



Emerging Trends in Test Automation

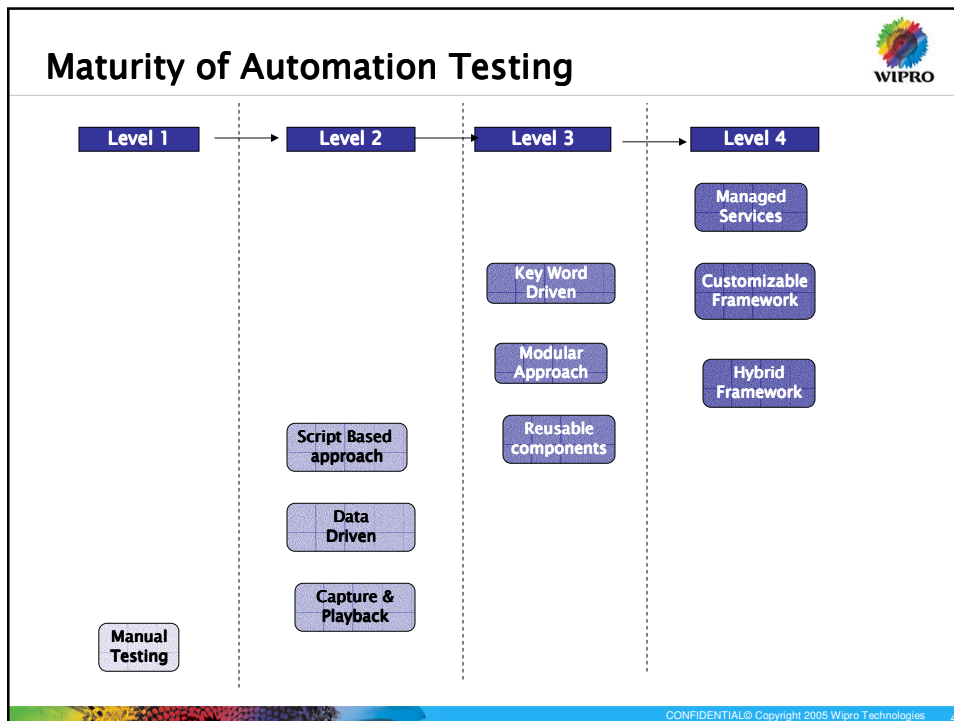
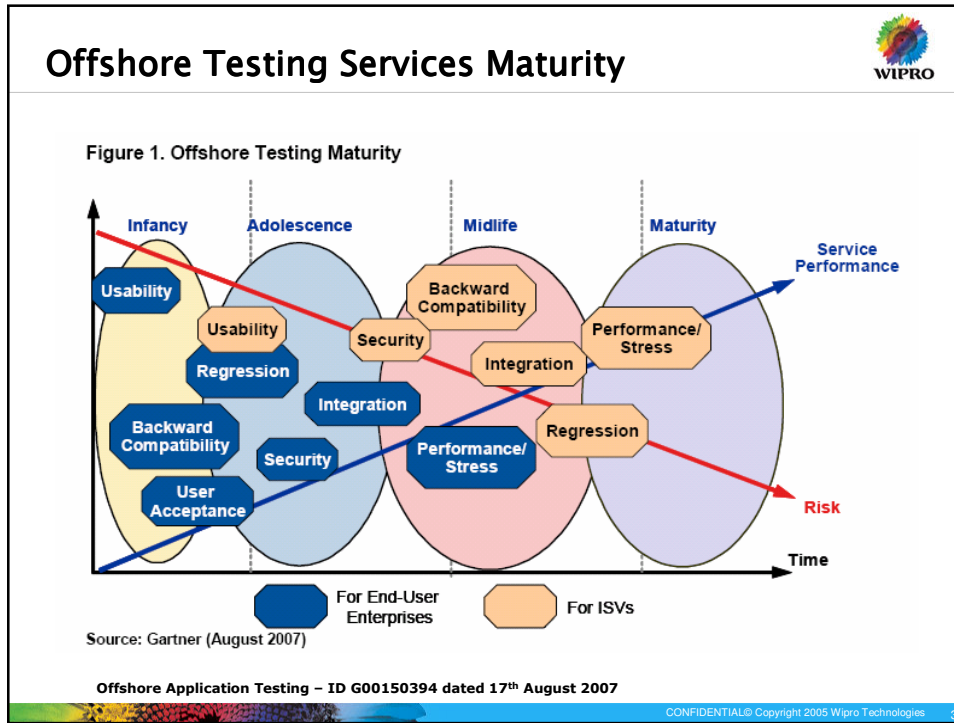
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Date:

