

Effective Software Delivery using Rational Collaborative Lifecycle Management Solutions



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IBM Software. Rational

I TWEET! FOLLOW ME. @FarizSaracevic



Agenda

- ALM Challenges
- Effective Application Lifecycle Management (ALM)
- Getting started on your ALM journey
- Questions



We are a part of a movement that has the potential of being (or perhaps already is) more impactful than the Industrial age...

Software unleashes our creativity



Software connects us in ways we never imagined

Apps for Autism: Communicating on the iPad

32 Comments

Have Your Say

Email Story

Send to a Friend

Share This

Tell Your Friends

Tweet This

Tweet This

More

Share It



10 MINUTES

MAR
12
2011

Japan Tsunami & Earthquake - Use of Twitter, Facebook, Skype & other Social Networks

1

The tsunami & earthquake that have struck Japan have affected the communication sector. Mobile phone networks have been jammed & people are finding it difficult to communicate. [Twitter](#), [Facebook](#), [Skype](#) & local Japanese social networks have come in handy for people to communicate & keep in touch with the loved ones. Social media has been playing a crucial role in times of natural disasters. In Haiti earthquake also, twitter was used to keep in touch with the world. Several people have posted on their FB wall about their experiences during the quake. The Japan Tsunami related topics have been trending in Twitter. Several videos have also been posted in Youtube.

Innovation is being driven by software



Mobile banking will be the most widely used banking channel by 2020, if not sooner

The average 2010 automobile contains more lines of software code than a fighter jet

Will it perform?

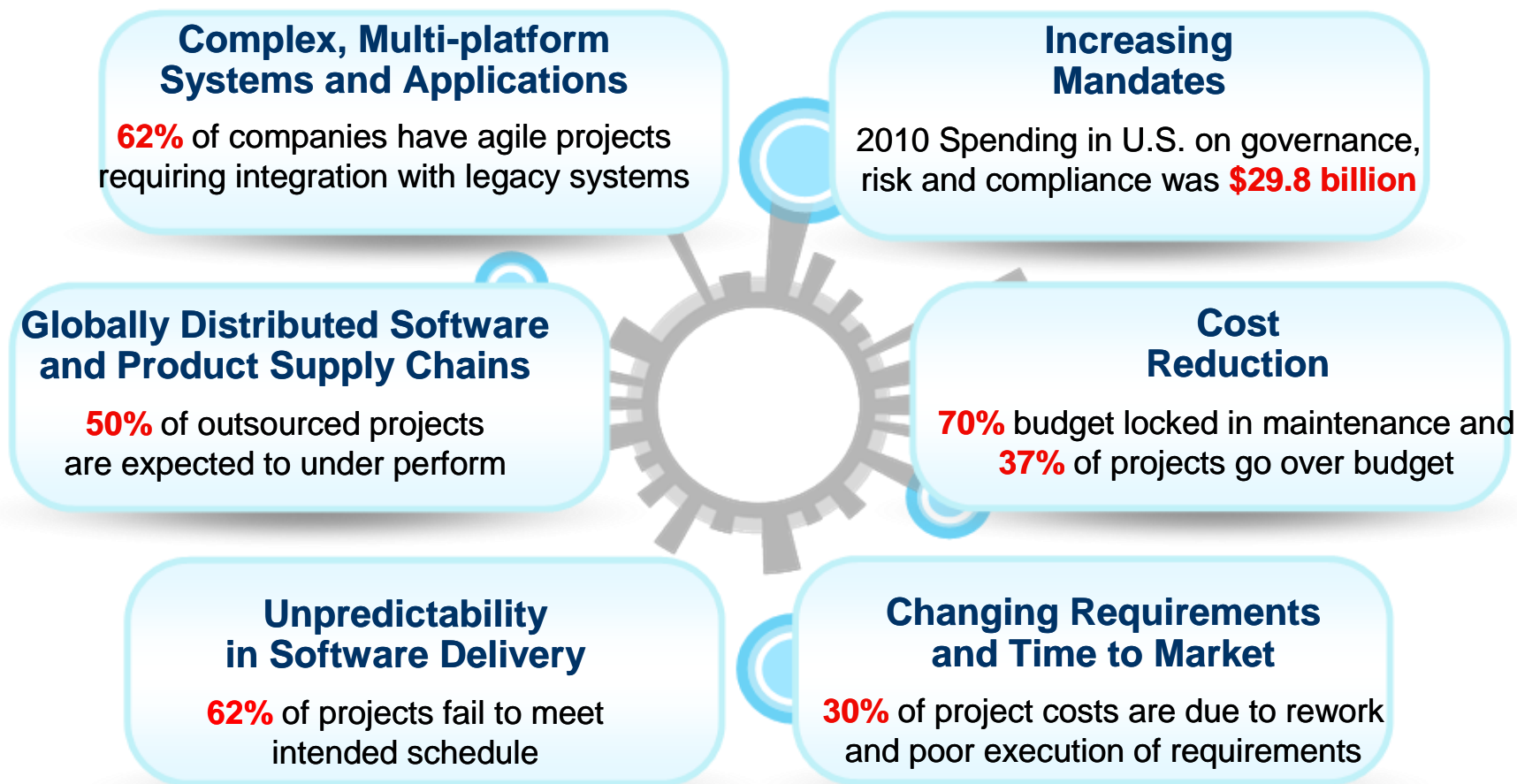
Is it secure?

Are we compliant?

Source: *Mobile banking: A catalyst for improving bank performance*, Deloitte, 2010; and *This Car Runs on Code*, Robert Charette, IEEE Spectrum, 2009.

Realities can stall software-driven innovation

Complexities in software delivery compounded by market pressures



Source: Numerous sources, see speaker notes for details

Stakeholders depend upon the productivity of a multi-disciplinary team to deliver the software they expect...

Application Lifecycle Management can help!

ALM manages the flow of:

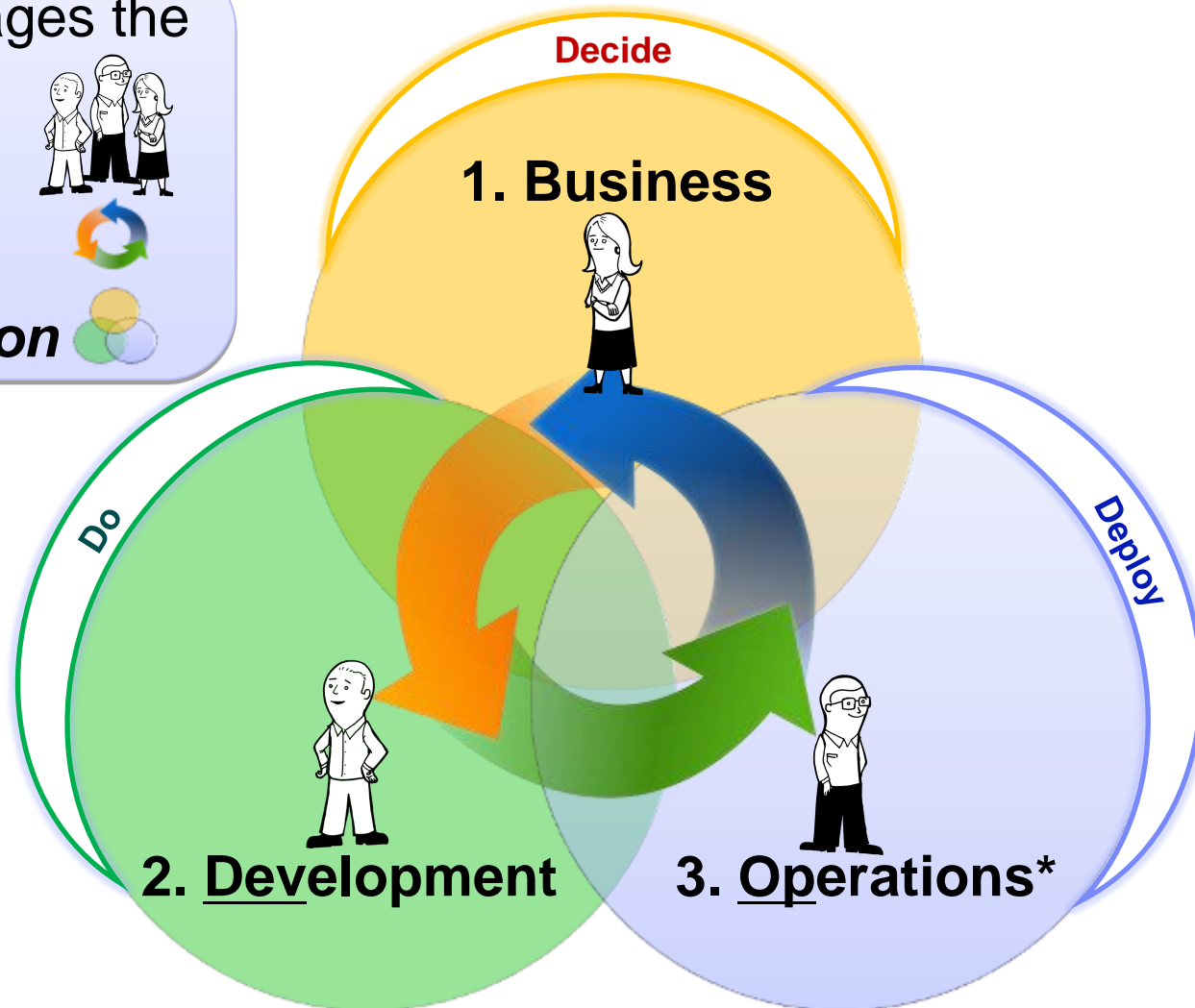
People



Process



Information








What do ALM teams do to improve their productivity?



