



IBM Software

“The Dancing Agile Elephant”

*IBM Software Group’s Transition to Agile
and
Lean Development*



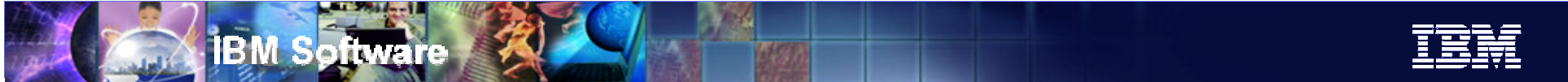
Sue McKinney
Vice President, Development Transformation
IBM Software Group



APLN Leadership Summit – February 21st, 2008

Agenda

- Dynamics and Challenges
- The “How”
- Sustainability



Why Agile at IBM

- Innovating the business to differentiate and capture new value
- Making better use of resources to be more productive
- Improve Time to Value
- Better workload management
- Improve Quality
- Improve predictability on schedule
- Heighten responsiveness and closer linkage to our customers

SWG Development Transformation

Until the late 90's Late 90's 2005 - 2007

Waterfall Approach

Business Management via IPD
 Development process very mature
 Quality process via Six Sigma
 Formal project mgmt practice

Challenges

Rigid
 Engineering culture driven by mainframe traditions
 Feedback late in development cycles
 "Rear view Mirror" measurements

Iterative Approach

Business Management via IPD
 Formal project mgmt practice

What's New

Customized RUP for dev process
 Quality process rigid but evolving
 Acquisitions begin filling technology gaps
 Established architecture blueprint
 Introduction of HQ steering mechanisms
 Community Source and component reuse
 Emphasis on consumability and simplification

Agile/Lean Approach

Business Management via IPD

What's New

Global reach – 60 locations
 Lightweight governance, core principles point to best practices
 SOA as guiding principle for common architecture
 Component to drive convention and consistency. 2,000 assets
 Increase in Agile adoption
 Focus on Outside-In-Development
 Stakeholder feedback through all phases of dev lifecycle
 Tools, not Rules



Rigid and Mature Planning

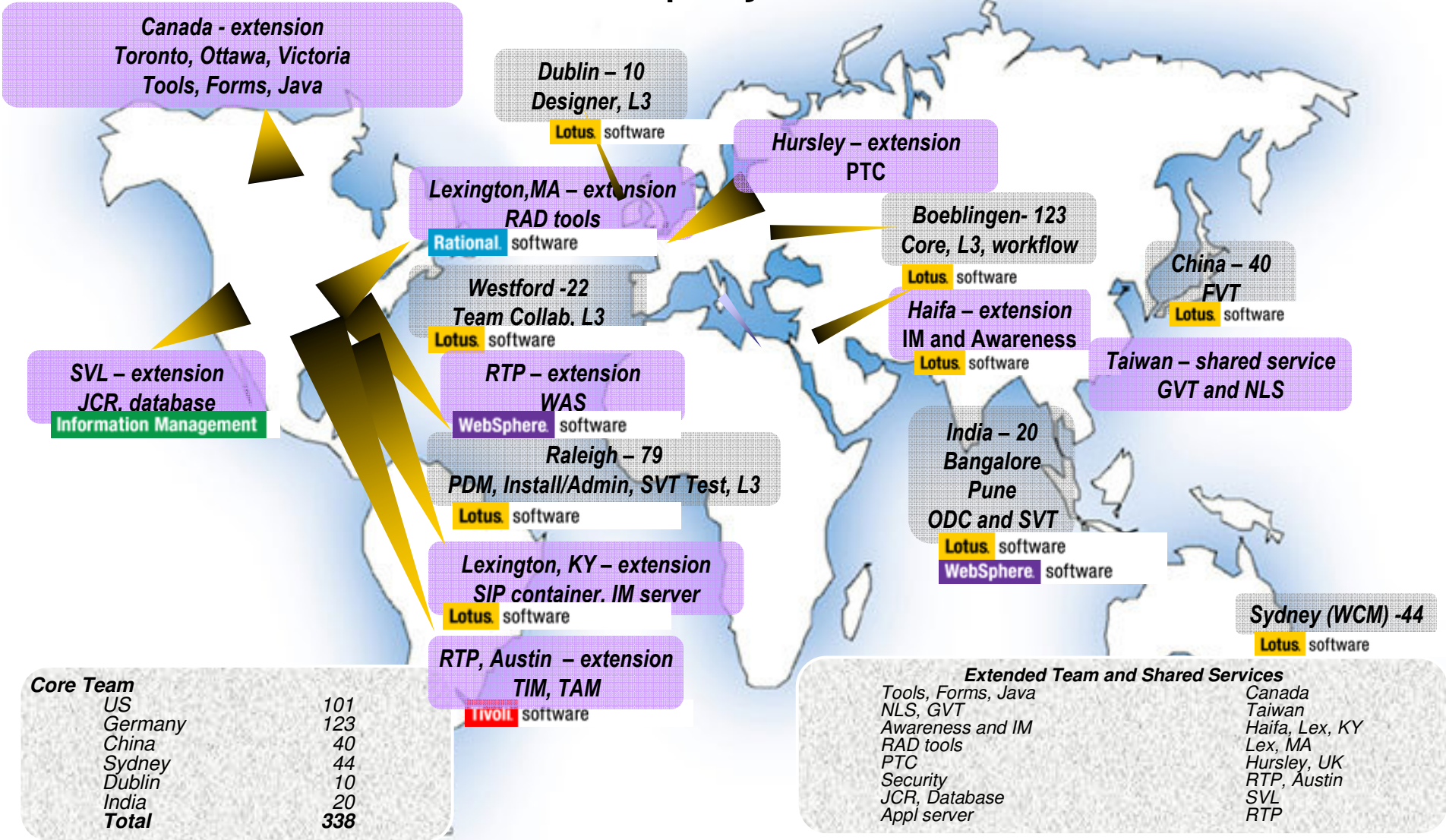
Continuous Learning and Adaptive Planning



