









Best Practices in Jazz Adoption

Alan W. Brown **IBM Rational CTO for Europe**













Rational. software





Topics

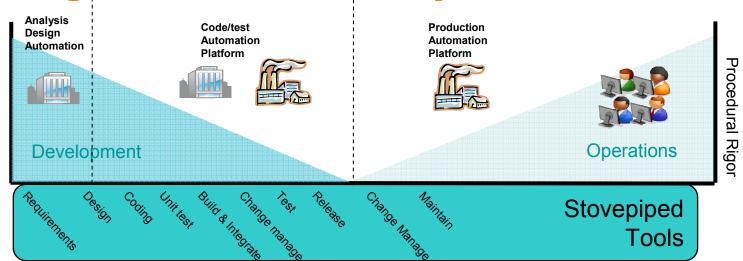
- IBM and agile
- Thinking agile
- Case Studies and Examples
- Where to begin...





Rethinking Software Delivery

Waterfall Process Platform Creative Behavior



Agile Delivery Process Platform

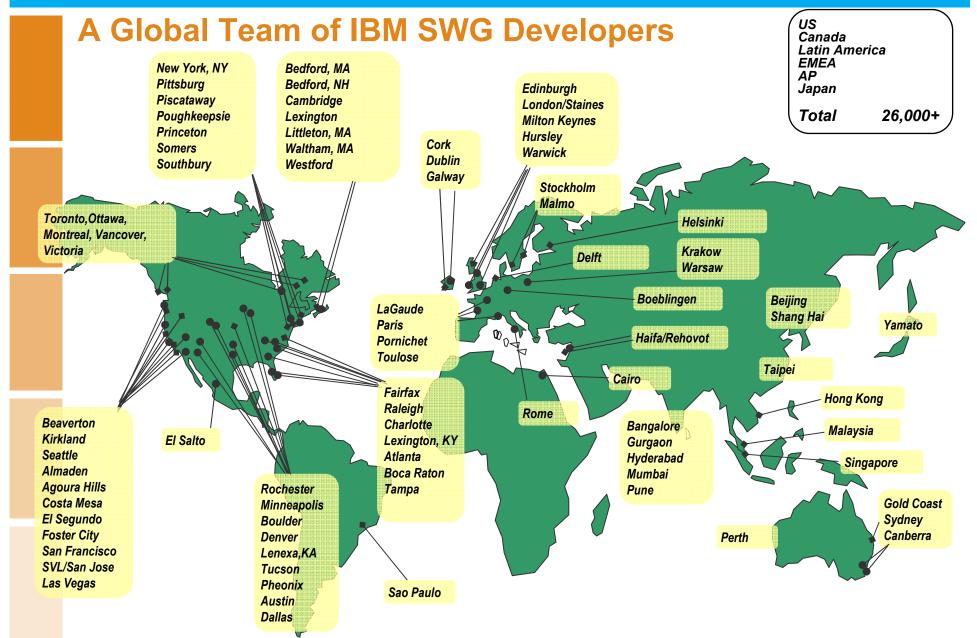
Analysis Software Design Consumers Delivery Code Users Automation Automation Creative Behavior Procedural Rigor Development Common **Operations Collaborative Automation Platform** Real-time Visibility and Dashboards **Incremental Planning**

Implications

Automation
Measurement
Close Customer Relationship
Project visibility









We Needed to Change

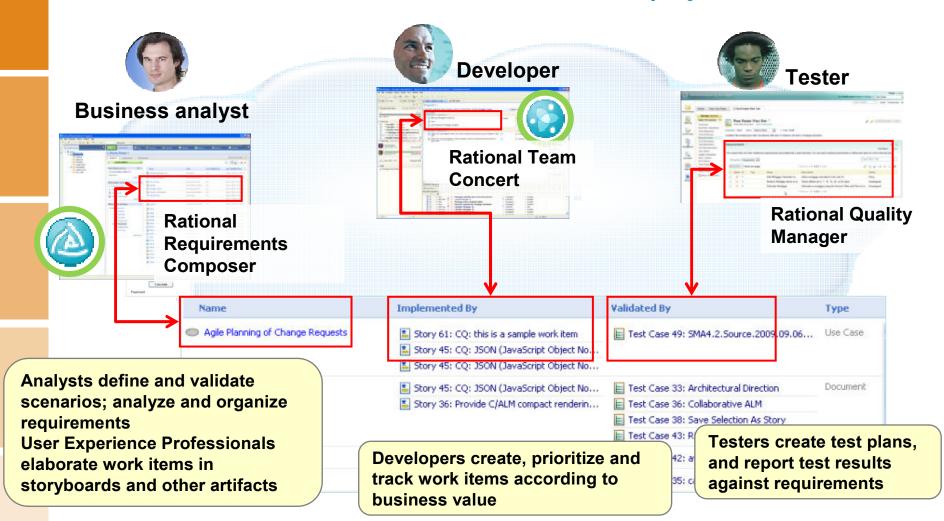
- Organize differently
- Develop differently
- Deliver differently
- Measure differently
- What challenges did IBM choose to address?
- Response to fast changing environment
- Large overhead of existing process
- Experience accumulated from experimentations
- Improving morale
- Driving innovations
- Influenced by Open Source community
- Expansion of globally distributed development







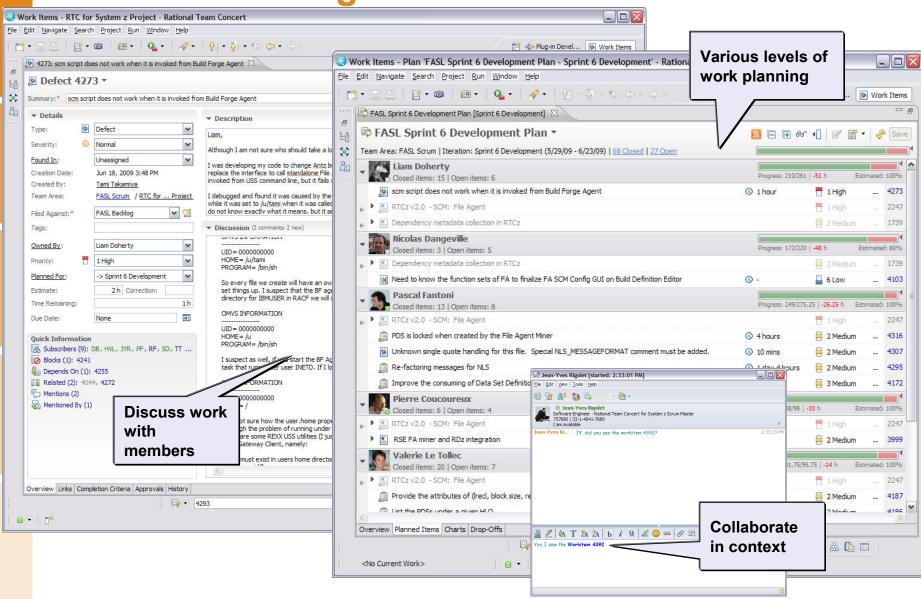
Align development and test activities with customer value Break down role-based information silos for better project execution