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Introduction to Automation



Test Automation: Introduction

- Automation: Facts
 - Manual scripts needed
 - Ideal for regression testing
 - Benefits come from discipline in analysis and planning
 - Causes significant schedule impact at introduction
 - Require more programming and design skills from testers
 - Frequently require maintenance

- Automation: Myths
 - High immediate ROI from automation
 - One tool that fits perfectly
 - Need to substitute skilled manual testers
 - Preclude manual testing
 - 100% Automation of all existing manual tests

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RCA Analysis – A Case Study

The challenges that a customer, a leading service provider in EMEA, faced during automation

Scripts Reusability

- Timelines
- Environment
- Usability/User Training
- Application version changes

Organization Structure

- Automation Team
- Manual test Team
- Test Team
- Implementation
- Follow-up
- Metrics Analysis
- QA Team

Testing Tools

- Application Technology
- Feasibility
- Choice of Applications
- Frequent changes
- incompatible
- Integration


Test Automation Team

- Flaw in Framework
- Cryptic/outdated test cases
- Review Process
- Absence of coordination
- Traceability



The Solution Approach

- Identifying the applications for Automation
- Selection of automation percentage for identified applications.
- Selection of the compatible tool for AUT
- Customization of tool/creation of framework
- Development of reusable/modular components
- Creation of user-friendly process for running the scripts
- Maintenance and enhancement process
- Continuous metrics collection and analysis

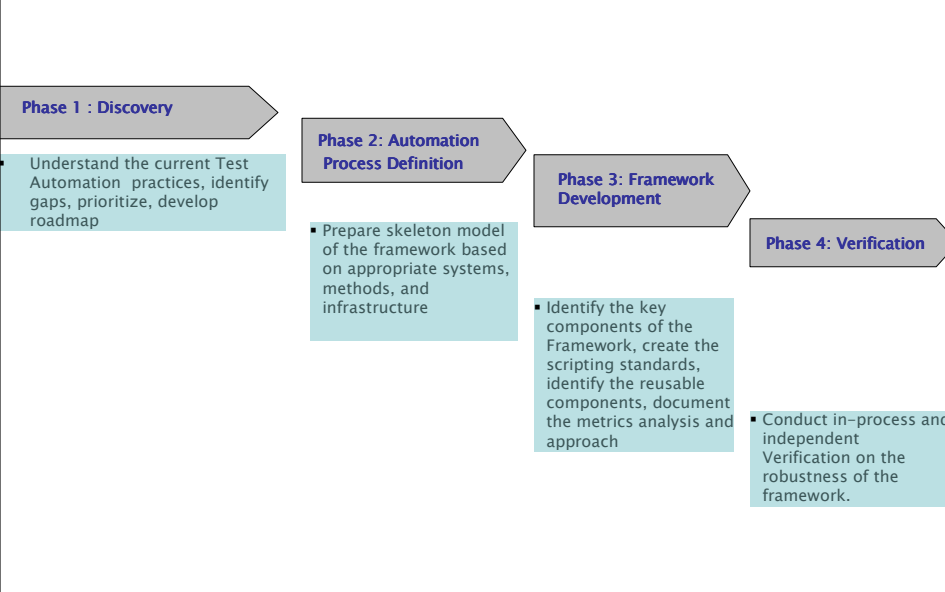
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Building a Test Automation Framework



