



***Resilience in
Computing Systems and
Information Infrastructures:
A Research Agenda***

Diversity

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2nd ReSIST Open Workshop –18 October 2007 – Rome, Italy

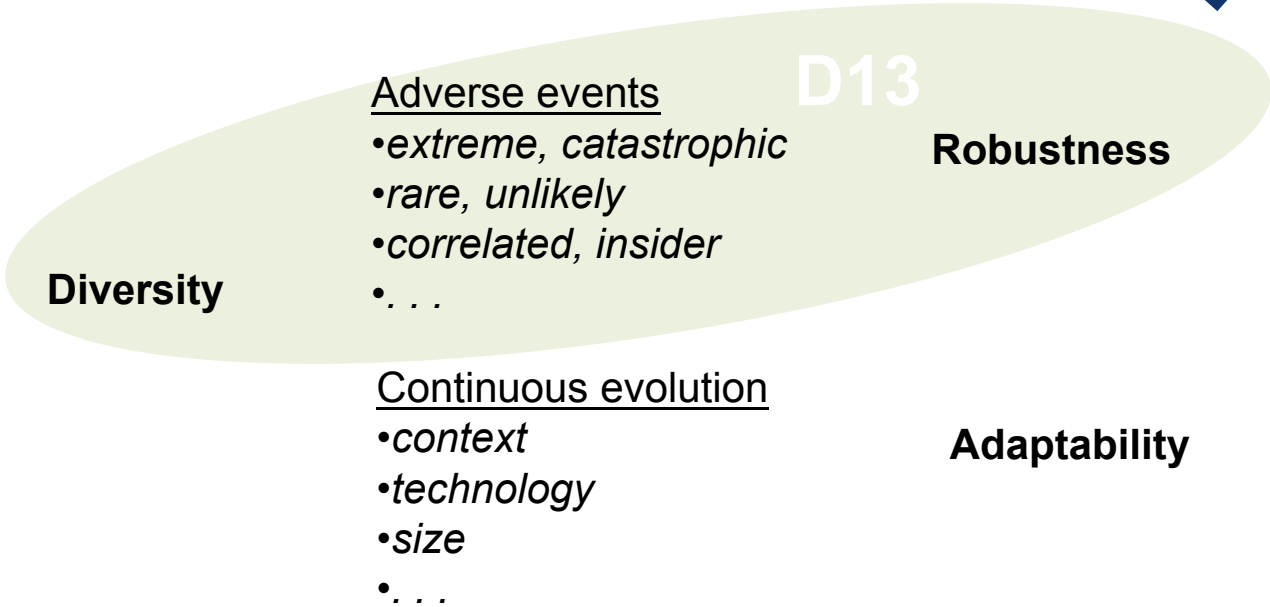
About D13 Diversity at large



Deliverable D13 - From Resilience-Building to Resilience-Scaling Technologies: Directions **on Diversity**

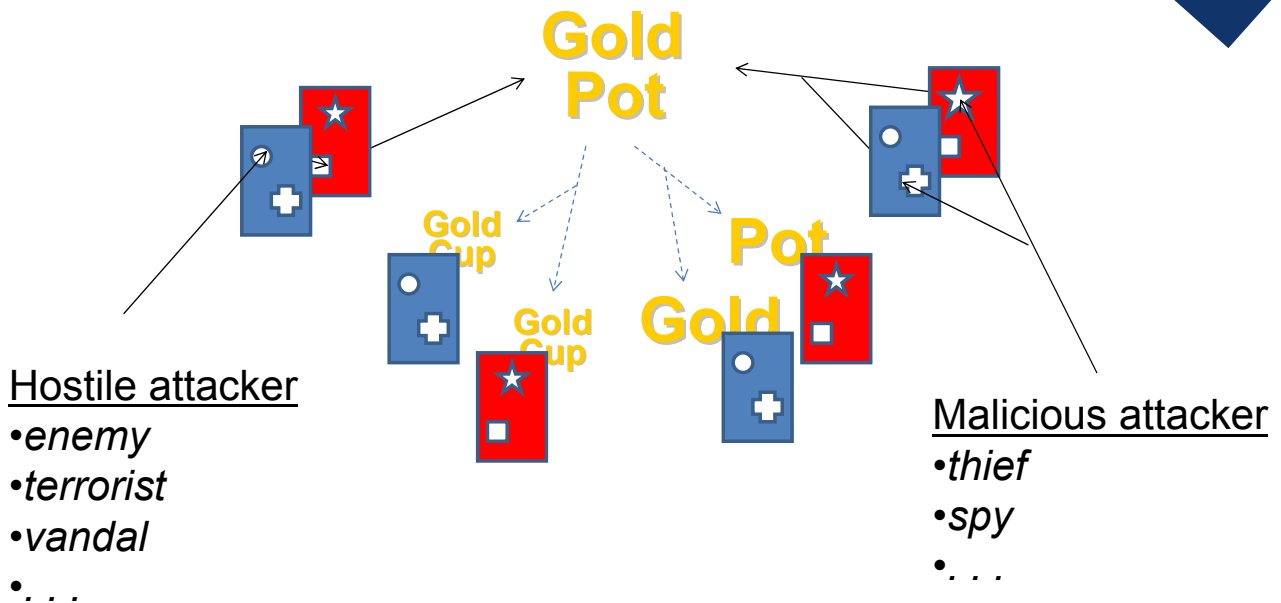
- Good analysis and assessment
- Valuable conclusions and directions for future research
- Following comments/observations intended solely as contributions to reasoning/discussion
- **No implicit or explicit criticism**

