



IBM Software

UK Innovate 2010

The Rational Software Conference

Smarter software for a smarter planet.



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IBM Software, Rational

Smarter software for a smarter planet.



More interconnected, more
instrumented, more intelligent

Software is the invisible thread
enabling systems-of-systems

Software & systems delivery has
fiscal and societal impact

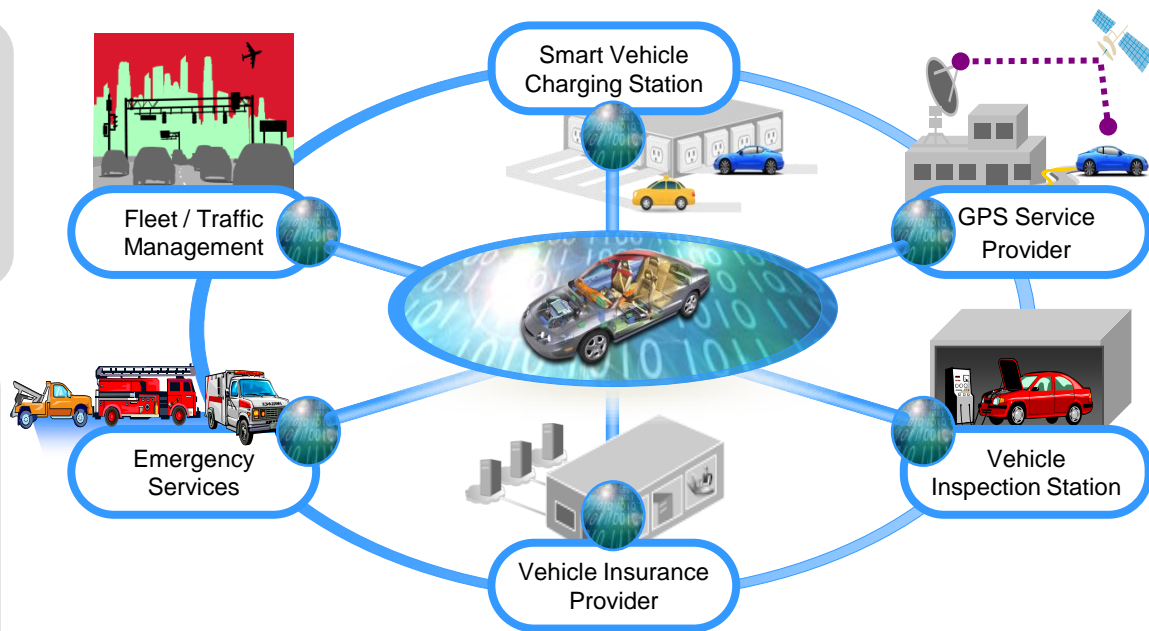
The Automobile

1977, Oldsmobile Toronado

- Single computer unit for spark-plug timing

Today, a modern car

- 30 computers on wheels
- 30-50 million lines of code
- 45+ connected systems
- 20+ different stakeholders

