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Evolving Interoperability Certification to Support Agility

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March 13, 2012

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Purpose

Contrast the current joint interoperability test certification process with the evolving vision, challenges, and progress to align requirements definition and integrated TE&C with Agile development and an emerging acquisition processes.

Current Process:
Joint Interoperability Certification

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Joint Staff J-8

Interoperability & Supportability Certification Documents:

CDD, CPD, ISP, ISP Annex and TISP

Interoperability Test & Certification

Risk

Developmental and Operational Test & Evaluation

Analysis

DATA

Joint Interoperability Test Certification

Expires after 4 years, or upon changes affecting interoperability (system or environment)

NOTE: Interoperability changes require reentering process at appropriate point:

- ✓ Requirements updates
- ✓ J-8 I&S Certification
- ✓ JITC Test & Certification

DISA Vision: Test Transformation

Supporting IT Acquisition Reform

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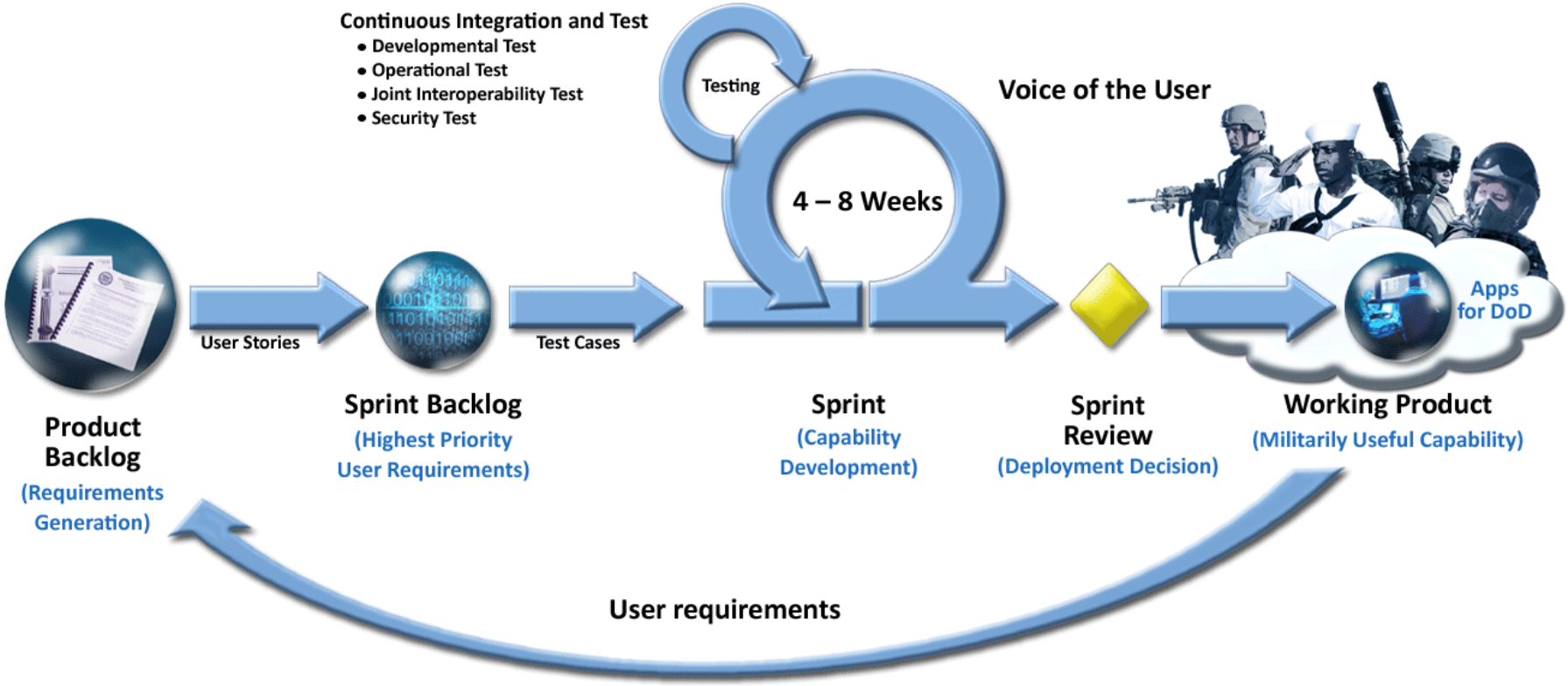

