



Confidence in a connected world.

# Agile Transforming in a global team

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Sep 2009

# 敏捷中国大会



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Confidence in a connected world.

**Take action to accomplish the transformation. A top management team must lead the effort with action, not just support.**

**- W. Edwards Deming**

# Agenda



- 1 Why agile is important for us
- 2 Our approach to adopt agile
- 3 Best practices (cases & videos)
- 4 Benefits
- 5 Future plans
- 6 Issues

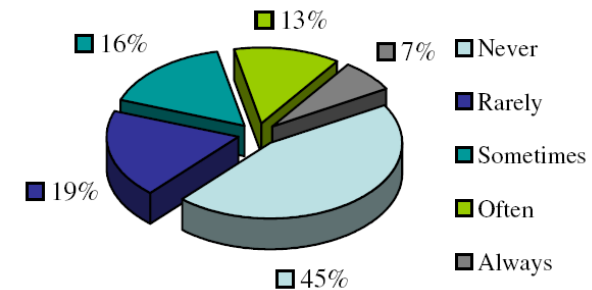


# Key challenges to legacy engineering system

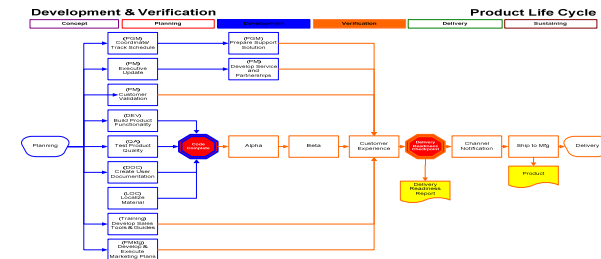


1. How well do we understand what really matters to our customers?

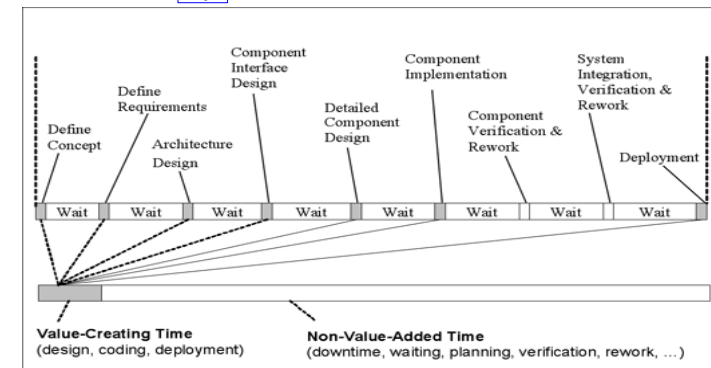
Feature usage in enterprise software



2. Do our people understand how the current system functions?



3. What are the biggest performance bottlenecks in the system?



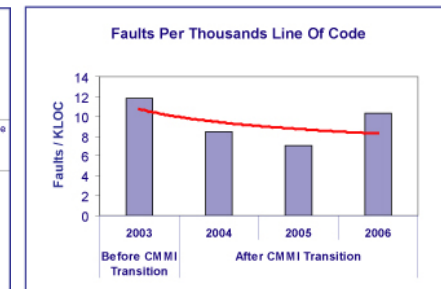
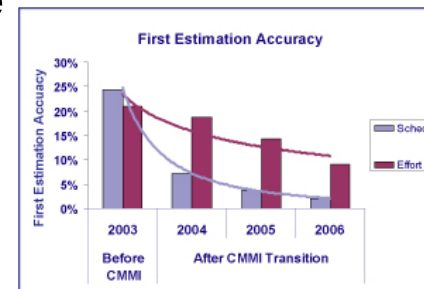
# Key challenges to legacy engineering system (continued..)



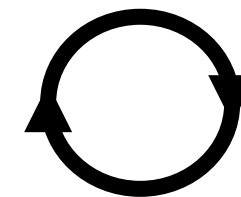
4. How do we make tradeoffs between quality, cost and features?



