CMTrends

News and Perspectives for CM Professionals

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ANNOUNCING: CM TRENDS 2017 in Orlando, FL Aug. 28-30
Configuration Management Seminars, Workshops, And Training

Check out page 4 for more information!

CM Origins Part II

By Kim L. Robertson

One result of the application of Configuration and Data Management principles is end item repeatability. We audit item functionality against the requirements to assure they are met. We audit the design record against the product to verify the design is captured. One place where this is evidenced in the historical record is in architectural drawings containing repeatable features.

Drawings created on animal or plant materials are scarce. The statue of Gudea, ruler of Lagash in Mesopotamia (c.2200 BCE) is a good example. Although he is holding the plans for a building in his lap; I discovered no evidence that plan survived in any other form.

Louvre Museum, Paris

It is fitting that Figure 1 in the EIA 649, Configuration Management Standard, shows Configuration Verification and Audit supported by three columns (Configuration Identification, Configuration Change Management and Configuration Status Accounting) resting on the base CM Planning and Management. Ok, I can sense the puzzled looks out there … Just why is this fitting? Let's turn to the unfinished Temple of Apollo at Didymaion, Turkey for the EIA 649 tie-in. The 3rd Century BCE temple plans are inscribed on 200 square meters of the unfinished walls. One of these "blueprints" shows the fluting of the column drums. A second shows the column sectional widths and curvature using a full scale radius and a one to eighteen scale in column height. 120 columns were planned for the temple. Had the temple been completed the plans would have been obscured by a marble veneer and we would not know of them. It is now thought that similar plans existed in every Greco/Romano temple and public building.

Image credit "*The Art of Building in the Classical World*" 2011, John R. Senseney
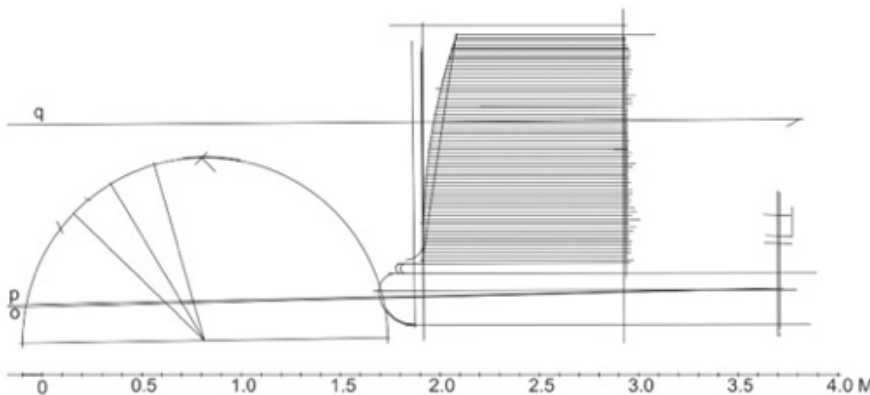
Our search for the historical evidence of reproducible design must throw away the fiction that it all started with one person or document at one place on a certain date. "First Evidence" is always being pushed backward in the historical record as new discoveries are made or old discoveries are re-analyzed using current technologies. Similar "blueprints may go further back in the historical record. We will have to rely on chance to find out.

I was taught in the 1960's that American Icon and self-promoter Eli Whitney invented mass production interchangeable parts out of whole cloth and it was, "Hold on Hanna we are off to the races." Or was it? Let's take a closer look … The 4,000 muskets delivered by Whitney Arms to fulfill his 1789 Government contract took eight years instead of the one specified and had no interchangeable parts in them. During an 1801 presentation Eli talked about mass produced firearms that had interchangeable parts. Not all parts mind you … just the parts in the lock. The stock, barrel, and other bits and bobs were still very much a one-off proposition.

That event is now thought to have been staged with a set of hand fabricated parts that were specially made to show the advantages of interchangeability. It did not demonstrate what his factory could do. Eli died on January 8, 1825 and the Whitney armory could not make interchangeable parts until later that same year. Other New Englanders, including Captain John H. Hall and Simeon North, got there while he was alive. They were not the first.

Honoré Blanc demonstrated part interchangeability by disassembling 1,000 musket locks, mixing the parts, and assembling them again in 1785. Blanc was making 10,000 muskets a year for Napoleon by the time Eli's demonstration took place. "Hold on Hanna …" has been officially replaced with, "Vivre France - C'est fini … N'est-ce pas?" Not so fast … In the early 1900's the majority of parts delivered to assembly lines still needed to be filed to make them fit. So just where did it all start?

