



# CMTrends

News and Perspectives for CM Professionals

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# Calliope

## An Unfortunate Case of Mistaken Identity

by **Rick St. Germain**  
CMPIC Canada



### Identification

Curious thing about Identification, one of the five key elements of CM — it has more to do with communicating than it does with identifying things. It has three components:

**Identity** puts a label on “things”, allowing us to uniquely recognize and locate them. Identity information is often encoded into a standardized format using naming or numbering schema that (hopefully) everyone uses and understands. The big advantage of such an abbreviated identifier is that the encoded information is available on inspection, without having to access other data stores.

The big challenge, however, lies in:

- how much information is encoded in the identifier (and what is not)
- how clear that representation is
- how consistently everyone uses it

**Structure** gives context to “things” by describing relationships they share with other “things” in their environment. Relationships are links that allow us not just to navigate and find them in their environment, but to recognize dependencies that may be relevant to what we are trying to do.

While both identity and structure are essential components of Identification, their value needs to

transferred to those who need it. So the critical third component of Identification is **Communication** — conveying this information to people. This is best done by giving them access to relevant information, typically in a PLM system with search capability, indexed to a simple non-intelligent item identifier.

Failure to address all three of these components can sometimes lead to unintended consequences. Let me give you an example.

### The Gambit

Mason Bromley was the young, aggressive Senior Director, International Markets at Acme Fasteners. His meteoric rise in the company left a path littered with his pathetic, incompetent peers. He had manipulated and outmaneuvered even seasoned veterans who got in his way.

This latest gambit was a gift from the marketing gods, handed to him on a silver platter. The International Trade Commission had accepted his invitation to visit Acme with a touring delegation of influential Asian businessmen and political leaders. Senior management was very impressed by his daring initiative. This virtually guaranteed him an imminent appointment as the new VP of Marketing and eventually, CEO of the company.

He pulled out all the stops on this one, booking the newly-opened concert hall with its soaring ceiling, excellent acoustics and a magnificent facade of

multicoloured glass panels offering an impressive view of the river and mountains beyond.

The delegates would first be awed by this magnificent venue, then he would blow them away with his superb multi-media presentation of Acme's products, cued to a stirring rendition of "The Star Spangled Banner". Orders would come pouring in.

He had also booked the installation of a wide-angle projection screen that covered the entire stage area from floor to ceiling, along with the latest 3D IMAX projector for maximum effect. The only problem was the inadequate sound system — he would have to provide one with more punch. And he knew just where to get one, right here at Acme.

## AC-IN-0213-SYS-SW-2332-01-AP-01MKTG

He hauled out his secret weapon — the dog-eared Procurement Manual dated 05/13 that he had "liberated" from the tech library. Looked old, but had this year's date. Nice pick. He studied the part numbering spec and learned the what the codes meant. He practiced reading part numbers until he could decipher them in a heartbeat.

He remembered seeing an existing part number for a sound system that Acme had already produced. He flipped the pages.

"Ah, here it is", marvelling at his extraordinary recall. "System, Sound, SW, High volume, Calliope". Hmm, odd name for a sound system, but typical of what those idiot software developers dream up.

He called up the Bill of Materials and scanned the list. "SW Array, Playback Console, Generator, Conduit, Sound Board, Mounting Bracket Assy... yup, sounds right."

Just to make sure, he started to decode the part



number.

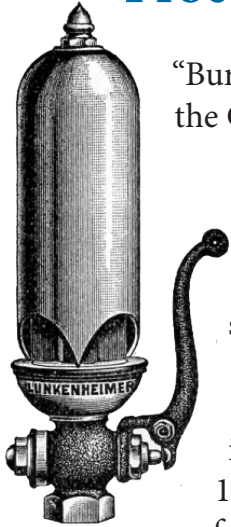
"AC for Acme, IN for internal project, assigned on date 02/13. Excellent, a recent project."

He continued, "SYS for system, SW for software. Good it's a digital system. 2332 is the model number, and 01 is the version. Ah, still current. Sweet."

“Per procurement procedures, I’ll place this order, adding on AP, automatic procurement, and 01MKTG, our marketing charge code to the end of this part number and we’ll get this bad boy rolling.”

He completed the requisition and hit Return. It flashed ‘No entry errors. Requisition accepted’. High fives in the air.

## Procurement



“Burton, get your hide in here”, bellowed the Chief of Procurement.

