



LUM Common Problems & FAQ's



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Executive Summary

The licensing environment for a CAD/CAM system is a necessary part of the overall applications ability to function. Understanding the workings of a license environment, choosing the appropriate licensing tools that will gather key information for administrative needs brings about questions that are sometimes difficult to answer. This paper has been written to address some most frequently asked questions about LUM.

Introduction

LUM has been the license manager for Dassault Systemes V4 and V5 products through V5R20 and has proved to be a very stable piece of software. A properly built LUM configuration, inclusive of all the DS licenses the users is looking to manage, tends to run trouble free as long as the DS product licenses remain current. Many administrators let their license servers operate from day to day with little or no maintenance until a problem is encountered. Other administrators take a more proactive approach by taking advantage of LUMs tools (i.e. usage reporting) on a daily or weekly basis. Regardless of the approach taken to LUM administration, problems and questions regarding LUM configuration, usage of basic licensing tools and other LUM features arise. The intent of this paper is to provide a quick reference for some common problems and most frequently asked questions.

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1. LUM Yesterday and Today

1.1. IBM/DS Licensing Roots (Yesterday)

IBM used the license software RLM (Resource Licenser Manager) for the AIX operating system, prior to adopting NetLS in the 1992. These were licensing products of Apollo Computer, which were purchased by Hewlett-Packard in 1993. NetLS was licensed to Gradient who developed and marketed it till 1997. In 1994 IBM included iFOR/LS in AIX 4.1 BOS file sets that year. The same year Rome License Management Dev.Group was established. In June of 1997 Isogon Corporation and Gradient Technologies announced an agreement where Isogon assumed all responsibilities for Gradient's iFOR license management system, which Isogon renamed LicensePower/iFOR. This product became IBM's LUM in 1997 when AIX V4.3 included LUM V4. IBM's Rome License Management Dev. Group was supporting the product when IBM acquired Isogon in June of 2005. In 2005 the development and support of LUM was moved to IBM Software Group, in Krakow Poland.

1.2. Krakow Support Center (Today)

IBM SWG LAB Krakow

- Established December 2005.
 - IBM LUM moved from Rome Italy as one of the first projects.
- LUM Team is a part of Krakow LAB community. It includes sharing Information, Development and IT services, as well as using common approaches to ensure appropriate quality and project control across all projects in the Laboratory.

IBM LUM Team structure in Krakow

- Development Team
- Test Team
- Customer Support (L3) Team

As the team structure shows it - LUM Team at Krakow owns the whole product development, starting from technical analysis of requirements through design and implementation through support of field releases. For maintaining lists of enhancement requests LUM Team closely cooperates with Dassault Systemes and IBM WWKMS.

2. Why LUM?

Why does IBM and Dassault Systemes use License Use Management (LUM) instead of another licensing tool for Version 4 and Version 5 DS products?

Answer: IBM License Use Management (LUM) is the IBM product for technical license management.

It is owned by IBM and managed by them. Its quality is excellent and very stable. The Dassault Systemes licenses are generated by DS Keycenter and IBM the IBM Key Distribution Center to work with the LUM software. Lastly Dassault Systemes certifies their software based on the security features in both the keys and LUM software.

3. Getting LUM Support

When used with a DS product customers can report issues through the Problem Reporting process at the Dassault Systemes website: <http://www.3ds.com/support/> for IBM customers it is done at the PLM Technical Support web site:

<http://www.ibm.com/software/applications/plm/support/>

Note: This only applies when the LUM product is being used in conjunction with a DS product and the DS product is within its support period. When issues are reported, LUM inherits the Program Services (aka: Warranty) level of support from the associated product.

As LUM is not a DS product DS Technical Support will not guarantee the provision of a solution to the customer but provide a best effort to help the customer. If the problem cannot be answered at this level the problem is forwarded to the LUM team in Krakow, Poland. The DS Technical Support Team will be the focal point communicating to the customer.

4. Common Problems and Frequently Asked Questions

4.1. LUM Software FAQ's

Question: Why it is in my best interest to upgrade my LUM software?

Answer: The reason for upgrading is to be at the minimum certified level defined by the software for the product that you are using which requires LUM as its license manager. Being at the highest FIXPACK for that level is strongly encouraged by LUM Development as you will take advantage of all the latest correction and enhancements at that specific level of software.

Question: Versions 4.6.8 and Version 5.1 version of LUM software are available on the IBM website for LUM. How do I know which version will work with my PLM software?

Answer: The “Program Directory” delivered with your Dassault Systemes software includes information regarding LUM level. You will find it in the “Prerequisites for Licensing” section. Dassault Systemes supported suite of V4 and V5 products use LUM Version 4.6.8 levels.

4.2. Software Communication FAQ

Question: How do LUM and CATIA communicate?

Answer: DS products using concurrent licenses communicate to LUM network license server via a pulse (check signal) to let the server know the license is in use. This pulse is commonly known as the heartbeat. This is a communication process in which DS product and the license server communicate and can be interrupted when user ungracefully logs out. The license can get hung up. For DS V4 products it can be up to 40 minutes. V5 products it can be set from 17 minutes to just a few minutes. This is called the timeout period. Occasionally LUM will lose communication with the DS program and a license may become “STALE” (after the license timeout period). Cleaning up stale licenses occasionally is a good practice. If you see a license and it appears to be in use when it is not, use this GUI action or the `i4blt -C` command. This should free the license for use again.

By selecting one of the keys so it highlights you either click with your mouse the word **Selected** or right click with your mouse and select: **Clean up stale licenses**. Other than waiting the timeout for V4 or V5 there is little that can be done to free the license that would be advised by us.

The **Server Timeout feature** (Figure 1) can be set to adjust the amount of time the DS program will wait for a response from a license server before checking for licenses on additional servers. It may be beneficial to reduce the value in a high performance network or for servers that are not heavily loaded. Just the opposite is recommended in a low performance network where servers maybe heavily loaded. This is beneficial in a slow network.