Interchangeability of ship parts can be traced back as far as the Punic Wars (264 to 146 BCE) through archaeological remains of boats now in Museo Archeologico Baglio Anselmi. To find "First Evidence" of interchangeable parts in handheld weaponry we must look not to France but to China where 8000 Terracotta Warriors were buried c210 BCE. Many of the associated weapons are still sharp. Analysis conducted by the Chinese Research Institute of Nonferrous Metals and Chinese Academy of Geological Sciences concludes this is due to a 10-15 micron coating containing chromium oxide (at up to 2% chromium). No record of the process used to do this exists.
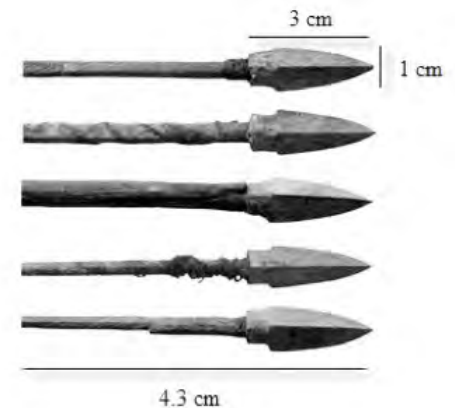
Crossbows found at the site contain firing mechanisms with parts that are interchangeable with one found 3218.69 km away. Manufacturing standardization is further evidenced when 30,000 arrowheads used with those crossbows were examined and found to have a variance of less than 1 cm.

Image credit "*Configuration Management: Theory, Practice, and Application*", 2015, Jon M. Quigley and Kim L. Robertson

You can't physically produce the number of weapons found at the Terracotta Warrior site and reconcile it with the time available without mass production as part of the equation. Discovery of Helve Hammer Mills contemporary with the weapon manufacture reinforces this. A variance of less than 1 cm may not be much by today's standards but it is phenomenal for 210 BCE. Better tolerances on a similar scale of production would have to wait until Jesse Ramsden's **"***Description of an Engine for dividing Mathematical Instruments"* in 1777.

Kim Robertson is a NDIA Certified CM practitioner, consultant and trainer with over 30 years of experience in contracts, subcontracts, finance, systems engineering and configuration management. He has an advanced degree in operational management with a government contracts specialty and is the co-author of Configuration Management: Theory Practice and Application. He can be reached at kim.Robertson@ValueTransform.com

CMTrends

2017 S.W.A.T.

Seminars, Workshops, And Training

Orlando, Florida
28-30 August 2017

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You are invited to learn about the latest configuration management process improvement techniques at CM Trends 2017: Seminars, Workshops, and Training! This event is intended to put you in touch with a dedicated group of professionals working to improve their CM Processes. 30-minute lectures and 1-hour long workshops will teach you new skills, perspectives, techniques, and about the direction CM is headed. You will also have ample time to speak with PLM / CM tool exhibitors, participate in Q&A sessions with the speakers, and network with your peers.

Learn more about CM Trends 2017 at: www.CMPIC.com/configuration-management-seminar
Register now: www.CMPIC.com/registration, 1-434-525-8648, or info@CMPIC.com

Discounted Post-Event Classes
August 30 - September 1, 2017 in Orlando, Florida

Every year CMPIC hosts discounted CM certification and training courses to celebrate a successful CM Trends event. These courses (typically $1295) will be offered at $995 to the public or only $800 in addition to your CM Trends 2017 registration. Register now to learn more about one of the following:

Course 6, "SAE EIA-649B Principles & Applications" certification class

Course 7, "Configuration Management Assessor" certification class

Course 9, "CM Standards & Practices Update" refresher class

Course 15, "Security-Focused CM of Information Systems"

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Learn more at: www.CMPIC.com/2017_CMTrends_Classes

Download our Justification Letter to attend.

CMTrends

Orlando, Florida
28-30 August 2017

2017 S.W.A.T.
Seminars, Workshops, And Training

Location: Venue & Hotel

All CM Trends 2017 Seminars, Workshops, and Training classes will be held at:

ROSEN CENTRE HOTEL

9840 International Dr.

Orlando, Florida 32819

www.RosenCentre.com

The Rosen Centre Hotel is located on the famous International Drive, a quick walk to shopping, dining, and entertainment.

Room Rate: $114.00 (single/double) per night, available August 23 - September 5, 2017.
Make your sleeping room reservations soon. Room block typically fills up early. Email katie@cmpic.com if you encounter any problems making your sleeping room reservation.

To reserve a sleeping room at this discounted group rate, please: Call: 1-800-204-7234 & mention "CMPIC: CM Trends", or Reserve Online: https://bookings.ihotelier.com/Rosen-Centre/bookings.jsp?themeId=18677&groupID=1643718&hotelID=2018

* **This group discounted rate and room block will expire on Friday, July 28, 2017**. Reservations made after July 28th will be on a space-available basis at the hotel's current selling rate.

CHECK IN/CHECK OUT: Check in time is 3:00 p.m. and checkout time is 11:00 a.m.

