Rational Solution for SAP
SAP Connector, Worksoft, VirtualFor

Smarter software for a smarter planet

Software and Systems Engineering

Change is critical to Business Innovation

There are 3 key drivers for change events...

Business Drivers
- Changed Business Processes
- M&A and Reorganizations
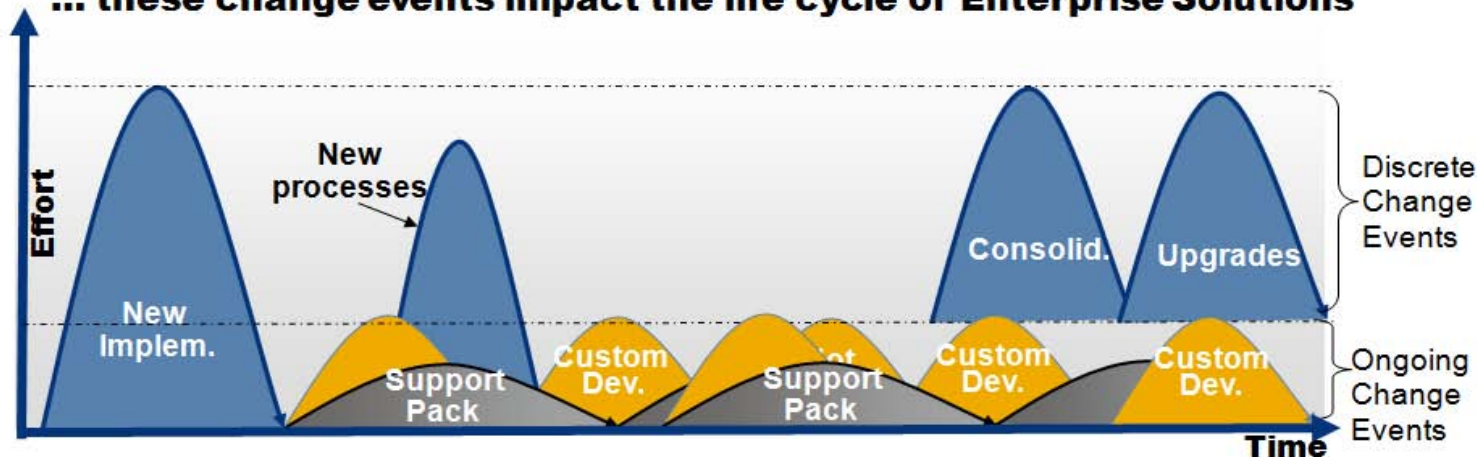- New Products, Vendors, ...

Compliance Drivers
- Governance
- Risk Management
- Compliance
- Examples: SOX, SEC, FDA, Basel2

Technology Drivers
- Maintenance
- New functionality
- Upgrades
- (Global) Rollouts

... these change events impact the life cycle of Enterprise Solutions

New processes

Effort

New Implem.

Support Pack

Custom Dev.

Support Pack

Custom Dev.

Consolid.

Upgrades

Custom Dev.

Discrete Change Events

Ongoing Change Events

Time

© SAP 2008 / Page 3

Change in the SAP Environment and Beyond
Customer Pain Points Around Managing Solution Integrity

How Do I Align Business Requirements With IT Requirements?

How Can I Manage My SAP and non-SAP projects in a unified way?

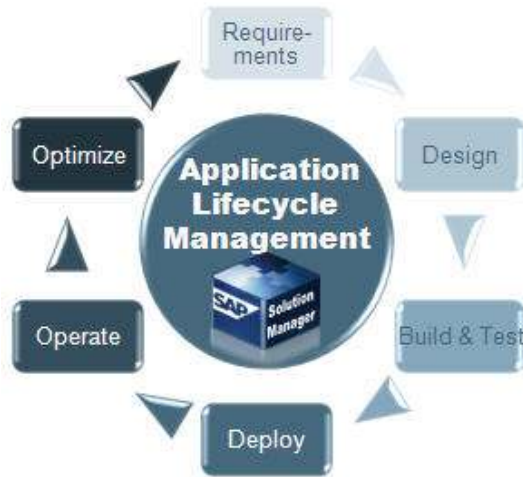*Can I Verify That My Business Processes Have Been Deployed & Tested?*

Can I Coordinate IT Changes Across My Heterogeneous Systems & Business Processes?

Silos of people, process, and projects

Application Lifecycle Management with SAP Solution Manager and IBM Rational software

SAP Solution Manager

- Reduces risk and lowers TCO through standardized and integrated E2E Solution Operations according to ITIL

- Optimizes business benefits through a comprehensive and integrated quality management process

- Leverages built-in innovation by making innovation a non-event and protecting existing investments
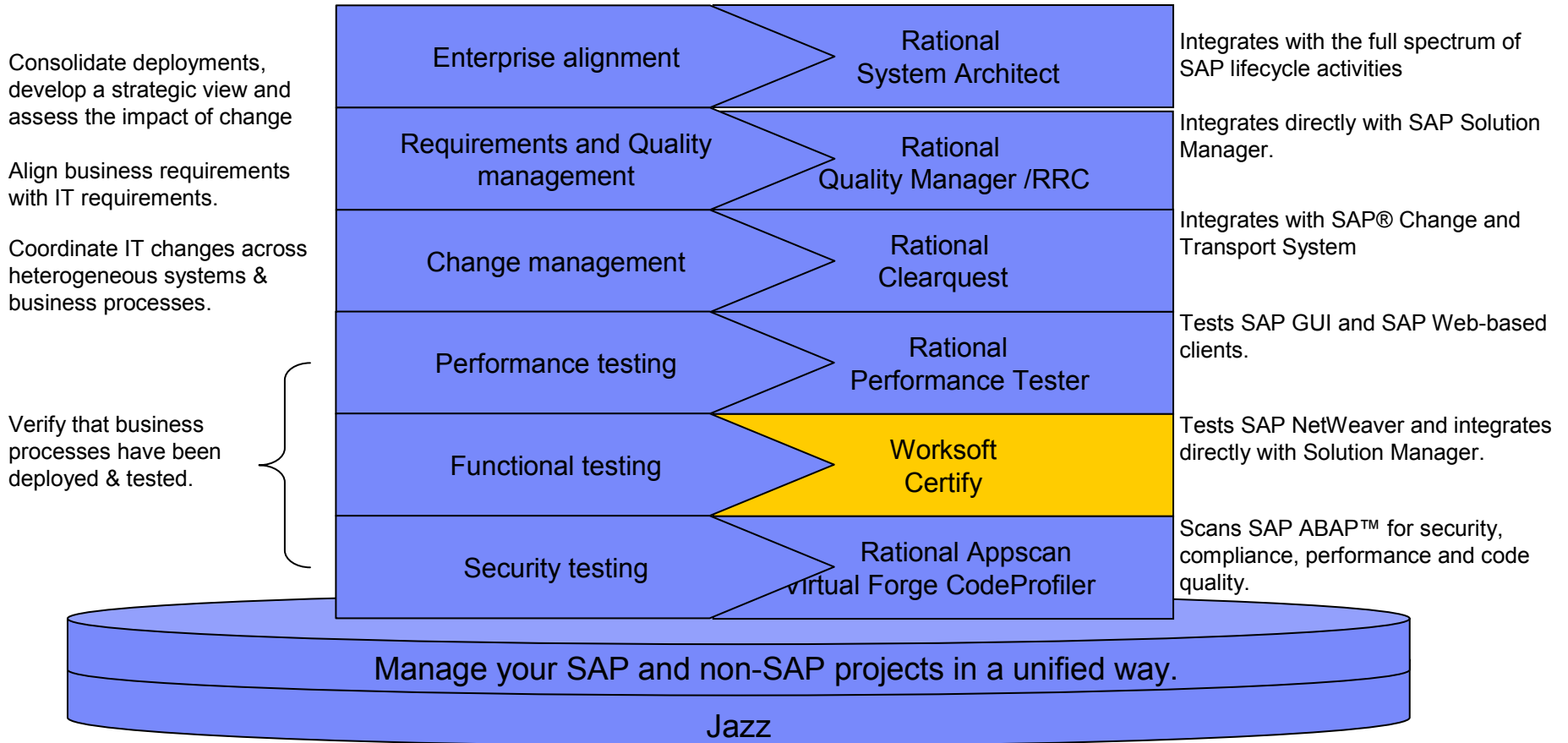
IBM Rational
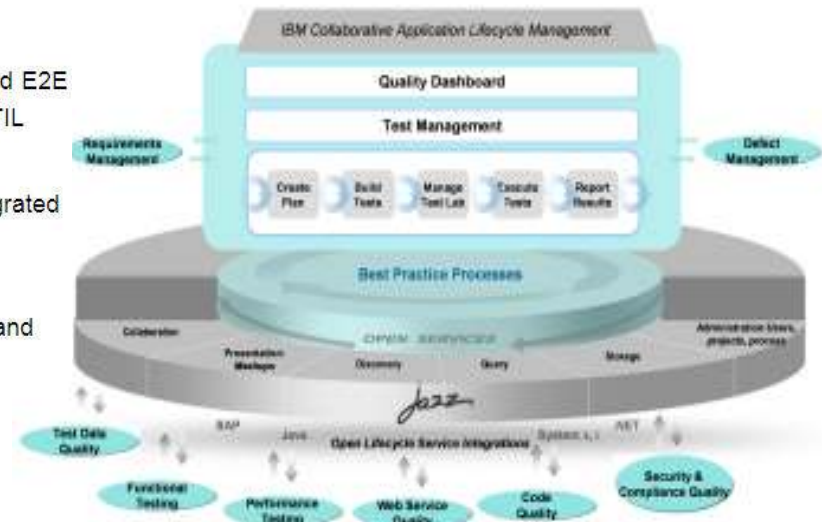
End-to-end Quality Management is a key element of effective Application Lifecycle Management to help lower costs and improve deployment success

SAP and IBM Rational are collaborating on an integrated Lifecycle Management solution

to support our joint customer needs by starting with an end-to-end Quality Management offering.

Rational solutions for SAP

Plan a business transformation | Implement a new package solution | Add ALM to an existing packaged solution

At the heart of the organization

Consolidate deployments, develop a strategic view and assess the impact of change

Align business requirements with IT requirements.

Coordinate IT changes across heterogeneous systems & business processes.

Verify that business processes have been deployed & tested.

Process	Solution	Description
Enterprise alignment	Rational System Architect	Integrates with the full spectrum of SAP lifecycle activities
Requirements and Quality management	Rational Quality Manager /RRC	Integrates directly with SAP Solution Manager.
Change management	Rational Clearquest	Integrates with SAP® Change and Transport System
Performance testing	Rational Performance Tester	Tests SAP GUI and SAP Web-based clients.
Functional testing	Worksoft Certify	Tests SAP NetWeaver and integrates directly with Solution Manager.
Security testing	Rational Appscan Virtual Forge CodeProfiler	Scans SAP ABAP™ for security, compliance, performance and code quality.

Manage your SAP and non-SAP projects in a unified way.

