CM Trends

News and Perspectives for CM Professionals

in this issue

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ISSUE 08

Happy New Year from CMPIC

Dear Reader,

2011 was another great year for CMPIC. In just this past year, 300 more CM professionals and 170 new organizations supported CMPIC by attending one or more of our certification classes.

CMPIC's success is very inspiring. It demonstrates that more and more people are gaining an understanding of the full spectrum of CM, ranging from basic concepts to a fuller comprehension of the standards to assessment techniques. With a greater understanding of configuration management comes more efficient and effective business processes, less corrective action, higher quality output, lower expenses, and much more.

We would like to thank you for supporting CMPIC and helping the CM profession gain further knowledge and recognition in the workplace.

Have an amazing New Year.

- CMPIC, LLC

2011 Testimonials Overview

"Great course! Inspired me to develop a plan to improve processes at my company." Course 4 - CM Implementation, January 21, 2011

"The detail of change management really helped me understand what is lacking in my work environment." Course 3 - CM Dynamics, January 19, 2011

"Excellent instructor! Very knowledgeable. Course was very comprehensive." Course 8 - Software Configuration Management, March 17, 2011

"Great course! I have learned a lot & the "light bulb" [has been turned on to] things I didn't even consider in my organization. I feel "armed" with the tools to get everyone on the CM bandwagon." Course 4 - CM Implementation, August 11, 2011

"Informative course. The instructor presented good examples of how companies practice CM and how not to do things." Course 6 - ANSI/EIA-649B Principles & Applications, September 23, 2011

"The information provided will lead me a long way in my career. Great job!" Course 4 - CM Implementation, September 29, 2011

"[Instructor] is one of the most knowledgeable instructors I've had the pleasure of meeting. He is the subject matter expert for CM across the board." Course 1 - CM Foundations, October 4, 2011

"Course gave me ideas for process improvements and techniques for identifying bottlenecks." Course 1 - CM Foundations, October 4, 2011

"This course is great and opened my eyes to all the extra work I need to do." Course 7 - Configuration Management Assessor, December 7, 2011
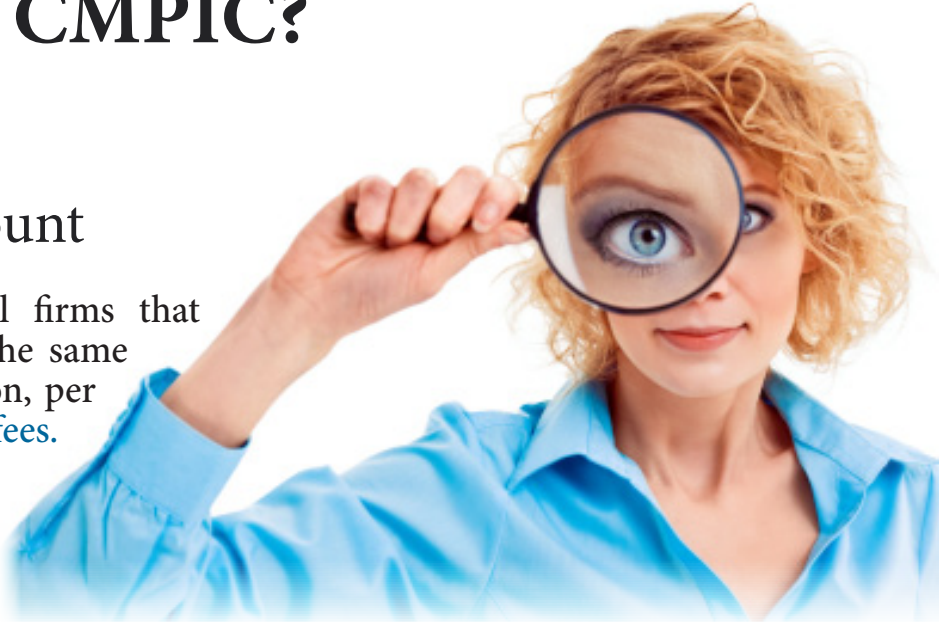
What's New With CMPIC?