Five Imperatives for Effective Application Lifecycle Management to improve organizational productivity



-  Maximize product value with **In-Context Collaboration**
-  Accelerate time to delivery with **Real-Time Planning**
-  Improve quality with **Lifecycle Traceability**
-  Achieve predictability with **Development Intelligence**
-  Reduce costs with **Continuous Improvement**

Learn more at [ALM Everywhere](#)

“I used to think collaboration was a hippie word leftover from the 1960’s...

...now I define it as survival”

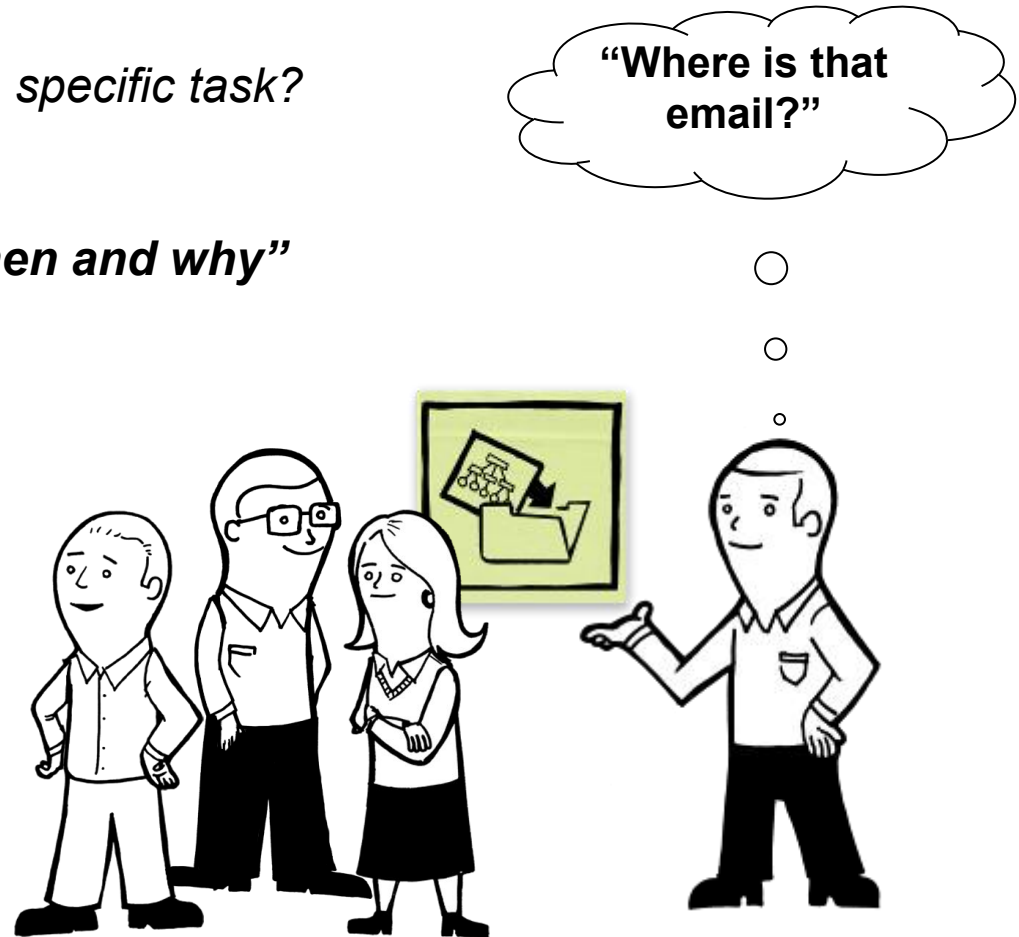
A speaker at Innovate 2011, Rational User Conference

Collaboration challenges

Can your team...



- ...find all the information related to a specific task?
- ...quickly grasp the “who, what, when and why” of team activities?
- ...bring new team members up-to-speed quickly?
- ...overcome the barriers of multiple time zones when working with outsourced and distributed team members?



Comments on requirements details are in-context



79: Donors will receive confirmation and receipt

Key Scenarios

1. Donor will receive confirmation notice that donation has been processed.
2. Once the confirmation is received, the Back Office System will initiate an email to the donor based on the primary contact information in the donor's profile.
3. If the profile indicates no email address available and or the given email address is not valid, then a hard copy of the donation will be sent to the donor's mailing address specified in the donor's profile.
4. The Donor will receive an email - mail notice affirming the donation % and amount.
 1. If in email, the donor will be provided an option to print the confirmation notice for tax purposes.
5. The printed confirmation notice must be in a format that is acceptable by country, state, and province agencies and will be mailed in their Bank Statement

Related Features

Overview

Comments (2)

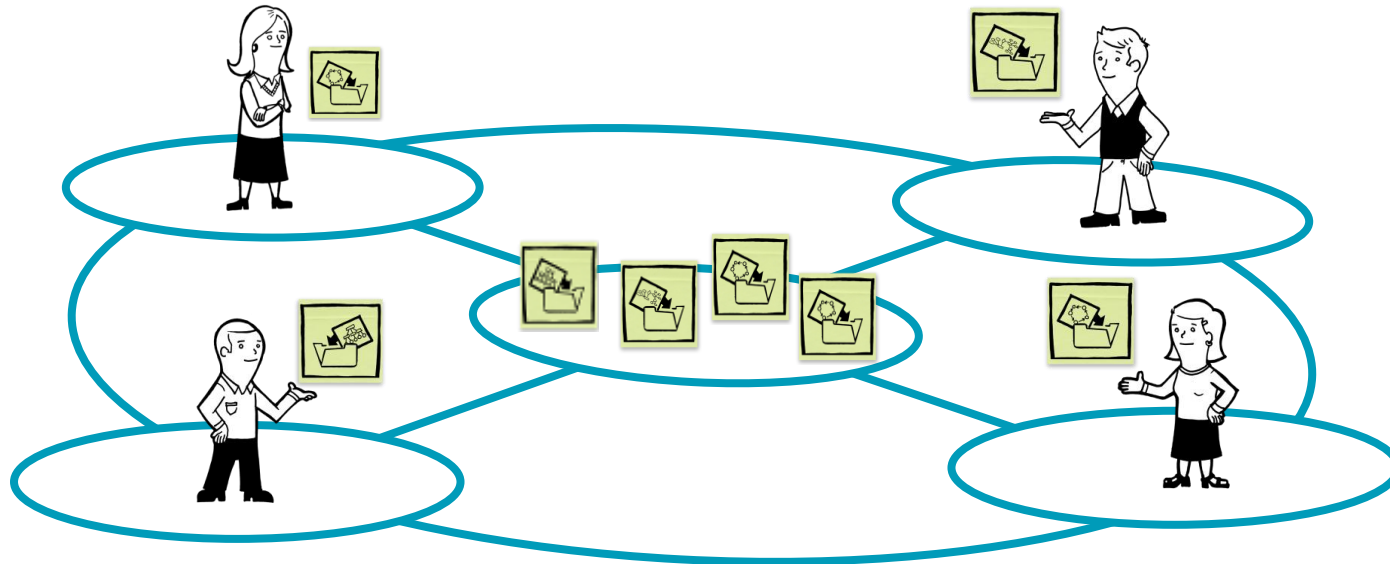
1. Marco to Bob 1 minute ago (1 reply)
Statements must be mailed?
We need to understand if this applies to customers that have opted for electronic statements. Does paper still need to be mailed?
2. Bob to Marco 2 minutes ago
RE: Statements must be mailed? [RE: #1]
No requirement to mail if customer selected electronic statments.