The harried young procurement officer rushed into the office, “I know what you’re going to say, sir, but...”

“Some wacko in Marketing just put in a priority order for that vintage 1913 Callotrope monstrosity we refurbished five years ago then couldn’t use because it was too loud.”

“Calliope. Yessir, I know.”

“This sucker is bad news, Burton. It’s like a player piano, but with 32 tuned steam whistles from locomotives and ocean liners, instead of strings. Steam whistles, Burton. This is a 1913 part number — SW stands for steam whistles. One of those can be heard for miles. When they go off together... I dread to think what would happen in an enclosed space. We’ve got to talk him out of this insanity.”

Burton fidgeted, wringing his hands. “Sir, I went to see Mr. Bromley this morning. Caught him on his way out of the building and tried to explain the danger to him on the way to his car — you know, that silver Beemer parked diagonally across two visitor parking spots near the front entrance.”

“Get to the point, Burton.”

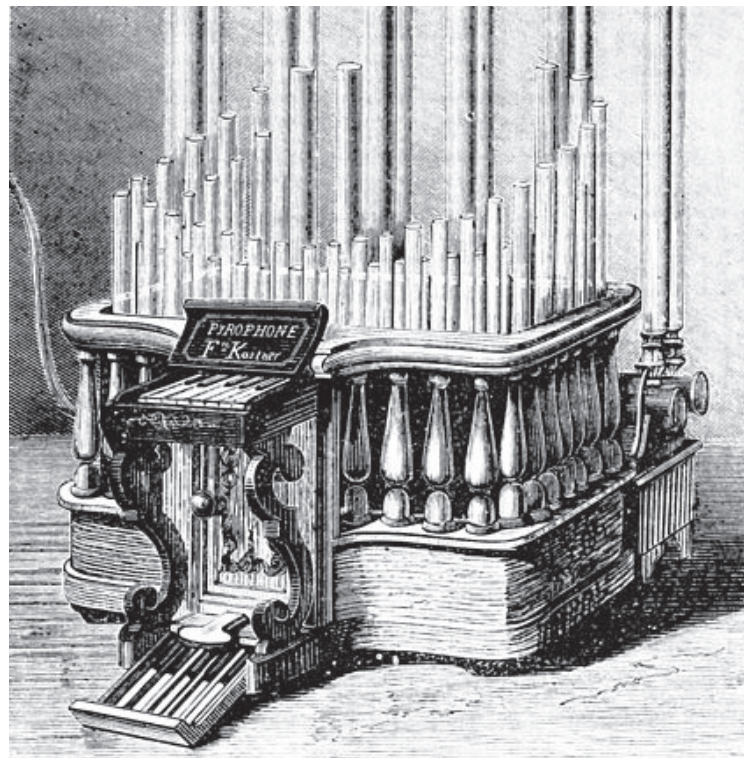
“Sir, he basically told me that if we weren’t up to the task, he’d find someone to replace us who could follow orders. He’s holding me personally responsible for ensuring that “Star Spangled Banner” starts playing on his mark. He peeled rubber out of the parking lot.”

The boss swallowed. “I see... Well, what are you waiting for, Burton? Get that thing installed.”

## Show Time

For Bromley, the event had blossomed into marketing Nirvana. The international delegation had attracted numerous local and regional officials, eager for photo ops with the large throng of media jostling for position. This prompted CNN to cover it live from their Situation Room. He had even hired the Goodyear blimp to orbit overhead, scrolling “Acme Fasteners — Tools with Impact” across its multi-story display. Brilliant.

A large motorcade of limousines, buses and black security SUVs made its way to the concert hall





parking lot, depositing the dignitaries in front of a broad red carpet extending into the building.

After welcoming speeches from various politicians, the crowd made its way in through the stunning glass entrance into the great hall, guided by their strutting host, Mason Bromley, in all his glory. He called their attention to the spectacular glass facade and the magnificent view beyond. Then, with a grand, expansive gesture, he swept around to bring their attention to his masterpiece within...

...where he first noticed the hissing tiara of enormous steam whistles bristling from two scaffolds. Immediately below, emblazoned on the IMAX screen, was a dazzling shot of their latest pneumatic riveter with the caption "Acme Fasteners Will Blow You Away".



Blood drained from Bromley's face as realization set in. In shock and disbelief, he straightened up, lowering his arm.

Mistake. Burton hit the switch, unleashing syncopated bursts of live steam up the conduits to their marks...

