CM Trends

News and Perspectives for CM Professionals

in this issue

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Would You Like that Standardized?

by Mitch Kaarlela

What are some of the mantras that we hear in the news today? Affordability, Better Buying Power, Improving Efficiency, More With Less, etc. The message transmitted is clear – budgets are down and we need to be as efficient as we can on our projects, while still keeping effectiveness in-mind. This is a tall order. It is not for the faint of heart. Focusing on either efficiency or effectiveness is straightforward, but to focus on both at the same time is doctoral thesis material.

If the Configuration Management (CM) tactics of the past got us to where we are today, it goes without saying, that it is going to take some new CM tactics to get us to a new, more affordable place in the future. I propose that the key to squeezing every ounce of efficiency and effectiveness out of our organizations, is at the root, a standardization issue. When we can demonstrate our ability to do a job right at an affordable price, we need to "bottle" the recipe and use it over and over as that kind of job arises. Good CM contributes towards proper usage of the enterprise resources.

We at Lockheed Martin Aeronautics recognized a need to focus on standard work several years ago, with the expected benefits of affordability, avoidance of rework, repeatable quality in our work, getting the right pedigree of information to the right person when needed, etc. A key objective of our standard work emphasis, is to define "what good looks like" in respect to all relevant parameters and requirements. Then document this "standard" in a common database to which all have access. We include all sorts of resources to assist our employees, including: concise definitions, templates, guides, examples, references, etc. Along the way on our standard work journey, we have noticed some of our Industry peers have started the same activity.

To bring this emphasis to a CM perspective, we have defined our CM work products that are common to our programs. By "work products" we mean the information sets that result as an output from our regular work activities. Most of these work products are documents that can be saved in an electronic format. For example, a CM work activity might be configuration identification and a corresponding work product (one of many)

might be the Configuration Item (CI) list. Once we decide that we have determined a successful method for researching and preparing a CI list, we use that formula on all future programs. In this case, standardizing our CM work based upon a successful formula, should give us maximum potential for future success when dealing with a related situation.

Another CM example might be our work activity in preparing and accomplishing Functional and Physical Configuration Audits (FCAs/PCAs). There are several tasks that must be done to get ready for and then perform the audits. The resulting work product might be called "FCA/PCA Results" and include: a listing of the information used in the audit(s), including document number, date and revision level; a completed Verification Cross Reference Matrix (VCRM) showing the requirements paragraphs from Section 3 of the specification correlated with the Section 4 verification method (test, inspection, demonstration, analysis, simulation); and of course a "minutes" package listing the outcomes, comments, action items and related information. Once this work product is reviewed and approved with the customer, it could be loaded in the common standard work database as an acceptable example of what a good "FCA/PCA Results" package looks like. When new employees are given the task to build a future "FCA/PCA Results" work product, they go to the common database and use the descriptions, examples, templates and guides in order to perform and document the work – with first-pass success.

When new CM situations arise, that require a new CM solution, our objective is to determine a new successful approach – then codify it in our standard work database so we can use it again and again. The message is this, be meticulous in defining "what good looks like" and capture all of the standardization information in a common database for your organization or enterprise to draw upon. Then as the shampoo bottle advises, "rinse and repeat."

Your CM organization can benefit from an investment in standardization.

Mitch Kaarlela is a 28 year employee with Lockheed Martin Aeronautics (heritage General Dynamics & Lockheed). He has Configuration Management and Contracts experience on several major domestic and international military aircraft programs. Mr. Kaarlela is a LM Corporate resource for programs needing specialized Configuration Management trouble-shooting and assistance. He is presently assigned to the Air System Design & Integration – Configuration Management Core Competency. Mr. Kaarlela holds a Bachelor's Degree from the University of Texas-Arlington and a Master's Degree from Texas Christian University. He is a Technical Fellow with and past Chairperson of TechAmerica Association's G-33 Configuration Management Committee, the standards writing and oversight body of the US Industry Standard and Handbook for Configuration Management. Mr. Kaarlela is married and has three children.

CM Training for the Organization

by Steve Easterbrook, CMPIC

Configuration Management processes exist to enable the entire organization to work better. One of the biggest reasons Configuration Management is not as effective or efficient as it could be is the fact that most organizations see CM as a person, or a CM department, whose only mission is to slow them down.