A click on the comment highlights the text under discussion.

In-Context Collaboration improves product value



- Empower teams to collaborate on and review software development artifacts so they can **incorporate feedback early and often** aligning delivery with stakeholders' vision
- Provide a **single source of truth** hosted in a shared repository so that team members can collaborate effectively around the globe to build a collective intelligence
- Make **information immediately accessible** to all team members in the context of their work



"Observe always that everything is the result of change, and get used to thinking that there is nothing Nature loves so well as to change existing forms and make new ones of them."

Marcus Aurelius, emperor of Rome (121-180 AD)

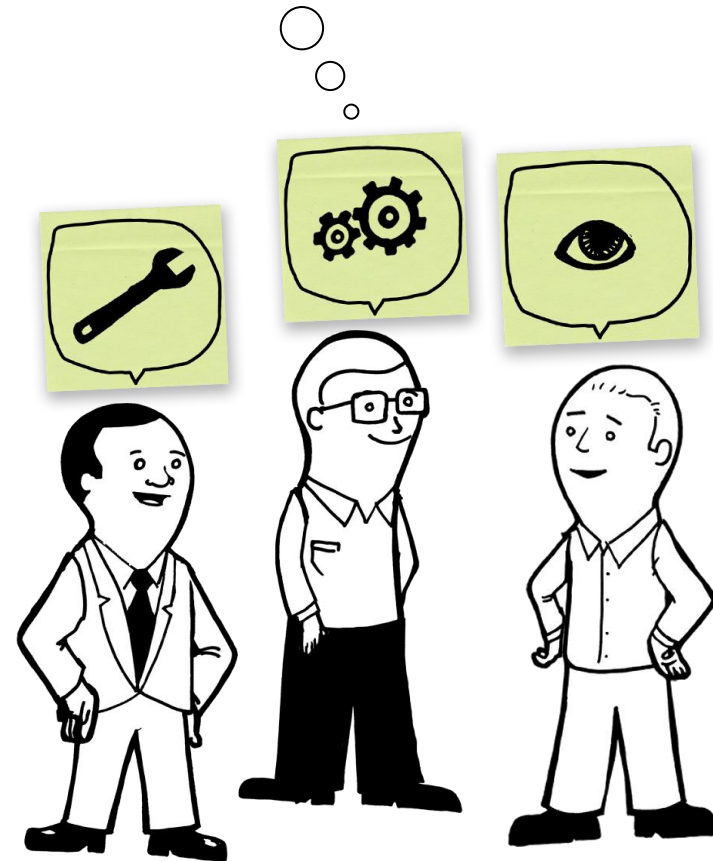
"He, who could foresee affairs three days in advance would be rich for thousands of years."

Chinese Proverb

Planning challenges

Does your team...

- ...plan across the entire team?
- ...manually collect and report status?
- ...instantly see the impact of a change in project scope or resources?
- ...integrate planning with execution?
- ...plan for waterfall, iterative and agile environments?



One plan with multiple views

Everyone sees meaningful data in the context of their work



1 **BRM Sprint 2 (1.0) Plan** 26 items: 23 open, 3 closed | Ends in: 3 days Auto-Save Save

Plan Details Edit

Planned Items Links Snapshots Dashboard Notes

View As: Roadmap (3 items filtered) Add Work Item

Actions	Summary	Effective Estimate	Owned By
	Frequency of dividend transfer	--	Unassig
	Requests sent in form of email	--	Unassig
	Organization must identify how much money is desired	--	Marco

2 **BRM Sprint 2 (1.0) Plan** 30 items: 25 open, 5 closed | Ends in: 6 days

Plan Details

Planned Items Links Snapshots Das

View As: Taskboard

Story	Open	In Prog
Donor Dividend Allocation Criteria	Implement - Donor Dividend Allocation Criteria	
Frequency of dividend transfer		Implement - Frequency of dividend transfer

3 **BRM Sprint 2 (1.0) Plan** 30 items: 25 open, 5 closed | Ends in: 6 days

Plan Details

Planned Items Links Snapshots Dashboard Notes

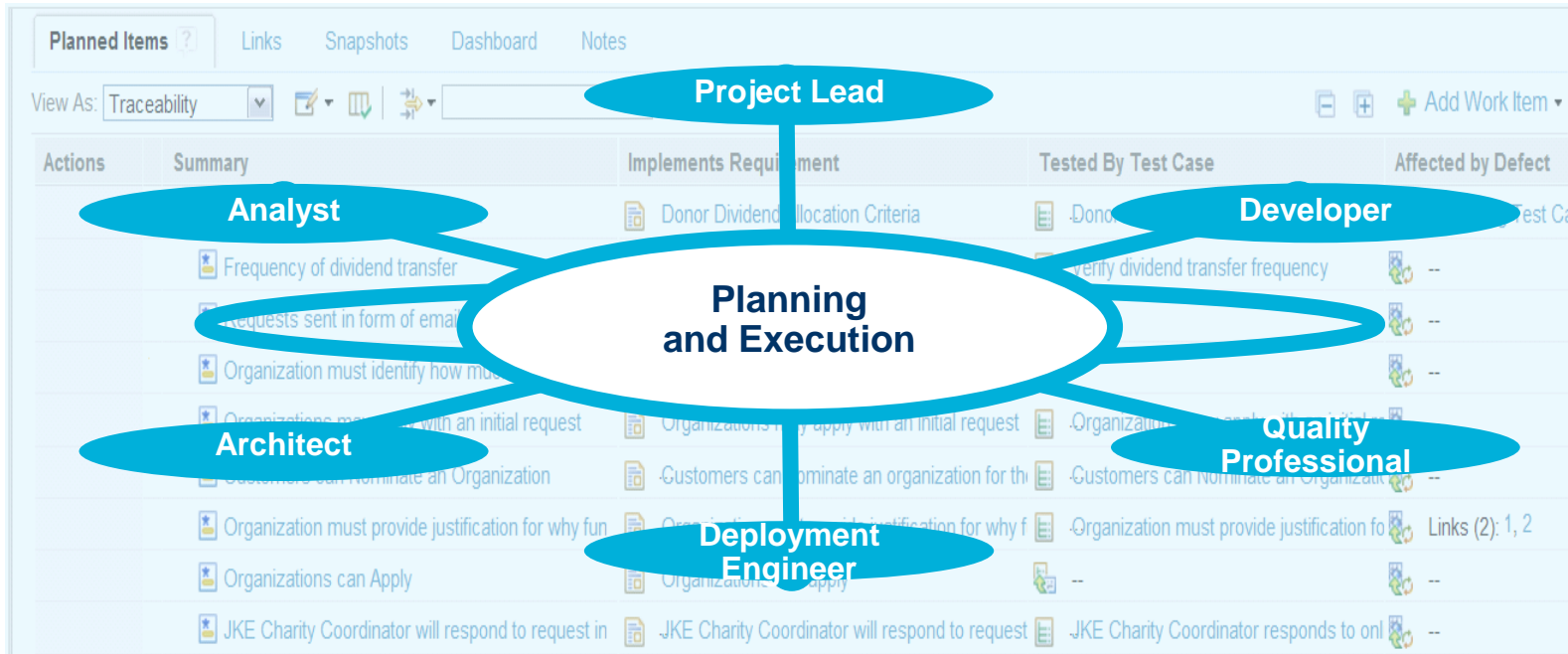
View As: Planned Time

Person	Closed Items	Open Items	Load
Bob	0	1	0/8 +8 h
cp	0	1	0/8 +8 h
Deb	3	5	168/8 -160 h
Marco	2	14	92/8 -84 h
Tanuj	0	0	0/8 +8 h

Real-Time Planning accelerates time to delivery



- Provides a **single plan** that spans requirements, development, and test, ensuring the whole team understands the overall scope of a project
- **Integrates planning with execution** ensuring the entire team understands the true project status
- Allows **everyone to participate** in keeping the plan current and accurate
- Helps teams **respond to the unexpected** in a timely manner ensuring the team stays on schedule



