

Innovate2011

The Rational Software Conference

11th and 12th of October

Let's **build** a smarter planet.



Reporting Solutions : Jazz Products and Beyond

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IBM Rational Technical Consultants

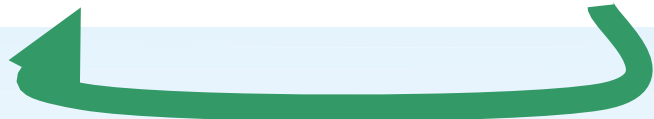
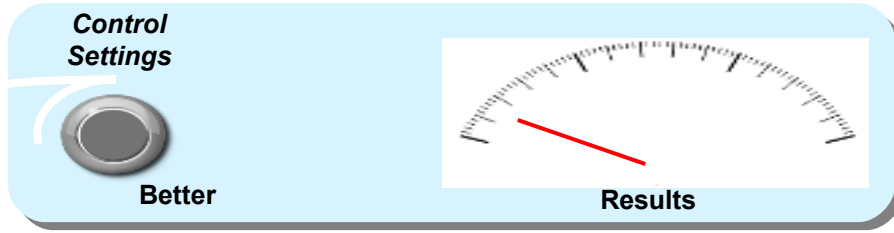


Agenda

- The Evolution of Rational Reporting
- Scenarios for Reporting
 - Information Presentation
 - Document Generation
- Demonstration of Information Presentation



You can't manage, what you can't measure!



Quantity of Data

Quality of Data

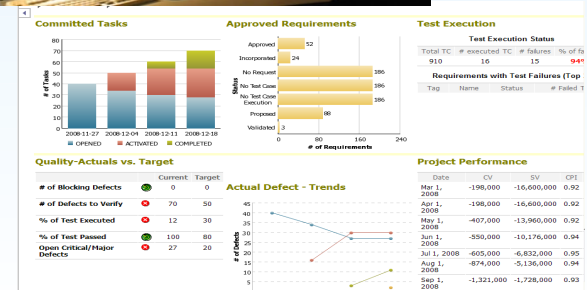
Time Delay

Non-Intrusive

Stable

You cannot IMPROVE what you cannot MANAGE!

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Problems and Implications



*“2/3 of executives make more than half of their decisions based on **‘gut feel’** rather than verifiable information”*



*“77% of managers are aware of **bad decisions** made due to lack of access to accurate information”*



*“Poor decisions have generated **revenue 75% or more below expectations**”*

**Lack of timely information
and in-context insight**

*Disparate data sources,
formats, and definitions*

*Lack of relevant, timely
actionable information*

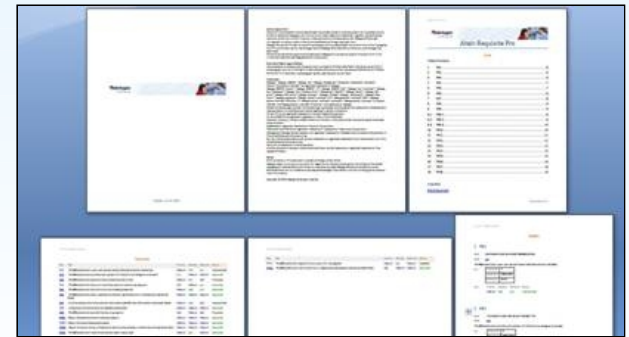
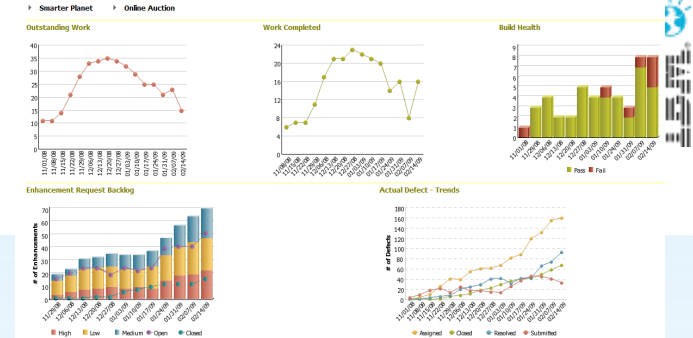
*Inability to baseline and
benchmark*