5. Who is responsible for improving execution? And can we measure improvements effectively ?



6. Do you have a system for continuous improvement?



# Why agile is important for us

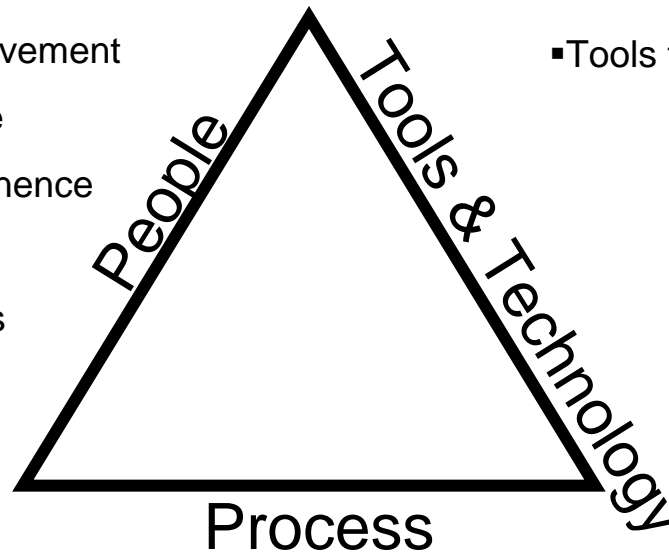


- **Value:** understand what adds value for the customer
- **Value Stream:** understand how the organization generates customer value
- **Flow:** maximize speed and minimize cost by achieving continuous flow & reduce waste
- **Pull:** deliver value on a just-in-time basis based on actual customer demand
- **Perfection:** continuously improve the performance of your value streams

# Product Development System



- Learning & Continuous Improvement
  - Technical competence
- Culture to strive for pre-eminence
  - Empowerment
- Integration of suppliers



- Tools for simple visual communication
  - Automation

- Establish customer defined value to separate value-added from waste
  - Front load to explore thoroughly alternate solutions while there is maximum design space
    - Leveled product development process flow
  - Rigorous standardization to reduce variation, create flexibility and predictable outcomes