The **Frequency** (Figure 1) controls the amount of time in which DS program’s “**Heartbeat**” communicates to the license server. This frequency (heartbeat) is communicated by the program to the server when the license is first requested. It can be set in increments of 1 minute to a maximum period of 17 minutes. The default is 17 minutes. In the event that there is a program crash, network problem, or server outage the license(s) can be hung up to a period of 17 minutes depending on the time of the last heartbeat check. In the event of a server outage, or network problem with CATIA it will give the user the ability to save their work. It actually enters a countdown mode (special mode) where CATIA will make a new license request in 1 minute intervals for five attempts. If it fails, it will give the user the ability to only save or exit without saving. Note: Decreasing the heartbeat can lead to increased network load.

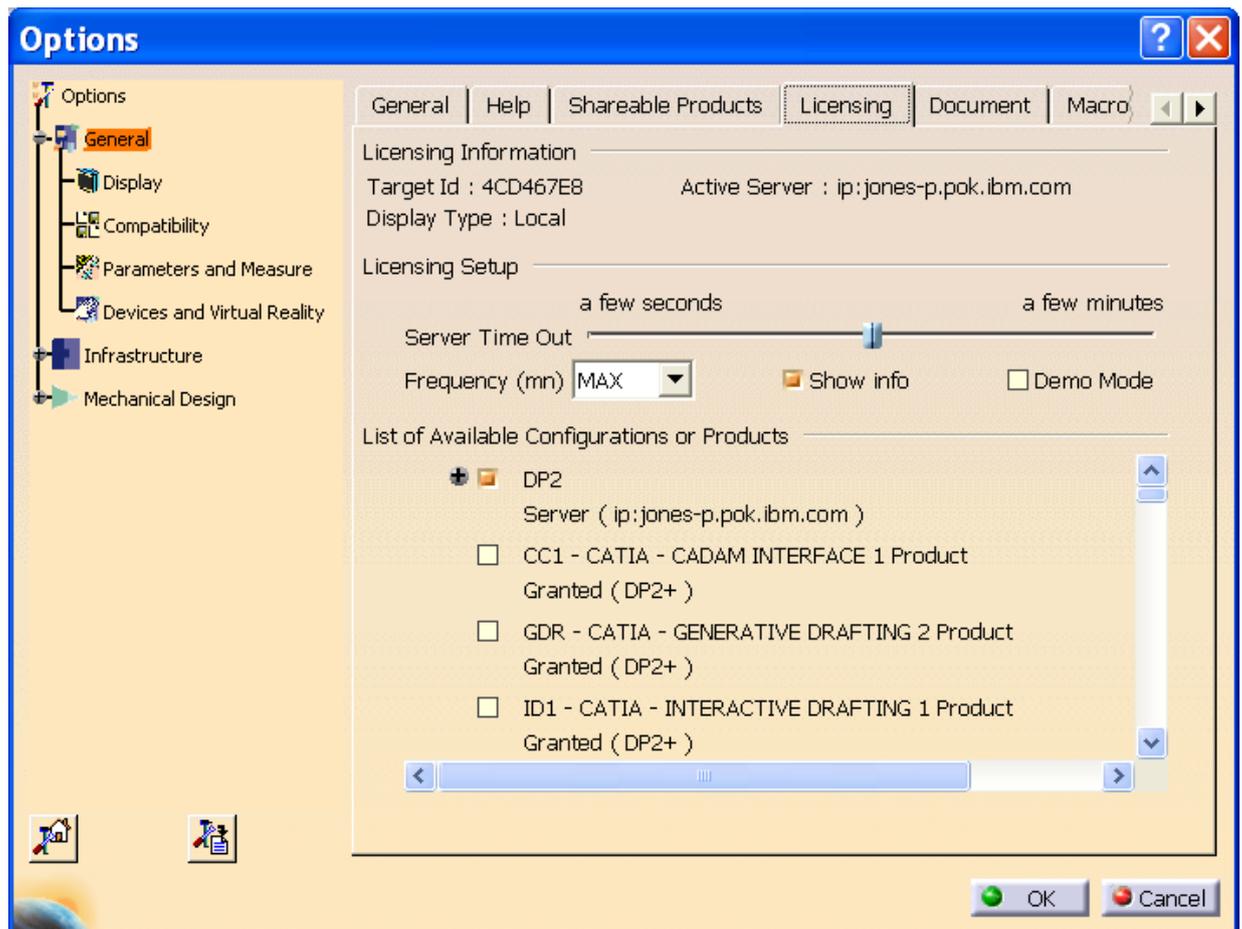


Figure 1 – Server Time Out and Frequency in CATIA

Communication Details:

Basically LUM communication happens on two ports on server side, primary (ipPort) and authentication (ipAuthPort). On application (LUM client) side one randomly chosen port is always used. See figures 2-4.

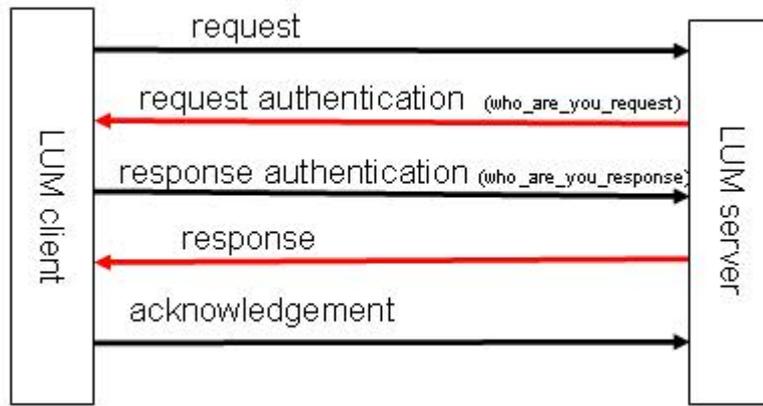


Figure 2 – Basic LUM Communication

In case of unsuccessful communication due to incorrectly configured firewall or slow network, you can expect the messages seen in Figure 3 & 4 exchanged between client and server.

