

# Forge Capabilities

## An Introduction to Forge.mil

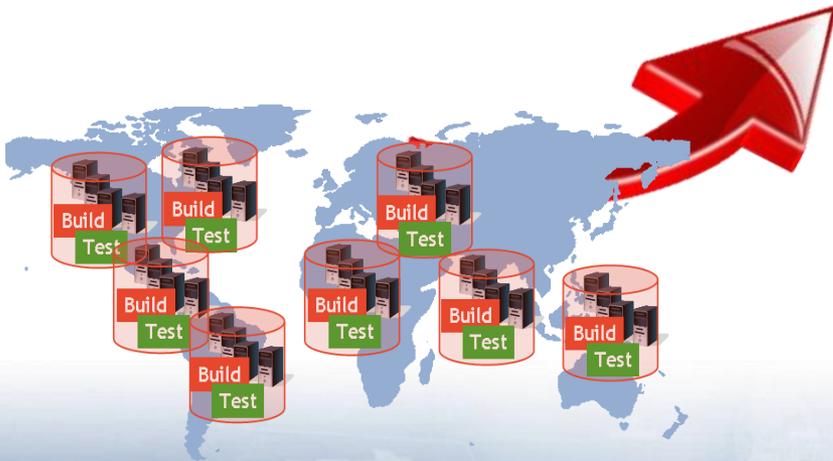
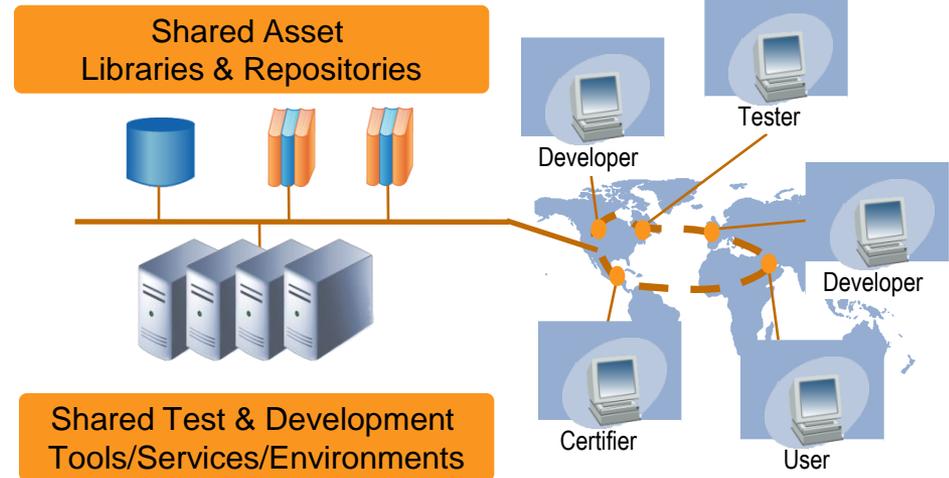


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# Forge.mil

## TODAY

- Siloed development environments
- Expensive and time consuming start-up
- Limited exposure, sharing, or re-use
- Duplication of effort



## FORGE.mil

- Agile development and testing
- Cross-program sharing: software and services
- Early and continuous collaboration
- Integrated approach to development life cycle
- Extensible platform to support delivery of partner capabilities

# Forge.mil Family of Services

*Forge SIPR - <https://software.forge.smil.mil>*



Collaborative content and knowledge management site for Forge.mil users to connect and share information



Free, collaborative development environment for open-source and DoD community source software



On-demand, fee-for-service, development environment for individual programs and projects

# Forge.mil Key Features



## Application Lifecycle Management (ALM)

-  Source Code and Configuration Management
-  Track Bugs/Requirements/Feature Requests
-  Task Hierarchy and Alert Mechanism
-  Collect, archive, and release Packages
-  Real-time Reports on Tasks and Trackers
-  Discussion Forums
-  Project-Based Wiki
-  Document Management

