Achieving Agility at Scale

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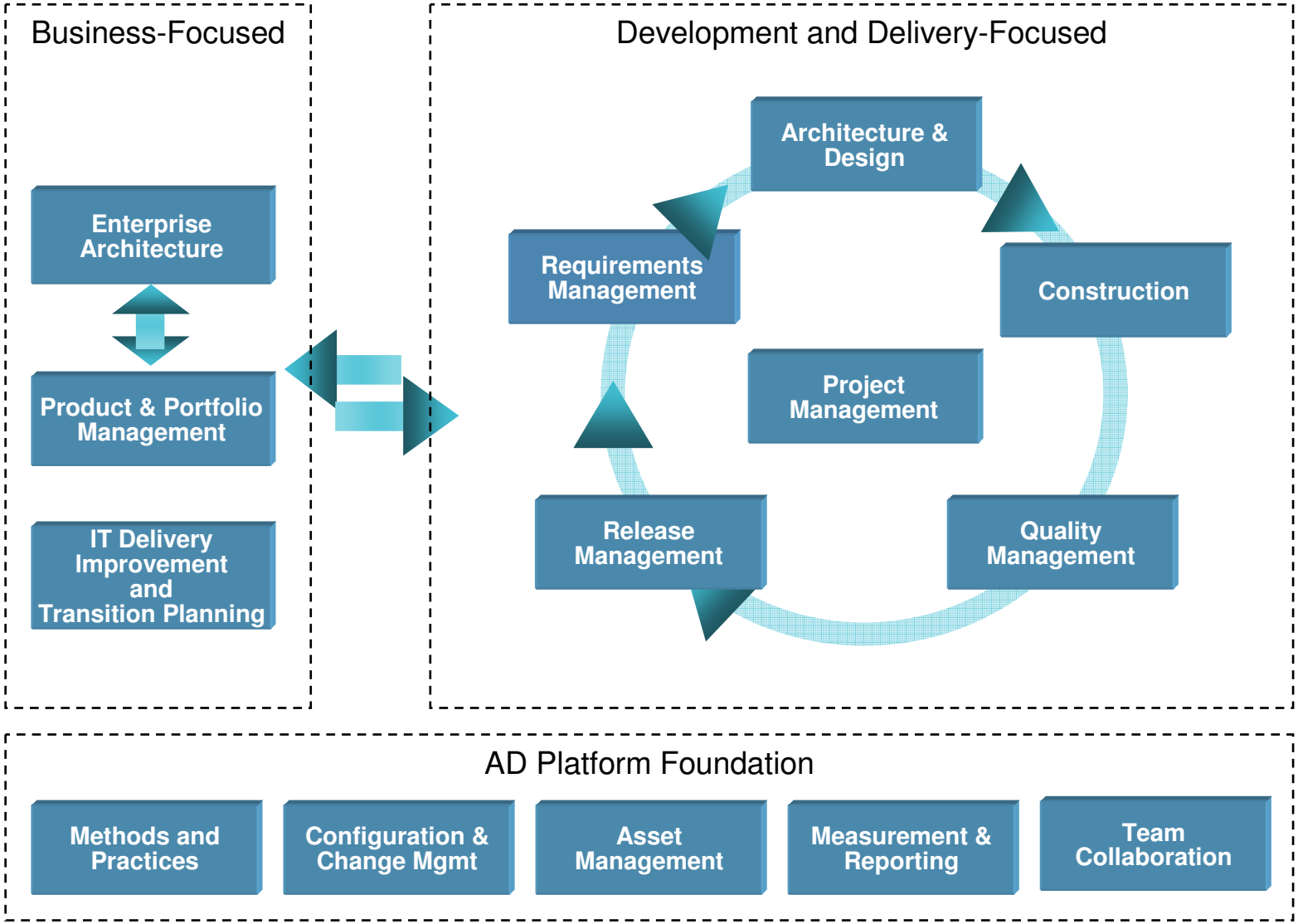
On a smarter planet,
software is changing the way people live.