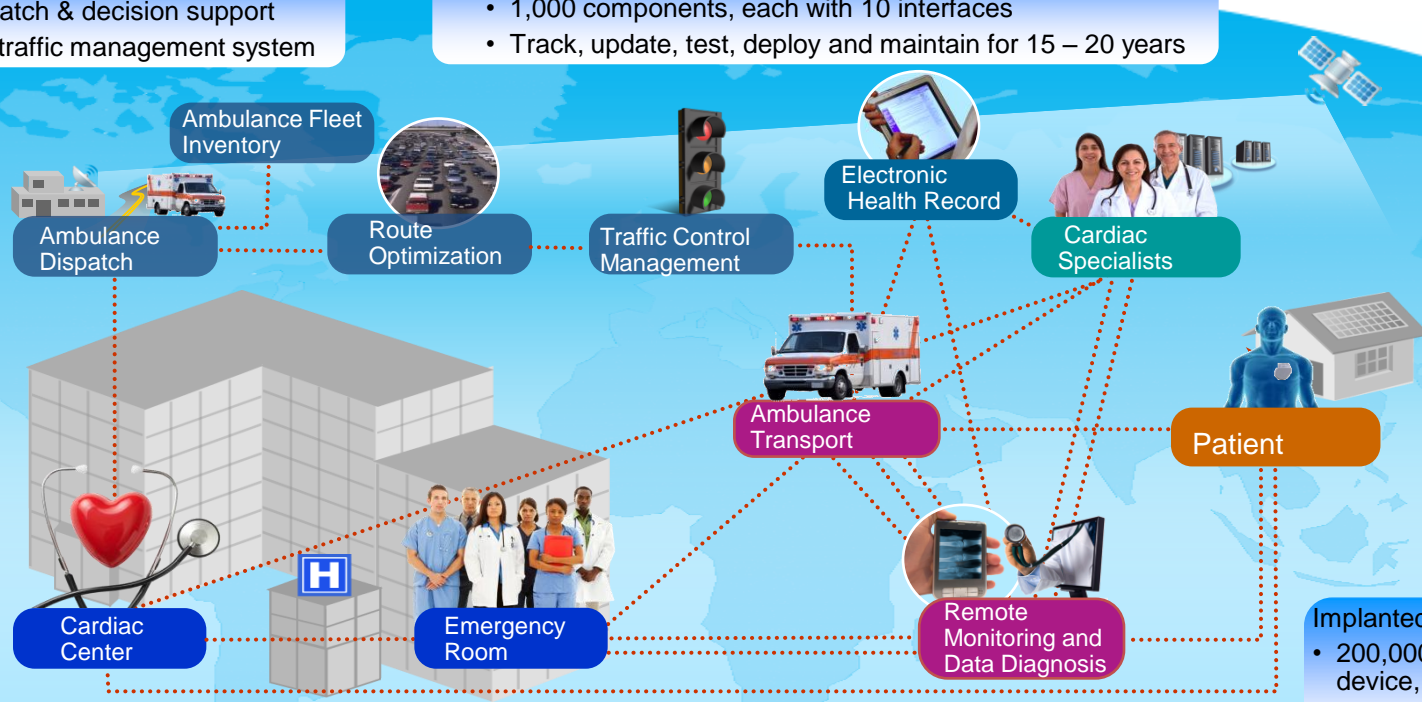


Healthcare – emergency services system-of-systems

Response time of five minutes doubles the survival rate

- Ambulance queuing system
- Ambulance dispatch & decision support
- Integration with traffic management system

- 50-plus million lines of code in the ambulance
 - 1,000 components, each with 10 interfaces
 - Track, update, test, deploy and maintain for 15 – 20 years



- Access to patient's electronic health record
- Real-time communications

- Implanted medical device
 - 200,000 LOC in the device, and GPS
 - Wireless transmissions → security

Braking software glitch contributes to recall of hundreds of thousands of vehicles worldwide

- Associated Press

Software patch prevents thousands from filing tax returns electronically – \$2.4 million to fix

- ZDNet

A better approach to software and systems delivery

A better approach to addressing complexity and innovation

How will this impact your industry? *Driving systems-of-systems thinking, skills and strategies*