## Collaborative Content and Knowledge Management

-  Project Activity Streams
-  Open and Moderated Groups
-  Blog and micro-blogs
-  Document Management
-  Group-based Collaborative Wiki
-  Threaded discussions
-  Idea forums with vote-up/vote-down
-  Group Calendar and Event Management
-  Group/'Public' Notices and Announcements
-  Relationship/Connections Management
-  Group Polls
-  Tasks

# Forge.mil Benefits

## ALM Cost Savings – What’s Covered

### Project Start-up and Development Tool Acquisition Cost Benefits

- **Reduction** in product evaluation, source selection and acquisition costs
- **Reduction** in internal solution implementation costs
- **Reduction** in IA approval costs
- **Reduction** in training expenses
- **Hardware benefits** to include hosting, hardware refresh costs and hardware maintenance costs
- **Software benefits** to include a single licensing model for globally distribute teams

### Annual Development Environment O&M Cost Benefits

- **Reduction** in system administration costs (tasks performed by Forge.mil team)
- **Reduction** in support costs (Forge.mil provides Tier 1, 2 and 3 help desk support)
- **Reduction** in upgrade and testing costs (Forge.mil deploys monthly drops of new features)
- Hardware & software maintenance cost is embedded into service cost

# Forge.mil Benefits

## Collaboration and SW Reuse

- **Software Reuse**
  - SoftwareForge provides an open environment for the collaborative development and sharing of software across the DoD community
- **Collaborative Development**
  - Developing software for reuse can be much more expensive than developing a single use solution
  - Collaborative development off-sets these costs by allowing multiple developers to make ongoing contributions to an incrementally expanding set of functionality
  - Software may start as a single purpose solution then become incrementally enhanced by other developers
  - No single development activity bears the full cost for developing a reusable solution and each contributing developer benefits from the pre-existing capability
- **Forge.mil Collaborative Development & Reuse ROI**
  - An extensive study of the reuse of existing Forge.mil projects has not been performed, but case studies of two different Forge.mil projects show very compelling results

# Benefits of Forge.mil

Reduce administrative costs, Increase productivity, Improve visibility



## Developers

- \* Access a full featured development platform via the web or directly from your IDE
- \* Have fewer face-to-face meetings and less administration when collaboration is part of everyday development
- \* Link to continuous integration servers and provision build and test servers in the cloud whenever you need them



## Managers

- \* Speed new project startup
- \* Secure access to project assets
- \* Enhance team productivity and collaboration
- \* Improve visibility into project status
- \* Reduce management and administrative overhead
- \* Access critical team assets via the web or your Microsoft Windows desktop



## Executives

- \* Consolidate and centralize to reduce administration, licensing, and infrastructure costs
- \* Establish governance and regulatory compliance
- \* Improve predictability of the development organization
- \* Integrate easily into existing systems to extend return on investments

# The Forge.mil Community

## Forge.mil by the Numbers

as of 1 May 2013

- Connect with over 24,000 DoD developers, IT experts, and users sharing lessons learned, best practices, and solutions
- Participate in over 900 development efforts
- Collaborate in over 200 sub-communities
- Download over 2,900 software releases
- Contributions include over
  - 193,000 software commits
  - 167,000 downloads
  - 21,000 discussion posts
  - 76,000 documents
  - 7,500 wiki pages
  - 2,300 software repositories

*and Growing . . .*

**Forge.mil**

*Transforming the Way DoD Innovates IT*

Forge.mil is a collaborative environment to accelerate the development and deployment of dependable software and services within the Department of Defense.

Browse over **500** projects & collaborate with over **10000** DoD members

Home ABOUT FAQs NEWS RESOURCES SUPPORT

**Top 10 FAQs**

- ▶ What is the Forge.mil Program?
- ▶ What is the Forge.mil Community?
- ▶ What is SoftwareForge?
- ▶ What is ProjectForge?
- ▶ What is the difference between SoftwareForge and ProjectForge?
- ▶ Project versus Group - How do I decide whether to request a project or to create a group?
- ▶ What capabilities are available in the system?
- ▶ What are the guidelines for participating?
- ▶ How can I get access to Forge.mil (CAC users)?
- ▶ How can I get access to Forge.mil (ECA Certificate users)?