Additions to 2012:
NEW Commercial Discount

CMPIC is now offering commercial firms that register two or more employees for the same public class a 10% discount, per person, per class! Learn more here: cmpic.com/fees.htm.

* This discount cannot be combined with any other offers.

NEW Designation Program - CMSME

Become your company's Subject Matter Expert in Configuration Management. CMPIC is now awarding the CMSME designation to any student who successfully completes the CMPIC Master's Certification *and* completes at least one additional CMPIC class or attends a CM Trends conference. To maintain this designation, students must take a CMPIC class or attend a CM Trends conference at least once every three years. Learn more at: cmpic.com/CMSME.htm.

In Case You Missed it in 2011:
NEW Track to Master's Certification

Track II is a way for CM Professionals who already have achieved a recognized CM Certification to transfer over to CMPIC's Master's Certification without having to "re-certify". If you have a prior CM Certification and want to switch to CMPIC's Master's Program, please read more at: cmpic.com/enterprise-configuration-management.htm.

NEW Course 9

CMPIC's Course 9, "CM Standards & Practices Update," is designed for experienced CM Professionals who need an update on the latest in CM. This course teaches the most up-to-date industry CM standards, industry practices, CM tools, and overall trends. The purpose of this course is to assist in keeping your CM skills and education up to date. Learn more about this course here: cmpic.com/9.htm.

CMPIC Training Informs, Prepares, & Entertains

by Maureen McClain, SAIC

Like most who work in configuration management (CM), it was not a line of work I considered – or, for that matter, knew about – when I was beginning my career. It was something that was offered to me while I was working in a different capacity as a defense contractor for a Navy project. At the time my supervisor approached me about the opening, I knew very little about this thing called CM. In fact, all I really knew was that it involves organization…and that Configuration Control Boards are a group of people, not a physical board with buttons and levers, like I originally thought.

The program I stepped into was well underway with little notion of CM practices in place up to that point. Being that the program is a production contract and my role is supporting the government, it has been both complex and political, with hundreds of configuration changes that began immediately. Fortunately, I eventually began working with people who knew a thing or two about CM and they have been gracious enough to give me some much needed guidance.

In the three years since stepping into this role, I have been deeply involved with change control, process development, and a bit of identification. But I didn't understand how these pieces worked together – or that there were other pieces to fit into the puzzle – until, that is, I took some introductory courses through Configuration Management Process Improvement Center (CMPIC).

From January 23 through 26, Steve Easterbrook, founder and president of CMPIC, led a four day training series at my office in Florida and, by the end, I was tempted to say I learned almost as much as I have in the last three years. For the first time, I truly understand how the various fundamentals of CM fit together and their significance in what is apparently most all industries.

From sitting in his classroom, it was clear that Mr. Easterbrook has vast experience in this field, both in years and in a multitude of industries. The scope of his knowledge, combined with his entertaining (to say the least) teaching style, allowed his students to process an enormous amount of information. The material was presented in a very clear and well organized format, so even though we moved at a quick pace, it was easy to keep up. The four full days under his instruction were not only incredibly informative, but they were interesting, and for those in the field, you must know that making a CM course interesting is no small feat.

Mr. Easterbrook divided the class into group workshops twice a day. This was an opportunity for us to discuss different avenues to achieve a common goal (gaining or maintaining CM control over our products). In addition, these workshops enabled us to learn about the state of CM in other industries. I never realized how integral CM is to so many facets of the working world, but through the instruction and workshops, this became very clear. For someone relatively new to the world of configuration management, it gave me added respect for the importance of my role and a more long-term view of its significance to my program.

I am so grateful for the opportunity to take such well developed and clearly presented training in my field, and I stand at the end of the first two courses looking very forward to the next two.

Maureen McClain is a 2003 graduate of James Madison University in Harrisonburg, Va., where she earned a Bachelor of Science in Communications. She works for SAIC in Panama City Beach, Fla., on Navy research and development contract. An outdoor enthusiast, Maureen writes a blog about her experience learning to surf: http://youarethisclose.blogspot.com.