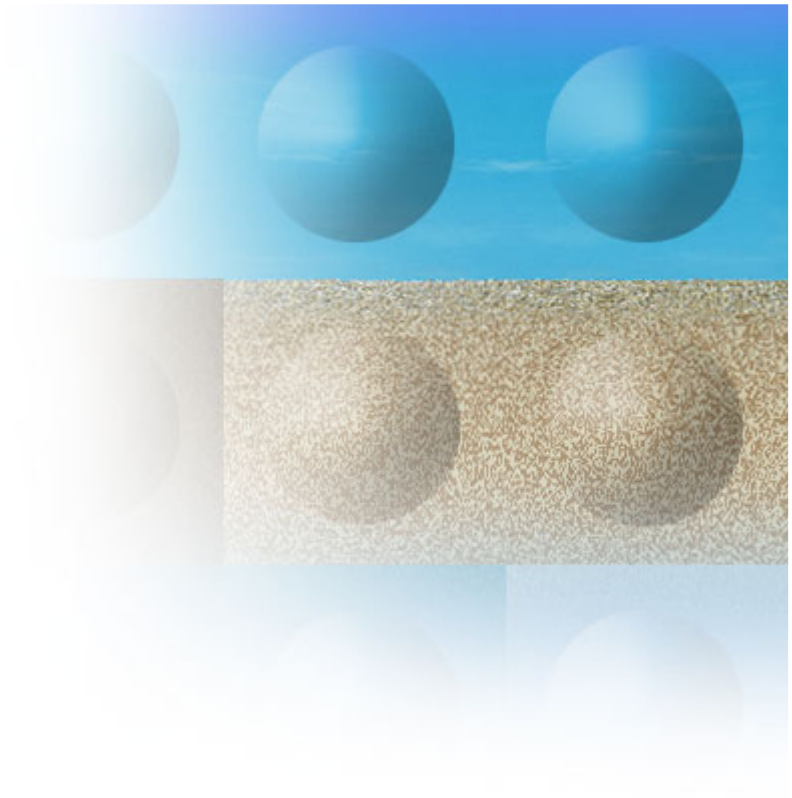
Smarter software for a smarter planet

IBM Rational Capabilities and Value

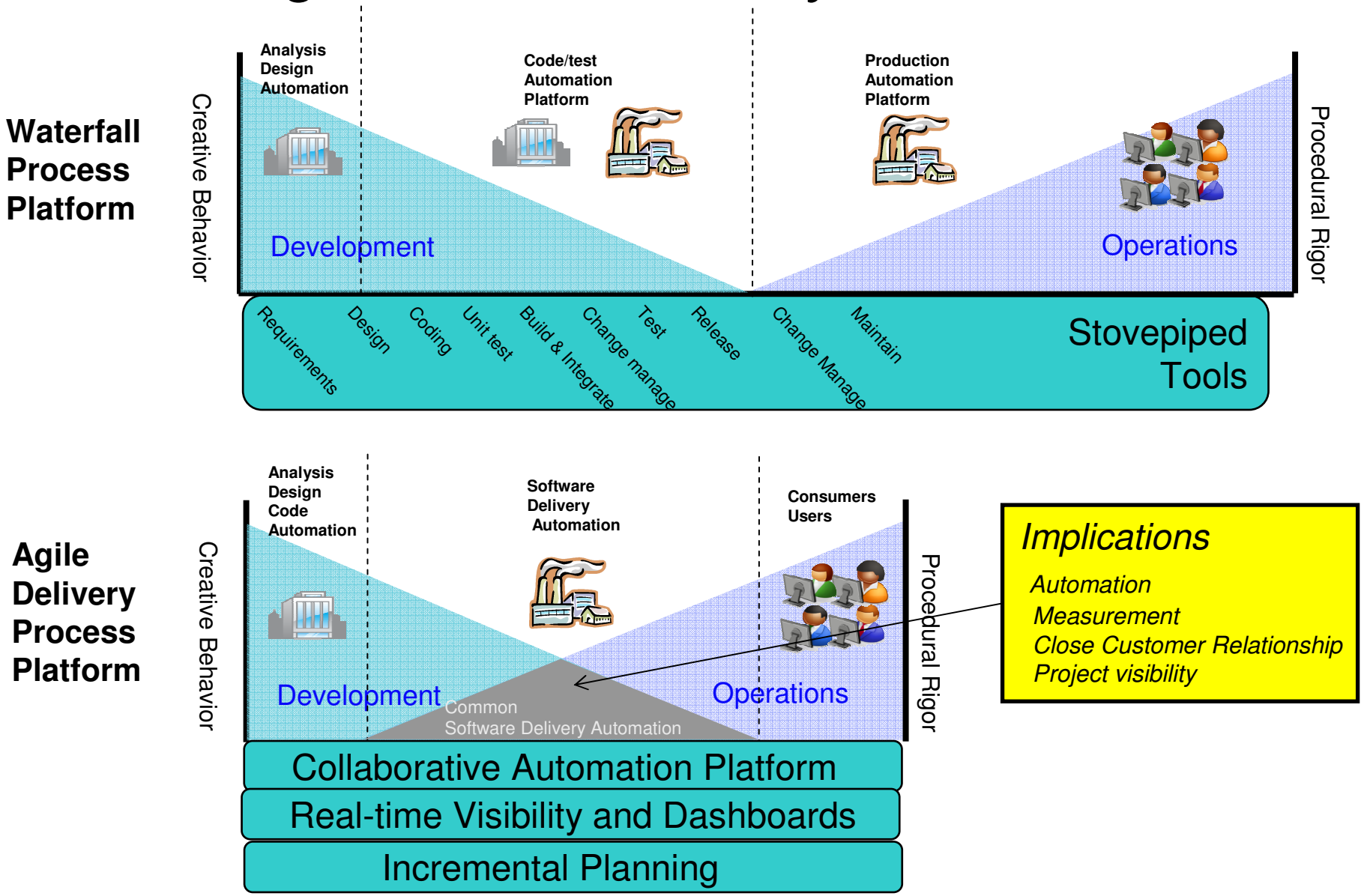


Topics

- Thinking agile
- Acting agile
- Staying agile



Rethinking Software Delivery



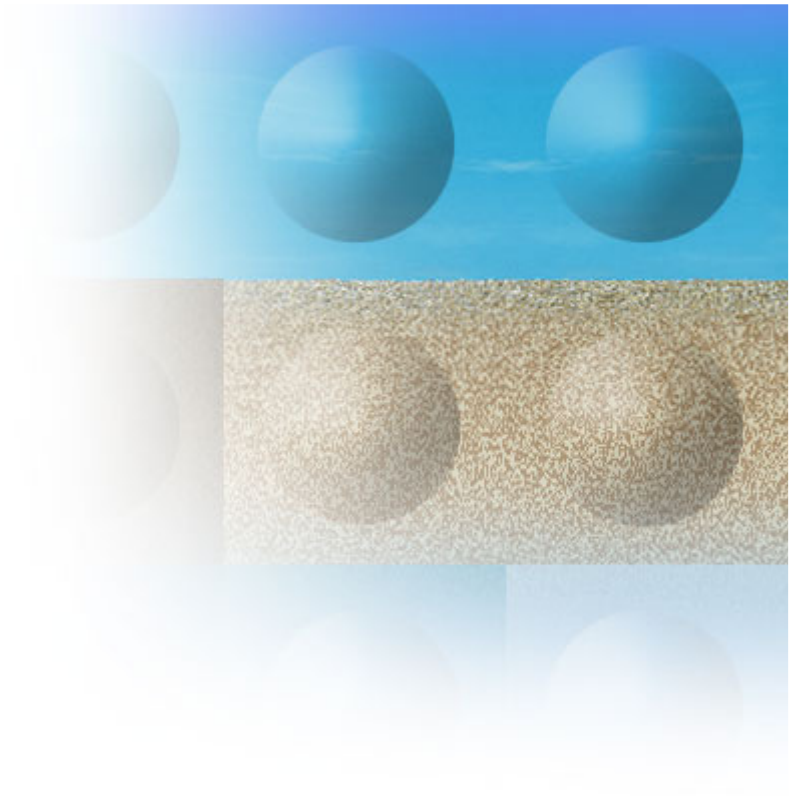
Achieving Agility at Scale

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

- Thinking agile
- **Acting agile**
- Staying agile



From Software Development to Software Delivery

Software Development

Distinct development phase

Distinct handoff to maintenance

Requirements-design-code-test sequence

Phase and role specific tools

Collocated teams

Standard engineering governance

Engineering practitioner led

Software Delivery

Continuously evolving systems

No distinct boundary between development and maintenance

Sequence of released capabilities with ever increasing value

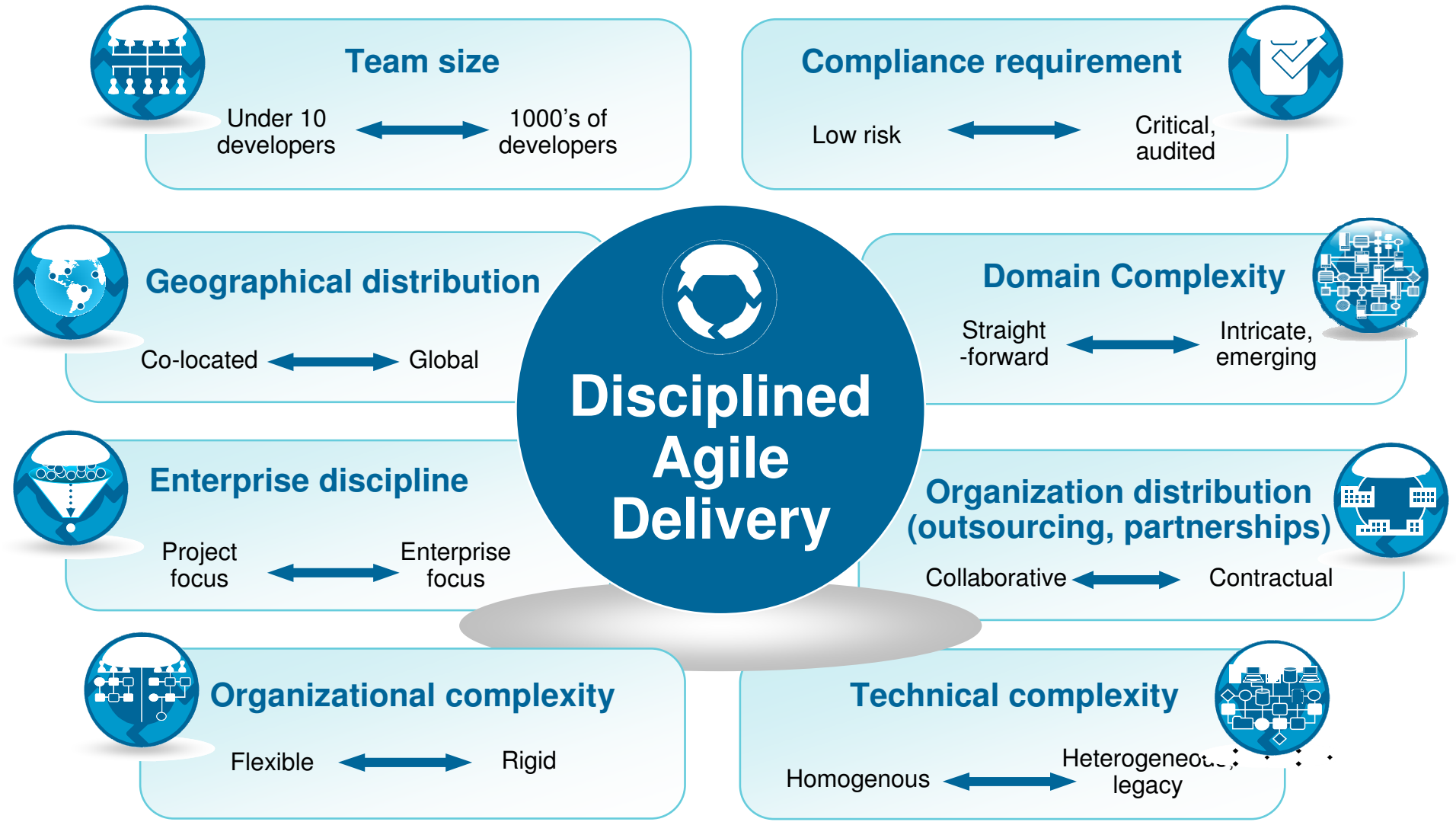
Common platform of integrated process / tooling