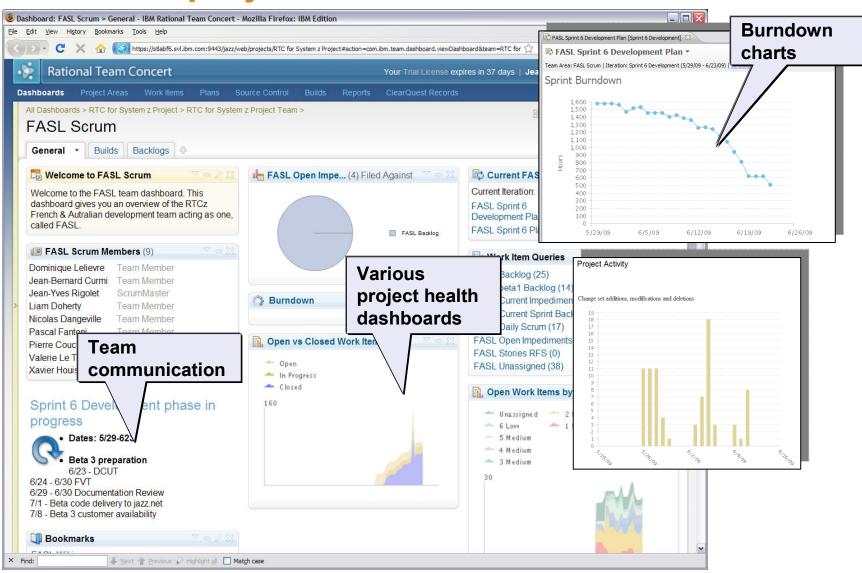
Collaborate using Workitems and Plans







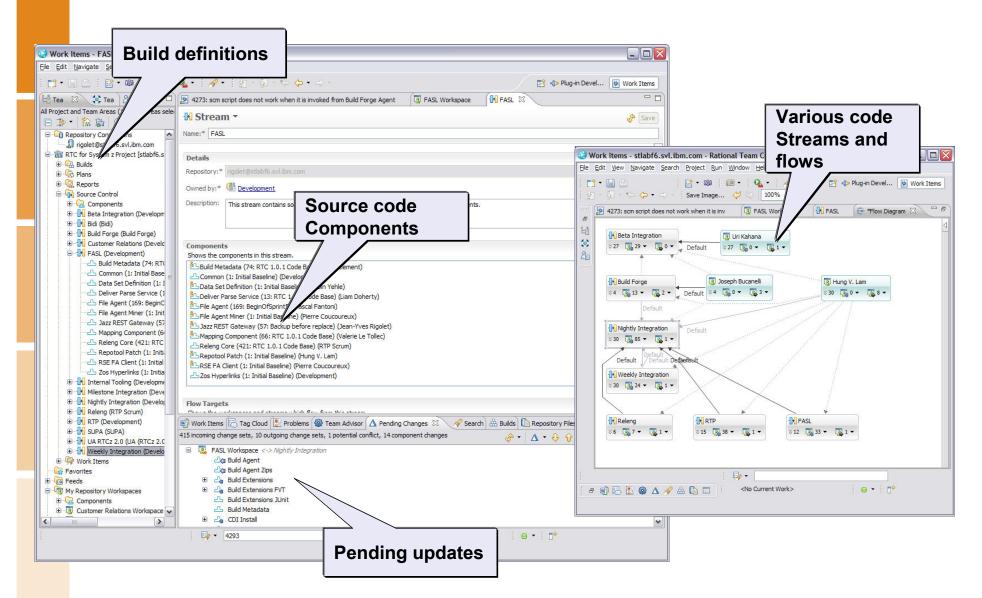
Check the project status and health







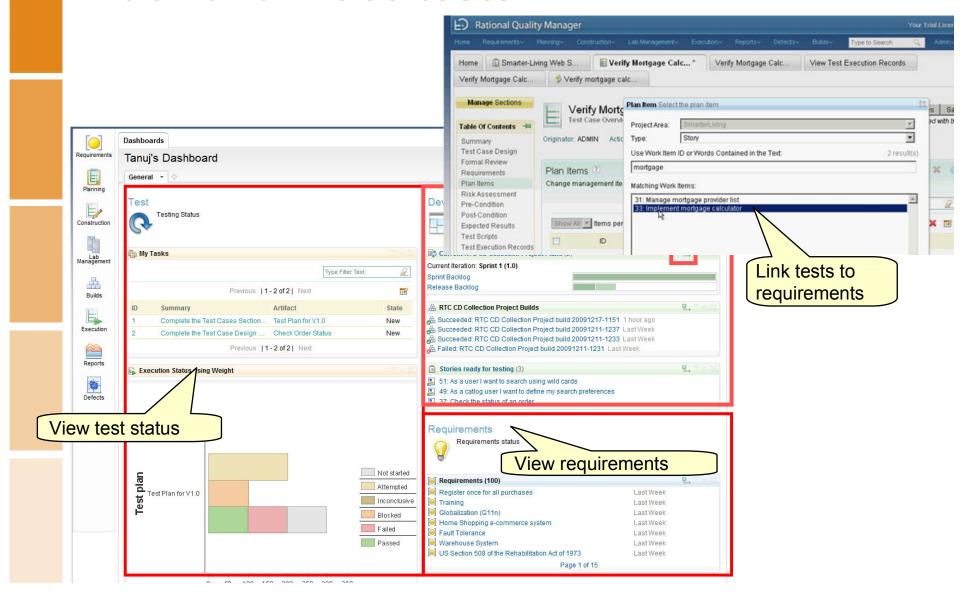
Share & build source code







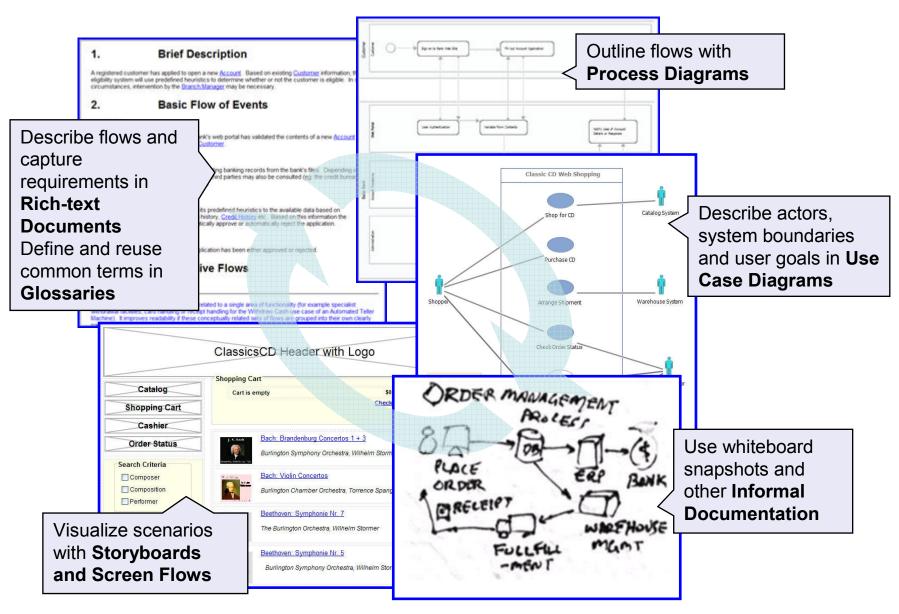
Track and Trace tests







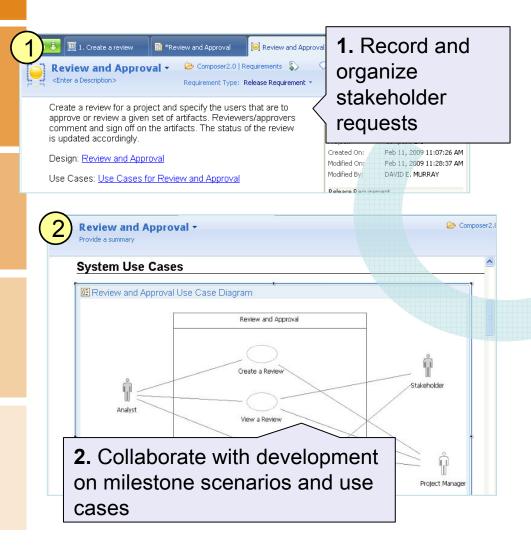
Define scenarios to uncover business needs

