SubOpFails          Cur: 0          Day: 102        Tot: 15387
MSG Cache Statistics:
  MsgInSwaps          Cur: 0          Day: 0          Tot: 304357
  MsgOutSwaps         Cur: 0          Day: 0          Tot: 304357
Message Manager Statistics:
  MmgRcvRate           Cur: 43
  MmgSndRate           Cur: 43
  MmgSubmits           Cur: 12997       Day: 3335330     Tot:
213555673
  MmgDelivers          Cur: 12800       Day: 3292451     Tot:
210779100
  MmgRejects          Cur: 159        Day: 42811      Tot: 2803673
  MmgExpires          Cur: 0          Day: 0          Tot: 144
  MmgExpunges         Cur: 0          Day: 0          Tot: 144
DCE Statistics:
  DceAdds             Cur: 113        Day: 20591      Tot: 1331124
  DceLookups           Cur: 48150       Day: 14200681    Tot:
912451798
  DceDeletes          Cur: 112        Day: 20588      Tot: 1330908
MCE Statistics:
  MceWinAct            Cur: 5
  MceAdds              Cur: 12997       Day: 3335339     Tot:
213555688
  MceGets              Cur: 19395       Day: 5354327     Tot:
336608019
  MceDeletes           Cur: 12959       Day: 3335262     Tot:
213554672
  McePreempts         Cur: 6          Day: 1569       Tot: 104951
  MceExpires          Cur: 0          Day: 0          Tot: 144
NET Interface Statistics:
  NetRequests          Cur: 64814       Day: 17384794    Tot:
1100720384
  NetAsychReq         Cur: 5109       Day: 1065590    Tot: 65761775
```

```
  NetAsychRes          Cur: 14312       Day: 4267488     Tot:
269445029
  NetReads             Cur: 49449       Day: 12674875    Tot:
801435540
  NetWrites            Cur: 49443       Day: 12677766    Tot:
801513468
  NetAccepts           Cur: 12800       Day: 3292451     Tot:
210779100
  NetRetries          Cur: 9           Day: 3366        Tot: 321086
  NetSubmits           Cur: 12997       Day: 3335259     Tot:
213550495
  NetSbmRej           Cur: 0           Day: 0           Tot: 28276
  NetDlvRej           Cur: 159         Day: 42811       Tot: 2775428
  NetLogins            Cur: 7619        Day: 2124141     Tot:
138965791
  NetLogouts           Cur: 7616        Day: 2124139     Tot:
138965630
  NetDelivers          Cur: 19395       Day: 5354328     Tot:
336607891
  NetAttaches          Cur: 7549        Day: 2101373     Tot:
136230620
  NetDetaches          Cur: 7546        Day: 2101371     Tot:
136230459
  NetAttached          Cur: 14
  NetConnects          Cur: 7619        Day: 2124141     Tot:
138965791
  NetDisconns          Cur: 7616        Day: 2124139     Tot:
138965630
  NetSegments          Cur: 8702        Day: 2788137     Tot:
170899165
  NetSegAcked          Cur: 8704        Day: 2788135     Tot:
170897584
  NetSegNcked          Cur: 0           Day: 2           Tot: 1252
  NetSegRetry          Cur: 0           Day: 2           Tot: 440
SRP Session Statistics:
SCO Statistics:
Admin Interface Statistics:
  AdmRequests          Cur: 3           Day: 1016        Tot: 72408
---- End of Report ----
```

## RBA Record for Integra Core and Media Optimizer 2.1

The following is a sample RBA record.

```
<Sample Record>
AccountRecord:HTTP_NGP:1000 2010-07-13 14:04:21
RecordSize 1712
SchemaName MEP_HTTP_RECORD
protocolVersion 1.0
hostName bfs-x4170-05.bfs.phone.com
recordDiscriminator 2367684690
deviceIP 10.20.39.136
deviceBytesOut 53947669
requestReceivedTime 1279024876
internetLatency 7
txnCompleteTime 1279026261
requestURI
http://bfs-t2000-26.bfs.phone.com/youtube/6ciN90zRkRg-34.flv
method GET
statusToClient 200
statusFromOrigin 200
protocolType HTTP/1.0
originContentType video/x-flv
originContentLength 81093369
reqHdrs.userAgent Motorola-C290-boost Obigo/Q04C1-1.9 MMP/2.0
Profile/MIDP-2.0 Configuration/CLDC-1.1
seData.0.seName 3014
seData.0.osLatency 0
seData.1.seName 3017
seData.1.reqLatency 0
seData.10.seName DynamicURLHandlerSE
seData.10.reqLatency 0
seData.11.seName HDREXPORT
seData.11.reqLatency 0
seData.12.seName HDRIMPORT
seData.12.reqLatency 0
seData.13.seName HDRMANIPULATION
seData.13.reqLatency 0
seData.14.seName IDENTITY
seData.14.reqLatency 1
seData.15.seName PLAN_MANAGEMENT
seData.15.reqLatency 0
seData.16.seName TranslationRouterSE
seData.16.reqLatency 0
seData.17.seName VideoRouterSE
seData.17.pdLatency 2
seData.17.additionalData
VDO:1;high;D;81093369;81093369;0;53947246;flv;H264;AAC;724;F;F;C
seData.18.seName WebSrvClientSE
seData.18.reqLatency 0
seData.2.seName 3039
seData.2.reqLatency 0
seData.3.seName 7030
seData.3.pdLatency 0
seData.4.seName 8001
```