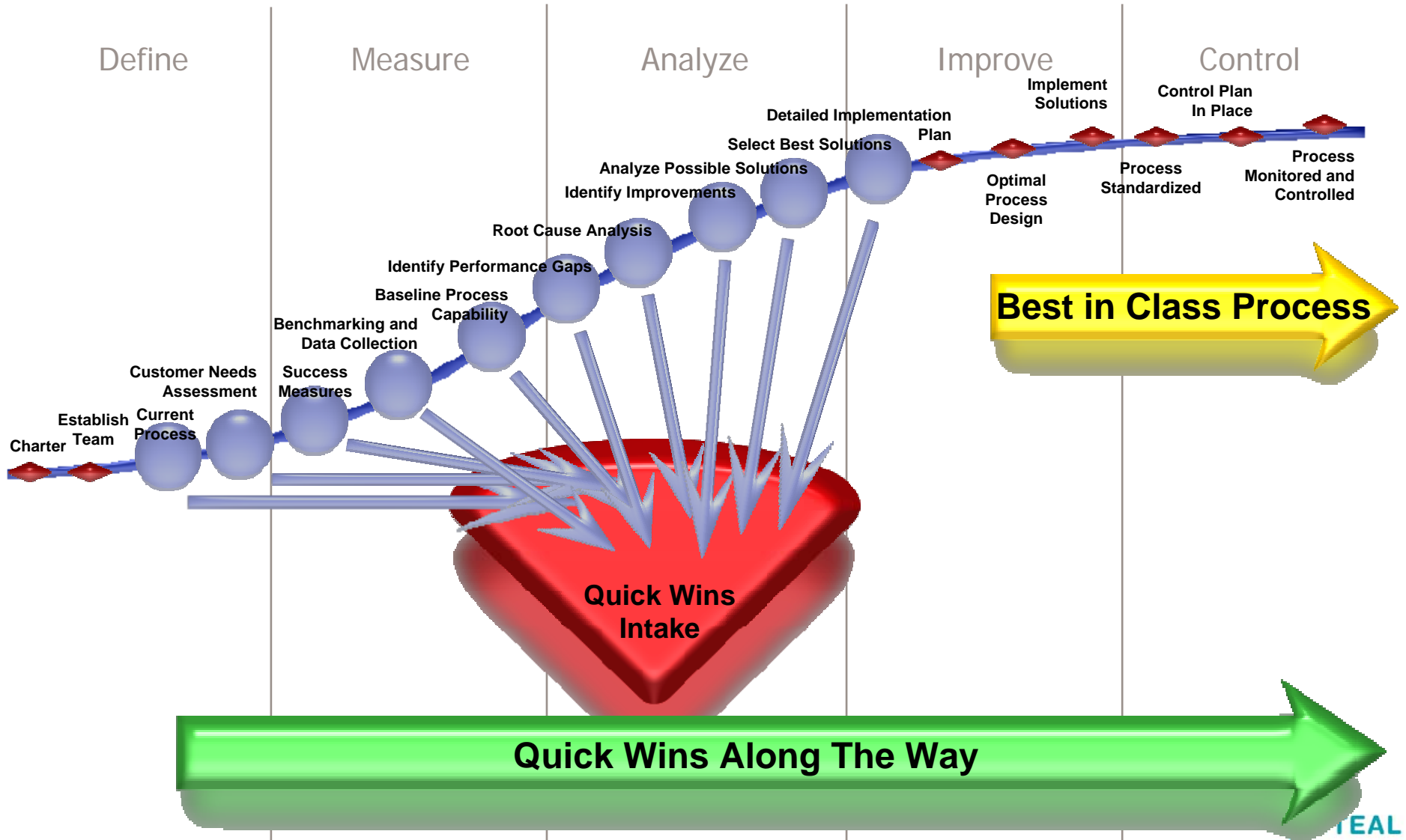
# One approach



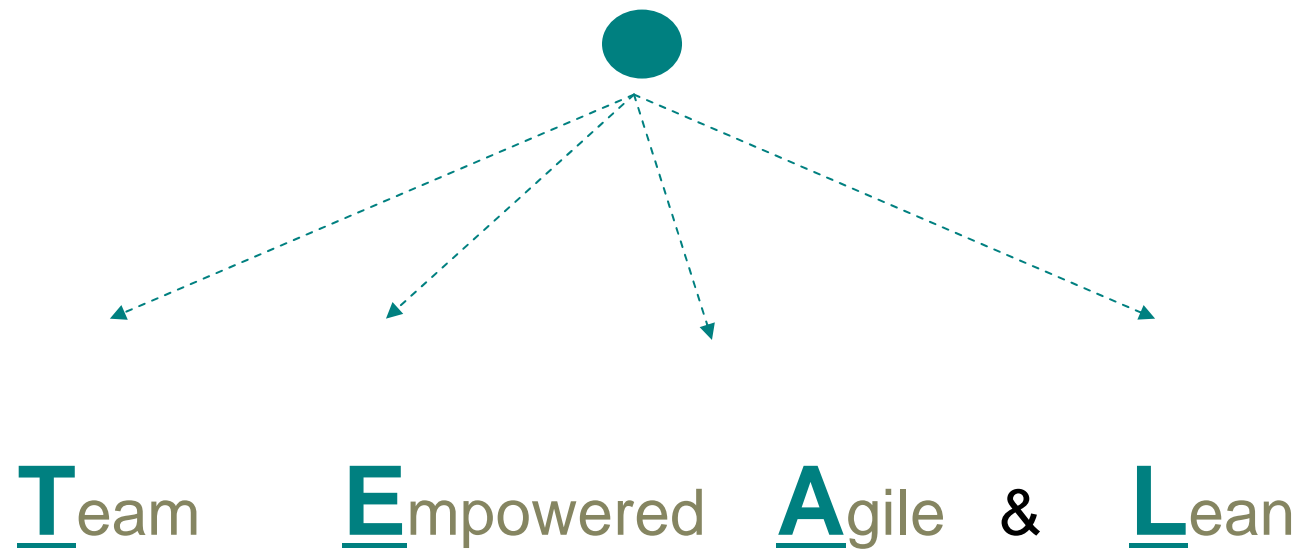
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# Another Approach



