



The Real-time and Embedded Systems Forum

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Famous Understatements

“I think there is a world market for maybe five computers.”
(Thomas Watson, IBM 1943)

“Computers in the future may weigh no more than
1.5 tons.” (Popular Mechanics, 1949)

“There is no reason anyone would want a computer
in their home.” (Ken Olson, DEC, 1977)

“640K ought to be enough for anybody.”
(Bill Gates, Microsoft,. 1981)

Post-PC Computing

- ❑ By 2003, more than 50% of the people using the Internet will do so with handheld and/or portable (Post-PC) devices (IDC).
- ❑ By 2002, more than 55 million Post-PC devices will ship, and by 2005 shipments will exceed shipments of PCs (IDC).

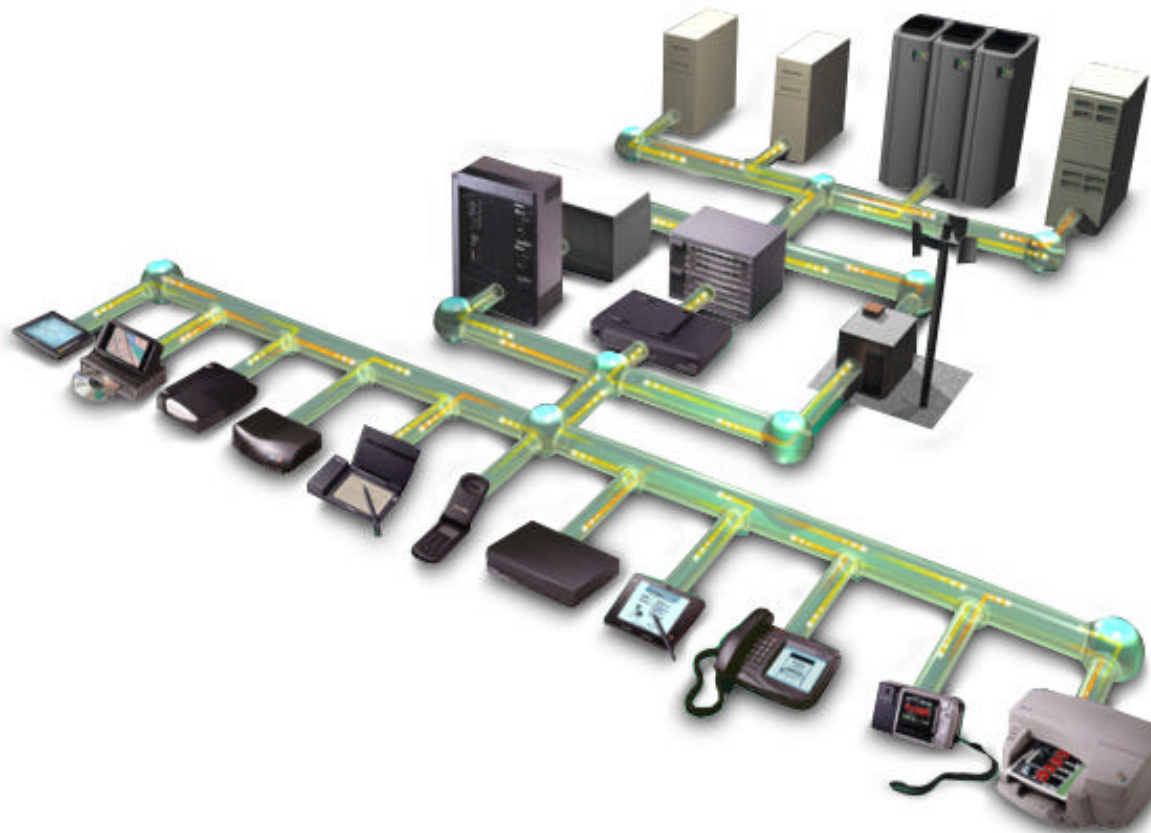
Market Drivers

- ❑ Hardware performance continues to increase
 - Moore's Law continues
- ❑ Bandwidth is increasing rapidly
- ❑ Computing and communications proliferate beyond the desktop
 - Smart devices are becoming prevalent

What Are Smart Devices?