SERVICES & AMENITIES: Complimentary in-room Wi-Fi & hardwired internet access, in-room safe, 8 on-site dining options, 24- hour fitness center, spa, swimming pool, on-site parking (discounted self-parking rate of $7/day available during event dates; $20/valet).

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Register Now!

Change Management
vs. Configuration Management

By Steve Easterbrook
President, CMPIC LLC

It is interesting that there are some organizations that separate change management from configuration management. It appears this separation first surfaced in IT environments as a result of ITIL guidance (Information Technology Infrastructure Library). Note: It was ITIL that separated change management from configuration management.

For most CM professionals it is odd that ITIL did that, as that approach is not in compliance with virtually every CM and related standard ever written.

There are five elements to configuration management: Planning, Identification, Change Management (or change control), Status Accounting and Verification & Audit.

And change management, or configuration control, has always been a subset of configuration management (at least over the last 50 years). This is confirmed by reading the latest CM, and related, standards… e.g. SAE-EIA- 649B, MIL-HDBK-61A, IEEE-828, ISO 10007, AS9100, NIST and more.

It is the change process that controls changes to the configuration and related information.

Change Control is not "different" from Configuration Management, it is a subset (a part of) of Configuration Management.

So, can anyone explain to me why ITIL separated the two?

Thank You,
Steve Easterbrook

STEVE EASTERBROOK
Steve is the President of CMPIC LLC - the Configuration Management Process Improvement Center. Steve has been working in configuration management for over 30 years. He has 12 years of experience as a Configuration Management manager in government and commercial organizations and another 18 years as a CM educator, lead assessor, and consultant. Steve has taught, lectured to, and consulted with thousands of individuals from hundreds of commercial and government organizations on the subject of CM process improvement.

ISO 10007, 10013 Update

By Leo Clark
Consultant in Quality and Configuration Management

I was privileged to attend the ISO US Technical Advisory Group 176 meeting in Indianapolis. The group determines the US position on matters of Quality Management. There were two particular discussions of Configuration Management.

First, Lorri Hunt, lead US expert, presented the recent upgrade to the 10007. The ISO 10007 is in final approval and will be published this year.

I also attended discussions for the ISO 10013, Documentation for Quality Management Systems. The group of experts in attendance were examining the strategies to identify the correct amount of documents or "documented information" to assure quality.

Discussions focused on the use of a Configuration Structure to help identify the information inventory. Discussions also explored the view of "documents" beyond just pages in a three ring binder. It was exciting to evaluate the opportunities that digital media, database content and even virtual/augmented reality devices could provide organizations looking to promote and achieve world-class quality.

The discussions also explored defining an effective change process and coordinating that with the ISO 10007 approach.

CMPIC is proud to work with ISO, ASQ and SAE to advance the state of the art in Quality and Configuration Management.

Thank You,

Leo Clark
Consultant in Quality and Configuration Management

LEO CLARK
Leo is a former Marine from New York. He has implemented quality systems in over 250 factories on 5 continents. In the past 18 years, he has taught CM to over 1,000 organizations on 6 continents. Leo is a member of the American Society of Quality and the US Technical Advisory Group for Quality Management. He is a Technical Reviewer for Software Quality Professional magazine and one of the US Configuration Management experts to the ISO 10007 Technical Committee. Leo also teaches configuration management for CMPIC.

EIA-649C Update

By Larry Gurule
President at i-infusion, Inc.

Regarding the progress of the project, the 649C project group held 7 sprints that encompassed the major sections of the current standard and included both technical and informational discussion. Over 600 comments were submitted and adjudicated against the current standard. As a result of these discussions the project committee is moving forward with revising the standard in several key areas.

First, the CM principles defined in the revised standard will apply equally to an Enterprise environment (Internal or day-to-day CM), that supports an efficient, effective and lean enterprise, as well as a Contracted environment (Acquirer-Supplier (A/S) CM) that supports trusted working relationships among the enterprise and its suppliers and customers. Configuration Identification principles 9 and 10 are being updated and two new principles are being added to address product integrity and performance/status.

Second, CI will remain in the standard with an updated definition that will apply to both A/S and Enterprise CM.

Third, it was the consensus of the project team and the G33 committee that the informative aspects of the principles be expressed in the standard in relation to hardware, software and processes.

Additionally, a discussion as to the importance of Configuration Status Accounting (CSA) was entered into focusing on whether CSA needs to be more dynamic in the standard or left as is. The consensus is that CSA needs to be more dynamic to show evidence that life does get better with CM and that CM benefits can be quantified.

To that end, the 649C project committee has issued a challenge to all interested parties to send their input regarding integrated sets of CM processes and the metrics used to support them to us so we can provide examples in the new standard beyond just the change process.

Thank You,
A. Larry Gurule

Larry Gurule | President at i-infusion, Inc.