*Inability to measure and
assess unobtrusively*



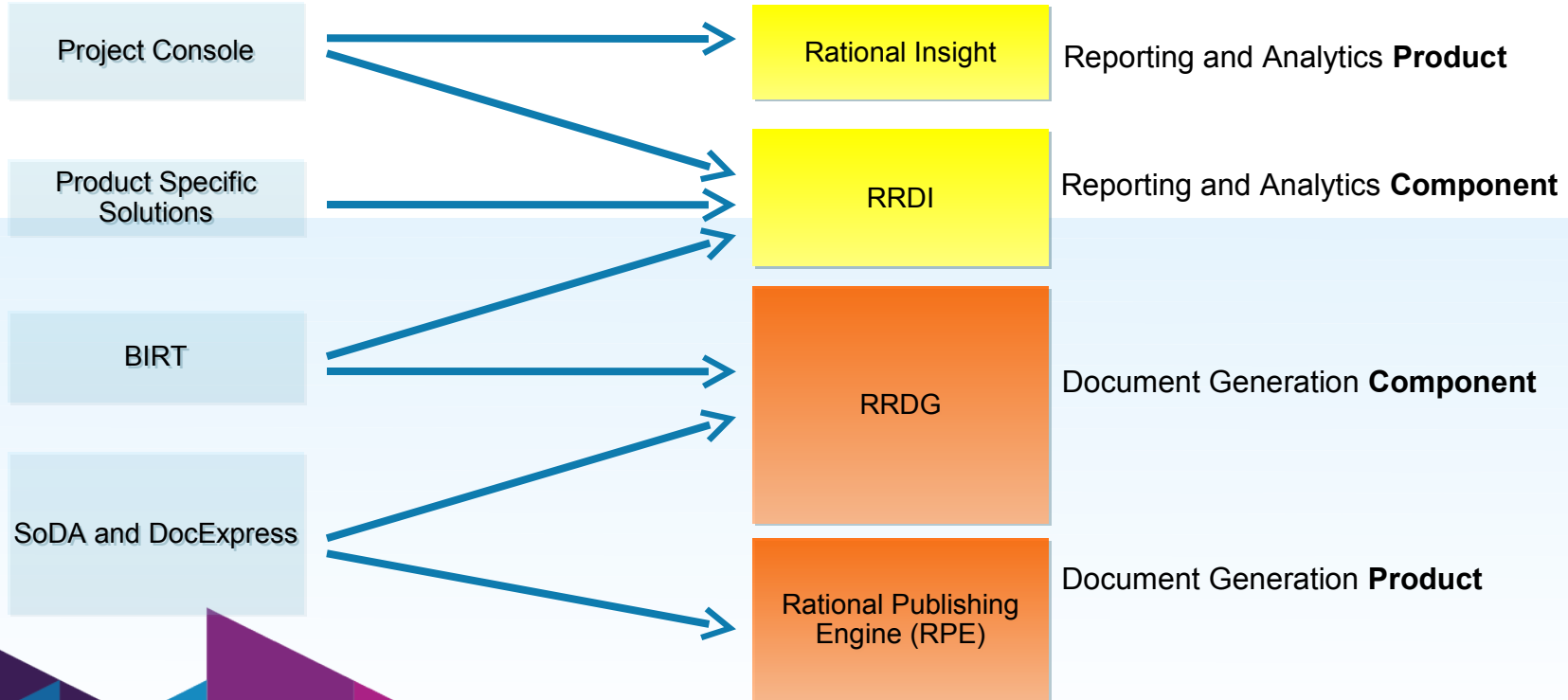
What is reporting?

- Two broad categories of information presentation that are important for software and systems development:
- Development Intelligence: charts and dashboards used as decision support tools
- Document Generation: documents used as deliverable artifacts
- Both domains produce multiple output formats, e.g. MS Office, PDF, HTML, XML, CSV



The Evolution of Rational Reporting

Past / Present> Present / Future



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Capability Map in CLM Reporting 2011



	Viewing Reports			Authoring New Reports (or customizing existing reports)		
	RTC	RQM	RRC	RTC	RQM	RRC
Development Intelligence Style Reports (BIRT)	Within RTC	Within RQM	Not available	Use BIRT Report Designer ²	Not supported	Not available
Development Intelligence Style Reports (RRDI)	Within RTC	Within RQM	Within Rational Reporting Server	Within Rational Reporting Server	Within Rational Reporting Server	Within Rational Reporting Server
Document Style Reports (RRDG)	Use Standalone RPE ¹	Use Standalone RPE ¹	Within RRC	Use Standalone RPE ¹	Use Standalone RPE ¹	Use Standalone RPE ¹

 Capabilities available within CLM application UI

1. Current limitation: requires RPE (Rational Publishing Engine) License
2. BIRT Report Designer is not supplied with CLM 2011.

Which Reporting Solution Should I Use ?



- **Out of the box (BIRT, RRDG)**

- Pre-defined reports and documents
- Some are traceability reports
- No additional installation required

- **Custom reports (RRDI)**

- Samples provided
- Cognos-based authoring solution
- Fixed data model and data collection jobs
- Additional installation

- **Custom documents (RPE)**

- Separate purchase of RPE to author these

- **Rational Insight**

- Cross-product reporting/rollup (multiple instances of CLM)
- Integration with other applications
- Customization of the warehouse schema and reporting model
- Customization of the data collection jobs (ETLs)

Jazz Based Products : Don't Forget Dashboards



The screenshot shows the IBM Jazz web interface for the 'UK Innovate 2011' project. The top navigation bar includes 'Project Dashboards', 'Work Items', 'Plans', 'Source Control', 'Builds', and 'Reports'. The user 'Mark Roberts' is logged in. The main content area is titled 'UK Innovate 2011' and features several tabs: 'General', 'Information', 'Progress Tracking', and 'Day 2 and Ad-Hoc Tasks'. The 'Day 2 and Ad-Hoc Tasks' tab is active, displaying a grid of work item panels. Each panel shows a list of tasks with status indicators (checkmarks) and titles. For example, one panel lists tasks like '2187: D2S01 : Rational Focal Point for IT, Product and Application Portfolio Management'. Another panel shows 'Open tasks for Day Two sessions (1)' with task '2216: Marketing - materials setup and ready'. A third panel shows 'Open tasks without parents (18)' with tasks like '2572: [Joining a Team] Set Up Instant Messaging'. A fourth panel shows 'Open tasks by owner (6) Owned By' with a horizontal bar chart for Gwen Thomas, Brad Middleton, Adrian Daniels, and Vijay Patel. The bottom left corner features the IBM logo, and the bottom right corner has the 'Jazz' logo.

