When the Business Wants Waterfall
Implementing Agile in a Phase-Based Environment

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Agenda

- Halliburton Situation and Challenges
- LIFECYCLE for Software
- Execution
- Adoption Challenges
- Results
Halliburton global footprint

2014 FAST FACTS

- Founded: 1919
- Employees: Over 80,000
- Operational Countries: 80
- Research Centers: 15
- Corporate Headquarters: Houston, Dubai
- Customers: National, International and Independent entities worldwide
LIFECYCLE for Software

Executive Mandate
‘Produce a process based on LIFECYCLE that works for software, as much like LIFECYCLE as you can make it. And you have to keep the same stages and gates.’
Software Process
Adjustments

Key Stages run in parallel

Stage Gates can be merged

Just in time planning

Most scope is not locked
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**Business Case Contributions & Validation**

*Note: The diagram illustrates the lifecycle stages and associated activities for project management, including assessment, definition, design, verification, validation, commercialization, and lifetime stages.*
Organizational Change Management

Limited Development

Testing Retrospection

Development
Testing Retrospection

Backlog Grooming for next iteration
Exercise and review of past iteration

Story Clarification

Daily Cycle
- Check-Ins
- Automate Tests
- Continuous Integration
- Collaborate

For mature agile teams, the gap between end of D/B/Q and end of Verification may be quite small

Daily Cycle
- Check-Ins
- Automate Tests
- Continuous Integration
- Collaborate

Final Testing Defects

Exercise & Stabilize

Feature Complete

Potentially Shippable Software

Iteration Cycle

Potential Shippable Software

Iteration Cycle

Final Testing Defects

Feature Complete

Potentially Shippable Software

Iteration Cycle

Daily Cycle
- Check-Ins
- Automate Tests
- Continuous Integration
- Collaborate

Release Backlog including defects and technical debt, sized & prioritized

For mature agile teams, the gap between end of D/B/Q and end of Verification may be quite small

Design/Build/Qualify (Stage 2)
End of Verification (Stage 3)
End of Validation (Stage 4)

Build and Deployment Management

Organizational Change Management

Customer Previews and Feedback
Execution
Executive Mandate
‘Produce a process based on LIFECYCLE that works for software, as much like LIFECYCLE as you can make it. And you have to keep the same stages and gates.’

Discovery
- Level of software process in each Business Line varied widely
- Significant variance in the size of software groups
- Almost all Business Lines leveraged offshoring and distributed teams
- Challenges around Product Management coverage and Automated Testing
- Questions around articulating software value when revenue is indirect at best
- Every Business Line was either using Scrum or planning to adopt Scrum
- Software development often a black box to the Business Line executives

Team
- Landmark Chief Project Manager
- Cementing Product Manager
- Consultants
  - Organizational Change Mgmt Expert
  - Professor of Computer Science
  - Product Management Expert, Agile
  - 2 Agile Coaches
  - Organizational Change Mgmt Logistics

Timeline:
- Discovery: Q1 2012
- Dev: Q2 2012
- Pilots: Q3 2012
- Rollout: Q4 2012, Q1 2013, Q2 2013
Material

Stage 1 - Definition

Do This

1. Update business case contributions and validate with all key stakeholders
2. Prepare initial schedule and checklist
3. Define pricing strategy and align with ERP (revenue share, etc.) – Commercial Software (Sales/Me)
4. Develop initial release plan (including high level project schedule and resource plan)
5. Select/Confirm Product Manager, Project Manager, and Technical Architect (by programming)
7. Identify release and deployment milestones
8. Update IT strategy. Work with IT to plan security and architecture review
9. Create organizational and project key role matrix
10. Receive key technical uncertainties and establish high level application architecture
11. Set up build environment. Define purchase plan for any required software and license agreement with Global Software Asset Management (GSAM) group for software
12. Develop verification plan (testing)
13. Identify validation strategy (including target customers, timing, and success criteria)
14. Assess build and deployment management approach
15. Conduct plan readiness assessment

Present This

1. Approach to business case
2. Initial launch plan
3. Initial pricing strategy – Commercial Software (Sales/Me)
4. Initial release plan
5. Architecture overview (high-level overview graphic)
6. Team overview (matrix of leads, resource country/role)
7. Project plan
8. Schedule (milestones, customer engagement)
9. Current status of build/development: potential, defined (out)
10. Budgeting for strategy 2.3.4
11. Responsibilities and integration requirements (including Common Ground, operating systems, etc.)
12. Ongoing support requirements and post-commissioning
13. Initial certification plan (overview)
14. Validation strategy (including success criteria; what feedback from customers is expected/permit launch?)
15. Risk and mitigation plan

Consider This

Variance (What’s Unique about LFS)

1. Customer needs and wants (i.e., value proposition)
2. Customer validation (who will participate and how)
3. Will this project require ongoing support from project team members after project closure?

<Program Name>

Gate 2 Business Case Approval Gate Review

Approval Requested:

- Proceed/Kill/Hold with Stage 2 Design/Build/Qualify
- Total budget and timing to complete Stage 2-6
- Total budget and timing to complete Stage 2 (estimated hours)

<program_name>

<program_name>
Adoption Challenges
Challenge: Business lines don’t want the process

Source: Small Software Shops – ‘why does software need to be different?’
- ‘It won’t look so different to you’
- Executive Sponsorship
- Peer Support
- Value to the executive
- ‘Software is different because…’

Response

Results
- Cautious acceptance
- Compliance

Source: Big Software Shops – ‘we’re already doing fine’
- Due diligence
- Corporate alignment and synergy
- Value of Gates

Results
- Generally a few opportunities
- Often some best practices to share
- Good enthusiasm and buy-in
Challenge: Change Resistance

Issue
- Awareness
- ‘Checkbox Adoption’
- Agile resistance among some teams
- General Change Resistance

Response
- Executive sponsorship
- Formal Change Management effort
- Support/Value-add
- Customize approach by Business Line

Results
- Strong awareness and buy-in
- Agile skills and adoption are improving
- Gates are now being held
- Executives rate that software effectiveness has taken a big step up

John Kotter: 8 Step Process for Leading Change

1. Establishing a Sense of Urgency
2. Creating the Guiding Coalition
3. Developing a Change Vision
4. Communicating the Vision for Buy-in
5. Empowering Broad-based Action
6. Generating Short Term Wins
7. Never Letting Up
8. Incorporating Changes into the Culture
Challenge: Skills and Staffing Issues

Issue
- Product Management and Product Owner Gaps
- Role coverage for non-developer roles
- Gate presentation issues

Mitigation
- Leverage LIFECYCLE
- Specific Material for Product Managers and Owners
- Leveraged external expertise
- Share learnings across divisions

Results
- Steady increase in Product Owner skills and coverage
- Teams not so heavily skewed toward development
- General increase in automated testing
- Gates now generally successful and providing good value
Outcome

Success of the Adoption = Quality of Product being Adopted x Quality of Rollout

Results
- Corporate buy-in
- Ad-hoc teams are transitioning to agile
- Gates are being held, with positive results
- Cross Business Unit initiatives leveraging the process
- Cross Business Unit communication
- Adoption spreading beyond original scope

Takeaways
- Solid executive sponsorship is critical
- Organized Change Management: Communicate, and communicate again!
- Offer value, not just a corporate mandate
- Customize the implementation by Business Unit
Thank you. Questions?