Larry Gurule is President of i-infusion, Inc. and a CMPIC Associate Instructor. Larry is an active SAE G33 Configuration Management committee member, Vice Chair of the SAE/SSTC/G33 Configuration Management Committee, and project sponsor for 649C revision. Larry is also an experienced consultant specializing in process and knowledge driven environments, including product development, engineering, manufacturing, supply chain, retail, distribution, and service/process industries. Larry has also owned and/or held senior level positions in manufacturing, software and service based businesses, as well as lectured to and/or consulted with hundreds of individuals from Fortune 500 companies and various government agencies on process improvement and enterprise IT implementation initiatives. Larry holds a Mechanical Engineering degree from the University of Colorado and is a CMPIC SME and CMII Certified Professional.

Announcing NEW!
CMPIC Course 15

"Security-Focused Configuration Management of Information Systems - Principles and Applications"

About this Course

This course addresses the role of configuration management in protecting information systems. Students who complete this course will understand the CM requirements as prescribed in NIST special publication 800-128. Course materials will come from the NIST publication and be supplemented with application examples provided by CMPIC. The CM requirements, principles and application examples taught in this class are directly applicable to government and commercial IT systems/environments. Course consists of lecture and workshops.

Why Consider this Course?

Organizations apply configuration management (CM) for establishing baselines and for tracking, controlling, and managing many aspects of business development and operation (e.g., products, services, manufacturing, business processes, and information technology). Organizations with a robust and effective CM process need to consider information security implications with respect to the development and operation of information systems including hardware, software, applications, and documentation. Effective CM of information systems requires the integration of the management of secure configurations into the organizational CM process or processes. For this reason, this document [NIST SP 800-128] assumes that information security is an integral part of an organization's overall CM process; however, the focus of this document [NIST SP 800-128] is on implementation of the information system security aspects of CM, and as such the term security-focused configuration management (SecCM) is used to emphasize the concentration on information security. Though both IT business application functions and security-focused practices are expected to be integrated as a single process, SecCM in this context is defined as the management and control of configurations for information systems to enable security and facilitate the management of information security risk. (Source: NIST SP 800-128)

"Security-Focused Configuration Management of Information Systems - Principles and Applications"

Intended Audience

- Configuration Management professionals responsible for an organization's automated CM systems/tools and related systems.
- Individuals with information system and information security management and oversight responsibilities (e.g., chief information officers, senior agency information security officers, and authorizing officials);
- Individuals with information system development responsibilities (e.g., program and project managers, mission/application owners, system designers, system and application programmers);
- Individuals with information security implementation and operational responsibilities (e.g., information system owners, information owners, information system administrators, information system security officers);
- Individuals with information system and information security assessment and monitoring responsibilities (e.g., auditors, Inspectors General, assessors/assessment teams).
- Commercial companies producing information technology products and systems, creating information security-related technologies, and providing information security services can also benefit from the information in this publication.

Course length

Course is 3 days in length; Note: 2 1/2 day accelerated version given at annual conference (where workshops will be minimized).

Prerequisites

There are no prerequisites for this course.

The inaugural class will be held in Orlando FL August 30 - September 1, 2017 after the annual CM Trends Conference. Various discounts are available as part of the conference package. Visit CMPIC.com for details.

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    - Charleston, SC   June 19 - 22 & July 17 - 20, 2017
    - Washington, DC area   August 14 - 17 & September 11 - 14, 2017
    - Orlando, FL October 17-20 & October 23-26, 2017   - Two Consecutive Weeks!
    - San Diego, CA December 11-14, 2017 & January 8-11, 2018
- *EIA-649B Principles & Applications* **Certification, Course 6**
    - Orlando, FL August 30 - September 1, 2017 - CM Trends Discount!
- *CM Assessor* **Certification, Course 7**
    - Orlando, FL August 30 - September 1, 2017 - CM Trends Discount!
    - Melbourne, FL October 11-13, 2017
- *SCM: Strategies, Techniques and Tools* **Certification, Course 8**
    - San Diego, CA December 4 - 7, 2017
- *CM Standards & Practices Update*, **Course 9**
    - Orlando, FL Aug. 30 - Sept. 1, 2017 - CM Trends Discount!
    - Lexington Park, MD October 3-5, 2017
- *649-1 CM Requirements for Defense Contracts* **Certification, Course 10**
    - Lexington Park, MD October 3-5, 2017
- *Security-Focused CM of Information Systems*, **Course 15**
    - Orlando, FL August 30 - September 1, 2017 - CM Trends Discount!
- **ANNUAL EVENT -** *CM Trends 2016: Seminars, Workshops, and Training*
    - Orlando, FL Aug. 28 - 30, 2017 - Experience the Full Spectrum of CM!

CMPIC Courses 1-10 are in partnership with:

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