# Introducing TEAL



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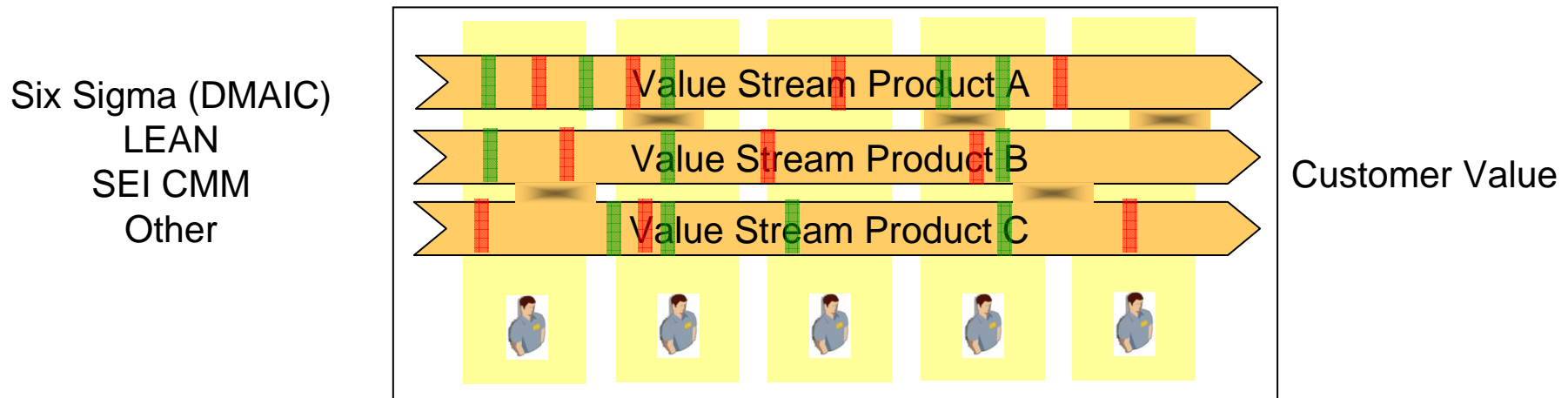
# TEAL Operating Model



- Six “Communities of Practice” (CoPs) with cross product representation
  - Requirements Management (US only), Development (US and Pune), Verification (US and Pune), Documentation (cross geo), Program Management (cross geo) and Customer Support Experience (US and Pune)
- Core Team
  - Meeting Frequency: Once / month
  - Objectives: Continuous review of TEAL working model. Modify and Adapt as needed
  - Attendees: Coach, Quarterback, TEAL Core team
- CoP Moderators
  - Meeting Frequency: Once / Month
  - Objectives: Review progress, highlight cross CoP issues, share moderator best practices
  - Attendees: Quarterback, CoP Moderators
- CoP members
  - Meeting Frequency: Bi-weekly
  - Objectives: Review progress, share and align on best known practices, assign action items
  - Attendees: CoP Moderator and Members



# SAMG's TEAL Transformation



1. Map the value stream(s)
2. Appoint Value Stream Owners/ Black Belts
3. Establish customer value and identify sources of waste
4. Identify best practices, metrics and share
5. Design "future state" of value stream (what we want it to look like)
6. Implement the future state and measure results
7. Iterate continuously

