Testing For The Next Century

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Why

• Long test cycles
• Majority of testing was manual
• No centralized team or ability to move resources easily
• Different standards and practices across applications and teams
• Adoption of Test Driven Design, Agile, and other methodologies was inconsistent
  ...

• A new suite of systems is on the horizon
• IoT
• Digital Twin
• Digital Thread
• Boeing has leveraged ITIL to drive the creation of a new Validation and Testing Service that supports both external and internal customers. This new organization has grown over the last three years to include a team of over 50 professional testers that will support over 4,000 applications.

• The Validation and Testing Service has also been able to increase work throughput while reducing the cost of testing internally to Boeing.
ITIL Service Transition Timeline

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2014 – 2015
Transform Organization

2016
Focus & Mature

Intensify Focus On Service Delivery
IT Run Partnership
Continued Investment in Ourselves
People Engagement & Alignment
Vision, Mission and Strategy

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**VISION**
Where we’re going

Create one Validation and Testing Service that utilizes resources, knowledge, best practices across Boeing IT efficiently and economically

**MISSION**
What we do

Use common tools and technology to enhance the performance of our testing practitioners, processes, and service

**STRATEGY**
How we’ll get there

Integrate all practitioners into a single Community of Practice to increase and encourage communication, knowledge sharing, and expertise leveraging across all Boeing IT and allow movement of practitioners across all application testing environments

**ENGAGEMENT**

- Community of Practice
- Focus Teams
- CSI Projects
- Practitioner Owned Initiatives
- Newsletter
- Gamification

**EXCELLENCE**

- Execute first-time quality and reduce rework
- Build V&T Service Culture
- Promote common practices across Service
- Share knowledge

**ENABLEMENT**

- Increase productivity of V&T Service
- Innovative Strategy
- Leverage Automation
- Global Diversity

**INVENT IT**

**IMPROVE IT**

**INSPIRE IT**
Service Management Strategy

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- Governance
  - Quality of Service
  - Continual Service Improvement
  - Cost Management
  - Service Management
  - Maturity Assessment

- ITIL Service Maturity Model

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Focus Teams

- Automation
- Integrated Test Management
- Cross Functional / Process
- Metrics
- Common Tools
- Communication

5 Key Initiatives

1. Combined Teams
2. Future Release Environment Design
3. Realize Productivity and Cycle Time Improvements
4. Work Load Management & Work Intake
5. Community of Practice
By utilizing a clear vision, a centralized leadership model and a focus on the three themes of people, process and technology the Validation and Testing service has allowed Boeing to make strides with implementing software delivery best practices. Including:

### People
- Global Test Communication
- Global Teaming and Coordination
- Follow the Sun Test Support
- Test Subject Matter Experts
- Cross Training Methodology

### Process
- Test Analysis and Authorization
- Test Planning and Coordination
- Test Environment Management
- Test Strategy and Standards
- Testing Best Practices and Processes

### Technology
- Common Test Tools
- Common Test Environments
- Automated Testing
- Performance and Scalability Testing
- Common Metrics
Problem to Solve:

- Hard time collecting status
- Teams not properly planning to meet schedule dates

Target:

- Engage Practitioners with Horse Race game to increase accuracy of status

Benefits:

- Increased visibility, communication participation and a greater understanding of where people are with issues across teams.
- Focused attention on items that need help only.
- Increased number of teams meeting test schedule.
- Increased collaboration across integrated test efforts and teams.
- Reward is focused on teams that stay on plan and finish on time with no issue.
- Practitioners are proactively asking more questions to understand testing procedures.
The service model has also allowed the Validation and Testing Service to promote new methodologies across Boeing

- Automation
- DevOps
- Continuous Delivery
- Test Driven Design
- Agile
- Consolidated Metrics
- Capacity Planning
- Resource flexibility and cross training
- Global diversity

This model has also allowed the V&T service to modernize its testing efforts in preparation for future Boeing Systems

- IoT
- Digital Twin
- Digital Thread