Distributed, web based collaboration

Economic governance tailored to risk / reward profiles

Business value and outcome led

Agile is Fragile: Agile scaling factors



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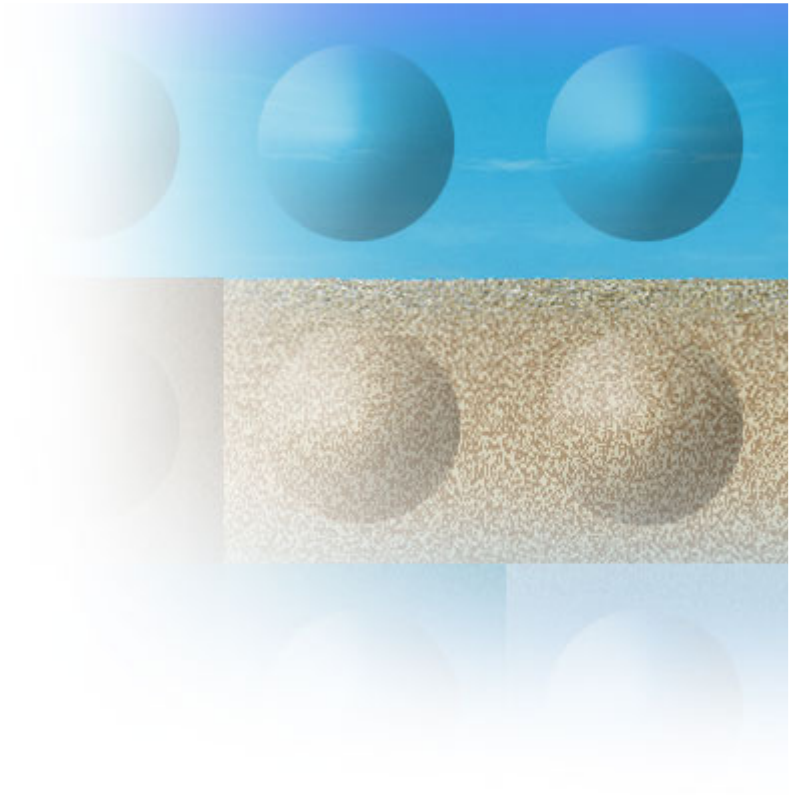
- Acting agile
- **Staying agile**



How Do You Stay Agile?

- Focus on the key Agile practices
  - Match them to your organization, people, maturity, projects, culture……etc…
- Reinforce the delivery practices that support your teams
  - Find out what works….grow the skills and practices
- Change the delivery rhythm, and make it more transparent
  - Push teams to work in shorter cycles with greater feedback and input
- Support practices with automated tooling
  - Help overcome the collaboration and integration issues for larger, distributed teams
- Measure and report to get management buy-in and support
  - Clearly align technology improvements to business goals, and demonstrate the value to the business

An Illustration: RTC Enterprise Extensions Team

~47 developers

Part of the CLM development
(RTC, RQM & RRC/DOORS)