Unique delivery challenges

Software is the invisible thread

Heterogeneous ecosystem
with dynamic supply chains

Emergent behaviors

Outcomes difficult to trace,
understand and predict

REQUIRES

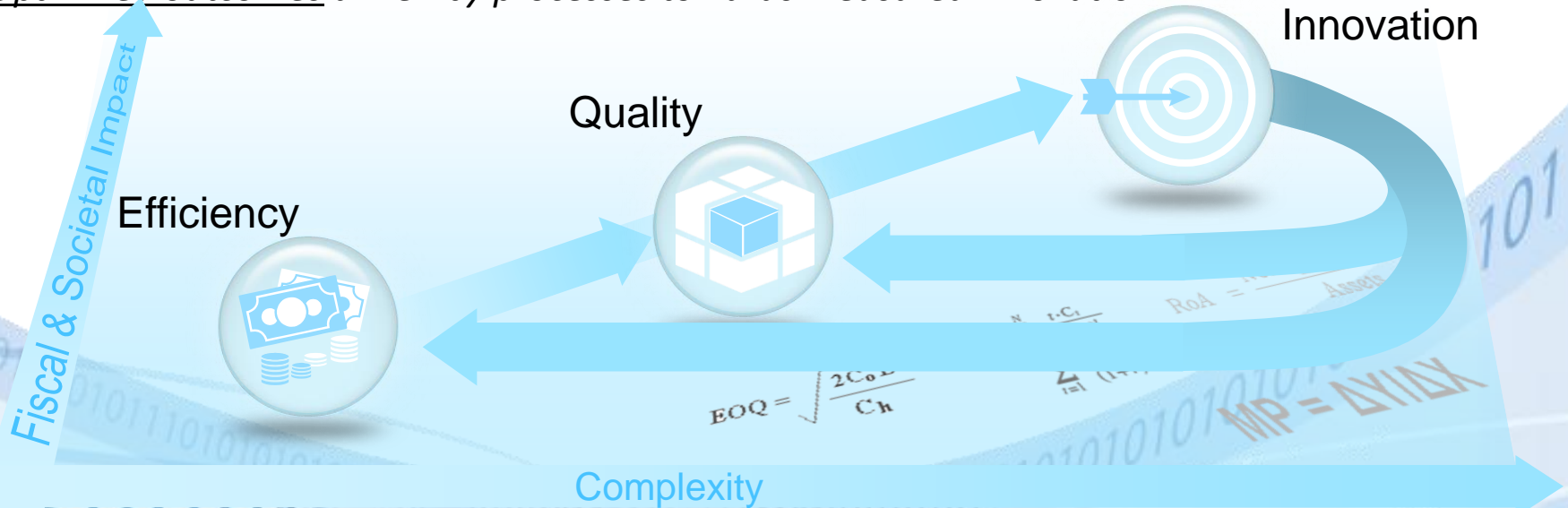
- Quantify emerging opportunity and risk
- Design for flexibility and extensibility
- Manage new collaborators in value chains
- Configure for multiple, diverse linkages
- Deliver perceived quality sustained over long periods

Systematic management for desired outcomes and failure avoidance



New thinking: software & systems econometrics

Optimized outcomes driven by processes towards measured innovation



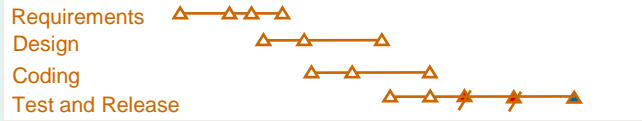
Evolve beyond pure engineering measures of cost, quality and risk
Quantify the value measures and tie to fiscal and societal impact – monetize!

Software & systems econometrics – incremental approach

Core metrics for honest progress insight

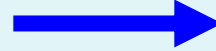
Conventional Engineering Governance

Sequence of documents and artifacts



Activity based—document baselines

Planning Progress



Modern Economic Governance

Sequence of demonstrable results



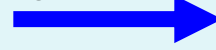
Result based --Code and test baselines

Dishonest early optimism



False precision in early artifacts

Technical Progress

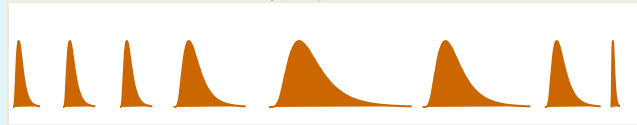


Honest earned value



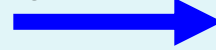
Demonstrated and measured capability/quality