More FAQs

**The Forge.mil Program**

Forge.mil is a family of services provided to support the DoD's technology development community. The system enables the collaborative development and use of open source and DoD community source software. For programs and projects that require greater access control, the system supports private collaborative development with an on demand, fee for service offering. These initial software development capabilities are growing to support the full system life-cycle and enable continuous collaboration among all stakeholders including Project Managers, developers, testers, certifiers, operators, and users.

**Tools & Resources**

- Forge.mil Brochure & ProjectForge Info Sheet
- ECA Registration
- PKI Information
- Subversion Client Instructions
- Download DoD Root & Intermediate Certificates
- Download DoD Mozilla Firefox & Thunderbird Add-ons
- Accessibility & Section 508 Information

**Join Community**

**Latest News**

- ▶ Forge.mil: A DoD Innovation for the Enterprise
- ▶ Social Networking Comes to Forge.mil
- ▶ DISA Launches the Forge.mil Community Site
- ▶ Hanscom ESC Embraces New Approach for Software Development and Testing
- ▶ Open-Source Government
- ▶ DISA's New Focus: Supporting Mobility

More News

**DISA**

# Community Victories



## Joint Organizations

- Distributed Common Ground/Surface System (DCGS) Integration Backbone (DIB)
- National Senior Leader Decision Support Service (NSLDSS) – Transitioned to Programs of Record
- Joint Command and Control Common User interface (JC2CUI) – Enterprise Storefront
- DoD Cloud Computing Strategy – collaborative development/implementation of DoD Strategy
- Community CAC – provides guidance and tools for using the Common Access Card

## Army

- Logistics Modernization – Issue Tracker Project for worldwide users (to include current combat zones) of Enterprise Logistics Systems
- SEC Intelligence Fusion System Division
- System of Systems Common Operating Environment (SOSCOE) – tactical middleware
- Tank and Automotive Research, Development and Engineering Center Software Engineering Center

## Navy

- Naval Undersea Warfare Center (NUWC)
- Naval Meteorology and Oceanography Geospatial Information and Services – agile, most active
- Joint Explosive Ordnance Disposal Decision Support System (JEOD DSS)

## Air Force

- Air and Space Operations Center Weapon System (AOC WS) Modernization
- Sensor Processing Architecture for Data Exploitation (SPADE)

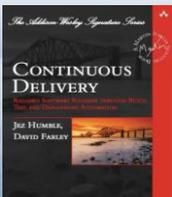
## Marine Corps

- Distributed Common Ground/Surface System – Marine Corps (DCGS-MC)
- Marine Air Ground Task Force Command and Control (MAGTF C2)