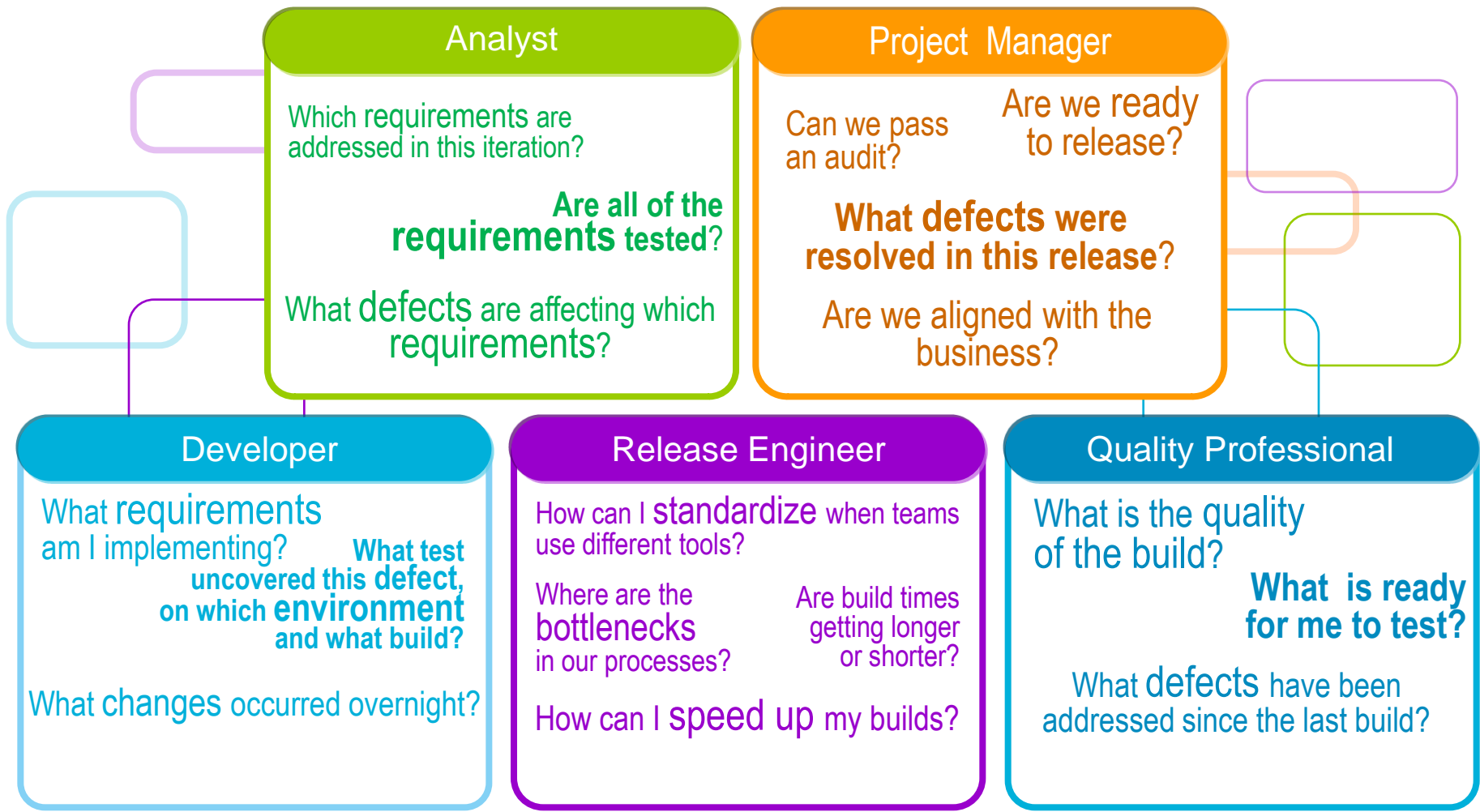
The head bone's connected to the neck bone...

the neck bone's connected to the backbone...

the backbone's connected to the hip bone...

Lifecycle Traceability challenges

Can your team answer...



Team leads have visibility into coverage & completeness



- Proactively respond to gaps (in red) as they surface throughout the project
- Issues are quickly highlighted and resolved (in yellow)

BRM Sprint 2 (1.0) Plan * ?

26 items: 23 open, 3 closed | Ends in: 3 days

Plan Details Edit

Planned Items Links Snapshots Dashboard Notes

View As: Traceability Type to Filter (17 items filtered) Add Work Item

Actions	Summary	Owned By	Implements Requirement	Tested By Test Case	Affected by I
	Requests sent in form of email	Unassigned	Requests sent in form of email	--	--
	Frequency of dividend transfer	Unassigned	--	Verify dividend transfer frequency	--
	Organization must provide justification for why funds are nee	Marco	Organization must provide justification for why funds are ne	Organization must provide justificatio	--
	Organizations can Apply	Marco	Organizations can apply	Organizations can Apply	--
	Organization must identify how much money is desired	Marco	Organization must identify how much money is desired	Organization must identify how much	Links (2)
	Donor Dividend Allocation Criteria	Deb	Donor Dividend Allocation Criteria	Donor dividend allocation conforms t	--
	Organizations may apply with an initial request	Bob	Organizations may apply with an initial request	Organizations may apply with an initi	--
	JKE Charity Coordinator will respond to request in the websit	Marco	JKE Charity Coordinator will respond to request in the web	JKE Charity Coordinator responds to	425: Rur
	Customers can Nominate an Organization	Marco	Customers can nominate an organization for the program	Customers can Nominate an Organi	--

Linked data is visible on all artifacts



- All **roles** can view the links on their artifacts.
- Each user has their own perspective and user interface for viewing links.
- Create, delete, navigate links on artifacts

- Example: Developer sees the relationships on a defect
- Traceability links on defects are automatically created

Defect 300 ?

Summary: *

Overview **Links** Approvals History

Attachments

Add File:

No Attachments.

Links

Add: ▾

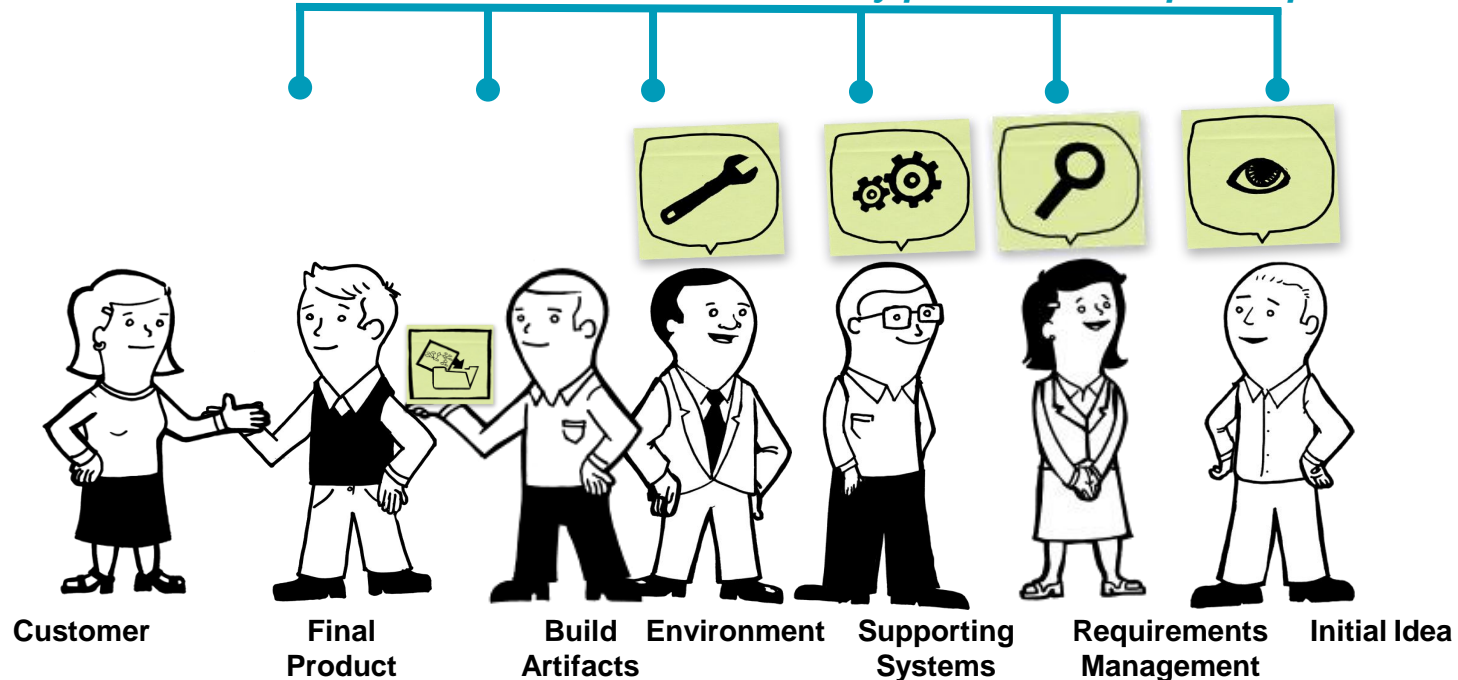
- Affects Test Result**
 - ↳
- Affects Requirement**
 - ↳
- Related Test Plan**
 - ↳
- Blocks Test Execution**
 - ↳
- Related Test Case**
 - ↳
- Affects Plan Item**
 - ↳



