IBM Rational Software Conference 2009

Introduction to Performance Measurement with IBM Rational Insight

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Rational. software

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Businesses are facing an unparalleled rate of change

Manage business transformations

Enable business flexibility

Differentiate products

Exploit globalization

React to market shifts

Manage regulatory mandates

Deliver real customer innovation

***Successful businesses** will use software to drive innovation and competitive differentiation*

Challenges to the effective delivery of software

A history of cost overruns, schedule slips and quality issues

*"**34%** of software projects are deemed successful costing $300B annually"*

*"**49%** of budgets suffer overruns and **62%** fail to meet their scheduled"*

*"Only **22%** of executives felt that their IT and business strategy were tightly integrated"*

*"**50%** of outsourced projects are expected to under perform"*

***30%** of project costs are due to rework and poor execution of requirements"*

Growing focus on business outcomes

*"Business leaders and CIOs are under pressure to enable their teams to become **catalysts for change.** However, **change is outpacing their ability to deliver.***

*They are reorienting their teams to **focus on ROI and quantified business outcomes** and to **mitigate risk and reduce costs.**"*

– IBM CIO Survey, 2008

Continuous improvement is difficult due to lack timely information and in-context insight

*"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 status and progress*
- *Inability to measure and assess unobtrusively*

Challenges with current reporting solutions for software delivery

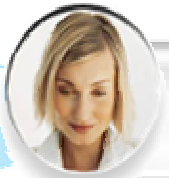
Disparate data sources, formats, and definitions

Lack of relevant, timely actionable information

Inability to baseline and benchmark status and progress

Inability to measure and assess unobtrusively

But current reporting solutions fall short



Lack of connectivity to live data: status data input manually into PM tools

Result: disconnect between planning and execution

Reporting is limited to only part of the ALM lifecycle (e.g. test, requirements…)

Result: Creating blind spots with no way to objectively assess progress in a collaborative, globally distributed ALM environment

Weak management of report changes

Result: Information is outdated, not linked to business outcomes

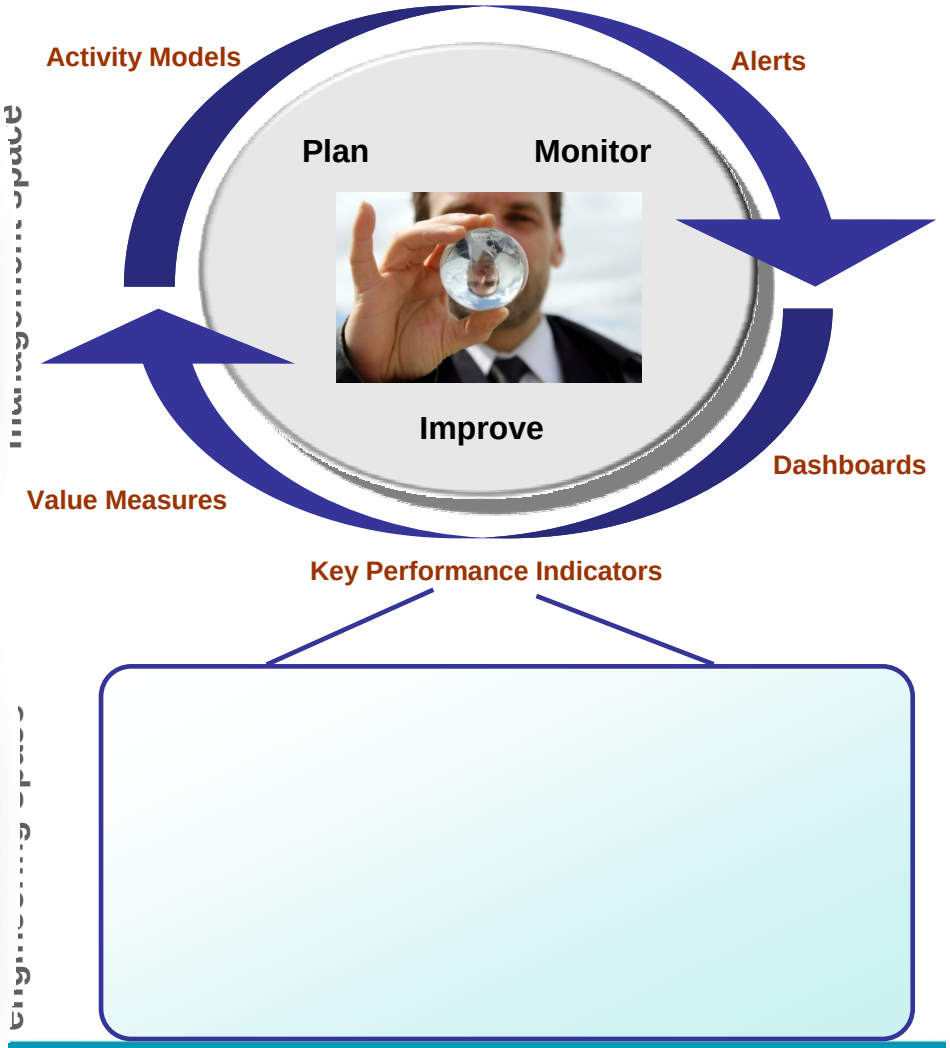
No framework or best practices to convert data into information

Result: Cannot manage performance without clear understanding of what to measure and benchmark

Do You Have the Information You Need to Make the Right Decisions?

