Evolution and Integration Command Center

Goal

- Enable "go/no-go" decision for re-configuration tasks
- Monitor "live" evolution of system as you would monitor network

Method

- Rapid hypothesis testing
- FlexML event description
- Generate verification gauges
- Dynamic probing of components and connectors

Technical Basis

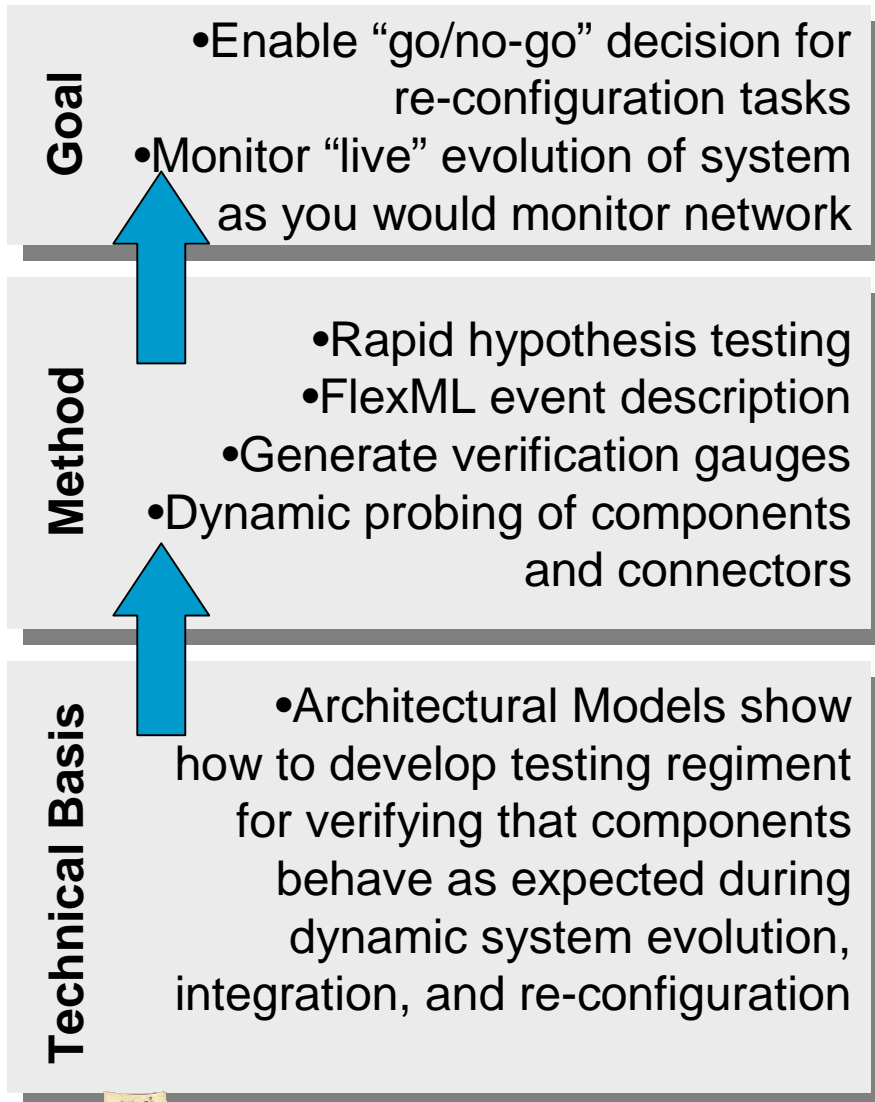- Architectural Models show how to develop testing regiment for verifying that components behave as expected during dynamic system evolution, integration, and re-configuration

"monitor average server HTTP response time as the new database back-end engine is brought on-line"

Insert probes based on Architectural Model
Generate gauges

"Does replacement component L9 use more disk resources than its predecessor?"

Event Stream

FlexML Event Representation
- Standard lexical syntax
- Partially ordered streams rather than fixed-length documents
- Composed/interleaved tag sets rather than rigid DTD
- Supports dynamic composition of sophisticated processors
- Gauges as active connectors
- Gaugents as feedback controllers

Reactive Feedback
Predictive Feedforward

Visible gauge   Gaugent
Visible gauge
Distillation → Event Notification
System Execution
…
Event Packaging
Event Distillation → Event Notification

WPI

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