IBM: One of the world's largest and most demanding software development organizations

- Projects
 - ▶ Over 500 internal product teams
 - ▶ ~ 300 product teams enabled to use Rational tools
- End Users
 - ▶ ~ 60,000 in SWG, STG, Research & other IBM groups
 - ▶ ~ 125,000 in Global Services (internal and commercial projects)
- Teams
 - ▶ Can be very large
 - ▶ Geographically distributed WW
 - ▶ Highly security conscious (ITCS standards)
- Tools and Process
 - ▶ Many tools in use, some home-grown
 - ▶ Internally developed and third-party
 - ▶ Common framework, but great variance in SW development process
- Platforms
 - ▶ Heterogeneous
 - ▶ Windows, Linux & UNIX (AIX)

Globally Integrated Development: Example of mid-size project



Core Team	
US	101
Germany	123
China	40
Sydney	44
Dublin	10
India	20
Total	338

Extended Team and Shared Services	
Tools, Forms, Java	Canada
NLS, GVT	Taiwan
Awareness and IM	Haifa, Lex, KY
RAD tools	Lex, MA
PTC	Hursley, UK
Security	RTP, Austin
JCR, Database	SVL
Appl server	RTP



IBM Software

The “How”



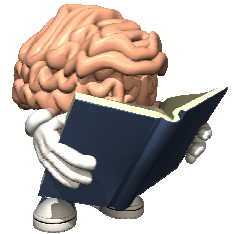
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Things to Consider before getting Started

- Management Support
 - ▶ Grass roots level
 - ▶ Senior level
- Strong and Experienced Leader(s)
- Picking the right project as a proof point
 - ▶ Helps with buy-in
- Providing the right education, tooling and governance
- Ability to allow change to occur
 - ▶ Will process encumber the team?
- Keep it Simple



Educate, Enable and Empower



- “Disciplined Agile” Workshops:
 - ▶ 37 workshops scheduled in Q1 at 22 sites
- Workshop has also been videotaped

Contacts and Collateral:

Main [Wiki](#) [Case Studies](#)

Existing [On-line Resources](#)

[Questions Answered](#)

[Coaches Available](#)



getting **Agile@IBM**

Introduction to Agile@IBM: Overview

Overview	What is Agile?	What is Agile@IBM?	Common Objections	Agile@IBM and me
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Introduction to Value Stream Mapping: Overview

Overview	Basics	Explore	Practice	Resources
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Introduction to Test Driven Development: Overview

Overview	What is TDD?	TDD and Agile@IBM	Resources
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Agile Project Leaders' Quickview: Agile Project Management

Agile Project Management	Develop Stable Code	Stakeholder Feedback	Scrum Meetings	Agile Tools	Resources	A Situation
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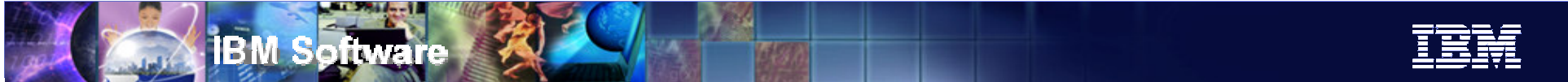
Manifesto for Agile Software Development