- **Businesses need a mechanism to**:
  - Reduce cost of information gathering
  - Reduce risk by identifying trends before they become issues
  - Align SSD activities with strategic and operational objectives

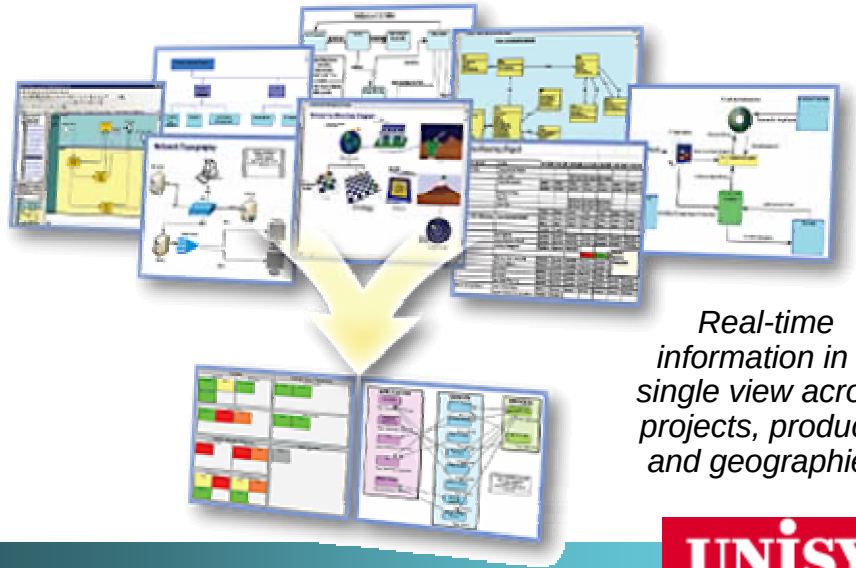
- **But are still struggling with:**
  - Combining data from heterogeneous sources
  - Managing by exception
  - Analyzing actual progress against planned objectives and past performance
  - Implementing proven and repeatable processes to achieve expected business results



Introducing IBM Rational Insight

Automated project and process measurement can improve team productively by 15%

- Monitor and analyze project and process performance
  - ***Collaborate*** across disparate development artifacts and in the context of operational and business objectives
  - ***Automate*** measurement leveraging an open RESTful and Jazz compliant data integration architecture
  - ***Report*** on relevant data with a built-in library of industry best practice metrics and dashboards
- Drive business innovation and reduce costs through measures and continuous **process improvement**
- Built on best in class business intelligence platform from IBM **Cognos**



Real-time information in a single view across projects, products and geographies

UNISYS imagine it. done.

"Until now we were gathering metrics by manual methods. Rational Insight simplifies the presentation... Overall great tool to have for optimizing project efforts and giving management a birds eye view of the project performance at all stages."

IBM

"Through the automation and dashboard capabilities in Insight, our team is saving over 40 hours a month on our reporting activities. We also can offer new capabilities such as "on-demand" dashboards which would have been very labor intensive to do without Insight"

IBM Rational Insight

Improved Executive Decision Making

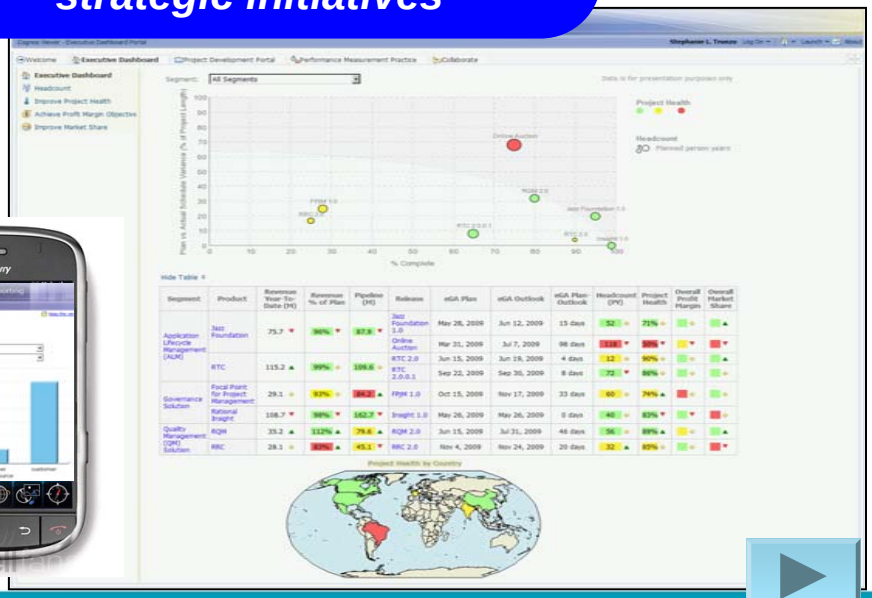
- Provides at-a-glance, high impact views of complex real-time information
- Helps quick focus on systems and software delivery issues that need attention and action
- Alignment between actual results and planned business goals
- Includes executive measures tailored to your needs:
  - Cost, Revenue, Time-to-ROI, Key Performance Indicator (KPI) specific to Line of Business

Companies that don't measure, experience poor staff morale and cannot accurately estimate cost

- Capers Jones (2009)

CxO

Reduce cost and risk by mapping operational activities to strategic initiatives



IBM Rational Insight

Continually Improve Your Process

- Evaluate Historical Data for Lessons Learned and Corrective Action
- Leverage Industry-leading management techniques with ready to use dashboards and reports
- Report on the quality and performance of your projects with built-in measures
  - Measuring Quality, Time-to-Value, Productivity