Mgt,Development
10 *Toronto, Canada*

UA
3 *San Jose, US*

Mgt,UX,DevIt
10 *Raleigh, US*

Development
6 *Austin, US*

Mgt,Arch, DevIpt
4 *Paris, France*

Development
3 *Pornichet, France*

Research
8 *Haïfa, Israel*

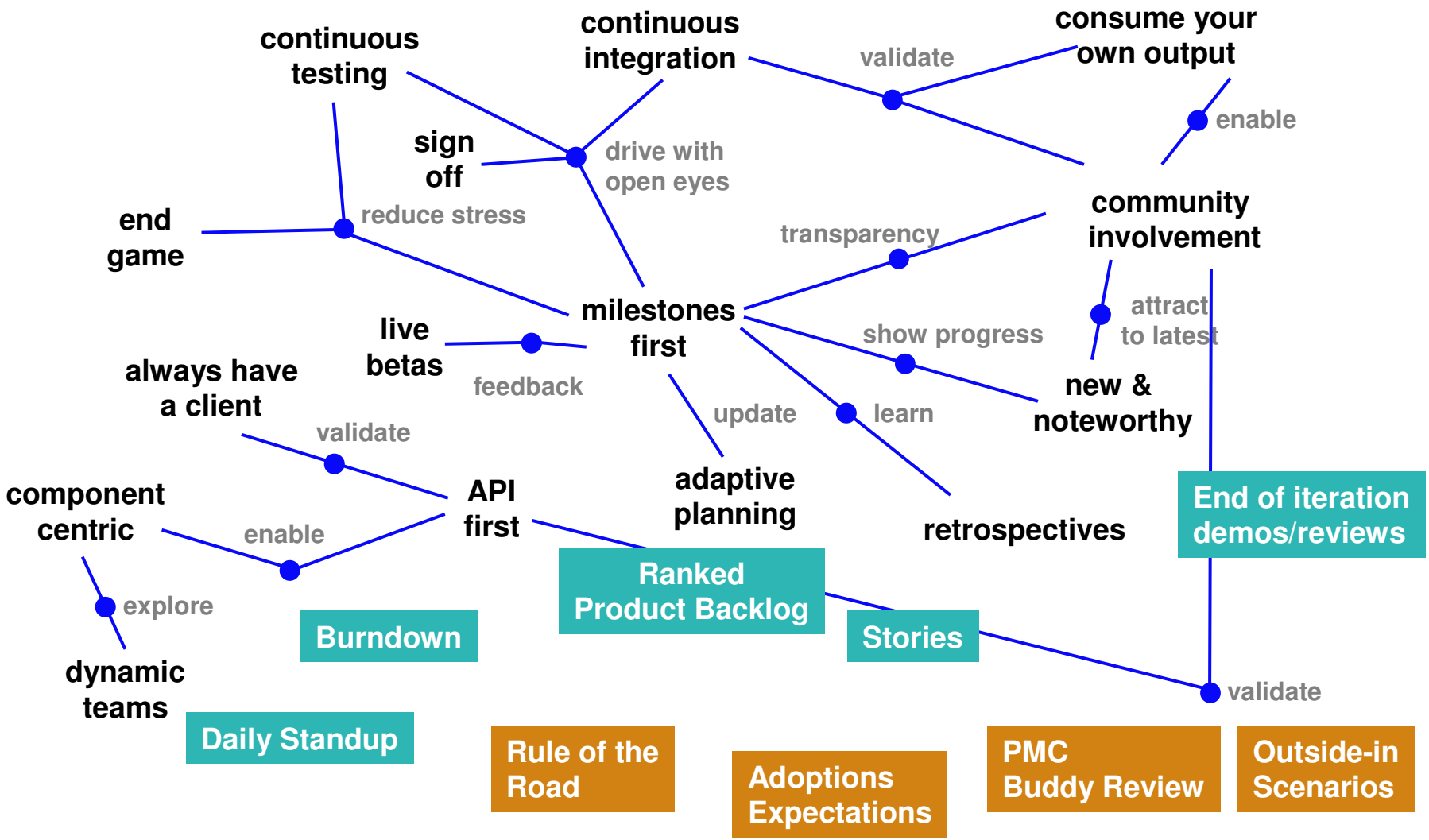
Performance
2 *Beijing, China*

Arch, DevIpt
1 *Perth, Australia*

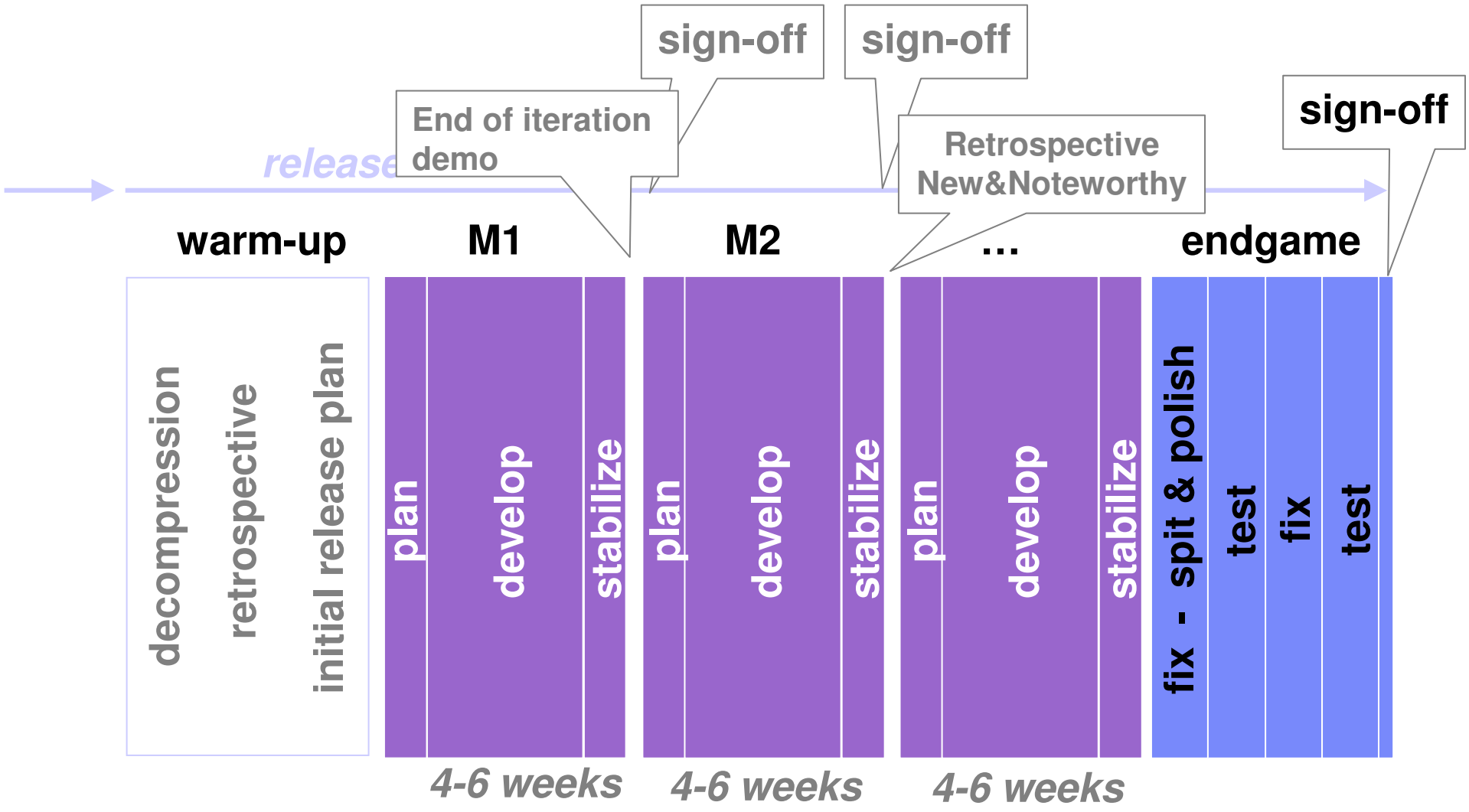
Self hosting Jazz server on z/OS

Focus is on the Agile Practices

Our Practices

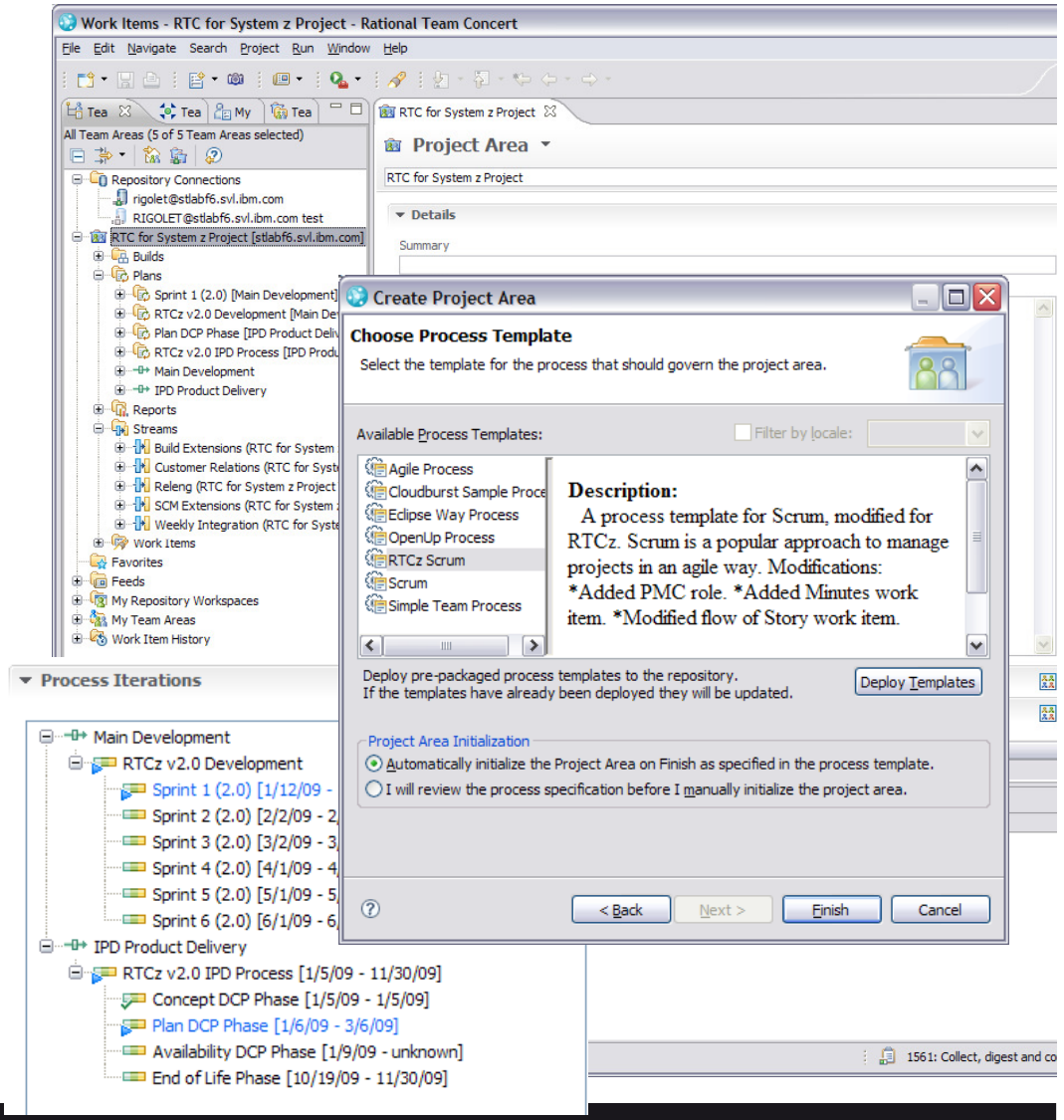


Our Development Rhythm



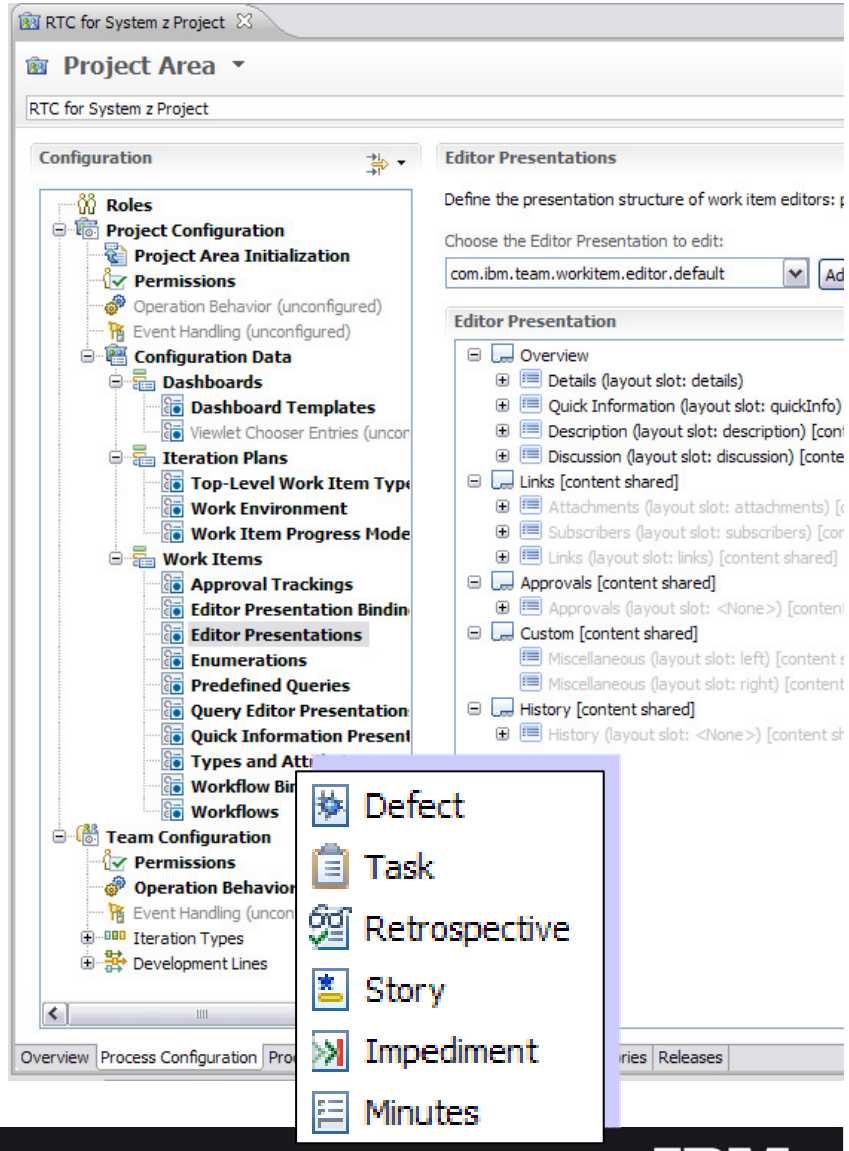
Drinking our own Champagne with Rational Team Concert