# milCloud - Motivation

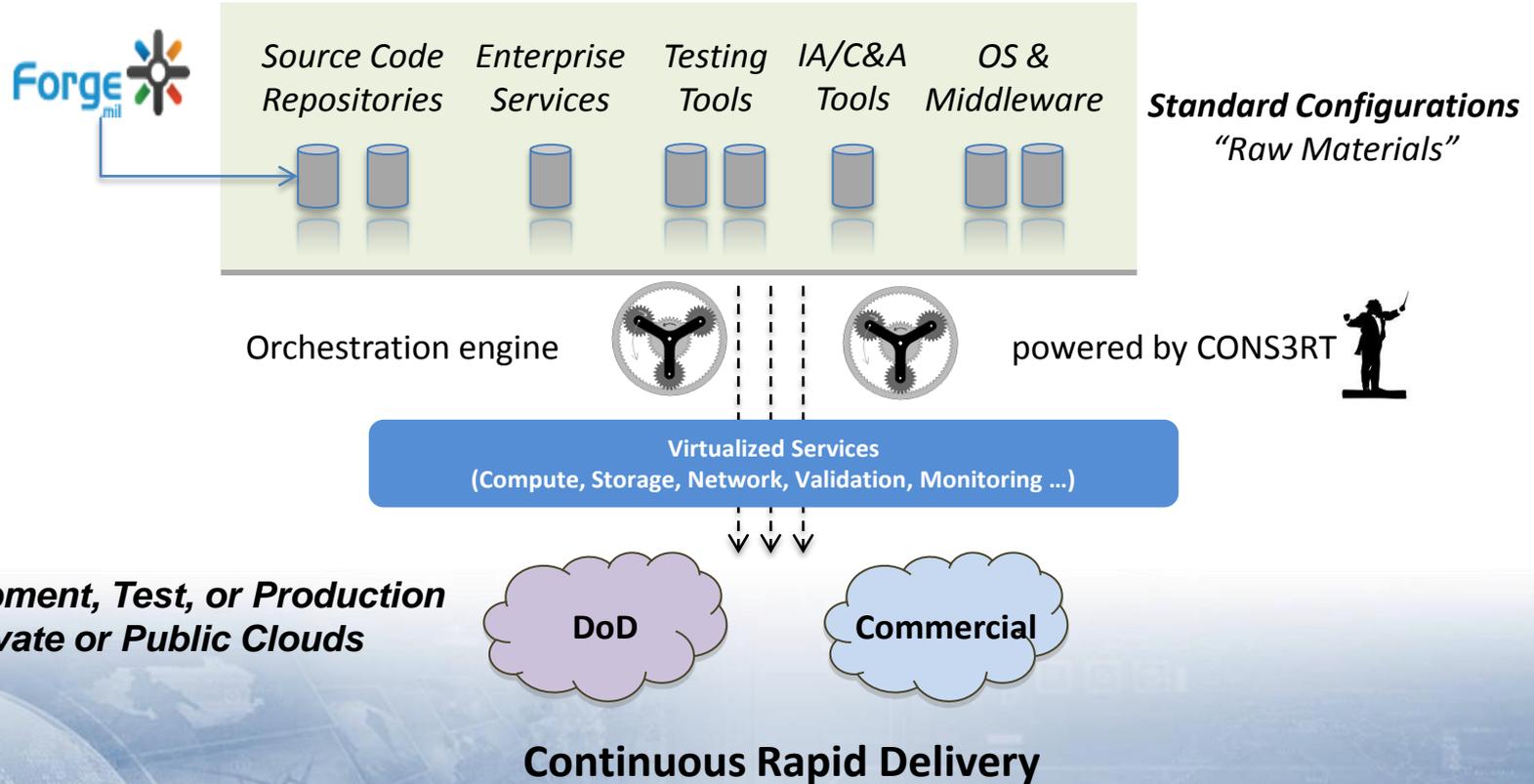
- It takes too long to get capabilities developed, tested, approved, and deployed
- Leading to: increased cost; reduced effectiveness; possible cyber impacts ... and a reputation for being late to need
- Adopt and corporately embrace leading edge development approaches and technologies
  - Agile: software development approach that emphasizes integrated requirements and development teams and short capability sprints
  - Continuous Delivery: “....a set of practices and principles for building, testing and releasing valuable software faster and more frequently...”\*
  - Cloud Infrastructure as a Service (IaaS): Virtualized computing, storage, and networking infrastructure that provides capacity on demand
  - Streamlined and Automated Approval Process: Certification tasks are automated and executed as part of continuous delivery.... human intervention eliminated or minimized