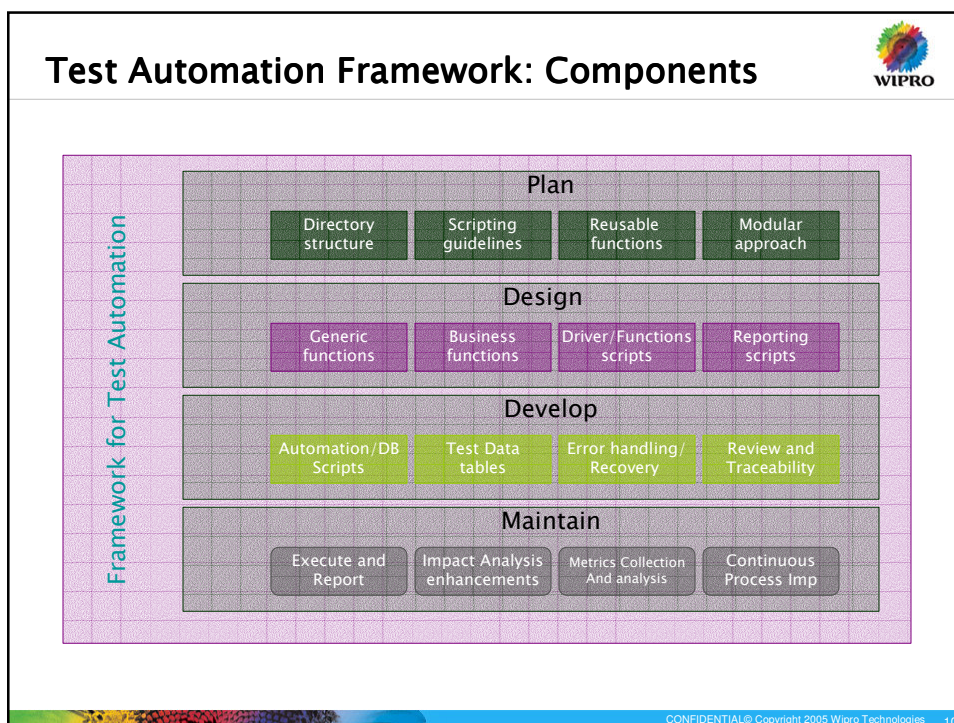
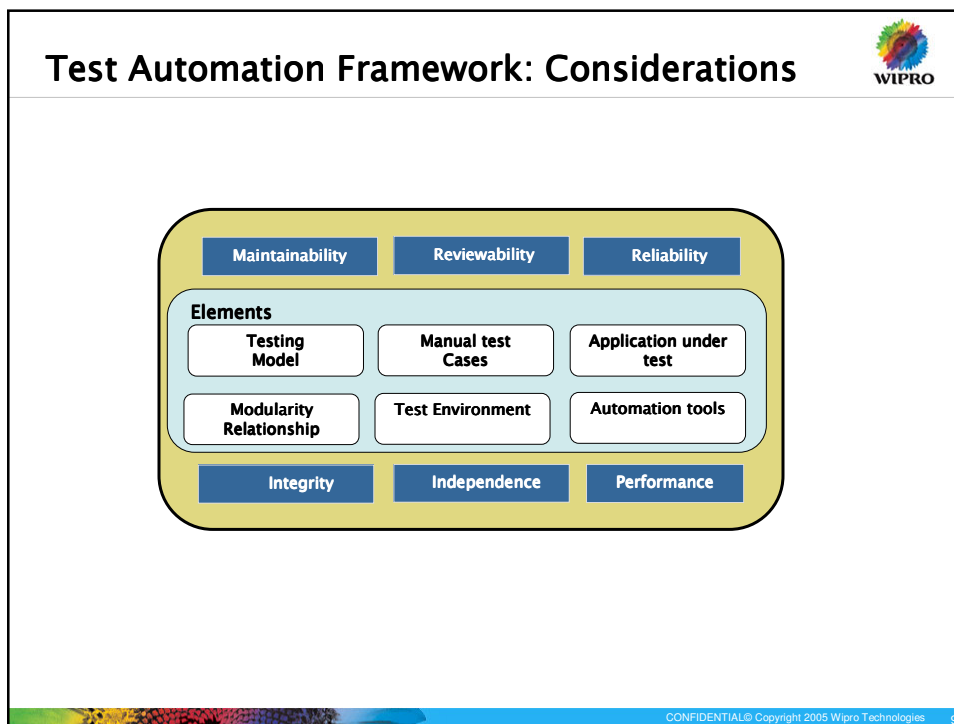
Test Automation Framework: Approach