“We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

Individuals and interactions	over	processes and tools
Working software	over	comprehensive documentation
Customer collaboration	over	contract negotiation
Responding to change	over	following a plan

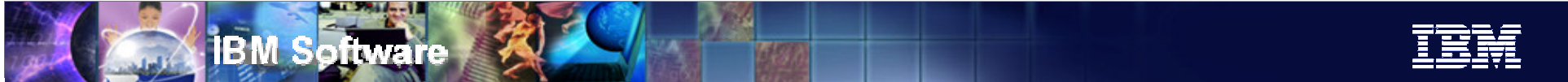
That is, *while there is value in the items on the right, we value the items on the left more.*”

See www.agilealliance.org



2007 Agile Deployment Approach

***Short, Time-boxed Iterations
with Stakeholder Feedback***



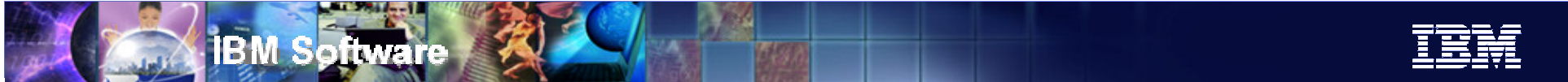
Short, Time-boxed Iterations Create

Automatic Constraints

Find Defects Earlier

Being More Responsive

Transparency



Constraints Cause Us To

Eliminate Waste

Optimize and Become More Effective

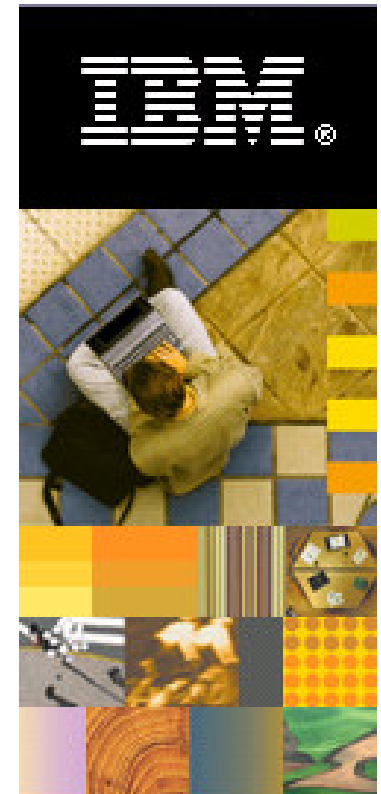


Stakeholder Feedback Causes Us.....

To Focus on the Essentials

Sametime Development Approach...

- Agile Process
 - ▶ Employed frequent / short code iterations; published builds for regular consumption
 - ▶ Organized around features crews for increased code sharing and reviews
 - ▶ Employed use of light-weight UI specs and implementations outlines
- Closed gap between developers and end users
 - ▶ Combined Teams from across WPLC, CIO Office and Research
 - ▶ Used TAP program for posting weekly builds; increased confidence & validation of product code
 - ▶ Fostered community of contribution and collaboration; Inspired expanded participation from over 50,000 IBM'ers; plus energized product developers!
 - ▶ Produced public beta (multiple builds) for over 100+ external customers; led to increased product acceptance and accelerated roll outs—
- Engineering practices
 - ▶ Continuous prototyping of code deliverables
 - ▶ Frequent code reviews; automated static code analysis



Lotus. Sametime. 7.5

... Aggressively eliminated unnecessary work!

Reshaping Software Development



Cultural Transformation

- Roles evolve (managers, product marketing, technical leads)



Focus on the Essentials

- Short, timed box iterations forces projects to become more efficient



Empowerment and innovation via passive governance

- Maximize value and flexibility of the knowledge-based workforce
- Minimize chaos while maximizing individual decision rights

In Summary

- Challenges
 - ▶ Very geographically dispersed teams with different approaches to building software
 - ▶ Many projects, often large teams
 - ▶ Innovating the business to differentiate and capture new value.
 - ▶ Making better use of resources to be more productive.
 - ▶ Avoiding the trough of disillusionment

- Solution Approaches
 - ▶ Continuously transform development using new techniques, and tools
 - ▶ Enable and empower teams
 - ▶ Collaborate more effectively at larger scales, both internally and externally and share knowledge, assets and best practices

Thank You!

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*Acknowledgements and Thanks to :
Tom and Mary Poppendieck*