A Simple Question

by Rick St. Germain, CMPIC Canada

No one noticed the small man shuffle along the side of the great hall to sit on a discarded chair next to a cleaning cart. Though hunched over, the old man's face, framed by the thick lenses of his wire-rim glasses, beamed with joy.

This was his dream -- a retirement gift from the mega-corporation he had served for 37 years as a document clerk in a dingy back room packed with filing cabinets. He had refused the cheap gold watch the accounting department had grudgingly offered him in recognition of his years of loyal service. Instead, he had asked to go to this conference of CM professionals where thousands of the best minds in CM would assemble in one place.

Accounting had given him a cheque for the wholesale value of the watch minus taxes. After paying the senior rate for the conference registration, he had just enough left over for a one-way bus fare to make the 14-hour journey. Surely someone here could answer the burning question that had been haunting him for so long.

For three days, he listened intently to every presentation, awestruck by the depth of knowledge and understanding of the CM experts. At last, a distinguished gentleman stepped up to the podium and began a dissertation on the optimization of change processes. The old man marveled at the elegance of the analysis and how well the process adjustments worked. Too soon, it was over.

And then, it happened -- the moment the old man had been waiting for over so many years: the distinguished speaker asked for questions. The old man leaped up and rushed over to the audience microphone, shaking with joy.

"Please sir", he said, "I've come such a long way, sir, ... all I have is a simple question to ask you, sir."

The speaker smiled down on the small man, trying to set him at ease. "Take your time, sir. Go ahead. Ask your question."

The old man was so happy he could hardly speak. "Please sir, ... could you tell me, sir..." he hesitated, then blurted out: "What exactly IS a change?"

The room erupted in roars of laughter. They berated him with catcalls and dismissive gestures about his "ridiculous question", shouting out for him to sit down.

That is, until they noticed the speaker standing seriously, eyes locked on this small man. At last, he thought, someone who truly understands the significance of that question.

The room quieted, then sat in stunned silence awaiting the speaker's answer. With deepest compassion for the old man, the speaker opened his mouth to speak...

Before we continue, dear Reader, I'd like to pause here to reflect on the significance of this moment and to ask you how you would respond to the old man's question. We who manage hundreds, even thousands of changes every year with such skill and dedication must surely know what it is we are managing. Our answer will surely help him and countless others who enjoy the benefits of CM in our companies. After all, changes ARE a fundamental part of CM, aren't they?

So, without using the word "change" or any of its synonyms, how would you answer him? A short, memorable answer. What would you tell him?

"What exactly IS a change?"

With deepest gratitude, may the dialogue begin. Happy New Year.

Rick St. Germain is a CM researcher, consultant, trainer, and coach with over 25 years experience in implementing military and commercial CM processes for both hardware and software. He is President and Managing Director of Nouvella Consulting Services based in Ottawa, Canada, and is Chief of Canadian Operations for CMPIC Canada. He can be reached at rick@cmpic.com.

Linked in®

To add your voice to this discussion, click here to post on our LinkedIn article in the "CMPIC Configuration Management Trends" group. Log in now or register for free at linkedin.com.

CM Trends
2012

Experience the Full Spectrum of CM.

August 13 - 15, 2012
San Diego, CA

CMPIC
www.cmpic.com

CM Trends 2012

Logistics

August 13th - 15th, 2012
Holiday Inn San Diego on the Bay
1355 North Harbor Drive
San Diego, CA 92101

Overview

CMPIC's annual conference, CM Trends, is a conference where CM Professionals come together to discuss topics & trends in configuration management. CM Trends 2012 will give attendees the opportunity to listen to CM experts discuss topics relevant in today's workplace, such as CM standards, processes, tools, workflows, best practices, and more! This conference does not restrict itself to lecturing about one methodology, but instead focuses on applicable topics to facilitate continuous learning for all.

Each day Q&A sessions will be held where attendees are given the opportunity to ask the speakers & audience questions and learn from the answers provided.