Jazz

"Our collaboration with IBM Rational brings together the best of our combined application lifecycle management market leadership and can help customers reduce costs, manage change, and improve quality across the enterprise applications lifecycle."
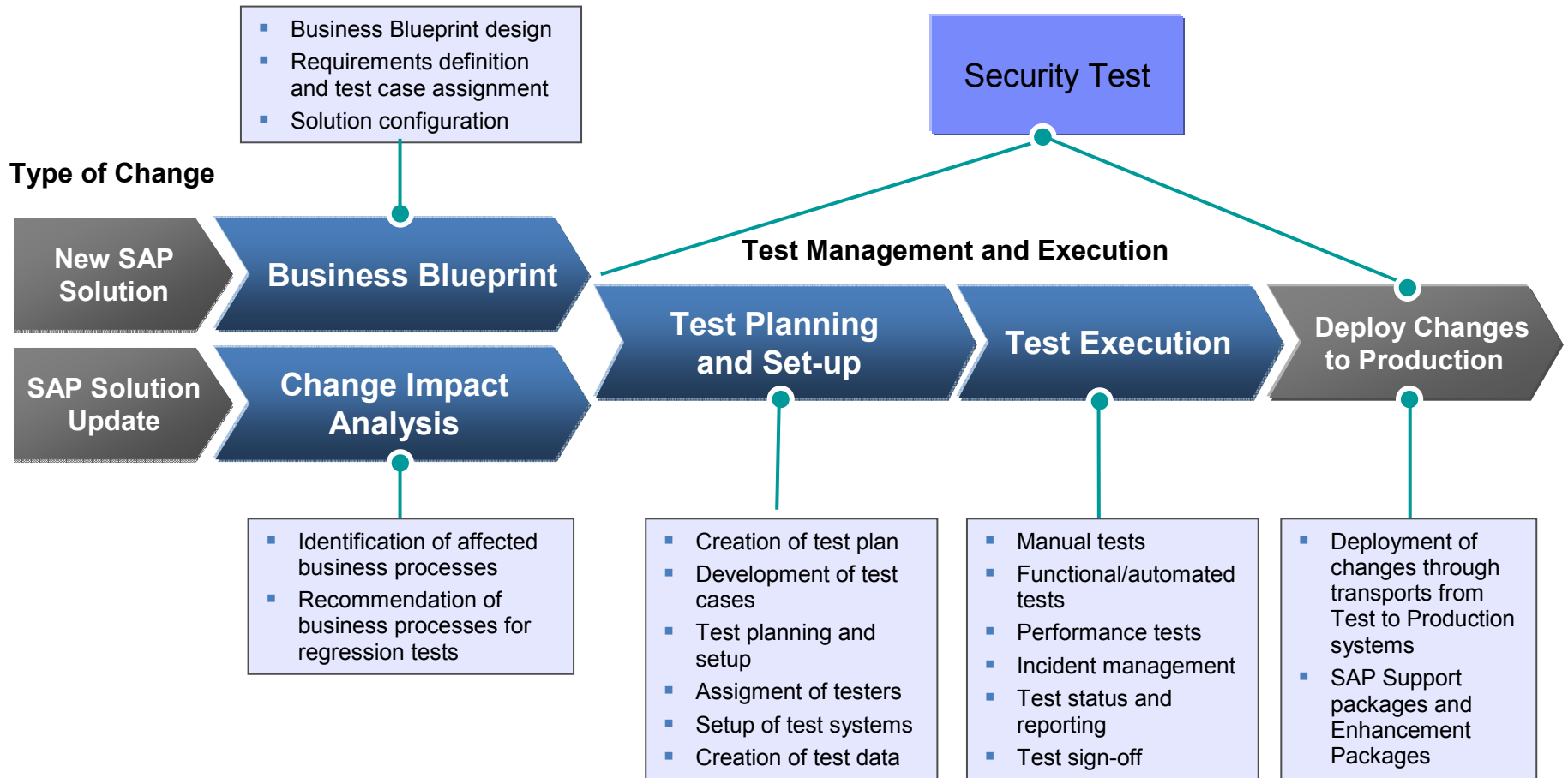
Dr. Uwe Hommel Executive Vice President and Head of SAP Global Active Support, SAP AG
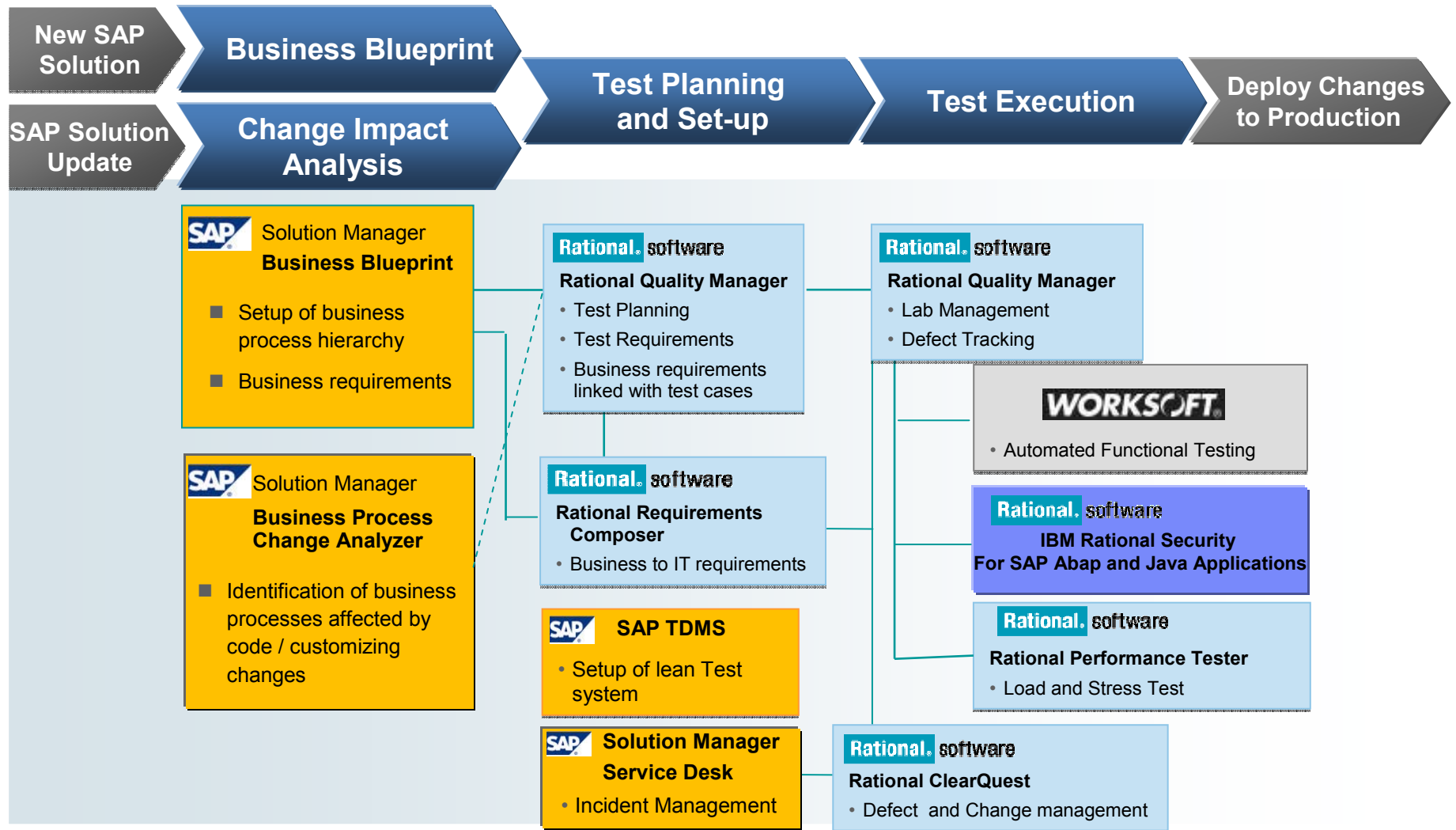
Rational Solutions For SAP

- Overview

- Rational Quality Solution

- Worksoft Solution

- SAP Connector

- Security

Quality Management for SAP-centric Solutions
End-to-end integration testing of SAP solutions

- Business Blueprint design
- Requirements definition and test case assignment
- Solution configuration

Security Test

Type of Change

New SAP Solution

Business Blueprint

Test Management and Execution

SAP Solution Update

Change Impact Analysis

Test Planning and Set-up

Test Execution

Deploy Changes to Production

- Identification of affected business processes
- Recommendation of business processes for regression tests

- Creation of test plan
- Development of test cases
- Test planning and setup
- Assigment of testers
- Setup of test systems
- Creation of test data

- Manual tests
- Functional/automated tests
- Performance tests
- Incident management
- Test status and reporting
- Test sign-off

- Deployment of changes through transports from Test to Production systems
- SAP Support packages and Enhancement Packages

End-to-end Quality and Test Management with SAP Solution Manager and IBM Rational software

New SAP Solution

Business Blueprint

SAP Solution Update

Change Impact Analysis

Test Planning and Set-up

Test Execution

Deploy Changes to Production

SAP Solution Manager
Business Blueprint

- Setup of business process hierarchy
- Business requirements

SAP Solution Manager
Business Process Change Analyzer

- Identification of business processes affected by code / customizing changes

Rational. software
Rational Quality Manager

- Test Planning
- Test Requirements
- Business requirements linked with test cases

Rational. software
Rational Requirements Composer

- Business to IT requirements

SAP **SAP TDMS**

- Setup of lean Test system

SAP **Solution Manager Service Desk**

- Incident Management

Rational. software
Rational Quality Manager

- Lab Management
- Defect Tracking

WORKSOFT

- Automated Functional Testing

Rational. software
IBM Rational Security For SAP Abap and Java Applications

Rational. software
Rational Performance Tester

- Load and Stress Test

Rational. software
Rational ClearQuest

- Defect and Change management

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IBM Rational Requirements Composer

Capture and integrate requirements for SAP and non-SAP projects

Work smarter through integrated requirements

- Capture and manage SAP business requirements and align associated development and test activities

- Enable a single, holistic view of requirements across enterprise projects and stakeholders

- Leverage the Web 2.0 interface to foster collaborative software delivery and coordination among distributed teams

Reduce project risk and improve responsiveness

- Leverage a rich requirements authoring environment and governance capabilities to manage business goals, rules, dependencies and priorities

- Link test cases with requirements through integration with IBM Rational Quality Manager

- Integration with IBM Rational ClearQuest & IBM Rational Team Concert allows traceability of requirements implementation activities through the software delivery lifecycle
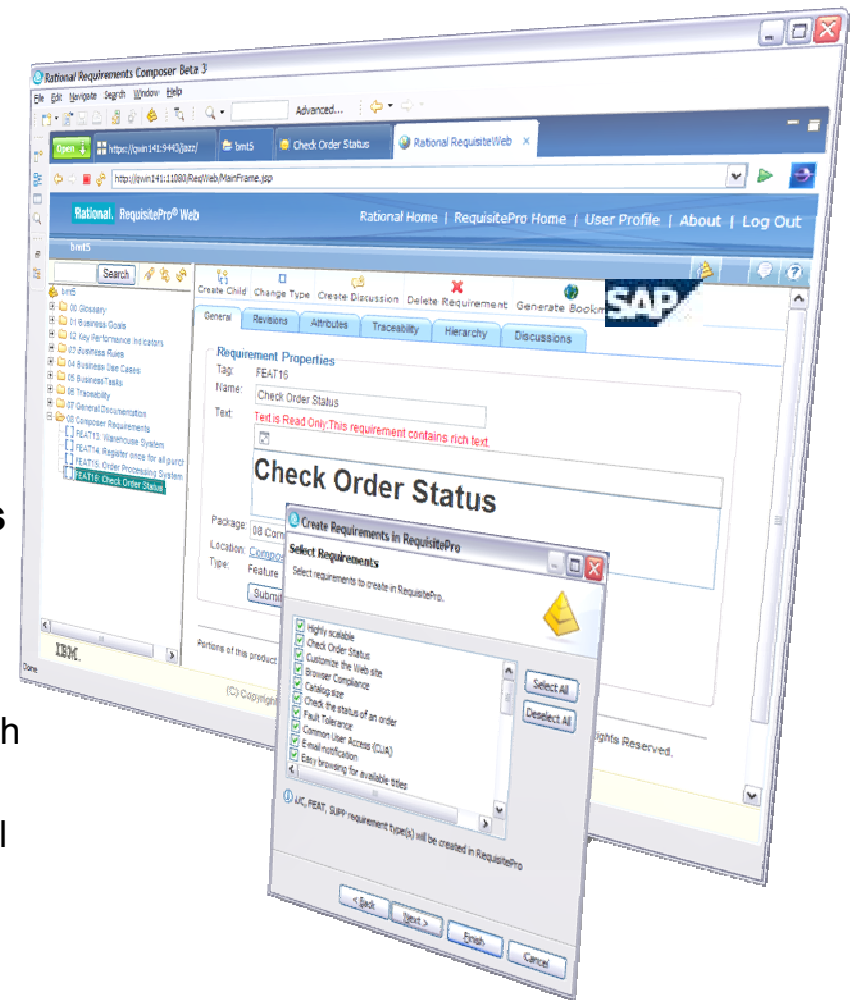
IBM Rational Quality Manager

A central hub for business-driven software quality

Mitigate business risk with collaboration

- Stakeholder and team coordination reduces mistakes
- Risk identification and management leads to educated prioritization decisions
- Test traceability linked to business requirements (including link with SAP solution blueprint) improves customer satisfaction

Improve operational efficiency with automation

- Running tests earlier leads to reduced repair costs
- Running more tests in less time improves coverage
- Reducing manual labour leads to fewer testing errors
- Lab configuration automation improves efficiency and asset utilization

Make confident decisions with effortless reporting

- Real-time dashboards enable proactive risk management
- Customizable reports facilitate ongoing process improvement
- Transfer test results back to SAP Solution Manager for consolidated project reporting
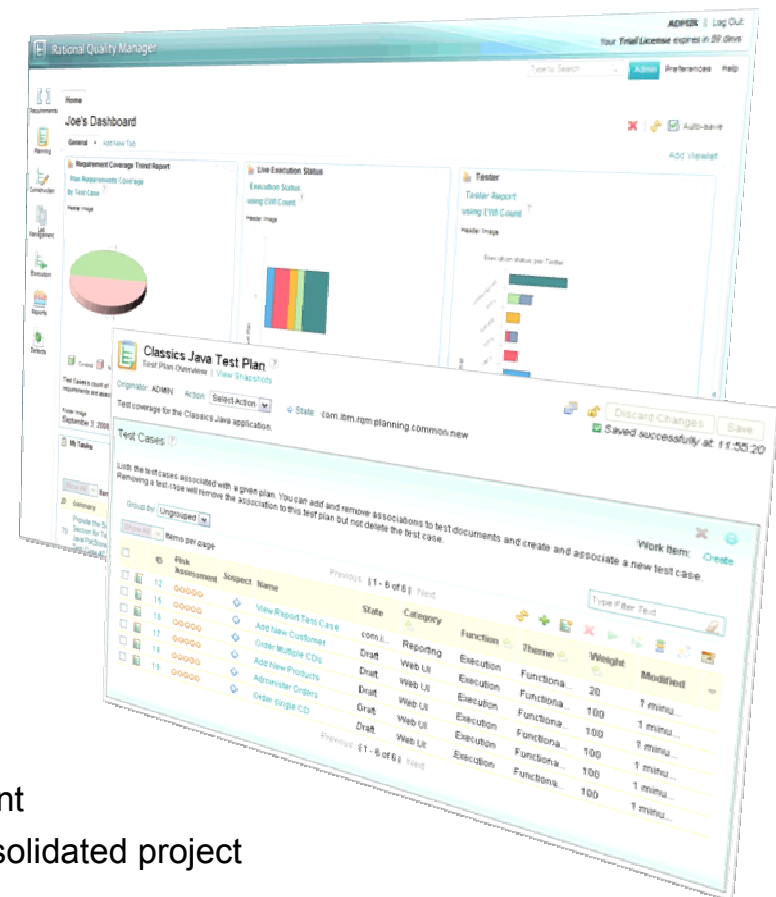
Rational Appscan & Virtual Forge CodeProfiler for Rational AppScan Source Edition

Java Applications

- Dynamic (black box) analysis
  - *Rational AppScan Standard*
  - *Rational AppScan Enterprise*
- Static (white box) analysis
  - *AppScan Source*
- IBM Rational AppScan
  - Recognized leader of dynamic (DAST) and static (SAST) security testing solutions that integrate into the software development life cycle
  - Integrates security testing into AppScan platform for complete application lifecycle management

ABAP Applications

CodeProfiler for Rational AppScan Source Edition identifies security vulnerabilities in SAP ABAP applications and enables enterprises to eliminate SAP application risk with advanced static (white box) security testing of ABAP source code.