# TEAL adoption – progress and plans



Area	Progress to date	Plan going forward
Knowledge Management	Commitment to Socialtext wiki complete (Information migration ~50% complete) General adoption of SharePoint as the working documentation collaboration tool	Incorporate Web 2.0 tool Continue to migrate remaining content Standardize on SharePoint as working collaboration site Clarify doc repository tool usage Improve KM search-ability/availability
Process	All teams are Agile or “Agile-like” moving to Agile Various tools being used – Etrack/Excel, Accept360, or VersionOne	Continue migration to fully Agile development models Move to single Agile tool
Metrics	Each group has defined and automated different metrics	Standardize on single set of metrics, publication and tracking mechanisms
Training	5500 person-hours of Agile training in March Qtr	Targeted Agile training by project General awareness training via TEAL Increase focus on Lean
CoP involvement	Strong US activity in most of the CoPs CoPs in Pune have not been as active	No change in CoP model Engage on Pune CoPs Drive CoP social networking

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# Team Exercise



- **Breaking group up into 10 teams**
  - Each team has facilitator + 7 team members
  - Teams assigned by value chain step with 2 teams for each
  - Using PLC steps: Concept, Planning, Development, Verification, Delivery + Sustaining
- **Things to remember**
  - Want to capture how it \*actually\* works today
  - We will consolidate this information later, so please structure clearly



## Situation and problem:

1. Cross Geo project, different developers are located in different areas.
2. Complicated products support multi Unix/Linux platforms.
3. Only weekly meeting can communicate and solve problems.
4. Someone's check-in often breaks others' functions.
5. L10N/I18N transforming issues sometimes breaks the build.
6. Corrupted build blocks QA teams verification jobs.

Analysis and solution:

1. Weekly build has high value in the value stream.
2. Small check-in and continuous testing could find the issue in the earliest stage and minimize the impacts.
3. Adopt CI practice, run unit and functional tests just after code check-in.
4. Setup CI testing nodes in different areas to cover different platforms.
5. Send real time notifications to corresponding people to let them know the up-to-date results so that they can take actions on time.

# Continuous Integration Adoption



The screenshot displays a web-based interface for a Continuous Integration (CI) system. At the top, there are three tabs: "Test Results", "XML Log File", and "Metrics". The main content area shows the following information:

- BUILD COMPLETE - build.353**
- Date of build:** 2009-09-03T23:47:50
- Time to build:** 0 seconds
- Last changed:** 2009-09-03T23:41:41
- Last log entry:** Incident:1406359 adding the missing 0s

Below this, there are two test result sections:

- Code Automation Check: (2)**
  - EDR Solaris Sparc Unit Tests**  
Total: 100 Pass: 98 Fail: 2
  - EDR Solaris Sparc Syntax Check**  
Total: 3 Pass: 3
- Modifications since last successful build: (1)**

modified	ppatil4	<a href="#">lib/CPIC/51/CPIC/systems.pl</a>	1.185	2009-09-03T23:41:41	Incident:1406359 adding the missing 0s
----------	---------	---	-------	---------------------	--
- Build Log: (2)**
  - Preparation work before unit test.
  - Invoke unit test and return the result to sol\_sparc...

On the left side, there is a vertical navigation menu with items like "Pill", "Welcome", "Existing", "Existing", "EDR", and "VOS". On the right side, there are some partially visible text elements like "of Last P", "Successful", and "of La".