Client side:

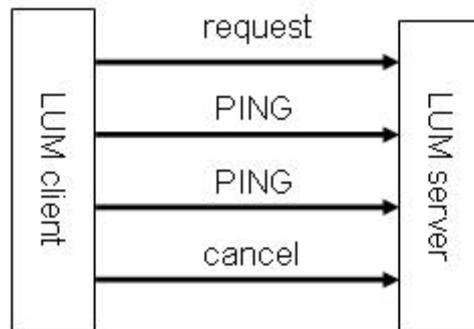


Figure 3 – Basic LUM Communications Client Side

Server side:



Figure 4 – Basic LUM Communications Server Side

5. LUM Administration FAQ's

5.1. LUM Software FAQ's

Question: How can an administrator take a license away from a user and return it back to the pool of available licenses?

Answer: Currently there is not a way to revoke a license from a user and return it to the pool of available licenses. Setting Locks and using the Shareable Products Tab in the Tool Options Licensing tab of CATIA may help reduce unwanted license allocations.

Also within LUM there is the ability to Restrict Users and Groups access to licenses. This is beneficial when ensuring that specific projects and users can obtain the licenses they require and only those licenses essential to meet their project requirements.

This is done with the “user_file” on AIX and UNIX. For the Windows platform it is the “userfile”. The files are found in the LUM “conf” directory. It is simple to set up and only has a few rules to follow to set up ALLOW and DISALLOW statements.

Restricting access can also be done by using the **Basic License Tool** (i4blt).

Question: Virtualization is a proven software technology that is rapidly transforming the IT landscape and fundamentally changing the way that people compute. It brings many benefits to businesses. Taking advantage of this for DS's suite of products is highly desired. Dassault Systemes product licenses require are tied to a specific targeted which looks to be a problem on machine with VMWare. Is LUM supported on Microsoft Virtual Server? LUM documentation does not mention anything about the Microsoft Virtual Server product.

Answer: The license server software can run in VMWare and Virtual PC virtual hosts, but on request from Dassault Systemes, LUM development inhibited the capability of enrolling license certificates for Dassault's products if LUM is running in a virtual system.

Question: LUM cannot be used for serving licenses for PLM software products from a Windows-based virtual operating system such as VMware, Microsoft Virtual PC or Microsoft Virtual Server. The targetid associated with a virtual operating system is not unique, and is not based on a permanent hardware source such as a Network Interface Card, as required for security purposes by the licensing mechanism for CATIA, ENOVIA, SMARTEAM, and DELMIA software products. Use of LUM as a server for PLM product licenses is therefore not supported on virtual operating systems.

Is there a way of cleaning up stale licenses besides using i4blt -C or with the BLT gui interface?

Answer: Cleaning up stale licenses can be done automatically by setting the following variable in LUMs i4ls.ini file: Cleanup_Automatic=yes as seen in red text below. This is executed first when every LUM administrative command gets issued. As an example running i4blt -s will first issue a cleanup.

Threshold_Automatic=0

Threshold_Frequency=60

Threshold_Level=80

Refresh_Automatic=0

Refresh_Frequency=60

ReadTimeout=4

Cleanup_Automatic=yes

[iFOR/LS NCS-Client]

UseDirectBindingOnly=yes

GDBServer=not found

FilterNDL=No

FilterNet=No

NumDirectBindServers=2

NumDirectBindNDLServers=0

DirectBindServer1=ip:licserv1.abc.acme.com[1515]

OS2NetbiosServer1=no

DirectBindServer2=ip:licserv2.abc.acme.com[1515]

Question: How does logging events affect the servers performance?

Answer: Logging of LUM data is sometimes useful to the administrator when he needs to gather useful information about the server's actions and activities. The following events can be logged:

All events, errors, license timeout, license wait, license checkin, license grant/release, Vendor messages, Product added/deleted, Server Start/stop and load messages.

These can have impacts on server performance due to:

I/O operations on the disk and processing time the license server needs to process log files.

If you are doing various logging tasks and see a performance impact the following tips may be useful.

It is good practice to change the default values only for specific reasons. Such as:

- When tuning the size and the number of the log databases:
- When there are several license certificates and/or users increasing the log size tuning could improve the performances at log writing time
- The bigger the log databases are, more time is spent by the license server to display reports. In this case it would be wise to reduce the size of the logfile.

Note: Collecting historical reports (i4blt -r) must be done in low load timeframes

Periodically removing old events is recommended (i4blt -x)

Question: How do administrative tasks affect LUM server performance?

Answer: Some administrative tasks have little impact and other tasks may result in heavy process activity depending on the license server configuration, the number of clients working with that license server and the number of licenses enrolled. The useful chart in Figure 5 shows LUM commands and their impact on the server.

Command	impacts on performance
i4blt -a ...	heavy, but limited at the initial configuration
i4blt -d ...	heavy, but not frequent
i4blt -lp ...	light/medium depending on the number of enrolled licenses
i4blt -ln	light (lighter than i4tv)
i4blt -C	light/medium depending on the number of users
i4blt -Hc ...	heavy, but performed only once
i4blt -Hs ...	light (lighter than i4tv)
i4blt -s	medium/heavy depending on the number of users
i4blt -r ...	heavy/very heavy depending on the size and the number of log files and on filtering

Figure 5 – Administrative tasks and their impact on performance

Setting Traces and server performance:

The administrative task of setting traces should only be used for diagnostic purposes. They should be turned off when completed as the running of traces can have severe impacts on performance due to the high I/O operations on the disk.

5.2. LUM's Configuration File

Question: What does the i4ls.ini file do?

Answer: LUM configuration parameters are stored inside a file called the i4ls.ini file. These parameters are necessary for LUM to function properly and perform task define there. Figure 6 (LUM's i4li.ini file parameters) charts detail many of the parameters used by LUM and license administrators.