Experience the full spectrum of CM at the CM Trends 2012 Conference.

Learn more at: http://cmpic.com/configuration-management-conference.htm

CM Trends 2012

Post-Conference Classes

In addition to the conference, CMPIC will be hosting 3 different courses held Wednesday - Friday after the event. These courses will be offered at a special discounted rate for both conference attendees and non-conference attendees. The courses being taught will be: Course 6 "ANSI/EIA-649B Principles & Applications Certification", Course 7 "CM Assessor Certification", and Course 9 "CM Standards & Practices Update".

2011 Testimonials

CM Trends 2011 Evaluations. All testimonials are on file at the CMPIC office.

"Thank you, CMPIC. I can use all the info from these briefings to perform better CM within [my] organization."

"Very motivated to go back to the workplace and tackle some of the issues at hand."

"Yes, [I learned] a lot! Will take this info back to educate my staff and others in the company and my customer. Good learning experience - Thank you."

"Thank you for making every event we share a fantastic experience. I am genuinely revitalized after your conference! Great job!!"

CM Trends 2012

Exhibitors

PLM Tool Vendors & Exhibitors will be present throughout this event. Attendees will be provided with ample time every day to view demonstrations and talk with the exhibitors.

Registration & Fees

Option 1: Conference Only - 2.5 days, Monday - Wednesday
$895.00 USD

Option 2: Conference plus one Course - 5 days, Monday - Friday
 $1,595.00 USD

Option 3: Post-Conference Course Only - 2.5 days, Wednesday - Friday
$995.00 USD

To register for this event, please visit http://cmpic.com/registration.htm or contact the CMPIC office at info@cmpic.com, (434) 525-8648.

CMPIC
www.cmpic.com

CM Refresher Course in Orlando, FL

NEW Course 9, "Configuration Management Standards & Practices Update"

February 27 - 29, 2012

When was the last time you attended a CM course? If it has been more than a few years you may be behind in your CM knowledge.

CMPIC just released their new 3-day course, "CM Standards & Practices Update," to make sure that you will never fall behind in your CM education. This course covers the latest information on CM standards, practices, automation issues, and more.

The first CMPIC Course 9 will be offered in Orlando, FL this February 27 – 29, 2012.

This course is open to all experienced CM Professionals!

Steve Easterbrook will be teaching this inaugural class in Orlando, FL. His lecture will provide insight into the latest trends in configuration management & related fields.

Don't miss this unique opportunity to refresh your knowledge and become ahead of the curve.

Students who successfully complete Course 9 will be awarded 2.4 Continuing Education Units (CEUs) from the accredited University of Houston.

For this Orlando class only, CMPIC will be offering substantially discounted rates to any company that sends 2 or more employees to attend this class. Please email kerri@cmpic.com for more information about this discount.

To register, please visit: http://cmpic.com/registration.htm or contact the CMPIC office at (434) 525-8648, info@cmpic.com.

Thank you for your support.

Course 9 information: http://cmpic.com/9.htm

What do the World's Leading Companies Know About Solving Complex CM Challenges that You Don't?

by Tom Gill, ARAS Corp.

Recently leading aerospace and defense contractor Textron completed the rollout of Aras's enterprise product lifecycle management (PLM) solution for configuration & change management along with NX CAD management, program management and other key processes. Textron's move follows that of an increasing number of global businesses such as Lear Corporation, Xerox and numerous others.

What do these market-leading companies, all members of the Fortune 500 and Forbes Global 2000, know about solving complex configuration management challenges that you don't? They know about Aras.

Superior Technology
For more than 50 years Textron has been creating state-of-the-art weaponry, surveillance and protection systems for defense, aerospace and homeland security communities. While CIO Tony DeGregario appreciates the value of Aras's business model which has no PLM license fees, he knew there was more. "What really drove our selection of Aras was the comprehensive PLM functionality and advanced technology," said DeGregario.