## Fallout

A generous \$1.3 million donation from Acme Fasteners covered the cost of replacement glass and structural repair to the front of the concert hall.

The camera on the Goodyear blimp had spotted a silver BMW moving at high speed towards the Mexican border, followed by what appeared to be a long line of black SUVs, limousines and buses giving chase.

As it approached the border, the speeding BMW was stopped by a well-placed 50 calibre round through the engine block. After police and border security converged on the scene and quelled the ensuing riot, Martin Bromley was arrested and subsequently charged under a hastily-issued international terrorism warrant for the attempted mass assassination of foreign diplomatic officials.

He insisted it was all just a case of mistaken identity.

Acme Fasteners declined comment.



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](mailto:rstgermain@rogers.com)

**RICK ST. GERMAIN**

**ANNOUNCING**

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# CM Trends

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**2014 S.W.A.T.**

*Seminars, Workshops, And Training*

**San Antonio, TX**

**18 - 20 August, 2014**

CMPIC's interactive event, CM Trends, invites you to join other CM Professionals from around the world to discuss topics and trends in configuration management. At CM Trends 2014 we will not restrict ourselves to lecturing about one methodology. Instead, we will cover a wide variety of issues and solutions that are relevant to you and your company. You will be able to learn interactively through informative presentations, workshops, group activities, Q&A sessions, networking, and visiting with exhibiting PLM tool vendors. Join us in San Antonio, TX for the most motivational, educational, and resource-dense CM event of the year!

Learn more at: [CMPIC.com/configuration-management-seminar.htm](http://CMPIC.com/configuration-management-seminar.htm)

**Experience the Full Spectrum  
of CM!**



# CMTrends

2014 S.W.A.T.

*Seminars, Workshops, And Training*

## Speakers & Workshop Leaders

Aras Corp. - Marc Lind

CIMdata - Peter Bilello

Cummins Inc - Mike Bostelman

Federal Reserve Board - Cynthia Carr

GE Power & Water - Leslie Miller

Lockheed Martin Aeronautics - Mitch Kaarlela

Lockheed Martin Missiles & Fire Control - Jeff Knight

Northrop Grumman - Tonya Santini

US Army - Jeff Windham



**Tina O'Dell**

**MASTER OF CEREMONIES**

## Exhibitors



\* **More Speakers & Exhibitors will be Announced!** View the most up-to-date list of speakers and exhibitors online at: [www.CMPIC.com/configuration-management-seminar.htm](http://www.CMPIC.com/configuration-management-seminar.htm)

**MORE INFO**

# TIEMPO

## Allocation, Verification, and Validation CM

by **Kim Robertson & Jon M. Quigley**  
Value Transformation LLC

### Model Year Blues

Akio Akiyama walked into the employee lunchroom and waved to Sangita Morales. Akio always took time to meet weekly with each product line configuration manager over a friendly game of Tangos.

“I am always impressed by Mike’s ability to see the potential in someone and utilize it in a way that allows them to grow while still meeting critical business needs,” said Akio. “It is his gift. Sangita, you have done well with Game Changes yet I sense you are struggling with something. Your thoughts are elsewhere and not on the game. Would you like to talk about it?”

“Yes. No. Akio, I’m just not sure. EPA emissions, National Highway Traffic Safety Administration (NHTSA), and the Insurance Institute for Highway Safety (IIHS) standards are changing this year. One of our customers has asked for my help developing a documentation plan. They have installed a radically new engine design, extensive serial communication changes, as well as an eight speed automatic transmission. They also have installed a variety of new and redesigned controllers to improve safety, real time suspension adjustment, upgraded steering, and unibody structure.

“There is not enough design heritage left to deem anything as heritage and meet requirements by similarity as a design improvement. It would be like evolving from gas lighting to LEDs with nothing in between. I understand what has to happen but I can’t tie out all the pieces as well as I would like to.”

