



Centralized Electronic Licensing

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Outline of Presentation

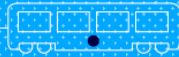
Abstract

Introduction and background

License sharing in a highly distributed environment

What is CELUG?

Conclusion



Abstract

This presentation is a case study of the initiative between Northrop Grumman and MSC.Software Corporation to establish a methodology that enables a diverse number of users to share engineering software tools in a multi-sector environment. In particular, a methodology for allocating bill back charges in a distributed enterprise is presented. Also included in the presentation is a review of the best practices among members of the centralized electronic license user group (CELUG) organized in January of 2003. Membership in the CELUG organization is represented by over 25 major US companies and universities. The CELUG goal is to share best practices, help consult other companies that are considering centralized licensing, discuss issues that are affecting deployment, and present to vendors with one voice regarding requirements, functionality of Macrovision FLEXIm software and daemon updates, options, etc.



Introduction and Background

Software Asset Management Challenges

- Measuring license utilization
- Existing license management tools do not provide the necessary features to measure business value
- FLEXIm is the standard tool used by many Electronic (EDA) vendors

License Sharing Initiative at NGC

- Existing As-Is environment
- Pilot exercise to validate license sharing feasibility
- Prerequisites to license sharing practice

Requirements for Improving License Management

- Dialog is needed among ISV's, Macrovision and End Users
- Standards are needed for licensing systems, software licensing vendors' licensing implementation, analysis solutions requirements, product-to-feature mapping, and certification organizations
- Access to complete, accurate data from the licensing system
- ISVs need standards throughout their own development environment all the way through their sales and customer fulfillment system, so that the products created are consistent with the products sold and therefore with the features cut for the license files



Multi-Sector License Sharing Initiative

Objective – Enable enterprise-wide sharing of MSC Licenses

- Consummate an Enterprise Agreement with MSC to convert MSC Licenses (Floating and Node Lock) to MSC.MasterKey Licenses
- Reduce MSC maintenance cost
- Provide more flexibility to users
 - ✓ Potentially avoid future buys
 - ✓ Provide easy access to New tools
 - ✓ Higher utilization of MSC software resources
- Productivity gains for engineering
 - ✓ Achieves productivity improvements by the use of common software tools and an expanded resource pool
 - ✓ Streamlines processes for tracking / administration of MSC and other engineering software licenses
 - ✓ Improve accuracy of determining software requirements (via our improved visibility into actual software usage)
- First step in overall Engineering license sharing strategy (Autocad, CATIA, Unigraphics, Metaphase, Pro-Engineer, TeamCenter, etc.)
- First step in overall hardware sharing strategy



Types of Licensing Models

Flat-rate model

- One flat rate per person, per company
- Based on headcount regardless of type of headcount
- Example: sun java enterprise system

Utility-based model

- Modeled after the utility industry (electricity, phone, etc.)
- Pay only what is used, when it's used (pay per use)
- Examples: IBM, HP, EDS

Subscription-based model

- Modeled after the publication industry
- Subscribe for a duration (week, month, 3 months, etc.)
- Example: Symantec, McAfee

Token-based model

- Check in/out licenses based on token count
- Products/features available via a token pool
- Example: AVEVA, Accelrys, Agilent, MSC.MasterKey system



MSC.MasterKey License Overview

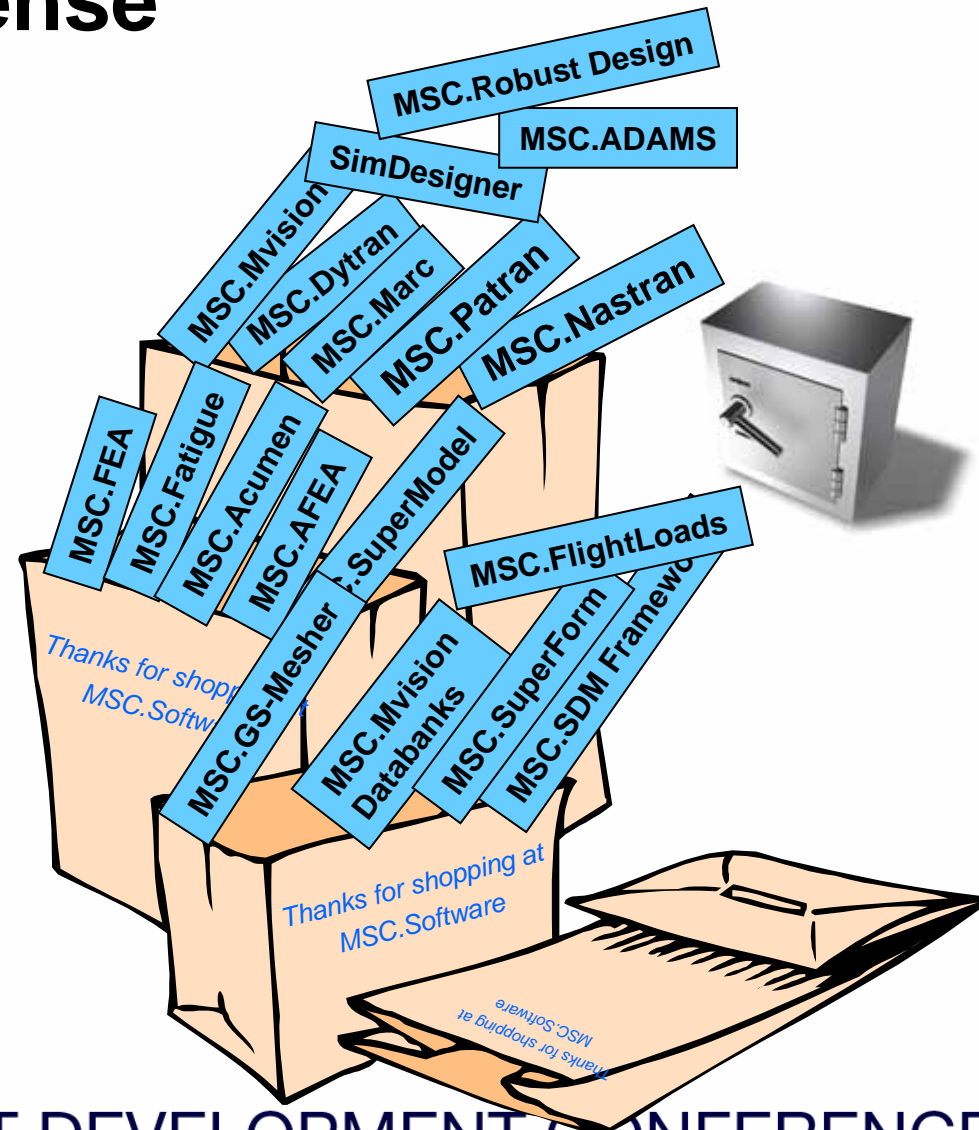
A single license provides access to breadth & depth of MSC.Software's portfolio of over 250 items