- Identify and remediate security vulnerabilities in your SAP applications by analyzing ABAP source code to expose security defects with static (white box) analysis
- Empower developers to write secure ABAP applications by integrating security scanning into the ABAP Workbench and SAP user interface
- Enforce service level agreements for security for applications and code developed by consultants and third parties
- Drive remediation efforts with recommended code fixes and triage results in AppScan Source Edition for a single view of all static analysis testing and results
- Manage SAP security as part of your enterprise application risk management program by integrating with Rational **AppScan Enterprise**

Worksoft Certify®

Comprehensive Automated Functional Testing

- Cross platform, script-less automation supporting a comprehensive suite of underlying technologies including HTML, Java, SAP GUI, Adobe Dynamic Forms, Mainframe, .Net, WPF, Adobe Flex, Sliverlight, Unix, Win 32, Microsoft Office, etc.

- SAP optimized solution supports all SAP applications (ERP, Business Suite 7, Portals, Web Dynpro Applications, etc.)

Global Fortune 500 Customer Base

- Successfully deployed at eBay, Intel, Dow Corning, Monsanto, Panasonic, Fujitsu, Under Armour, General Mills, Clorox and many other multi-national companies representing most industry verticals

Faster Time to Value

- Easy to learn, easy to use

- Comprehensive pre-built, re-usable SAP test content

- Documentation & automation in one step

SAP® Certified
Integration with SAP NetWeaver®

Ready for
IBM. Rational.
software

IBM Rational Performance Tester

Powerful workload creation combined with ease of use

Speed test creation

- Easily capture all SAP transactions in SAPGUI or NetWeaver Portal through SAP recorder

- Reduce test development effort with automatic data correlation engine significantly

Simplify test execution

- Easily read and edit tests with visual representation of SAP activity

- Create and deploy realistic user workloads that exercise the key business transactions

- Leverage automated data variation and synchronization

Quickly identify performance problems and root causes

- Test and report against desired business SLAs

- Quickly pinpoint bottlenecks through graphical results representation

- Automatically identify the location and root cause of performance problems in hardware and software
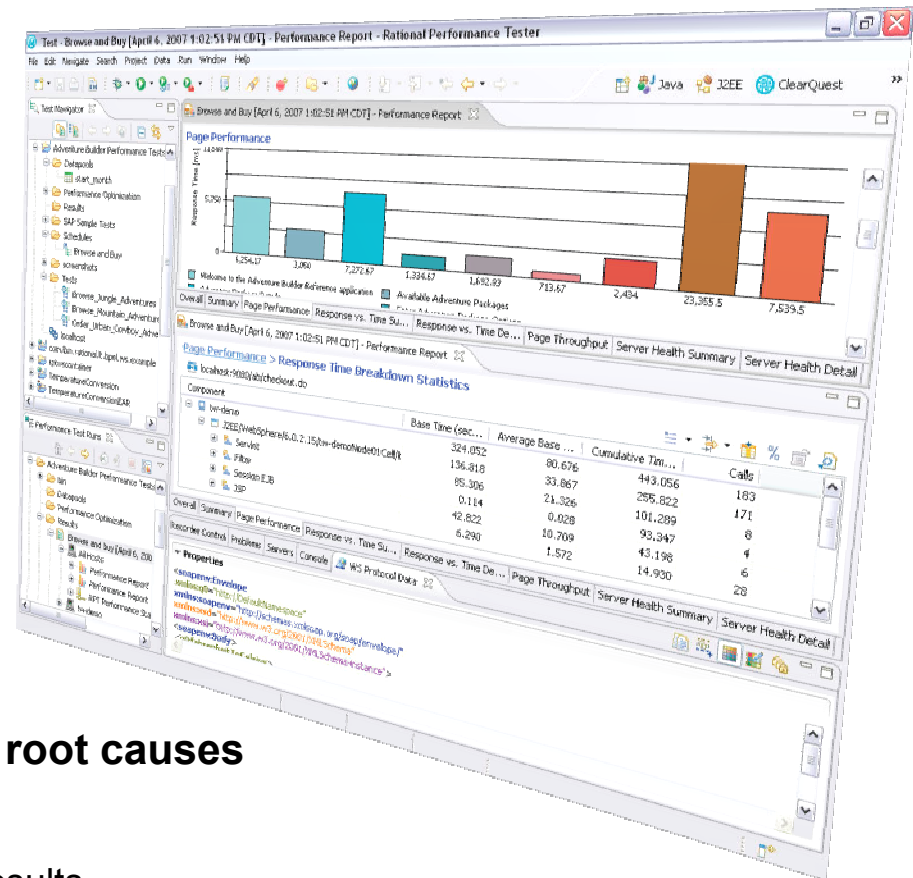
IBM Rational ClearQuest

Integrated change and defect management for SAP and non-SAP projects

Reduce project risk improve project governance

- Leverage a set of best practice templates to facilitate governance of SAP implementation activities including enhancement requests, project deliverables, change requests and known defects

- Extend and customize SAP schemas with electronic signature and audit trail capabilities to automate regulatory and/or internal record keeping requirements

Accelerate project delivery and improve productivity

- Automate project defect/incident management through integration with IBM Rational Quality Manager and SAP Solution Manager

- Leverage flexible, customizable and automated workflows that provide repeatable, enforceable and predictable processes

- Enable secure and role-based stakeholder collaboration across project environments and globally outsourced and internally distributed teams
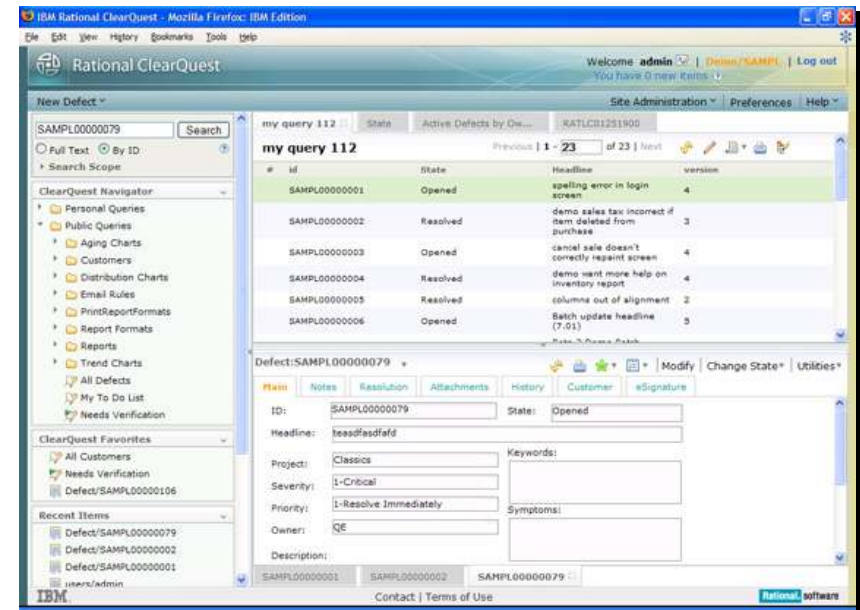
The Business Case for Automation

- Speed to Market is Top Priority
  - Limited / Fixed Resources
  - Manual Testing can't keep pace
  - Many changes go untested
  - No reusability means decreasing coverage
  - Time, turnover cause loss of knowledge
  - Backlog grows
  - Business agility suffers

- Traditional Methods are Too Costly
  - Script-based solutions require many customizations and an army of consultants/programmers
  - Writing code to test code is not the right answer

Risk Increases Over Time

- Business processes
- Test resources

Automation is the Right Answer
  ▸ Reduced time and effort
  ▸ Expanded coverage
  ▸ More flexibility

Typical SAP Maintenance Efforts
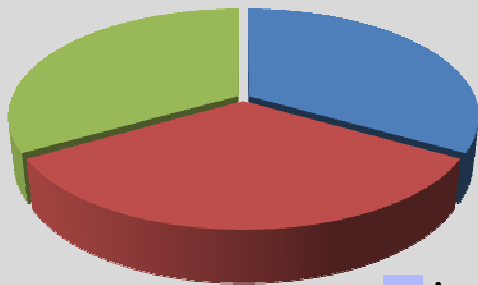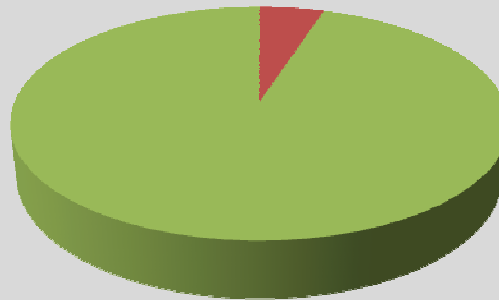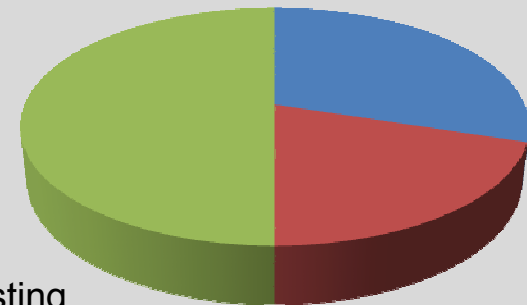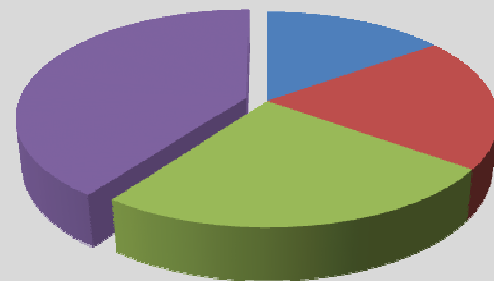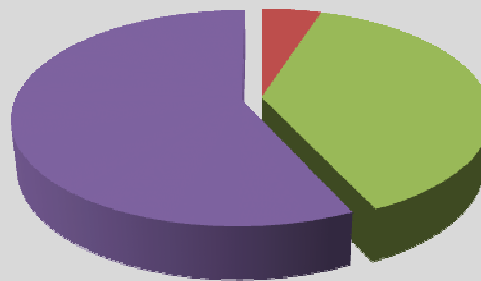
Enterprise Change Management
The High Cost of Manual Testing

40% of maintenance efforts

Change Identification → Impact Analysis → Functional Testing → Performance Testing → Audit

- Identify source of change
- Identify type of change

- Determine impact of change
- Calculate risk of change
- Recommend areas for validation

- Test case design
- Test case development
- Test case execution
- Test case management
- Test data management

- Load testing
- Stress testing
- Test data management

- Document process
- Report on progress - dashboard
- Capture auditable events – audit trail

Typical lifecycle process required for deploying application changes is people and time intensive

= 2 weeks to 6 months!

Challenges with Traditional Test Automation

- **90%+ of SAP application testing is manual**
  - Scripting tools have been around for 20 years

- **Costs too much, takes too long**
  - Need special skills to implement

- **Test maintenance can't keep up**
  - Too much code
  - Pace of change is too fast

- **Manual testing is the bottleneck to accelerating deployment**

Speed & Cost to Deploy and Maintain

People / $$ Resources

Traditional Script based testing solutions

Time/Test Cycles
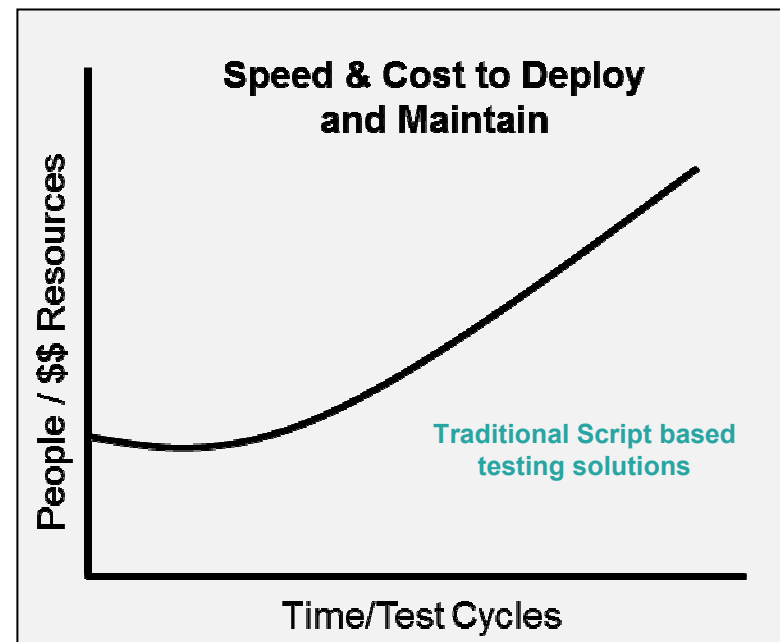
Worksoft changes the rules on testing

- **Faster Test Development**

  - No script code is written, generated, or maintained

  - Build the test in the time it would take to document the test case

  - Extract test data directly from SAP as the test is being written

  - Focus testing efforts by inspecting SAP transports and identifying the correct tests to run and any "gaps" in test coverage