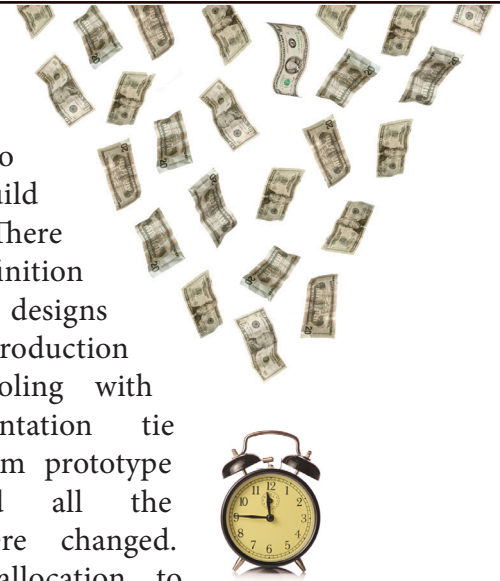
Akio took off his glasses, “What do you have so far?”

“So far it has all been R&D, then right into production to build inventories. There was little definition of finished designs to support production line and retooling with little documentation tie out of subsystem prototype iterations and all the subsystems were changed. Requirements allocation to the various subsystems were not thought out before design started and items that traditionally were mechanical subsystem are now electrical systems with no subsystem to subsystem ICDs or giver receiver lists. I’d like to leverage forward aspects of the Department of Defense Test and Evaluation Master Plan (TEMP) by adding in inspection (I), as well analysis, evaluation, demonstration, and organized (O). These align with section 3.6.3 Verification requirements of the Federal Highway Administration and California DOT systems engineering guidebook.”

“So TEMP becomes TIEMPO? Isn’t that Spanish for time?” Akio asked.

“Yes, as in ‘Save Time’” Sangita nodded, “I think this is a good idea not only for our friends at Mitsikara but for Genesis Test Equipment as well. I’d like to brush it by Mike tomorrow afternoon.”

“It sounds like you just talked your way through it. Let me know if you need any help,” Akio laughed.







## Tunaweza Kufanya Hivyo

Sangita finished up her presentation to Mike and Zuberi of Mitsikara. “Since we have a set of system requirements and planned sub-system delivery schedules feeding system level requirements, verification of the product can be more streamlined - only testing what is delivered with the completed system is subject to EPA evaluation. We can use a similar approach for assuring your loads and impact analysis give you enough design margin to achieve the five star crash rating you are seeking. Tooling and test equipment documentation will have to follow later. The subassemblies can be tested according to the subassembly requirements that may not have the adjacent systems support to produce an entire working system. For example, the instrument cluster has the tachometer function coded and ready for testing, while the engine may not actually support that function as of yet.”

“This sounds very promising” Zuberi rumbled, “What do you need from me so we can begin?”

Sangita replied, “Utilizing TIEMPO on this effort is not going to be trivial. We need you to get the verification team and systems engineering together with the powertrain lead engineer to get buy in and consensus on working with TIEMPO. The team will need to identify and prioritize the packages to be delivered complete with content. They then need to put these work packages under configuration management control. That is the easy part.

“I know that many at your stateside Mitsikara facility see configuration management as

documentation management,” she continued. “That is certainly part of the scope of configuration management. Document management is not the final goal or end objective. In fact, configuration management in the context of product development is the road map of the product growth. It is in our best interest as companies to plan that out as best we can while acknowledging that change happens and that we must adapt. This is going to require a cultural change and, as the President of North American operations, you are going to have your hands full seeing the paradigm shift takes place.”

Zuberi laughed, a sound like a cross between a chuckle and a growl, “A paradigm shift you say? Everything I have done at our plant in America has been a paradigm shift. Too bad you couldn’t make the acronym be Wakati, meaning ‘time.’ Time is so much of which we have so little of. If we are going to be approved for production with the model year change I should begin tomorrow. You will begin when?”

“I have already begun! We are rolling out TIEMPO here as well.” Sangita cheered, “We can do it! Tunaweza kufanya hivyo!”

“Yes, Tunaweza kufanya hivyo!” repeated Zuberi with a large grin.





## Success

Ten weeks later Zuberi invited the families of all involved to a celebratory dinner. The vehicle project manager Uri Volkov gave the keynote address on a slightly raised dais, a projection screen to his left and right and a dark velvet curtain behind him.

“This is the first vehicle we have developed in the US,” Uri said. “We started with a vision of taking a successful US compliant design; rethinking it without regard to what had been done but with an eye to what could be done. Unfortunately we forgot to apply accepted configuration management documentation practices along the way.

“Working backward we filled in the critical pieces to meet the standards filing deadlines. This couldn’t have happened without Sangita Morales’s introducing us to TIEMPO. With the path forward defined, we were able to associate specific quality securing and verification activities using testing, inspections, and evaluation techniques. Data content was captured in the management plan providing a road map of the development and growth of our new design.