- ❑ Anything with a microprocessor that's not called a "computer"
- ❑ Traditional "embedded" products
 - *industrial,*
 - *aerospace,*
 - *medical*
 - *automotive control,*
 - *test, etc*
- ❑ The Internet
 - Servers, infrastructure and clients

The Internet: The World's Largest Embedded System



The Resulting Problem: Complexity



Time-to-Market

Real
Hardware Functions
Network
Systems
Management
Speed
Connectivity
Density
Internet
DRIVERS
Functionality
Multimedia

Mission

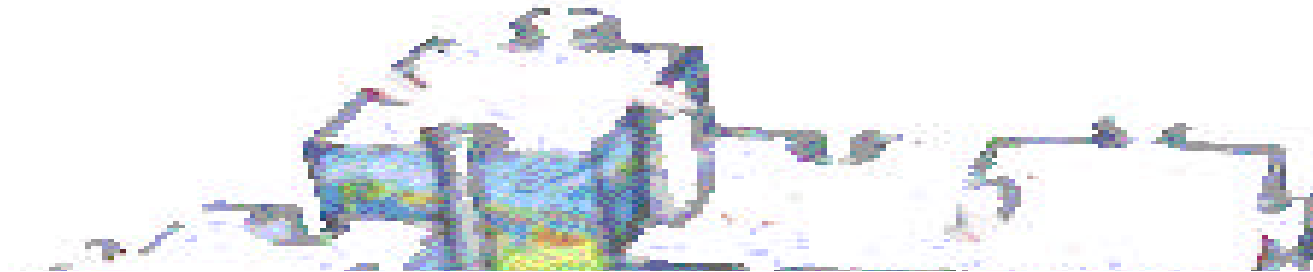
Improve the time and cost, to market adoption, of real-time and embedded solutions by providing a forum where we can share knowledge and integrate open initiatives, and certify approved products and processes

Members

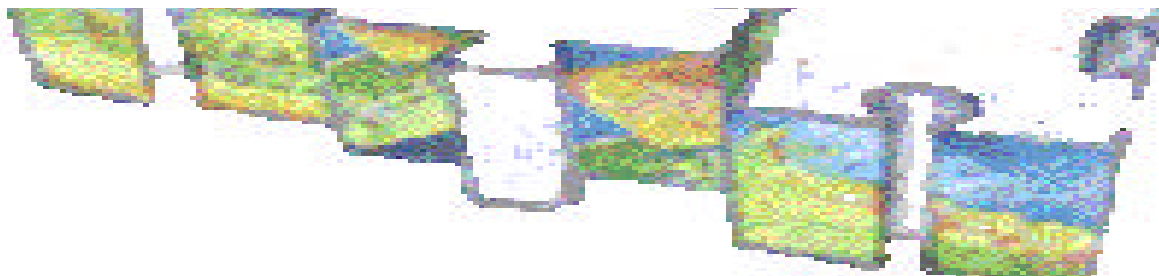
- ❑ IBM Corporation
- ❑ FDS Embedded Systems Co. Ltd
- ❑ Lineo Inc
- ❑ The Mitre Corporation
- ❑ MontaVista Inc
- ❑ NASA SEWP Goddard Space Flight Center
- ❑ Rockwell-Collins Inc
- ❑ Silicon Graphics Inc
- ❑ Sun Microsystems Inc
- ❑ The US Department of Defense Defense Informations Systems Agency
- ❑ TimeSys Corporation
- ❑ VenturCom, Inc

Scope of the Forum

- ❑ Operating system APIs (Application Programming Interfaces)
- ❑ Operating system profile standards
- ❑ Performance APIs
- ❑ Security policy and APIs for Real-time and Embedded Systems
- ❑ Real-time Java®
- ❑ Real-time CORBA ®