Agenda

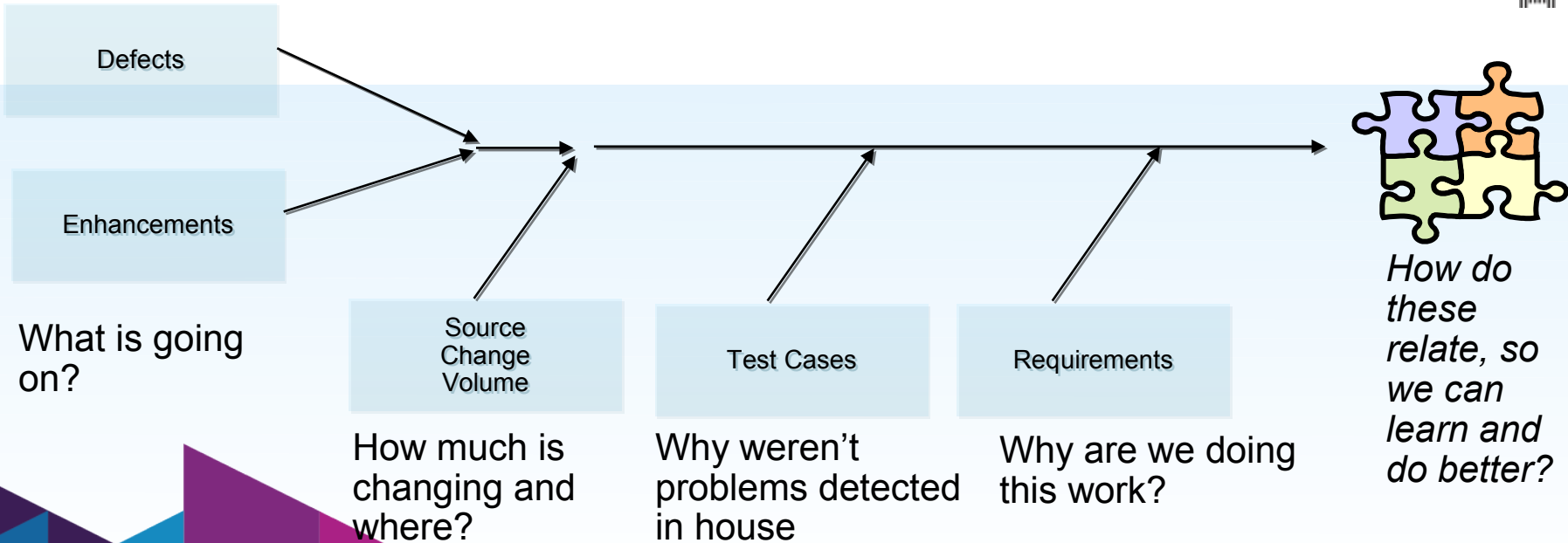


- The Evolution of Rational Reporting
- Scenarios for Reporting
 - Information – CLM Reporting : **RRDI**
 - Document – Various Rational Tools : RRDG and RPE
 - Information – Disparate Data Sources : Insight
- Demonstration of Information Presentation with RRDI

RRDI Goal: Address Issues Like This



Why are we getting so many defects from customers in one specific area? What is going on? Why weren't defects caught in-house? How should our process change so we can do better?