“The map of the team’s development deliveries, e.g. the growth in the various package iterations and their actual deliveries, were not congruent. We decided upon a release note format also known as a Version Description Document to be delivered with each package to mitigate this. Our documentation now identified all known discrepancies between the target package contents and the actual delivery as well as defects.

“With the decomposition performed we moved on to planning quality securing activities around each delivery and the specific attributes for that deliveries content. Documentation was reviewed, hardware designs critiqued, and individual electronic control units tested prior to the assembly of the entire system thus providing input to the limitations that subsequent systems level testing would be relegated. In the end, this allowed the entire system to be tested and evaluated.

“The configuration management plan, the project introduction of the developed system, and the quality securing activities are now mapped together, producing a comprehensive approach to the product’s development. We now all have a greater understanding and appreciation of configuration management.

“We had a good grasp of managing the hardware, but where the EPA calculations were thrown off was in the electronics.



“The TIEMPO graphic you see on the screens sums up how we moved forward.”

Uri continued, “With a clean understanding of requirements from a “top down” perspective we collected artifacts from the bottom up in our PLM system paying as much attention to the data structure as to the product structure.”

He paused for effect, “I present you the first Mitsikara Yume to achieve an EPA rating of 56 mpg and a five star crash rating.”

As the curtain went up Uri took his seat to a standing ovation.

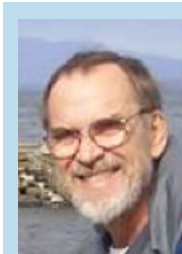
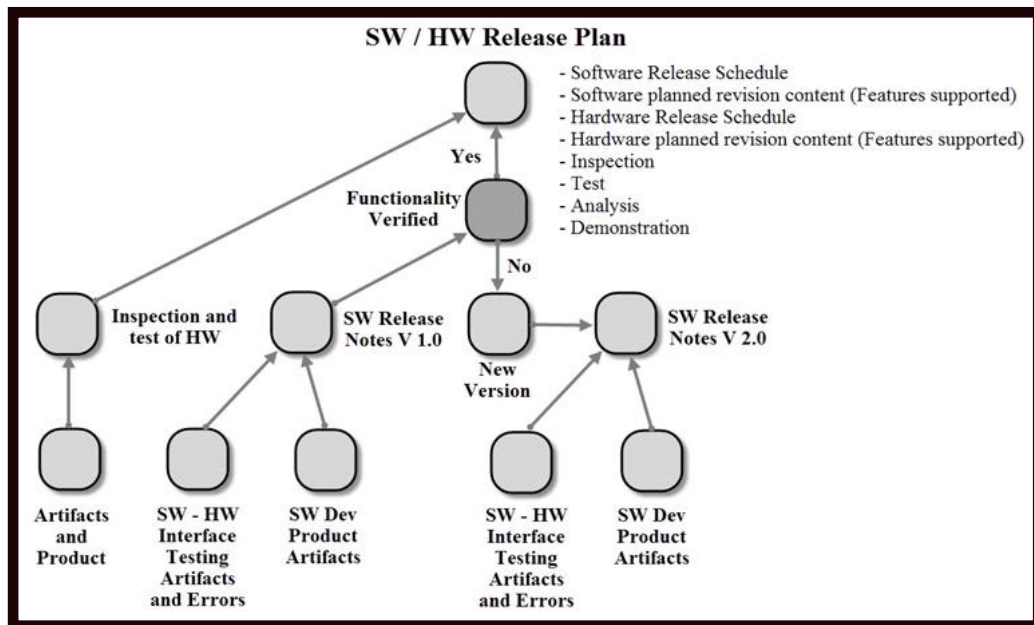
Zuberi Sumbako walked on stage from the shadows. His

massive seven foot frame looming over the podium, “Our EPA rating of 56 mpg is a 30 percent gain over our last model’s rating and we have an increase in our safety rating from three to five stars. We have done this! It is indeed impressive.”

Zuberi continued, “We are not yet finished with resolving our documentation issues. Next we must fill the data voids in our system so we have a clean baseline to leverage forward to meet next year’s objective of introducing two Yume variants.”

He looked at his operation’s extended family and roared, “We did it! Tunaweza kufanya hivyo!”

Before the echo of his voice died, “Tunaweza kufanya hivyo!” came roaring back followed by cheers all-round.