\* Continuous Delivery, Jez Humble & Dave Farley

# milCloud - Vision

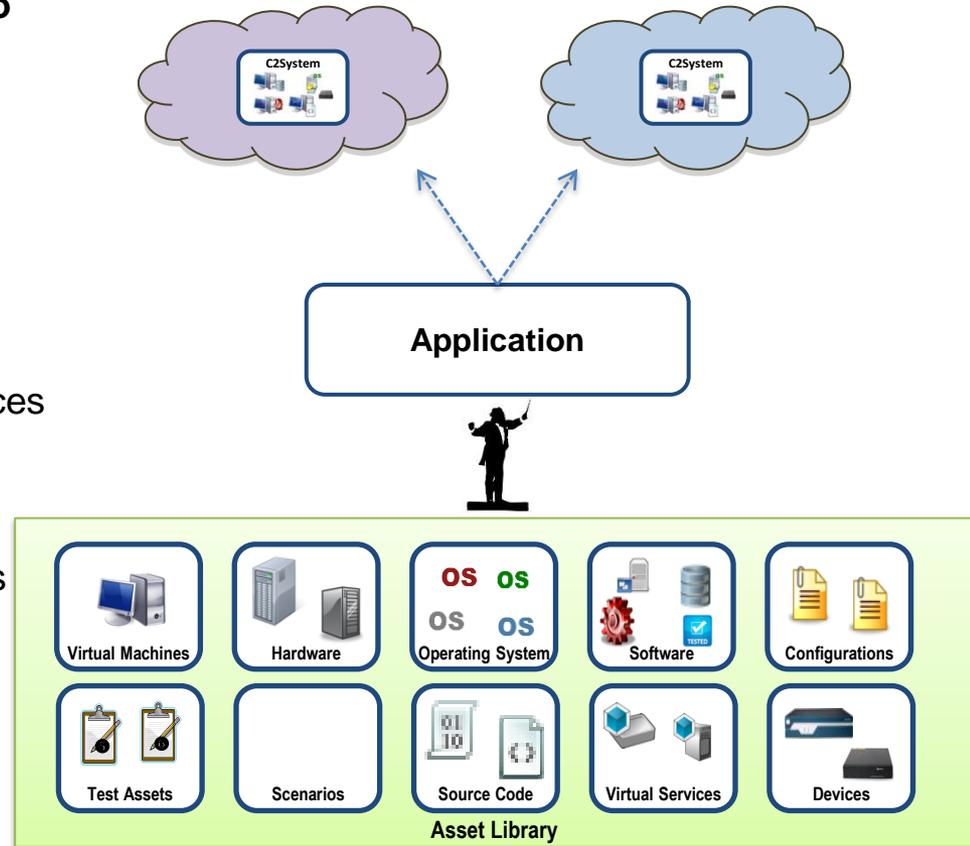
- Goal** – to automate the activities, tool-chains, software assets, and governance processes used to develop, test, deploy, and monitor service based and mobile applications in DoD and/or commercial IaaS or PaaS providers.



# milCloud Enables Lifecycle Automation

milCloud is GOTS & COTS providing the ability to

- Automate software development and related governance processes (e.g. C&A, IV&V)
- Install, configure, and deploy applications
  - “pull and build” source code within process
- Collect and share component building blocks
  - used to create “system scenarios”
- Deploy application into one-or-more cloud resources
- Build test systems and run automated tests
  - access best of breed GOTS/COTS tools
  - Continuous compliance and vulnerability scans
- Save, manage and reuse scenarios on-demand
  - Instantiate any version of application at will
- Build a community to build and contribute components to Asset Library



## Status & Schedule

### Description

- milCloud – Standup in DECC
- milCloud – IOC
- milCloud v2 - Development
- milCloud v2 – Standup