DebugProc	specifies if high level traces must be turned on. It includes server logic and database transaction	Set it using i4blt -T
DebugNCS	specifies if low level traces must be turned on. It includes network communication	Set it using i4blt -T
DebugToFile	specifies if traces have to be redirected to a file	Automatically turned to yes when turning traces on via i4blt
NameSpaceBindingSupport	specify if namespace binding is configured on the workstation	Set it using i4cfg
BackupMode	The mode of the License Use Management Runtime database backup procedure	To be changed manually in i4ls.ini
BackupParm	The time in which the backup will occur. To be interpreted together with BackupMode	To be changed manually in i4ls.ini
NumberofLogFiles	The number of log files License Use Management Runtime writes	To be changed manually in i4ls.ini
MaxlogFileSize	The maximum length of the log files, in tens of kilobytes	To be changed manually in i4ls.ini
CleanStart	The server perform a databases refresh at startup	To be changed manually in i4ls.ini
ipAuthPort	Specifies the port used for client/server authentication in case of configuration with firewall	To be changed manually in i4ls.ini
RunGLDB	Specifies if the global location broker is to be started on this workstation	Set it using i4cfg
RunGDB	Specifies if the central registry is to be started on this workstation	Set it using i4cfg
LogAllEvents	Specifies whether or not all the events are to be logged on the license servers	Set it using i4cfg

LogPath	Log file path where to store the log databases	Set it using i4cfg
ColdStart	Specifies whether the license servers restart from scratch, with no record of licenses in use granted before stopping, or not.	To be changed manually in i4ls.ini
RunNDL	Specifies if the nodelock license server is to be started on this workstation	Set it using i4cfg
RunLMD	Specifies if the network license server is to be started on this workstation	Set it using i4cfg
PassiveTime	Specifies the length of time in seconds that an activity is to be kept in the server activity pool after the activity has been completed	To be changed manually in i4ls.ini
MaxActivities	Specifies the maximum number of activities that a server can manage.	To be changed manually in i4ls.ini
MaxActivitiesThreshold	Specifies the load threshold beyond which license requests are rejected. The name is due to backward compatibility reasons	Set it using i4blt -S
LogGrant	Log license grant/release	Set it using i4cfg
LogCheckin	Log license check in	Set it using i4cfg
LogVendor	Log when adding/removing a vendor	Set it using i4cfg
LogProduct	Log when adding/removing a product	Set it using i4cfg
LogTimeout	Log when a stale license is cleaned up	Set it using i4cfg
LogErrors	Log not critical errors	Set it using i4cfg

LogSvrStartStopThr	Log server start/stop and workload threshold-related events	Set it using i4cfg
Refresh_Automatic	Specifies whether the i4blt GUI is to do a periodic automatic refresh. It is meaningful only if using GUI	To be changed manually in i4ls.ini
Cleanup_Automatic	Specifies whether the Basic License Tool automatically cleans stale licenses.	To be changed manually in i4ls.ini
Refresh_Automatic	Specifies whether the i4blt GUI is to do a periodic automatic refresh. It is meaningful only if using GUI	To be changed manually in i4ls.ini
Cleanup_Automatic	Specifies whether the Basic License Tool automatically cleans stale licenses.	To be changed manually in i4ls.ini
UseDirectBindingOnly	Specifies whether the client licensed applications running on this workstation are to locate the license servers using direct binding only	Set it using i4cfg
NumDirectBindingServers	Specifies the number of license servers this client points to.	Automatically set by i4cfg once the list of the license server is provided
DirectBindServerX	Specifies the names/ip addresses of license servers this client has to connect to (One DirectBindServerX tag per server). Servers will be contacted according to the order of appearance in the i4ls.ini file.	Set it using i4cfg

Figure 6 – Lum’s i4ls.ini file parameters.

5.3. Fire Wall Support

If a server runs behind a firewall with respect to the client side, the client-server communications are prevented. This method increases the level of security on those special company assets which are represented by the LUM License Electronic Certificates. In this way nobody outside the Local Area Network of the company that purchased the certificates can have a license granted from the company server.

License server communications take place on two ports. The main server port is defined (ipPort in the configuration file), however, server responses to client requests for authentication take place on a secondary, randomly chosen, port. This is why client/server communications cannot take place through a firewall. If the port number is defined, communications can take place through a firewall, once the firewall administrator has applied proper rules to UDP packets flowing to/from the license server on that port number. See example shown in **Figure 7**.

Firewall support has been introduced, based on the customization of the server authentication port. This is represented by a new ipAuthPort= tag in the configuration file. By default the port number is randomly chosen, but if a specific value is set then the authentication server port will be fixed to that value, for example: ipAuthPort=1516

Using this method, it is possible to install the LUM license server inside the company LAN, protected by the firewall, and to enable the incoming connections of LUM clients from, for example, a DeMilitarized Zone (DMZ), by opening the firewall on the two ports used by the server. Packets directed the opposite way, from the LAN to the DMZ, must not be filtered by the firewall.

When configured to support clients through a firewall License administration is permitted only when the Basic License Tool is run on the same machine as the license server. When multiple servers are connected to set up a High Availability Licensing cluster environment, all the server members of the cluster must be placed in the same side of the firewall.

The main server port number can be changed through the panels of the LUM Configuration tool or its command line interface. However, the authentication port number can be changed only by editing the i4ls.ini configuration file.

Namespace binding is not supported in a firewall system.

