Managing Engineering software: License Asset Manager™ with Usage Monitoring (LAMUM)

Guy D. Haas, BS, MBA, President, TeamEDA, Inc.

09.10.2018

Table of Contents

Introduction

Engineering software is generally expensive and available in all types and forms: concurrent/networked (meaning shared), pay-per-use, Node-locked, User locked, Shrink-wrapped, and dongle keyed. There is a movement away from the single-User Licenses to shared Licenses. Shared License management is maintained (not necessarily insured) through FLEXlm, LUM, elan, Sentinel, Clearcase, etc. Shared License restrictions can be LAN, scaled LAN, WAN, scaled WAN, and even hybrid variations thereof. The right "Mix" of License type depends on usage patterns, trends, and cost. Node-locked, single User Licenses are much cheaper, than LAN or WAN, with Global WAN being the most expensive. It is imperative that Management choose the most economical mix, while still giving availability to Engineers to meet Project requirements. Utilization metrics can certainly help, but it is not all that must be considered. Without accurate and up to date business intelligence, one cannot prepare well enough for negotiations with the vendor or make the best decision for their company.

License Asset Manager Best Practices

Managing expensive engineering software, across the enterprise. This addresses the business side of managing License assets and describes a "total management system" for engineering software. Managing the business side effectively can further reduce engineering software costs, provide more "business intelligence" for making better decisions, improve responsiveness, and insure Software License use compliance. We will look at the business elements of License management and why they must be considered a part of the management process.

Vendor relationships

Vendors are the producers of the Tools that are needed by Engineers. You can't design electronic or mechanical products without them. The number of Vendors and the array of Tools available is staggering. There are hundreds of Vendors and thousands of Tools to choose from. It is typical in a high technology product Company, to spend 1-1½ % of sales on these tools (Dataquest). The Tools are very sophisticated software programs and can cost tens of thousands of dollars for a single User License

License Compliance

Sarbanes Oxley law, stricter accounting practices and recent copyright litigation has increased the likelihood of audit of your engineering software inventory and usage. An audit can come from internal Finance, or from Vendors. A recent study suggests that approx. 20% of software Customers are audited each year. Auditors are looking at quantities in use (vs. what is purchased); restriction type in use (LAN, WAN, or variations thereof, vs. what was purchased); adherence to license control mechanism: FLEXlm, node-lock (Host ID), User-locked (User name), dongle key; and adherence to terms and conditions of the License Agreements. Since non-compliance can be costly, embarrassing, and time consuming, having a way to control and validate that you are compliant is imperative. Elements of Compliance:

TeamEDA Inc. | 1001 Elm Street, Manchester NH 03102 | teameda.com | 1(603)656-5200

License Asset Management "Best Practices" requires concern about licensing compliance. Penalties for non-compliance can be significant.

Each PO is negotiated. For the Customer, minimum cost, maximum value is desired. For the Vendor, maximum Revenue, minimum deliverable is desired. Each Vendor has a unique negotiating style and willingness to discount and/or "throw-in" to the deal. The discount and "deal" will vary from Vendor to Vendor, and from PO to PO. Having a history of how each Vendor behaves would be desirable. Moreover, PO cost is charged to internal Cost Centers. Cost Centers reflect Business units or Project teams, and those assets must be properly allocated, carefully managed and accounted for, by Cost Center. So, the PO is a very critical part of License management, but again, how many Managers really know what is in the PO, who paid, or what kind of deal they got. Tracking PO information is an important front-end part of a Total License Management and Compliance System:
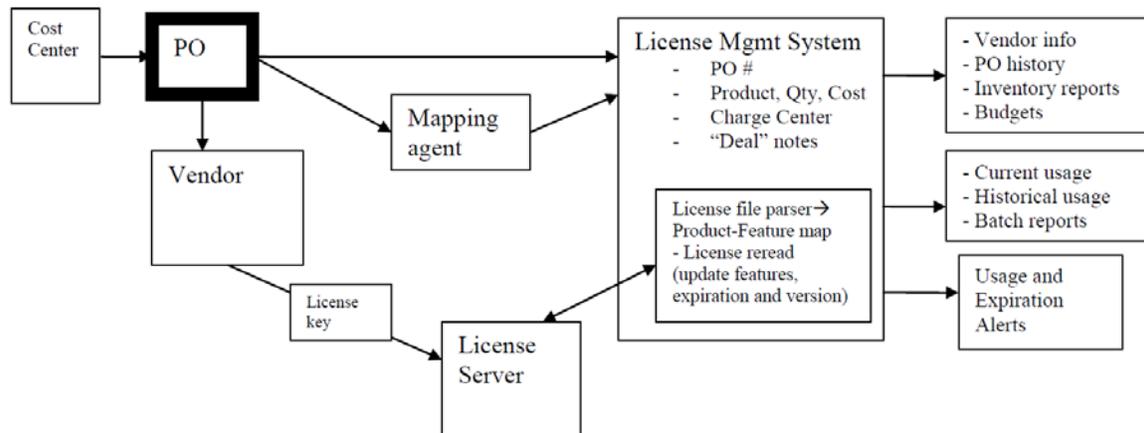
Engineering Vs. Bus Software MGMT.