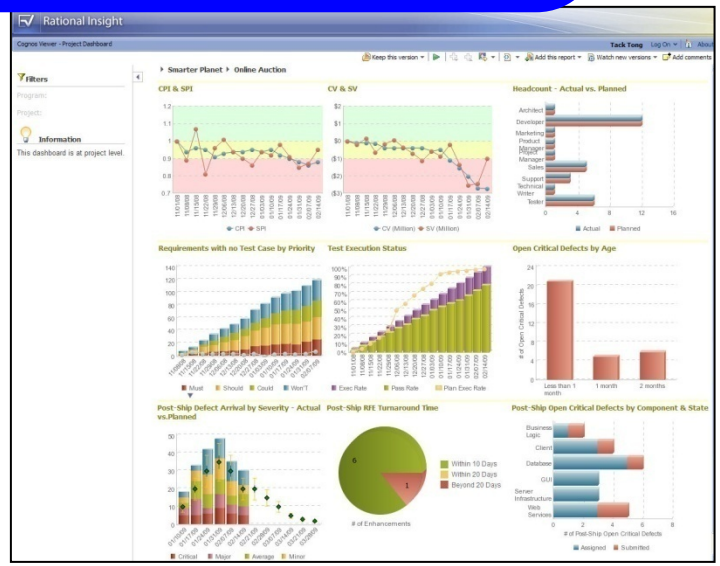
You can't Improve what you don't Measure

Companies that don't measure have "unknown" defect removal rate and low user satisfaction

- Capers Jones (2009)

Process Lead

Drive business innovation an… reduce costs through measured… process improvement



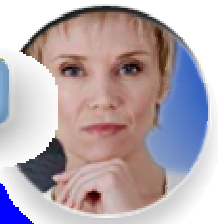
IBM Rational Insight

Improved Project Level Decision Making

- Get your projects up and running quickly with library of metrics and built-in collectors
- Leverage Rational domain expertise for systems and software development and delivery
- Monitor the status and progress of your projects with built-in measures:
  - Iteration Velocity, Project Backlog, Requirements Volatility, Defect Density…

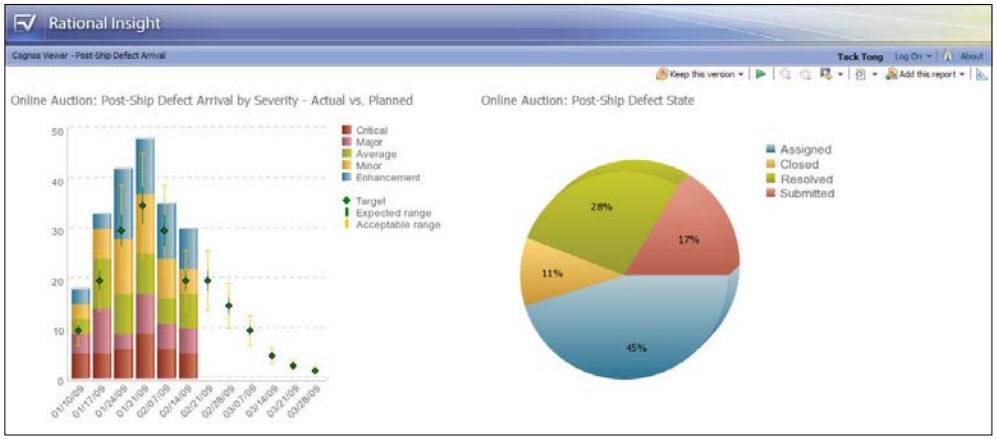
Only 45% of projects that do not measure, deliver products on-time to market

- Capers Jones (2009)

