OPENLM

Open standard for communication concurrent licensing data

This document explains how to align your license server output with the Open Standard protocol (powered by OpenLM). The purpose of the Open standard license interface is to provide an easy and quick interface for license managers to communicate their output with external third party services.

Open standard XML

he Open standard license XML should have the following hierarchy

- Server 1
  - Features A
    - User1
    - User2
  - Feature B
    - User1
    - User3
- Server 2
  - ...

SERVER

The Server XML node includes all the details on the licenses servers. It includes the Features and users elements.

Property	Type	Description	Is it mandatory?
name	String	Server name	Yes
port	Integer	Server Port	Yes
request_time_utc*	Integer	The request time	Yes
server_status	String	ok or Free error text Should be OK as default unless an error took place.	Yes

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DateTime.UtcNow- Date as number of seconds since Jan 1st 1970

FEATURE

The feature node for each feature served by the license server. The report has to include all features, even the ones not in use by any users (see second feature in the example below). Within each feature, all users that are currently using the software should be listed.

Property	Type	Description	Is it mandatory?
name	String	Feature name	Yes
vendor	String	The Feature vendor name	Yes
exp_date_utc*	Integer	The feature expiration time	No
total	integer	Feature quantity in the license	Yes
inuse	Integer	The total number of features in use	Yes
license_type	String	Floating | NodeLocked (Case sensitive!)	Yes

DateTime.UtcNow - Date as number of seconds since Jan 1st 1970

USER

Each user node lists one user that uses the feature. Within each feature node, all users that use a feature should be listed. A user that is using multiple features should be listed once, for each feature.

Property	Type	Description	Is it mandatory?
name	String	Username	Yes
workstation	String	Workstation name (host name)	Yes

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pswd	String	Free text represent the Display the user is running (in case of running the same feature from the same workstation)	Optional
handle	number	Unique session ID	optional
start_time_utc	Integer*	License checkout time	Yes
number_of_lics	integer	Reflect the number of feature instances currently used by the user/workstation should be 1 or more	Yes
borrowed = true | false (case sensitive)	Boolean	True / false case sensitive	Yes
linger_time	integer	Refers to Borrowed licenses and indicates how many seconds left for borrowing. From FLEXLM pdf: LINGER Allow a user to extend the linger time for a feature beyond its check in. It is widely used in the output when a user borrows a license. it will indicate how many seconds left for borrowing.	Yes if Borrowed set to true

DateTime.UtcNow - date as number of milliseconds since Jan 1st 1970

An example of the XML output file

The following is an example of Open standard license usage report, in the XML format. In order

```
<?xml version="1.0" encoding="utf-8" ?>
    <SERVER
      name="License_server_name"
      port="27000"
      request_time_utc="1356636750000"
      server_status="ok">
```

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```
<FEATURE
    name="Feature1"
    vendor="VendorName"
    exp_date_utc="1355330049000"
    total="10"
    inuse="2"
    license_type="Floating">
        <USER
          name="Bob"
          workstation="workstation_1"
          start_time_utc="1355330049000"
          number_of_lics="1"
          linger_time="3600"
          borrowed="true"
          linger_time="633409"
        />
        <USER
          name="Jim"
          workstation="workstation_2"
          start_time_utc="1355335985000"
          number_of_lics="1"
          linger_time="0"
          borrowed="false"
        />
</FEATURE>
<FEATURE
    name="Feature2"
    vendor="VendorName"
    exp_date_utc="1355330049000"
    total="5"
    inuse="0"
    license_type="Floating">

</FEATURE>
</SERVER>
```

Denials

To reports on denials you need to configure the LM server to write to an output log, the name of the file should be ended with the extension .log or .txt

Property	Type	Description	Is it mandatory?
Time	integer	Denial time	Yes
Vendor name	String	The Feature vendor name	Yes
Feature name	String	?	?
Username	String	Username	Yes
workstation or IP	String	Workstation name (host name)	Yes
Denial error message	String	Free text (Rachel will update the length of the string)	Optional
Denial error code	String	Numeric ID	Optional

Denials format:

Time (**Vendor Name**) DENIED: "**DIAdem_BAS_PKG**" **User**@**hostname** (**All licenses are reserved for others**. (**<Denied error code>**))

Optional: You can add check out and check in records into this log to gain a better accuracy

The benefits of adding the check out/in are:
● Better accurate session computations since the data comes from 2 sources
● Ability to track sessions shorter than 1 minute.

Check In / Out format

Time (**Vendor Name**) OUT: "**DIAdem_BAS_PKG**" **User**@**hostname**
Time (**Vendor Name**) IN: "**DIAdem_BAS_PKG**" **User**@**hostname**

Example Denials file

10:52:13 (nilm) DENIED: "DIAdem_SHELL" XXX@XXX (All licenses are reserved for others. (-101,396:10054 ""))
10:52:13 (nilm) DENIED: "DIAdem_BAS_PKG_UB" XXX@XXX (User/host not on INCLUDE list for feature. (-39,349:10054 ""))
10:52:11 (nilm) IN: "DIAdem_BAS_PKG_UB" XXX@XXX

Implementation

OpenLM is designed to read the license usage periodically. It queries the license manager for the below information and updates the OpenLM Database. Over time, license usage information is accumulated, and the customer can obtain detailed usage reports.

In response to the license usage query, OpenLM expects a momentary license usage report from the license manager. This report should include information about the server, vendor, features/licenses and current users. It should not involve historical usage information.

OpenLM can obtain this report in one of three ways:

Actively query the software
A command-line interface provided by the software vendor and enables the execution of a report to OpenLM in the standard output. For example, FLEXlm (Flexnet) provides a tool called lmutil.exe to generate the required report.

Read a file
The monitored software periodically appends information to a file on the disk that contains the current usage report. The OpenLM Broker component can be configured to read this file by intervals.

Read from URL

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OpenLM Broker version 4.8 and higher can read the generic XML from URL with simple HTTP get query

General note When working with OpenLM Server: When the Broker goes down for a short time (e.g when it's upgraded), the log files enable it to catch up with the session/denial data. So no session would be lost during the Broker downtime.