

# Real-time and Embedded Systems Workshop

Arlington, VA USA - July 11-14, 2005

## *Presentation Slide Index*

### MONDAY – July 11, 2005

#### TUTORIAL TRACKS

- 00-T1      ***Real-time CORBA***  
Kevin Buesing, Mentoring Engineer, Objective Interface Systems
- 00-T2      ***Building and Implementing Concurrent Specifications***  
Cortland Starrett, Engineering Manager & Stephen Mellor, Chief Scientist, Mentor Graphics
- 00-T3-1    ***Using the Lightweight CORBA Component Model to Develop Distributed Real-time and Embedded Applications (Part 1)***  
Douglas C. Schmidt, Professor of Computer Science, Vanderbilt University  
Frank Pilhofer, Member of Technical Staff, Mercury Computer Systems
- 00-T4      ***MDA in Eclipse for Embedded and High Performance Systems***  
Presenter: Peter J. Fontana, President, Pathfinder Solutions
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### TUESDAY - July 12, 2005

#### TUTORIAL TRACKS

- 00-T3-2    ***Using the Lightweight CORBA Component Model to Develop Distributed Real-time and Embedded Applications (Part 2)***
- 00-T5      ***Data Distribution Service***  
Victor Giddings, Senior Scientist, Objective Interface Systems, Inc.
- 1300 – 1530    ***Session 1: Design Techniques for Real-time and Embedded Applications***
- 01-1      **Model-Driven QoS Provisioning Techniques for CCM DRE Systems**  
Stoyan Paunov, Gan Deng, Douglas C. Schmidt, and Anirudha Gokhale, Vanderbilt University
- 01-2      **Applying MDD, Generative Programming and Agile Software Techniques to the SDR Domain** Bruce Trask, Architect, PrismTech
- 01-3      **A Performance Modeling and Simulation Approach to Software Defined Radio**  
Shawkang Wu, Ph.D., Scientist & Long Ho, Senior Software Engineer, The Boeing Company
- 01-4      **Leveraging Agile Software Design Techniques in the Implementation of SDRs**  
Vincent Rivas, MTS & Joseph N Frisina, Manager-Advanced Software Dev., BAE Systems

1600 – 1800 **Session 2: *High Assurance***

02-1 **High Assurance CORBA and DDS Profiles**

Victor Giddings, Senior Scientist, Objective Interface Systems, Inc.

02-2 **Multiple Independent Levels of Safety and Security: High Assurance Architecture**

Gordon Uchenick, Mentor/Principal Engineer, Objective Interface Systems, Inc.

02-3 **Living Realistically with Nondeterminism in Fault-Tolerant Middleware**

Joseph G. Slember and Priya Narasimhan, Carnegie Mellon University

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**WEDNESDAY, July 13, 2005**

0900 - 1200 **Session 3: *Experiences with COTS Implementations of the Data Distribution Service (DDS)***

03-1 **CORBA / DDS - Competing or Complementary Technologies?**

Ramzi Karoui, EMEA Technical Supervisor, PrismTech

03-2 **OMG-DDS "Exploiting The Potential"**

Hans van 't Hag, Product Manager Middleware, Thales Naval Netherlands

03-3 **Open Architecture Computing Environment: DDS Middleware Benchmarking**

Bruce McCormick, Engineer, EG&G Inc. &  
Leslie Madden, Technical Lead Scientist, Naval Surface Warfare Center Dahlgren Division

03-4 **Data Consistency with the SPLICE Middleware**

Leslie Madden Technical Lead Scientist & Chad Offenbacker, Scientist,  
Naval Surface Warfare Center Dahlgren Division

1400 – 1600 **Session 4: *Real-time Java: The New World of RTSJ***

04-1 **Experience Migrating a Representative Naval Combat Systems Application to RT Java**

Tim Childress, Scientist & Barbara Doyal, Lead Scientist,  
Naval Surface Warfare Center Dahlgren Division

04-2 **Experiences in Developing a Real-Time Java Object Request Broker**

John Russell, Product Manager, PrismTech

04-3 **Recommendations for a CORBA Language Mapping for RTSJ**

Victor Giddings, Senior Scientist, Objective Interface Systems

1630 – 1800 **Panel: *Real-time Java***

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## THURSDAY, July 14, 2005

### 0900 - 1215 **Session 5: *Real-time Middleware***

- 05-1 **The COMPARE Project: Component-based Approach for Real-time & Embedded Systems**  
The COMPARE Consortium - Presenter: Vincent Seignole, Engineer, THALES
- 05-2 **A QoS-aware Deployment & Configuration Engine for Component-Based DRE Systems**  
Gan Deng, Jaiganesh Balasubramanian, Arvind Krishna, William R. Otte,  
Krishnakumar Balasubramanian, Anirudha Gokhale, and Douglas Schmidt, ISIS,  
Vanderbilt University & Nanbor Wang, Tech-X Corp
- 05-3 **Simplifying the Development of QoS-aware EJB Applications via Model-Integrated Computing**  
Jules White, Douglas Schmidt and Aniruddha Gokhale, Department of EECS, Vanderbilt University
- 05-4 **Techniques for Dynamic Swapping in the Lightweight CORBA Component Model**  
Jaiganesh Balasubramanian, Gan Deng, Balachandran Natarajan, Aniruddha Gokhale, and Douglas Schmidt, Department of EECS, Vanderbilt University
- 05-5 **Evaluating Adaptive Resource Management for Distributed Real-Time Embedded Systems**  
Nishanth Shankaran, Xenofon Koutsoukos, Douglas C. Schmidt, & Aniruddha Gokhale, EECS Dept., Vanderbilt University

### 1315 - 1435 **Session 6: *Middleware for Specialized Devices***

- 06-1 **Using CORBA on DSPs, FPGAs & Microcontrollers - Synthesizing an Ubiquitous SCA Machine in Soft-Radio Devices**  
Andrew Foster, Product Manager, PrismTech
- 06-2 **Middleware for DSPs and FPGAs**  
Bill Beckwith, CEO/CTO, Objective Interface Systems

### 1450 - 1620 **Session 7: *Protocols***

- 07-1 **Practical Experiences Using the OMG's Extensible Transport Framework (ETF) Under a Real-Time CORBA ORB to Implement QoS Sensitive Custom Transports**  
Andrew Foster, Product Manager, PrismTech
- 07-2 **The Time Triggered (TT) Ethernet**  
Astrit Ademaj, Hermann Kopetz, Petr Grillinger & Klaus Stainhammer,  
Vienna University of Technology