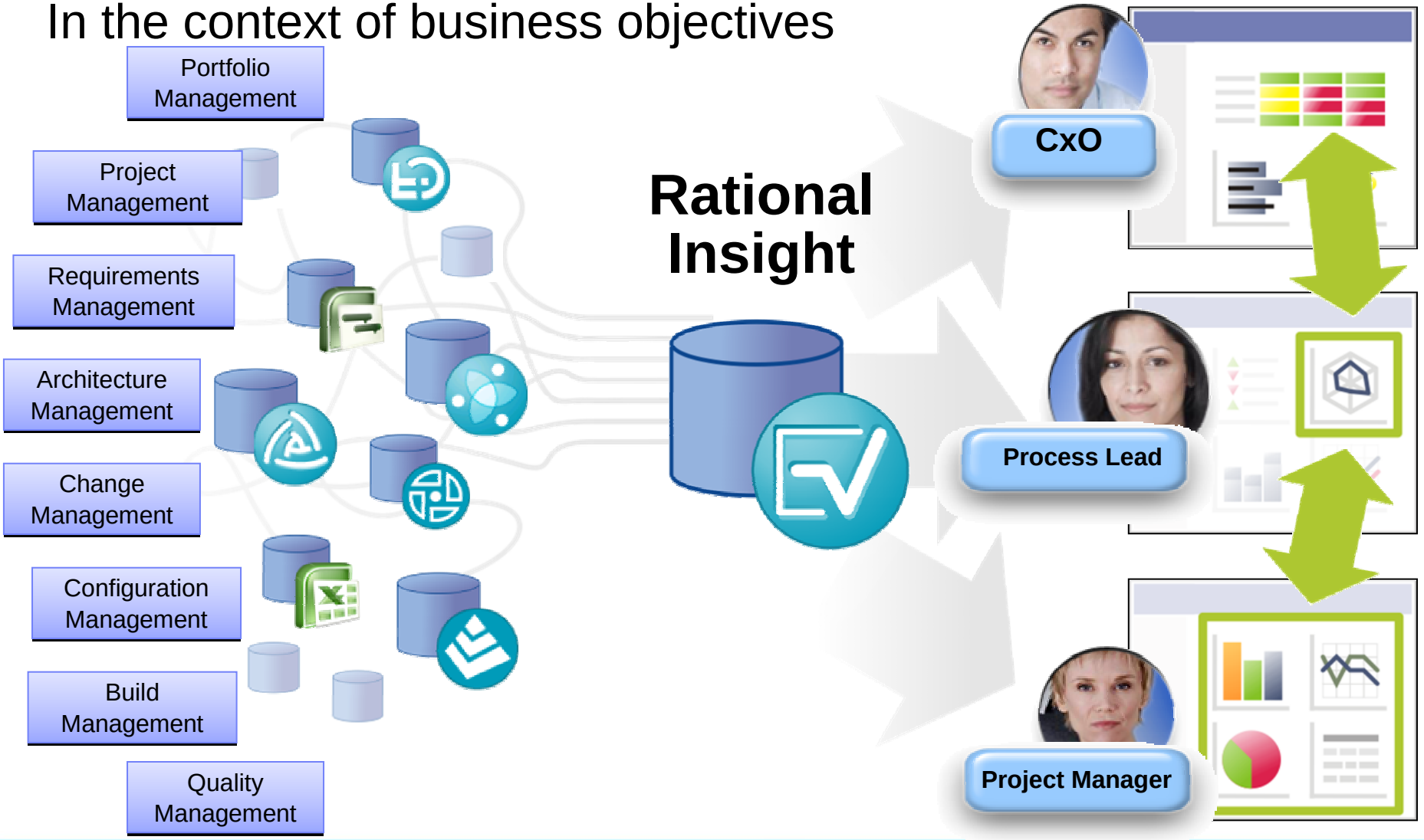


Project Manager

Gain insight into development projects which span organizational and geographic boundaries

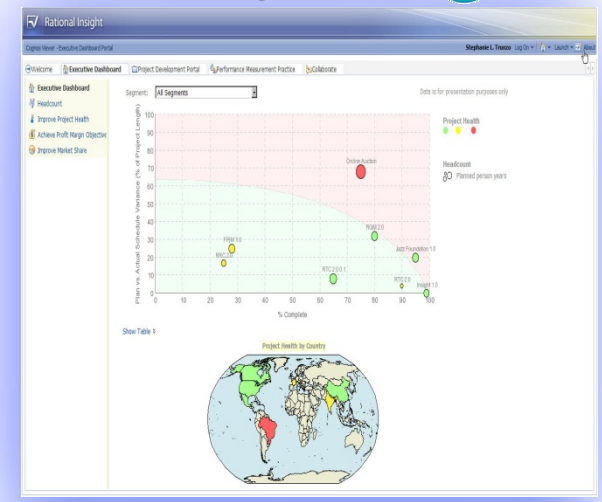


Collaborate across disparate development artifacts In the context of business objectives



Unify Disparate Data Sources into Objective Dashboards with Rational Insight

Rational.
Insight



Single View into Your Organizational Performance

Rational
ClearCase

Measured Capability Improvement Framework (MCIF)