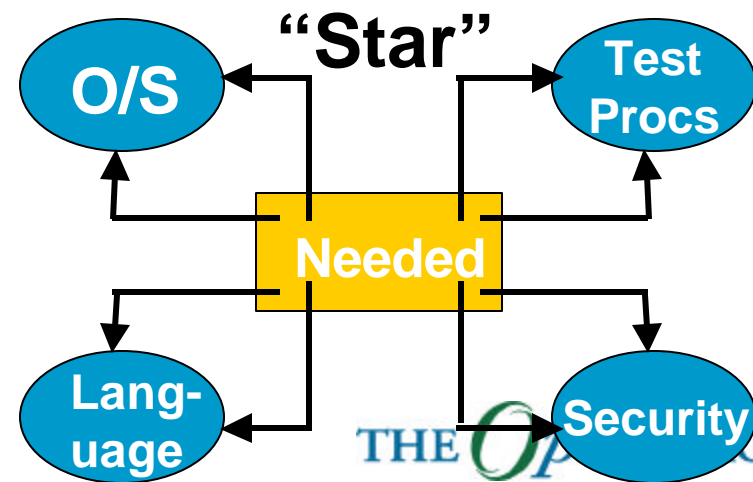
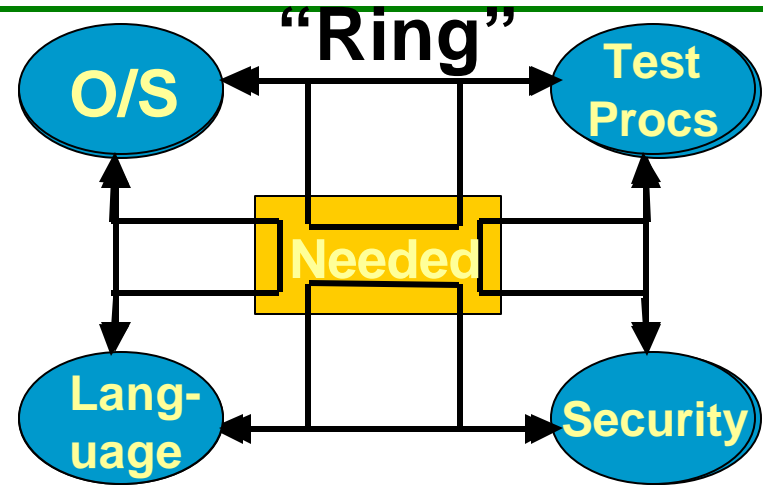
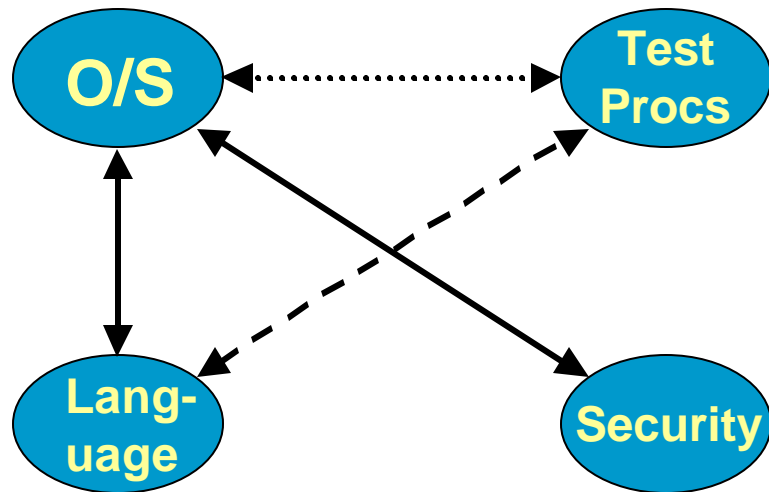
Collaborative Activities Are Key



Liaisons

- ❑ IEEE PASC
- ❑ NCITS R1
- ❑ OMG
- ❑ The US Department of Defense, Open Systems Joint Task Force
- ❑ Society of Automotive Engineers
- ❑ J Consortium
- ❑ Java Community Process
- ❑ UDI Consortium