Most people within the organization do not understand what CM actually is, its "purpose," and its "rewards". They certainly do not understand the "dark side" should CM not be in place or followed. And, there are employees and managers that do not understand their own internal CM plans or procedures as well.

Ironically, many organizations make it mandatory for every employee to take annual "safety" training. If the employee refuses to take the training they would be let go. But the same organizations do not blink an eye when their own employees do not follow company approved CM plans and procedures.

Failing to follow company approved CM plans and procedures can result in loss of revenue, loss of customers, lawsuits, schedule delays, warranty work, negatively affect security, etc, and cause major "safety" problems. Now how important is that?

I believe CM is important enough to be made mandatory for the people around you to learn more about the value of CM.

Every manager and co-worker, the entire organization, needs some degree of CM training in the what, why, how, when, etc. of CM. Why? *CM processes affect everyone.* Anyone who creates, validates, releases information needs to understand CM. Anyone who proposes, reviews, authorizes, implements change needs to understand CM, anyone who orders parts or work to be done needs to know what to order / build / test / etc.

Read the following excerpt from the ANSI/EIA-649B Configuration Management Standard:

"CM training provides an understanding of the fundamentals and principles of CM and the use of CM tools, procedures, and practices... Training should be planned to address both performance of assigned CM tasks and cross-training to provide awareness of relationships and interactions with others having CM-related responsibilities. Personnel from many organizations within the enterprise and suppliers have CM roles to perform. Both on-the-job and formal CM training should be tailored to address needs based on the individual's position, experience level, and responsibility... Training should not be a one-time event; it should be continuous as personnel and processes change, personal skills evolve, and new tools are introduced."

The bottom line: Successful CM implementation requires CM understanding via CM training, not just for CM professionals but for all those we work for and all those we work with.

Steve is President of the Configuration Management Process Improvement Center (CMPIC). Steve is also a former President of the Association of Configuration and Data Management (ACDM) and is currently on ACDM's Board of Governors. Steve has been working in configuration management for over 28 years. He has 12 years of experience as a Configuration Management manager in government and commercial organizations and another 16 years as a CM educator, lead assessor, and consultant. Steve has taught, lectured to, and/or consulted with thousands of individuals from hundreds of commercial and government organizations on the subject of CM process improvement.
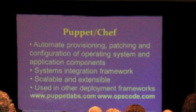
CM Trends 2011

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September 19 - 21, 2011
Orlando, FL

CMPIC
www.cmpic.com

CM Trends 2011

CM Trends
2011

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CM Trends 2011

Attendee Companies

60 different government & commercial organizations were present, including:

NATO, Levi Strauss & Co., US Army, NAVAIR, CM Crossroads, FAA, Donaldson Company Inc., NSWC, Lockheed Martin, Nexteer Automotive, ASRC Research & Technology Solutions, BAE Systems, NASA, Tri-Star Engineering, QinetiQ North America, Capgemini, URS Federal Services, SPAWAR, Cask LLC, Northrop Grumman Corporation, L-3 Communications, Department of Homeland Security, Man Tech, Federal Reserve Board, University of Manchester, Phonon Corporation, and more!

Exhibitors

CM Trends 2011

Testimonials

"CMPIC provides a great benefit and opportunity for CM Professionals! Without this conference, the Profession of CM would not be living the way it should!"

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

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

"Got info on all the different CM user groups and organizations."

"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."

"Interesting topics and well put together."

"Thank you for a wonderful CM Conference yet again!"

"Thank you for a wonderful Conference. It was my first attendance and found it to be very informative."

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

All testimonials are on file at the CMPIC office.

Learn more about future CM Trends Conferences at:
http://cmpic.com/configuration-management-conference.htm

CMPIC
www.cmpic.com

CM Trends 2012

SAN DIEGO, CA
August 13 - 15, 2012

Experience an event that can motivate, educate, and connect you with the people and resources that can help you succeed. Attend the CM Trends 2012 Conference where you will learn about a variety of CM & related topics, network with an assortment of CM professionals, and will be able to ask questions throughout the event. Experience the full spectrum of CM at the CM Trends 2012 Conference.

Visit http://cmpic.com/configuration-management-conference.htm to learn more about this event.

Configuration Management Resources:
Discussion Boards, Job Postings, Links, & More!