Dishonest early optimism

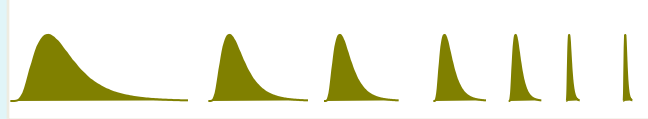


Postponed understanding of architecturally significant risks

Economic Progress



Honest reduction in uncertainties/risks



Reducing the variance in the estimated cost to complete

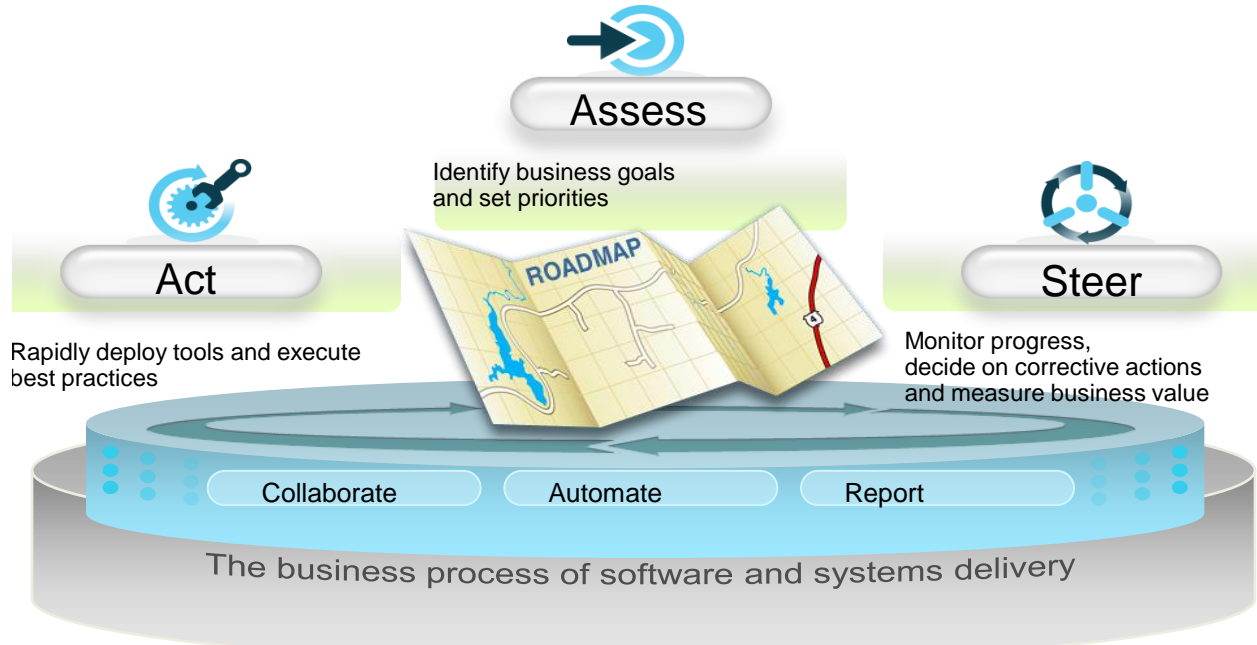


Software & Systems Econometrics - Measured Improvement

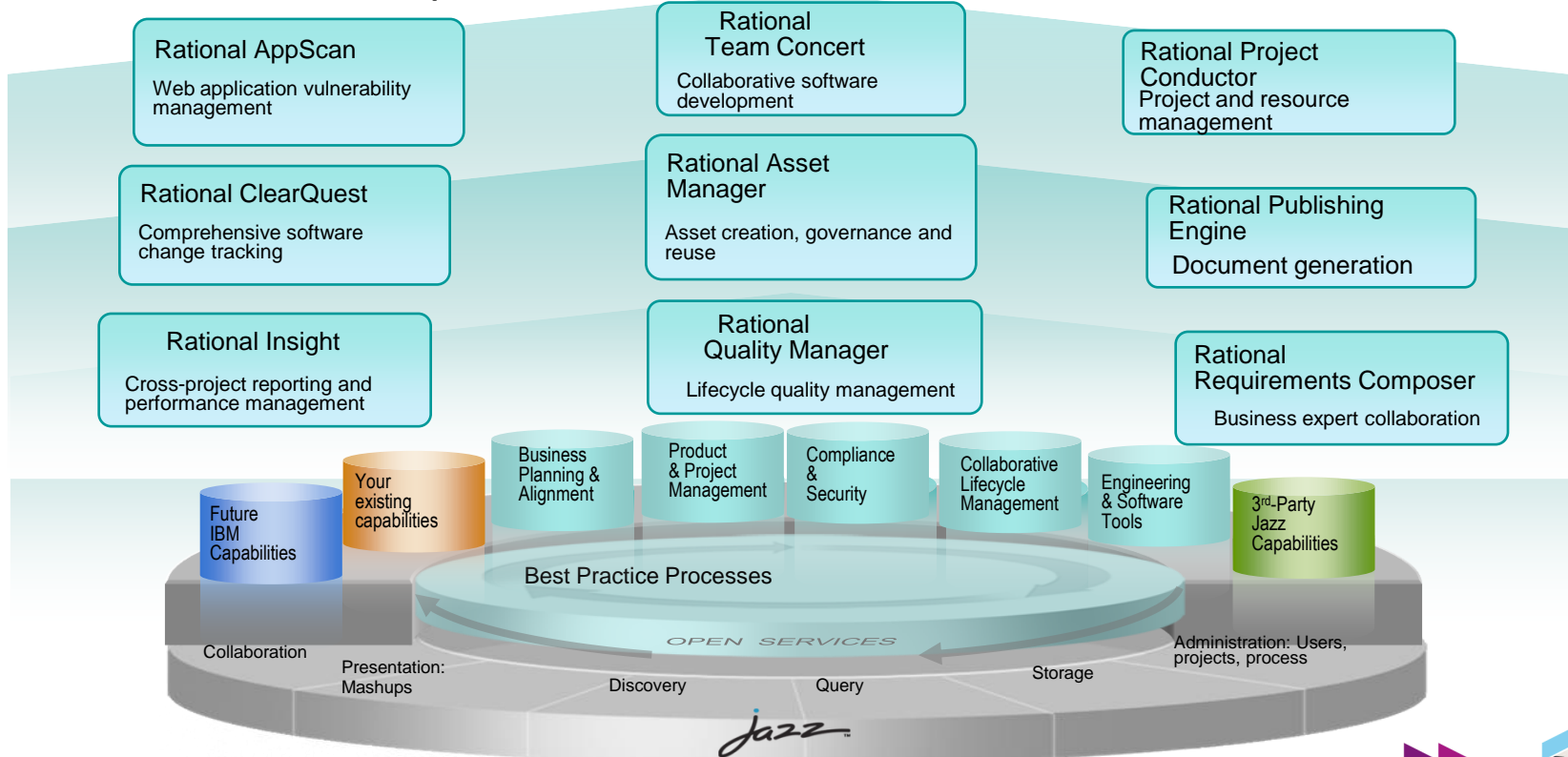
Drive business innovation through measured & continuous process improvement

