Analyzing Software Architecture Descriptions to Generate System-level Tests

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Support from NSF is greatly appreciated.
General Testing Process
Test Criteria

Formal test criteria provide rules for deciding whether software has been adequately tested.

- Define explicit test requirements (e.g., covering branches)
- Assess the quality of test cases
- Stopping rules for testing
- Repeatability in testing
Aspects of Architectures to Test

1. Correct implementation of individual connectors
2. Correct use of interfaces by components
3. Adequate solution of the problem by the configuration
4. Correct interactions among the components and connections
5. Correct application of the architectural style