  - Process and test documentation (BPPs, audit, training, test results) generated automatically

- **End to End Business Process Validation, One User Interface**

  - Manage, maintain and execute with one application

  - Test business processes end-to-end, across multiple applications and platforms

  - Significantly fewer assets to manage (250 ETE processes vs. 3000 manual tests)

- **Fast, Easy Test Maintenance**

  - Instantly identify and update tests for changes within applications

  - Low Cost, minimal resource requirements

- **Faster Time to Value**

  - Pre-built SAP test content

  - Easy to learn, easy to use by Business Analyst/SME

  - Easily obtain and manage SAP test data across environments

  - Document and automate in one step

  - Start test development ahead of code delivery to QA

  - Lights Out Testing…Increase test coverage of business processes to near 100%

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Supported SAP Testing Tool Suites

Software Change	Test Scope Identification	Test Planning Test System Setup	Test Execution	Test Reporting	Change Deployment

Test Option 1 SAP Tools

- **SAP Solution Manager** Business Blueprint
- **SAP Solution Manager** Business Process Change Analyzer
- **Certify Impact**
- **SAP eCATT**
- **SAP Solution Manager** Test Workbench
- **Certify Learn** | **Worksoft Certify** | **Certify BPP**
- **Certify Data**

Test Option 2 HP Tools

- **SAP Solution Manager** Business Blueprint
- **SAP Solution Manager** Business Process Change Analyzer
- **Certify Impact**
- **HP QTP** | **SAP TAO**
- **HP Quality Center**
- **Certify Learn** | **Worksoft Certify** | **Certify BPP**
- **Certify Data**

Test Option 3 IBM Rational Tools

- **SAP Solution Manager** Business Blueprint
- **SAP Solution Manager** Business Process Change Analyzer
- **Certify Impact**
- **IBM Rational Quality Manager**
- **Certify Learn** | **Worksoft Certify** | **Certify BPP**
- **Certify Data**

Worksoft Product Suite

Test Scope Identification	Test Planning Test System Setup	Test Execution	Test Reporting

Certify Learn™
• SAP Metadata & Test Content

Certify Impact ™
• SAP Risk-Based Testing

Worksoft Certify ®
• Automated Functional Testing

Certify Data™
• SAP Test Data Acquisition

Certify BPP™
• Business Process Reporting

Certify eSignature™
• Workflow and Approval for Test Assets

Certify Connect ™
• Enterprise and 3rd-party Integration

SAP® Solution Manager

HP® Quality Center

IBM Rational® Quality Manager

Worksoft Product Suite – Spanning the Lifecycle

- **Certify LiveLearn & Certify SAP Test Content**

  - Automates the process of loading all SAP objects into Worksoft Certify allowing SAP teams to define and execute more automated tests in a shorter period of time

  - Includes comprehensive set of pre-built, re-usable SAP test content

- **Certify Connect**

  - Automates the connection of Worksoft Certify to enterprise or 3rd-party applications

  - Provides bi-directional integration with all 3 leading SAP Test Management solutions:

    - SAP Solution Manager

    - IBM Rational Quality Manager

    - HP Quality Center

- **Certify Impact**

  - Automated risk-based testing solution that can identify, recommend, and execute end-to-end business process tests based on a set of proposed SAP application changes and their relationship to critical business processes (leveraging SAP BPCA)

  - Also identifies Certify tests that need to be updated, as well as a "gap" report listing SAP changes that do not have a corresponding Certify test

Worksoft Product Suite – Spanning the Lifecycle

- **Certify Data**

  – Automates the extraction of SAP data and storage in the corresponding Worksoft Certify test process as the test steps are constructed

  – Minimizes the initial and recurring costs of test data acquisition and validation

    - Initial: During test construction, Certify Data extracts test data directly from the application under test

    - Recurring: Existing test data may be maintained and refreshed from within Certify

- **Certify Business Process Procedures (BPP)**

  – Automates the generation of comprehensive documentation for quality assurance, training and compliance from the results of a Certify test process execution

  – Documentation is based on templates that can be customized to meet specific requirements

- **Certify E - Signature**

  – Automates the workflow and approval for Worksoft Certify assets including test requirements, test processes and test results

  – Records and preserves test assets and generates documentation to aid in compliance

Worksoft Certify for SAP

- **Simple**

  - All solutions designed with non-technical, business users in mind

  - Create automation by simply interacting with the application

- **Script Less**

  - Object/Action paradigm fundamentally different from other automation solutions

  - No scripts are ever generated, stored or required to be used

  - No programming skills are required to create or maintain automated tests

- **Reusable**

  - Automated tests can be reused from one customer to another saving hundreds of man hours

  - Lights out regression tests can be used over and over again and can be run on a daily/weekly basis to ensure core business processes are functioning correctly

- **Maintainable**

  - Simple single click maintenance by comparing maps from a new version with an old version of the application and automatically identifying/updating affected test steps

- **Versatile**

  - Support provided for almost any kind of software technology used to build the enterprise/portal application
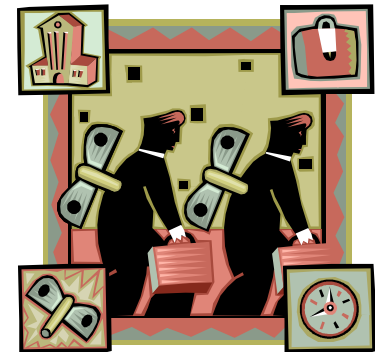
Certify Speeds Development Reducing Project Timelines

Manual Change Deployment

Requirements & Impact Analysis

Design & Development

Test Execution

Manual Test Script Development

Worksoft Application Management Solutions

Requirements & Impact Analysis

Design & Development

Test Execution

Automated Test Development

Project Timeline
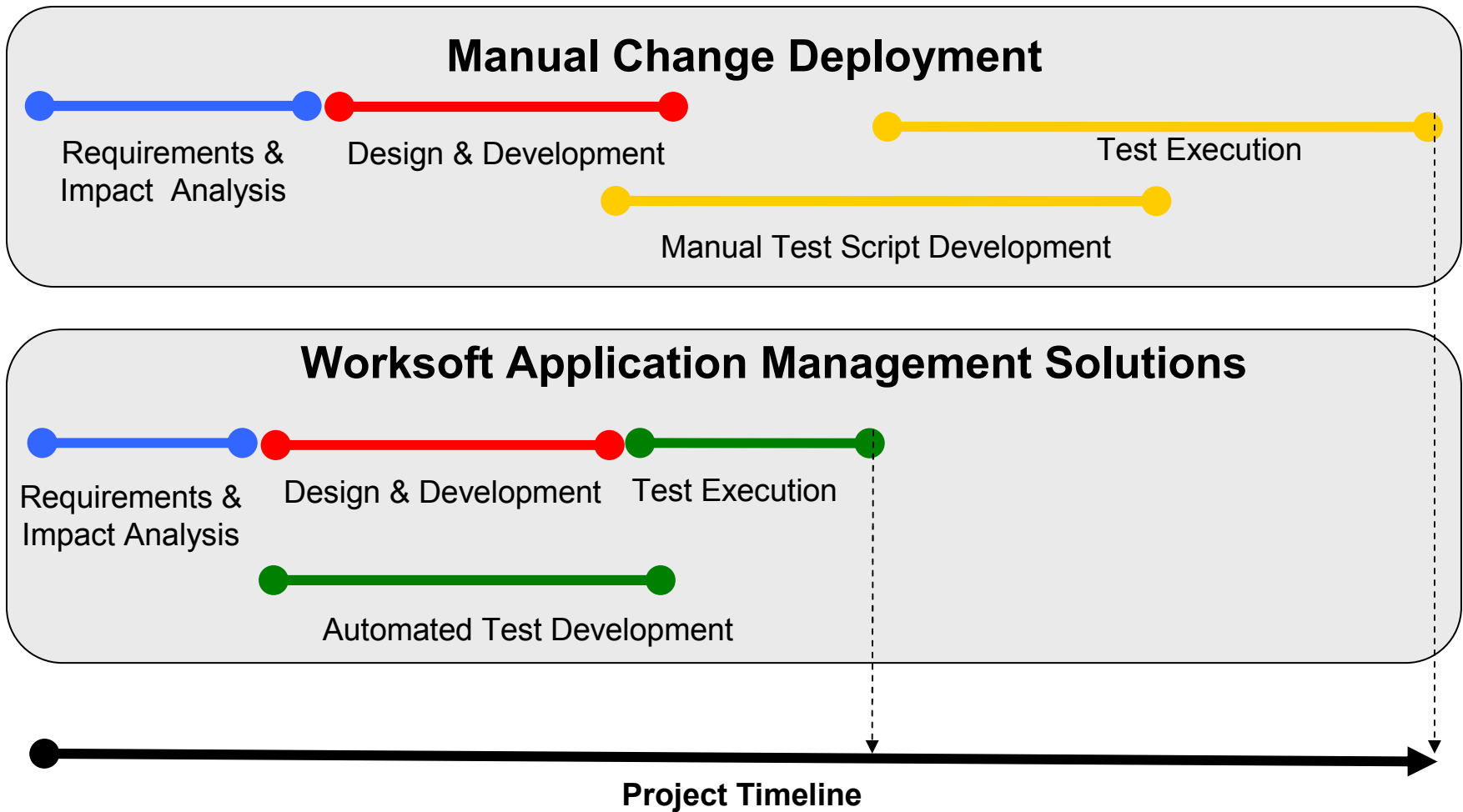
BPP Documentation is real time, and auto generated

It Can Be Done

- **Dow Corning** [Link to Case Study]

  - Experts being lost to rotation, retirement

  - Automation enabled knowledge capture, transfer to others

  - 75% processes automated in 90 days

  - 250 processes executed every night

- **Large Airframe Manufacturer**

  - 8 man months saved in first project

  - Refreshed user knowledge of business processes

  - Fewer emergency transports due to increased coverage

Extensive Customer Experience

Green Hat Overview

Green Hat delivers better software quality with its unique virtualization and integration testing capabilities

Organization
- Founded in 1996, Green Hat has a built a strong expertise in integration testing and virtualization for testing
- Jointly headquartered in London, England and Wilmington, DE

Capabilities
- **Makes automated testing simple** for complex systems relying on Cloud, web services, messaging, SOA, ESB, BPM, SAP, etc.
- Enables **earlier and more parallel, continuous testing** across the development lifecycle

Technology
- **Mature** technology (version 5.3)
- **Superior** architecture for scalable enterprise deployments
- **Broad** support for middleware and applications
- **Ready for IBM Rational** software

Customers
- 80+ customers
- **Marquee** financial, healthcare, government, and Telco customers
- Used by several GSIs, including IBM Global Services

Green Hat customers include…

The combination of IBM and Green Hat solutions delivers first class quality management and agile development capabilities

IBM is a leader in…

- Application lifecycle management
- Quality management
- Scaling agile development

Green Hat is a leader in…

- Integration testing and application virtualization

Quality Management Capabilities

Dynamic Planning | Risk Management | Test Management | Analytics

Coverage Analysis | Defect Resolution

Agile Development Capabilities

Analytics | Collaboration | Visibility | Process | Integration Testing First

Complexity…. Made Simple!
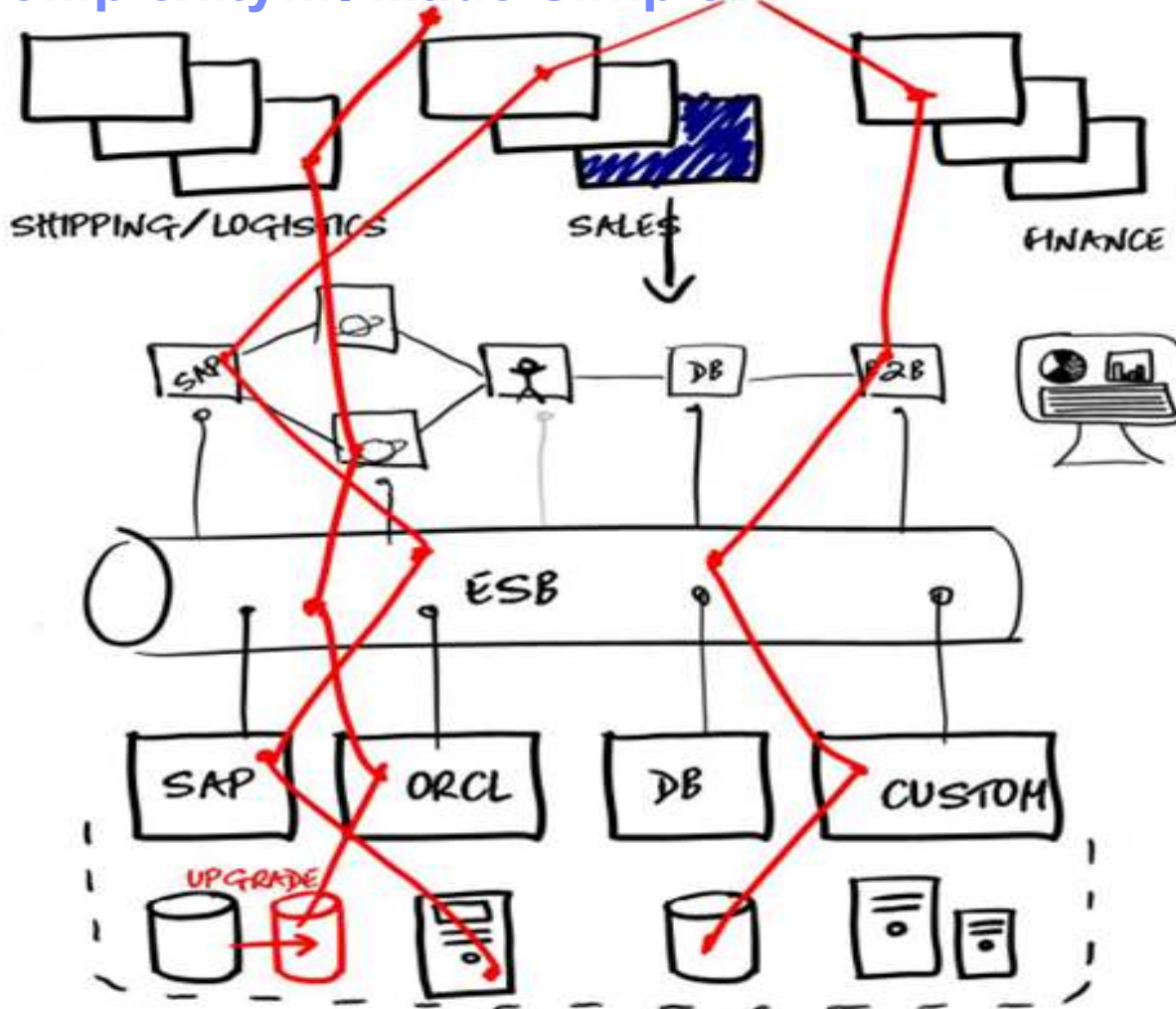
- Multiple layers of technology

- Multiple vendor platforms

- Complex transactions

- Complex dependencies

- Multiple stakeholders

Complexity…. Made Simple!