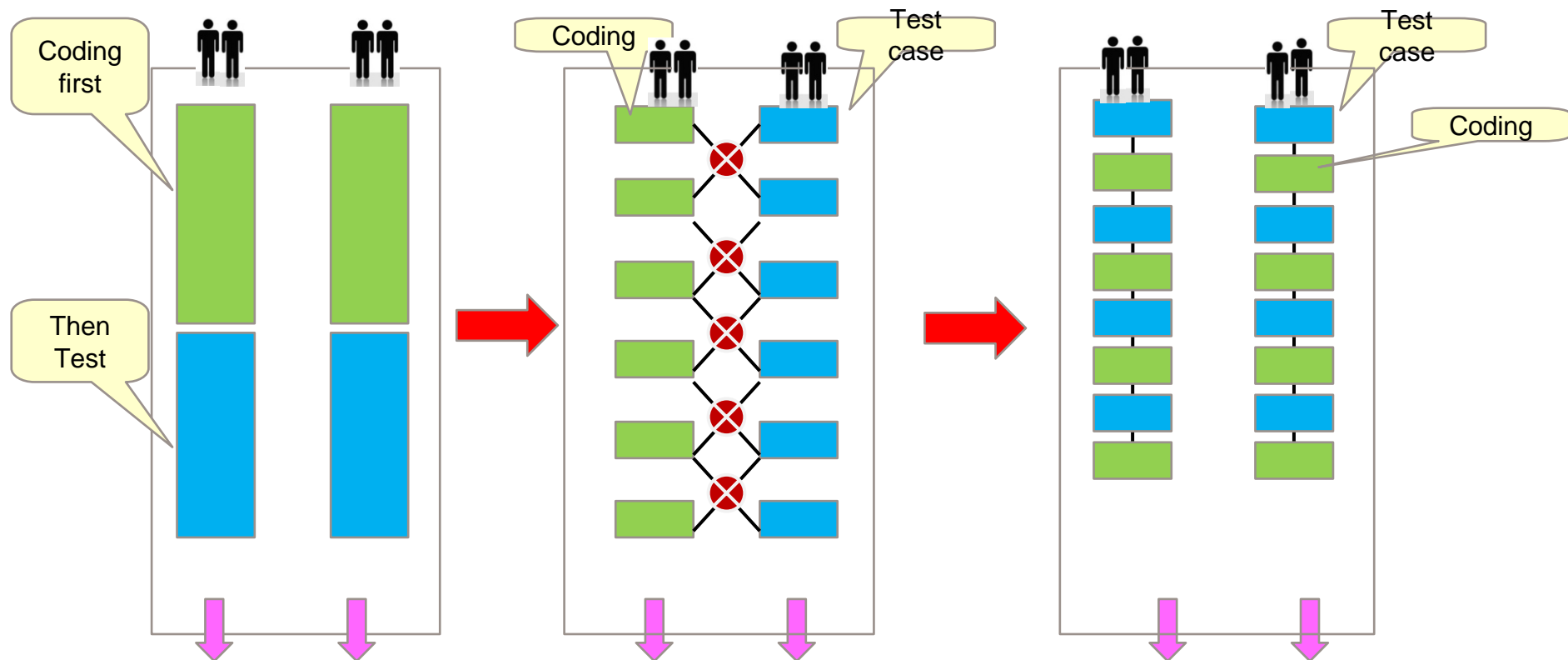
## Results:

1. Setup Tinderbox and CruiseControl system integrated with unit test, L10N/I18N transforming check as well as a few functional test cases.
2. Most of the problems get caught just after code check-in, the number of corrupted build are extremely decreased.

# Fit in to Test Driven Development



- our conventional way is Coding first, then testing
- we fit in to TDD: one team coding, one team write test case, run testing everyday
- now we write test cases first , then coding, for our team realized the benefit of TDD





