

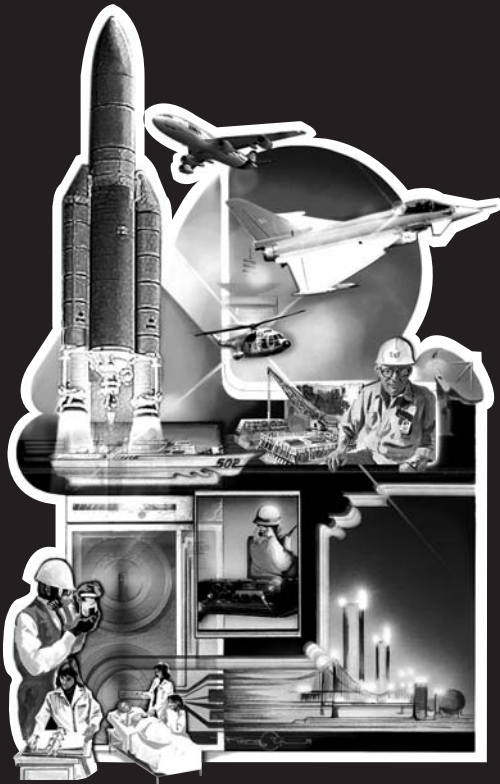
***The Latest Tips, Tools, Techniques and Strategies for...***

*Presented by Guest Expert*

***Robert  
Ventimiglia***

# **SOFTWARE CONFIGURATION MANAGEMENT**

- **How to Drive the Cost of SCM to Near Zero**
- **How to Prepare a Software CM Plan (SCMP) that Serves as a Roadmap from Requirements to Maintenance**
- **Avoiding Requirements and Design Creep**
- **Expert Tips for Setting Up a Flexible Change Management System**
- **How to Establish a Software Change-Management Process to Evaluate, Track, and Disposition Problems**



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## ABOUT THE PROGRAM

This two-day seminar **provides comprehensive coverage of the processes and methods for driving the cost of Software Configuration Management (SCM) to near zero.** It incorporates SCM into all aspects of software development, maintenance, and project team interaction. The course represents today's best practices in SCM and is developed from real experiences, commercial practices, and international and government standards. This seminar provides a real world structured approach to showing how an organization can achieve nearly free implementation of the SCM elements of Configuration Identification, Configuration Control, Configuration Status Accounting, and Configuration Audit.

Designed for all levels of experienced SCM Professionals, and especially Software Process Engineers and Program/Project Managers, this seminar addresses the following critical issues:

- ▲ **Prepare a truly effective Software CM Plan (SCMP) that spells out how the cost of SCM is driven to zero**
- ▲ **Establish a change-management, decision making process that works for problems, changes, discrepancies, and any management decision-making process**
- ▲ **How to avoid design and requirements creep**
- ▲ **Develop a collaborative project repository that manages all project assets and provides information needed by all project team members**
- ▲ **How managing and controlling software-software and software-hardware interfaces can reduce projects overall cost and volatility of change**

## ABOUT THE SPEAKER

**Mr. Robert Ventimiglia** is an award winning, unparalleled expert in state-of-the-art Software Configuration Management (SCM). He is currently the JSF/F35 Autonomic Logistics Software Configuration Manager for Lockheed Martin Aeronautics where he is leading developmental configuration management implementations for the Autonomic Logistics Division of the **Joint Strike Fighter (JSF) program**. Prior to re-joining Lockheed Martin, Mr. Ventimiglia was Director, SCM/IAM for MERANT, Inc, a leading supplier of enterprise change management solutions to all areas of the software development and IT industry. Mr. Ventimiglia was also the Manager, Environment, Tools and Software Configuration Management for Lockheed Martin Aeronautical Systems, Marietta, GA. where he lead advanced Effective SCM implementations for LMAS Software Intensive Systems such as the Hercules C130J, Spartan C27J, and C5 AMP programs. He was also the Lead F-22 SCM Engineer, where he served as Chairperson for the F-22 SCM/PCMS Working Group which defined, developed, and implemented the F-22 SCM process and procedures, and the application of the product/process and configuration management system (PCMS).

Prior to joining Lockheed Martin, Mr. Ventimiglia held key software management and engineering positions at GE Aerospace Information Technology (AIT), GE Corporate Engineering and Manufacturing, Sanders Associates and Hamilton Standard Division of United Technologies. An award winning, outstanding lecturer, Mr. Ventimiglia has presented enthusiastically received seminars in the U.S. and Europe and Computerworld has honored him as one of their Premier 100 IT Leaders.