Engineering software is licensed uniquely, controlled uniquely, used uniquely, and is very expensive. Most engineering software is shared so monitoring checkouts, deciding between node-locked, LAN or WAN is critical in managing the balance between cost and availability. Compliance is another concern, especially for large industrial companies or Defense Contractors. We have built a solution that addresses these issues. LAMUM is a software product and a "methodology" which represents "best practices" in this area. LAMUM was created 12 years ago and is 12 years of refinement towards the perfect tool for managing Engineering software assets.

TeamEDA Inc. | 1001 Elm Street, Manchester NH 03102 | teameda.com | 1(603)656-5200

Business software management vendors focus on the business software management problem.

Business software is typically cheaper per seat, but there are many more seats, except for the big Database, CRM, Accounting, systems. Where a company might spend $250,000/year on engineering software, they might spend $2.5mill/year on Business software.

Let's examine the two types of software and look at management issues for each:
Engineering software (CAD, CAE, EDA)

- Cost: Can range from $1,500 a seat to $100,000 per seat, with average about $10,000 per seat/User. Cost depends on software functionality, value, and # competitors. Seats are typically "floating", meaning anyone can use them.
- Purchase method: Usually sold on Annual Subscription basis, with annual remix, i.e. you can change the number and type of seats/licenses annually. Renewal time is therefore, very important.
- Licensing: Usually "floating" Licenses (sometimes called concurrent-use or networked). Floating license are like books in a library. You buy 5 licenses, which allows up to 5 licenses to be "checked out" concurrently. After that, no more licenses are available, which could result in a "Denial". Tracking and reporting "Denials" is very important! Floating license checkouts are typically managed by a License server daemon. Common floating license daemons are FlexLM, DSLS, Reprise, LM-X, FlexLM is the most common. Multiple License servers are common, one for each concentration of engineers. There is an occasional need to track Licenses inside a "Secured" (firewalled) area.
- Restriction on use: there can be various limitations, and restriction of use is highly critical. Typical restrictions are WAN, LAN, Node-locked, User-locked, and there can be many variations thereof. Most CAD Vendors offer LAN or WAN, and some Node-locked only. Node-locked is the cheapest per seat. LAN is more expensive, and WAN is even more expensive per seat. However, it would unrealistic, and cost-prohibited, to give a Node-locked to every engineer.

LAMUM

Key Features vs. Other Monitoring Software

- Check-out/check-in reports based on "selected features" (features that are relevant to the product and can be used to make product decisions.
- Reduces data clutter by 50%.
- Reporting by user-friendly "Tag" name, which otherwise would be daemon or port@host.
- Concurrency reports (% of checkouts at each concurrency level).
- User specific usage reports.
- Group specific usage reports.
- 24x7 Heatmap report (weekly usage patterns).
- URL generated reports for casual users ("Favorite" portals with no log-in))

- Each graph is a (.jpg) which can be copied, saved, pasted into email
- Every table can be exported into Excel.
- Long-checkout Alert and Warning Letter.
- License key expiration and contract renewal alerts
- Asset/Inventory management.
- Contact management
- Compliance assurance
- A less expensive and more comprehensive solution

LAMUM License Asset Manager Advantages

- Complete vendor, product and license information including:
- Vendor information including contracts and contacts
- products, cost, tool discipline information
- PO, deal notes, and cost tracking (if desired)
- License key and contract renewal "alerts"
- Track shared or concurrent-use Licenses
- Product feature mapping
- License server and daemon information including status (up/down).
- License Inventory, PO History, and Renewal Budget reports.
- Dedicated support staff.