GH Performance

GH Tester

GH Virtualized Integration Environment (VIE)

GH Governance Pack

GH Management Pack

GH Build Pack
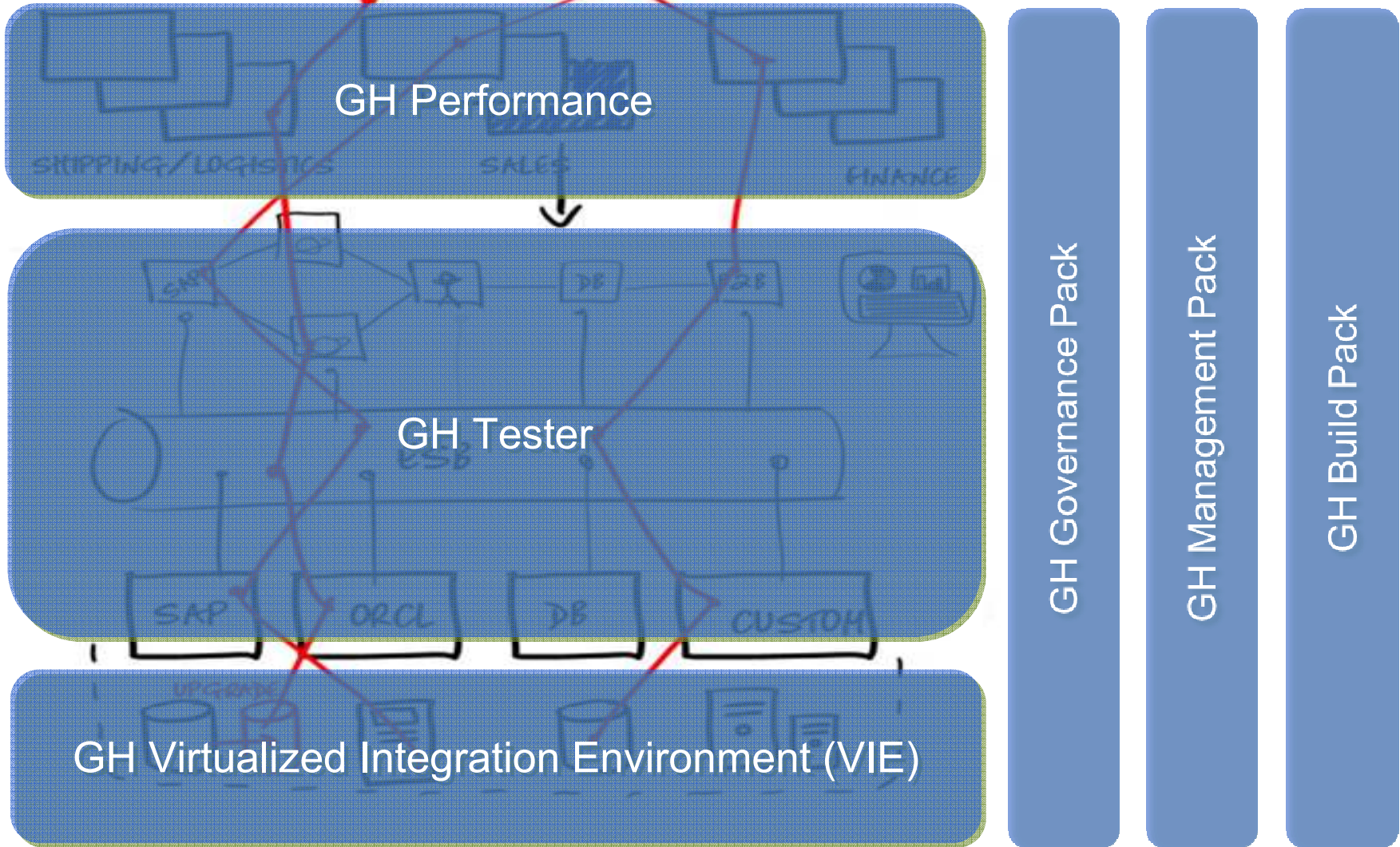
Technologies: 70+

Messaging Protocols	SOA and ESB	Message Formats
ActiveMQ	CentraSite	.Net Objects
BEA Tuxedo	Oracle Fusion	Bytes
Email (SMTP, IMAP)	SCA Domain	COBOL Copybook
Files	Software AG IS, BPMS	ebXML
FTP/S	Sonic ESB	EDI
HTTP/S	TIBCO ActiveMatrix	FIX
JMS (JBOSS et al)	UDDI	Fixed Width
IBM WebSphere MQ	Web Services	HL7
JBoss MQ	WebSphere RR	IATA
SAP IDoc, BAPI, RFC & XI/PI	WSDL	Java Objects
Software AG's IB & IS		MIME
Solace		OAG
Sonic MQ		SOAP
FIX		Software AG Broker Docs
TCP	**Other Technologies**	SWIFT
TIBCO Rendezvous, Smart Sockets & EMS		TIBCO ActiveEnterprise
Custom	BPM	XML (DTD, XSD, WSDL)
	Databases	Custom
	Log Files	
	GUI	

© Green Hat

Functional Test Automation

Build and Send Payloads 1

Payload
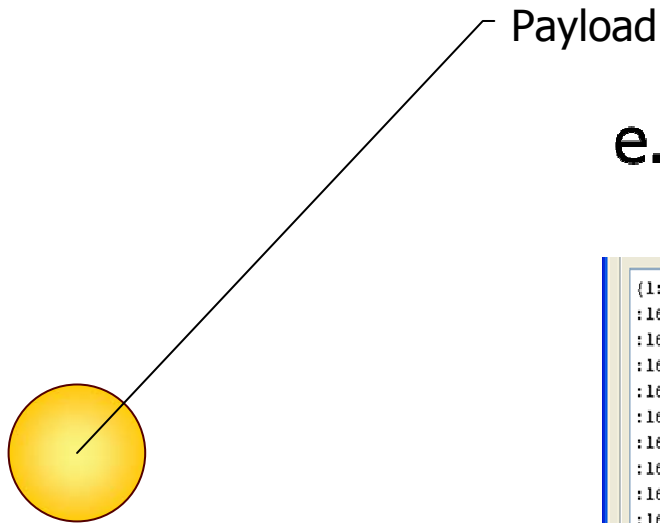
e.g. SWIFT, FIX, OFAC, Custom

```
{1:    XXXXXXXXXXXX0000}{2:I501         }{3:{103:}{113:}{108:}{119:}{115:}}{4:
:16R:GENL
:16R:LINK
:16S:LINK
:16S:GENL
:16R:REGDET
:16R:FIA
:16S:FIA
:16R:FIAC
:16S:FIAC
:16S:REGDET
:16R:CLTDET
:16R:ADDRESS
:16S:ADDRESS
:16R:PERSDET
:16S:PERSDET
:16S:CLTDET
:16R:CADETL
:16S:CADETL
:16R:ADDINFO
:16S:ADDINFO|
-}{5:{MAC:}{CHK:}{PDE:}{PDM:}{DLM:}}
```

Build and Send Payloads 2

Payload

Formatter

Build and Send Payloads 3

Payload

Formatter

Schema
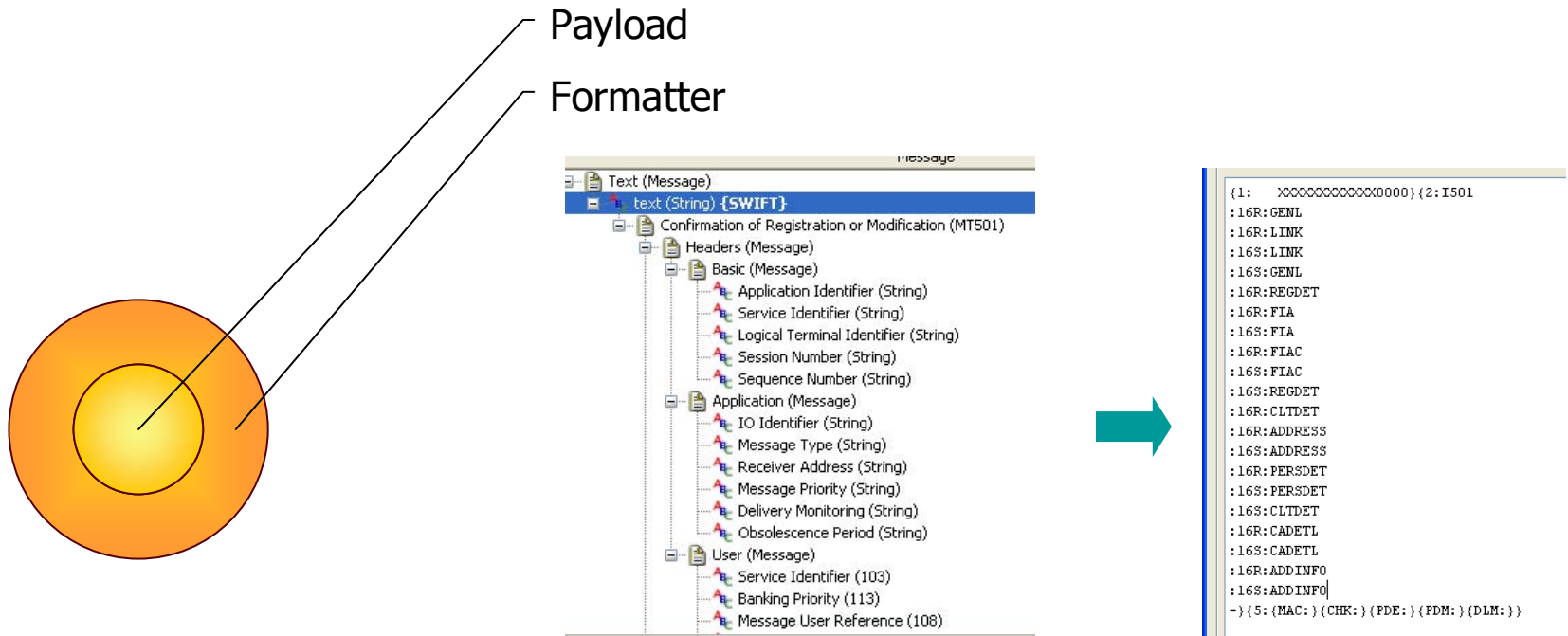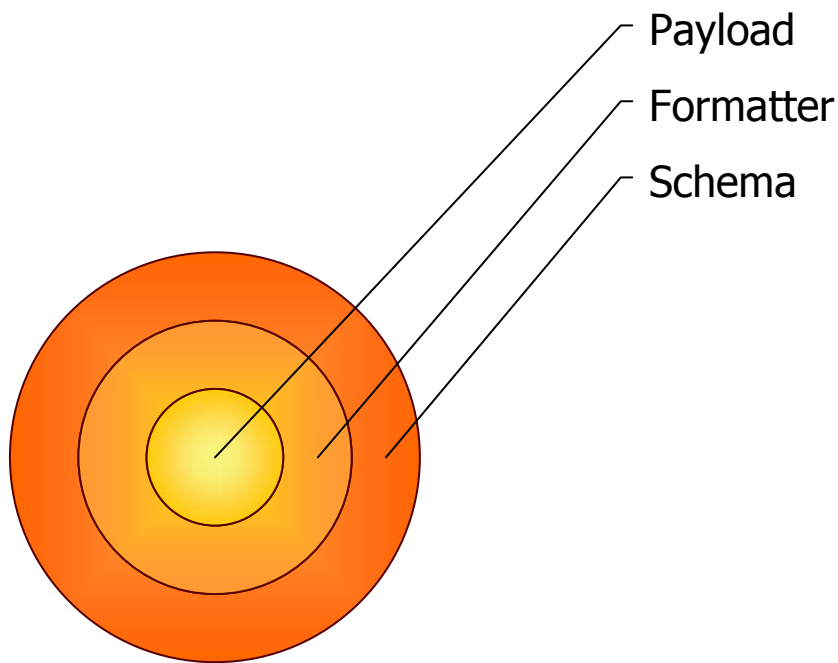
SOAP	XML
SWIFT	COBOL Copybook
DTD	XSD
WSDL	HL7
EDI	IATA
Text	MIME
Byte Array	Java Objects
OAG	SAP BAP/RFC
FIX	.Net Objects
TIBCO ActiveEnterprise	
webMethods IB and IS Documents	
Custom...	