- **Development project**
  - Self hosting on *System z*
    - *Access from Jazz.net*
  - 'Enterprise Extensions for RTC' project
  - Iteractive, based on the Scrum template
- **Geographically Distributed Development team**
  - 5 main Scrum teams
    - RTP (Raleigh, US)
    - FASL (France & Australia)
    - BF (Austin, US)
    - UA (San Jose)
    - Power (Toronto, Canada)
- **2 parallel development lines**
  - Release v3.0
  - Release 2.x maintenance



Scrum Applied

- **Development process**
  - Based on the standard Scrum process template
  - Roles: *Stakeholder, Product Owner, Scrum Master, Team Member*
  - Artifacts: *Work Items, Product Backlog, Sprint Backlogs*
- **Minor process adaptations**
  - New role: PMC (*Project Management Council* - based on Stakeholder role)
  - New Minutes work item
  - Updated permissions
    - *PMC* can update Plans
    - Limited operations for externals
  - New automatic tasks when joining a team
    - [Joining a Team] Update your calendar with your Scheduled Absences
    - [Joining a Team] Update your Work Environment



Stakeholder roles, aka '***Chickens***'
Development roles, aka '***Pigs***'

- *'Chickens' are not part of the actual Scrum process, but they must be engaged and provide feedback.*

Project Management Council (PMC)

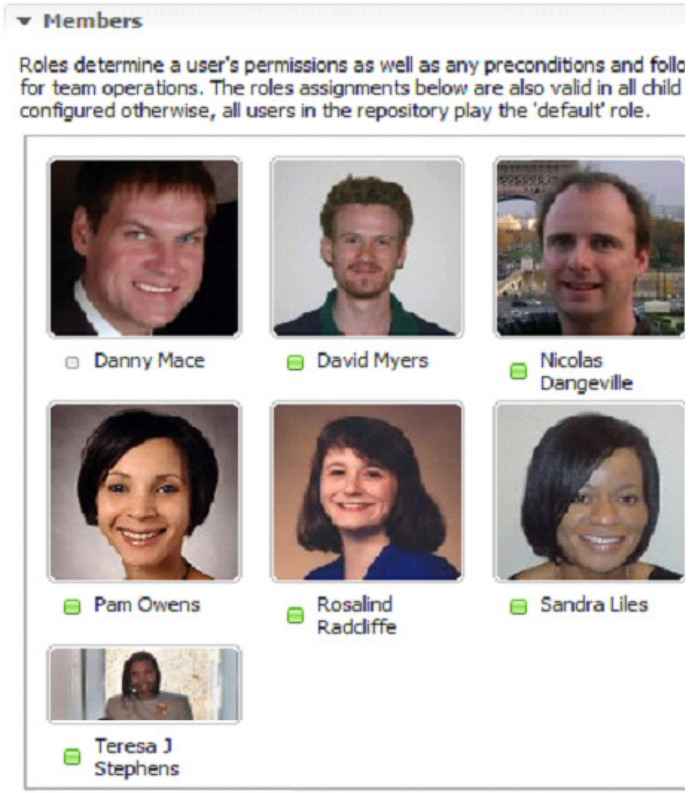
Product Delivery

- *'Pigs' are the ones committed to the project and the Scrum process.*

5 main development Scrum teams

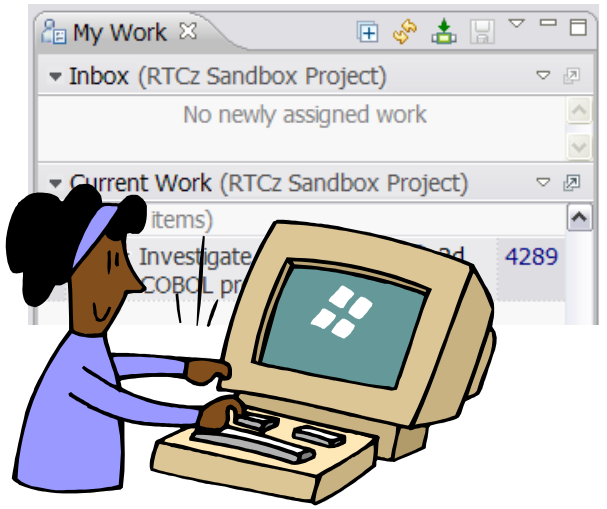
RTP, Raleigh
FASL, France & Australia
BF, Austin
User Assistance\Docs, San Jose
Power, Toronto

Bidi, SUPA research



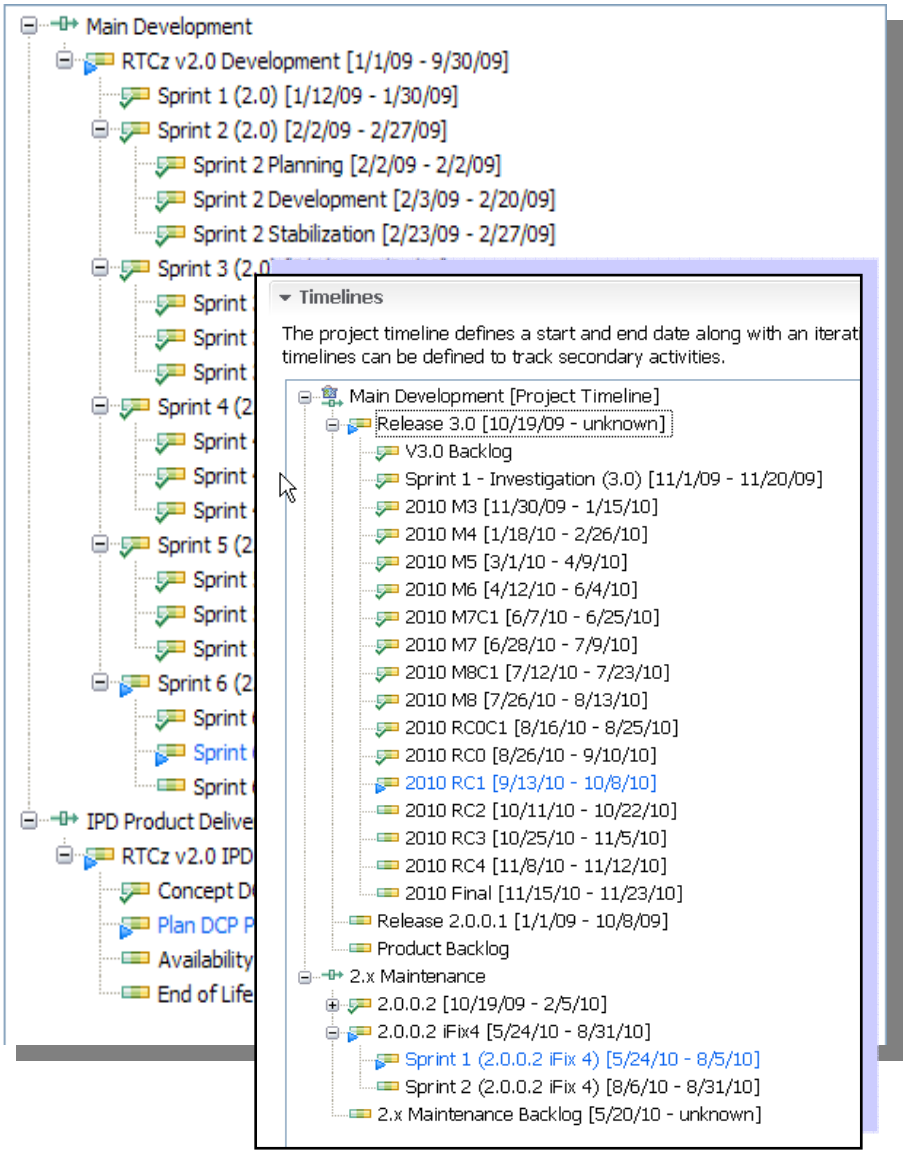
A day in the life... of a 'Pig'