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. He is an associate of Value Transformation LLC and can be reached via LinkedIn.

**KIM ROBERTSON**



Jon M Quigley PMP is a product development expert with more than 20 years of experience and a founder of Value Transformation LLC. Value Transformation LLC provides training and consulting on a range of product development topics. Jon has multiple advanced degrees and certifications, as well as US patents secured. He has co-authored or contributed to seven books. He can be reached at [Jon.Quigley@ValueTransform.com](mailto:Jon.Quigley@ValueTransform.com).



**JON M. QUIGLEY**

# CMstat Enters Technical Partnership with i-Infusion

by CMstat

## PLM PERSPECTIVES

Las Vegas, NV: October 22, 2013 – CMstat, a leading supplier of Hardware Configuration Management and Data Management software solutions, announced the establishment of a technology partnership with i-Infusion, developer of Orpheus™ a powerful new Enterprise Process Management tool that provides the key capabilities necessary to rapidly and fully define business processes and automatically generate a multitude of deliverables, including detailed Resource, Process, Requirements and Interoperability reports.

EIA-859, the Standard for Data Management, Principal 1.0 states that you must “Define the Enterprise Relevant Scope of Data/Information Management” in order to effectively and efficiently implement any Data/Information management system.

Orpheus provides an easy to use, intuitive application for defining the “Enterprise Relevant Scope” by providing the framework needed to capture enterprise enabling processes, as well as the ingredients (i.e. information, security, knowledge, flow) needed to understand, execute, operate, support and manage them.

Orpheus allows CMstat to offer its customers an integrated approach Enterprise Product Data and Process Management by leveraging the Orpheus Process frame work. This combined approach expands the customer capabilities well beyond the traditionally limited PDM/PLM scope.

## About Orpheus

Managing our process is the right thing to do but prior to now, it has been impossible to hold it all together in a productive maintainable way.

Orpheus provides the missing elements for success:

*The Framework to quantify processes; and  
The Ability to Transform the quantified processes into capabilities.*

The largest part of many organizations’ budgets are operational expenses for “day to day” services provided to the organization by operational departments - IT, Sales, Marketing, Human Resources, Quality, Engineering, Manufacturing, Finance, etc.



Each department has its own collection of processes to provide and enable its capabilities and services.

Collectively, these areas enable cross-functional processes that make up the larger organization - very much like an Orchestra. And like an Orchestra,



## PLM PERSPECTIVES

they must be led by either a talented conductor or have great music (think “process”) in order to produce a world class product. Each functional area must be quilted together into a landscape of quantified capabilities designed to solve problems.

The question is, what do you know about these processes? How are you measuring their performance today? Are they documented anywhere or are they “Tribal Knowledge”?

Orpheus™ provides the missing elements for success - The Framework to quantify processes, and the Ability to Transform the quantified processes into capabilities that can be quilted into landscapes of problem-solving solutions.

Benefits include reduction in the time it takes a company to define a process(s) by up to 75%, increased accuracy of the information by multiple of 3-10X and deliverable generation in seconds instead of hours or days.



*The Configuration Management Company*

## About CMstat

CMstat has been delivering products that support the A&D industry for over 20 years. The products have been used domestically and internationally and support the relevant standards including:

- ANSI/EIA 649-B Standard for Configuration Management
- ISO 10007 Guidelines for Configuration Management
- ANSI/EIA 859 Standard for Data Management
- ANSI/EIA 836
- MIL-STD-3046 (ARMY) Interim Standard on Configuration Management.

In addition to supporting government standards, CMstat’s products are certified by both of the configuration management training organizations. The Institute of Configuration Management gives CMstat a 4 star rating. CMPIC, (Configuration Management Process Improvement Center) includes CMstat as a Preferred Vender. CIMdata has attended conferences from both of these organizations and CMstat is a very active participant, delivering presentations that demonstrate the depth of their CM knowledge as well as the capabilities of their solutions.

# Control Enabled Success

by **A. Larry Gurule**  
i-infusion/Imagine Technology

What is success? Webster dictionary defines success as “the correct or desired result of an attempt; to succeed”. Webster goes on to define succeed as “to happen in the planned or desired way”. However what we often find is that success has become a catch word for anything resembling doing better than you did previously and succeeding as just getting the job done.