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Build and Send Payloads 4
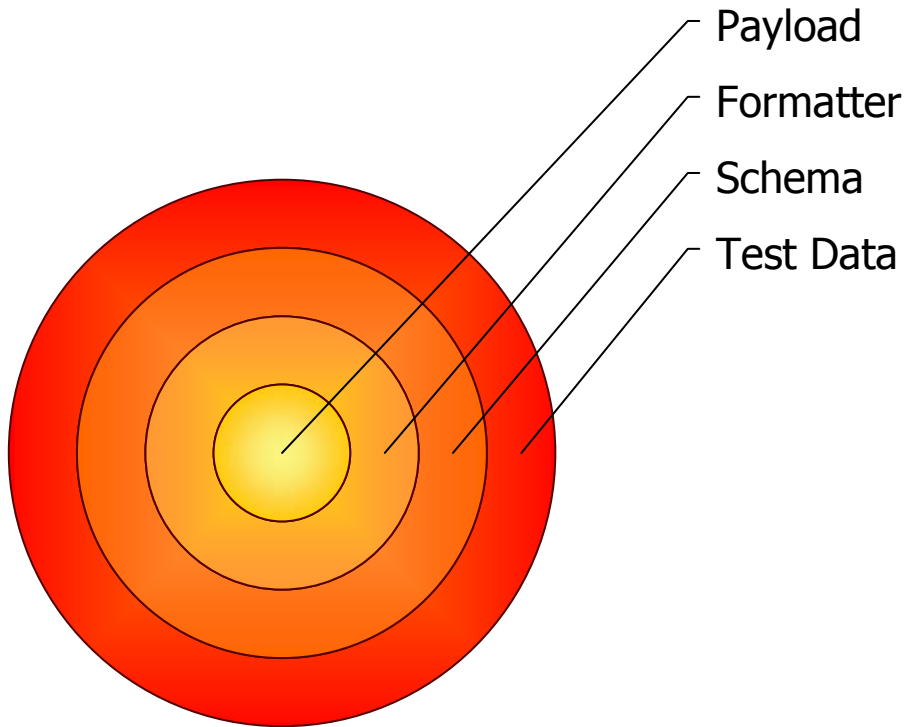
Payload

Formatter

Schema

Test Data

Build and Send Payloads 5

Payload

Formatter

Schema

Test Data

Transport
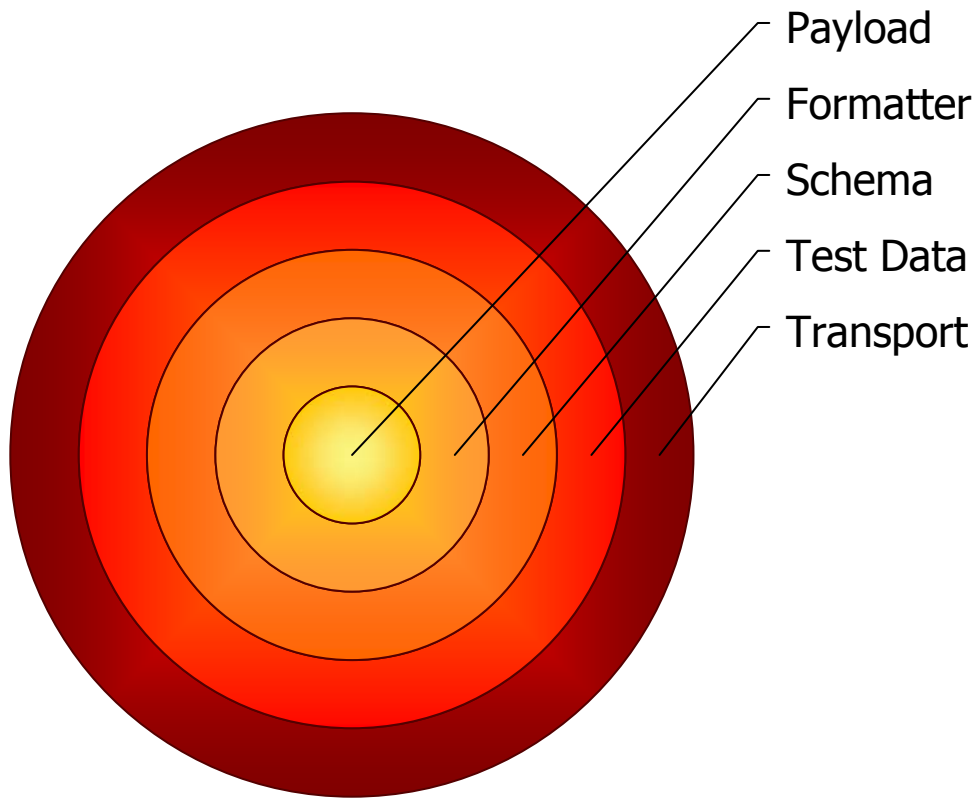
JMS	webMethods
HTTP/S	FTP
NDM	Oracle/BEA
JDBC	Sonic MQ
TCP/UDP	PL/SQL
Flat Files	Shell commands
TIBCO EMS	TIBCO iProcess
TIBCO Rendezvous	
IBM WebSphere MQ	
Custom Transports...	
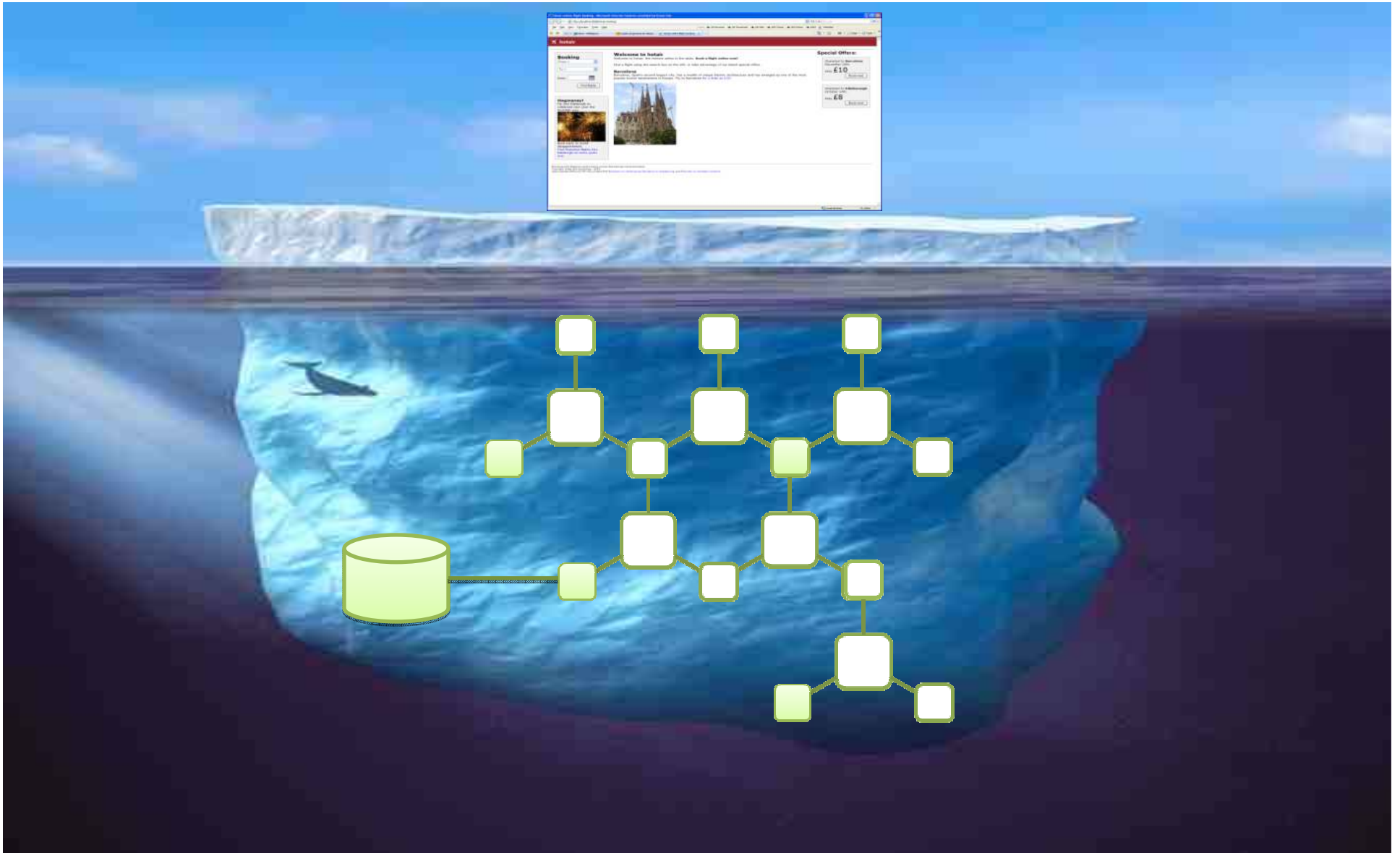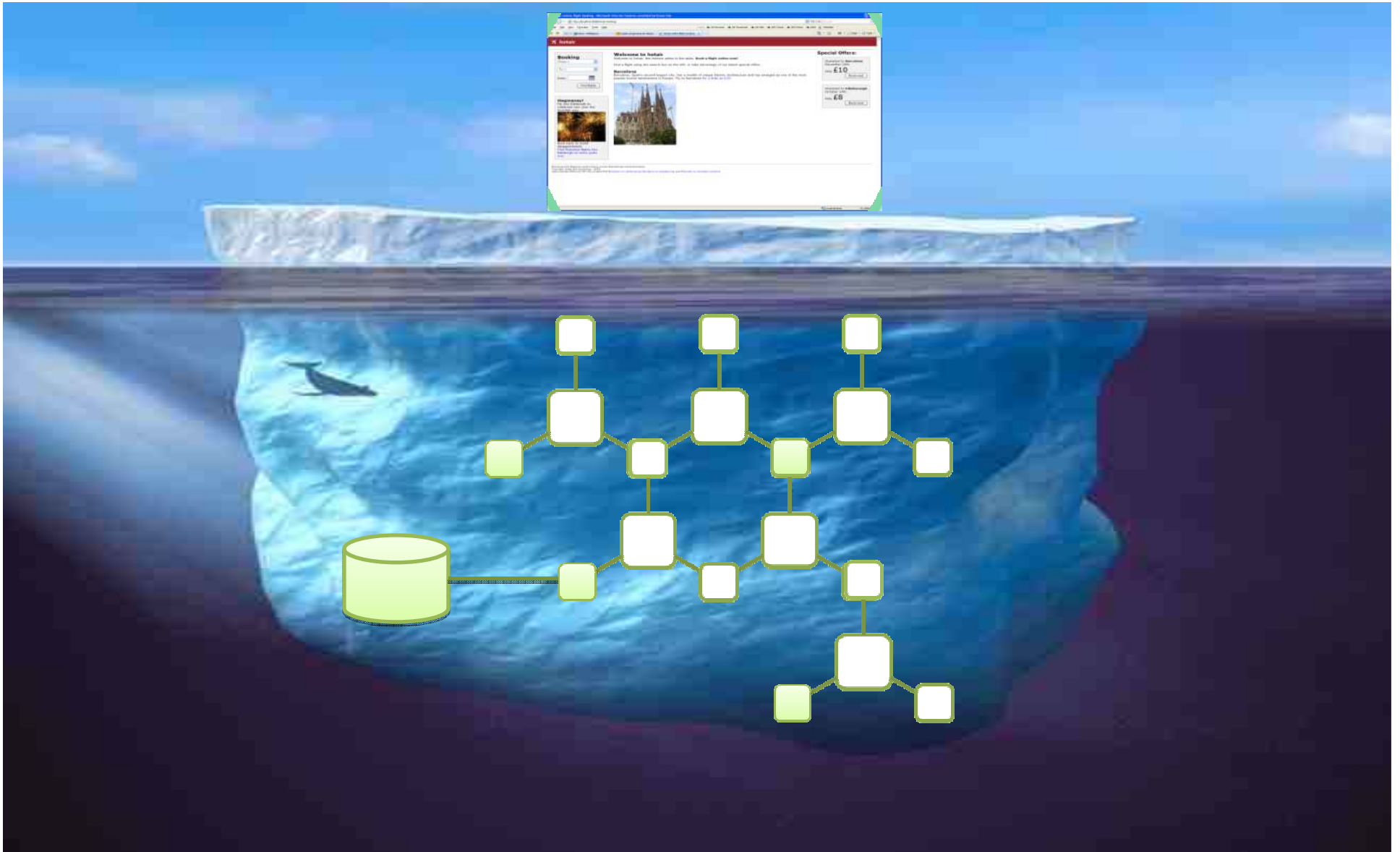
Functional testing
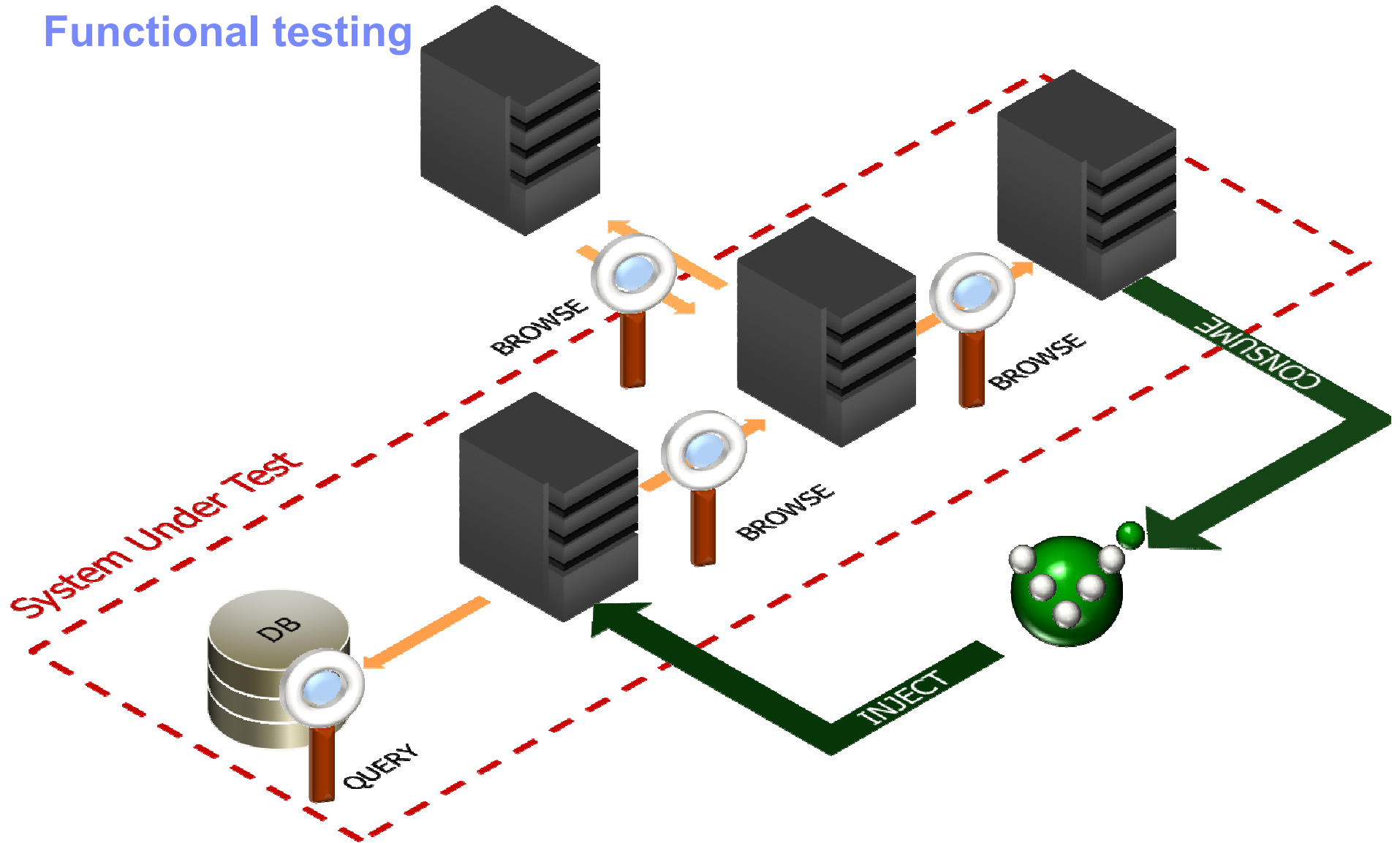
Simple Virtualization