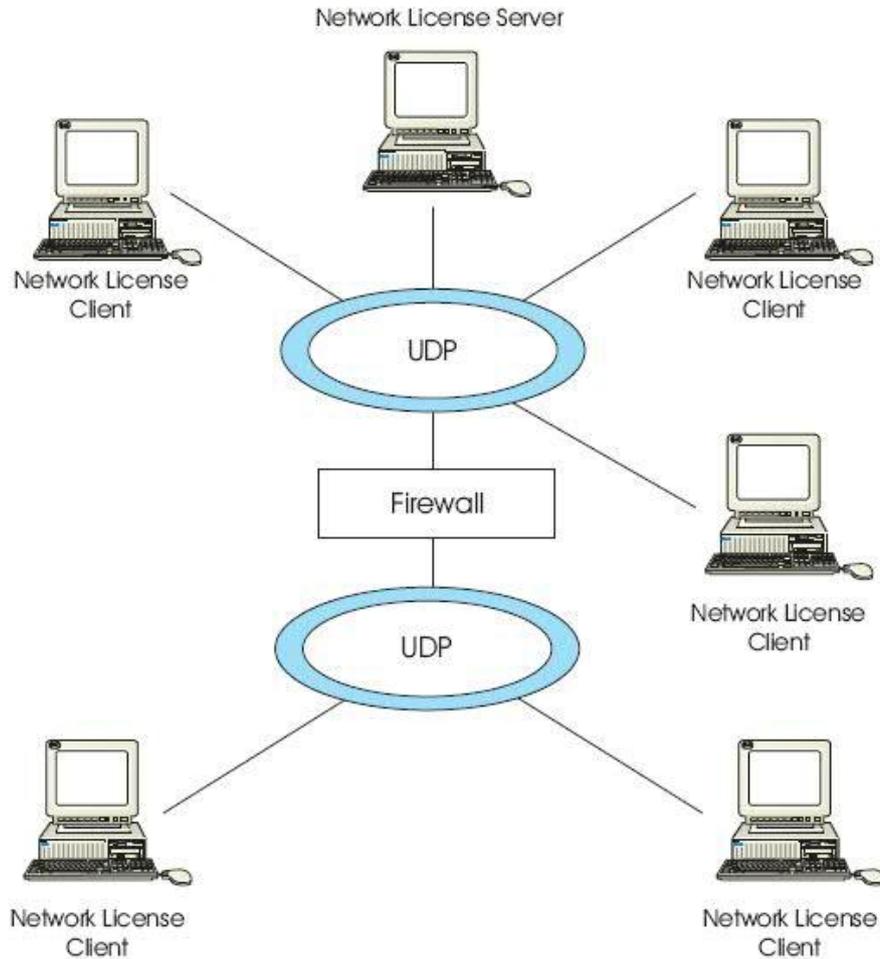


Figure 7 – Direct Binding with Network License Servers, Firewall, and Network License Clients.

5.4. Licensing Over a WAN

Question: I have users that need to work remotely. It is possible for them to communicate with our license server over a WAN?

Answer: CATIA LUM Licensing over a WAN is currently not recommended by LUM.

Depending on the quality of client network connection it could work.

The single LUM client does not exchange huge amounts of data and does not require a large bandwidth to operate. But it may raise other issues. From the server side there are some mechanisms implemented that need to communicate with the clients especially in the case of single failures. The need for the additional communications efforts in the case of single failures affects the LUM server capacity. This may cause the server to be in a stressed state. If a server is in a stressed state it will not serve new license requests.

5.5. Incorrect Targetid

The invalid targetid problem on laptops usually arises because of the presence of multiple Network Adapters (RJ45, WiFi, Bluetooth, FireWire, etc.). If you can temporarily disable all except one of the Network adapters, and then clear out LUM's I4DRIVER Registry entry, you can usually obtain a valid targetid from the single enabled Network Adapter, and can then (optionally) re-enable any of the Network Adapters that you had temporarily disabled. The I4DRIVER entry is found in:

My Computer\HKEY_LOCAL_MACHINE\SOFTWARE\IBM\License Use Runtime

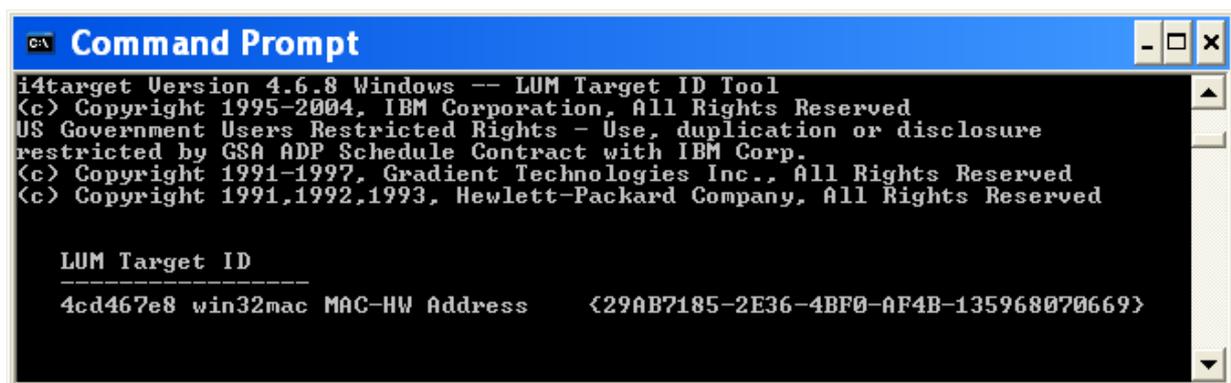
directory in the Windows Registry. Instructions for solving invalid targetid problems by clearing out the I4DRIVER Registry Entry can be found in the Technical (White) Paper “Concurrent Licensing Fundamentals for CATIA Version 5” available to all registered users of the IBM PLM Tech Support web site.

5.6. I4target – Target View Tool

This is used to display the unique identifier node of your machine. This identifier is needed when ordering license keys from your local License Key Center.

i4target also has a number of various parameters that can be used to provide various results.

The **i4target -O** command yields pertinent licensing information, including the following: version is 4.6.8, LUM Target ID is 4cd467e8 Win32mac, Mac-HW Address is 29AB7185-2E36-4BF0-AF4B-135968070669. See Figure 8.



```

C:\> i4target Version 4.6.8 Windows -- LUM Target ID Tool
(c) Copyright 1995-2004, IBM Corporation, All Rights Reserved
US Government Users Restricted Rights - Use, duplication or disclosure
restricted by GSA ADP Schedule Contract with IBM Corp.
(c) Copyright 1991-1997, Gradient Technologies Inc., All Rights Reserved
(c) Copyright 1991,1992,1993, Hewlett-Packard Company, All Rights Reserved

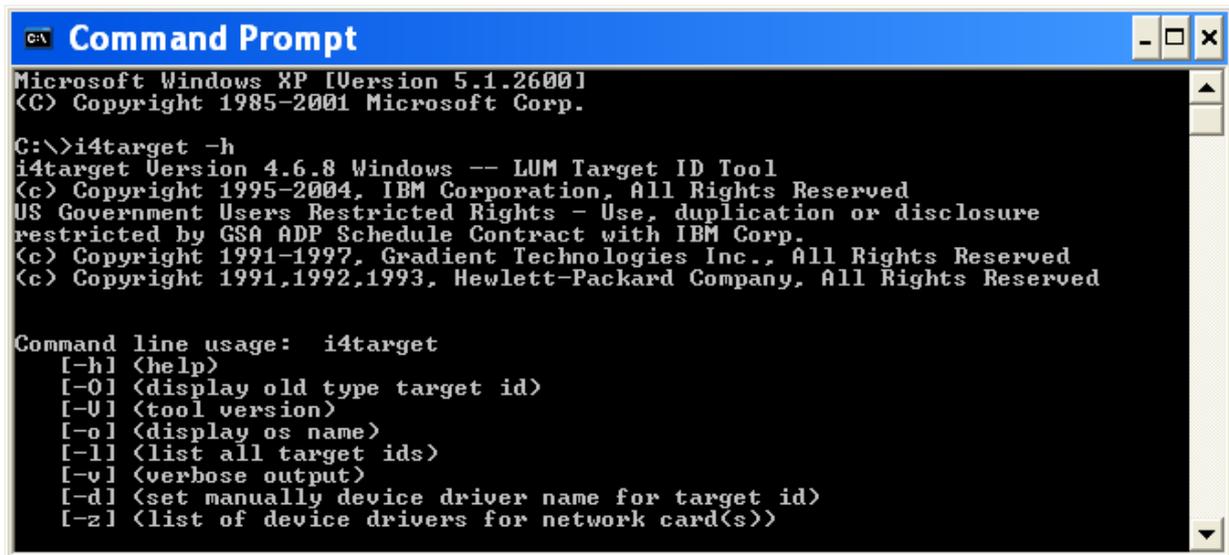
LUM Target ID
-----
4cd467e8 win32mac MAC-HW Address    {29AB7185-2E36-4BF0-AF4B-135968070669}
  