Lifecycle Traceability improves quality

- Establish **relationships between software artifacts**
- **Identify and close artifact gaps**, ensuring **coverage** across disciplines
- Provides visibility into the **completeness** of planned items by inspecting all related artifacts
- Provides easy **access to related artifacts** ensuring everyone shares the same view
- Delivers transparency which enables everyone to make **fully informed decisions** based business priorities

Instant access to details from any point in development process



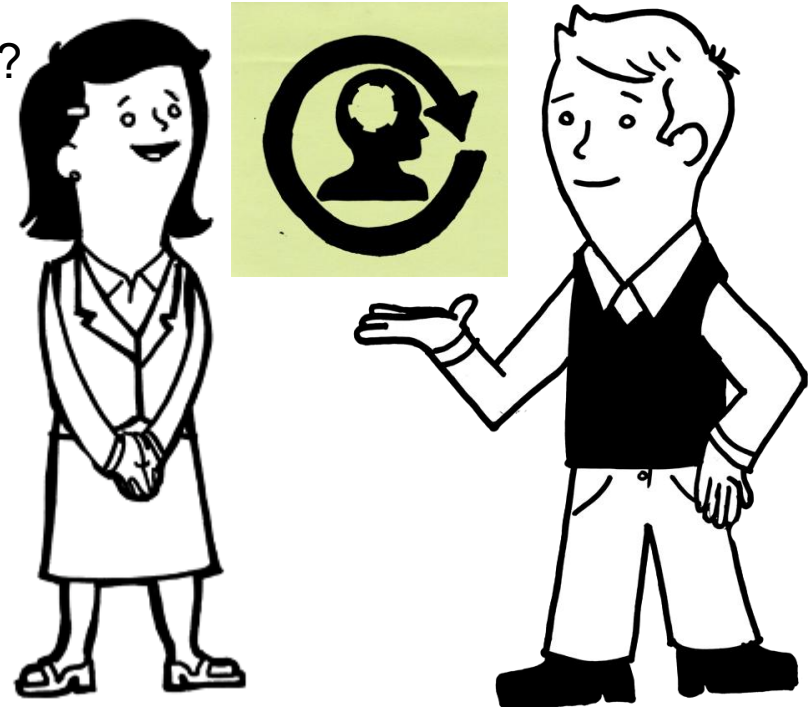
Are we there yet?

Measuring and steering challenges

Can your team...



- ...provide one view of project health at multiple levels?
- ...**make steering decisions based on facts rather “guesstimates”?**
- ...track desired improvements with metrics?
- ...minimize administrative overhead by relying on your environment to capture metrics?





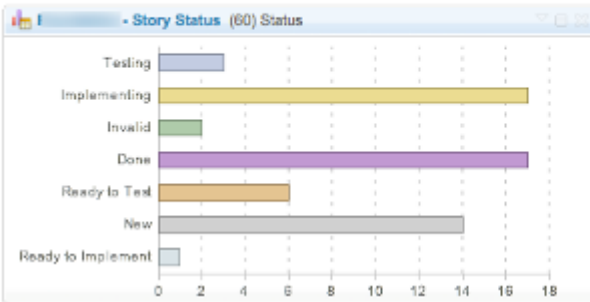
Use dashboards to provide that one view of project health (information radiator)

JKE Banking (Change Management)* ?

Overview | Time to Value (Schedule) | Product Value | Product Cost | Product Quality | Reports | Stabilization +

Story Status Current Iteration

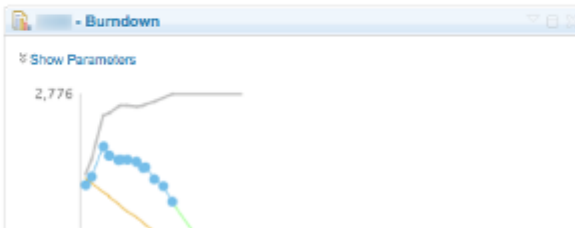
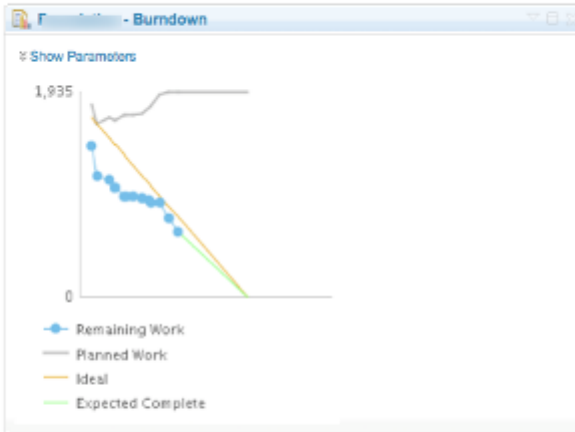
Shows the status of all stories planned for the current iteration



- #### Current Stories (80)
- 150501: Improve Web UI error reporting
 - 154382: Completion (M14) of foundation support for migrating RRC 2.x to 3.0, and JTS consolidation
 - 155918: Provide TVT testcases and testcase updates to TVT team
 - 154263: [Continuation] Create server diagnostics tests and reports that make various checks
 - 155024: Track the fixing of hangs occurring on shutdown of the CLM server
 - 155398: [Repository - M14] Performance, quality and robustness enhancements
 - 156051: Improvements and fixes for CLM migration automation
 - 154829: [Repository - M14] Address high severity defects, Reduce backlog
 - 155033: Explore servlet dispatching enablement as a backup option
 - 155486: [Repository M14] Serviceability and Consumability Improvements
- Page 1 of 6

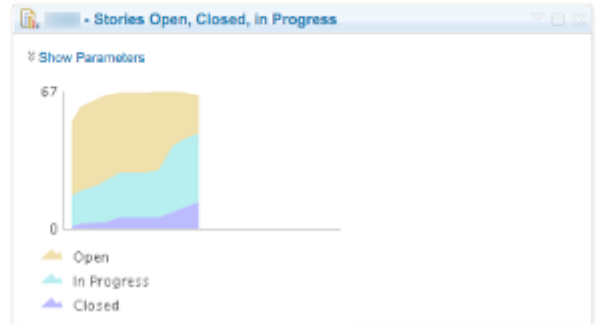
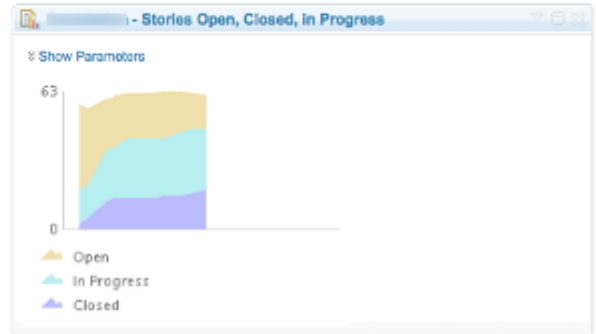
Burndown Current Iteration

Shows the remaining amount of estimated work in hours of work items planned for the current iteration.



Stories Open/Closed/In Progress

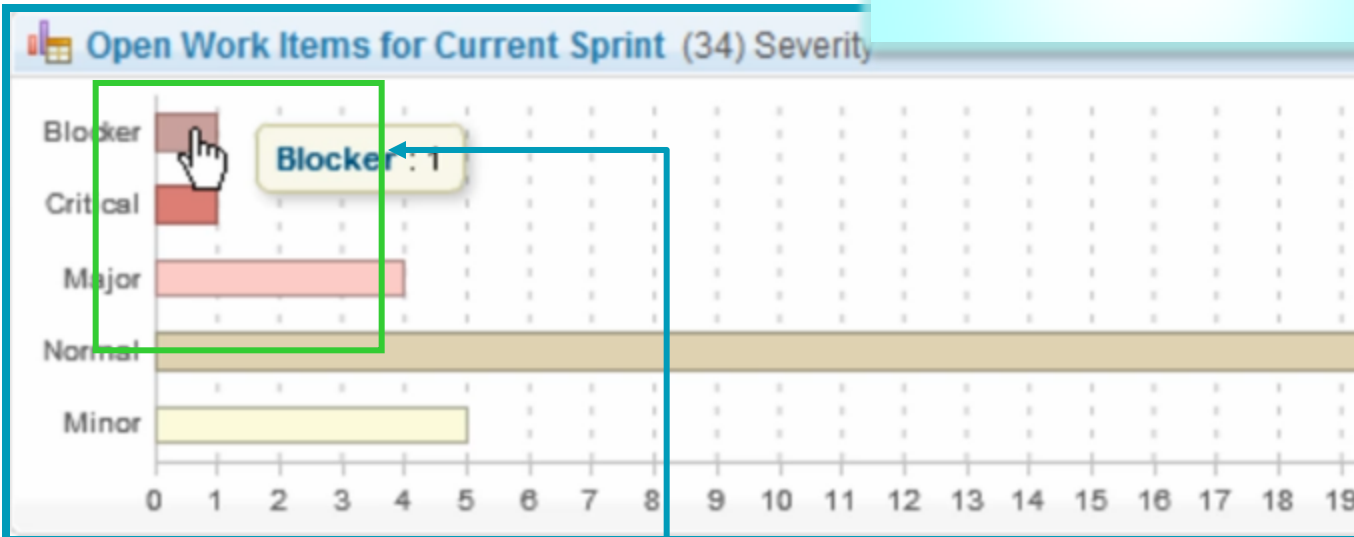
Shows the number of stories which are open, in progress, done during the iteration.