```
seData.4.pdLatency 0
seData.5.seName AUTHORIZATION
seData.5.reqLatency 0
seData.6.seName BasicACL
seData.6.reqLatency 0
seData.7.seName ContentDetectionSE
seData.7.osLatency 0
seData.7.additionalData CD: video/x-flv
seData.8.seName DEVICE_MGMT
seData.8.reqLatency 0
seData.9.seName DomainMonitoringClientSE
seData.9.reqLatency 0
planNames System:System,Anonymous
totalTransactionTimeElapsed 1385619
</Sample Record>
```

## RBA Record for Integra Core and Media Optimizer 2.2

The following is a sample RBA record.

```
<Sample Record>
AccountRecord:HTTP_NGP:1002 2011-08-11 01:08:00
RecordSize 3085
SchemaName MEP_HTTP_RECORD
protocolVersion 2.0
hostName bfs-x4150-15-xm3.bfs.openwave.com
recordDiscriminator 32505921
deviceIP 10.20.106.98
deviceBytesIn 0
deviceBytesOut 7121302
internetBytesIn 12926447
timeZone 0
requestReceivedTime 1312995840
internetLatency 106
clientResponseSendLatency 0
txnCompleteTime 1312996080
requestURI
http://r6.lhr14s15.c.youtube.com/videoplayback?sparams=id%2Cexpire%2Ci
p%2Cipbits%2Citag%2Csource%2Calgorithm%2Cburst%2Cfactor%2Ccp&fexp=9089
20%2C904438&algorithm=throttle-factor&itag=34&ip=80.0.0.0&burst=40&sve
r=3&signature=9599FE0BCF6CD899BE3E4A1F4E5BC22D30175F3C.8CD3C279F9BFA96
A8B0810B1E9D44F1FF2E68F2B&source=youtube&expire=1319140800&key=yt1&ipb
its=8&factor=1.25&cp=U0hQTlFPTl9FSkNOMF9JSVJJOlNiVFY1czlCNHpr&id=3a1f5
e2c905aaecf&ptchn=SoldierKnowsBest&ptk=revision3&ir=1
method GET
statusToClient 200
statusFromOrigin 200
protocolType HTTP/1.1
originContentType video/x-flv
originContentLength 12926109
reqHdrs.userAgent Mozilla/5.0 (Windows NT 6.1) AppleWebKit/535.1
(KHTML, like Gecko) Chrome/14.0.835.202 Safari/535.1
seData.0.seName 3014
seData.0.osLatency 0
seData.1.seName 3017
seData.1.reqLatency 0
seData.10.seName ContentDetectionSE
seData.10.osLatency 0
seData.10.additionalData CD: video/x-flv NA NA
seData.11.seName DEVICE_MGMT
seData.11.reqLatency 0
seData.12.seName DomainMonitoringClientSE
seData.12.reqLatency 0
seData.13.seName DynamicURLHandlerSE
seData.13.reqLatency 0
seData.13.additionalData DynamicURLHandler: applied rule
{scheme}\://youtube.com/{path}/{query:id}/{query:itag} and created
http://youtube.com//videoplayback/3a1f5e2c905aaecf/34 as the staic URL
seData.14.seName HDREXPORT
seData.14.reqLatency 0
seData.15.seName HDRIMPORT
```