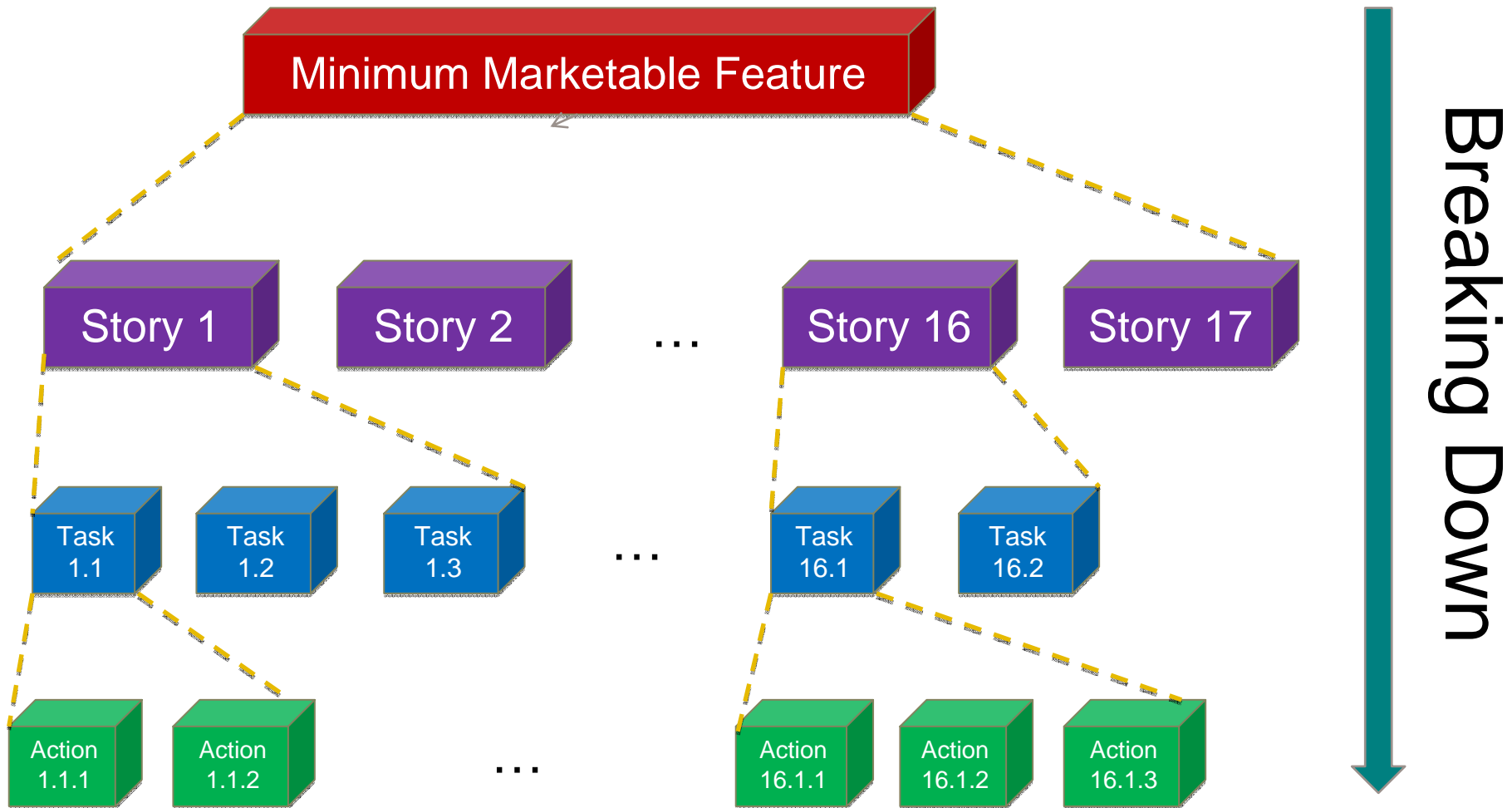
# Practice to Break Down a Huge Feature (1)



- Background
  - Poor MRD Requirement: “***upgrade should be supported from Version 2.0 to 5.0 release***”
  - Huge Support matrix with different platforms (Linux/Solaris), different product packages and different upgrade scenarios
- Challenges
  - Communication with GEO Teams is hard (Dev in China, QA in India, PM in US)
  - Habits inherited from the older Waterfall process
  - Team has to face up to the uncertainty on how to replace a traditional high level design at the beginning



# Practice to Break Down a Huge Feature (2)





# Practice to Break Down a Huge Feature (3)



- Benefits from Breaking Down
  - Clarify Requirements
  - Capable of iterative development
  - Increase Confidence
  - Reduce Risks at the beginning
- To be improved
  - Need to break down to stories and tasks appropriately
  - Avoid dependency definition between stories





# Practice to Break Down a Huge Feature (4)



#	Tasks	Owner	Type	Status	Iteration
	<b>[Story] Adding a Migration Option</b>			Closed	
1	Adding migrate option in CPI	Fred	Dev	Closed	I-9
2	migrate option qualification	Omkar	QA	Closed	I-9
3	migrate option documentation	Megan	Doc	Closed	I-9
	<b>[Story] Delete a Node</b>			Ongoing	
4	Delete-node option in CPI	Fred	Dev	Done	I-10
5	Delete-node option qualification	Omkar	QA	Started	I-10
6	Delete-node option documentation	Megan	Doc	Done	I-10

...