Dashboard details

Easily answer steering questions

✓ Mini-dashboards: available on any page



Mini Dashboard

Plan Items with failing... (0)
No work items found.

Re... in JKE Banking

- JKE Charity Coordinator will respond to request in the website triggering (117) 3 hours ago
- Donors will receive confirmation and receipt (115) 3 hours ago
- Organizations may apply with an initial request (114) 3 hours ago
- Organizations can apply (112) 3 hours ago
- Requests sent in form of email (110) 3 hours ago
- Donation by Amount (107) 3 hours ago
- Organization must provide justification for why funds are needed (94) 3 hours ago
- Dividend allocation by percentage (83) 3 hours ago
- Customers can nominate an organization for the program (82) 3 hours ago
- Requests sent in form of hard copy mail (70) 3 hours ago

Page 1 of 2 | Next

Needs triage (8)

- 74: Allocate Dividends To Multiple Causes
- 70: Donor Dividend Allocation Criteria
- 67: Donation by amount

Page 1 of 3

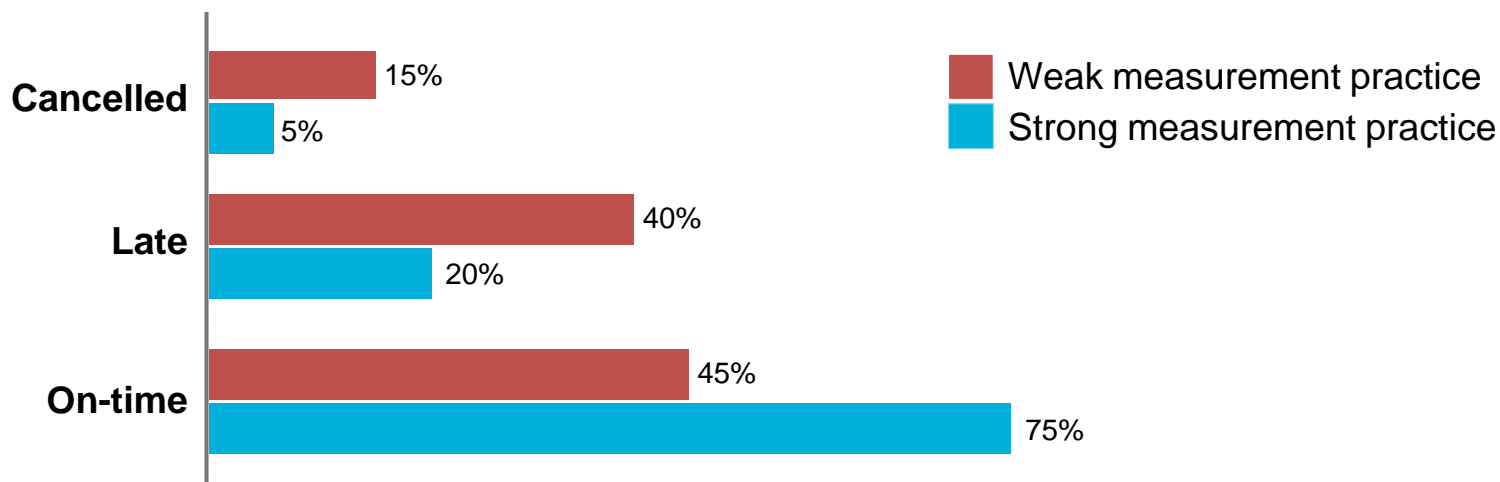
✓ Click thru on the viewlet to drill into information

Development Intelligence improves predictability



- Enable **fact-based decision making** (to communicate status, monitor progress, diagnose problems, identify corrective actions)
- **Steer projects and programs** to deliver on-time
- Apply **Business Intelligence techniques** to software and systems development

Measurement Practices Impact Project Success



Sources: Capers Jones, Measurement, Metrics and Industry Leadership, Copyright © 2002-2007 by Capers Jones LLC
Capers Jones, [Software Engineering Best Practices](#), Copyright © 2010 McGraw-Hill

“Failure happens all the time. It happens every day in practice. What makes you better is how you react to it.”

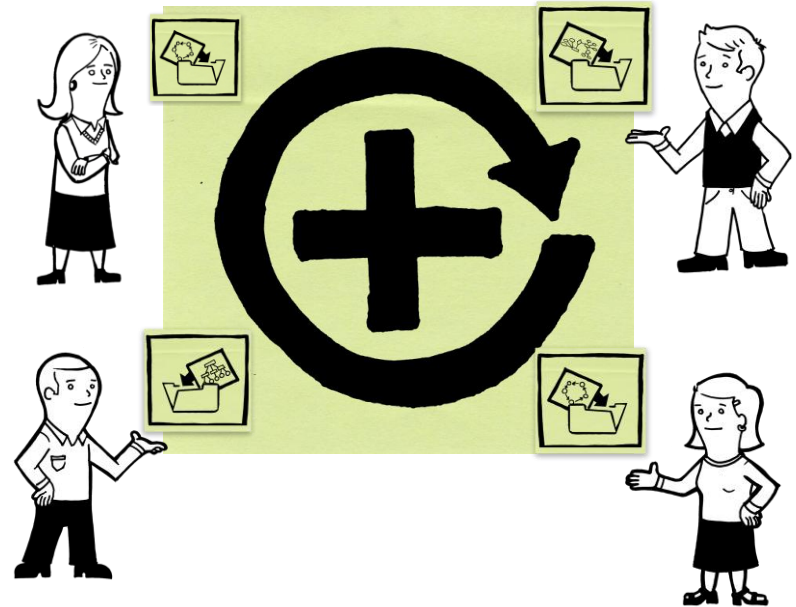
Mia Hamm, first female FIFA World Player of the Year

Continuous improvement challenges

Can your team...



- ...leverage out-of-the-box templates that support traditional and agile workflows?
- ...change process “on the fly” as part of a continuous feedback loop?
- ...allow team leads to determine how strict or lax the “rules of the road” should be?
- ...modify process enforcement over the life of a project, to encourage early-stage experimentation and end-game stability?



Team retrospectives help identify areas of improvement



- Tracking Retrospectives help team members to collaborate on improvements
 - Ranking of process improvements help to focus on where the team feels the biggest pain

Change and Configuration Management (ccm) - JKE Banking (Change Management)

Project Dashboards | Work Items | Plans | Source Control | Builds | Reports

Work Items > Queries > Retrospectives

Id	Status	Summary	Filed Against	Planned For	Actions
77	New	Builds are not completing as frequent as before	Build	Unassigned	
32	New	Retrospective for Sprint 2	JKE	Sprint 2	
31	Done	Retrospective for Sprint 1			

31: Retrospective for Sprint 1

Status: Done

Details

Filed Against:	JKE	Planned For:	Sprint 1
Project Area:	JKE Banking (Change Management)	Resolution Date:	March 26, 2011 5:44 PM
Owned By:	Marco	Resolved By:	Marco

Quick Information

Discussion (4 comments) Add Comment

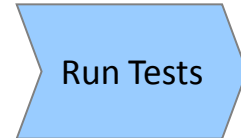
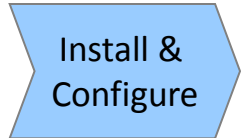
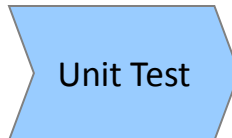
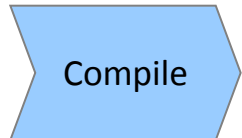
[Collapse All](#) | [Expand All](#)

- Tanuj** Sep 1, 2011 1:22 PM
I have some concerns about late-in-the-cycle deliveries causing code charm. We had some challenges with the retesting required late in the sprint.
- Tanuj** Sep 1, 2011 1:24 PM
Should've also mentioned that it's been hard to find information on the right build for the fix and to understand where to find the latest good build.
- Deb** Sep 1, 2011 1:42 PM
[@tanuj](#) - I don't think we've had a lot of disruptive changes at the end of the sprint. Let's talk about this more in depth at the meeting tomorrow. I do agree [@tanuj](#) that tracking down build status has been too hard.
- Bob** Sep 1, 2011 1:45 PM
In the meeting, I'd like us to discuss some issues where requirements were not well understood and that required some things to be reworked during this sprint(which may contribute to [@tanuj's](#) impressions in comment 1). Hopefully, as a team we can come up with some ideas on reducing this confusion.