Rational
RequisitePro

Rational
ClearQuest

Rational
Quality Manager

XML

Rational
TestManager

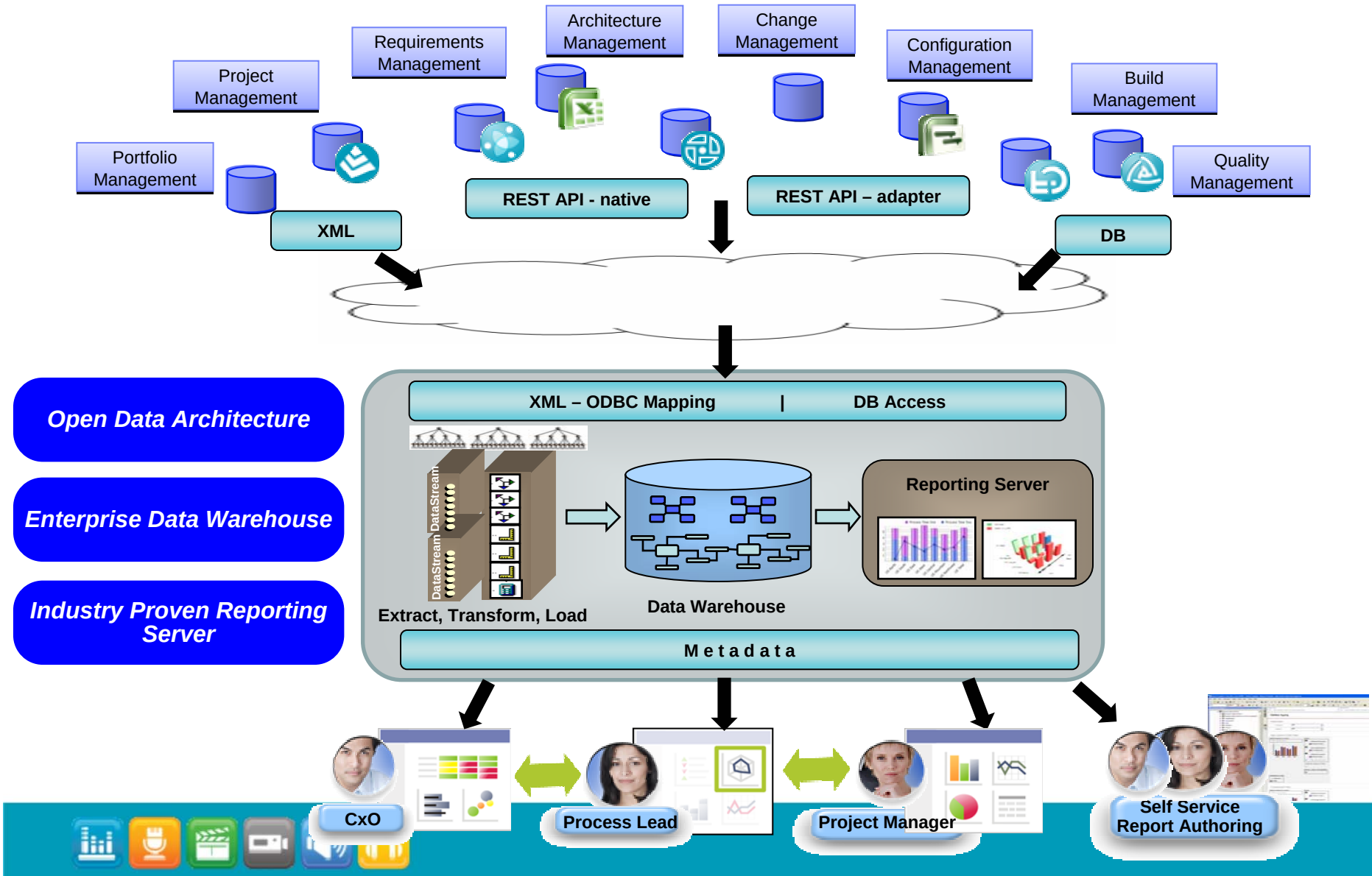
MS Project

Rational
Team Concert

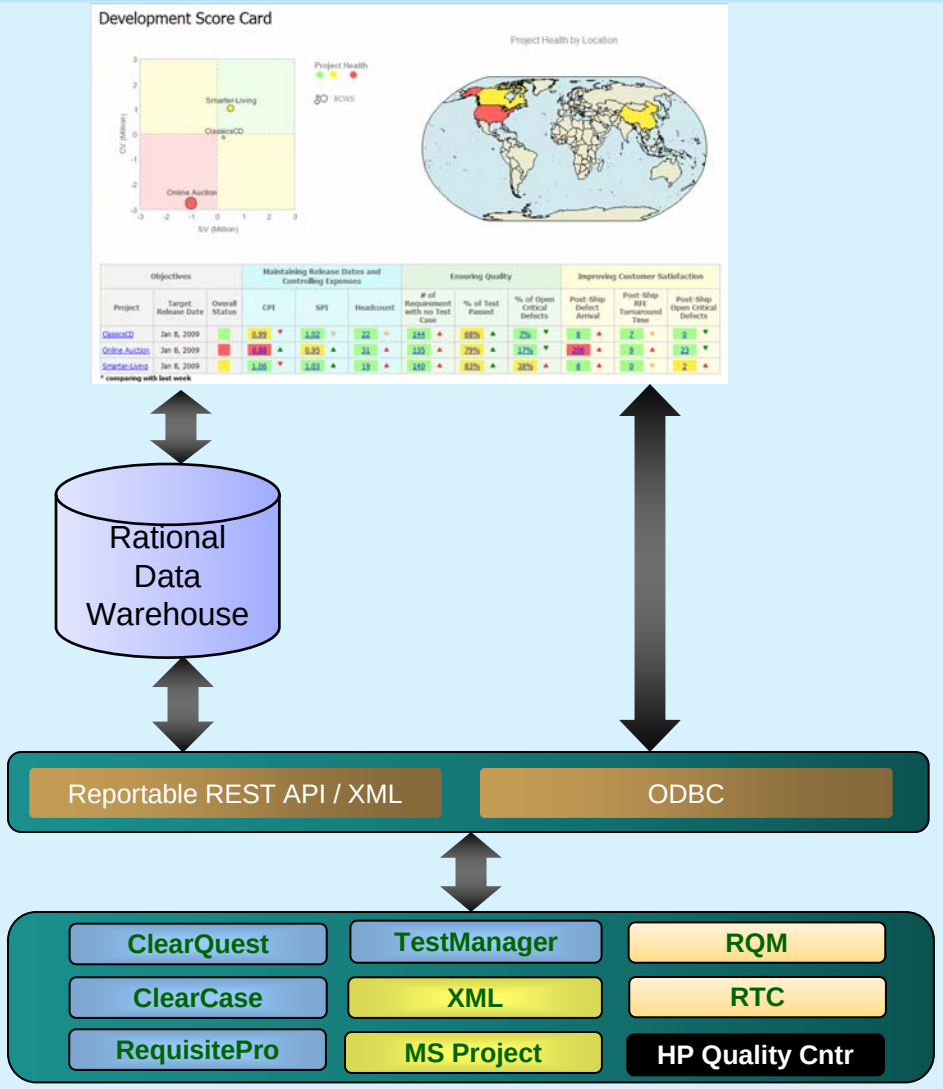
3rd Party

Partners

Rational Insight Architecture



Rational Insight Performance Measurement Solution



- Practitioners work in geographically distributed teams using heterogeneous environments (Rational, Microsoft, HP, etc.)
- Data is automatically collected from tool repositories and aggregated into the BI reporting data warehouse
- Cognos 8.4 BI reporting engine provides report authoring, management, security, scheduling, bursting, delivery, etc. May be extended with additional Cognos components.
- Out-of-the-box reports and dashboards aligned with MCIF performance management initiatives