Unforeseen events vs. Unavoidable changes



Where did complexity end up ?

Security vs. Survival

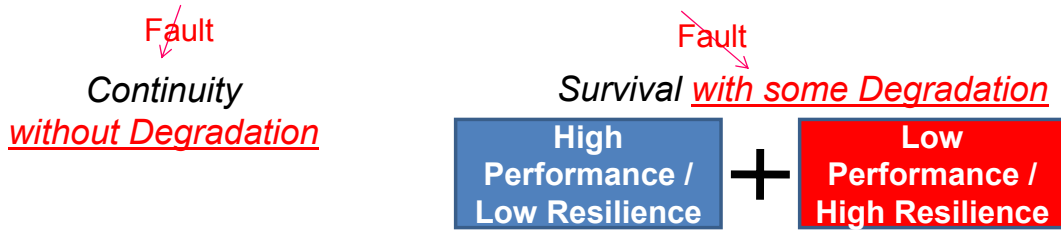


Mike's paradox: "Whatever the choice, Resilience is in the other"

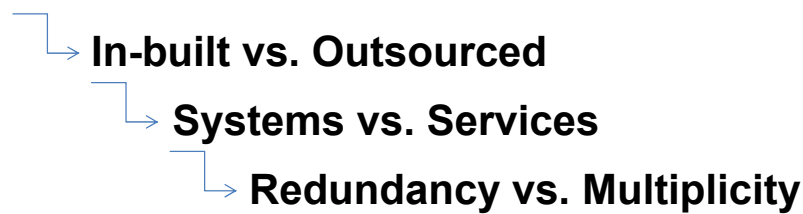
Diversity vs. Redundancy



Fault-Tolerance vs. Performance, Coverage, ...

