Genesys

License Reporting Manager 8.1

Creating a Custom Billing Adapter Whitepaper

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Creating a Custom Billing Adapter for License Reporting Manager

The License Reporting Manager (LRM) product provides a report interface for License Usage in the Genesys Administrator Extension Plug-in to display the license usage information that is collected by the LRM Server process. However, you might want to use your own custom reporting solution to display licensing information that is collected by the LRM Server. This document describes how to use the Web Services API that is exposed by the LRM Server to obtain the information that is collected by LRM.

Pre-requisites

Before an application can obtain information from LRM, the LRM Application must be installed and configured properly. See the *License Reporting Manager 8.1 Deployment Guide* for more details about how to install and configure LRM.

Data Description

This section describes the logical meaning of the data that is presented by LRM. It does not deal with how the data is presented and formatted. The next section of this document describes the detailed formatting information.

A unit of record in the LRM data contains information about the usage of a single sellable item at a single unit of time. Each record contains the following information:

Name	Description
report_period	The starting time of the License Usage information for this record.
sellableitemid	The Sellable Item ID of the Sellable Item for which this record applies. If the sellableitemid is 10000 or greater, then this is a record for a bundle.
sellableitemname	The name of the sellable item for this record.
tenantid	The Genesys Management Framework DBID for the tenant that this record is for. If this is a record for system-wide data, then the tenantid is set to 0.
tenantname	The name of the tenant. If this is a record for system-wide data, then the tenantname is set to the value null.
si_amount	Records the concurrent peak usage for this time period, for this sellable item, for this tenant.
timestamp	The timestamp at which the concurrent peak usage has occurred.
enabled_seat_count	Contains the enabled seat count that is calculated for this time period, for this sellable item, for this tenant.

`provlimit`	The provision limit, as configured by customer, applicable to the day in which the record occurred. For system-wide reports, this comes from the Entitlement File that is uploaded by the System Administrator. For tenant reports, this comes from the `Provisioned Count` screen as entered by the System Administrator.
`provdatetimestamp`	The day when the provision limit first came into effect
`gap`	Indicates whether a data source gap (from the T-Server and Interaction Server to the ICON) has been detected while calculating the concurrent peak usage

An LRM report contains a sequence of these records that are retrieved from the LRM Server based on some query criteria that is provided by the request.

How to obtain data from the License Reporting Server

When the LRM Application is running, it can accept HTTP GET requests and return an LRM report. The URL that is exposed by the LRM server has the following format:

```
http://<server>:<port>/lrm/seats?name1=value1&name2=value2...
```

Where `<server>` is where the LRM application is running and `<port>` is the socket that is being opened by the LRM application to listen for HTTP requests. All the request parameters that control which records are returned in an LRM report can be presented as HTTP Request URI parameters (`name1=value1`, *etc*, in the URL above). The following HTTP Request-URI parameters are supported:

Name	Description	Valid values
`type`	Specifies a type of report that this query is for, a system report or atenant report. This parameter is required.	`system` or `tenant`
`start`	Specifies the starting timestamp. This parameter is required.	Timestamp in the format of: `yyyy-mm-ddThh:mm:ss.mmmZ` For example: `2010-09-01T00:00:00.000Z`
`end`	Specifies the ending timestamp. This parameter is required.	Timestamp in the format of: `yyyy-mm-ddThh:mm:ss.mmmZ` For example: `2010-09-01T00:00:00.000Z`

granularity	Specifies the granularity for each record; that is the duration represented by each record.
	
	This parameter is required.
		One of the following values:
		`10minute`
		`hour`
		`day`
		`weekly`
		`month`

firstDayOfWeek	Applies only to reports where granularity=week. It specifies how a week is defined for the calculation of a week's data. This parameter is required if granularity=week.	`sunday` or `monday`
pageSize	The maximum number of records in a single page of a report. Reports are paginated based on the `pageSize` parameter, and the page that is returned in a report is specified by using the `pageNumber` parameter. This parameter is required.	integer
pageNumber	Works together with the `pageSize` parameter to control which records are returned by the LRM. This parameter is required.	integer
tenant	Specifies which tenant's license usage data should be in the report. If this value is not specified and the type parameter is set to `tenant`, then data for all the tenants is returned.	comma-separated list of tenant IDs
sellableitem	Specifies which sellable item should be in the report.	comma-separated list of sellable item IDs
bundle	Specifies which bundles should be in the report.	comma-separated list of bundle IDs
At least, one sellable item or bundle can be specified. If neither a sellable item nor a bundle is specified, then data for all the sellable items and bundles is returned.		

The report is returned in the HTTP response body in JSON format (see RFC 4627). The report is a single JSON object that has the following properties:

Name	Description
total	The total number of records in the report.

start	The start timestamp of the report. Note that the start and end timestamps might be different from the parameter that is specified by the HTTP Request URI parameter in the case of weekly or monthly reports, so that the start and end timestamps line up with the week and month boundaries.
end	The end timestamp of the report.
pageNumber	The page number from the set of records.
tenants	The set of tenants known in the LRM system.
records	An array of records that contains the data for this report. The logical meaning for each entry of the array is described above.

Examples

An example of an HTTP request is as follows:

```
http://135.17.176.48:8801/lrm/seats?type=tenant&start=2008-05-
07T00:00:00.000Z&end=2012-05-
17T00:00:00.000Z&granularity=day&pageSize=1000&pageNumber=1&tena
nt-id=1&sellableitem=1
```

An example of the report is as follows:

```
{
    "total": 2,
    "start": "2008-05-07T00:00:00.000Z",
    "end": "2012-05-17T00:00:00.000Z",
    "pageNumber": 1,
    "tenants": {
        "550": "Tenant_sg04_03_INBD",
        "1": "Environment",
        "551": "Tenant_sg04_04_OTBD",
        "548": "547"
    }
    "records": [{
        "timestamp": "2009-01-01T14:56:51.000Z",
        "tenantid": 1,
        "report_period": 200901010000,
        "si_amount": 1,
        "gap": false,
        "enabled_seat_count": 3,
        "provdatetimestamp": "2009-01-01T00:00:00.000Z",
        "sellableitemid": 1,
        "provlimit": 100,
        "sellableitemname": "Genesys Inbound Voice",
        "tenantname": null
    }, {
        "timestamp": "2009-01-02T14:56:51.000Z",
```

```
        "tenantid": 1,
        "report_period": 200901020000,
        "si_amount": 2,
        "gap": false,
        "enabled_seat_count": 3,
        "provdatetimestamp": "2009-01-01T00:00:00.000Z",
        "sellableitemid": 1,
        "provlimit": 100,
        "sellableitemname": "Genesys Inbound Voice",
        "tenantname": null
    }],
}
```