

ICSE WADS 2004 Panel:

**How to Guarantee at the Architectural Level the
*Dependability Requirements of a System?***

*“Infrastructure
architecture drives
dependability.”*

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25 May 2004

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The 7 Minute Drill:

1. Context:

- *“When all you have is a hammer, the whole world looks like a nail.”*

2. Comments:

- Biased by WADS 2002-2003-2004

Context: My Hammer

- Large Enterprise Architecture
 - Layered Framework / SOA (client/service)
 - 400+ processors 100+ Applications
- Highly Available (99.9999% +3 sec response)
 - Subsystem Failure Tolerant
- Secure / Healable (e.g., Hot Swap, Rollback)
- Scalable/Reconfigurable
- Dynamic (2 new apps/week)
- Observable / Sustainable / Reliable

General Comments:

Are (enterprise) architectural assumptions any different from designing assumptions?

- Obviously – infrastructure focus
- DoDAF- DoD Architecture Framework
 - Technical View - Standards
 - Systems View – Infrastructure'
- Prescriptive (Perry)

General Comments:

Does it make sense to talk about fault tolerance at the (enterprise) architectural level?

- Where else?
 - Processes (Code Safety, Reviews)
 - Fail over/ Hot Swap/ Roll Back
 - Fault Model
 - Metrics / Monitoring / Gathering
 - Capacity planning / QoS / Reliability

General Comments:

Does it make sense to talk about the compositionality of dependability attributes?

- It is important to understand inter-relationships and tradeoffs

General Comments:

What are the guarantees that dependable architectures result in dependable systems?

- Depends on infrastructure and processes.
- Frameworks

Questions?

Fire At Will