# SOFTWARE CONFIGURATION MANAGEMENT

## 1. DEVELOPING AN EFFECTIVE SCM PROCESS

- How to Fit SCM into the Software Development Process
- Outlining the Typical Development Processes
- How Effective SCM Differs from Classical CM
- Applying Effective SCM to Firmware
  - Why Today's Firmware is Not Always Firm
- Integrating Hardware and Software CM – The Collaborative Project Management Repository
  - The Systems Integration Approach to Project Management
  - The Role of CM in Product Data Integrity
- The Four Principles of Effective SCM

## 2. EFFECTIVE IDENTIFICATION, BASELINES, AND RELEASES: FOLLOWING THE FILES

- Configuration Items and Configuration Objects
  - Dependencies and Relationships
- Selecting Software Configuration Items
  - Avoiding Too Many or Too Few
  - Separating Configuration Items from Configuration Objects
- Identifying the Identifiers
  - Numbers, Names, and Combinations
  - When to Use and When to Avoid
- Baselines, Snapshots, and Configurations
  - Why the Difference?
  - Why We Need Them
- Requirements, Design, and Product Baselines
  - How to Establish and Manage
  - Open Discussion: Which is the Most Important Baseline to Have and Why
- Software Release: Relinquishing Control
  - Developmental vs Production Release
  - The Release Description Document

### Workshop:

**Identification: Following the Files for the First Time**

## 3. CLOSED LOOP CHANGE MANAGEMENT – EFFECTIVE CHANGE MANAGEMENT

- Managing Software Changes During Development
- Avoiding Requirements and Design Creep
- Establishing a Software Change Management Process to Evaluate, Track, and Disposition Problems, Changes and Discrepancies
- Functions of a Software Configuration Control Board
- Effective Decision Making: Rule Based Closed Loop Change Control
- Interface Management and Control
- Responsibilities of the Interface Control Working Group (ICWG)
- The Interface Control Document
- Impact of Changes that Affect Interfaces
- Interface Change-Approval Procedures

## 4. PROJECT REPOSITORIES & SOFTWARE LIBRARIES – WHAT TO DO WITH THE FILES

- The New Software Library
- Building and Managing Software Libraries
- Library Procedures and Tools
- Discussion – Libraries in Use

## 5. SCM AFTER PRODUCT DELIVERY

- Responsibility for Maintaining Software After Delivery
- Ensuring Compatibility Between Customer and Contractor SCM Systems
- Avoiding the No-Win Situation
- Handling Further Development During Maintenance

## 6. STATUS ACCOUNTING: INFORMATION NEEDED TO MANAGE EFFECTIVELY

- Types of Software Libraries
- Building and Managing Software Libraries
- Software Development Procedures and Tools

## 7. EFFECTIVE AUDITS AND REVIEWS: QUERYING THE INFORMATION NEEDED TO MANAGE EFFECTIVELY

- The Function and Purpose of Audits & Reviews
- The Roles of SCM in Audits and Reviews
- Preparing for Audits and Reviews
- Satisfying Formal Audit/Review Requirements
- Discussion – Implementing Audits and Reviews

### Workshop:

**Implementing Closed Loop Change Management**

## 8. COMPATIBILITY OF STANDARDS AND EFFECTIVE SCM

- Why IEEE/EIA 12207, "Software Lifecycle Processes" is Important for Effective SCM
- EIA/IS 649, "National Consensus Standard for Configuration Management"
- SCM and ISO 9000 (2000)
- EIA 84x Configuration Data Element Exchange
- Other Standards
  - STEP
  - SPICE: ISO 15504
  - ISO 10007
- Tailoring SCM Requirements for Your Organization

## 9. SCM PLANS: ESTABLISHING NEARLY FREE SCM

- Purpose and Function of an SCMP
- Outline, Structure and Content of an Effective SCMP
- SCM Job Classifications and Responsibilities
- Using the SCMP as a Roadmap for Continuous Process Improvement of the SCM Process
- Implementing an SCMP

**Case Study Managing IDEs – the Newest Challenges**

## 10. OVERVIEW OF EFFECTIVE SCM AUTOMATION

- Planning for SCM Automation
- Establishing Your Tool Requirements
- Range of Functionality's of SCM Tools
- Selecting the Best Tools, Techniques and Methods
- Integrated SCM Systems – The List

## 11. HOW TO GET STARTED RIGHT THE FIRST TIME

- Determining a Starting Point
- Gaining Credibility
- Knowing When You Got it Right
- Points to Ponder