Rational Reporting for Development Intelligence : RRD



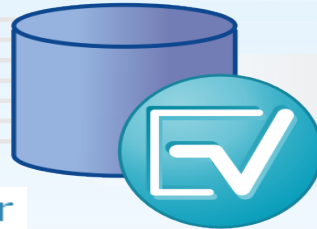
Rational Team Concert



Rational Quality Manager



Rational Requirements Composer



Senior Management



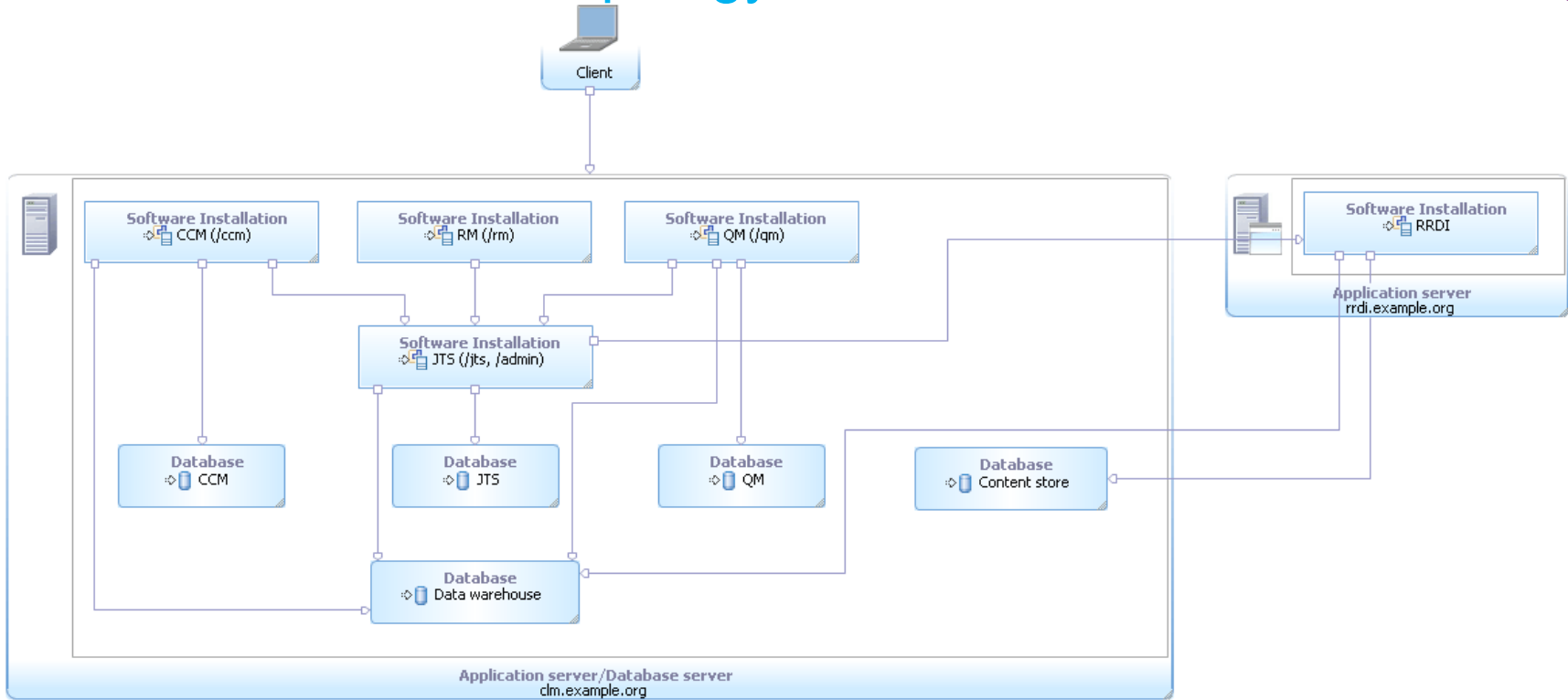
Test Lead



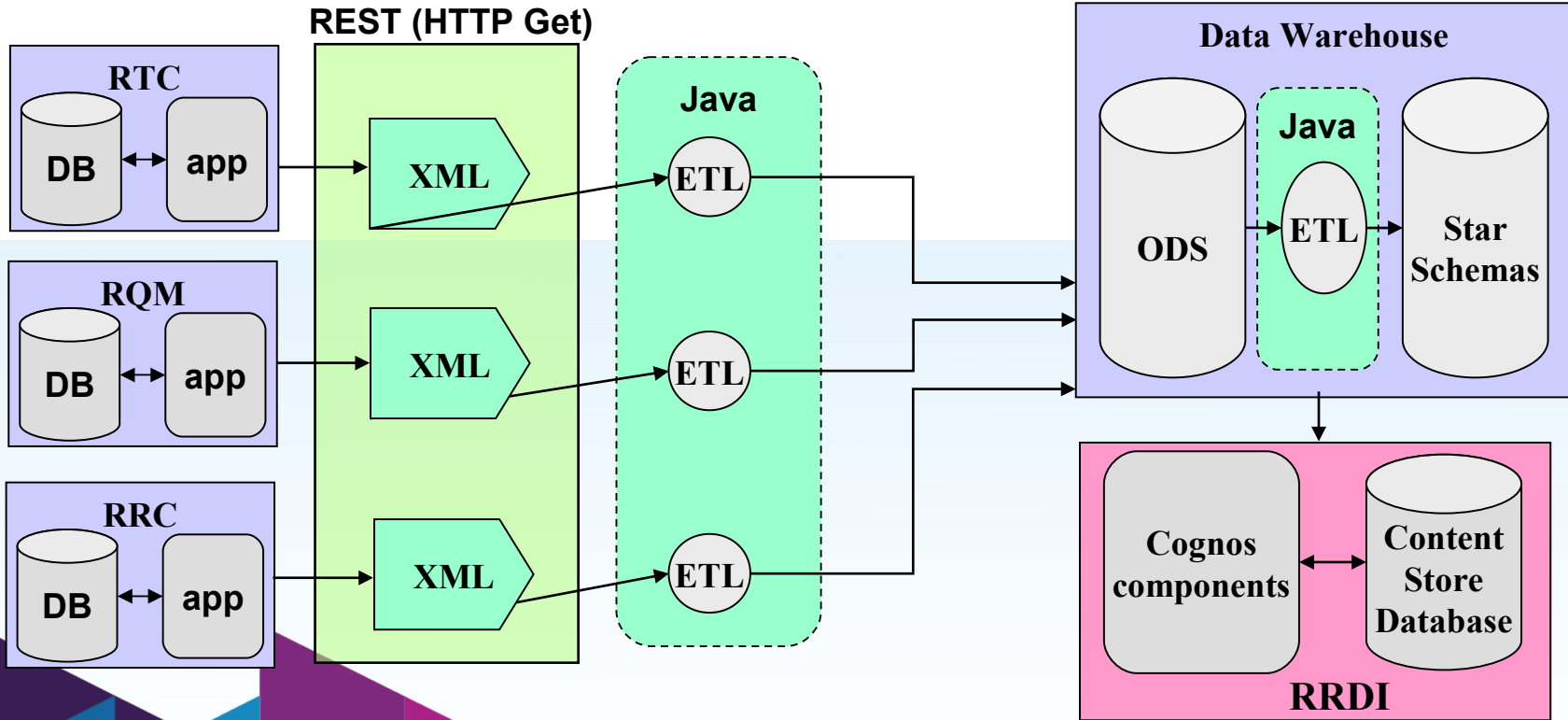
Test Manager



RRDI : Installation Topology



Extraction and Database Population



Report Authoring : Query Studio



- Used for quick, informal reports
- Generally usable with little training
- Provides “ad hoc” query capability
- Construct with Drag/Drop
- Tabular reports: sorting, grouping, filtering, etc
- Convert to chart: multiple chart types
- Save report for use or open in Report Studio

The screenshot displays the Rational Report Server Query Studio interface. The title bar reads 'Rational Report Server' and 'IBM Cognos 8 BI Query Studio - New'. The interface includes a menu bar with options like 'Insert Data', 'Edit Data', 'Change Layout', 'Run Report', and 'Manage File'. A toolbar contains various icons for file operations and formatting. A left-hand pane shows a tree view of report components, including 'Request Closure Metrics with Requirement', 'Request Closure Metrics with Test Plan', 'Request Creation Metrics', and 'Request Creation Metrics' with sub-items like 'Actual Duration', 'Arrival', 'Planned Duration', 'Story Points', 'REQDT_METRIC_ID', and 'Last Updated'. The main area shows a report titled 'Request Arrivals by Status' with a table of data. The table has columns for 'Request Status', 'Project', and 'Arrival'. The data is grouped by 'Request Status' into 'Open' and 'InProgress' sections. The 'Open' section has a total of 24 requests, and the 'InProgress' section has a total of 290 requests.

Request Status	Project	Arrival	
Open	DP&A PMC	18	
	Jazz Collaborative ALM	657	
	Jazz Collaborative ALM	2	
	Jazz Foundation	6,984	
	Jazz Foundation	8	
	Jazz Support (Private)	241	
	Jazz TP (Private)	17	
	PMC (Private)	437	
	Rational AMC	7	
	Rational Customer Flexibility Program	54	
Open	Rational Team Concert	12,288	
	Rational Team Concert	19	
	Rational Team Concert Client for Visual Studio (Private)	62	
	RTC_CRM (Private)	24	
	Open	24	
	InProgress	Jazz Collaborative ALM	153