Beyond milestones...

Continuous Integration testing for builds

“Green” builds have passed **meaningful** integration tests



Line Coverage	Branch Coverage	Complexity
75%	41%	2,325
52%	41%	1,840
0%	0%	2,429
N/A	N/A	2,277
90%	75%	1,054
86%	60%	5,5
87%	60%	2,882
92%	77%	4,444
87%	62%	4,5
100%	95%	1,524
60%	69%	2,882
60%	N/A	1,2

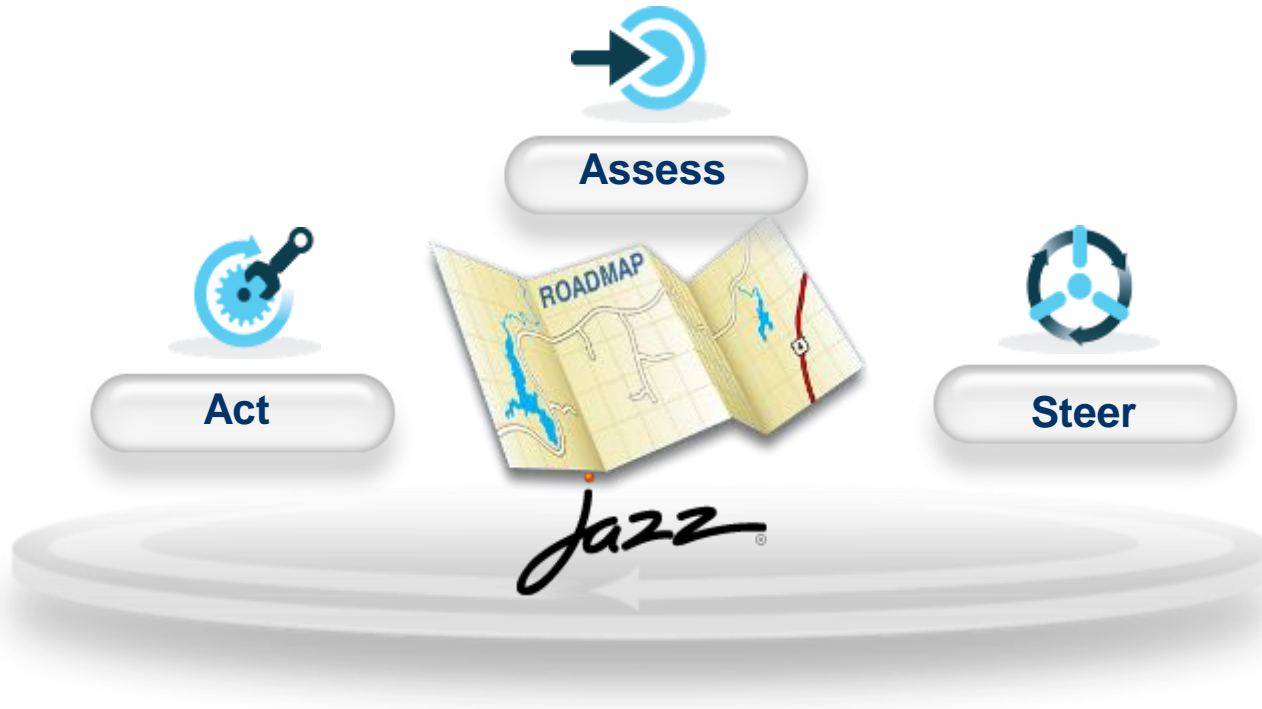


Nightly build is not **published** until integration tests run.

Continuous Improvement reduces cost



- Improve software delivery through the ongoing **adoption of best practices and automation** to reduce manual, non-creative and error prone tasks
- Promote **incremental improvement of a project** when needed
- Enable breakthrough improvement by **capturing best practices and reusing** across teams
- Allow **everyone to participate** with easy to adopt best practices at your fingertips.








Smarter planet
Software for a smarter planet

SOIT
Smarter



Five Imperatives for Effective Application Lifecycle Management to improve organizational productivity



-  Maximize product value with **In-Context Collaboration**
-  Accelerate time to delivery with **Real-Time Planning**
-  Improve quality with **Lifecycle Traceability**
-  Achieve predictability with **Development Intelligence**
-  Reduce costs with **Continuous Improvement**

Learn more at [ALM Everywhere](#)

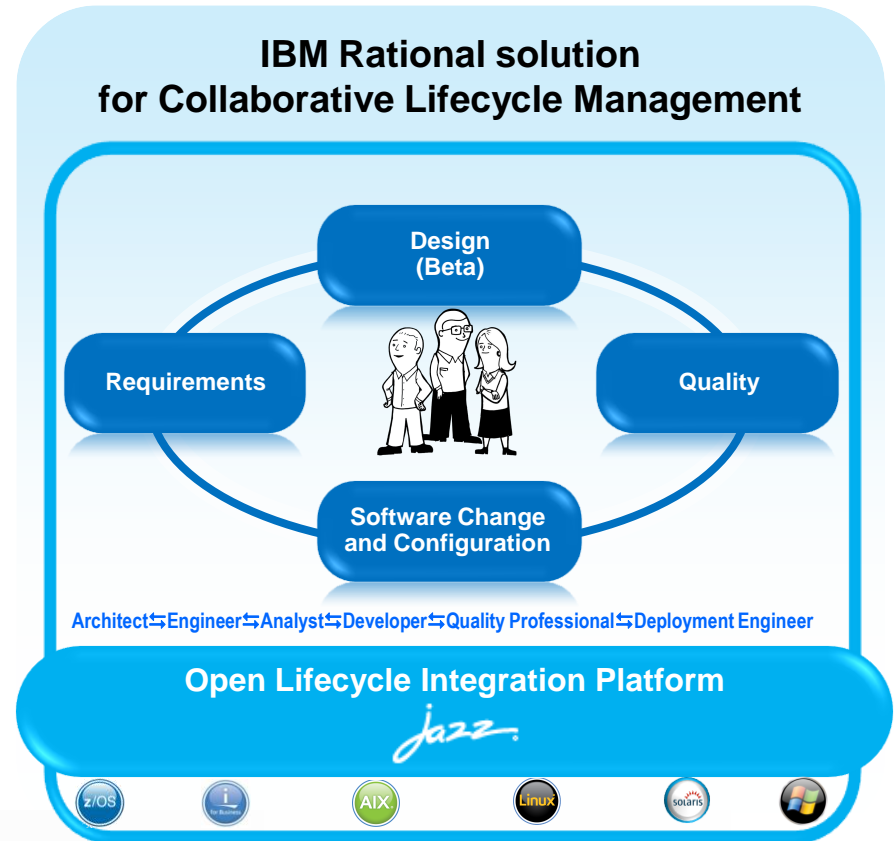
Integrated and effective Application Lifecycle Management

Enhanced and expanded for broader focus on the five imperatives for effective ALM

- Centralized administration, evaluation and roll-out capabilities for faster, easier, incremental deployments
- Incremental, flexible upgrade allows each role on a team to upgrade at their own pace
- Integrated software design for broader collaboration and traceability
- Optimized support for Mobile, SAP and IBM WebSphere Application Server

NEW

- IBM Solution for Collaborative Lifecycle Management
 - Comprised of Rational Requirements Composer v4.0, Rational Team Concert v4.0, and Rational Quality Manager v4.0
 - [New Rational Software Architect integration through Rational Software Architect Design Manager](#) (Beta)



“Once fully implemented, we expect to reduce friction, provide value to customers in each delivery stream, reduce rework by improving end-to-end collaboration and planning consistency, and reduce compliance efforts by automating key process tasks and deliverables.”