```
seData.15.reqLatency 0
seData.16.seName HDRMANIPULATION
seData.16.reqLatency 0
seData.17.seName IDENTITY
seData.17.reqLatency 0
seData.18.seName MediaDetectionSE
seData.18.pdLatency 0
seData.19.seName PLAN_MANAGEMENT
seData.19.reqLatency 0
seData.2.seName 3039
seData.2.reqLatency 0
seData.20.seName PrefetchClientSE
seData.20.reqLatency 0
seData.20.additionalData PF: N
seData.21.seName ResponseThrottleSE
seData.21.pdLatency 0
seData.21.additionalData RT:208243;229163;1620286;17465
seData.22.seName SeekImportSE
seData.22.reqLatency 0
seData.23.seName TranslationRouterSE
seData.23.reqLatency 0
seData.24.seName VideoRouterSE
seData.24.pdLatency 8
seData.24.additionalData
VDO:2;medium;D;5888537;1530806;0;871345;flv;H264;H264;AAC;AAC;60;F;T;0
000;8743;0;D;I
seData.25.seName WebSrvClientSE
seData.25.reqLatency 0
seData.3.seName 7030
seData.3.pdLatency 0
seData.4.seName 8001
seData.4.pdLatency 0
seData.5.seName AUTHORIZATION
seData.5.reqLatency 0
seData.6.seName AggressiveCaching
seData.6.osLatency 0
seData.7.seName BasicACL
seData.7.reqLatency 0
seData.8.seName CacheControl
seData.8.reqLatency 0
seData.9.seName ConnectionConservationSE
seData.9.reqLatency 0
planNames
Custom:AggressiveCachingURLEnabled,EnableCache,DisableMarkupOptimizati
on,EnableContextMenu,WebOptHighTransparentTraffic
Device:VideoPlan-laptop System:System,Anonymous
totalTransactionTimeElapsed 232108
</Sample Record>
```

## RBA Record for Integra Core and Media Optimizer 2.3

The following is a sample RBA record.

```
<Sample Record>
AccountRecord:HTTP_NGP:1002 2011-07-10 12:08:00
RecordSize 2353
SchemaName MEP_HTTP_RECORD
protocolVersion 2.0
hostName rwcdtgxb0103.dtg.opwv
recordDiscriminator 14691613
deviceIP 192.168.88.90
deviceBytesOut 1605919
internetBytesIn 12926447
timeZone 28800
requestReceivedTime 1310270640
internetLatency 0
clientResponseSendLatency 0
txnCompleteTime 1310270880
requestURI http://www.scottube.com/mp4/dYPTS_39I8g.mp4
method GET
statusToClient 200
statusFromOrigin 200
protocolType HTTP/1.1
originContentType video/x-flv
originContentLength 43125082
reqHdrs.userAgent Mozilla/4.0 (compatible; MSIE 8.0; Windows NT 5.1;
Trident/4.0; GTB6.5; InfoPath.2; MS-RTC LM 8; .NET CLR 2.0.50727; .NET
CLR 3.0.4506.2152; .NET CLR 3.5.30729; .NET CLR 1.1.4322;
OfficeLiveConnector.1.4; OfficeLivePatch.1.3)
seData.0.seName 3014
seData.0.osLatency 0
seData.1.seName 3017
seData.1.reqLatency 0
seData.10.seName HDREXPORT
seData.10.reqLatency 0
seData.11.seName HDRIMPORT
seData.11.reqLatency 0
seData.11.osLatency 0
seData.12.seName HDRMANIPULATION
seData.12.reqLatency 0
seData.12.osLatency 0
seData.13.seName IDENTITY
seData.13.reqLatency 1
seData.14.seName MediaDetectionSE
seData.14.pdLatency 0
seData.15.seName MediaOptReportingSE
seData.15.pdLatency 0
seData.16.seName PLAN_MANAGEMENT
seData.16.reqLatency 0
seData.17.seName ResponseThrottleSE
seData.17.pdLatency 0
seData.17.additionalData RT:18788;21002;1226220;0017;22832373
seData.18.seName SourceIPManagerSE
seData.18.reqLatency 0
```

```
seData.19.seName TranslationRouterSE
seData.19.reqLatency 0
seData.2.seName 3039
seData.2.reqLatency 0
seData.20.seName VideoRouterSE
seData.20.pdLatency 1
seData.20.additionalData
VDO:3;medium;D;43125082;2826220;0;1605919;mp4;H264;H264;AAC;AAC;533;F;
T;18788;21000;0;D;I;N;200 OK
seData.21.seName WebOptReportingSE
seData.21.pdLatency 0
seData.22.seName WebSrvClientSE
seData.22.pdLatency 0
seData.3.seName 7030
seData.3.pdLatency 0
seData.4.seName 8001
seData.4.pdLatency 0
seData.5.seName AUTHORIZATION
seData.5.reqLatency 0
seData.6.seName BasicACL
seData.6.reqLatency 0
seData.6.resLatency 0
seData.6.pdLatency 0
seData.7.seName ContentDetectionSE
seData.7.osLatency 0
seData.7.pdLatency 0
seData.7.additionalData CD: video/mp4 NA NA
seData.8.seName DEVICE_MGMT
seData.8.reqLatency 0
seData.9.seName DomainMonitoringClientSE
seData.9.reqLatency 0
planNames Device:VideoPlan-laptop System:System,Anonymous
totalTransactionTimeElapsed 21032
</Sample Record>
```

## MEP Accounting Record for Single Line RBA (Apache format) and Media Optimizer 2.1

The following is a sample MEP Accounting Record for Single Line RBA (Apache format) and Media Optimizer 2.1.