Aras is a modern PLM solution suite specifically designed for complex configuration management processes which is engineered like no other. Aras addresses the entire product lifecycle with out-of-the-box solutions for a wide range of strategic business initiatives, including configuration & change management, global product development, new product introduction, enterprise quality management, regulatory compliance and others. And all the Aras solutions are Web-based and inherently integrated for a simple, consistent user experience.

The Aras PLM platform is an advanced model-based service-oriented architecture (model-based SOA) delivering highly scalable, flexible and secure applications that deploy quickly and adapt easily to evolving business needs without complex programming.

Textron Defense Systems chose Aras to help solve their biggest product challenge, namely configuration and change management. The A&D giant has integrated Aras with SAP to drive strategic cross functional processes such as its stage-gate program management and risk mitigation for new systems projects, as well as other traditional PLM functions including CAD file management and document management.

As DeGregario explains, "Textron Defense Systems is committed to developing winning solutions to the most complicated engineering challenges and we believe Aras's approach to enterprise-wide PLM will help us deliver on that commitment."

Global Reach
More than 80% of automobiles worldwide built today contain one or more components from Lear Corporation. As a leading automotive supplier with 90 years of experience and expertise behind it, Lear is all about automation, integration and continuous improvement. Several years ago, when Lear began evaluating PLM solutions, they were put off by the significant initial PLM license expenses and the cost to expand the system over time to reach all of their users around the world for configuration management. Then they discovered Aras. Aras helps control costs with freedom from PLM licensing. Aras eliminates the big up-front PLM license

expenses, as well as concerns about licensing for the thousands of people that only log on periodically to get configuration-related information. This was a huge benefit for Lear, who has rolled Aras out at to more than 2,400 users at 35 sites in 15 countries.

"Our scope is not small," explained Reynaldo Reyes, Director of Engineering Tools and Processes for Lear's Electrical Power Management Systems. "Today, we have more than 2,400 users on the system globally and we wanted to make sure everyone could work in our environment without constraints. If there's a guy in Argentina who only does one thing, I want him to have access. If you break a workflow by taking it offline, that's it – it's broken. Other PLM systems never seem to reach everyone in the workflow because sooner or later the license costs become prohibitive. We knew we wouldn't have that problem with Aras."

Immediate Value
Xerox is a $22 billion company synonymous with innovation, and the company serves a diverse client-base in more than 160 countries. In 2007 Xerox Office Products implemented the Aras PLM software solution for configuration and change management and rolled it out to over 1,800 people worldwide and never looked back. Xerox chose Aras for its modern architecture and ability to show ROI right away.

The unique combination of proven Internet technologies, common platforms and open industry standards enable global enterprises to drive continuous improvement and achieve greater control over product configurations. With Aras, Xerox significantly reduced the time, cost and effort necessary to customize and deploy the enterprise PLM applications for configuration management and integrated them with existing legacy systems resulting in reductions in cycle times and improvements in agility at a much lower total cost of ownership.

Proven Results
These global leaders have achieved a new level of configuration control with Aras and have ingrained CM into their operating procedures in the process. With greater scalability for configuration & change management your organization ensures that everyone worldwide has immediate access to the latest baseline and the right rev. That translates into bottom line savings that add up quickly.
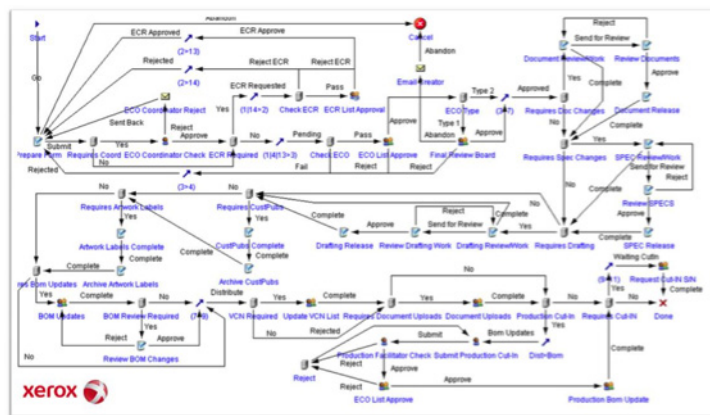
Xerox's global change process manages a wide variety of different product lines and controls configurations with a single, standardized workflow in Aras.