- **Always starts with a daily scrum**
- **Think!... Document ... Write JUnit testcases... Code... Test**
  1. Check *My Work*
  2. API First; *improve the collaboration with your clients*
  3. Test Driven Development (TDD); *solidify your code*
  4. Update work items; *let other members know what you've done*
- **Deliver code to the Team Stream**
  - Test team integration; *now your component is not alone*
- **Deliver code to the Integration Stream**
  - Daily & Weekly builds
  - Test project integration; *we now have a product*
  - Control JUnit testcases execution; *check the overall quality*
- **Recurrent activities**
  - Actively participate in design meetings; *across Scrum teams*
  - Regular JUnit jam sessions; *leverage the know-how within the teams*
  - Scrum of Scrums meetings when appropriate; *keep the rhythm*



Development Rhythm

- **Project timelines**
  - Release 2 started Jan 2009
    - RTCz v2001 packages were available on Oct 8, 2009 and v2002 on Feb 2
  - Release 3 started Oct 2009
    - RTC Beta2 Sep 21 2010
- **Monthly Sprints**
- **Iterations and main phases**
  - Initial iteration (training, envt set up,...)
  - 5 development iterations
    - All Sprints include FVTs
  - End-game & Cleanup
    - Including SVTs, TVTs, GVTs
- **3 sub phases in all development iterations**
  - Planning (2-3 days)
  - Development
  - Stabilization (3-4 days)



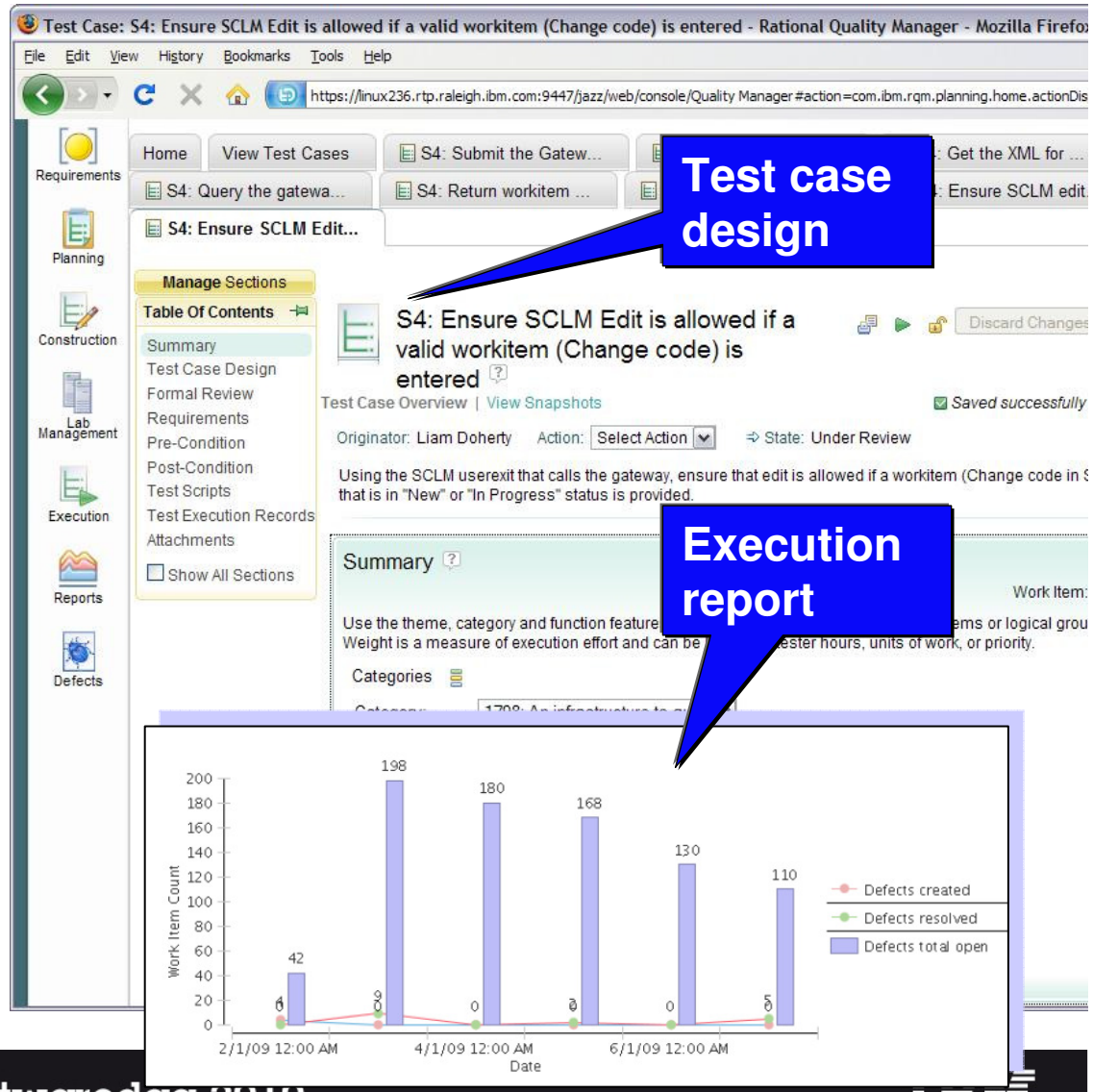
Sprint planning detailed

- **First days of each Sprint**
  - Get Sprint directions from Product Owner
  - Analyze Stories with the Architects
- **All Scrum team members are involved**
- **1 Sprint planning per Scrum team**
- **Check time budget**
  - Verify absences in RTC

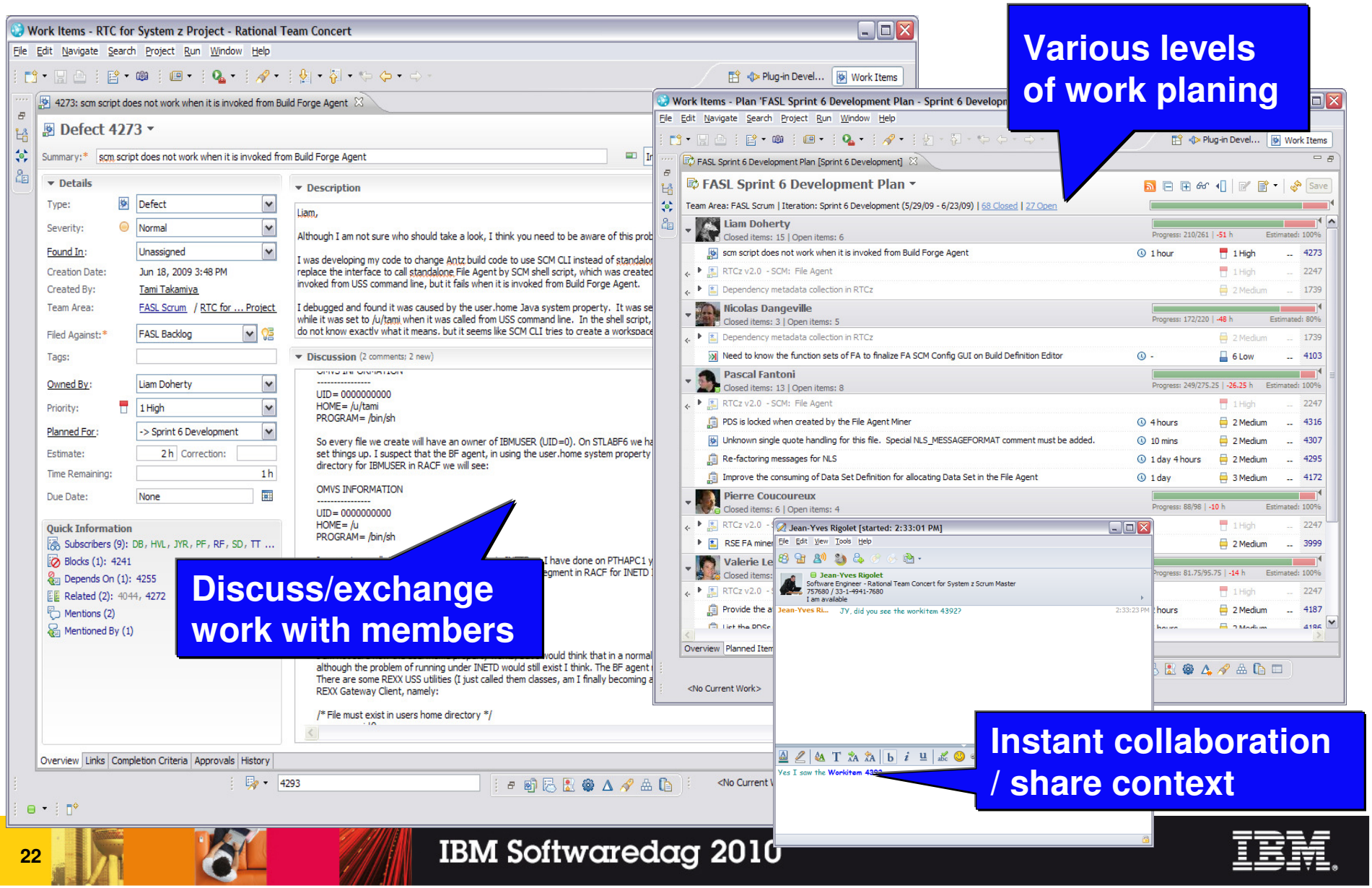
- **From *Product Backlog*...**
  - Query Work items
  - Team members try to fully understand *User Stories* with the help of the Architects
  - Give estimates using the Planning Poker technique
- **...To *Iteration Plan***
  - Fill Sprint backlog with selected Stories based on *team velocity* and priorities