So what determines Success in your organization? Is it Quality? Time to Market? Scalability? Cash Flow? Margins? Is it all or a combination of these? Or is it simply anything resembling doing better than you did previously? And what about succeeding; is your organization on the right path?



Enterprises often think of the path to succeeding and success as a linear progression to some ultimate

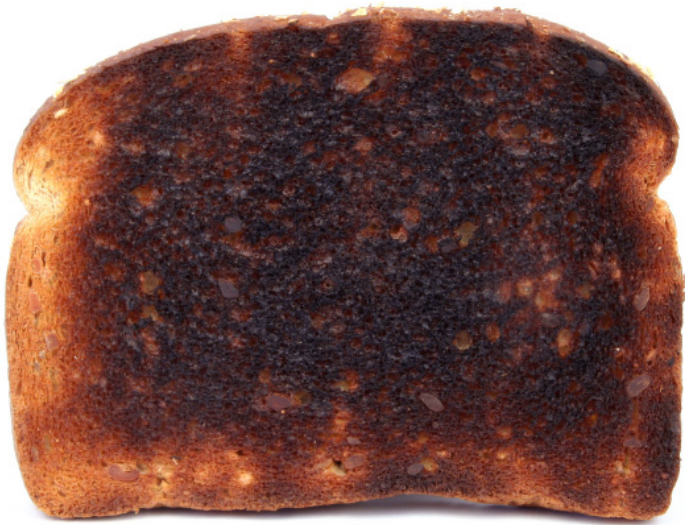
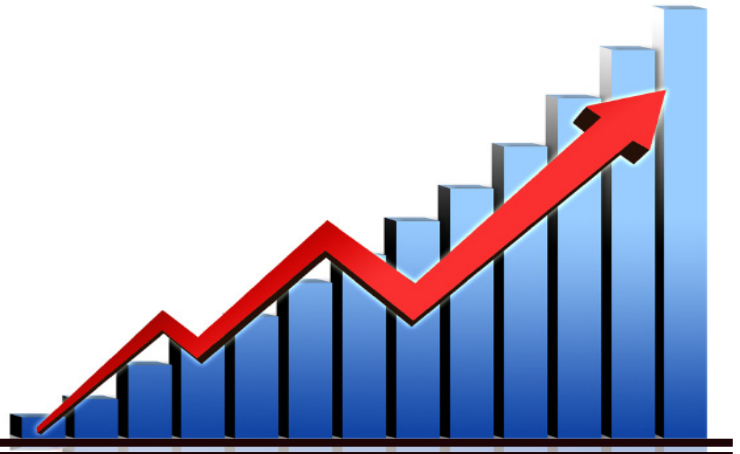
goal. Unfortunately that path is often not that understood and as a result it becomes a lot more expensive to the enterprise than initially planned and budgeted for. A



quick review of most corporate 10k filings show that, across the board, operational expenses are increasing along with the cost to produce products while product profitability is shrinking. A review of government services is revealing a similar trend - service quality is diminishing while the costs of providing them are increasing. So what is causing this trend and how do we fix it?

The answer lies in a question posed by Dr. W. Edwards Deming himself: how much “Toast Scraping” are you doing? Burning toast and scraping it has become a way of life in many enterprises primarily because we have no measurements by which to control the toaster or the process. Instead we plan for defects when we could be preventing defects.

Quality control resulting in more efficient and effective processes, as Dr. Deming envisions it,



consists of methods for improving the performance of worker and machine. These methods, he explains, must become a way of life. We need to cover everything in the process from the quality of the materials and resources used, to the context of the controls governing it, to the flow of the process used for its execution, making sure that every aspect is understood and that the process improves day by day. What Dr. Deming is saying is that the road to success is an evolutionary journey, not a “silver bullet” transformation event.

The first step in this evolutionary journey is to fully understand and quantify your “As-Is” enterprise enabling process. Understanding your “As-Is” processes means that you are managing their

configuration, i.e. that you plan and manage them, have identified and structured them, are managing changes to them, can account for their status by having measurements in place, and are verifying their performance day to day to ensure they are being executed as efficiently and effectively as possible. Understanding and quantifying your processes enables you to command their execution putting you in control of the results and their effect on your success.

“Winging it” and “Toast scraping” are not working. Control enabled success lead by repeatable, scalable, managed processes is the most effective and efficient path forward for our companies and our government.

A. Larry Gurule is President of i-infusion/Imagine Technology, Inc., as well as a CMPIC Associate Instructor. Larry is 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.