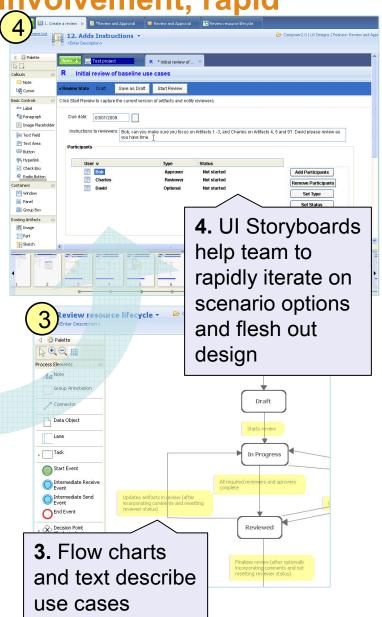






Many notations, extensive team involvement, rapid iterative refinement



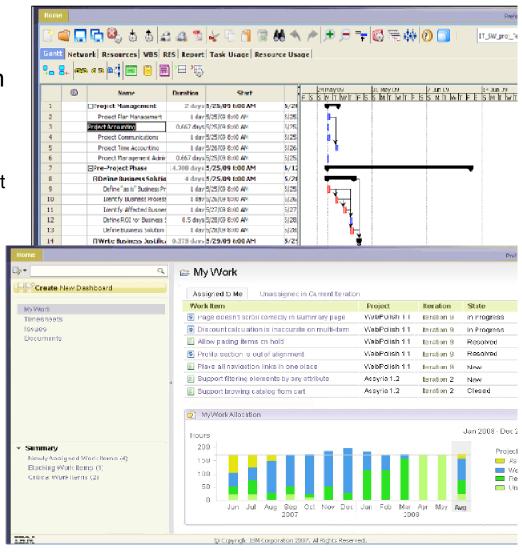






Collaborative Project Planning across Teams

- Reduce delays and mistakes with real-time, "in-context" collaboration
 - Integrate communications, workflow and deliverable transparency
 - Extensible planning engine connects / integrates with many sources to support heterogeneous software
- Continually validate investments
 - Analyze costs, benefits and risks to continually redeploy resources as needed
 - Views into past performance, current status, and predicted estimates-atcomplete including values, trends and variances
- Dynamic and informed decisions
 - Real-time, deliverable driven progress and quality measurement







Jazz is a platform for optimizing software delivery



Jazz is a platform for *transforming how people* work together to deliver greater value and performance from their software investments.

Jazz is...

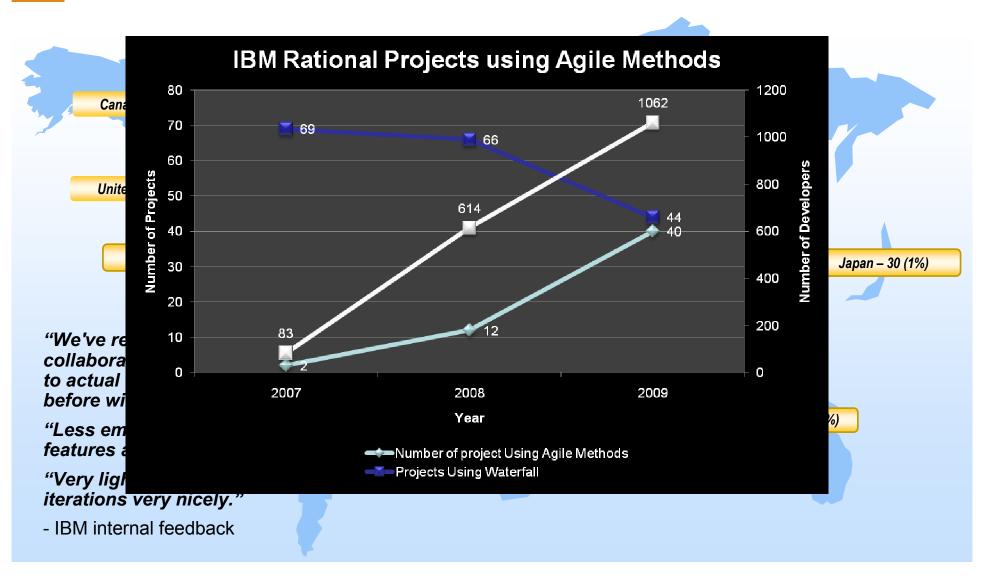
- Our vision of the future of systems and software delivery
- A scalable, extensible team collaboration platform
- An integration architecture enabling mashups and non-Jazz products to participate
- A community at Jazz.net where Jazz products are built
- An evolution of our portfolio





Agility @ Scale with Rational Team Concert

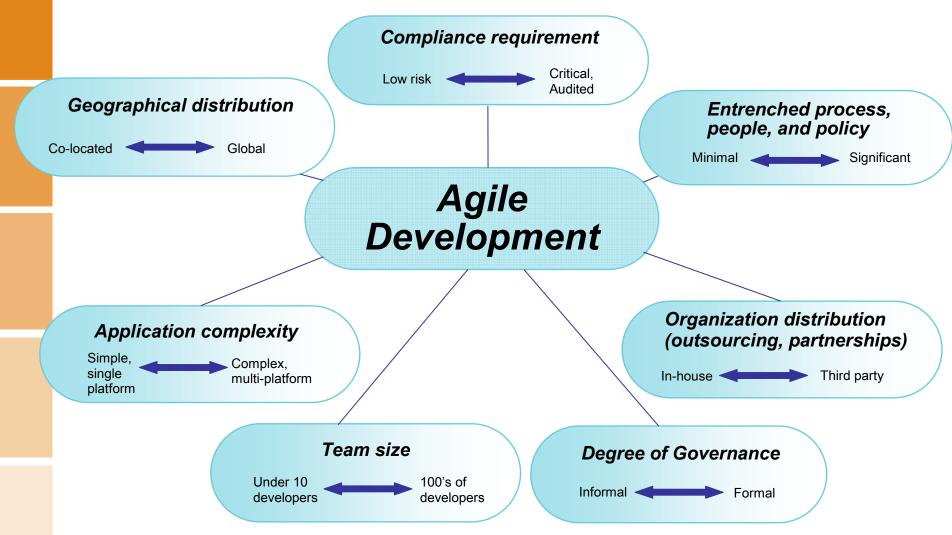
2,790 total resources worldwide







Challenges with Agile in the Mainstream







Achieving Agility at Scale

Disciplined agile teams:

- 1. Produce working software on a regular basis.
- 2. Do **continuous** regression testing, and better yet take a Test-Driven Development (TDD) approach.
- 3. Work **closely** with their stakeholders, ideally on a daily basis.
- 4. Are self-organizing, and disciplined teams work within an appropriate governance framework.
- **5.** Regularly reflect, and measure, on how they work together and then act to improve on their findings in a timely manner.