Rational Insight Architecture – DW Report Execution

Legacy Products
- ClearQuest
- ClearCase
- RequisitePro
- …

Jazz-based Products
- RTC(ODBC)
- RQM
- …

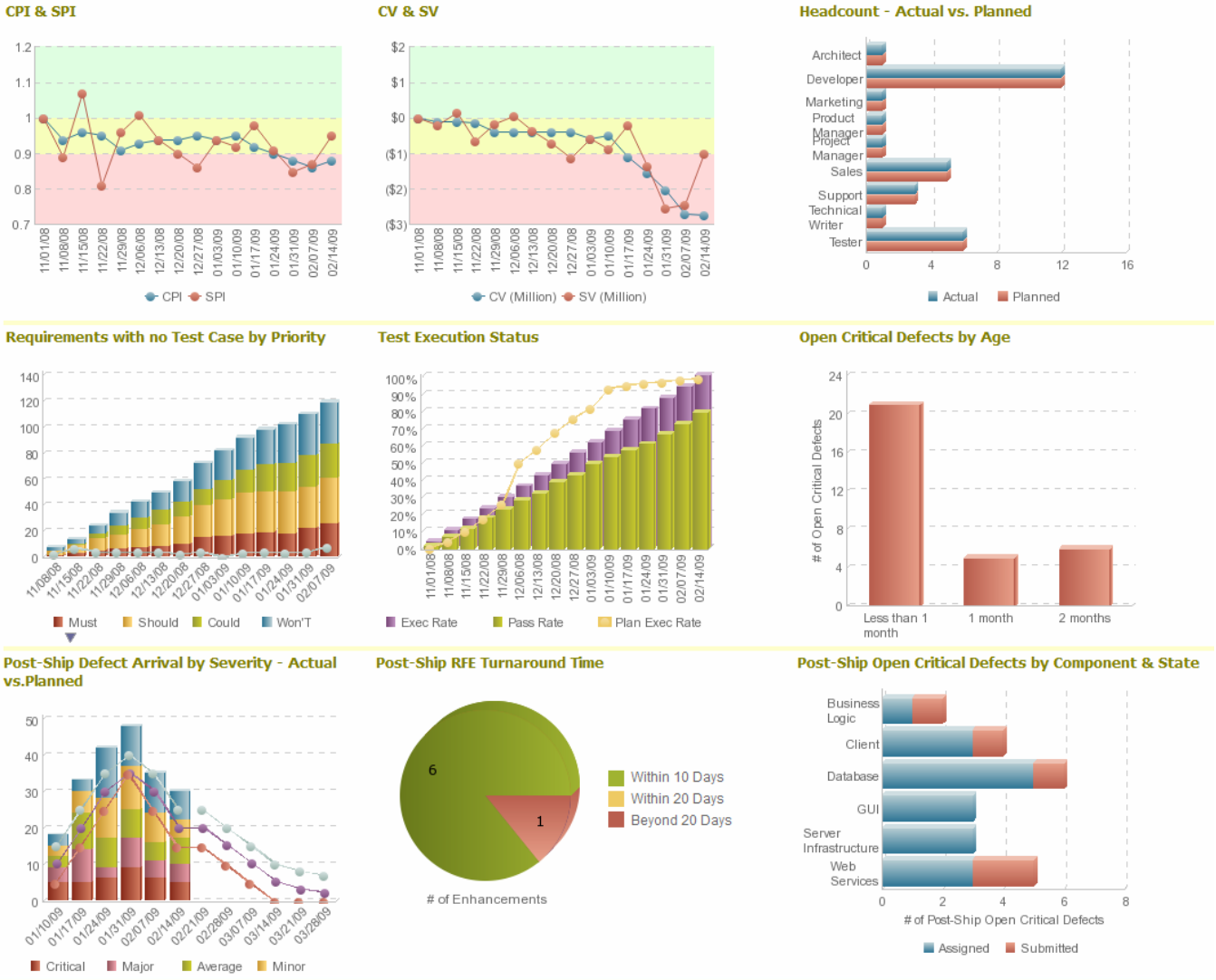
Telelogic Products
- DOORS
- FocalPoint
- …