Cooperation



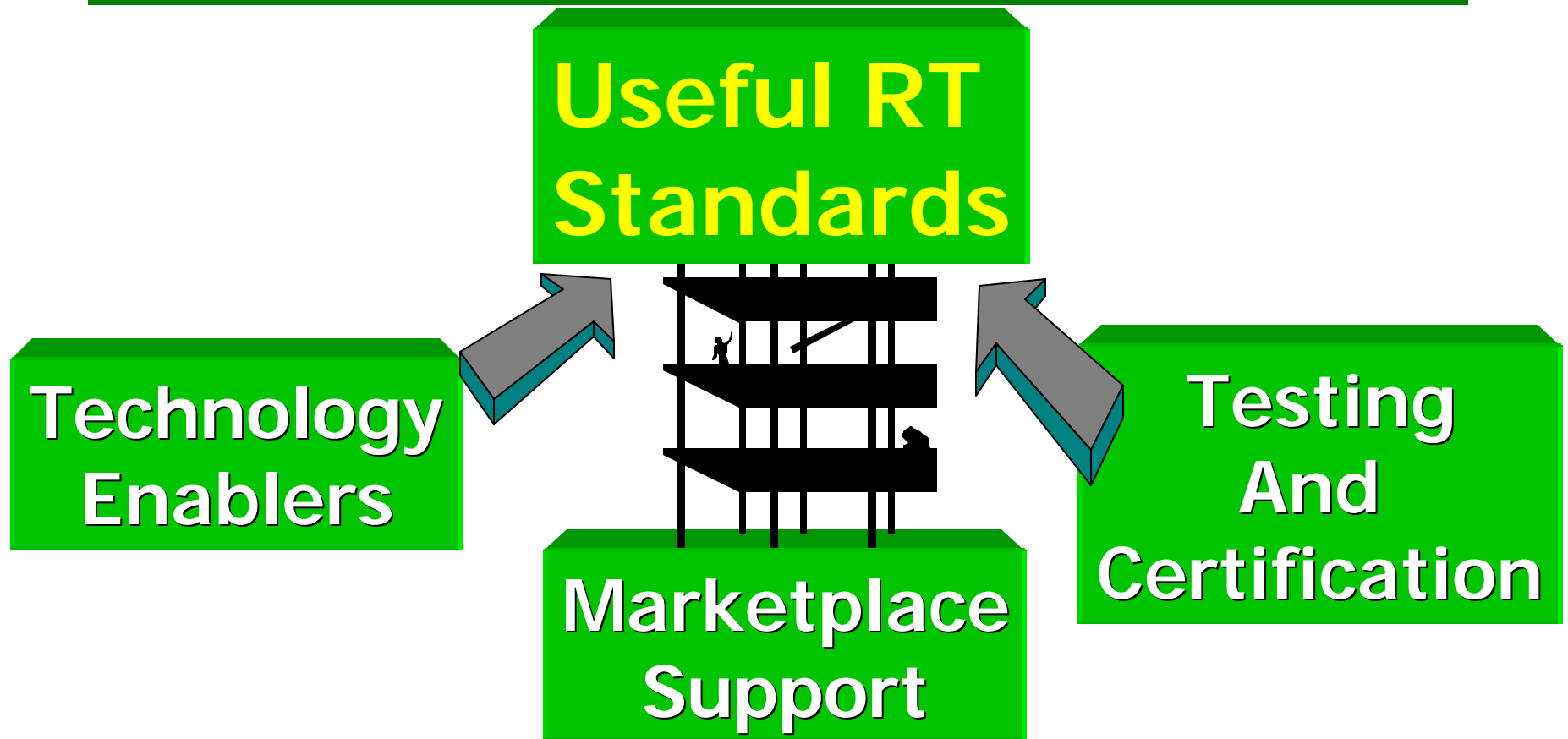
Activities

<u>Sub- Group</u>	<u>Activity</u>
Testing and Certification	<ul style="list-style-type: none">❑ Test tools for suppliers to establish confidence their products conform❑ An independent certification program for suppliers' products that delivers guaranteed conformance to the buyer.
Profiles	<ul style="list-style-type: none">❑ Build upon existing work, such as the IEEE POSIX 1003.13 Profiles, extending them to address market requirements.❑ Possible extensions include a selection of RTOS APIs

Activities (Cont'd)

Security	<ul style="list-style-type: none">❑ File System and Network Security Guidelines have been established for full function, non-real-time Oss. However, requirements for Kernels implemented on Real-time OSs (such as LynxOS, VxWorks) are still to be established
Windows	<ul style="list-style-type: none">❑ Interface between DCOM/COM and CORBA❑ Standards for interoperability

The Goal



More Information

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