Many topics were brought up in general discussion at the CM Trends 2011 Conference. One question that kept being asked was "What resources ar available to CM Professionals?" Below is a brief list of those places discussed:

CM Resource Guide: Created in 1994 by Steven Easterbrook, and regularly maintained, the CM Resource guide is the first place to look for links to organizations, conferences, articles, standards, books, and more concerning CM and related topics.

CM Recourse Guide: www.cmpic.com/cmresourceguide
List of CM & Related Organizations: www.cmpic.com/configuration-management-organizations

CM Crossroads: Founded in 1998 by Patrick Egan, CM Crossroads is a comprehensive developer community and resource center focused on configuration management and application lifecycle management. CM Crossroads offers interactive discussion forums, a broad range of articles and newsletters, a career search center, Jobs Board, and more.

CM Crossroads: www.cmcrossroads.com

ACDM: Become a member of the Association for Configuration and Data Management by joining ACDM. Once a member, you can have access to discussion boards, job postings, newsletters, and receive updates on the latest in CM. ACDM will be holding their 17th Annual ACDM Technical & Training Conference March 19-21, 2012 in Destin, Florida.

ACDM: www.acdm.org

Linkedin Groups: Linkedin is a business-oriented social network that contains groups tailored to specific topics. There are many groups already created that are centered around Configuration Management and related topics. These groups offer interactive discussion boards, job posting, and messaging. To join, log in to your account, or register for free. Search for any of the following groups:

"CMPIC Configuration Management Trends"
"Configuration Management Professionals"
"CM Professionals"
"Configuration Management"

Contact CMPIC, LLC: We enjoy hearing from you and helping you out in any way we can. Call or email us with any questions you have and we will put you in touch with a person who can give you the most thorough answer. We look forward to hearing from you!

Contact CMPIC at: info@cmpic.com, (434) 525-8648

19 Master's Certificates Awarded at NAVAIR

NAVAL AIR SYSTEMS COMMAND, PATUXENT RIVER, MD. -- Eighteen NAVAIR configuration managers and one integrated program team lead were presented Master's Certifications in Enterprise Configuration Management during a graduation ceremony here August 18, 2011.

CMPIC's first Master's Certification was awarded in September 2009. Since then, only 26 people have received this distinction, equating to only 3% of CMPIC's students.

With this graduation, NAVAIR nearly double the number of students who have received the Master's Certification in Enterprise Configuration Management from CMPIC.

"Being awarded the CMPIC Master's Certification in Enterprise Configuration Management is a significant accomplishment for you all," said Keith Sanders, assistant commander for Acquisition, AIR 1.0. "This award signifies that you have successfully passed a comprehensive set of coursework, have a thorough understanding of CM principles, the knowledge to explain and implement CM throughout the various functional areas, and understand the various implementation techniques and options needed to deploy these practices throughout NAVAIR. Congratulations!"
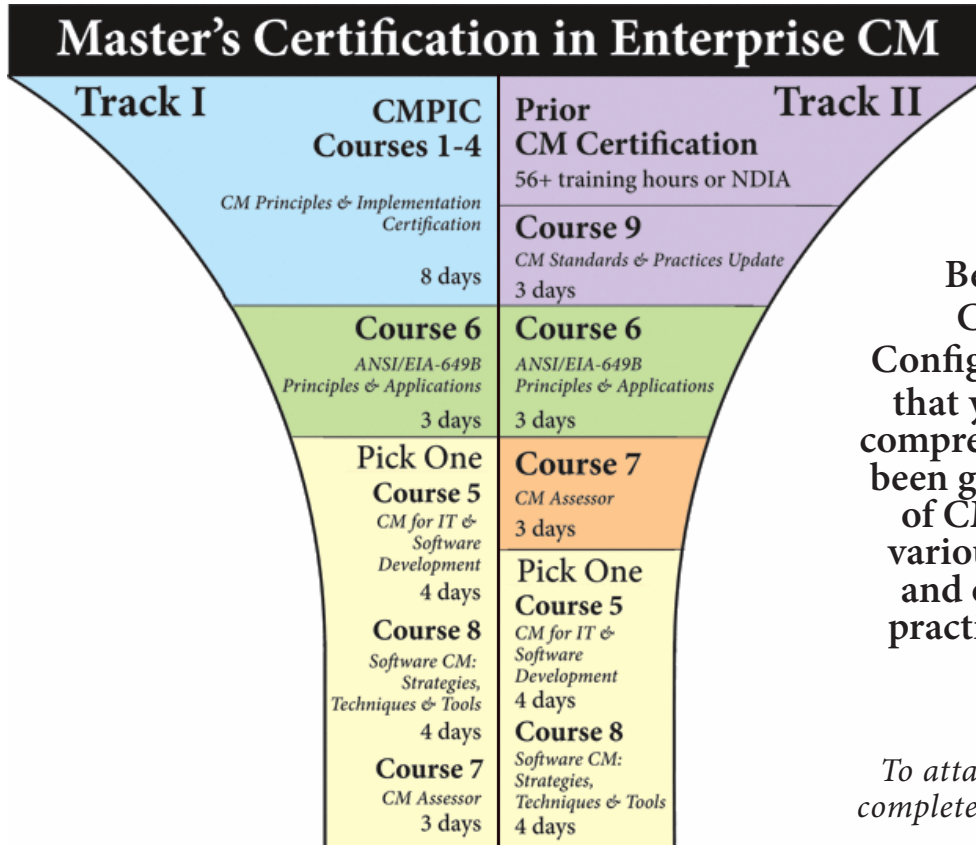
CMPIC professional-level configuration management training and configuration management certification courses are sponsored by the University of Houston and provide Continuing Education Units.