LAMUM Usage Monitoring Advantages

- Easy to use, easy to interpret reports with colorful 3D graphics
- Current checkout status, with URL link that can be saved as a Favorite
- Historical usage by Tag, Feature, User, or Group
- Concurrency reports
- Reports on node-locked/standalone licenses
- Long checkout and Capacity Threshold Alerts
- Active Directory interface
- Save reports/views as "Favorite" in browser
- Inexpensive, compared to FNM (half the cost?)
- Easy to use and FAST!
- Installation and set-up in less than One Hour.

When you want an enhancement or new functionality in the software, you will speak to the engineer that can make that change for you.

License Asset Manager™ With Usage Monitoring ROI

With License Asset Manager you can:
- Reduce annual license costs 15-20% for easily quantifiable ROI.
- Track all shared and standalone licenses. Knowing where all licenses are and who is using them is a good first step.
- Show your actual current checkouts, who has the license, how long it has been checked out, and if someone is "camping" (checked out but not in use) on a license, you can send them a "Warning" email.
- Create "read-only" portals for engineers to see current checkout status of certain Licenses, how many are available.
- Show your historical usage by license, by user, by site, for any time-period. With that information you can see how often Max checkouts have occurred.
- See usage trends for making decisions.
- Show concurrent usage stats as a % of time
- Monitor all license servers and daemon, and know at once if a server or daemon goes down with daemon-down alerts
- Long-checkout and capacity-threshold alerts
- Expiration alerts, via email, far enough in advance, will allow you to renew licenses without service interruption.
- Create charge-back reports by User or Group (for license use)
- Be prepared for an internal or external audit for licensing compliance.
- Be able to show PO, cost, contracts, time periods.
- Give associated documents for each vendor.

What makes License Asset Manager ™ so good:

Intranet, web-based, shared and protected solution. The solution is based on an industry standard Windows Server platform, SQL database, Apache, and Java.
- Easy to install and use (intuitive)
- Import via Excel spreadsheet
- Complete Vendor and Reseller information, including Contacts and Contracts
- Complete License Inventory
- Shared License Asset tracking
- Node-locked License Asset tracking
- Full Tool/Product information, including Part#, Discipline, and Price
- Extensive Inventory reporting
- Extensive Utilization reporting
- Viewing portals for casual Users (save URL as a "Favorite")
- Long-checkout Alerts and/or Warning letters
- Capacity-threshold Alerts
- Expiration alerts (for Contracts and license keys)
- Access via Windows browser or iPad
- Auto-refresh of "Current Checkout" page (show real-time status!)

Additional Inventory and Utilization Reports

Current License Inventory- WAN
- Current License Inventory- LAN
- Current License Inventory- Node-locked
- Current License Inventory- Subscriptions
- Current License Inventory- Temp keys
- Current License Inventory- Purchase Type
- Current License Inventory- Restriction Type
- Current License Inventory- Discipline Type
- Current License Inventory- License No.
- Current License Inventory- Responsible Person
- Standalone License Inventory
- Perpetual License Inventory
- Expiring Licenses- chronological order
- Current Checkouts by Tag/ Feature
- Current Checkouts by Actual vs. Available
- Current Checkouts by User
- Current Checkouts, Age of checkout, and where job is running (machine)
- Historical Usage by Tag/Feature (any time period)
- Historical Usage by User (any time period)
- Top 10 Users for any feature for any time period
- Historical Usage by Site (any time period)
- Users count actual vs. average concurrent
- Summary of Checkouts, and Historical usage (7 days, 30 days, 90 days), by "Product purchased"