What could that mean for your business? An advanced PLM solution that works from day one, integrates with existing technology investments, and provides a scalable, secure platform for future growth. Factor in cost savings of 68% or more when compared to conventional PLM licensing schemes and the productivity gains realized when configuration management information is accessible to everyone in the lifecycle, no matter how remote or infrequent, and one can build a business case that justifies an investment in enterprise-wide configuration management.

Lear Video on PLM for Configuration Management: http://www.aras.com/PLM-Software/100197.aspx

Xerox Video on PLM for Global Change: http://www.aras.com/PLM-Software/100260.aspx

ARAS, along with other PLM tool vendors, will be exhibiting at the CM Trends 2012 conference. Learn more here.

Tom Gill is the founder of TAG Consulting, a consultancy specializing in PLM software for product development and configuration management processes. Previously, Mr. Gill was the Director of CAE Technology and Support at Freudenberg-NOK, a leader in automotive sealing and vibration control solutions. Through his career, he has held positions in product development, design engineering and finite element analysis. Mr. Gill is CMPIC certified and holds a BSME from the University of Maine.

Submitted for your Approval

by Leo Clark, CMPIC

It has come to my attention that people use the word "approval" to mean many different things. This article examines some of the uses that I have heard over the past few years. Perhaps you can add other definitions from your experience. However, the important question is, "What does the word approval mean in my organization?"

Some people find configuration management difficult to comprehend because of the imprecise nature of the language that is used. In CM, we sometimes use many words to mean the same thing, and the same term to mean different things. In CMPIC Courses 1 through 4, we explore the confusion over terms like "Baseline", "Effectivity" and "Release". Even as I write this article, my spell checker is drawing wavy red lines under the word "Effectivity". I have even heard people use the term "Baseline" to mean two different concepts in the same sentence. For example, "Let's go out to the flight line and take a baseline so we can establish a baseline."

I think we need to add the term "Approval" to that list of words that have several meanings, which

renders the term imprecise. The danger is that 6 people sitting around a conference table may talk about approval and think that communication has happened. It could be that everyone in the meeting has a different understanding of the word.

Change Lifecycle Phases

To understand how the word "Approval" is used, we need to take a quick look at the phases of the change lifecycle. While there is no universally accepted change process, most approaches to change have steps that resemble the following phases:

- Change initiation
- Change screening
- Impact analysis
- Solution evaluation
- Cost benefit analysis
- Disposition
- Implementation planning
- Execution

In any of these phases, you may hear someone say that the change is approved or waiting for approval. Sometimes people will admit that the change is approved at this stage and waiting for approval so that it can move on to approval!

Approved for Approval

Here are my interpretations for what is meant in each of these change lifecycle phases for the term "Approved":

- **Change initiation** – The problem has been confirmed by independent testing.
- Change screening – This is a change that my manager believes is worth pursuing.
- **Impact analysis** – I think that we have uncovered all of the documents and items that we need to explore. (Oops! We overlooked packaging again.)
- **Solution evaluation** – The lead engineer second guessed all of my engineering and so the solution has been deemed appropriate.
- **Cost benefit analysis** – The project manager made procurement review all of my material cost estimates and now she believes that I didn't "Sandbag" or "Blue Sky" the numbers.
- **Disposition** – The people with available budget have authorized spending corporate resources to enact this change.
- **Implementation planning** – The project managers and functional area managers have agreed to a project plan that addresses all of the tasks necessary to complete this change.
- **Execution** (this is where most confusion lives) – The drawing has been upgraded correctly and no one has added additional unauthorized changes.
Or
The lead engineer and other "approvers" have signed the document, sometimes even after looking at it.
Or
The document is ready to be released.
Or
The item is ready to be released.
Or
The item has passed first article inspection (or some other quality check).
Or
The non-conforming item (scrap) has been deemed acceptable to include in the configuration.
Or
We have decided to deviate from the design and included other parts and the customer has acquiesced.
Or …

What about your world?