```
"MEP_HTTP_RECORD" "1" "[02/Sep/2010:12:46:09 - BST]" "1283427968"
"1283427969" "0" "1003" "31650" "4129618832" "10.20.60.133" "-" "-"
"GET http://edition.cnn.com/ HTTP/1.1" "200" "200" "-" "-" "-" "355"
"144" "764" "0" "16747" "Device:VideoPlan-laptop
System:System,Anonymous " "Mozilla/4.0 (compatible; MSIE 8.0; Windows
NT 6.1)" "protocolVersion 1.0" "hostName
bfs-x4150-16-xm2.bfs.openwave.com" "recordDiscriminator 29360128"
"timeZone 0" "seData.0.seName 3014" "seData.0.osLatency 0"
"seData.1.seName 3017" "seData.1.reqLatency 0" "seData.10.seName
ContentDetectionSE" "seData.10.osLatency 244"
"seData.10.additionalData CD: HTML" "seData.11.seName DEVICE_MGMT"
"seData.11.reqLatency 0" "seData.12.seName DomainMonitoringClientSE"
"seData.12.reqLatency 0" "seData.13.seName DynamicURLHandlerSE"
"seData.13.reqLatency 0" "seData.14.seName FinalCompressionSE"
"seData.14.resLatency 6" "seData.15.seName HDREXPORT"
"seData.15.reqLatency 0" "seData.16.seName HDRIMPORT"
"seData.16.reqLatency 0" "seData.17.seName HDRMANIPULATION"
"seData.17.reqLatency 0" "seData.18.seName IDENTITY"
"seData.18.reqLatency 4" "seData.19.seName PLAN_MANAGEMENT"
"seData.19.reqLatency 1" "seData.2.seName 3039" "seData.2.reqLatency
0" "seData.20.seName PrefetchClientSE" "seData.20.reqLatency 1"
"seData.20.additionalData PF: N" "seData.21.seName
TranslationRouterSE" "seData.21.reqLatency 0"
"seData.21.additionalData
VDO:2;medium;D;3354265;3354265;0;3353868;flv;H264;H264;AAC;AAC;40;F;F;
0;0;C
"seData.22.seName WebSrvClientSE" "seData.22.reqLatency 0"
"seData.3.seName 7030" "seData.3.pdLatency 0" "seData.4.seName 8001"
"seData.4.pdLatency 0" "seData.5.seName AUTHORIZATION"
"seData.5.reqLatency 0" "seData.6.seName AggressiveCaching"
"seData.6.osLatency 0" "seData.7.seName BasicACL" "seData.7.reqLatency
0" "seData.8.seName CacheControl" "seData.8.reqLatency 0"
"seData.9.seName ConnectionConservationSE" "seData.9.reqLatency 0"
</Sample Record>

seData.21.additionalData
VDO:2;medium;D;3354265;3354265;0;3353868;flv;H264;H264;AAC;AAC;40;F;F;
0;0;C
```

## MEP Accounting Record for Single Line RBA (Apache format) and Media Optimizer 2.2

The following is a sample MEP Accounting Record for Single Line RBA (Apache format) and Media Optimizer 2.2.