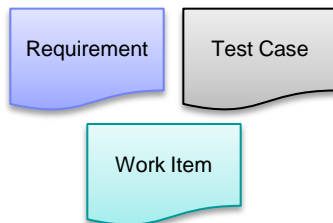
– Stephan Pauletto, Engagement Manager, IMS Health

Jazz Architecture Overcomes Past Limitations

OPEN CHOICE AND RICH INTEGRATION

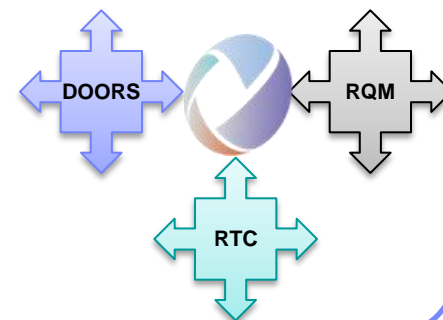
Everything is a resource!

"I can link any resource to any other resource, regardless of where the resource lives!"



Standard interfaces

"Each tool can evolve independently without breaking integrations!"



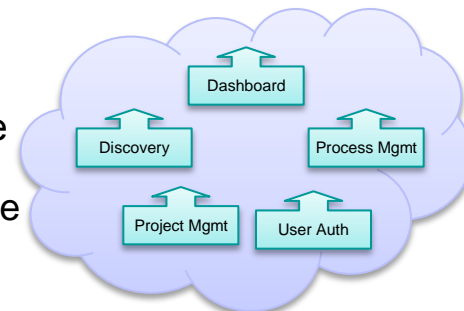
Domain specific standards for the lifecycle

"Each domain can create standards without having to wait on the others or get the whole industry to agree!"



Vendor agnostic

"Each vendor can evolve their tool to exploit the services that are valuable to customers like me!"



EVOLUTIONARY AND INCREMENTAL ADOPTION

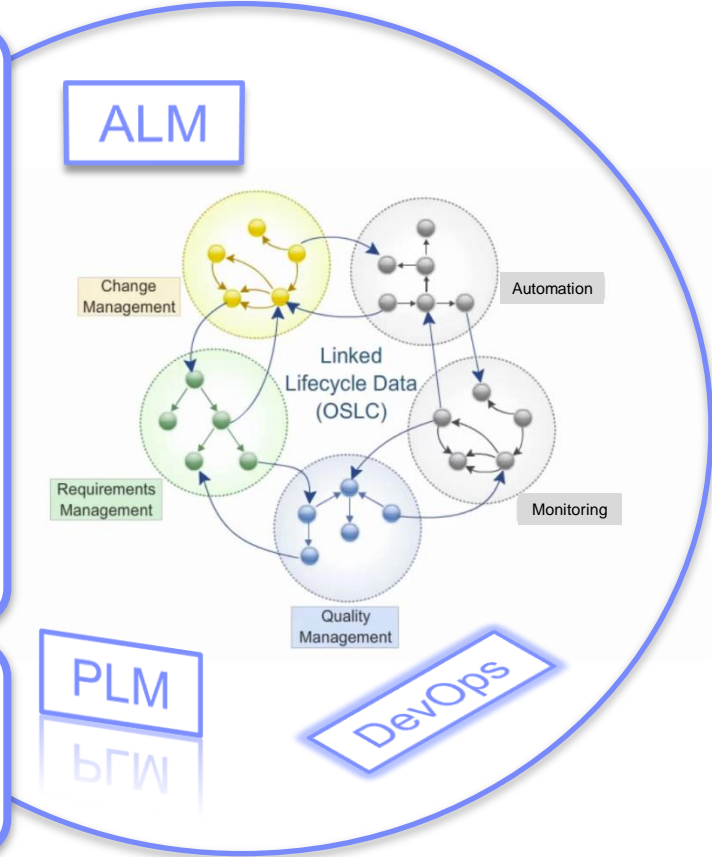


Open Services for Lifecycle Collaboration (OSLC)

Working to standardize the way software lifecycle tools share data

Open Services for Lifecycle Collaboration Lifecycle integration inspired by the web

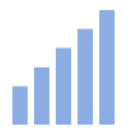
- Community Driven @ open-services.net
 - 400+ registered community members
 - Workgroup members from 34+ [organizations](#)
- Wide range of interests, expertise, & [participation](#)
- Open specifications for numerous disciplines
- Defined by scenarios – solution oriented
- Implementations from IBM, BPs, and Others
- Based on [W3C](#) Linked Data



Inspired by the web



Free to use and share



Changing the industry

GET INVOLVED AND CONTRIBUTE!

IBM Rational is a recognized leader in ALM

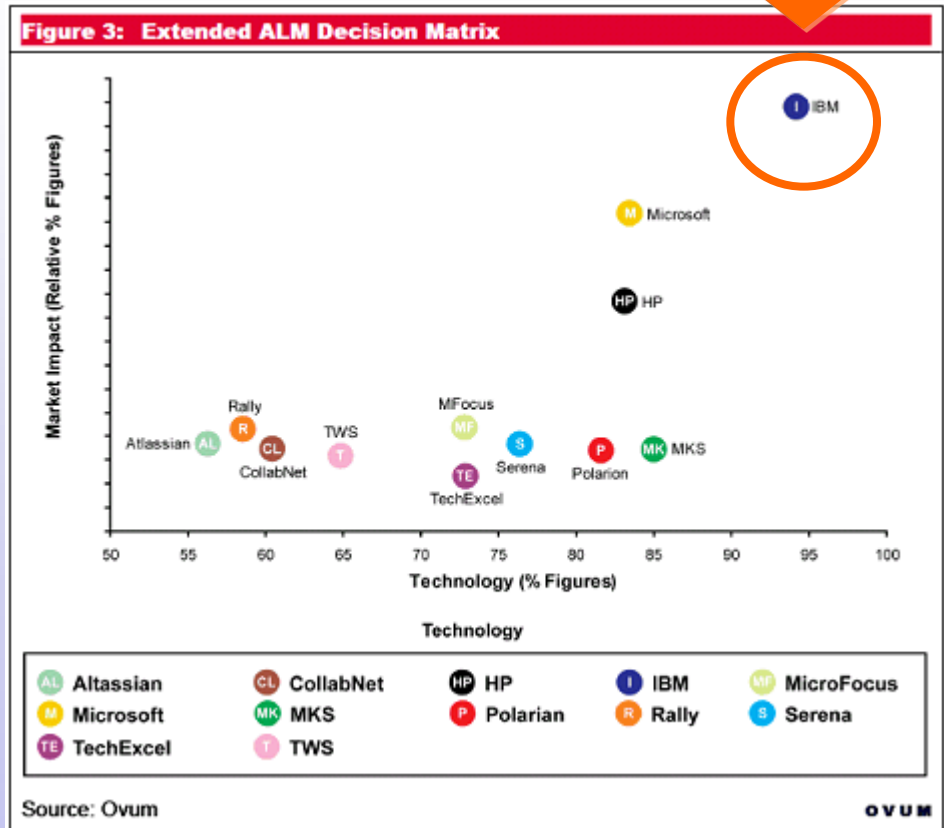
Ovum Decision Matrix: Selecting an ALM Vendor

Reference Code: OI00068-002 Publication Date: March 2011

Authors: Chandranshu Singh, Tony Baer, Michael Azoff


Report Highlights

- "IBM has the broadest and arguably the **deepest portfolio among all vendors profiled in this report.**"
- IBM's Technology Score: **94.3%**
- IBM's Market Impact score: **10/10**
 - The highest score!
 - All other vendors were ranked relative to IBM
- "Furthermore, the vendor has ensured that it stays ahead of the pack by having a **good grasp of market demand and meeting it through tool support.**"




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Get Started! Collaborative Lifecycle Management



Free Downloads!

Get involved at jazz.net!



- read articles & blogs
- view presentations
- watch videos

- listen to podcasts
- see a project dashboard
- review the release plan

Try it out at jazz.net!

1 Download RTC, RRC or RQM for CLM
<https://jazz.net/downloads/rational-team-concert/>

Sample scenarios for CLM
http://bit.ly/MTM_Lifecycle_Welcome

Track our progress at jazz.net!

We openly develop our software with our own tools!
<https://jazz.net/projects/clm/>

Interactive White Board



Short, simple way to share the *5 ALM imperatives*
ibm.co/alm-everywhere

Role-based Demo



VP of Development, a Business Analyst or Project Owner, Agile Team Lead, Developer and Test Lead.
bit.ly/jazzCLMdemo

QUESTIONS

www.ibm.com/software/rational