3rd Party Products
- MS Project
- …

WebSphere Application Server 6.1

Rational Insight Data Services

Smarter Planet ▸ Online Auction



Rational Insight Architecture – Live Data Report Execution

Legacy Products
- ClearQuest
- ClearCase
- RequisitePro
- …

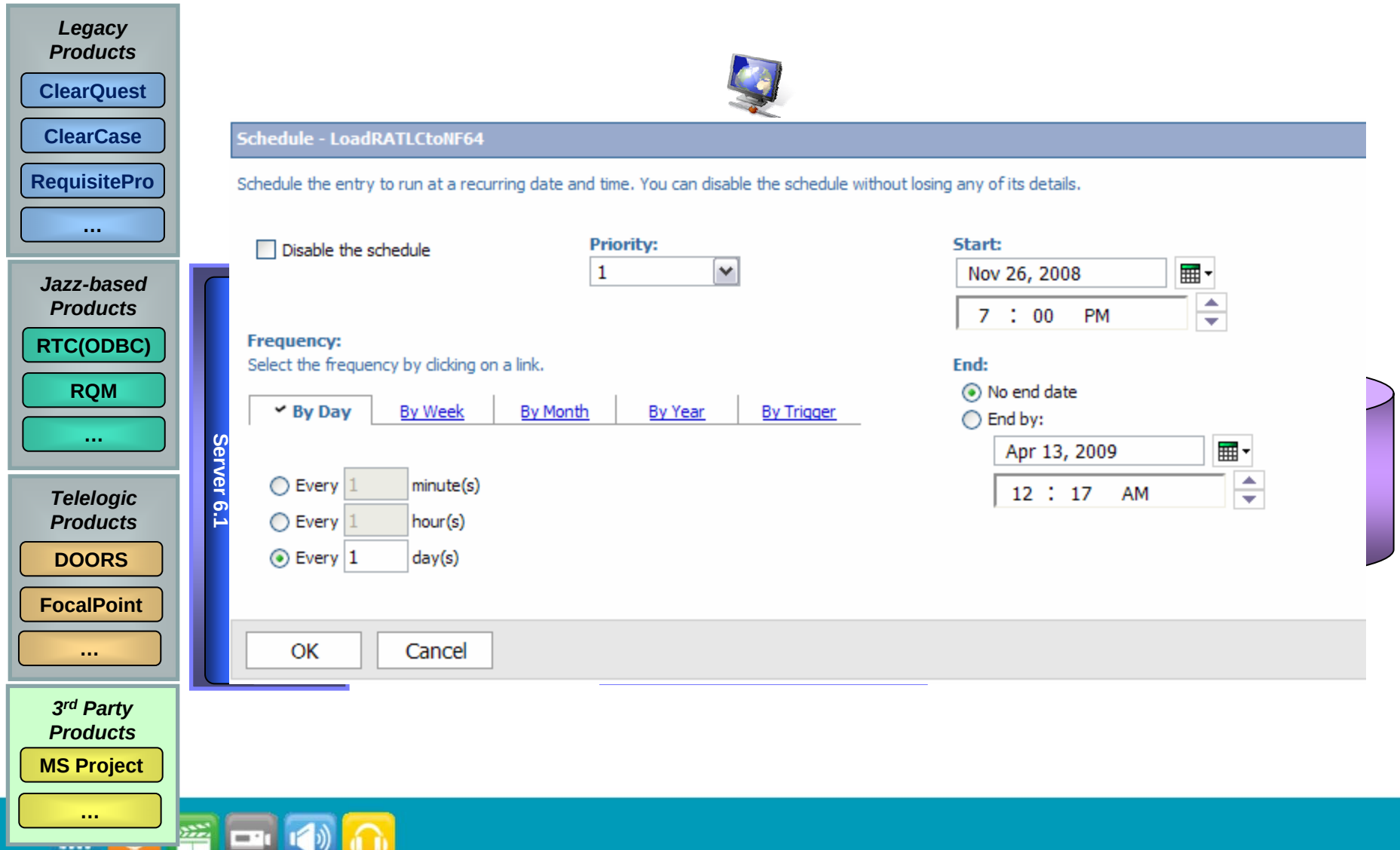
Jazz-based Products
- RTC(ODBC)
- RQM
- …

Telelogic Products
- DOORS
- FocalPoint
- …

3rd Party Products
- MS Project
- …

Tag	Number of Test Cases	Name	Type	Status	Priority	Stability	Difficulty
FEAT2656	1	Enable system to subscribe to data feeds	Feature	Proposed	Must	Low	Medium
FEAT29632	1	Support ability to update database with current operational data	Feature	Proposed	Must	Medium	High
FEAT33569	1	Maintain customer information	Feature	Proposed	Won'T	High	Medium
FEAT33585	1	OPTIONS FOR DISPLAY	Feature	Proposed	Must	High	High
FEAT42047	1	Support deployments using open source app servers	Feature	Proposed	Must	Low	Low
FEAT42048	1	Collect metrics from project planning tools	Feature	Proposed	Could	Low	Medium
FEAT42062	1	Support process audits	Feature	Proposed	Won'T	Medium	Medium
FEAT46566	1	POSSIBLE NEW ACCOUNT	Feature	Proposed	Must	High	Medium
FEAT46568	1	NO MATCHING CDs	Feature	Proposed	Won'T	High	High
FEAT46571	1	Allow suggestion options	Feature	Proposed	Won'T	Low	High
FEAT46574	1	Language support	Feature	Proposed	Could	Medium	Medium
FEAT46582	1	OS	Feature	Proposed	Should	Medium	High
FEAT46590	1	The system shall save all updated data to the Customer Information database when the SAVE button is pressed.	Feature	Proposed	Should	Low	Medium
FEAT51288	1	The system shall offer a comprehensive on-line help system.	Feature	Proposed	Must	Low	Medium
FEAT51306	1	Provide notification when jobs have run	Feature	Proposed	Should	High	Low
FEAT56206	1	Provide common components for consistent cross product operation	Feature	Proposed	Should	Medium	Low
FEAT56209	1	Provide adequate data and access control security	Feature	Proposed	Could	Medium	Medium
FEAT56210	1	Provide web based viewing of displays	Feature	Proposed	Could	High	High
FEAT56217	1	Enable display information to be saved "published" persisted	Feature	Proposed	Won'T	Low	Low
FEAT56225	1	Ability to check status of an order	Feature	Proposed	Should	High	Medium