Topics

IBM and agile

Thinking agile

Case Studies and Examples

Where to begin...





Case Studies and Examples

- A set of examples of different ways customers have applied measurement-based approaches to value using Rational technologies
- These are focused efforts aimed at achieving specific results through incremental delivery:

Case Study 1: A large-scale agile process improvement effort

Case Study 2: Setting up a measurement framework for a software factory

Case Study 3: Asset management and measurement across development and delivery

Case Study 4: Measuring and managing software delivery in a set of agile SW teams

Case Study 5: Managing outsourcers as a set of software factories

Case Study 6: Gathering application portfolio baseline data

Case Study 7: Application Portfolio Analysis

Case Study 8: Measured improvement in large-scale test management and test execution

Case Study 9: Integrated tools platform for Agile at Scale

Case Study 10: Single Large-scale Software Development Platform





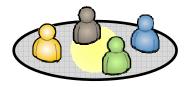


Three Common Solution Patterns



Vertically aligned

> Centralized ALMaaS



Integrated team with collaborative, transparent and automated workflows.



Divided by Function

> Integrated ALM Cloud



■ Functional silos, organized by discipline and line organization, form software delivery chain



Outsourced

> Secure and Connected



 Organizations depending on functions and contributors outside corporate boundaries, while preserving IP security





Case Study 1: A Large-scale Agile Improvement Effort

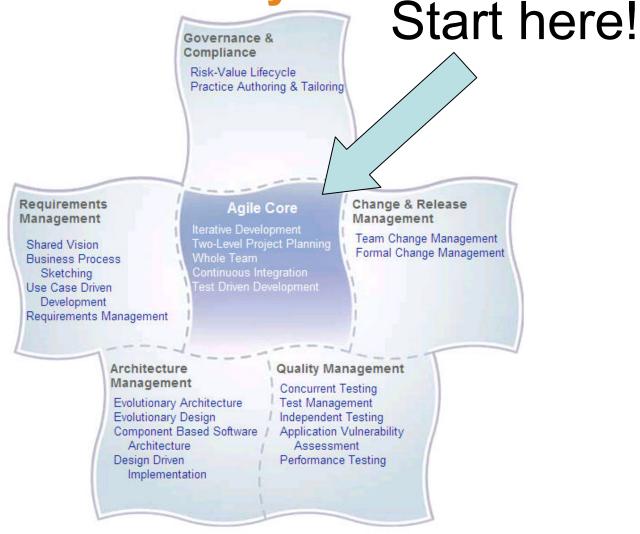
- A large Scandinavian bank
- 2000+ developers
- 6 business units
- Development teams are often geographically distributed







IBM Practice Library



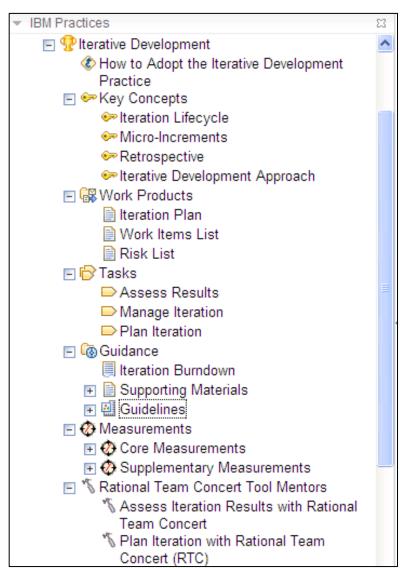
A version of these practices is available in OpenUP





What's in a Practice?

- Key concepts
- Work products
- Tasks
- Guidance
- Measurements
- Tool mentors







Measures help answer key questions

Business-Related Measures

Projects of ver faster the day

Are we meeting business objectives?

Systems created or updated in the projects have the agreed quality

The development organisation is a learning organisation

Employee satisfaction

IT-Related Measures

Appropriate evel of management analysis activ

Are we seeing the benefit where we expected?

Efficient requirements definition and signoff

Fewer breakages when solution elements are integrated

Less "solution hardening" needed

Agile-Related Measures

Agile practic adoption

Agile r

adoption

Are we agile?

Agile work product adoption

Agile task adoption

Agile process adoption





Case Study – Initial Metrics

	Business-related	Agile-related						
Cycle time reduction	 Time spent from project initiation to delivery of first increment Time spent from project initiation to project closure 	Sprint velocity Blocking work items						
Quality	•Defects (severity 1 and 2) in production per 100 FPs	•Defect trend						
Continuous optimisation	•Process maturity level	•Adoption of agile practices						
Productivity	•Function points per man year	•Sprint burndown chart •Release burndown chart						





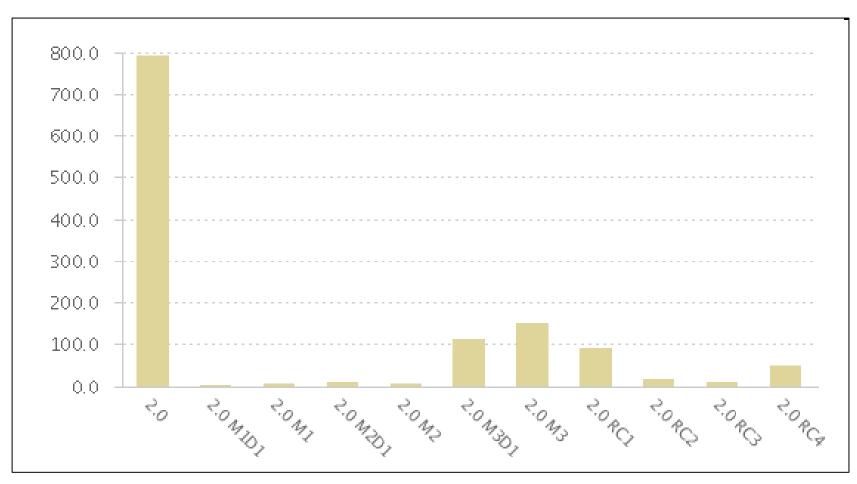
Category: Cycle time reduction Metric: Sprint velocity

Objectives	Sprint velocity is used to measure the performance (and therefore capability) of the team. The velocity is useful in identifying the trend of how much work a team can complete in a sprint.
Baseline Metric	The number of points is plotted on the Y-axis and sprints on the X-axis. In initial sprints, the team velocity is typically low but subsequently increases and stabilises as the project proceeds. If the velocity rises or falls dramatically then it needs the immediate attention.
Unit	Velocity can be measured in term of points, days, hours, or any other unit the team is using for estimation.
Responsibility	Project Manager.
When to Measure	During project execution.
Manual/Automate d	Automated in Rational Team Concert.
Data Repository	Available in Rational Team Concert.
Project Calculation	Velocity, calculated as the number of units of work the team has completed in a given sprint. Units can be points, days, hours or any other unit your team is using for estimation.
Example	See over for chart.
Target	A trend of a steady or increasing number of work items addressed over time.