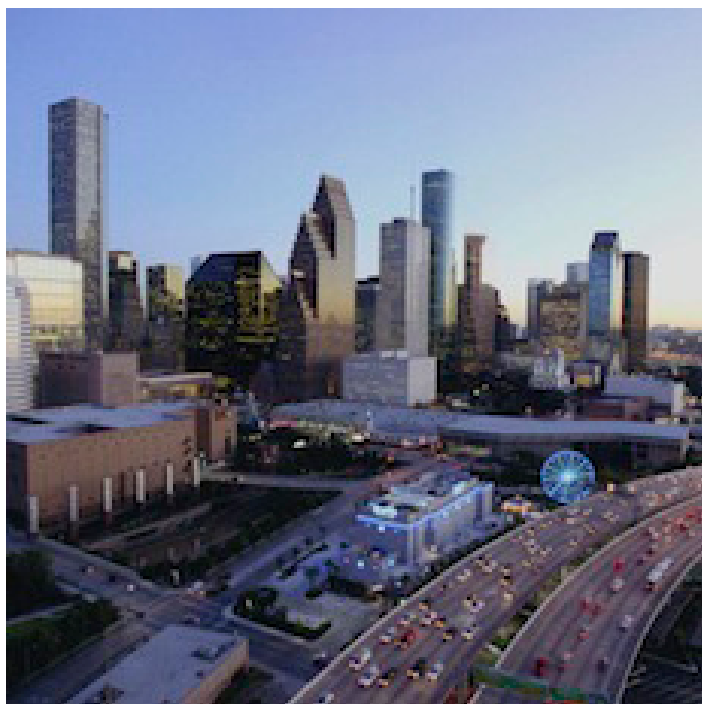


**A. LARRY GURULE**

# 15% Off All Houston, TX Classes in 2014!



To celebrate 5 years with the University of Houston, CMPIC will be offering a 15% discount on all public Houston, TX classes in 2014. Please review our upcoming Houston classes to the right or look at our full [public course schedule online here](#).



## 15% off all CMPIC Classes in Houston, TX!

## Upcoming Houston, TX Classes

JANUARY 27 - 29, 2014

**Course 6** “ANSI/EIA-649B Principles & Applications Certification” course - 2.4 CEUs

MAY 19 - 22 & JUNE 23 - 26, 2014

**Courses 1-4** “CM Principles & Implementation Certification” series - 6.0 CEUs

JUNE 9 - 12, 2014

**Course 5** “CM for IT and Software Development Certification” course - 3.0 CEUs

## Location for Houston, TX Classes

University of Houston Northwest Campus  
Lone Star College - University Park  
Building #12, Room #440  
20515 SH 249 (SH 249 and Louetta Road)  
Houston, TX 77070

[Link to Map](#)

## How to Register

Please contact the CMPIC office at (434) 525-8648, [info@cmpic.com](mailto:info@cmpic.com), or [register online here](#).

Note: This discount cannot be combined with any other offer.



# CMPIC's CM Training & Certification Courses



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



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

Upcoming Series:

St. Augustine, FL Feb. 25 - Mar. 6, 2014 2 Consecutive Weeks!  
DC area / Falls Church, VA March 24 - 27 & April 14 - 17, 2014  
Houston, TX May 19 - 22 & June 23 - 26, 2014 15% Discount  
Bloomington, MN July 14 - 17, & Aug. 11-14, 2014  
Hampton, VA Sept. 22 - 25 & Oct. 20 - 23, 2014

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

Houston, TX June 9 - 12, 2014 15% Discount

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

Houston, TX Jan. 27 - 29, 2014 15% Discount  
Panama City Beach, FL June 9 - 11, 2014  
San Antonio, TX Aug. 20 - 22, 2014 CM Trends Discount

- **CM Assessor Certification, Course 7**

St. Augustine, FL Mar. 24 - 26, 2014  
San Antonio, TX Aug. 20 - 22, 2014 CM Trends Discount

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

Orlando, FL May 5 - 8, 2014  
DC area / Falls Church, VA July 21 - 24, 2014

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

Orlando, FL April 7 - 9, 2014  
San Antonio, TX Aug. 20 - 22, 2014 CM Trends Discount

View CMPIC's full public course schedule at: [CMPIC.com/configuration-management-training-schedule](http://CMPIC.com/configuration-management-training-schedule)

## On-Site Certification

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