```

Figure 8 - Example of the results of i4target -O

5.7. i4target and win32mac Targetid's

When a license is needed on a Windows machine you **MUST** provide a win32mac targeted to the Key Center. A win32 targetid is not sufficient. The win32mac address comes from the driver for the LAN card, not from the card itself. It may be necessary to use the i4target tool options to produce a valid targeted.

Figure 9 shows the the results of the i4target -h command, listing the parameters (flags) that can be used.



```

Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\>i4target -h
i4target Version 4.6.8 Windows -- LUM Target ID Tool
(c) Copyright 1995-2004, IBM Corporation, All Rights Reserved
US Government Users Restricted Rights - Use, duplication or disclosure
restricted by GSA ADP Schedule Contract with IBM Corp.
(c) Copyright 1991-1997, Gradient Technologies Inc., All Rights Reserved
(c) Copyright 1991,1992,1993, Hewlett-Packard Company, All Rights Reserved

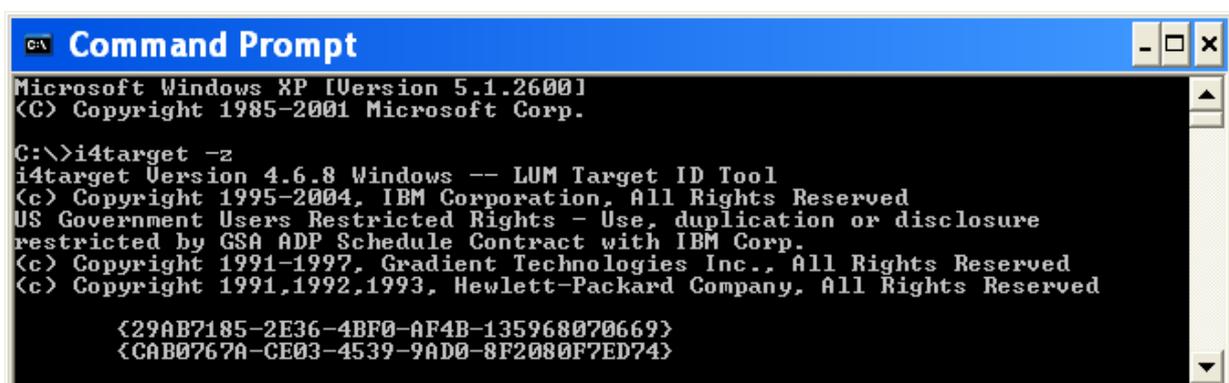
Command line usage:  i4target
[-h] <help>
[-O] <display old type target id>
[-V] <tool version>
[-o] <display os name>
[-l] <list all target ids>
[-v] <verbose output>
[-d] <set manually device driver name for target id>
[-z] <list of device drivers for network card(s)>

```

Figure 9 - i4target -h results

5.8. i4target -z (List Of Device Drivers For Network Card(s))

This command is needed to identify the device drivers. Figure 10 shows one drivers pair of identifiers. Frequently there will be more than one pair of identifiers.



```

Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\>i4target -z
i4target Version 4.6.8 Windows -- LUM Target ID Tool
(c) Copyright 1995-2004, IBM Corporation, All Rights Reserved
US Government Users Restricted Rights - Use, duplication or disclosure
restricted by GSA ADP Schedule Contract with IBM Corp.
(c) Copyright 1991-1997, Gradient Technologies Inc., All Rights Reserved
(c) Copyright 1991,1992,1993, Hewlett-Packard Company, All Rights Reserved

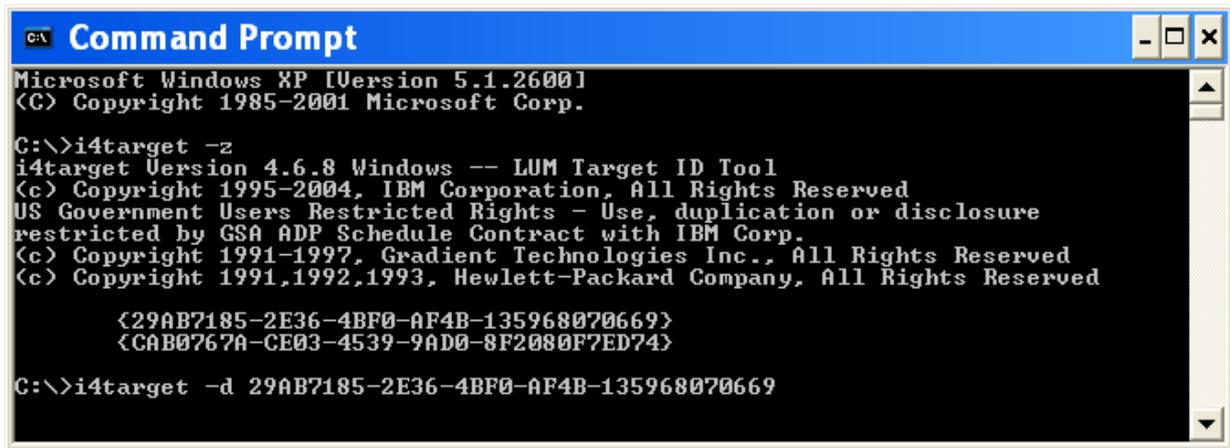
<29AB7185-2E36-4BF0-AF4B-135968070669>
<CAB0767A-CE03-4539-9AD0-8F2080F7ED74>