Sprint Velocity Example







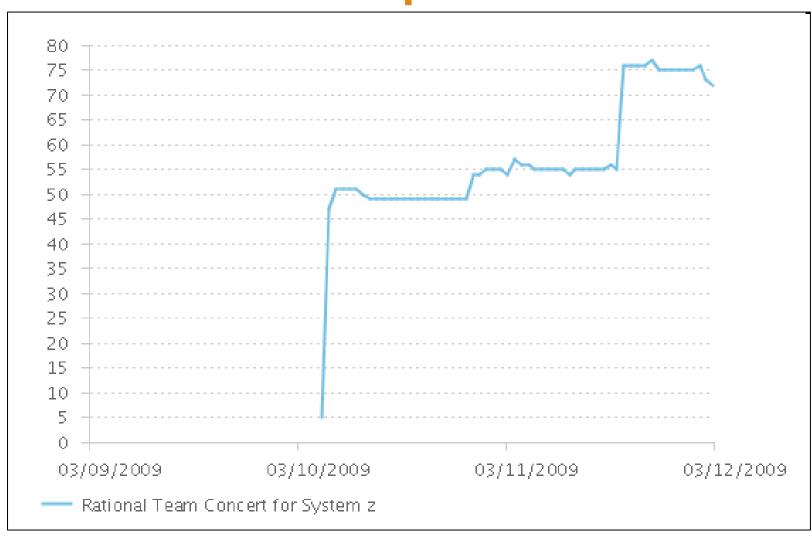
Category: Quality
Metric: Defect trend

Objectives	The defect trend is used to ensure that arrival and closure rates have some correlation (i.e. that your arrivals don't consistently outpace your closure, resulting in a high defect backlog), to determine the remaining defect backlog, to project the future defect arrival/close rate up to (and after) customer ship.						
Baseline Metric	Slope of a trend chart showing total cumulative defects (total found – total closed) over time. Ideally, the slope should be flat or decreasing.						
Unit	Chart slope.						
Responsibility	Project Manager.						
When to Measure	During project execution.						
Manual/Automate d	Automated in Rational Team Concert.						
Data Repository	Available in Rational Team Concert and Rational Quality Manager.						
Project Calculation	 Number of defects found for each unit of time (usually a week, but could be day or month, depending on sprint length). Number of defects closed for each unit of time. 						
	Total cumulative defects (total found - total closed).						
Example	See over for chart.						
Target	A trend of a steady or decreasing number of defects over time.						





Defect Trend Example



Taken from RTC 2.0 project at jazz.net on 3rd December 2009





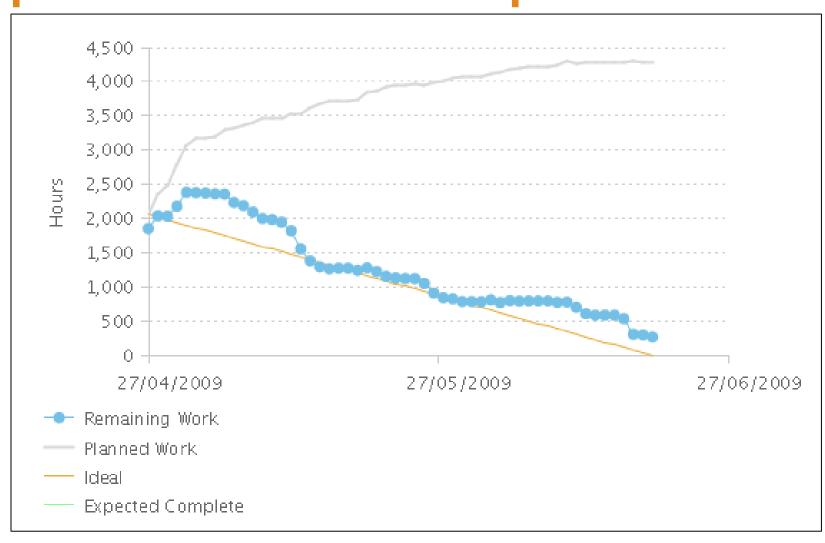
Category: Productivity
Metric: Sprint burndown chart

Objectives	A sprint burndown chart allows the progress of the sprint to be measured.					
Baseline Metric	Slope of the chart. The number of remaining units (such as work items or hours) is shown on the Y-axis, together with the number of planned units, and time is shown on the X-axis. Ideally, the trend of remaining units should go down as time progresses.					
Unit	Chart slope.					
Responsibility	Project Manager					
When to Measure	During project execution.					
Manual/Automate d	Automated in Rational Team Concert.					
Data Repository	Available in Rational Team Concert.					
Project Calculation	 Number of planned units during time I for the sprint. Number of actioned units during time I for the sprint. 					
Example	See over for chart.					
Target	A trend of a decreasing number of remaining units over time.					





Sprint Burndown Example



Taken from RTC 2.0 project at jazz.net on 3rd December 2009





Agile Adoption Example (detail)

		1	4.											
			uction		anawara :-	the date -	ation (light	blue are-\	halaw O	oolumn f-	r the answe	ro of one's	nadioinar!	
			Participants fill out the answers in the data section (light blue area) below. One column for the answers of each participal 2) Answer each question using a scale of 1 to 5. 1 = never, 3 = halfway job (or half the time), 5 = always											
	ITERATIVE DEVELOPMENT	Z) Alisw				can leave b						•		
(based on sprints)		3) If des				comment in				le tino pra	J.100.			
(pased on sprints)														
Target	Question		Results Section Data Section											
_		Average	Deviation	Talk?	а	b	С	d	е	f	g	h	i	
Time-boxed Sprints	Do you hold your sprint end dates fixed, and adjust content of that sprint if needed?	2.5	2.121	Talk	4	1								
Daily Scrum	Do you hold a daily Scrum meeting?	2.5	2.121	Talk	4	1								
Scrum Master	Do you have a Scrum Master assigned to the project?	2.5	0.707		3	2								
Sprint Planning Meeting	Do you detail the plan for the next sprint at the end of the current sprint?	3.5	2.121	Talk	2	5								
Sprint Review	During a sprint review, do you calibrate progress made with project goals by discussing what worked well, what didn't work well, and how to improve? Do you improve planning for the next sprint and update the long-range plan accordingly? Do you use feedback, including test results to improve your process?	2.5	2.121	Talk	1	4								
Estimating the Product Backlog	Do you involve the entire team in estimation. Do you re-plan your work for each sprint based on your previous "Velocity" (how much work got done in previous sprints)? Do you update overall plan and stakeholder expectations based upon actual progress.	3.5	2.121	Talk	2	5								
	Do you select content for your next sprint from a prioritized set of work items (including functionality and defects)?	3.5	0.707		3	4								
Working Increment	Does each sprint (except perhaps the earliest ones) result in a stable executable release (internal or external), with code that you can demonstrate?	3.0	0.000		3	3								
Feedback Used	Do you use feedback from key stakeholders such as sponsors, partners, users to adjust the content of subsequent sprints?	3.5	2.121	Talk	5	2								
	For each sprint, do you define measurable tasks for sprint objectives, and are these tasks small enough to be performed by one or a few people?	3.0	0.000		3	3								