Captures over 10 years of Rational experiences in incremental adoption

- Used in over 80 IBM agile projects
- Used in conjunction with RUP, XP, Scrum and other processes
- Demonstrated in the Rational Executive Dashboard



Jazz Platform and Capabilities



IBM client results - Gain efficiency in development & production

Collaboration and automation driven by standardization to reduce cost, and drive more predictable, measurable outcomes

“Reduced product development time by 60% – from five months to two months”

“Reduced project overrun costs 20% by making project deliveries more repeatable and predictable”



“Reduced development costs by 25%, reduced development time by a factor of 10”

“Achieved 30% productivity gain on global projects”

On-Time Delivery Risk
Fixed and Variable Costs
Process Adoption

Staffing Variance
Schedule Fidelity

Productivity
Technical Debt
Project Velocity
Burn-down

STANDARDIZE, MEASURE AND IMPROVE

- Cloud Deployment
- Open and OSLC Specs
- C/ALM Adoption
- Project Management
- Application Security



IBM client results - Improve product quality & flexibility

Deliver more perceived value at lower cost of ownership

“Six-fold increase in targeted promotion effectiveness, more than 95% reduction in time and cost of developing new promotions”

“Achieved 50% reuse of services”

“Saved more than \$25 million in defects, plus \$7 million a year in defect avoidance”

“Improved insight is helping managers improve predictability and mitigate business risk”



IBM client results - Drive new value and faster innovation

Reduce financial, market and organizational risks – make innovation through software the driver of opportunity

“Saved \$20 million by finding and avoiding risk in the consolidation of merchandising operations”

“Regulators removed industry-standard 15% ‘risk premium,’ providing competitive advantage”

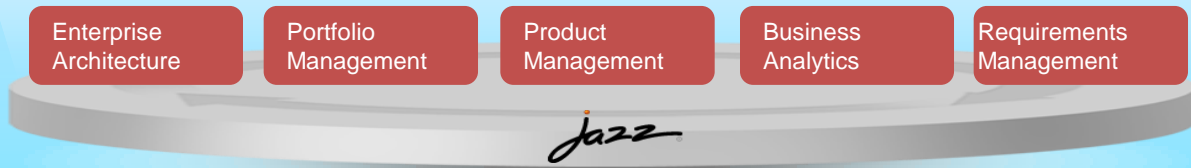


“Improved fuel economy 60 – 70%, according to EPA, 40% reduction in CO2 emissions”

“Recovered £10 million in costs by using enterprise planning to optimize IT landscapes and processes”