```
"MEP_HTTP_RECORD" "1" "[12/Sep/2011:02:08:00 - BST]" "1315764240"
"1315764480" "0" "1001" "9639" "4128168848" "10.20.106.98" "-" "-"
"GET
http://fra02s07.fra02s08.fra07s13.fra07s14.o-o.v10.lscache4.c.youtube.
com/videoplayback?sparams=id%2Cexpire%2Cip%2Cipbits%2Citag%2Csource%2C
algorithm%2Cburst%2Cfactor%2Ccp&fexp=908920%2C904438&algorithm=throttl
e-factor&itag=34&ip=80.0.0.0&burst=40&sver=3&signature=04F9A0119221C89
CE36BB8A20FA2B25789FFB62E.9CC7982A29697092F3D755F7BAFBF28F3302F5FB&sou
rce=youtube&expire=1319140800&key=yt1&ipbits=8&factor=1.25&cp=U0hQTlFP
Tl9FSkNOMF9JSVJJOlNiVFY1czlCNHpr&id=4a286a636af7fcce&pr=1 HTTP/1.1"
"200" "200" "-" "video/x-flv" "5888537" "171" "0" "9860" "0" "871758"
"Custom:AggressiveCachingURLEnabled,EnableCache,DisableMarkupOptimizat
ion,EnableContextMenu,WebOptHighTransparentTraffic
Device:VideoPlan-laptop System:System,Anonymous" "Mozilla/5.0 (Windows
NT 6.1) AppleWebKit/535.1 (KHTML, like Gecko) Chrome/14.0.835.202
Safari/535.1" "CD: video/x-flv NA NA" "DynamicURLHandler: applied rule
{scheme}\://youtube.com/{path}/{query:id}/{query:itag} and created
http://youtube.com//videoplayback/4a286a636af7fcce/34 as the staic
URL" "PF: N" "RT:0000;8743;0;0000"
"VDO:2;medium;D;5888537;1530806;0;871345;flv;H264;H264;AAC;AAC;60;F;T;
0000;8743;0;D;I" "protocolVersion 2.0" "hostName
bfs-x4150-15-xm3.bfs.openwave.com" "recordDiscriminator 32506061"
"internetBytesIn 12926447" "seData.0.seName 3014" "seData.0.osLatency
0" "seData.1.seName 3017" "seData.1.reqLatency 0" "seData.10.seName
ContentDetectionSE" "seData.10.osLatency 0" "seData.11.seName
DEVICE_MGMT" "seData.11.reqLatency 0" "seData.12.seName
DomainMonitoringClientSE" "seData.12.reqLatency 0" "seData.13.seName
DynamicURLHandlerSE" "seData.13.reqLatency 0" "seData.14.seName
HDREXPORT" "seData.14.reqLatency 0" "seData.15.seName HDRIMPORT"
"seData.15.reqLatency 0" "seData.16.seName HDRMANIPULATION"
"seData.16.reqLatency 0" "seData.17.seName IDENTITY"
"seData.17.reqLatency 0" "seData.18.seName MediaDetectionSE"
"seData.18.pdLatency 0" "seData.19.seName PLAN_MANAGEMENT"
"seData.19.reqLatency 0" "seData.2.seName 3039" "seData.2.reqLatency
0" "seData.20.seName PrefetchClientSE" "seData.20.reqLatency 0"
"seData.21.seName ResponseThrottleSE" "seData.21.pdLatency 0"
"seData.22.seName SeekImportSE" "seData.22.reqLatency 0"
"seData.23.seName TranslationRouterSE" "seData.23.reqLatency 0"
"seData.24.seName VideoRouterSE" "seData.24.pdLatency 0"
"seData.25.seName WebSrvClientSE" "seData.25.reqLatency 0"
"seData.3.seName 7030" "seData.3.pdLatency 0" "seData.4.seName 8001"
"seData.4.pdLatency 0" "seData.5.seName AUTHORIZATION"
"seData.5.reqLatency 0" "seData.6.seName AggressiveCaching"
"seData.6.osLatency 0" "seData.7.seName BasicACL" "seData.7.reqLatency
0" "seData.8.seName CacheControl" "seData.8.reqLatency 0"
"seData.9.seName ConnectionConservationSE" "seData.9.reqLatency 0"
```

## MEP Accounting Record for Single Line RBA (Apache format) and Media Optimizer 2.3

The following is a sample MEP Accounting Record for Single Line RBA (Apache format) and Media Optimizer 2.3.