The Master's Certification in Enterprise Configuration Management, is a certification awarded to those students who successfully complete the CMPIC Certification (courses 1 – 4, CM Foundations, CM Structures, CM Dynamics and CM Implementation), the ANSI/EIA-649B CM Standard, and the CM Assessor certifications.

Photo: The 19 graduates (Alphabetical order): Edward Blackstone, Dan Christensen, Jill Comer, Danny Cowart, John Driskill, Geraldine Dul, Tarhesha Ellis, Jeffery Hagen, John Harkness, Lisa Ivett, Jacquelyn Jenkins, Brian Knowlton, Kenneth Kratz, James Sylvia, David Tiell, Michael Tourville, Mark Wentling, Karen Wathen, and Debra Weinrich. U.S. Navy photo by Steve Kays.

NEW Track to Master's Certification in Enterprise Configuration Management

Master's Certification in Enterprise CM

Track I		Track II
	CMPIC Courses 1-4	**Prior CM Certification** 56+ training hours or NDIA
CM Principles & Implementation Certification 8 days		**Course 9** CM Standards & Practices Update 3 days
Course 6 ANSI/EIA-649B Principles & Applications 3 days		**Course 6** ANSI/EIA-649B Principles & Applications 3 days
Pick One **Course 5** CM for IT & Software Development 4 days		**Course 7** CM Assessor 3 days
Course 8 Software CM: Strategies, Techniques & Tools 4 days		**Pick One** **Course 5** CM for IT & Software Development 4 days
Course 7 CM Assessor 3 days		**Course 8** Software CM: Strategies, Techniques & Tools 4 days

Being awarded this Master's Certification in Enterprise Configuration Management signifies that you have successfully passed a comprehensive set of coursework, have been given a thorough understanding of CM principles, and understand various implementation techniques and options needed to deploy CM practices throughout an enterprise/organization.

To attain your master's certification, please complete one of the following tracks to the left.

Understanding the NEW Track II:

The purpose of Track 2 is to give CM professionals who have obtained a recognized CM Certification the opportunity to obtain the CMPIC Master's Certification without having to "re-certify" and give up the investment in their current certification.

(1) Student must have a Configuration Management Certification.

Students must provide evidence of prior recognized CM certification.

Accepted Certifications are:

- NDIA: CDM Manager and CDM Specialist, or prior CCM and CCS
- CM Certification from another CM Certification/Training Provider: Applicants must have a minimum of 56 hours of instructor led in-class education/ training that includes exam(s) and recognized professional Configuration Management designation.

(2) Student must have successfully completed CMPIC Course 9, "CM Standards & Practices" Update Course (starting 2012).

(3) Students must complete the "ANSI/EIA-649 Principles & Applications" Certification, CMPIC Course 6.

(4) Students must complete the "CM Assessor" Certification, CMPIC Course 7.