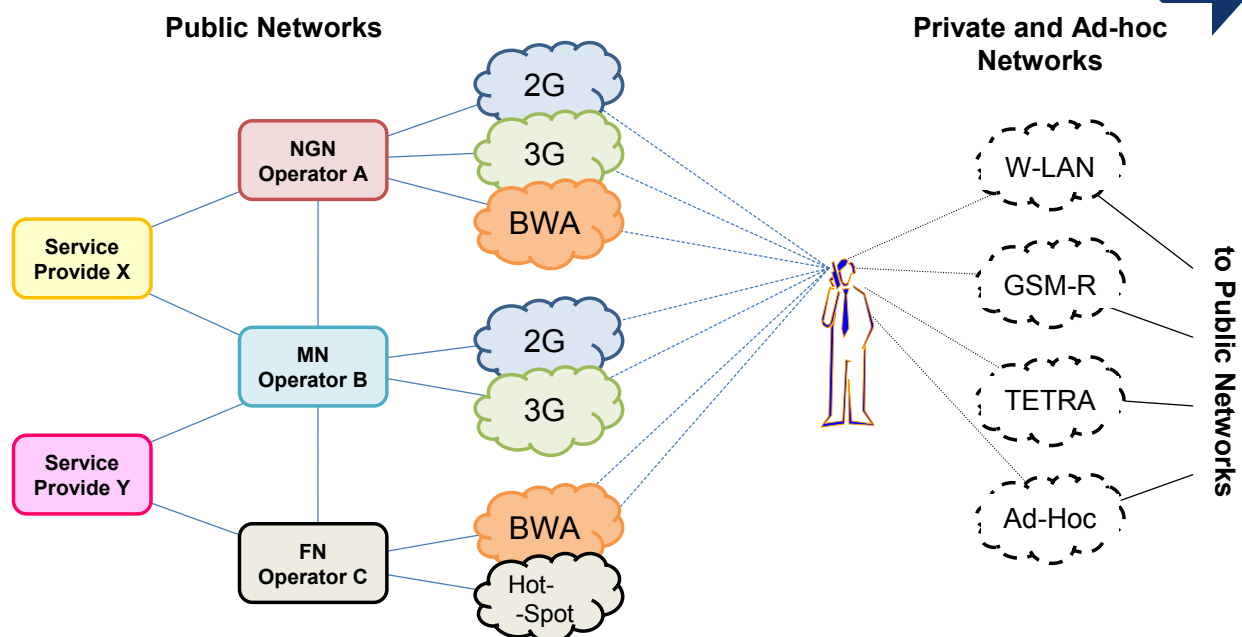


Structural vs. Infrastructural



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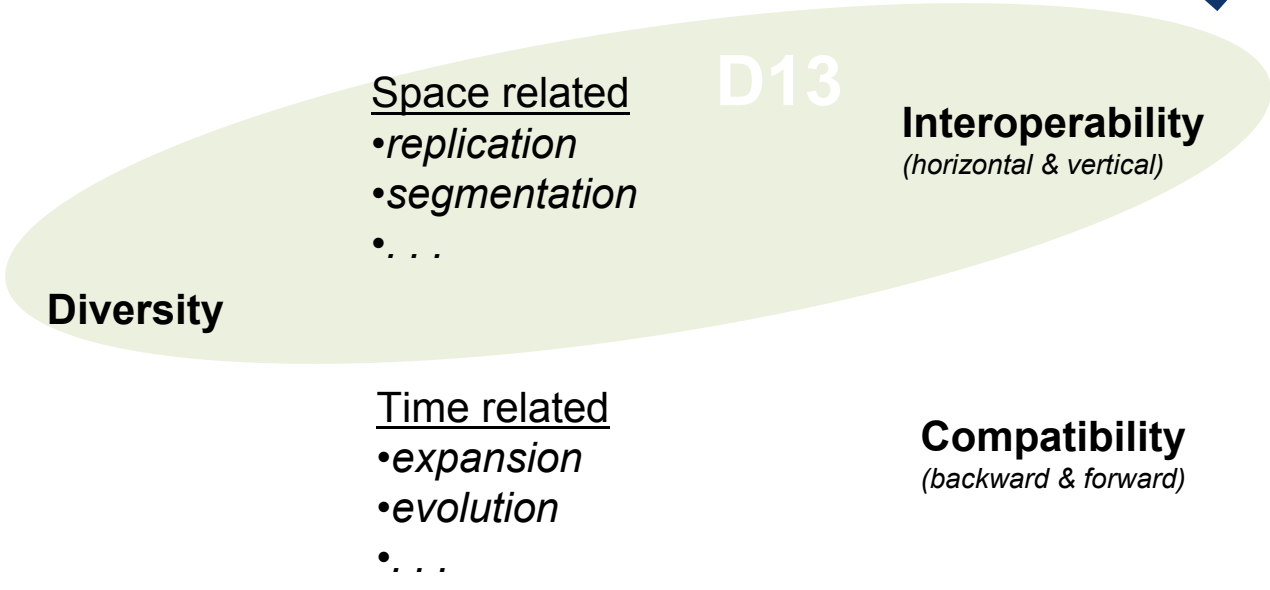
In-built systems vs. Outsourced services



Same basic functions but totally different characteristics

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Space vs. Time related Diversity