```
"MEP_HTTP_RECORD" "1" "[10/Jul/2011:12:17:00 - BST]" "1310270880"
"1310271420" "0" "1001" "293130" "4141841264" "192.168.108.209" "-"
"-" "GET
http://bfs-dl360g7-30.bfs.openwave.com/video/flv/h264/fBOgid4WPNQ-34.f
lv HTTP/1.0" "200" "200" "-" "video/x-flv" "111656523" "0" "0"
"948180" "-" "60810318"
"Custom:AggressiveCachingURLEnabled,EnableCache,EnableContextMenu
Device:VideoPlan-laptop System:System,Anonymous" "Mozilla/5.0
(Windows; U; Windows NT 5.2; fr-FR; rv:1.7.8) Gecko/20050511
Firefox/1.0.4" "CD: video/x-flv NA NA"
"RT:933383;948179;1129868;2102;0"
"VDO:3;high;C;9498393;0;3045071;1604415;flv;UNKNOWN;H264;UNKNOWN;AAC;9
59;F;T;933383;948176;0;D;C;N;200 OK" "protocolVersion 2.0" "hostName
bfs-dl360g7-32.bfs.openwave.com" "recordDiscriminator 310826828"
"internetBytesIn 0" "seData.0.seName 3014" "seData.0.osLatency 0"
"seData.1.seName 3017" "seData.1.reqLatency 0" "seData.10.seName
ContentDetectionSE" "seData.10.osLatency 0" "seData.10.pdLatency 0"
"seData.11.seName DEVICE_MGMT" "seData.11.reqLatency 0"
"seData.12.seName DomainMonitoringClientSE" "seData.12.reqLatency 0"
"seData.13.seName HDREXPORT" "seData.13.reqLatency 0"
"seData.14.seName HDRIMPORT" "seData.14.reqLatency 0"
"seData.14.osLatency 0" "seData.15.seName HDRMANIPULATION"
"seData.15.reqLatency 0" "seData.15.osLatency 0" "seData.16.seName
IDENTITY" "seData.16.reqLatency 0" "seData.17.seName MediaDetectionSE"
"seData.17.pdLatency 0" "seData.18.seName MediaOptReportingSE"
"seData.18.pdLatency 0" "seData.19.seName PLAN_MANAGEMENT"
"seData.19.reqLatency 0" "seData.2.seName 3039" "seData.2.reqLatency
0" "seData.20.seName PrefetchClientSE" "seData.20.reqLatency 0"
"seData.21.seName ResponseThrottleSE" "seData.21.pdLatency 0"
"seData.22.seName SourceIPManagerSE" "seData.22.reqLatency 0"
"seData.23.seName TranslationRouterSE" "seData.23.reqLatency 0"
"seData.24.seName VideoRouterSE" "seData.24.pdLatency 1"
"seData.25.seName WebOptReportingSE" "seData.25.pdLatency 0"
"seData.26.seName WebSrvClientSE" "seData.26.pdLatency 0"
"seData.3.seName 7030" "seData.3.pdLatency 0" "seData.4.seName 8001"
"seData.4.pdLatency 0" "seData.5.seName AUTHORIZATION"
"seData.5.reqLatency 0" "seData.6.seName AggressiveCaching"
"seData.6.osLatency 0" "seData.7.seName BasicACL" "seData.7.reqLatency
0" "seData.7.resLatency 0" "seData.7.pdLatency 0" "seData.8.seName
CacheControl" "seData.8.reqLatency 0" "seData.9.seName
ConnectionConservationSE" "seData.9.reqLatency 0" "seData.9.resLatency
0"
```

## MEP Accounting Record for Single Line RBA (Apache format) and Accelerator 2.3.1

The following is a sample MEP Accounting Record for Single Line RBA (Apache format) and Accelerator 2.3.1.