```

Figure 10 - i4target -z results

5.9. i4target -d (Manually Sets The Device Driver Name For Targetid)

Use this command with the results of `i4target -z` to manually set the device driver name for the target in the machine's registry. See Figure 11.



```

Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\>i4target -z
i4target Version 4.6.8 Windows -- LUM Target ID Tool
(c) Copyright 1995-2004, IBM Corporation, All Rights Reserved
US Government Users Restricted Rights - Use, duplication or disclosure
restricted by GSA ADP Schedule Contract with IBM Corp.
(c) Copyright 1991-1997, Gradient Technologies Inc., All Rights Reserved
(c) Copyright 1991,1992,1993, Hewlett-Packard Company, All Rights Reserved

    {29AB7185-2E36-4BF0-AF4B-135968070669}
    {CAB0767A-CE03-4539-9AD0-8F2080F7ED74}

C:\>i4target -d 29AB7185-2E36-4BF0-AF4B-135968070669
  
```

Figure 11 - i4target -d results

After running the “z” & “d” options and running `i4target -O` a valid win32mac targetid should be provided. In some instances it may be necessary to run the “regedit” command first and remove the I4DRIVER from HKEY_LOCAL_MACHINE/SOFTWARE/IBM/License Use Runtime

6. DS Software Common Problems and Frequently asked questions

6.1. Offline Concurrent License Problems

Question: Why can't an Offline Concurrent License be returned to the license pool?

Answer: In order for the license to be restituted to the server, the target ID of the laptop (which has received the extracted license) must match the target ID listed on the server as being checked out to the laptop.

The time and date of the client machine and server cannot be altered from the period when the license was reserved. If either machine has been changed this must be adjusted to the correct time according to the time it was taken. The other alternative is to wait the full period it was taken for. It will become available again at that time.

Licenses will not convert to offline concurrent licenses when running the executable “i4_offline_mig.exe”. The following error is received: “Offline functionality not exploitable”.

Question: What actions can be taken to overcome this?

Answer for a Windows 64 bit system: If this is a 64 bit machine running in 64bit mode offline licenses do not work with LUM 4.6.8 software levels. It is disabled. There is currently an Enhancement Request for this.

Windows XP 32 bit system can be installed on 64 bit machine. In this case all LUM functionality is enabled.

Answer for a Windows 32 bit system: Step 1. Check that the Offline function works by running i4tv -d

If the following message is received: KO: Offline functionality not exploitable.

Step 2. Run net start LUMDriver at the C: prompt

If net start LUMDriver returns: System error 2 has occurred. The system cannot find the file specified. See Step 7

Step 3. Run i4tv -d It should return: OK: Offline functionality working properly.

Step 4. Run i4cfg –stop to stop the server.

Step 5. Run i4_offline_mig.exe

Step 6. Run i4cfg -start

Step 7. If net start LUMDriver returns: System error 2 has occurred. The system cannot find the file specified. This would indicate that the LUMDriver is not installed on the machine or broken. It is recommend to reinstall LUM, apply ARK version 4.6.8 and then patch 008, input your license, do Steps 4 – 6.

If step 3 returned: KO: Offline functionality not exploitable. The problem needs to be reported to PLM Technical Support at:

<https://www-304.ibm.com/jct03004c/software/applications/plm/support/support.wss>

They will work with you and the LUM Development team to acquire a special "cleaner" routine that is supplied by the LUM team to erase the corrupted LUM driver configuration files causing the problem.

6.2. How To Get A Targetid From CATIA

Getting a win32mac targetid using “CATIA’s Nodelock Key Management Tool”

Select in the following sequence:

Start/ALL Programs/CATIA_P2/Tools/Nodelock Key Management

Note: You will get 2 screens one being a warning indicating you do not have a nodelock file. This is not a problem! Just a message indicating that there is currently no nodelock file.

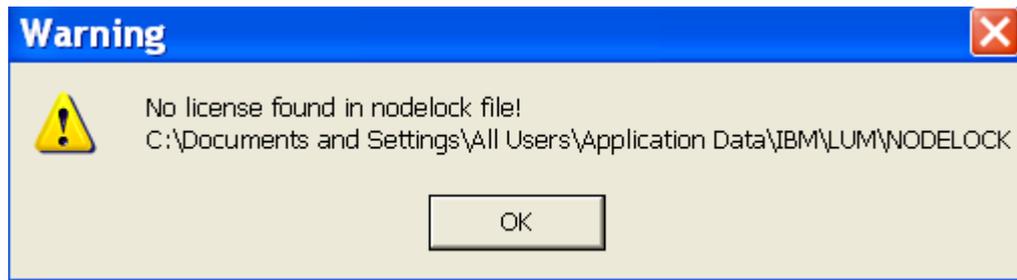


Figure 12 - Nodelock Message

Clicking OK to acknowledge the message a screen similar to this will be seen. See Figure 12