I hope you will play this game with the people at your work. Try to find as many meanings for approval as you can. The one who finds the most wins, of course. But better still, determine one meaning for the word approval in your organization, publish it in your corporate CM standard and find more precise phrases for the concepts that we try to communicate by using the word "Approval".

Leo Clark is CMPIC's SCM Expert. Leo has over 15 years of CM and related QA experience and ten years with the Institute of Configuration Management. He has taught configuration management to thousands of students and consulted on CM, SCM and QA implementations for over 100 companies. Leo has consulted with PDM/PLM software tool providers to improve workflows and functionality, and taught and consulted extensively on SPC, CIM, DNC, MES, ERP, preventive maintenance. He is the author of numerous articles, papers and presentations on SCM, SPC and management methodologies. Leo is a graduate of Marquette University, CMPIC Certified, CMIIC, CM Lead Assessor Certification, U.S. Marine Corps, member ACDM, and ASQ.

A World Without CM: Trouble Signs

by Steve Easterbrook, CMPIC

The following is a post from our CMPIC's CM discussion group on LinkedIn. If you are already a member of LinkedIn you can join this group by searching for "Configuration Management Trends" and requesting to join. There you can reply to this post and many more.

The following is a partial list of "trouble" signs when CM is not working the way it should be. If you have any other trouble signs to add feel free to post on Linkedin.

- Products are produced, and parts are purchased, to the wrong configurations.
- Individuals spend hours searching for up-to-date information, then more time trying to figure out what it says, in order to make 10 minute decisions.
- It takes too long to make changes to documentation and product.
- Unauthorized changes are being made to product, documentation, special tooling, test equipment etc.
- Audits are feared instead of welcomed.
- Communication between departments is poor.
- Product documentation and changes to that documentation, are not calculated as part of a product's true cost.
- Bad ideas, and costly mistakes, are discovered after the fact.
- There is a lack of accountability when things go wrong.
- It takes days to figure out the configuration of a problem product.
- The level of customer dissatisfaction is unacceptable.

- Non-conformances, scrap, re-work, or repair rates are too high.
- Product development takes too long, is over budget and behind schedule. Production goals (cost, schedule, performance, quality etc.) are not being met.
- In-Service products are changed, but few records exist.
- Individuals leave the company citing "frustration" as a reason.
- Your software product resembles a quilt.
- The product tested fine on our test platform but failed when deployed.
- Your inbox is filled with messages by 9AM each morning.
- You are pondering quitting your job to open an eBay store that sells Megalodon sharktooth necklaces ...

Linked in

CMPIC "Configuration Management Trends"

Making the Move from Hardware to Software

by Bob Aiello, CM Crossroads

Configuration Management (CM) is an essential function that is well-respected and also required by many organizations. Defense Contractors, Medical Engineering, Financial Services firms and many other organizations recognize the value and benefits provided by the discipline of CM. Whether you are sending a shuttle into space or designing a nuclear power plant, it is obvious that you need to improve quality through tracking configuration items and controlling changes. We'll discuss these functions further in these articles, including how to understand them in terms of software. Read on if you would like to enjoy the versatility of applying CM Best Practices to both hardware and software.

Got CIs?

Most complex systems are composed of both hardware and software entities. Most hardware CM experts understand the classic functions of configuration identification, status accounting, change control and status accounting. In software CM, we refer to the components that are being developed as configuration items (CIs). Software configuration items need to be readily identifiable (configuration identification), tracked throughout their lifecycle (status accounting), changed under acceptable controls (change control) and verifiable to assure that the correct baseline is in use (physical configuration audit) and that they are functioning correctly (functional configuration audit). At a high level, CM controls configuration items in much the same way, whether they are hardware or software. So then, what is the practical difference between hardware and software CM?

The Essence of Software CM

Software CM typically involves thousands or even hundreds of thousands of configuration items. These CIs typically include source code programs, compiled libraries, configuration files, scripts, database objects, graphics images and of course the binaries that represent the executable production baseline. For example, in one particular medium-sized financial application that I built and deployed, there were over four thousand configuration files alone – all of them written in XML which had to be version controlled throughout the development lifecycle. Quantity is not the only factor – complexity is often remarkable, too.