Rational Insight Architecture – ETL Process



Rational Insight – Data Source/Data Warehouse/Reports

ClearQuest
ClearCase
RequisitePro
RSA
RAM

MS Project

RTC
RQM

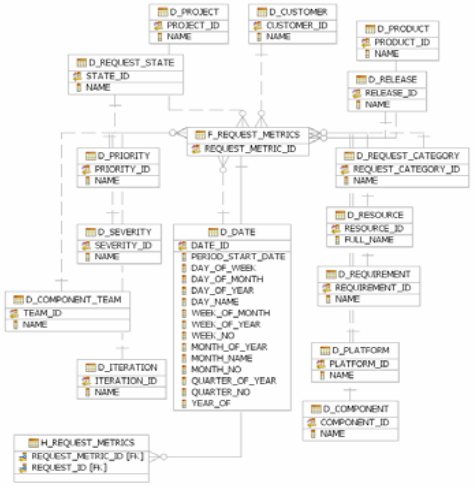
.....

Web architecture to retrieve product data in XML

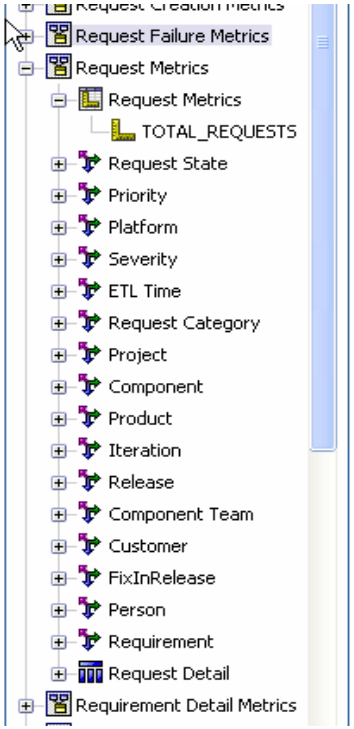
(Insight Data Service)

DOORS
FocalPoint

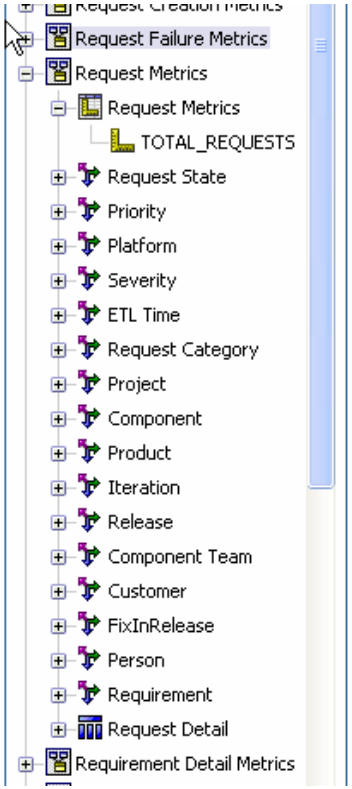
ETL



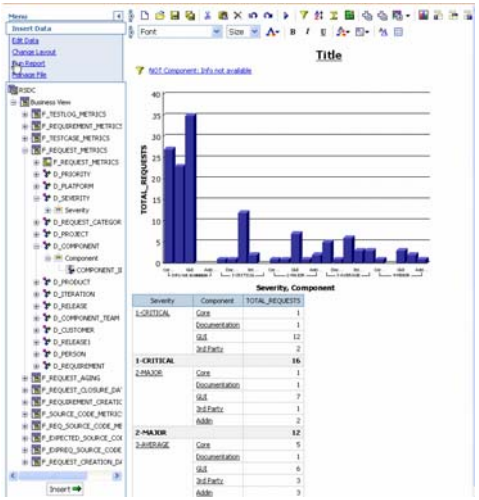
Reporting data model isolates the data warehouse low level table structures from the report designer. The report designer is presented with a simplified data structure with all of the necessary relationships resolved.



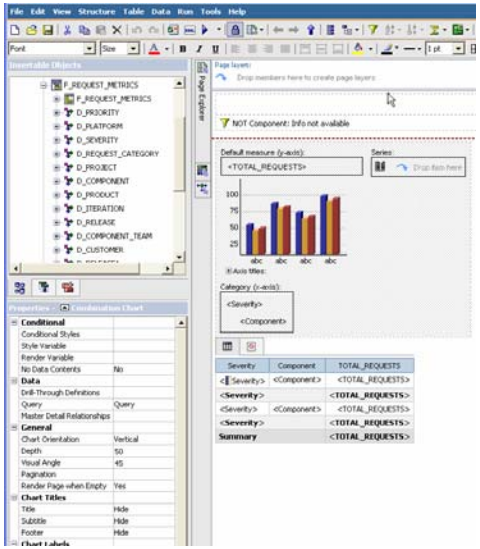
Rational Insight Architecture - Reports



Query Studio



Report Studio



Query Studio lets users with little or no training quickly design, create and save reports to meet reporting needs not covered by the standard, professional reports created in Report Studio.

Report Studio lets report authors create, edit, and distribute a wide range of professional reports. They can also define corporate-standard report templates for use in Query Studio, and edit and modify reports created in Query Studio.

Summary

You cannot IMPROVE what you cannot MEASURE!

Raise enterprise transparency to **reduce costs and risks** by mapping operational activities to strategic objectives

Drive **business innovation** and **reduce costs** through measured and continuous process improvement

Gain insight into development projects which span organizational and geographic boundaries

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