(5) Student must complete one of the following certifications:

- Course 5: "CM for IT & Software Development" Certification
- Course 8: "Software CM: Strategies, Techniques & Tools" Certification

NEW: CMPIC Course 9
Configuration Management Standards & Practices Update

CMPIC's new course, CM Standards & Practices, will provide you with an overview of the current CM Trends. This is a great refresher course for experienced CM Professionals and counts towards achieving your Master's Certification in Enterprise Configuration Management.

Overview

This three-day course will provide an update and overview of current 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. This course will be updated regularly to reflect current standards, methodologies, and other advances in the profession.

Prerequisites

To register for this course you must have a minimum of 56 hours of instructor led classroom education/training that includes exam and recognized professional Configuration Management designation.

Students with NDIA CDM Manager and CDM Specialist certification (or prior CCM and CCS) are also eligible to register (minimum 56 hours not required).

Intended Audience

This course is intended for experienced CM professionals with a recognized CM certification who periodically need an updated on current trends, standards, automation, and best practices in CM.

Continuing Education Units (CEUs)

Students who successfully complete this course and associated exam will receive a certificate of completion and 2.4 Continuing Education Units (CEUs) from the accredited University of Houston. No certification is given at the end of this course.

Learn more at: http://cmpic.com/9.htm

CMPIC Discounts

Government Discounts
All government employees and on-site badged contractors receive a 10% discount on all CMPIC courses, both public and on-site.

On-site Discounts
CMPIC offers discounted rates for any company that hosts an on-site class for only 5 or more attendees. The more employees that attends, the lower the per-person rate. To learn more about hosting a CMPIC class at your company, visit: http://cmpic.com/onsite-configuration-management-training.htm.

Send 4, Save More!
Do you have 4 or more employees you need trained, but don't want to host an on-site class? Register 4 or more employees for any public course and you can receive the discounted on-site rate! To qualify, employees must attend the same class(es) and be invoiced together.

To view CMPIC's course fees and discounts, visit: http://cmpic.com/fees.htm.

Tina's Tea Party:
What a four-year-old taught me about requirements

by Rick St. Germain, CMPIC Canada

Problems

It had been a crummy week. Our project, that supposed showcase of expertise and innovation, was bogged down in problems. The centerpiece of efficiency was my CM system that not only automated the change management process, but managed the requirements as well – individually rather than just at the document level. The database WAS the requirements document – no mindless boilerplate, no run-on sentences – just the facts, Ma'am, on-line, in searchable form. Sweet.

This innovative tool gave the team a level of detail and traceability never before seen in our company. Management loved it. The team loved it. And I was the hero that made it happen. So why wasn't it working? Review after review, defects popped up whose root causes were traced back to the requirements or, more precisely, to the implementation of the requirements. We had a great customer rep who really helped us nail the requirements and populate the database. There were relatively few changes to the requirements, yet the developers and engineers who thought they understood the customer's needs, were having a hard time making it through the design reviews. Why?

It was late on Friday, the sun was going down, I was still staring at the issues list on my display when the phone rang. It was my sister, who has this uncanny ability to sense when I am unsettled. What am I doing for the weekend? Would I come over for dinner tomorrow? Good. Come early, Tina has plans. Bye.

Uh-oh, that probably means she wants me to baby sit her four-year-old. Oh well, at least I get a free meal out of it. I return to the issues list looking for clues until I can't keep my eyes open any more. Time to pack it in for the weekend.

The Tea Party

My finger barely lifts from the doorbell when the door flies open and a miniature version of my sister squeals and clamps herself on my leg. As I hobble into the house, my sister smiles from the kitchen where she's orchestrating bubbling pots and kneading dough. Smells wonderful.

"Make yourself at home" she says. "There's cold beer in the fridge and a recliner in the living room with your name on it." Sounds good to me. But Tina has other plans…

Which is how I found myself, a few minutes later, sitting with my knees about my ears at a small table facing a beaming Tina. I was wearing the compulsory hat and orange paper bowtie with a string tied in the back, sharing the table with two other guests: a rather large stuffed giraffe and a forlorn-looking teddy bear with one eye missing. Arrayed before us were a variety of pink plastic dishes, a tea set, and tiny folded napkins vaguely resembling Kleenex.