Threshold Alerts and Warning letters
- Server/daemon down
- Long-checkout alert
- Long-checkout warning letter
- Capacity-limit alert

CONCLUSION

TeamEDA offers integrated software license management tools for engineering applications. Our key product, License Asset Manager™ with Usage Monitoring (LAMUM) is the best-in-class tool for consolidating software license information, managing inventory of engineering applications and monitoring software usage. Unlike other license management tools, LAMUM monitors usage at the tool level, not feature level. LAMUM is easy to use, intuitive and comprehensive. With LAMUM, most customers save 15-20% on license costs every year offering Integrated FlexLM monitoring and FlexNet license usage tracking, as well as Sentinel, Reprise, LUM.

Manage CAD/CAE software license inventory by;

Application name	Responsible persons
Vendor	Restrictions of use
Disciplines (Tool purpose)	Renewal dates
Server locations	Costs

Consulting Services Also Offered

TeamEDA also provides methodology and license process consulting and on-site user training services to ensure fast, smooth implementation. Consulting services include:

Implementation planning
License data prep and entry
Methodology training
Advanced user training
License optimization strategies
Software development (customization)

With TeamEDAs License Asset Manager, you get a comprehensive set of high-level management tools and a support staff ready to tackle any, and all, of your engineering licensing Management Needs.

Checkouts Overview

Overview Information

Following is the list of licenses currently being used. Licenses with zero usage omitted.
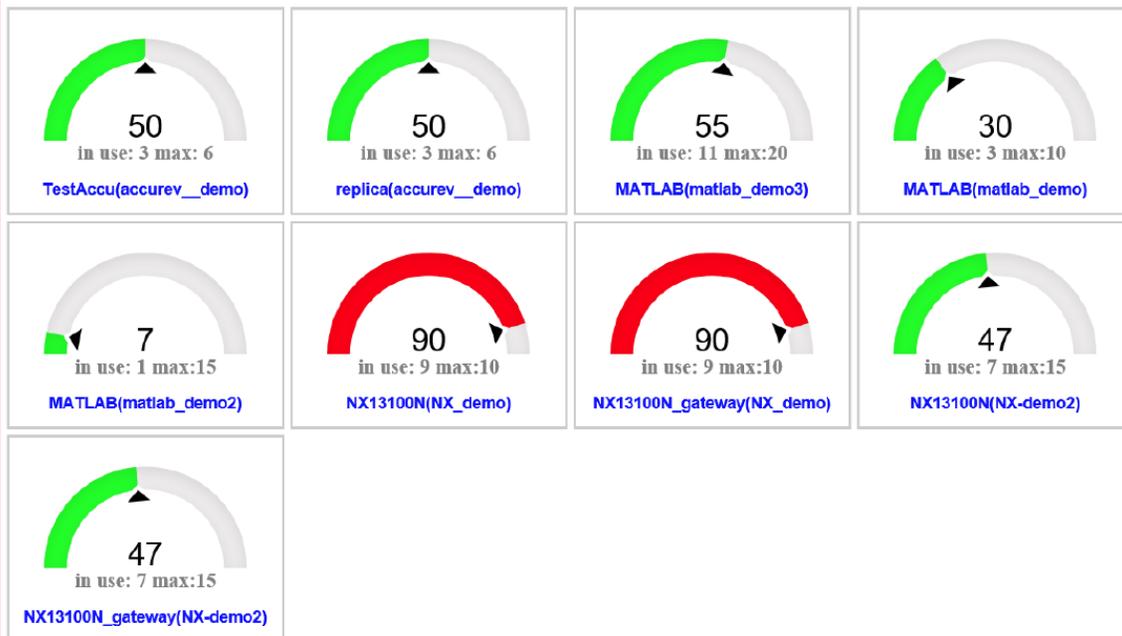
AutoRefresh Off - [Start]

[Reset Filter(s)] [Toggle Column Filters]