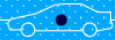
Based on industry standard licensing system (FLEXlm)

Utilizes MSC's exclusive token-based system

With sufficient tokens, no usage restrictions in frequency, number of seats, or simultaneous checkouts

Facilitates license sharing in a distributed environment





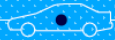
MSC.MasterKey License Overview Cont.

How the token-based method works

- Each individual product feature requires a certain number of tokens to run
- Tokens are checked out from the pool on the license server
- Tokens enable the software feature(s) needed
- Job is performed
- Tokens returned to pool for other use

When all tokens are checked out

- Batch request goes into queue
- Interactive request – first come/first served basis



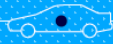
What Is CELUG?

Centralized electronic licensing user group (CELUG)

- Organized in January 2003 to promote collaboration among ISV's, MacroVision and end-users regarding the use of FLEXIm and the need for better software asset management tools
- CELUG's mission is to share information and experiences on deploying centralized licensing systems.
- Currently there are over 65 members representing ~25 companies
- The web site can be accessed at <http://www.celug.Org>

CELUG objectives for 2004

- Publish a "white paper" on CELUG's position on software licensing
- Participate in the 2004 SoftSummit



Conclusion

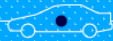
A token-based flexible software licensing approach, such as the MSC.MasterKey system, helps to address a multitude of virtual product development challenges

- **Accessibility**
- **Breadth and depth**
- **Flexibility**
- **Simplicity**
- **Cost effectiveness**
- **Manageability**
- **Supplier consolidation**

The future of VPD software resource management may include innovations such as detailed usage tracking and reporting, and alternative pricing models such as pay-per-use



Just In Case



Methodologies used to measure usage - reports used to analyze costs, usage, performance, access response, and sites getting licenses?

- 1. Daily report created from FLEXIm licenses: information is gathered from the Imgrd log files. The report is used to determine the number of denials and if additional software licenses are required. Denials are reported for last 24 hours for available licenses checked out and for modules not available in the license file.**
- 2. Hourly % usage in FLEXIm licenses: an automated reporting script looks for % usage in FLEXIm licenses and sends usage status for licenses which are being used at the 90% or higher capacity. This report is run 15 minutes past each hour using Imstat. SAM alarm provides similar reports.**
- 3. Monthly usage over time graph: this graph shows the overall usage trend for each of the module over time.**
- 4. Monthly usage summary report: this is the usage summary report listing the total number of hours software is being used/available. It also provides a breakdown by individual user and information such amount of time used, user platform (hardware/OS), IP address. It also includes user identification information from the employee database, such as user name, dept number, business unit/division and country of location.**
- 5. Users using the interactive software for over 24 hours: this report is actually a reminder to users who have checked out a license for interactive applications for over 24 hours. This is done by Imstat, looking at the license age and then looking the user ID in the employee database.**



Methodologies used to measure usage – cont.

6. Daily denials reports for the previous 24 hours with automated emails to the appropriate team members for each vendor. This process analyzes “roll-overs” (where the user rolls over to another server and is able to obtain a license there) so that they can be distinguished from “true denials”.
7. Current usage, for certain "watch list" tools every 8 hours, and all tools every 24 hours. If usage for a tool is over 80%, provide automated emails that go out to any users of that tool who have had a license checked out for an extended period of time. After 3 notifications, the user's manager and EDA site contact are automatically updated.
8. Monitor peaking licenses on a daily basis. Weekly summary report which shows all of the peaking licenses with usage of over 25% for the current month.
9. Database of license users. Use this database to get the info for sending out automated emails, and to post-process user specific data.
10. SAMreports of monthly high water mark, usage efficiency, usage over time, usage summary by user, usage summary by feature, and usage summary by location. The location report is produced using the \$LM_PROJECT variable set to each user's DNS domain via an end user configuration script. All of these reports are updated nightly to show up-to-date info, and are available on the web for all users.
11. SAMreports specifically requested by vendors include a quarterly usage summary by feature report, to analyze usage over a longer period of time.