

QUALITY WEEK '89 -- Technical Program

----- CONFERENCE DAY 1: Wednesday, 17 May 1989 -----

PLENARY SESSION 1:

CONFERENCE INTRODUCTION:

1-1 Dr. E. Miller, President, Software Research, Inc.,
San Francisco, California:

Conference Overview and Technical Summary

Introduction of Plenary Session 1 Speakers

1-2 KEYNOTE ADDRESS:

Dr. Mario Fusani, CNR, Pisa, Italy:

Software Certification: The Case of Italian Government
Controlled Fiscal Meters

- o Product vs. process certification
- o Legal and technical obstacles
- o Technology approach
- o Current results and observations

1-3 SPECIAL MINI-TUTORIAL:

Dr. Vern Crandall, Vice President, Software Development,
Novell, Provo, Utah:

Testing In A LAN Environment

- o The nature of the LAN environment
- o Areas which must be tested in a Lan
environment
- o Basic testing structure used at Novell
- o Evolution of testing strategies

1-4 DISTINGUISHED INVITED PRESENTATION:

Dr. Michael Fagan, Fagan & Associates, North Bethesda, Maryland:

Productivity Improvement Through Defect-Free Software
Development

- o Examples of Success & Goal Levels
- o Formal Process Definition to Enable Highly
Effective Inspections & Project Management
- o Software Inspection Process & Defect Free
Processes

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TECHNICAL TRACK, SESSION 2A:

2A-1 Mr. Bill Bently, Staff Research Engineer, Miles Laboratories, Mishawaka, Indiana:

Ct Coverage: An Initial Evaluation

- o Definition of Ct used
- o Alternative path characterizations
- o Description of Application
- o Anomalies discovered
- o Implications for the future

2A-2 Mr. Rodger Drabick, Manager, Quality Management Services, Eastman Kodak Company, Rochester, New York:

Strategies For Testing Large, Complex Systems

- o Unique risks of large systems
- o Strategies to use to minimize those risks
- o How to get the most effective testing within time and budget constraints

2A-3 Mr. Kem Caner, President, Human Interface Technologies, Foster City, California:

Bug Tracking Systems for Consumer Software

- o Benefits, risks, data management strategies
- o "Model" problem tracking system
- o Interpersonal, political, technical aspects

2A-4 Mr. John Kelly, Member Technical Staff, Jet Propulsion Labs, CIT, Pasadena, California:

Formal Inspection Review Techniques: Experience & Results

- o Definition of inspection process at Jet Propulsion Labs
- o Tailoring of processes from other review techniques
- o Data collected; results; lessons learned

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MANAGEMENT TRACK, SESSION 2B:

2B-1 Ms. Joan Allen, Bank of Montreal, Montreal, Canada:

Confidence/Risk As A Determinant of Testing Strategy

- o Less-than-full testing strategies
- o Selecting an economic testing strategy
- o Turning the component activities of QA testing

2B-2 Dr. Dick Johnson, Trident Logical Systems, Cupertino, California:

Cost Effectiveness of Software Quality Assurance

- o Terms of Investment
- o Risk Management
- o Downside
- o Quality Control

2B-3 Mr. Keith Stobie and Ms. Mary Alexander, Tandem Computers, Cupertino, California:

Software Testing at Tandem

- o Quality Assurance Process
- o Quality Assurance Tools
- o Metrics

2B-4 Mr. Doug Hoffman, Maspar, Santa Clara, California:

Managing Technological Changes: Setting Your Horizons

- o Identifying the scope of changes
- o The role of Quality Standards
- o Goal setting
- o Typical management problems

2B-5 Mr. Lewis Bass, The Kairos Company, Mountain View, California:

Software System Safety and Liability Prevention

- o Legal aspects of software failures
- o Software system safety engineering principles
- o Law of products liability

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----- CONFERENCE DAY 2: Thursday, 18 May 1989 -----

TECHNICAL TRACK, SESSION 3A:

3A-1 Special Invited 1/2-Day Tutorial: Mr. Rudy Regner, Software Testing Company, Frederick, Maryland:

Quality Assurance for Real-time Software Systems

- o Defining Software Quality for Real-time systems
- o Simulators and testing environments
- o Quality assurance of fault-tolerant systems

MANAGEMENT TRACK, SESSION 3B:

3B-1 Ms. Alka Shah, Consultant, Alameda, California:

Art of Successful Test Plan

- o What is needed in a test plan
- o Test plan - a project management tool
- o Role test plan plays in the entire project
- o Evolution of Testing Strategies

3B-2 Mr. Peter Morse, Microsoft, Redmond, Washington:

Code Coverage -- Theory Vs. Practice

- o Overview of current coverage theory
- o Application of theory in a time constrained world
- o Approaches to implementing code coverage

3B-3 Mr. Bob Cagle, NCR, Mountain View, California:

A Practitioner's Approach To Test Coverage

- o How did we get into test coverage?
- o What problems were encountered?
- o The promise vs. the reality.
- o The "big switch!"
- o What's next?