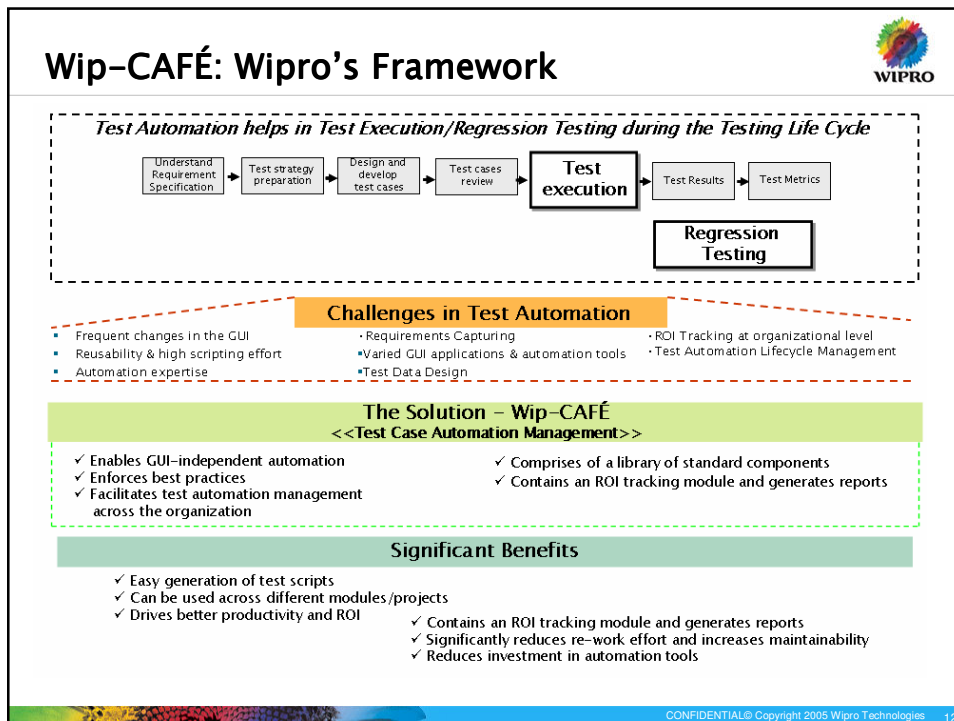
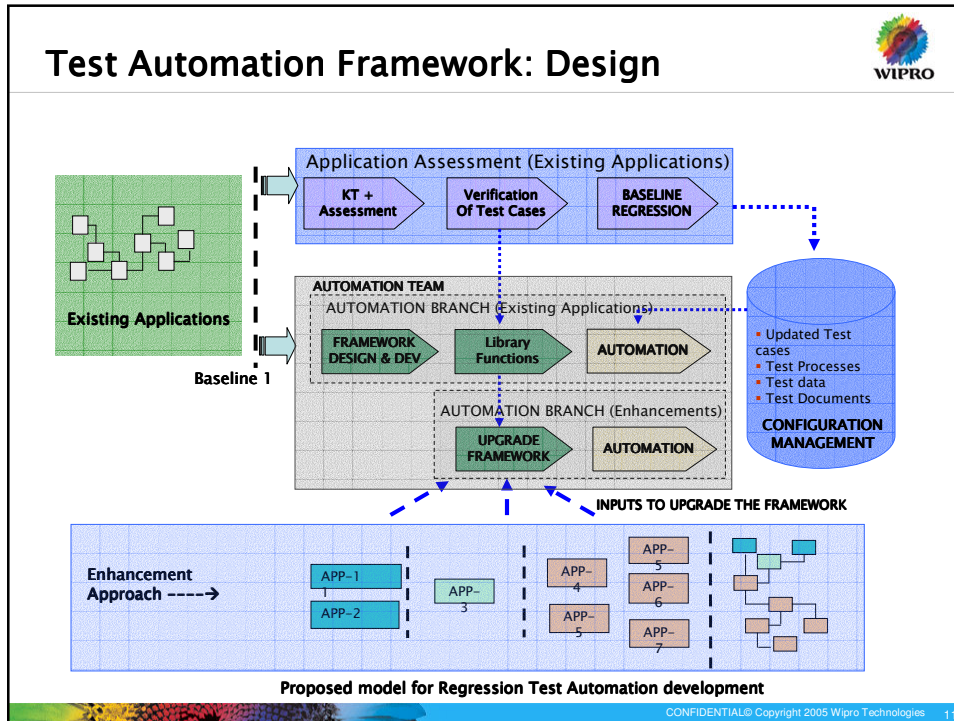