* Sprint is an increment of development

IT Acquisition Reform Supported by Agile Test, Evaluation, and Certification

Incremental TE&C Concept

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Backlog Refinement
- Initial Reqmts Definition
- Release Planning
- Risk Analysis

Sprint Planning
- Proposed Capabilities & Acceptance Criteria
- Risk Analysis
- Test Strategy
- Infrastructure VV&A

Sprint Timebox
- Develop, Test & Data Collect
- Data Reduction & Analysis
- Refine, Adjudicate, and Document IOP Requirements
- Update Test Strategy
- Assess Status of IOP and Operational Impact (risk)

Sprint Review
- IOP Requirements are updated
  - Digitally captured
  - Approved (If applicable)
- Update Status of IOP (e.g. Assessment)
- Draft Applicable IOP Certification Memo

User Stories

Test Cases

Product Backlog (PB) | Sprint Planning (SP) | Sprint | Sprint Review (SR)

IOP TE&C Artifacts
- Operationally realistic test environment
- Test cases & scripts for product backlog req'ts

IOP TE&C Artifacts
- Risk analysis
- Test plan
- Test report template/outline
- IOP certification memo template/outline

IOP TE&C Artifacts
- Updated requirements
- Test results
- Refine test cases & scripts, as needed

IOP TE&C Artifacts
- Approved requirements
- IOP test report
- IOP certification memo

Requirements Evolution Example

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Top-level Requirements - Joint Staff Approved

- Overview and Summary Information
- High-Level Operational Concept
- Operational Activities

Top-level Requirements Approved by Joint Staff J8

Sprints

- User Stories
- Product Backlog

Drives detailed functionality/information exchange requirements over time within the bounds of approved requirements

Derived, Detailed Requirements Approved by lower-level authority

Mediated by overarching requirements (e.g., standards, architectures, JMTs, COI requirements, etc)

- Joint Task & Mission Thread Information
- System Interface(s) & Services Functional Descriptions
- Detailed System & Services Data Exchange Requirements

Derived requirements through Agile development processes

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Challenges

- **Process development & policy alignment**
  - **DoD is working to support Agile in policy, but there is more work to do**
- **Budgeting - Funding**
  - **Agile requires early involvement and a fully integrated team… this may have budget impacts**
- **Education**
  - **Using Agile processes and integrated teams requires a change in culture and mindset, along with knowledge of new processes**
- **Provisioned test environment**
  - **Rapid development and fielding cycles require a responsive test program enabled by an “always on” operationally realistic test environment**

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Progress

- **Policies**
  - **Working to incorporate concepts into DoD policy to allow flexibility that supports Agile**
- **Education**
  - **Most of JITC workforce is Scrum Master certified, influencing the culture and mindset of the organization**
- **Documentation**
  - **Streamlining IOP test & certification documentation (reports, certifications) to provide better information to decision makers and faster staffing & approval**
- **Infrastructure**
  - **Working to develop and leverage solutions that support rapid and, where possible, automated testing (testing as a service)**

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Summary

- **Current interoperability certification processes must be changed in order to support Agile**
  - **Policies must be updated to support flexibility**
  - **Stakeholders must be educated to Agile processes**
  - **Documentation must be streamlined and relevant**
  - **Decision making must be pushed down to the lowest possible level**
  - **Architectures should be reused and federated**
  - **Test infrastructure must be persistent and operationally realistic**

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Contact Information & Resources

- **Hotline**
  - 1-800-538-JITC (5482)
  - hotline@disa.mil
  - http://jitc.fhu.disa.mil/support.html
- **Joint Interoperability Tool (JIT)**
  - http://jit.fhu.disa.mil
  - Lessons Learned reports
  - NATO Interface Guide
- **System Tracking Program (STP)**
  - https://stp.fhu.disa.mil
  - Test events, plans, reports, certifications
- **NR-KPP Helpdesk**
  - NR-KPP_Helpdesk@disa.mil
- **NR-KPP Testing Guidebook**
  - https://www.us.army.mil/suite/doc/23429848
- **CJCSI 6212 Resource Page**
  - https://www.intelink.gov/wiki/Portal:CJCSI_6212_Resource_Page
- **E-ISP Tool**
  - https://jcpat.csd.disa.mil

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Questions?

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