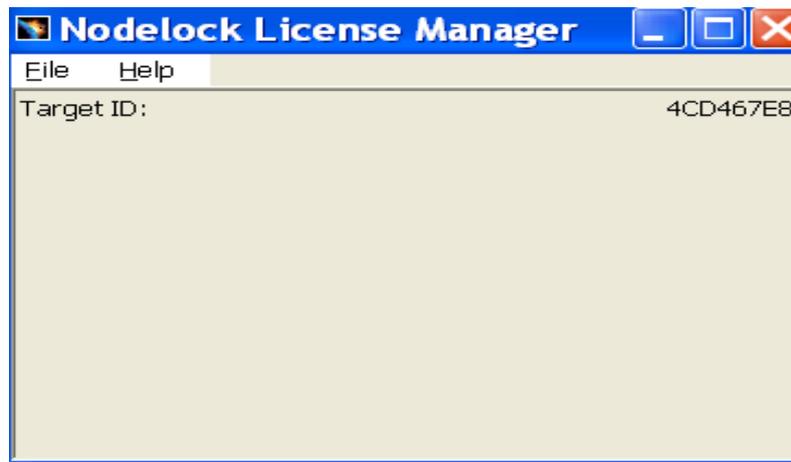


Figure 13 - Nodelock Management Tool

This targetid is used when ordering license keys for this machine. During the CATIA installation the LUM i4target.exe was provided and is used by this tool. The targetid result is the same as if you ran one of the i4target commands from the DOS prompt. This tool is useful when LUM has not been installed to acquire the necessary targetid for ordering keys.

It is also used to add, enroll, and read nodelock keys.

If the targetid is all 0's (Windows only) then there is a problem. You will need to use the i4target -z and i4target -d commands to manually set the device driver name in the registry.

7. Glossary of CATIA and LUM Terms

Active: Currently running and functioning properly

Add-on Product License: A license that is added into a configuration license for the purpose of additional CATIA V5 functionality. An example: MD2 + GSD + GSO

Administrator: The person responsible for setting up the CATIA and License Use Management Runtime environment, as well as maintaining all necessary tasks to keep this environment functioning properly.

Cell: Is a logical grouping of client and servers and subnet of a network.

Concurrent License: A license that is administered by a network license server. It can be used by different users on client machines connected to the license server.

Concurrent-Offline License: License that has been converted by the 14_offline_mig.exe to enable the license to be extracted to use for a specified period while disconnected from the network.

Configuration License: A license that is made up of one or more CATIA products. At least one Configuration license is required to start a CATIA V5 session.

Cluster: A group of network license servers that work in conjunction with each other. Some serving licenses while others wait in reserve to assume the role in the event of server failure.

Cluster ID: It is the unique sequence of numbers & letters that get assigned to the cluster at the time of the cluster creation.

Direct Binding: It is the binding (linking) of network license servers and clients by means of a specific text file stored locally on the machine that contains the network addresses of the license servers.

Dynamic Licensing: The ability share a license with others without exiting the current session

Environment: An environment is a set of runtime environment variables. Each variable points to a path searched by the software when you start a session.

Environment Editor: CATIA tool used to create new environment variables and their paths or edit existing ones.

Extract: Act of pulling a license from a server to be used on a stand alone laptop/notebook off the network.

Firewall: Computer software that prevents unauthorized access to data (as on a company's local area network or intranet)

Frequency: How often the heartbeat occurs. Can be set from 1 to 17 minutes

GUI: Graphical User Interface

Heartbeat: The pulse (check signal) given by CATIA to the license server to let it know the license is in use

High-Availability Licensing (HAL): Is an option in LUM that provides the ability to serve licenses with one or more servers in reserve. In case of a server failure this greatly reduces the chance of license unavailability due to a server failure

LAN (Local Area Network): It is a computer network covering a small local area, like a home, office, or small group of buildings such as a college

License: The permission to use an instance of a licensed software product

License key: Encrypted character string that provides specific instruction for a software product and its usage

License Server: The hardware in which LUM is installed and configured to administrate licenses

NAT (Network Address Translation): In computer networking, the process of network address translation (NAT, also known as network masquerading or IP-masquerading) involves re-writing the source and/or destination addresses of IP packets as they pass through a router or firewall. Most systems using NAT do so in order to enable multiple hosts on a private network to access the Internet using a single public IP address. According to specifications, routers should not act in this way, but many network administrators find NAT a convenient technique and use it widely. Nonetheless, NAT can introduce complications in communication between hosts.

Restitute: Act of returning a concurrent offline license

RPC (Remote Procedure Calls): It is protocol that one program can use to request a service from a program located in another computer in a network without having to understand network details.

Shareable Product License: License that can be released for use by others without exiting the current session

Stale: Is when current license status is lost and unmanageable. In LUM a stale license is one that LUM has lost communication to. To free up the license it must be cleaned with the appropriate tool or LUM command.

Static Licensing: Is when configurations and products are selected in the Tool/Options/Licensing Tab prior to the start of CATIA. These licenses are held for the entire time this CATIA session is used and unavailable for use by other.

Target ID: Is a unique number based on either the machine's hardware or generated by License Use Runtime.

Time Out: Wait period before CATIA checks with another server for a license.

WAN (wide area network): Is a computer network that spans a relatively large geographical area. Typically, a WAN consists of two or more local-area networks (LANs).

8. Conclusion

Both IBM PLM Technical Support and the IBM LUM Development Team trust that by reading this document it has provided some useful knowledge about the LUM software. We are confident that having a copy of it handy will be beneficial as it will serve as a frequently visited technical resource and reference guide. Please add this to your library of “PLM Technical Support Series” documents to be used when managing your licensing environment.

9. References

CATIA V5 Documentation

CATIAV5 Program Directories

Using License Use Management Runtime Documentation

10. Revision History

June 2011 / Version 0.0 – original doc authored

March 2014 / Version 1.0 – updated to new template

11. Related Documentation

For additional information, refer to the following Q&A's from our Knowledge Base:

KA QA00000005868 What are the LUM commands & how are they used in different OS?

KA QA00000006674 Migrating CATIA V5 licenses from Concurrent to Concurrent-offline

KA QA00000003812 What are the licensing basics and how to use them?

KA QA00000006599 Some LUM 4.6.8 "Best Practices" for CATIA V5 License Usage

KA QA00000006691 Maximum Offline Period for CATIA V5 Licenses

KA QA00000002164 Check for concurrent Licenses

KA QA00000005868 What are the basic LUM commands and how are they used?

KA QA00000006649 LUM Server Capacity Questions

12. Document History

Document Revision	Date	Revised By	Changes/Notes
0.0	June 2011	A3R	Original
1.0	Mar 2014	A3R	Updated to new template

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