Coordinate our tests in Rational Quality Manager

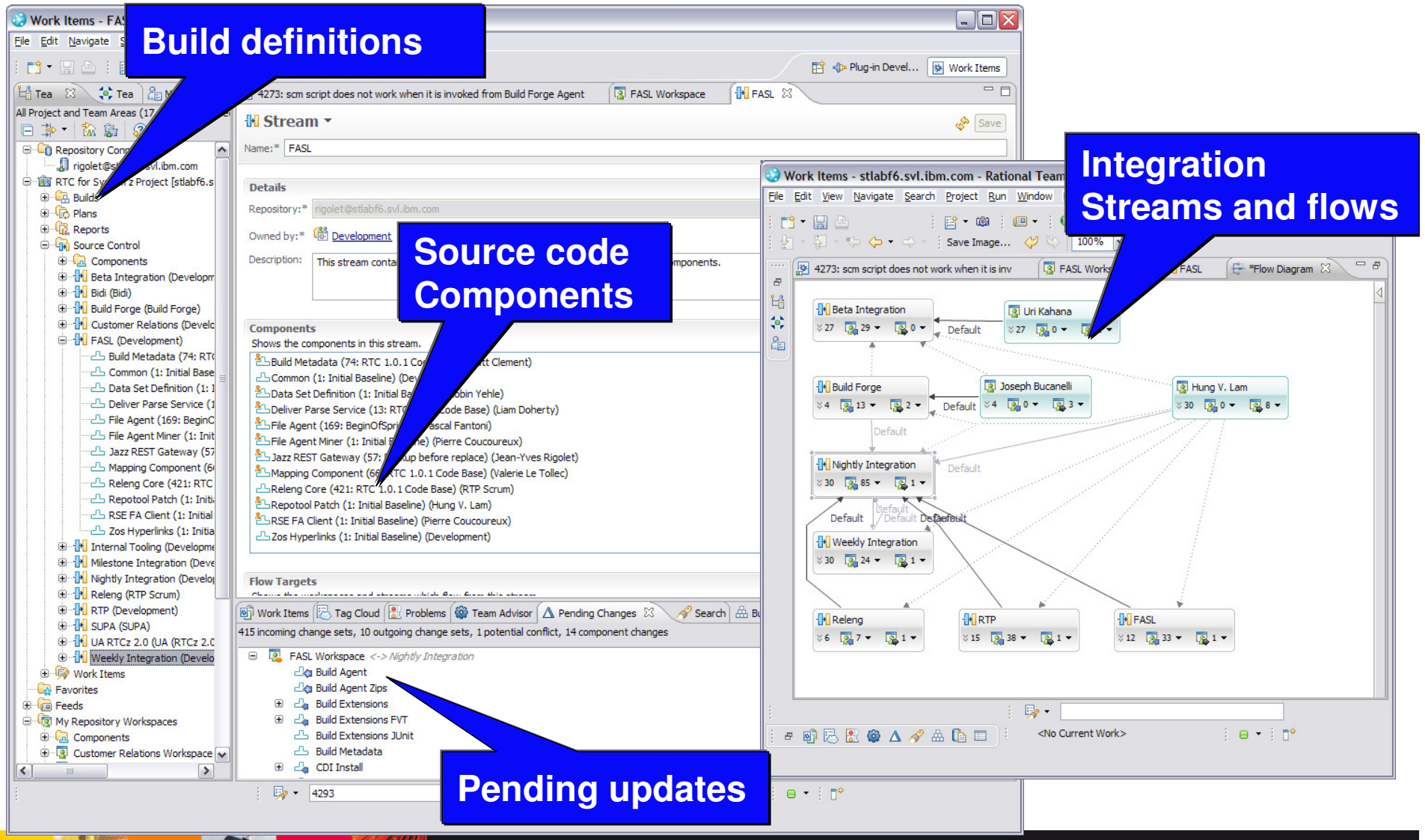
- **All test plans and testcases defined in RQM**
  - FVT, SVT & Performance Test Plans
- **Defined by developers**
  - During the *Stabilization* phase
- **Tested & tasted by all members**
  - Developers, release engineer, ..., and even managers sometimes
  - Test execution records
- **Creating Defects on execution failure**
- **Formal reviews**
  - Test cases approvals by Product Owner & ScrumMasters
- **Metrics & charts on quality presented at Sprint stakeholders meetings**