# Practice to Use VersionOne



- A Good Iteration Management Tool
  - Defining Iterations, Features, Stories, Tasks, etc.
  - Tracking status for project status and team status

Review : [BigSky] Install, Packaging, Licensing, Security Project Path: BigSky Release 5.0 >

Close Iteration Retrospectives

Iteration:  Team:

Iteration Summary

Open Story Points	Progress	Closed Story Points
	<div style="width: 50%;"></div>	29.00

Close or move remaining Workitems.

Next Iteration

Iteration 15

Move Workitems to the next Iteration them here.

Remaining Stories and Defects

Filter

Title	Owner	Status	Story Points
No Results To Display			

Closed Stories and Defects

Reopen

Title	Owner	Status	Story Points
<input type="checkbox"/> DR-configuration-enhancement	Omkar, Andy, Megan Leney	Done	3.00
<input type="checkbox"/> finalize-AT-drop, bugs-and-demo	yma	Done	5.00
<input type="checkbox"/> Rolling-Upgrade-Solaris-delivery	fwen, Omkar, Megan Leney	Done	5.00
<input type="checkbox"/> EPI-screen-output-update	wli, fwen, Omkar, Megan Leney	Done	8.00
<input type="checkbox"/> CD-Rolling-Upgrade-flow	wli, fwen, Omkar, Andy, Megan Leney	Done	8.00



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# Teal Benefits



- **Customer NPS improvement**
  - More engaged with customers
- **Improve Quality**
  - Defects decreasing dramatically
  - Customer satisfaction
- **Productivity**
  - Communication
  - mitigate risks
  - Coding style adapt to Unit test, automation
- **Team maturity**
  - More communication
  - Self organized team
- **GTM**
  - Release frequently, reduce cost

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# The Path Forward

*Continuously improving the operating model*



TEAL 1.0	TEAL 1.5
Out of band - “Storming & Norming”	In-band Execution, Planning and review progress at quarterly summits
Cross functional, cross geo phase teams	Homogeneous Communities of Practices per geo with alignment at TEAL Core team
Areas of Focus <ul style="list-style-type: none"><li>▪ Knowledge Mgmt</li><li>▪ Process</li><li>▪ Metrics</li><li>▪ Training</li></ul>	Concrete goals & clearer end state <ul style="list-style-type: none"><li>▪ Drive WIKI adoption &amp; consolidation</li><li>▪ Become an Agile enterprise</li><li>▪ Identify and embrace best practices</li><li>▪ Focus on Lean and optimizing specific value chains – support, patch, HCP</li><li>▪ Training – Agile, Scrum, TDD</li></ul>
Guiding model	Broader Engagement
Qualitative assessment of progress	Metrics to gauge TEAL traction
Individual contribution tracked qualitatively	TEAL integral part of performance management. Every SAMG employee should have a TEAL goal and should be rated on TEAL contribution.



# The Path Forward



- 1 Establish CoPs to drive best practice, metrics definition and adoption.
- 2 Implement mass engagement ideas.
- 3 Create timetable for transition to Agile per product area.
- 4 Implement TEAL/Agile training.
- 5 Accelerate information migration to common SAMG WIKI.
- 6 Pilot LEAN projects: Identify and execute on at least 2 value chain optimization projects.

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# Issue 1 –VersionOne Status



- **A Typical Issue In a Project**
  - With GEO teams in the same project
  - QA from India did not update VersionOne status timely
  - Team only has weekly conf call to sync-up
- **Resolving**
  - Involving QA manager and PM into the status update loop
  - Talking about Version One during the weekly meeting with burn-down diagram for Dev/QA separately
- **Result**
  - QA started to update their status with more frequency



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# Thank You!

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