Blockers for e2e testing

"Too costly to setup a test message feed for test"

"We're still waiting for them to deploy"

"We don't have anything to test against"

"The environment will be another 3 weeks"

"The dev team hasn't started work on it yet"

Stubbing

System Under Test

CONSUME

INJECT
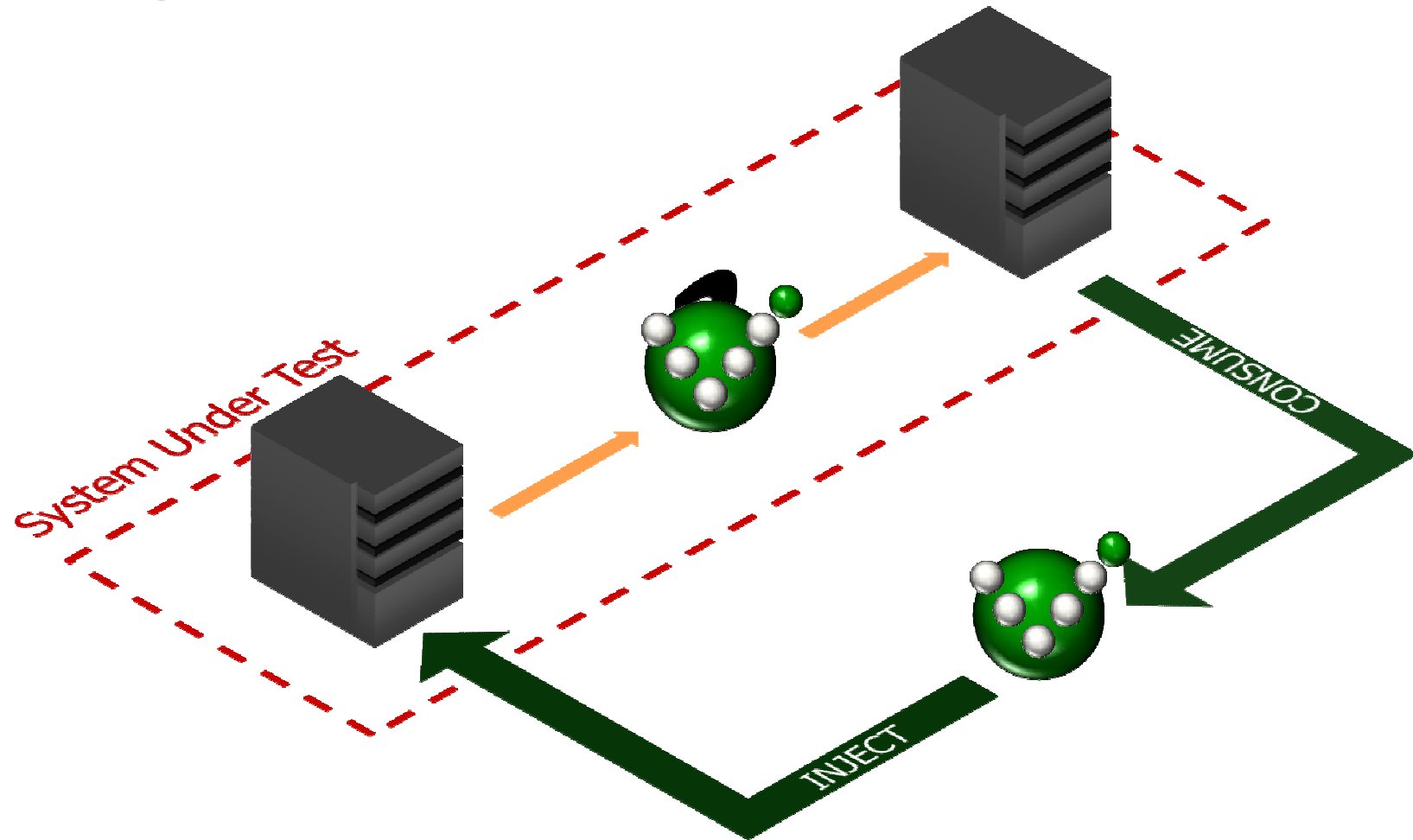
Units are introduced into the continuous integration cycle in a prioritised, controlled fashion.

Units not yet built can be simulated and tested against..

Actual Component

Simulated Component
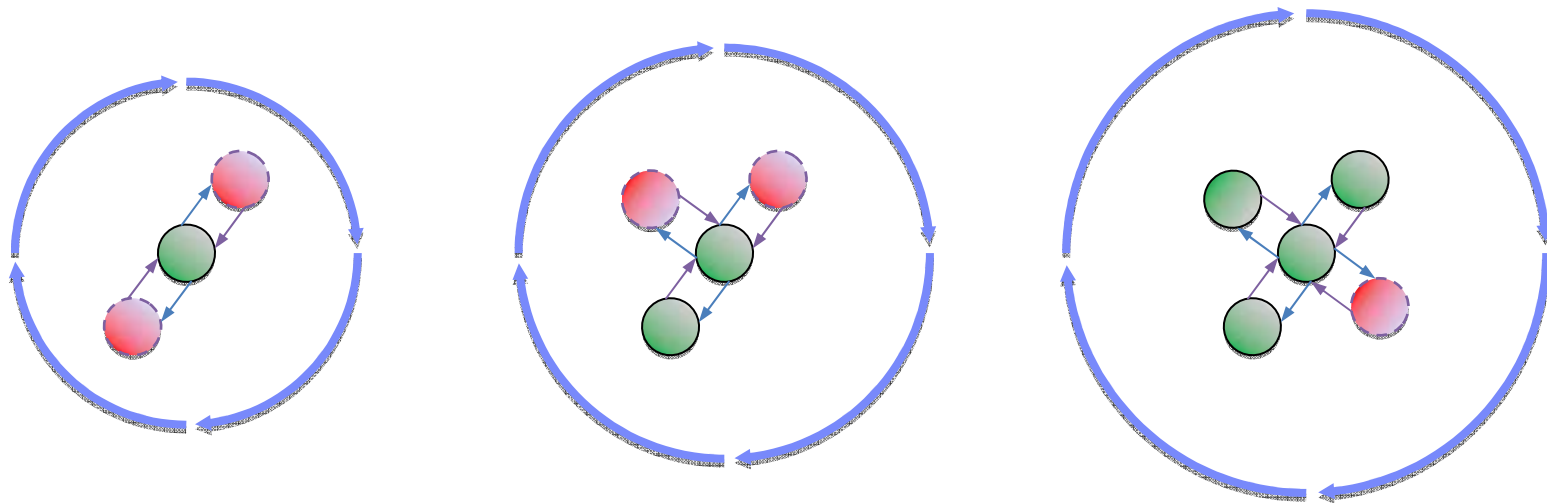
Incremental Integration Testing

Complex/Orchestrated Virtualization

What is VIE?

"VIE is a means of virtualising a complete application domain and dependent services that are understandable and can be built without relying on teams of developers for coding"

- Tools for capture/analysis of the business domain

- Tools for automated generation of virtual applications
  - Extensible & code free (Stateful, Stateless, Behavioural, Model Driven)

- Management interfaces to enable remote administration

- Repository to enable reuse and collaboration
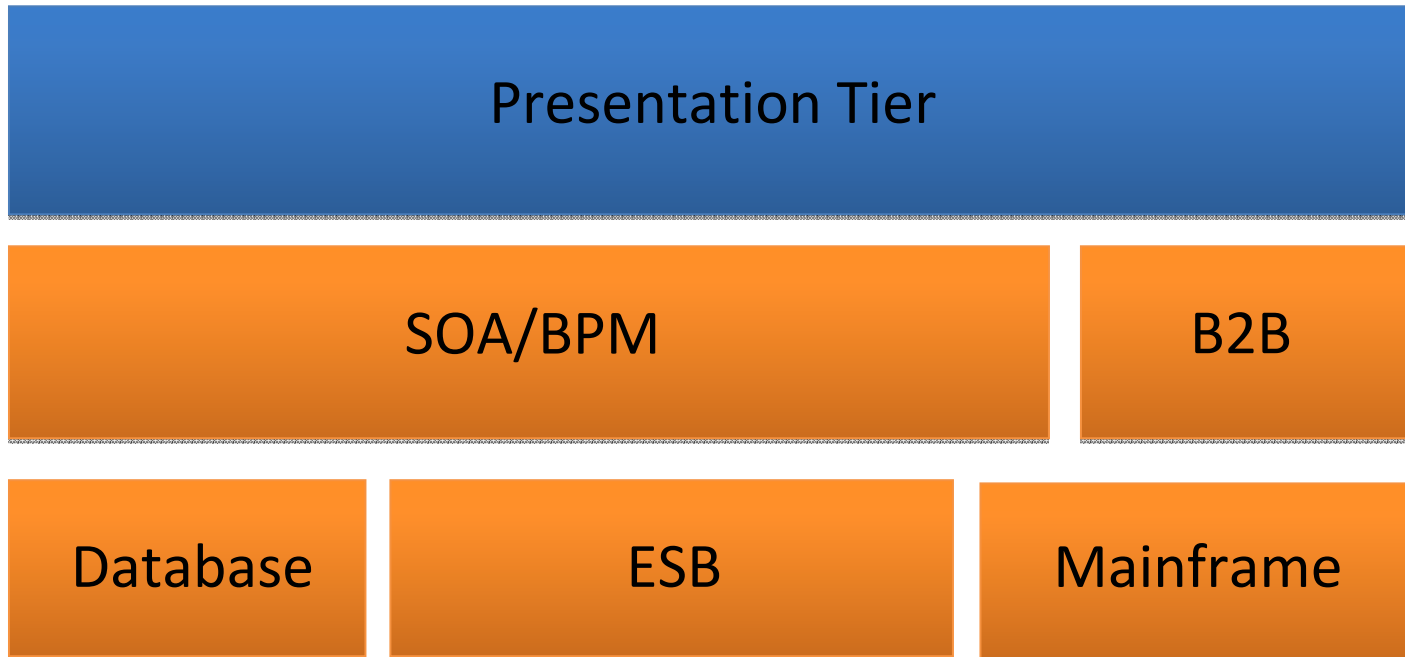
Presentation Tier

SOA/BPM

B2B

Database

ESB

Mainframe

- Virtualise entire set of applications
- Users unaware of virtualisation

Virtual Applications Evolve as Project Matures

Problem	How VIE Solves It
In a Green Field, no systems exist at the beginning	Virtual Applications and their models can be built from interface definitions and fleshed out with whatever logic is required
Inconsistent access to resources in non-Green Field projects	Virtual Applications can be built easily from recordings of working systems
Business partner has no test system	Virtual Application replaces business partner
Don't want to modify system to facilitate recording/stubbing	VIE has a battery of techniques to circumvent this problem
Need to model *intended* as well as existing functionality	Virtual Applications can be built in conjunction with business rules

VIE Benefits…

No need to modify application code	Variety of tools to enable creation of virtual service eg recording	Frees projects from external constraints eg databases
Simplifies management of Stub execution	Enables traceability over where stubs are running	Provides audit of who ran stubs and when
Enables simple versioning of stubs	Removes delays caused by late delivery of external interfaces	Speeds up development of stubs for testers and developers
Stubs can be reused and embellished to support different test cycles	Allows control over datasets being used across an environment	Enables erroneous data to be played back into systems
Removes the need for costly 3rd party interface leasing	Let's developers get on with developing code not stubs	Puts testers back in control and removes dependency on other teams
Easily simulate "+1" changes to interfaces and environments	Enables multi interface, complex and stateful simulation easily	**Limits risk and lowers integration issues when going into production**

In Simple Terms, if you remember nothing else!

