

Advances in Risk Assessment for Systems of Systems

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Three Issues

- The issue of mutual dependency
- The issue of change
- The issue of decomposition

The issue of mutual dependency

- Examples of system of systems with complex dependencies
 - Power supply
 - Telecom
 - Banking
- Seemingly cyclic dependencies
- We need better ways to capture, model and analyze dependencies with respect to security risks

The issue of change

- Systems of systems are continuously changing
- These changes have great impact on security
- We need risk models taking change into account
 - Change as a first class citizen
- We need methods for security risk analysis coping with such models
- We need ways to predict the impact of change with respect to the security risk picture

The issue of decomposition

- Existing methods for security risk analysis are inherently holistic
- We need a “component-oriented” approach to security risk analysis
- How do we specify the interface of a risk-analysis “component”?
- How do we capture the context assumptions?