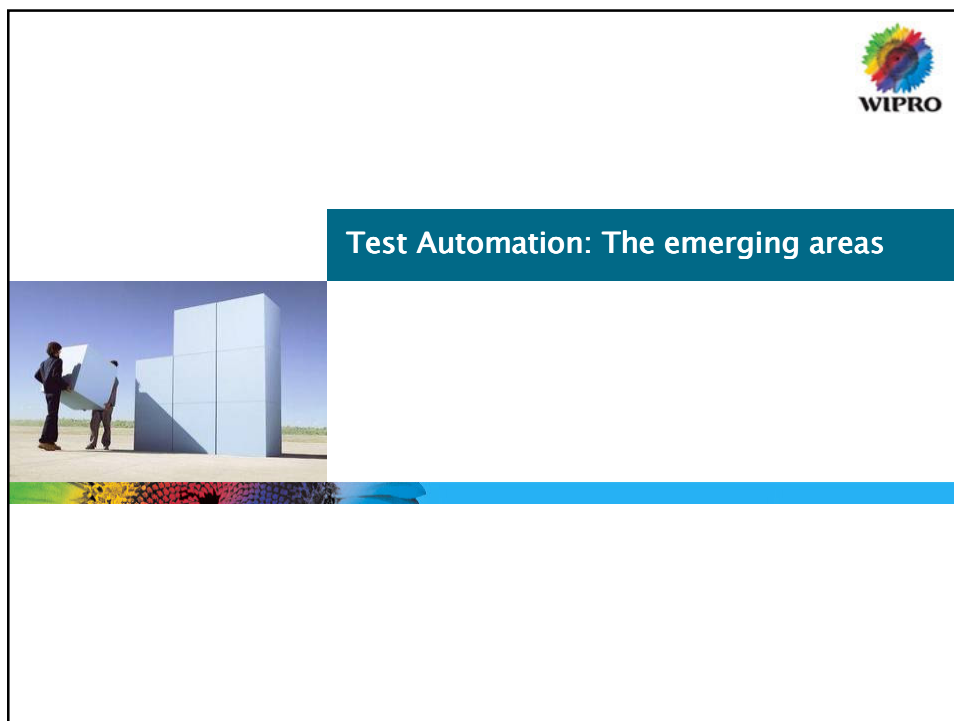
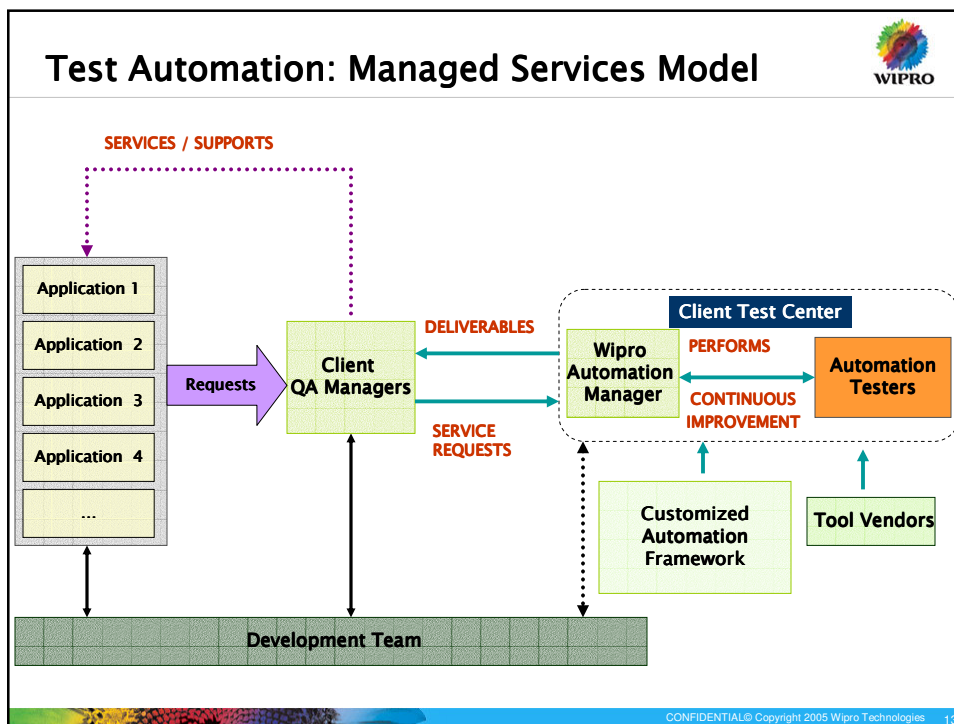
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graph LR; P1[Phase 1: Discovery] --> P2[Phase 2: Automation Process Definition]; P2 --> P3[Phase 3: Framework Development]; P3 --> P4[Phase 4: Verification]