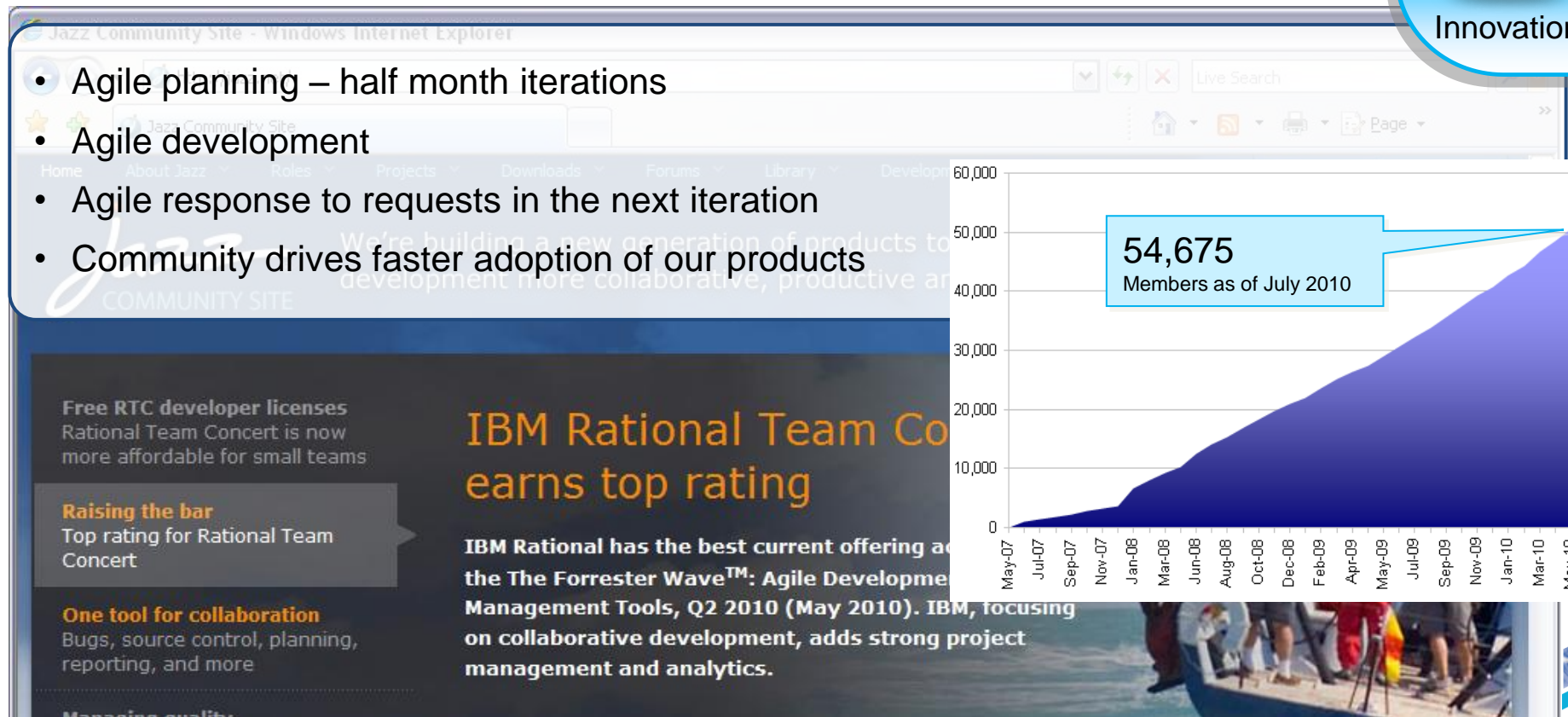
STANDARDIZE, MEASURE AND IMPROVE





What we do - Jazz.net

- Agile planning – half month iterations
- Agile development
- Agile response to requests in the next iteration
- Community drives faster adoption of our products



Free RTC developer licenses
Rational Team Concert is now more affordable for small teams

Raising the bar
Top rating for Rational Team Concert

One tool for collaboration
Bugs, source control, planning, reporting, and more

IBM Rational Team Concert earns top rating

IBM Rational has the best current offering at the The Forrester Wave™: Agile Development Management Tools, Q2 2010 (May 2010). IBM, focusing on collaborative development, adds strong project management and analytics.



www.ibm/software/rational

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