```
"MEP_HTTP_RECORD" "1" "[10/Apr/2011:01:15:10 - BST]" "1308048991"
"1308048993" "0" "1006" "30495" "4129684368"
"203.199.147.5" "-" "-" "GET
http://img.3366.com/fileupload/img/95/46295_80.jpg HTTP/1.1" "200"
"200" "-" "image/jpeg" "2757"
"1322" "13" "1356" "0" "2174"
"Custom:AggressiveCachingURLEnabled,EnableCache,DisableVideoCache,WebO
ptHighTraffic
Device:VideoPlan-iphone System:System,Anonymous" "Mozilla/5.0 (iPhone;
U; CPU iPhone OS 4_2_1 like Mac OS X; en-us)
AppleWebKit/533.17.9 (KHTML, like Gecko) Version/5.0.2 Mobile/8C148
Safari/6533.18.5" "CD: NA NA NA" "PF: N" "Acc: OJhigh
S2757:1650" "protocolVersion 2.0" "hostName
bfs-x2200-04.bfs.openwave.com" "recordDiscriminator 68157529"
"internetBytesIn
3210" "seData.0.seName 3014" "seData.0.osLatency 0" "seData.1.seName
3017" "seData.1.reqLatency 0" "seData.10.seName
ContentDetectionSE" "seData.10.osLatency 0" "seData.11.seName
DEVICE_MGMT" "seData.11.reqLatency 1" "seData.12.seName
DomainMonitoringClientSE" "seData.12.reqLatency 0" "seData.13.seName
DynamicURLHandlerSE" "seData.13.reqLatency 0"
"seData.14.seName HDREXPORT" "seData.14.reqLatency 0"
"seData.15.seName HDRIMPORT" "seData.15.reqLatency 0"
"seData.16.seName
HDRMANIPULATION" "seData.16.reqLatency 0" "seData.17.seName IDENTITY"
"seData.17.reqLatency 0" "seData.18.seName
PLAN_MANAGEMENT" "seData.18.reqLatency 10" "seData.19.seName
PrefetchClientSE" "seData.19.reqLatency 0" "seData.2.seName
3039" "seData.2.reqLatency 0" "seData.20.seName SeekImportSE"
"seData.20.reqLatency 0" "seData.21.seName TranslationRouterSE"
"seData.21.reqLatency 1" "seData.22.seName VideoRouterSE"
"seData.22.pdLatency 0" "seData.23.seName WebSrvClientSE"
"seData.23.reqLatency 0" "seData.3.seName 7030" "seData.3.pdLatency 0"
"seData.4.seName 8001" "seData.4.pdLatency 0"
"seData.5.seName AUTHORIZATION" "seData.5.reqLatency 0"
"seData.6.seName AggressiveCaching" "seData.6.osLatency 0"
"seData.7.seName BasicACL" "seData.7.reqLatency 0" "seData.8.seName
CacheControl" "seData.8.reqLatency 0" "seData.9.seName
ConnectionConservationSE" "seData.9.reqLatency 0"
```

## MEP Accounting Record for Single Line RBA (Apache format) and Guardian 1.2.1

The following is a sample MEP Accounting Record for Single Line RBA (Apache format) and Guardian 1.2.1.

```
"MEP_HTTP_RECORD" "1" "[10/Apr/2011:00:15:10 - BST]" "1308151844"
"1308151844" "0" "1007" "31975" "4134140816" "10.20.50.87"
"192.168.122.22" "-" "GET http://www.bet365.com HTTP/1.1" "-" "200"
"-" "-" "-" "-" "1" "17" "0" "515"
"System:System,Anonymous" "lwp-request/2.07" "Gdn: The URL
[http://www.bet365.com] was restricted by ChildList because it
falls under category [512] [gambling]" "protocolVersion 1.0" "hostName
bfs-x4150-06-xm4.bfs.openwave.com"
"recordDiscriminator 27262976" "internetBytesIn 437" "seData.0.seName
3013" "seData.0.resLatency 0" "seData.1.seName 3017"
"seData.1.reqLatency 0" "seData.10.seName FinalCompressionSE"
"seData.10.resLatency 0" "seData.11.seName HDREXPORT"
"seData.11.resLatency 0" "seData.12.seName HDRIMPORT"
"seData.12.reqLatency 0" "seData.13.seName HDRMANIPULATION"
"seData.13.reqLatency 0" "seData.14.seName IDENTITY"
"seData.14.reqLatency 0" "seData.15.seName PLAN_MANAGEMENT"
"seData.15.reqLatency 0" "seData.16.seName TranslationRouterSE"
"seData.16.resLatency 1" "seData.17.seName WebSrvClientSE"
"seData.17.reqLatency 0" "seData.2.seName 3039" "seData.2.reqLatency
0" "seData.3.seName 7030" "seData.3.pdLatency 0"
"seData.4.seName 8002" "seData.4.resLatency 0" "seData.5.seName
AUTHORIZATION" "seData.5.reqLatency 0" "seData.6.seName
BasicACL" "seData.6.reqLatency 0" "seData.7.seName ContentFilteringSE"
"seData.7.reqLatency 4" "seData.8.seName DEVICE_MGMT"
"seData.8.reqLatency 0" "seData.9.seName DomainMonitoringClientSE"
"seData.9.reqLatency 0"
```

## MEP Accounting Record for Single Line RBA (Apache format) and Guardian AV 1.2.1

The following is a sample MEP Accounting Record for Single Line RBA (Apache format) and Guardian AV 1.2.1.