		Jazz Foundation	211
		Jazz Support (Private)	197
		PMC (Private)	31
		Rational Customer Flexibility Program	3
Rational Team Concert		290	

Report Authoring : Report Studio



- Used to develop professional reports
- Generally used by Report Authors
- Very extensive web based report authoring capabilities

The screenshot displays the Report Studio application window. On the left, the 'Insertable Objects' pane shows a tree view of report components such as 'Request Creation Metrics', 'Actual Duration', 'Arrival', 'Planned Duration', 'Story Points', 'REQOT_METRIC_ID', and 'Last Updated'. Below this is the 'Properties' pane for a 'Combination Chart', showing settings for 'Conditional', 'Data', and 'General' sections.

The main design area shows a report layout with the following sections:

- Defect Arrival Rate**: A section header.
- Parameters**: A section containing two dropdown menus for 'Program' and 'Project', both currently set to '< HTML Item >'.
- Number of Defects**: A section containing a chart and a series list.
 - Default measure (y-axis)**: A line chart titled '<Defect Arrival> Number of Defects'. The y-axis ranges from 0 to n. The x-axis has four categories labeled 'abc'. The chart shows two data series: one with red square markers and one with blue square markers.
 - Series**: A list of series including '<#Severity#> Severity' and 'Severity'.
 - Categories (x-axis)**: A list of categories including '<Arrival Date> Arrival Date'.
- About This Report**: A text box containing the following text: "This report shows the frequency of new defect submissions over time, broken down by Severity. General upwards earlier in the project and then should start sloping downwards as the project nears completion. T lines should show this trend or the project is not stabilizing."

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What does RPE/RRDG do?



Creates documents

- Requirements documents
- System documentation
- Traceability documents across multiple domains (RM, QM, CM)

Can answer questions like “what requirements do not have test cases validating them” *but* it’s better to use to create documents listing requirements and their associated test cases.