FY-13/Q3

FY-13/Q4

FY-14/Q1

FY-14/Q2

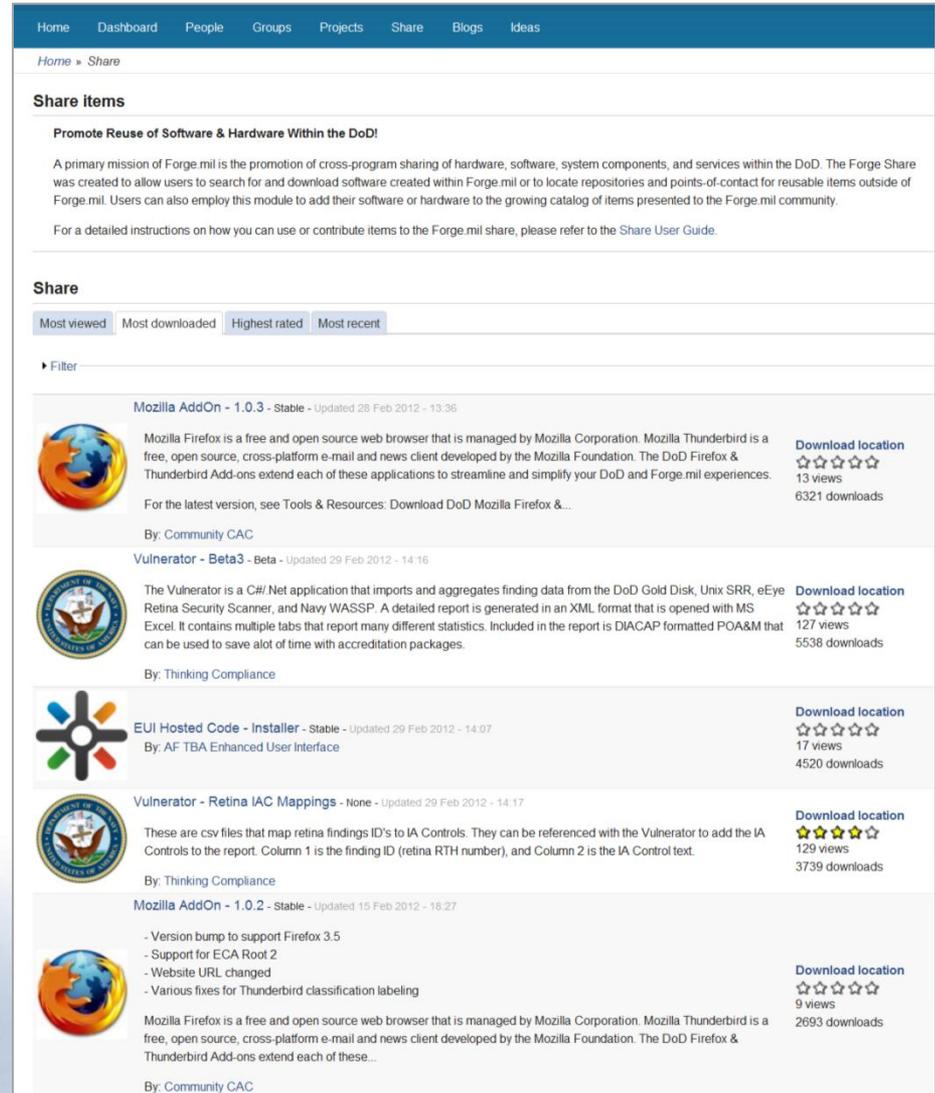


# Forge 'Share'

A primary mission of Forge.mil is the promotion of cross-program sharing of hardware, software, system components, and services within the DoD.

Forge 'Share' allows users to search for and download

- Software created within Forge.mil or
- Locate repositories and points of contact for reusable items outside of Forge.mil



The screenshot shows the Forge Share website interface. At the top, there is a navigation bar with links for Home, Dashboard, People, Groups, Projects, Share, Blogs, and Ideas. Below the navigation bar, the page title is "Home > Share".

The main content area is titled "Share items" and features a sub-header: "Promote Reuse of Software & Hardware Within the DoD!". Below this, a paragraph explains the mission of Forge.mil: "A primary mission of Forge.mil is the promotion of cross-program sharing of hardware, software, system components, and services within the DoD. The Forge Share was created to allow users to search for and download software created within Forge.mil or to locate repositories and points-of-contact for reusable items outside of Forge.mil. Users can also employ this module to add their software or hardware to the growing catalog of items presented to the Forge.mil community." A link is provided for detailed instructions: "For a detailed instructions on how you can use or contribute items to the Forge.mil share, please refer to the Share User Guide."

Below the introductory text, there is a "Share" section with a filter menu. The filter menu includes options for "Most viewed", "Most downloaded", "Highest rated", and "Most recent". A "Filter" dropdown is also present.