Frameworks for Everyone

Development used to mean writing in Cobol, PL/1, Fortran or if you were a real code monkey – Assembler. There was added complexity with copybooks (defining data structures), Clist/Rexx scripts and, of course, Job Control Language. I still work with all of these legacy software items – but today's modern software development frameworks are infinitely more complex and often not well understood. If you are working with common tools for data warehousing, report writing or even just web application development, you will likely have to work with code generation objects that have their own hidden complexities and challenges. In the real world of software development, you may get to take over the maintenance and support of an

application written by someone else and then you are once again challenged by having to make changes within a complex framework that you may not fully understand. Where did this complexity come from?

Simplifying the Development Effort

Ever since software development was accomplished through punch cards and tapes, IT professionals have constantly looked for ways to improve programmer productivity. The accomplishments have been dramatic and today, even the most skilled technology experts find themselves working with at least a few tools and technologies that they barely understand. We are all specialists. Get ready to embrace complex systems that you may not fully comprehend. This is not a problem, instead it is a great opportunity.

A Day in the Life

In a typical week, I often find myself working on Unix/Linux systems, Windows servers, IBM mainframes and maybe a few midrange systems for good measure. My Unix skills are very strong, but I am not a gunslinger in every platform and technology that requires a build and release engineer. This means that I must frequently work in technologies that I do not fully understand. CM includes source code management, build engineering, environment configuration, change control, release engineering and deployment. All of these functions are described in my book Configuration Management Best Practices [1]. Software is all about reducing risk and taming complexity. CM also helps to improve productivity and quality.

Productivity and Quality

CM Best Practices enable you to support rapid iterative development which results in better software and happy customers. Establishing excellent source code management practices, fast builds, packaged releases and reliable deployments means that you let your team release more often. This, in turn, makes the entire deployment process essentially a non-event. When technology teams can release updates frequently, each small release inherently has less risk and when a customer discovers a problem, you are able to deliver a

fix quickly and reliably. But you may find that you have to use some tools without completely understanding all of their underlying details.

Conclusion

Transitioning from hardware CM to software CM is not easy. There is much to learn (do grab a copy of my book to help get you started). The principles are the same and there is a lot in common between hardware and software CM. But don't expect to be able to play every instrument in the orchestra on the first day. On the other hand, developing competence in applying both software and hardware CM will likely get you headed straight to Broadway!

Bob Aiello is a consultant, editor-in-chief for CM Crossroads, and the author of Configuration Management Best Practices: Practical Methods that Work in the Real World, Addison-Wesley Professional. Mr. Aiello has more than twenty-five years' experience as a technical manager in several top NYC financial services firms where he had company-wide responsibility for CM, often providing hands-on technical support for enterprise source code management tools, SOX/Cobit compliance, build engineering, continuous integration, and automated application deployment. Bob has served as the vice chair of the IEEE 828 Standards working group (CM Planning) and is a member of the IEEE Software and Systems Engineering Standards Committee (S2ESC) management board. Mr. Aiello holds a Masters in industrial psychology from NYU and a B.S. in computer science and math from Hofstra University. You may contact Mr. Aiello at bob.aiello@ieee.org, link with him at http://www.linkedin.com/in/bobaiello.

Join Bob Aiello Feb. 9th at 12pm EST for a Webinar on Accelerating Your Agile Configuration Management Through Deployment Automation:
http://bit.ly/xZb8eZ

[1] Aiello, Robert and Leslie Sachs. Configuration Management Best Practices: Practical Methods that Work in the Real World. Addison-Wesley, 2010.

CM Certification Courses

- **CM Principles & Implementation Certification Series, Courses 1 - 4**

  Upcoming Series:

  > Myrtle Beach, SC April 17 - 26, 2012 **Less than 2 Weeks**!
  >
  > Houston, TX starting May 14, 2012
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