Works with live data

Formatting

- Enforce company formats
- Produce standard compliant documents (MIL-STD etc)

Example document (RequisitePro)



Requirements Document

Req	Text	Priority	Difficulty	Stability	Status
PR1	The QBS system shall, upon user request, display detailed customer information	Medium	Low	High	Incorporated
PR2	The QBS system shall provide a loan officer with the ability to manage all auto loans.	Low	Medium	Medium	Approved
PR3	The QBS system shall calculate the blue book value for autos.	Medium	High	Low	Proposed
PR4	The QBS system shall allow only maintenance of current savings accounts.	High	Low	Medium	Approved
PR5	The QBS system shall maintain all current checking accounts.	Medium	Low	High	Approved
PR6	The QBS system shall allow updates to customer information only in the Customer Information Screen.	Medium	Medium	Medium	Approved
PR7	All other screens shall have customer information updated from the Customer Information Screen.	Medium	High	High	Incorporated
PR8	All balance information shall be updated systematically	Medium	Medium	Medium	Approved
PR9	The QBS system shall provide the following reports:	High	High	Medium	Proposed
PR9.1	Report: Complete customer history per account.	Medium	Medium	Medium	Approved
PR9.2	Report: Customer demographic report.	Medium	Medium	Medium	Approved
PR9.3	Report: Customer listing with options to sort by name, company, interest rate, and origination date.	Medium	Medium	Medium	Approved
PR10	The QBS system shall track the last date a report was printed.	Medium	Medium	Low	Approved
PR11	Each user shall have a unique login and associated password.	Medium	Medium	High	Approved
PR12	Security implementation shall prevent the user from seeing inappropriate menu selections.	Medium	Low	Medium	Validated
PR13	The QBS system shall offer a comprehensive on-line help system	High	Medium	High	Approved

Example Document (DOORS)



2.1.1.13 Terrain

ShR_238 The user shall be able to travel on standard paved (asphalt/tar blacktop) roads.

2.1.1.14 Refueling

ShR_241 The user shall be able to refuel the vehicle at any standard refueling station.

ShR_242 The user shall have a 95% chance of obtaining fuel within 30 kilometers of any position in the predicted sale area.

2.1.1.15 Carrying Capacity

2.1.1.15.1 *Number of people*

ShR_149 Four average size adults shall be able to travel in comfort for a period of 4 hours. This level of comfort is defined as being equivalent to the standard of comfort provided by the top 30% of cars produced in 2006.

ShR_150 Five average size adults shall be able to travel in comfort for a period of 4 hours.

ShR_151 Two average size adults and 3 average size children shall be able to travel in comfort for a period of 3 hours. This could be accomplished with a three seat arrangement.

ShR_152 Users shall have easy entry and exit.



Example Document (Rhapsody)

Software Development Lifecycle Report
HybridSUV

Rational software

4 HybridSUVHybridSUV 4.1 Package HSUVTopLevelUseCases

UseCaseDiagram HSUV Top Level Use Cases
Use Case Diagrams
HSUV Top Level Use Cases



Contained elements:

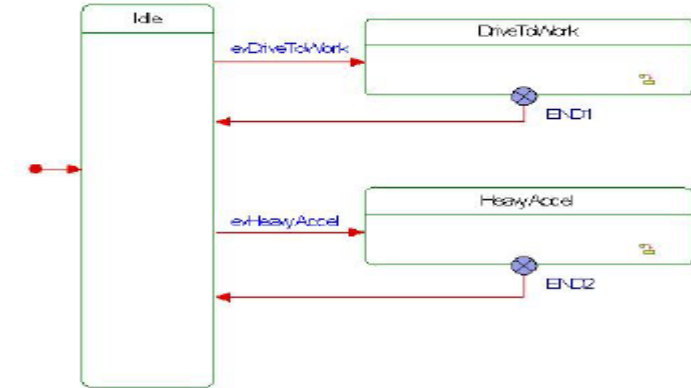
Element name	Element type
Driver	Actor
RegisteredOwner	Actor
Maintainer	Actor
InsuranceCompany	Actor

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Einar Karlisen

Software Development Lifecycle Report
HybridSUV

Rational software



States

Idle

Description:

Action on entry:

Action on exit:

Incoming Transitions:

From	To	Trigger	Guard	Action
	Idle			

Key traits

Coherent

- Same concepts used for all data sources, no 1-1 integrations
- Same concepts used for all output formats, no special blocks for different output
- Separates data from formatting

