Evaluating and Selecting CM Tools
A Perspective

Steve Easterbrook
President, CMPIC
www.cmpic.com
www.linkedin.com/in/steveneasterbrook

Why Automated tools?
Automated tools are essential for effective and efficient configuration management. Tools can automate many aspects of the change management process and deliver a real time platform for managing baseline information. Tools can also provide reports and metrics that are necessary for continuous improvement efforts. Many tools also provide document control and other essential functionality.

CM Tools Do Not Do CM
Most organizations hope that by purchasing configuration management (CM) automated tools they will realize a significant improvement in CM effectiveness and efficiency. Some organizations actually believe that CM tools "do CM." This is wrong. The truth is, the "right" CM tool can be invaluable in making CM work better, but they do not "do" CM.

CM Process First
CM tools can enhance many of the CM activities such as change management, structure and linkages, baseline management, document control, access to information, etc., but they do not assure the CM processes and information being automated are any good. If your CM processes are not what they should be then no CM tool is going to save the day. In the absence of effective, and efficient, CM processes a CM Tool may never live up to its claimed benefits. In some instances it could even make matters worse. This being said, companies need to ask themselves if purchasing a tool should be the first step in CM process improvement.

Examples of Poor CM processes
Your requirements and documentation are never up to date or they don't exist. Your baselines are incomplete or improperly structured. Information you need to create accurate baselines is missing. The workflow associated with the change process is

inefficient. Your change forms are inadequate. Change implementation tasks are not identified and managed. The wrong people are making business decisions. Metrics of value are poor or nonexistent. Your change process still takes too long, so personnel have devised ways to get around the system... and much more. Automating the above is not going to give you better CM. The first consideration would be to fix and enhance the CM process, then pursue CM Tools.

Chaos Enhancement Tools
Many excellent automated CM tools become *Chaos Enhancement Tools* through no fault of their own. For example, because of organizational CM process inefficiencies the only redeeming quality of the automated tool may be to enable the organization to make bad decisions, or finding the wrong information, quicker. Ironically, the organization often blames the tool vendor when CM does not work like it should. They should be looking inward for process deficiencies.

Do the Math

Great CM tools + poor CM processes = Failure

Great CM processes + poor/wrong tools = Failure

Great CM processes + Great CM tools = Success

Marry Process with Technology
CM tools will "work" as they should, and live up to expectations, only when effective and efficient CM processes are in place. Sub-optimized CM processes are not going to improve simply by automating them. The vendors will do their best to give you what you ask for, but if you don't know what to ask for, you may not find or get what you need.

Many potential CM tool purchasers could benefit from learning more about best CM practices. So would many tool vendors. The buyers and sellers would then be in a more informed, and comfortable position, relative to the CM Process/Tool decision.

The relationship between the CM tool vendor and their customers will strengthen as the CM Tool system interfaces smoothly within the CM process. This relationship will carry into the "post-sale" phase, when future enhancements will bring more satisfaction to the customer, and ultimately, more business/revenue to the CM Tool vendor.

Tool selection criteria must flow from a clear understanding of the required CM process capabilities. Enabling poor processes with automated tools does not equate to success. Enabling effective and efficient CM process with the right automated tool does.

Evaluating Tools

Create a Tool Requirements Spec
Once organizational CM requirements are defined, documented, and agreed upon we can then begin the process of tool evaluation. Only then can optimal CM Tool requirements be captured and documented. Output will be a CM Tool Requirements Specification to be used in evaluating and selecting appropriate CM tools for your organization. This spec includes CM process as well as detailed IT functional/Interface requirements. Don't fall into the trap where the IT department chooses the CM tool for the organization. This often results in disaster (more on this in another article). IT, CM, and the organization will need to work in mutual cooperation on the final tool selection.

What we will look for
There are many great automated tools to choose from depending on your requirements. Examples of CM Tool functionality are (in no particular order, and not all-inclusive):

Integration compatibility with company architecture, IT requirements
Change management workflow- request through implementation
On-line forms/ templates
Automatic number/date generation
Change tracking
Multi-user comment and updates during impact analysis

Electronic change boards
Change action item tracking
Change implementation feedback
Escalation functionality
Custom notifications
Ability to link information and establish relationships between data elements
Ability to create and maintain baselines
Proper product structuring capabilities- documents and parts
"Where used" capability
Baselines flagged with change activity and effectivities
Ability to create different baseline views depending on user
Change management and baseline interface
Problem reporting functionality
Version Control
Provide libraries (development, master, archive)
Requirements management
Ability to manage full life cycle from Development through O&M
The ability to automate process execution through work flow
The ability to customize work flow
The ability to customize forms & incorporate rules
The ability to customize field names, attributes, data views, etc.
Automatic metric generation
Online help
Multi-Language as needed
Control/Access/Security rules
Customer/Supplier access and compatibility
Browse access, by a variety of users, nationwide/worldwide
Security for update and browse
Incorporate ITAR, EAR, and other Security restrictions
Archive and backup
Can manage administrative as well as technical information
and more.

Begin Shopping and Eliminating Candidates
Typically we begin researching vendor offerings and/or send the tool vendor a list of our requirements to see if they can meet them. First, there are overall system architecture requirements. Then there are environment specific requirements. If our environment is software development, we may be eliminating certain vendors right from the start (and vice versa) due to functionality requirements specific to many software tools. Likewise, if you are in manufacturing and need to be able to "bridge" to ERP systems this requirement will also be eliminating certain vendors.

We will also look at features, price, license fees, etc., and another round of elimination occurs. Finally we are left with fewer choices that now require more detailed evaluation.

Schedule Onsite Demonstrations
Tool vendors will come and do demos of their product. Once the demos are over you can then narrow down the playing field even further. Look at the way the tool behaves, the way it is structured, and ease of use.

Schedule a Live Demonstration
Gather real information, real scenarios, real process, and real workflow information for the vendor to actually incorporate into a working demo of the tool. Go through the demo with your requirements checklist. Select a vendor.

Before Signing a Contract
Make sure you know what the vendor and your organization will need to do prior to signing any contract. The real price of PLM includes getting it implemented, and then possible maintenance. What may look like a "good deal" up front may not be as good in the long run. Get everything in writing, set tasks, schedules, performance metrics and more.

Then step on the gas and hang on. If your process is right and your tool selection was right, and there were no misunderstandings... then you are on your way to a successful CM tool implementation and a positive relationship with your tool vendor.

The Bottom Line

(1) The CM Process leads. Identify how you want the Organization's CM processes to work. CM processes need to be documented. They should be incorporated into an organization's "CM Standard."

(2) The organizational "CM Standard" becomes the basis of your "CM Tool Requirements Specification" (included are the organization's IT requirements).

(3) The "CM Tool Requirements Specification," as well as other criteria such as cost, schedule, etc., is used to select your preferred tool provider.

About Steven Easterbrook- visit Steve at LinkedIn and join his network
http://www.linkedin.com/in/steveneasterbrook
Current Position
President- Configuration Management Process Improvement Center (CMPIC). CMPIC provides CM Training, Certification and Consulting in partnership with the University of Houston. www.cmpic.com. Steve is also a former President of the Association of Configuration and Data Management (ACDM) and is currently on ACDM's Board of Governors.