- Greater change frequency requires more regular releases, which means more testing

- So more organizations interested in reducing the cost and complexity of testing, and testing earlier in the lifecycle

- This means doing integration testing earlier, when only some of the components are available

- It also means testing at a different layer, more API and service testing than traditional UI test automation

- The offerings acquired from Green Hat address this problem from two directions:

  – More testing means more environments and more dependencies. **GH VIE** addresses this problem by providing a new way to deal with test environment, creating lightweight virtual counterparts of the components the system under test connects to, allowing test environments to be smaller, faster, cheaper and in the control of the individual developer or tester

  – When it comes to testing at a different layer, **GH Tester** is a flexible, extensible tool with out-of-the-box support for dozens of different technologies used behind the UI in the modern enterprise, be it SOAP, JMS or obscure file formats from mainframes sent over MQ 15 years ago, the same users can test all of these technologies earlier than they would with other traditional products

Test virtualization capabilities from Green Hat extend IBM Application Lifecycle Management
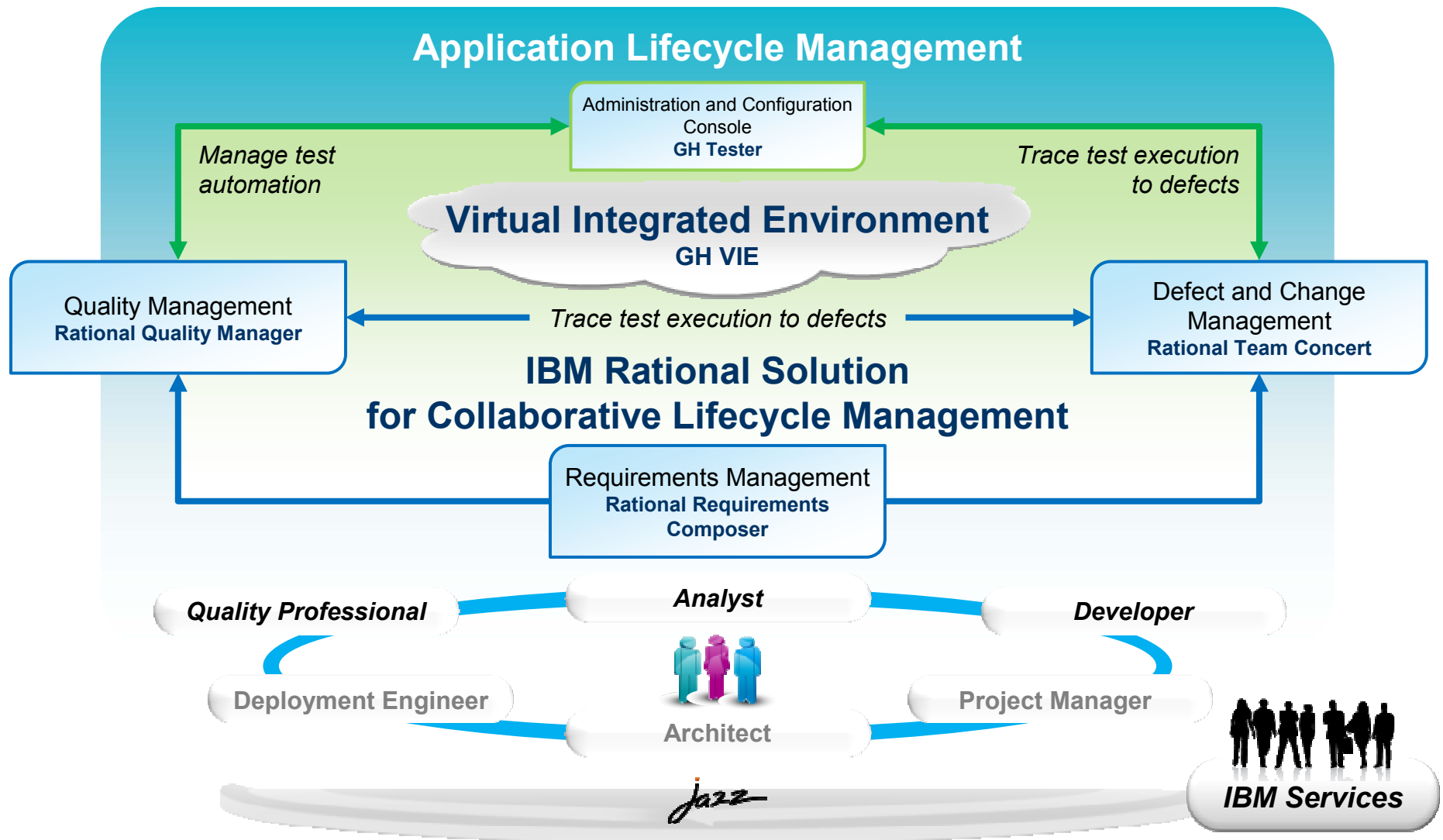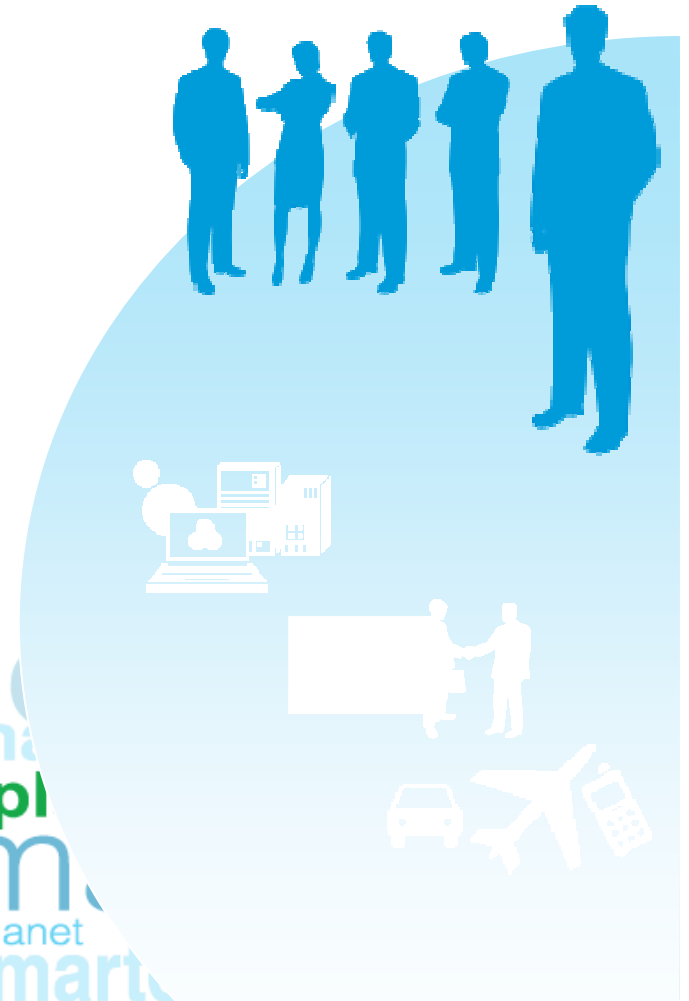
Application Lifecycle Management

Administration and Configuration Console
GH Tester

Manage test automation

Trace test execution to defects

Virtual Integrated Environment
GH VIE

Quality Management
Rational Quality Manager

Trace test execution to defects

Defect and Change Management
Rational Team Concert

IBM Rational Solution for Collaborative Lifecycle Management

Requirements Management
Rational Requirements Composer

Quality Professional

Analyst

Developer

Deployment Engineer

Architect

Project Manager

jazz

IBM Services

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Conclusion

Developing Software
Should
Be This Fun

Rational software

Da dove iniziare?

2009 Quality Achievements

✔ Verification best practices, recommendations and test methodologies model in place. Improvements in Testers participation in requirements and design phase, Test Planning, Documentation, Tracking, Execution, Closing, Best practices, Tooling, Automation, resolved test team issues

✔ Regular monthly meetings with Test leads and testers, to share tools, best practices, productivity and quality improvements. XXXXi Test Corner Wiki and Lotus Connections Community in place to share knowledge.

✔ Consultancy to test teams to drive systematic improvement in product and solution quality

✔ Interface with other XXXXX Verification organizations/teams (i.e. QSE, etc.) to identify and contribute to best practices/methodologies

✔ Established links with Rational Quality management products and planned workshop on RQM

✔ Participation in XXXXi Test Architect Board activities to work towards consistency and continued improvement across XXXXi test teams

✔ Ongoing coaching and monitoring to testers and test leads to support their professional development and career plans and to improve Quality

Measuring success

- Operational metrics
  - Show progress of implementation
- Business impact metrics
  - Show value of test automation
  - Defect arrival rates over time
  - Number of times a test case is executed before it passes
  - Time spent on execution of tests and analysis of results
  - Defects found by customers
  - % of test cases automated
  - % of time spent on test execution and analysis
  - Number of runs of a test suite
  - Number of environments covered per iteration
  - Number of assets contributed for reuse and reused

Next Steps – Learn and Explore

- **ibm.com/rational**
  - ▸ Full Product Information
  - ▸ Product demonstrations
  - ▸ Product datasheets

- **ibm.com/developerWorks**
  - ▸ Download Evaluation Software
  - ▸ User Forums
  - ▸ Product tutorials
  - ▸ Tech Notes, etc…

Additional resources

- Find out more about Rational Quality Manager

  - **http://www.ibm.com/software/awdtools/rqm/**

- Download the Rational Quality Manager Trial

  - **Rational Quality Manager Trial on DeveloperWorks**

- Learning resources - Webcasts/Telcons/Podcasts.

  - **Ensuring Lifecycle Quality through RQM integration capabilities**

  - **Reduce the Cost of Quality Solution Sheet**

  - **Quality Driven Software Delivery**

- Blog with us
  - **Rational Quality Manager Blog**
  - **Rational Tester Blog**

- Facebook - **Rational Quality Manager**

- Twitter - **The Rational Tester**

- Videos and quick demos (IBM TV, YouTube)

  - **Rational Quality Manager in Three Minutes**

  - **IBM Rational Collaborative ALM Demo**

  - **Rational Quality Manager Common Reporting**

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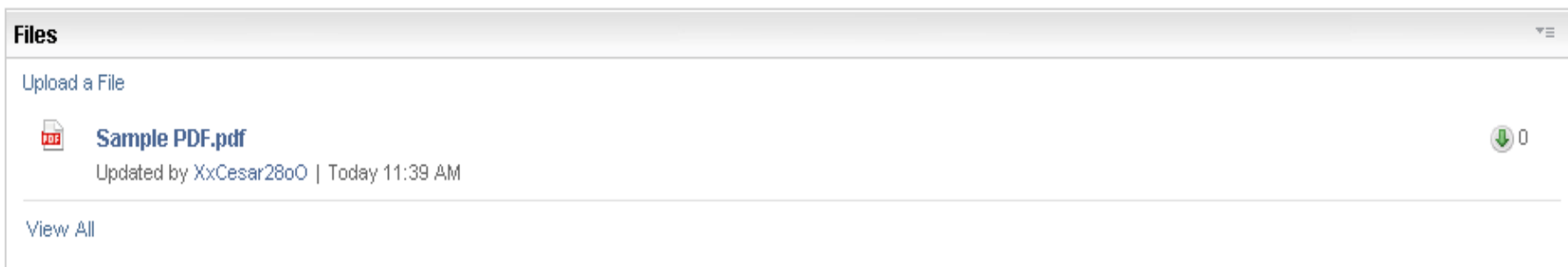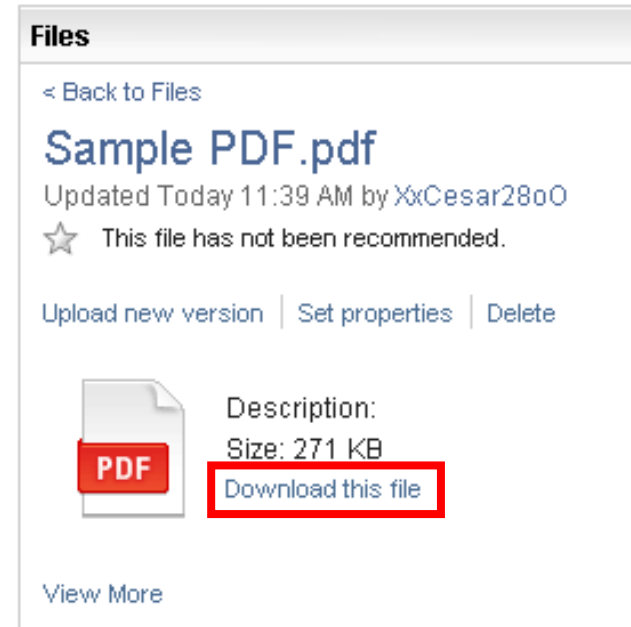
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