Self contained

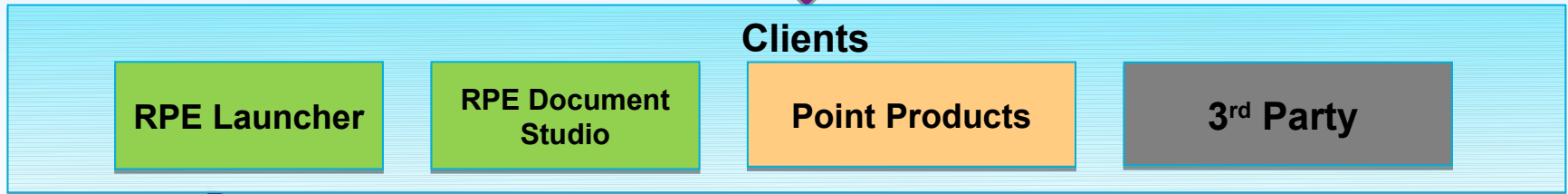
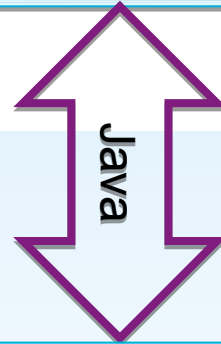
- Platform, data source and output format independent
- Does not require Microsoft Word or any other 3rd party tools installed for output
 - Can use 3rd party tools if installed for pre-processing the input or post-processing the output

Non-intrusive

- No changes made to the data sources
 - Read-only mode



Architecture



Artifacts

Input

- Document Templates
 - Created with Document Studio
 - Can use 1 or more data sources
 - Can define variables
 - Depends on data schema not concrete data
- Document Specifications (runtime configuration)
 - Created with RPE Launcher or programmatically through RRDG's Java API
 - Can refer 1 or more templates
 - Specify concrete data sources for the templates
 - Specify variable values for the templates
 - Specify output formats

- Style sheets
 - static content, formatting
- Data (XML)
 - filesystem
 - URLs (HTTP/HTTPS)

Output

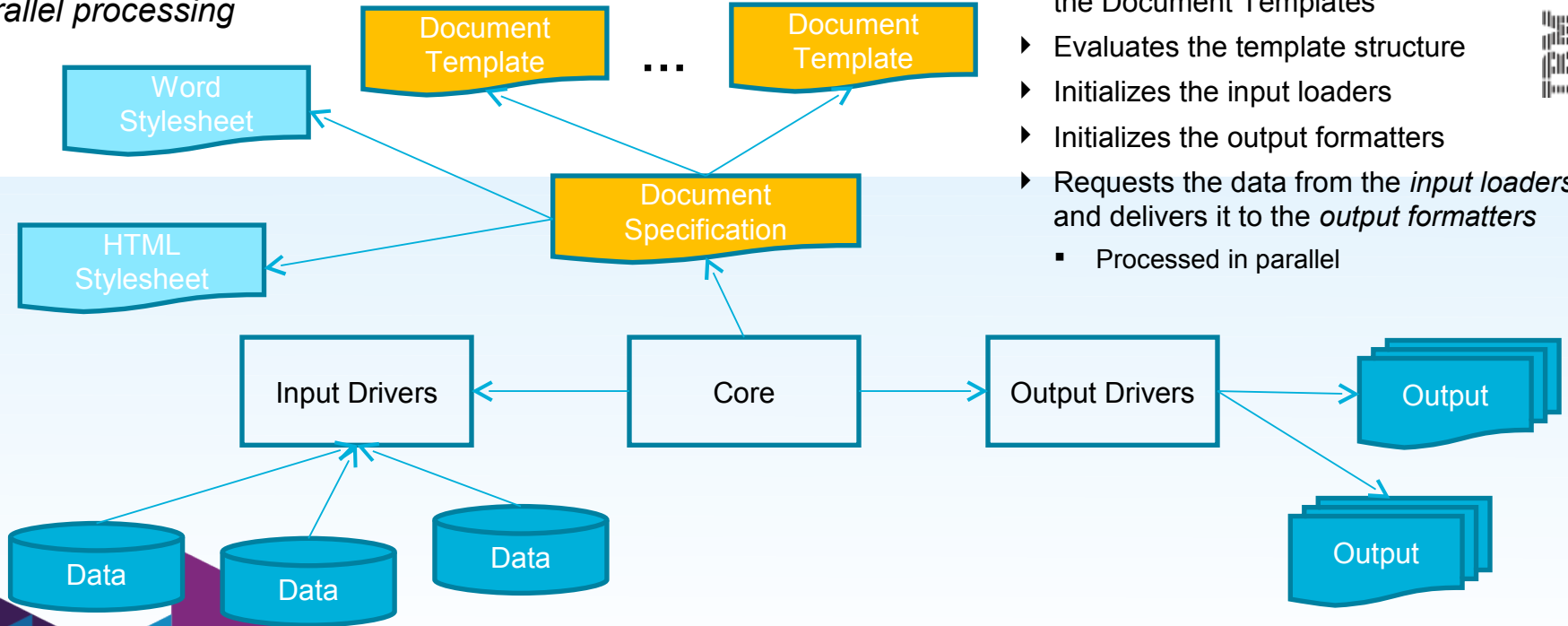
- Documents
 - Word 2003-2007, PDF, HTML, XSL-FO



Workflow

Template driven

Parallel processing



- Core

- ▶ Loads the Document Specification and the Document Templates
- ▶ Evaluates the template structure
- ▶ Initializes the input loaders
- ▶ Initializes the output formatters
- ▶ Requests the data from the *input loaders* and delivers it to the *output formatters*
 - Processed in parallel



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Collaboration Across a Disparate Environment