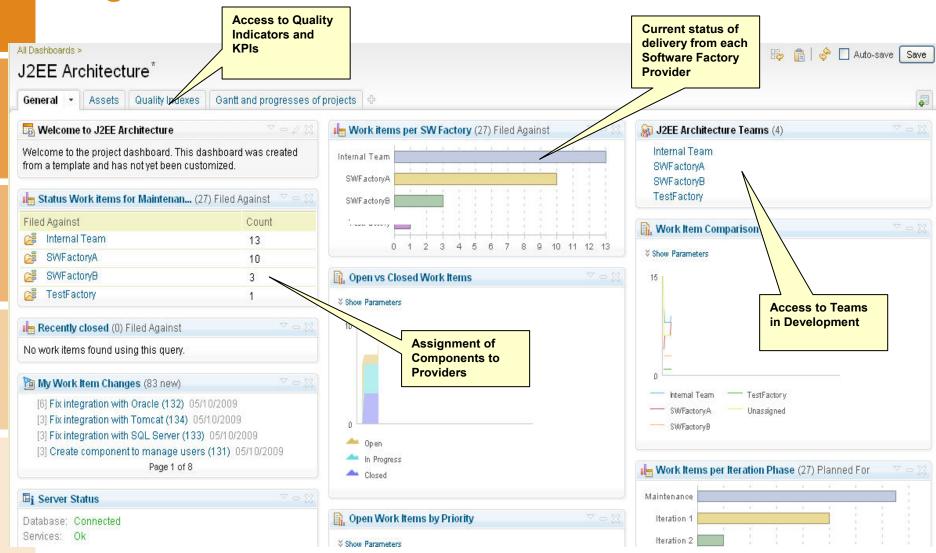
Case Study 5: Managing Outsourcers as a Set of Software Factories

- Two large European Insurance Companies customers that are mainly delivering systems through a set of Systems Integraters and providers
- Main concern is managing all these providers
- Big problems dividing and integrating work between providers (many integration conflicts)
 - Use cases, functional areas, deployment model...





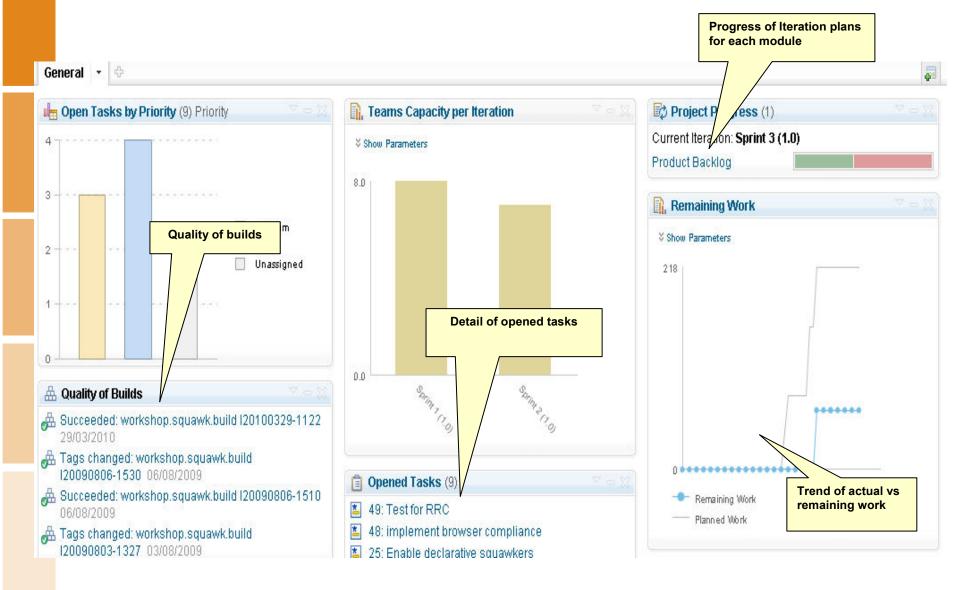
Software Factory Dashboard: All the Information in a Single View







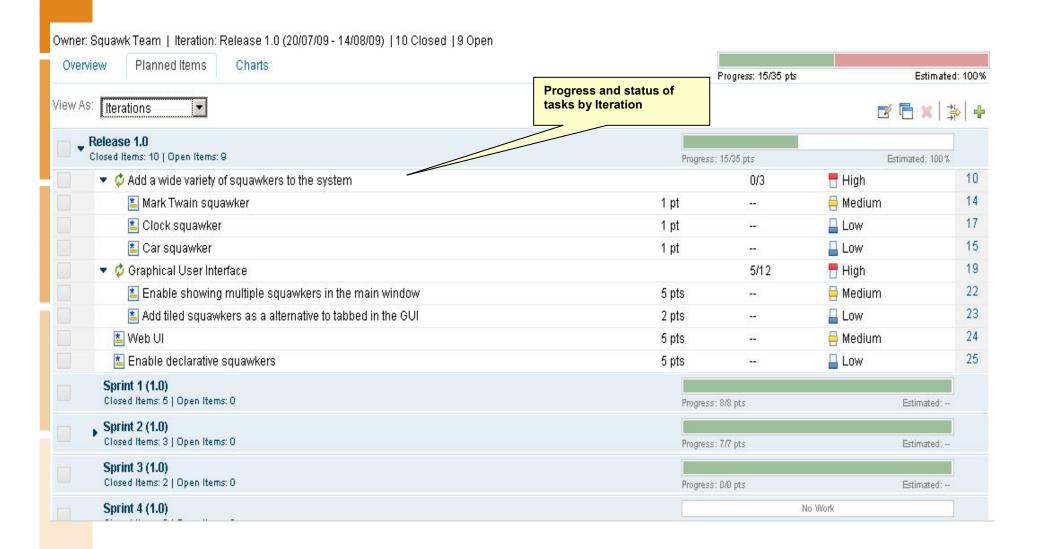
Application Trends







Iteration plan user and taskboard







Application deliverables









Case Study 8: Measured Improvement in Largescale Test Management and Test Execution

- Large IBM facility at Hursley in UK responsible for delivery WebSphere family of products
 - Includes WAS and CICS
 - Mature infrastructure products, with focus on quality and reliability
- Goal to increase coordination and governance across the teams to improve performance
- Focus on visibility into process and measured improvements in delivered quality







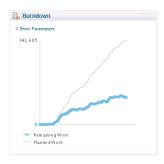




First Steps: Using RTC as the Integration Hub for Test Management

- CICS Systems Test Infrastructure Project
 - Used Beta of RTC
 - Migrated library source in minutes
 - Then reorganized to better leverage RTC
- 'Project 24' Infrastructure team (5 people)
 - Installed, configured and set up 1st iteration stories in 1day
 - Linux server and clients for the team, web client for stakeholders
 - Benefitted from concurrent change, auto merge and private workspaces









Growing the Scalable Deployment of RTC

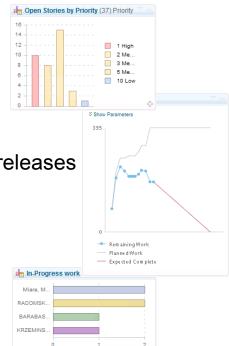
WebSphere MQ

Three key requirements:

- Support for numerous projects with smaller iterations
- Ability to plan and track work items across teams, iterations and releases
- Low cost on boarding for teams

Rational Team Concert (RTC) provided:

- Incremental adoption of features
- Coexistence with existing infrastructure
- · Ability to get right balance between process and agility



"main benefit has been to give us more flexibility in planning our future work" "finding RTC a helpful aid in viewing our priorities and progress"





Moving RTC Use Beyond Java CICS

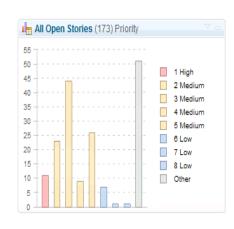
Four key requirements:

- Support for the complete development process
- Integrated solution from start to finish
- Low cost on boarding for teams
- Same tooling for both mainframe and distributed platform teams

Rational Team Concert (RTC) provided:

- Consolidated view for defect tracking and team/ project planning providing greater transparency
- Code for tooling products in one repository
- Environment which helped team's move to a more agile mindset
- Improved collaboration, with less emails

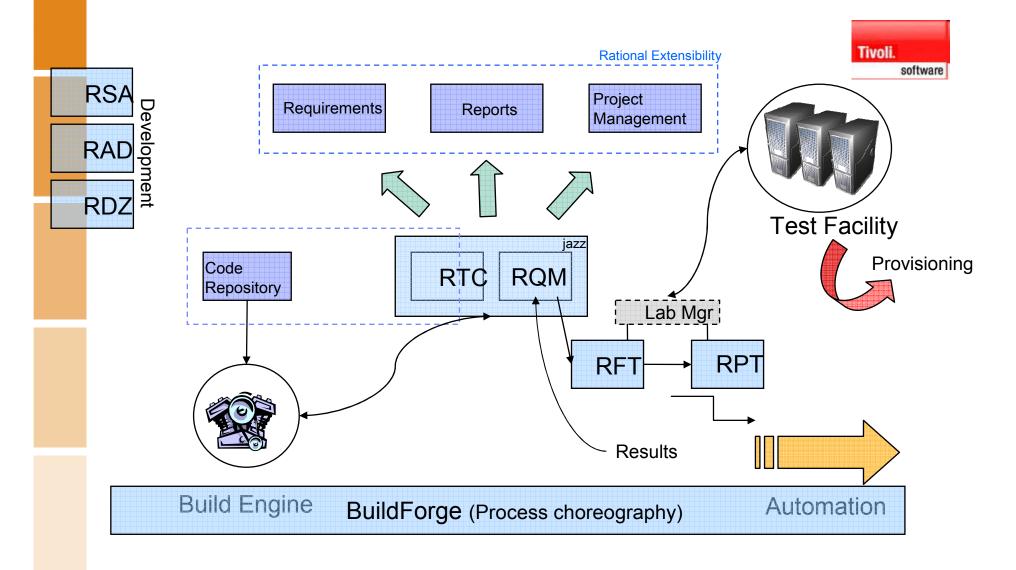
"Dashboards are a great way of providing project and personal information" "It opens up new ways of coordinating work. e.g. Parallelising work items"







IBM SWG – Rational Vision and Transition







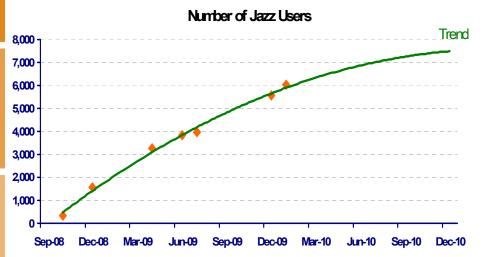
UK Labs Rational Jazz Adoption (March 2010)

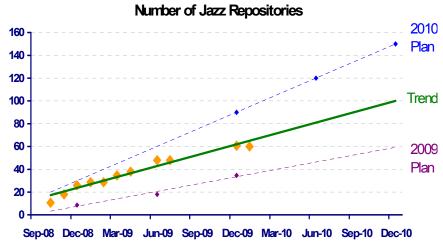
Desdusts	RTC Work its me	RTC	RQM
Products	Work items	SCM	Test Mgmt
p1	Υ	Plan	Υ
p2	Υ	Plan	N
x1	Υ	P4P	Plan
x2	Υ	P4P	Plan
х3	Υ	Y	P4P
х4	Υ	N	P4P
x5	Υ	N	P4P
х6	Υ	Y	Υ
y1	Υ	Υ	P4P
y2	Υ	Υ	Υ
у3	P4P	P4P	P4P
z1	N	N	Plan
z2	Υ	Y	N
a1	Υ	Plan	Υ
j1	Υ	P4P	N
j2	Υ	Y	N
r1	Υ	Synergy	Y
t1	P4P	P4P	Υ
s1	Υ		
h1	Υ	Υ	Y



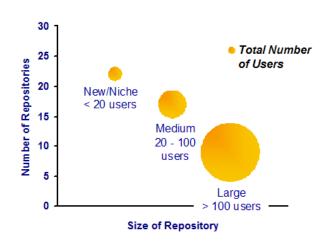


UK Labs Rational Jazz Adoption (March 2010)





60 repositories 6000 users



Analysis of Jazz Repositories

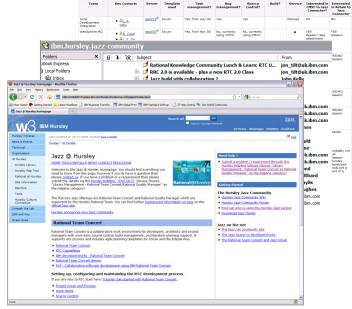




Hursley Jazz community



- Started with the provision of a central Jazz Service in June 2008
 - Hosting Jazz repositories, their back-up, infrastructure and maintenance
 - Agile approach to Jazz Service delivery
 - Customer rather than process focused
- Then the Jazz @ Hursley website was set up to:
 - Provide access to background information
 - Provide access to the Jazz clients supported
 - Compliment, not replace, the official jazz.net site
- 2009 Hursley Jazz Community formed
 - Monthly meetings to collaborate and share best practise
 - Utilising a push-pull-push iterative model
 - Push the service to customers requesting it
 - Pull ideas and best practise from the Jazz Community
 - Push solutions based upon these ideas back out to our customers









Lessons and benefits

- . RTC is a catalyst for change
- . Development buy-in
 - Willingness to make it work rather than make it fail
- . Collaboration has been key to RTC adoption
- . One size doesn't fit all
- . RTC has encouraged much more transparency and control in real time
- RTC promotes traceable collaboration within the development team
- Scales to meet the needs of small and large projects alike...
- Provides a common front-end
- . Deploy RTC by using it!





Case Study 10: Single Large-scale Software Development Platform

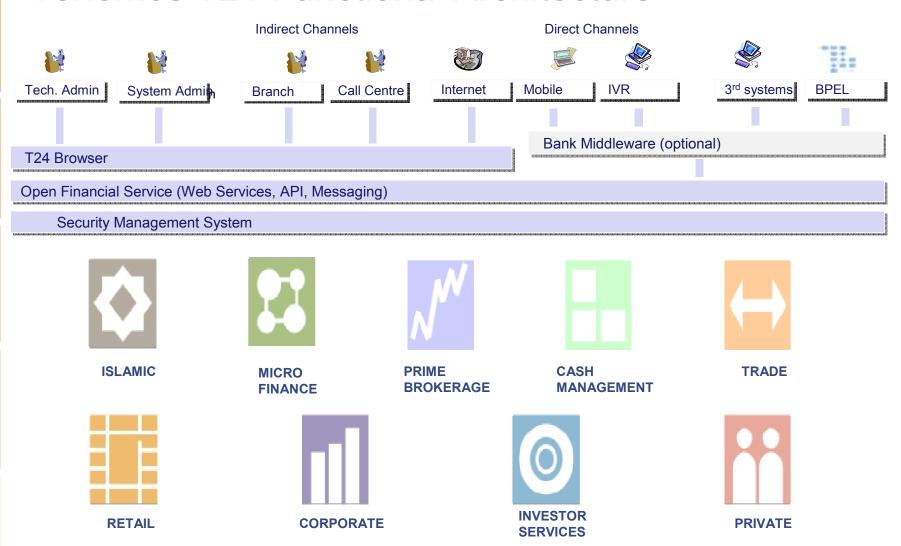
- Tenemos is a leading global banking software company
 - A growing company with a firm foundation and strong financials
 - 480 clients in 115 countries on T24 solution
- Key challenges faced
 - Lack of collaboration
 - Poor visibility of overall project status and health
 - Inaccurate and untimely information
 - Duplication of work effort
 - Increased manual inputs
 - No holistic view of tasks across the team
 - No single version of the truth







Tenemos T24 Functional Architecture



Persistence





Tenemos T24 Technical Architecture



User InterfaceMicrosoft Internet Explorer 6+
Mozilla Firefox 1.5.4+



Interfacing Options
Service Orientated Architecture
Enterprise Application Integration

Presentation















Connectivity







TCP/IP (SSL)
IBM WebSphere MQ
Oracle AQ
JMS

Application









Database



Cluster



ORACLE:

SQL Server:2008





Tenemos has a broad range of systems in development....