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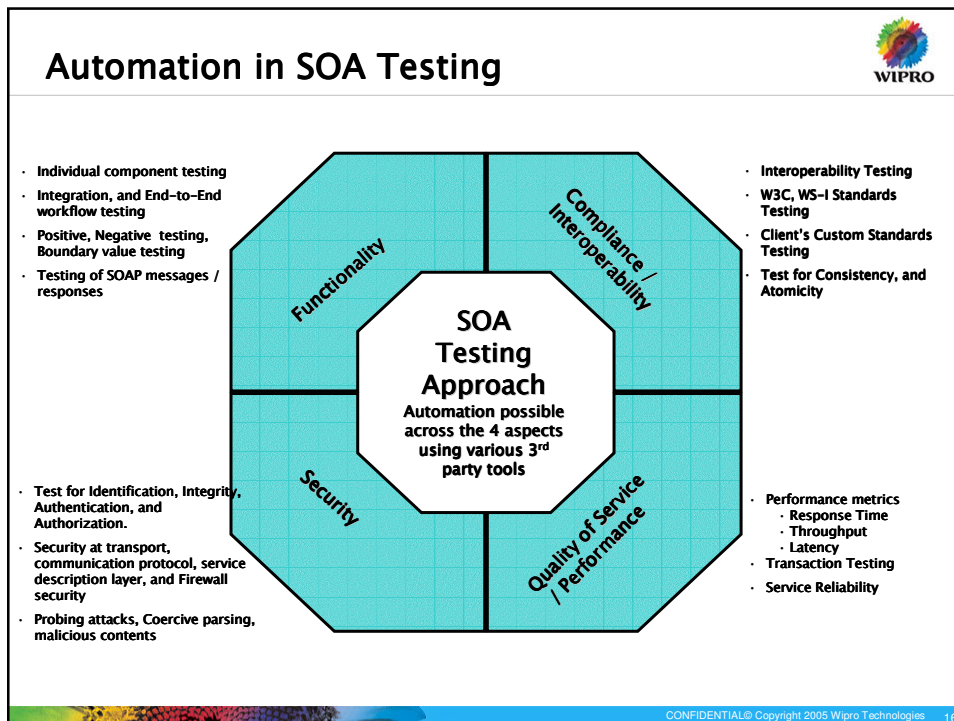
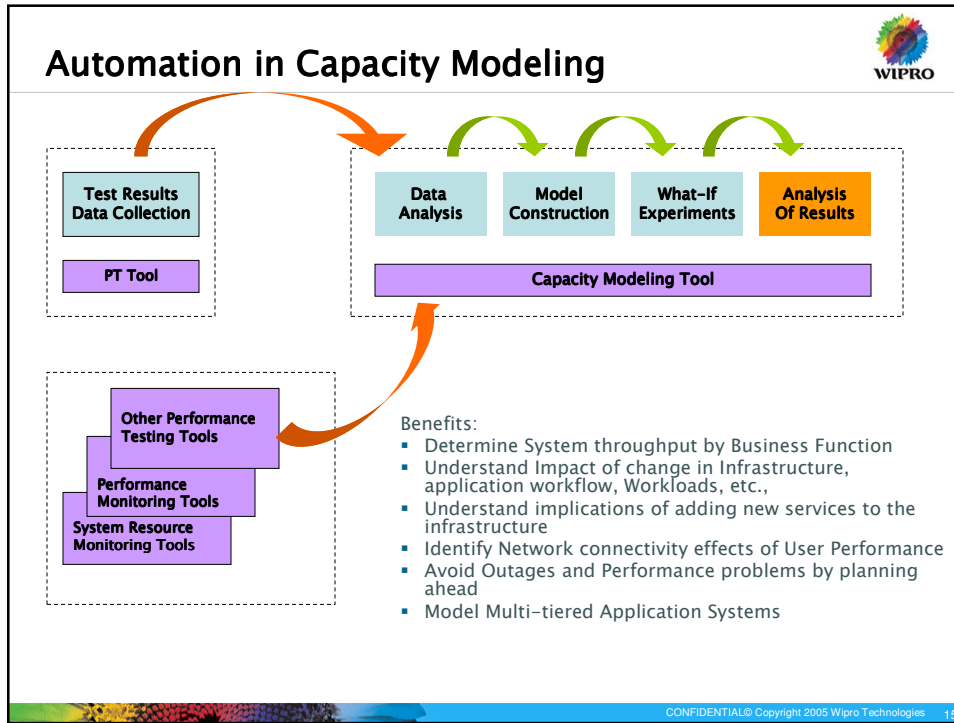
- Phase 1 : Discovery**
 - Understand the current Test Automation practices, identify gaps, prioritize, develop roadmap
- Phase 2: Automation Process Definition**
 - Prepare skeleton model of the framework based on appropriate systems, methods, and infrastructure
- Phase 3: Framework Development**
 - Identify the key components of the Framework, create the scripting standards, identify the reusable components, document the metrics analysis and approach
- Phase 4: Verification**
 - Conduct in-process and independent Verification on the robustness of the framework.