Portfolio Management

Project Management

Requirements Management

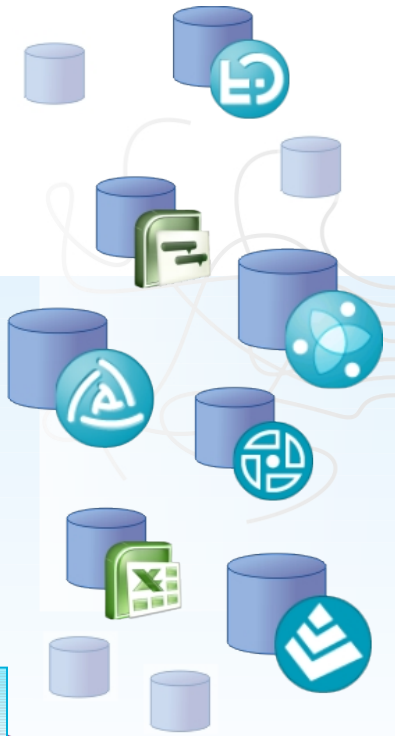
Architecture Management

Configuration Management

Change Management

Build Management

Quality Management



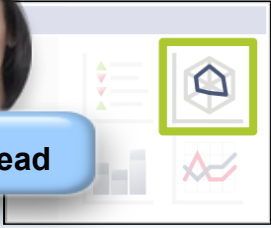
Rational
Insight



CxO



Process Lead

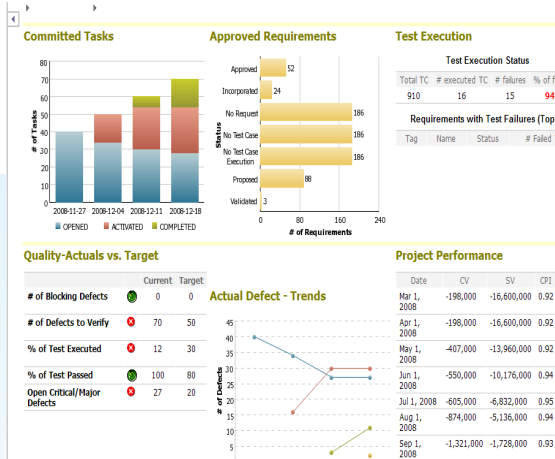


Project Manager

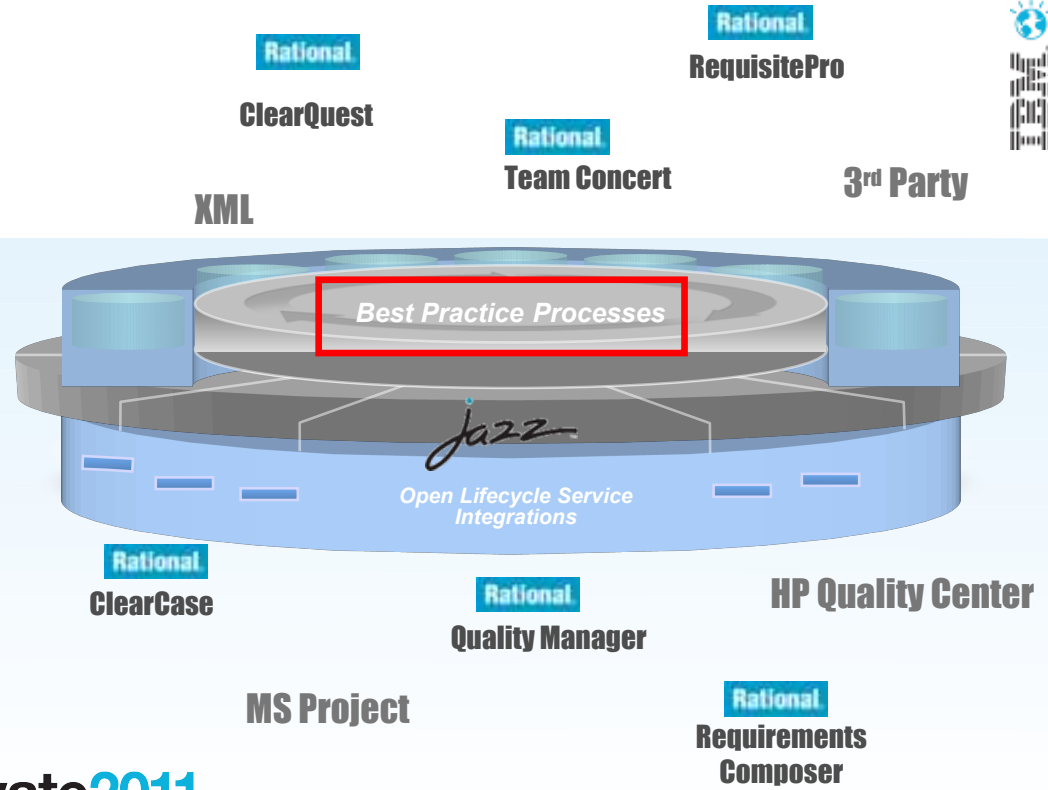


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Insight : Single View of the Truth



Single View into Your Organizational Performance



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