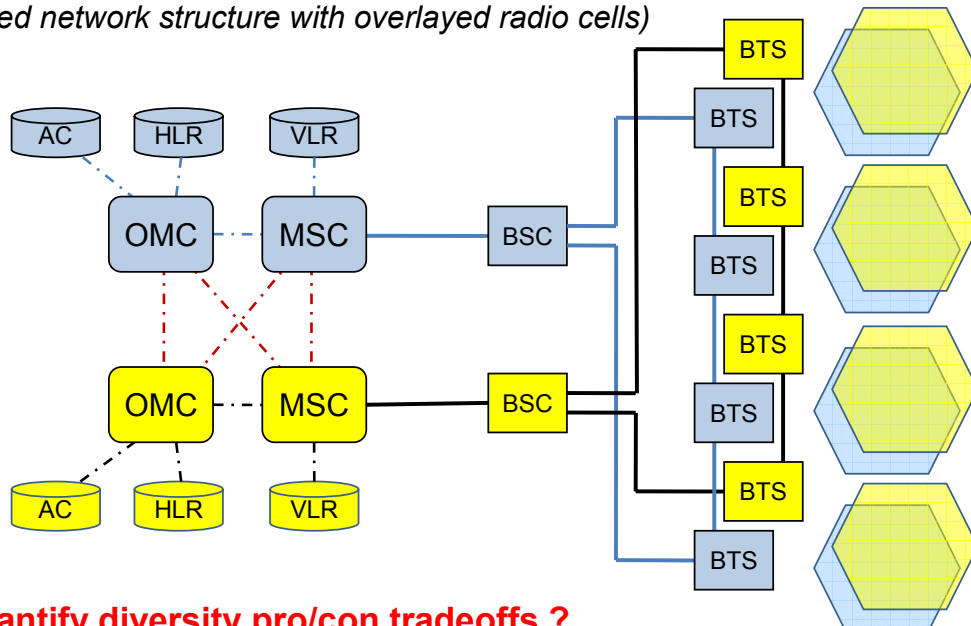


A different focus/role for standards ?

Architectures with explicit redundancy



Suggested fully redundant GSM-R architecture
(Fully duplicated network structure with overlaid radio cells)

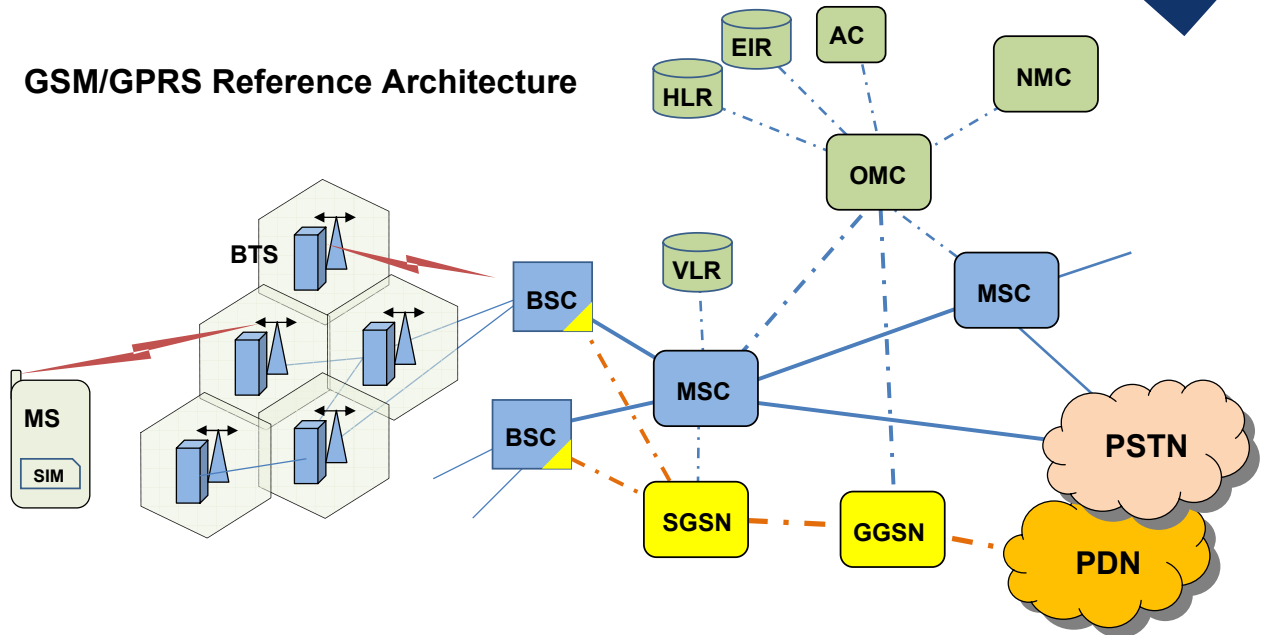


Can we quantify diversity pro/con tradeoffs ?

Architectures without explicit redundancy



GSM/GPRS Reference Architecture



Time related diversity is unavoidable in complex, long lasting systems