3B-4 Mr. Richard Robinson, System Test Manager, Relational Technology, Inc., Emeryville, California:

Microcomputer Automation Support of Mainframe Testing

- o Significant automation possible with micros, while waiting for mainframe tools.
- o Planning and preparation with PC tools.
- o Risk assessment and defect tracking using micro databases.

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3B-5

Mr. J. Cris Miller, President, J. Cris Miller & Associates,
LaGrange, Illinois:

Form, Functionality and Anomalies - Testing In A
Re-Engineering Mode

- o Software Engineering (development responds to user wish lists as well as uneven expectations of computing potential.
- o Software Re-Engineering (maintenance) addresses mature users unwilling as well as unable to make such compensations.
- o Testings must exploit a full spectrum of models, tools, and strategies.

VENDOR PRESENTATIONS, SESSION 3C

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TECHNICAL TRACK, SESSION 4A:

4A-1 Ms. Antonia Bertolino, CNR, Pisa, Italy:

Software Certification: The Ongoing Experience of Italian Government Controlled Fiscal Meters

- o Concept of software certification remains ambiguous
- o Survey of possible scenarios
- o Real-world experience in external software validation
- o The methodology in practice

4A-2 Dr. Edward Miller, Software Research, Inc.

Industrial Software Quality Practice -- An Assessment

- o Multi-Filter Approach
- o Regulatory Requirements
- o Emerging Standards: Industry & Government
- o The Software Liability Question
- o The Next 10 Years

4A-3 Mr. Dennis Allison, Stanford University, Palo Alto, California:

Introduction To Theory Of Source Language Testing

- o What's possible/What's not
- o Implications and applications
- o Prospects for the future

4A-4 Ms. Irene Wong, Jet Propulsion Labs, CIT, Pasadena, California:

Application Of Expert System And Hypertext Technologies Of Test Documentation

- o Generating a tailored system master test plan
- o Learning lessons from actual implementation
- o Techniques utilized to apply new technologies and overall effectiveness

4A-5 Mr. Greg Pope, Tiburon Systems, San Jose, California:

Computer Aided Software Testing

VENDOR PRESENTATIONS, SESSION 3C

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----- CONFERENCE DAY 3: Friday, 19 May 1989 -----

PLENARY SESSION 5:

SESSION THEME: CHOOSING THE RIGHT TEST STRATEGIES

5-1 Mr. Danny Exon, Software Research, Inc., San Francisco, California:

Picking the Right Software Tools

- o Availability, functionality
- o What's important
- o Benefit cost justification
- o Payback experience

5-2 Mr. Rudy Regner, Software Testing Company, Frederick, Maryland:

Functional vs. Structural Testings

- o Effect of CASE on requirements
- o Testing functional requirements vs. testing case paths
- o Tradeoff analysis
- o Determining which strategy is best
- o Case studies

5-3 Mr. Dan Zimmerman, Software Research, Inc., San Francisco, California:

Optimizing Corporate Quality -- The High-Tech Approach

- o Corporate quality goals
- o Forms of corporate QA structure
- o What works vs. what doesn't work.
- o Case studies

PANEL SESSION:

5-4 Dr. Edward Miller, Software Research, Inc.
Mr. Bill Bently, Miles Labs
Mr. Dan Zimmerman, Software Research, Inc.

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ROUNDTABLE DISCUSSION, SESSIONS 6-1 through 6-4:

- 6-1 Roundtable Group A: Medical and Aerospace Applications
Chairman: Mr. W. Bently, Miles Labs.
- 6-2 Roundtable Group B: The Future of CASE Tools
Chairman: Mr. D. Zimmerman, Software Research, Inc.
- 6-3 Roundtable Group C: Software Quality Initiatives -- Foreign and Domestic
Chairman: Dr. E. Miller, Software Research, Inc.
- 6-4 Roundtable Group D: The Industrial Software Scene
Chairman: Mr. Danny Exon, Software Research, Inc.