```
"MEP_HTTP_RECORD" "1" "[01/Apr/2011:00:15:10 - BST]" "1308150957"
"1308150957" "0" "1007" "19478" "4134017936" "10.20.50.87"
"192.168.11.1" "-" "GET http://www.google.co.uk/ HTTP/1.1" "200" "200"
"-" "text/html; charset=ISO-8859-1" "-" "213" "1"
"334" "0" "10360" "System:System,Anonymous" "lwp-request/2.07"
"GDN-AV: The URL [http://www.google.co.uk/] was virus checked
and did not have a virus" "protocolVersion 1.0" "hostName
bfs-x4150-06-xm4.bfs.openwave.com" "recordDiscriminator 24117248"
"internetBytesIn 10276" "seData.0.seName 3014" "seData.0.osLatency 0"
"seData.1.seName 3017" "seData.1.reqLatency 0"
"seData.10.seName DomainMonitoringClientSE" "seData.10.reqLatency 0"
"seData.11.seName FinalCompressionSE"
"seData.11.resLatency 0" "seData.12.seName HDREXPORT"
"seData.12.reqLatency 0" "seData.13.seName HDRIMPORT"
"seData.13.reqLatency 0" "seData.14.seName HDRMANIPULATION"
"seData.14.reqLatency 0" "seData.15.seName IDENTITY"
"seData.15.reqLatency 0" "seData.16.seName PLAN_MANAGEMENT"
"seData.16.reqLatency 0" "seData.17.seName TranslationRouterSE"
"seData.17.reqLatency 0" "seData.18.seName WebSrvClientSE"
"seData.18.reqLatency 0" "seData.2.seName 3039"
"seData.2.reqLatency 0" "seData.3.seName 7030" "seData.3.pdLatency 0"
"seData.4.seName 8001" "seData.4.pdLatency 0"
"seData.5.seName AUTHORIZATION" "seData.5.reqLatency 0"
"seData.6.seName AntiVirusSE" "seData.6.reqLatency 0"
"seData.7.seName BasicACL" "seData.7.reqLatency 0" "seData.8.seName
ContentDetectionSE" "seData.8.osLatency 0"
"seData.9.seName DEVICE_MGMT" "seData.9.reqLatency 0"
```

## MEP Accounting Record for Single Line RBA (Apache format) and OpenWeb 5.8.3.1

The following is a sample MEP Accounting Record for Single Line RBA (Apache format) and OpenWeb 5.8.3.1.

```
"MEP_HTTP_RECORD" "1" "[30/May/2011:00:15:10 - BST]" "1311253635"
"1311253636" "0" "1000" "26558" "4130282384" "10.20.60.77"
"192.168.25.33" "-" "GET http://openweb.net/3720931128i HTTP/1.1" "-"
"200" "-" "-" "-" "-" "0" "283" "0" "4036"
"Custom:OpenWebEnabledPlan,OpenWebRequestPlan System:System,Anonymous"
"SonyEricssonK770iv/R8AC Browser/NetFront/3.3
Profile/MIDP-2.0 Configuration/CLDC-1.1 UP.Link/6.4.1.1
UP.Link/6.4.1.1" "OWA: FullAdaptation" "protocolVersion 1.0"
"hostName bfs-x4150-07-xm5.bfs.openwave.com" "recordDiscriminator
103809138" "internetBytesIn 4035" "seData.0.seName 3013"
"seData.0.resLatency 0" "seData.1.seName 3017" "seData.1.reqLatency 0"
"seData.10.seName HDRMANIPULATION"
"seData.10.reqLatency 0" "seData.11.seName IDENTITY"
"seData.11.reqLatency 0" "seData.12.seName OPENWEB_ROUTER"
"seData.12.reqLatency 233" "seData.13.seName OpenWebAccountingSE"
"seData.13.pdLatency 0" "seData.14.seName PLAN_MANAGEMENT"
"seData.14.reqLatency 0" "seData.15.seName WebSrvClientSE"
"seData.15.reqLatency 0" "seData.2.seName 7030"
"seData.2.pdLatency 0" "seData.3.seName 8002" "seData.3.resLatency 0"
"seData.4.seName AUTHORIZATION" "seData.4.reqLatency 0"
"seData.5.seName BasicACL" "seData.5.resLatency 0" "seData.6.seName
DEVICE_MGMT" "seData.6.reqLatency 48" "seData.7.seName
DomainMonitoringClientSE" "seData.7.reqLatency 0" "seData.8.seName
HDREXPORT" "seData.8.resLatency 0" "seData.9.seName
HDRIMPORT" "seData.9.reqLatency 0"
```

## MEP Accounting Record for Single Line RBA (Apache format) and Passport 3.1

The following is a sample MEP Accounting Record for Single Line RBA (Apache format) and Passport 3.1.

```
"PASSPORT_LICENCE_RECORD" "1" "2011-06-02 00:15:10" "777123450" "1"
"1" "2011-05-23T12:22:23" "2011-06-22T13:22:23" "5.99"
"Mozilla/5.0 (Windows NT 6.1; rv:2.0.1) Gecko/20100101 Firefox/4.0.1"
```