Reporting

- Weekly maintenance +
- Monthly maintenance +
- SI Report +
- Oracle eBiz extract

Planning

- MS Project
- Excel

Ticketing

- CSS *
- TTS *
- PATS *

Development

- SCOPE *
- MS Project
- Excel

Source Control

- Dimensions
- Perforce
- VSS

- + Spreadsheets
- * Proprietary systems





The solution...

Reporting	Planning	Ticketing	Development	Source Control
* Weeky maintenance + * Monthly maintenance + * S. Report + * Oracle eBiz extract	IBM Ratio	onal Team Co	ncert	* Dinensions * Perforce * VSS





RTC @ Temenos

Phase One live since July 2009

90 active users, mainly developme

Both **agile** and **waterfall** methodologies

Mixed technologies and languages

Benefits

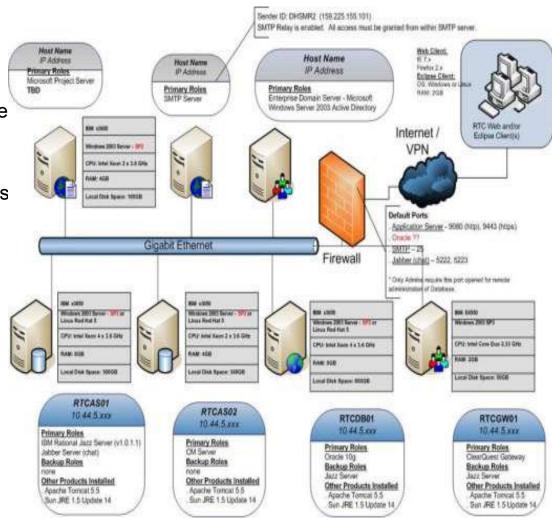
Transparency

Collaboration

Natural documentation

Linked items

Keep a history of plans







Future Plans

- Phase Two completed in December 2009
 - Support, Strategy and rest of Development Teams
 - Total user population of 750 users
- Target for 2010
 - 1200+ users
 - New Customer access into development
 - Using RTC has led us to consider other areas of the SDLC





Lessons Learnt

- Treat yourself as you would a customer
 - Drink your own champagne / eat your own dog food?
 - Don't try to implement what you currently have in another tool (streamlining of process)
- Compromise, but not too much
- Build a relationship with IBM Rational
- Get services from IBM Rational to accelerate deployment
- Determine deployment architecture early to avoid additional costs
- Use single sign on!









Topics

IBM and agile

Thinking agile

Case Studies and Examples

• Where to begin...





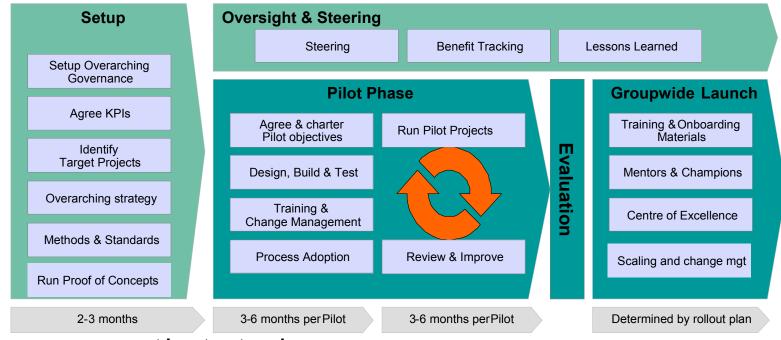
Consider all the elements

- Delivering agility in your organization requires several coordinated elements
- <u>Process and method content</u> based on content from standard frameworks (SCRUM and OpenUP) augmented with content from the organization's existing processes extended with guidance from IBM.
- <u>A workbench</u> delivering the appropriate supporting capabilities to automate, accelerate, guide and measure adoption of the new practices.
- <u>Decision framework</u> for selection of lifecycle practices that are appropriate to the project characteristics, and guide process adaptation.
- Metrics and dashboards for assessing projects, BU, and organizational KPIs.
- <u>Pilot</u> strategy and criteria for selecting pilots, managing candidate pilot project adoption, and adjusting practices and tool based on pilot progress.
- <u>Organizational improvement</u> through scheduled training activities, support/coaching concept and communication, and broad educational tasks.





Typical programme structure & plan for large-scale Agile at Scale rollout



The programme must be structured as:

- Initial setup phase to define standards, setup benefit tracking mechanisms and setup programme governance and oversight
- An ongoing oversight and steering stream to enforce standards, ensure continuity and track benefits across the disparate projects
- For each 'practice area':
 - A set of **Pilot projects** on a small pool of users per area (2-5 projects). These would typically take 3-6 months to setup and then require 3-6 months of 'running' to evaluate the concept and make improvements
 - Once the pilot has completed, a separate 'launch' scale out is needed to be rolled out across the organization



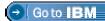


A Call To Action

- Consider an Agile Pilot Project
 - See it work for yourself
 - Get mentoring help
- Get some Agile training
 - Project management training is critical
 - Training modelers, developers, ... is also critical
- Get an Agile Health Check
 - Look at key agile practice areas
 - Use a Measured Capability Improvement Framework (MCIF) to establish target
- Adopt appropriate Agile practices
 - Select agile practices that optimize you project characteristics
 - Align with control mechanisms and risk-mitigation strategies
 - Support with tools that automate those practices







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Innovate2010

The Rational Software Conference

June 6-10 Orlando, Florida

Let's build a smarter planet.



The premier software and product delivery event of the year!

Top 5 Innovative Reasons to Attend

- 1. Over 350 sessions focused on software, systems, services and much more
- New Solution Tracks: Agile, Cloud, Jazz, Systems Development
- 3. Over twenty hands-on technical workshops
- 4. Participate in the Innovation Jam
- 5. Networking and innovating with 4,000 peers!

The innovation conversation has already started!

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You do so much more than just build, deliver, and manage. You innovate.

And since software is the invisible thread that speeds innovation and helps us design and build the smarter products and services we need to build a smarter planet, then you deserve a revamped, upgraded, 2.0 conference. One that sparks and celebrates innovation. Get ready for...

Innovate 2010 The Rational Software Conference Register now and save — June 6–10, Orlando

The premier software and product delivery event. A smarter conference. For a smarter planet. The place to expand and deepen skills you need to keep innovating...

- Software and product development, delivery, and management
- How to seize business opportunities... execute with reduced risk and cost...
 and achieve precision in desired business outcomes
- And better ways to collaborate, automate, and report

It's your conference, so register now and save!

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