☐ Gauge display select	Feature ⬍	Tag ⬍	Number licenses ⬍	Licenses in use ⬍	Usage Percentage ▼
☐	NX13100N(NX)	NX-demo2	15	15	100.00%
☐	NX13100N_gateway(NX)	NX-demo2	15	15	100.00%
☐	MATLAB(MATLAB)	matlab_demo2	15	14	93.33%
☐	MATLAB(MATLAB)	matlab_demo3	20	14	70.00%
☐	MATLAB(MATLAB)	matlab_demo	10	6	60.00%
☐	TestAccu(accurev)	accurev__demo	6	3	50.00%
☐	replica(accurev)	accurev__demo	6	3	50.00%
☐	NX13100N(NX)	NX_demo	10	1	10.00%
☐	NX13100N_gateway(NX)	NX_demo	10	1	10.00%

[Select Gauge Display]   Edit color thresholds.

Checkouts Gauge Display

Current Overview Gauge display in percentage (%)

Following is the list of licenses currently being used. Licenses with zero usage omitted

50	50	55	30
in use: 3 max: 6	in use: 3 max: 6	in use: 11 max:20	in use: 3 max:10
TestAccu(accurev__demo)	replica(accurev__demo)	MATLAB(matlab_demo3)	MATLAB(matlab_demo)

7	90	90	47
in use: 1 max:15	in use: 9 max:10	in use: 9 max:10	in use: 7 max:15
MATLAB(matlab_demo2)	NX13100N(NX_demo)	NX13100N_gateway(NX_demo)	NX13100N(NX-demo2)

47
in use: 7 max:15
NX13100N_gateway(NX-demo2)

TeamEDA Inc. | 1001 Elm Street, Manchester NH 03102 | teameda.com | 1(603)656-5200

Checkout Detail by Tool

NX – Information

Following is the list of licenses currently being used.

Send Group Email (Active Directory must be set up)

AutoRefresh Off - **Start**

First Prev 1 - 9 / 9 (9) Next Last 30 ⌄   **Reset Filter(s)** | **Toggle Column Filters**

Server:28000@Server2003(NX)										
Users	Tag Name	Feature	Licenses Held	Capacity	Total Used	Available	Borrowed Duration	User Machine	Checkout Time	Total Time in Use
wilbur shaw	NX_demo	NX13100N	1	10	9	1	No	eda6	2018-03-22 08:01	02:09:33
bmclaren	NX_demo	NX13100N	1	10	9	1	No	eda10	2018-03-22 08:05	02:05:33
bbaker	NX_demo	NX13100N	1	10	9	1	No	mda3	2018-03-22 08:17	01:53:33
ssavage	NX_demo	NX13100N	1	10	9	1	No	mda5	2018-03-22 08:35	01:35:33
tnuvolari	NX_demo	NX13100N	1	10	9	1	No	eda4	2018-03-22 09:31	00:39:33
smoss	NX_demo	NX13100N	1	10	9	1	No	eda5	2018-03-22 09:45	00:25:33
paul newman	NX_demo	NX13100N	1	10	9	1	No	eda3	2018-03-22 09:54	00:16:33
prodriguez	NX_demo	NX13100N	1	10	9	1	No	mda4	2018-03-22 09:55	00:15:33
kirwin	NX_demo	NX13100N	1	10	9	1	No	mda8	2018-03-22 09:58	00:12:33

User Dashboard Method

Another option is to have all these one-click (hyperlink) reports in one place- a User Dashboard

LAMUM Dashboard

Current Checkout Status

Current Checkout Overview

Matlab/Demo2 Current Checkout details

NX/Demo Current Checkout details

Documentation

Usage Reports Tutorial

Monitoring Current Usage methodology

Weekly Heatmaps

Matlab/Demo2 Heatmap

NX/Demo Heatmap

- SharePoint
- Google Docs
- PDF/Word
- Anything that can handle hyperlinks

Based on URL

TeamEDA Inc. | 1001 Elm Street, Manchester NH 03102 | teameda.com | 1(603)656-5200

THANK YOU.
FOR MORE INFORMATION CONTACT: GUY HASS
GHAAS@TEAMEDA.COM

TeamEDA Inc. | 1001 Elm Street, Manchester NH 03102 | teameda.com | 1(603)656-5200