Now. I'm no Ann Landers, but I do know my table manners and I thought I was good company. However, Tina was having none of this. She had her own ideas

about how things should go. "You're not supposed to drink your pretend tea until I pour you some." "Wait, Teddy hasn't got his yet." "No, no, THIS one is the sugar; you just put cheese into your pretend chocolate milk!"

After my fourteenth gaffe, I could see that my little hostess was getting pretty exasperated. Frowning, she crossed her arms and stamped her foot. "You're not doing it right", she cried. I was getting frustrated, too. I wasn't on the same "pretend" page as her and was hopelessly out-classed in the imagination department. "This is not working", I thought to myself, "Perhaps I should look at things from Tina's point of…"

Epiphany
At that very moment, an extraordinary thing happened – an out-of-body experience of sorts. I suddenly saw this as a systems problem, a miniature version of the one at work. Tina was my customer. I was the system. Tina's world was the problem space, my world was the solution space. They were separate but connected by an interface: my fumbling attempts to manipulate objects in her world.

This insight was an important one. Tina's imaginary world, the problem space, is populated with things that are represented by things on the table. All these "things" have meaning to her and have relationships to other things in her world. But her "requirements" were what she wanted to happen with these objects:
Requirements are the EFFECTS the customer wants the system to exert in the problem space.

I'd been so busy trying to figure out how I should behave, that I'd never taken the time to really understand Tina's world and the effects that she wanted to achieve in it. And to understand Tina's world, I needed to know what objects and events were in it, their relationships, and the rules that governed them all. This gives context to requirements.

While requirements are statements about how the problem space is affected, the domain description describes what the problem space is.

The customer is interested, not in the functional behavior of the system, but in the effects produced by that behavior – what the customer wants to achieve. Requirements are propositions and concepts, not sentences on paper or

records in a database. Paper or electronic documents and databases are just a way to communicate these concepts among people.

And it became blindingly clear that this was the problem I was facing at work. I had captured the customer requirements and was communicating them effectively, but the requirements were not enough: I had not captured the context needed to understand the requirements – the domain description that described the customer's world. Engineers and developers living in the solution space don't usually have access to the problem space, so communicating that context is critically important.

The job of a requirements document is to define the problem domain in enough detail that people can design a system to make these things happen.

I looked at my little hostess across the table and asked, "Do giraffes like sugar in their tea?"

A huge grin spread across her face.

Redux
It took us a while to set up the domain description and link it in to the requirements database, but it was more than worth the effort. Defect rates dropped dramatically and the developers were happy campers. In helping us with the domain description, the customer developed a better understanding of his own environment too, and got a better product as a result.

Our team got an "Outstanding Achievement" award from the top brass that sits proudly in our trophy case. And just in front of that plaque, in the place of highest honor, sits a small pink plastic teacup – a testament to our teacher.

That cold beer tasted real good, too.

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 rstgermain@rogers.com

CM Certification Courses

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

    Upcoming Series:

    Minneapolis, MN starting October 31, 2011

    San Diego, CA starting December 12, 2011

    Panama City, FL starting January 23, 2012

    Stafford, VA starting January 30, 2012

- **CM for Software & IT Development Certification, Course 5**

    San Diego, CA November 14 - 17, 2011

    Orlando, FL April 2 - 5, 2012

- **ANSI/EIA-649B Principles & Applications Certification, Course 6**

    San Diego, CA November 30 - December 2, 2011

    Orlando, FL March 26 - 28, 2012

- **CM Assessor Certification, Course 7**

    Stafford, VA November 14 - 16, 2011

    San Diego, CA December 5 - 7, 2011

    Orlando, FL April 16 - 18, 2012

- **SCM: Strategies, Techniques and Tools Certification, Course 8**

    Orlando, FL December 5 - 8, 2011

    Orlando, FL March 19 - 22, 2012

    Toronto, ON April 9 - 12, 2012

- **CM Standards & Practices Update, Course 9**

    Orlando, FL February 27 - 29, 2012

    Seattle, WA June 4 - 6, 2012

Visit **www.cmpic.com** for more information about these courses.

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

CMPIC Onsite Certification

Did you know that CMPIC offers onsite certification and training for as few as five attendees? This is a great way to train your staff and eliminate the need for a large travel expenditure. Call us to find out more, or visit www.cmpic.com.

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Do you have a CM story to tell? Would you like your CM article published in this newsletter? Send us an email and we'll provide details. kerri@cmpic.com

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