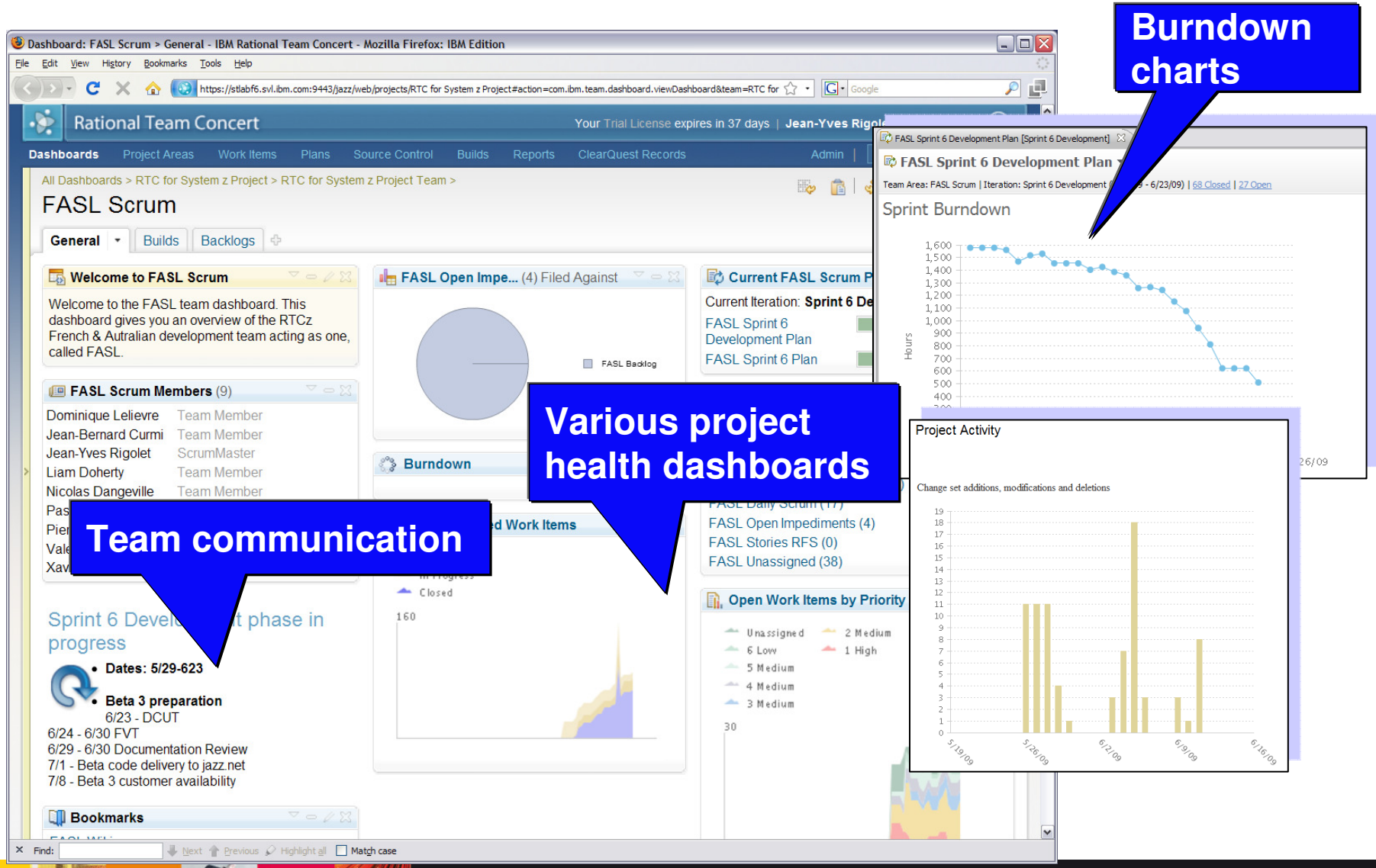
Collaborate using Work items and Plans



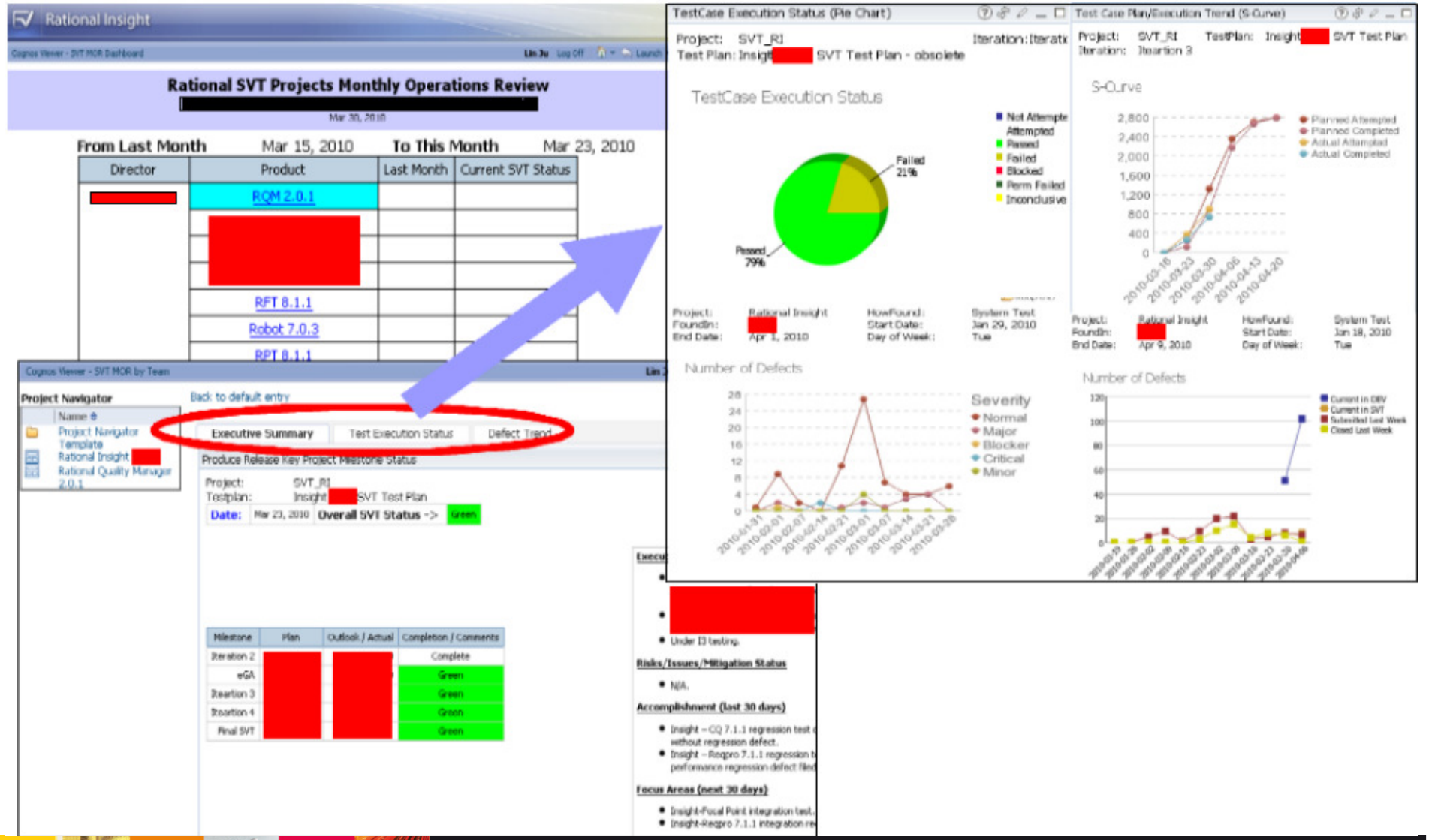
Share & build source code



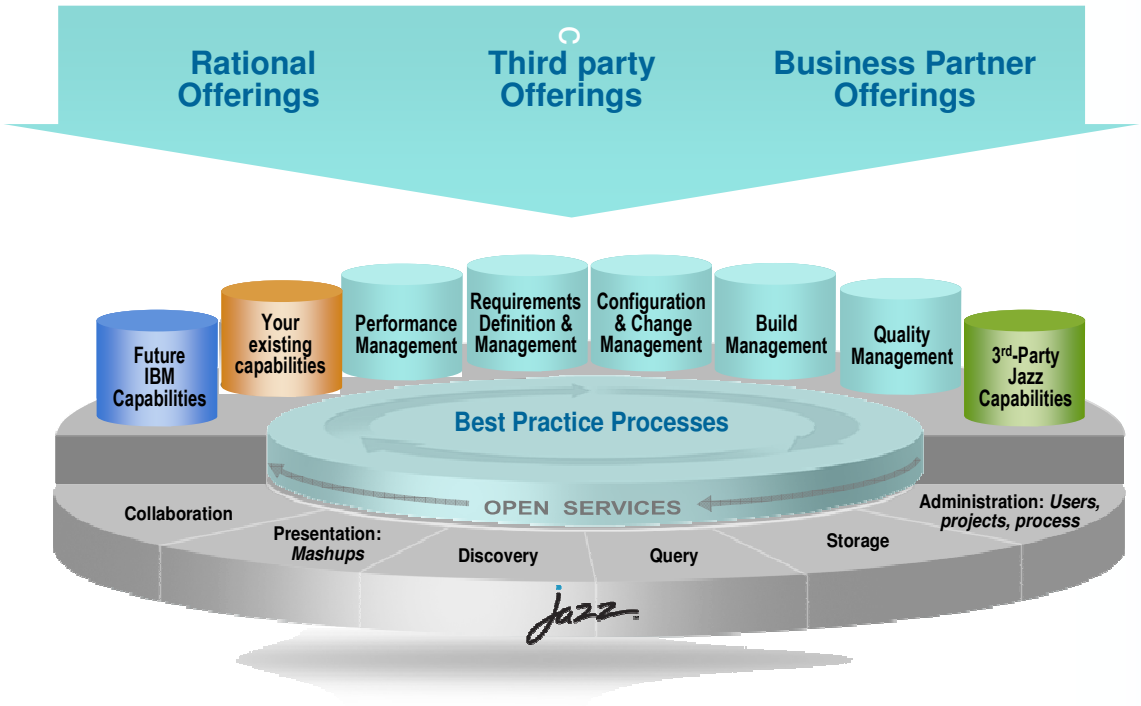
Check the project status & health



Report Effectively to Management to Provide Them a Clearer View of Status



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

Rational Team Concert: An Overview

Agile Planning

- Integrated release/iteration planning
- Effort estimation & progress tracking taskboards
- Out of the box agile process templates

Project Transparency

- Customizable web based dashboards
- Real time metrics and reports
- Project milestone tracking and status

SCM

- Integrated stream management
- Component level baselines
- Server-based sandboxes
- Identifies component in streams and available baselines
- SVN, Git, CC bridge, connector

Work Items

- Defects, enhancements and conversations
- View and share query results
- Support for approvals and discussions
- Query editor interface
- ClearQuest bridge, connector

Build

- Work item and change set traceability
- Build definitions for team and private builds
- Local or remote build servers
- Supports Ant and command line tools
- Integration with Build Forge

Jazz Team Server

- Single structure for project related artifacts
- World-class team on-boarding / offboarding including team membership, sub-teams and project inheritance
- Role-based operational control for flexible definition of process and capabilities
- Team advisor for defining / refining “rules” and enabling continuous improvement
- Process enactment and enforcement
- In-context collaboration enables team members to communicate in context of their work

Summary

- Achieving agility at scale requires new ways of thinking, acting, and sustained transformation

- Rational´s Jazz platform
  - A unified platform that includes collaboration, automation and reporting can dramatically improve the business process of software delivery
  - Embracing open integration strategies, enables IBM and its partners to leverage and develop best-of-breed solutions
  - Achieving business differentiation with agility and confidence is a reality today!