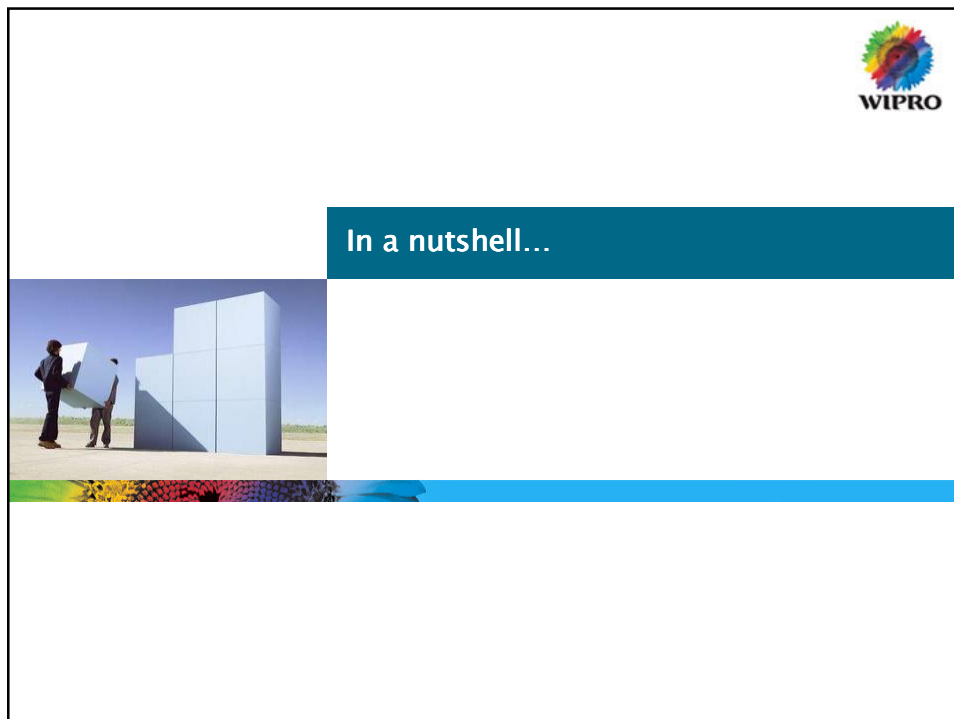
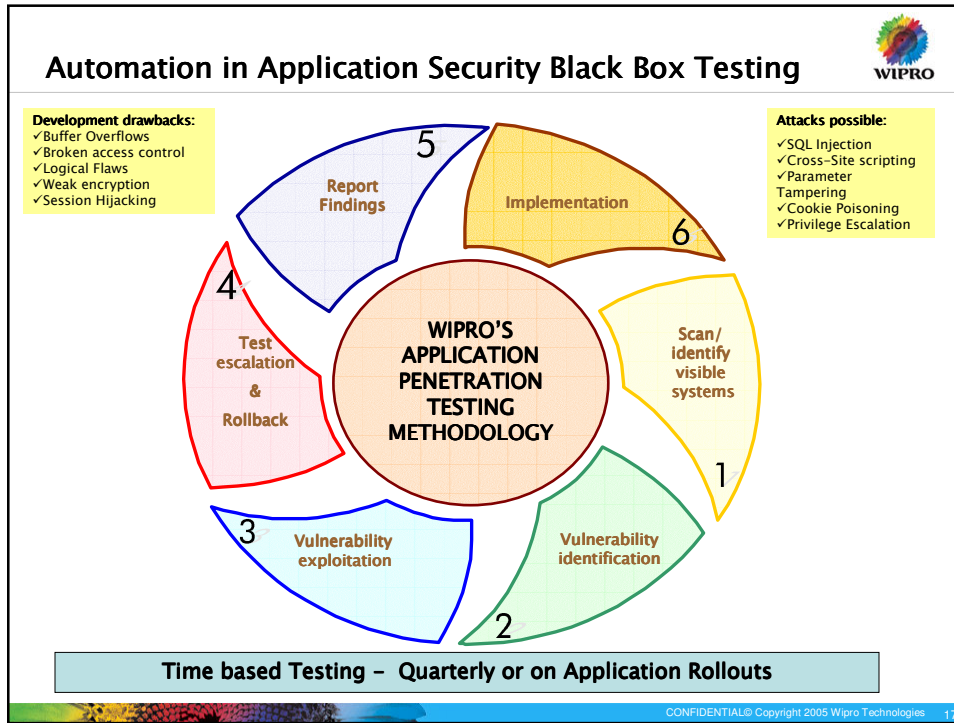
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Critical factors for Automation success



- Treated as a critical process and supported by senior management
- Robust and extendable automation framework
- Clear ownership and integration of test technology and process
- Rigorous measurement program to capture progress
- Skilled test engineering professionals deployed with the right tools