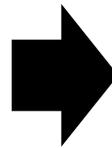
The main content area displays a list of items for sale. Each item includes a thumbnail image, a title, a description, a "Download location" link, a star rating, and the number of views/downloads. The items listed are:

- Mozilla AddOn - 1.0.3 - Stable** - Updated 28 Feb 2012 - 13:36. Description: Mozilla Firefox is a free and open source web browser that is managed by Mozilla Corporation. Mozilla Thunderbird is a free, open source, cross-platform e-mail and news client developed by the Mozilla Foundation. The DoD Firefox & Thunderbird Add-ons extend each of these applications to streamline and simplify your DoD and Forge.mil experiences. For the latest version, see Tools & Resources: Download DoD Mozilla Firefox &... By: Community CAC. Download location: 13 views, 6321 downloads.
- Vulnerator - Beta3 - Beta** - Updated 29 Feb 2012 - 14:16. Description: The Vulnerator is a C#/ .Net application that imports and aggregates finding data from the DoD Gold Disk, Unix SRR, eEye Retina Security Scanner, and Navy WASSP. A detailed report is generated in an XML format that is opened with MS Excel. It contains multiple tabs that report many different statistics. Included in the report is DIACAP formatted POA&M that can be used to save a lot of time with accreditation packages. By: Thinking Compliance. Download location: 127 views, 5538 downloads.
- EUI Hosted Code - Installer - Stable** - Updated 29 Feb 2012 - 14:07. By: AF TBA Enhanced User Interface. Download location: 17 views, 4520 downloads.
- Vulnerator - Retina IAC Mappings - None** - Updated 29 Feb 2012 - 14:17. Description: These are csv files that map retina findings ID's to IA Controls. They can be referenced with the Vulnerator to add the IA Controls to the report. Column 1 is the finding ID (retina RTH number), and Column 2 is the IA Control text. By: Thinking Compliance. Download location: 129 views, 3739 downloads.
- Mozilla AddOn - 1.0.2 - Stable** - Updated 15 Feb 2012 - 18:27. Description: - Version bump to support Firefox 3.5 - Support for ECA Root 2 - Website URL changed - Various fixes for Thunderbird classification labeling. Download location: 9 views, 2693 downloads.

# Forge = Agility

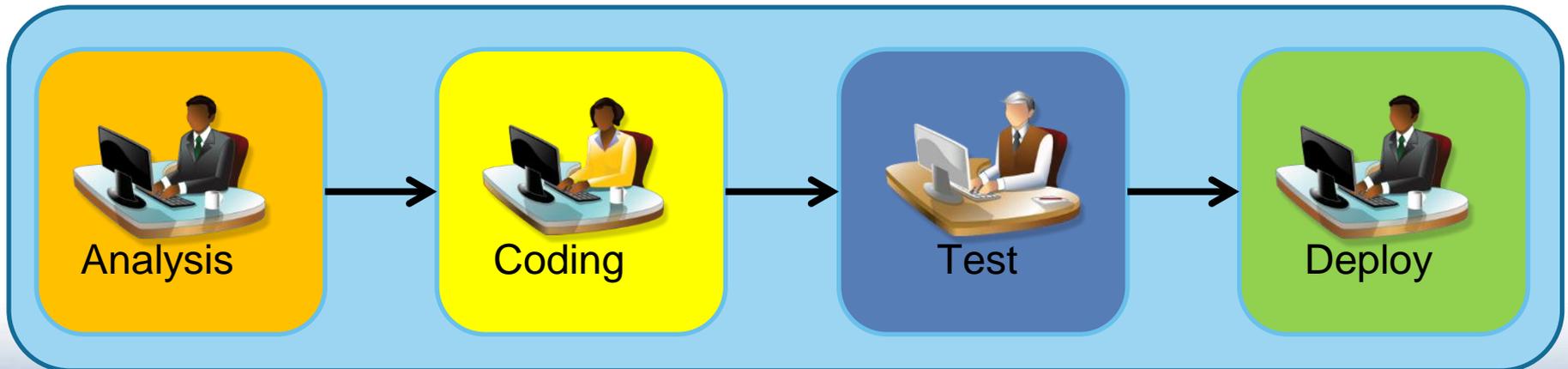
Why Agile? Modern software development demands a new, lean approach...

Conventional projects take too long and often miss the mark



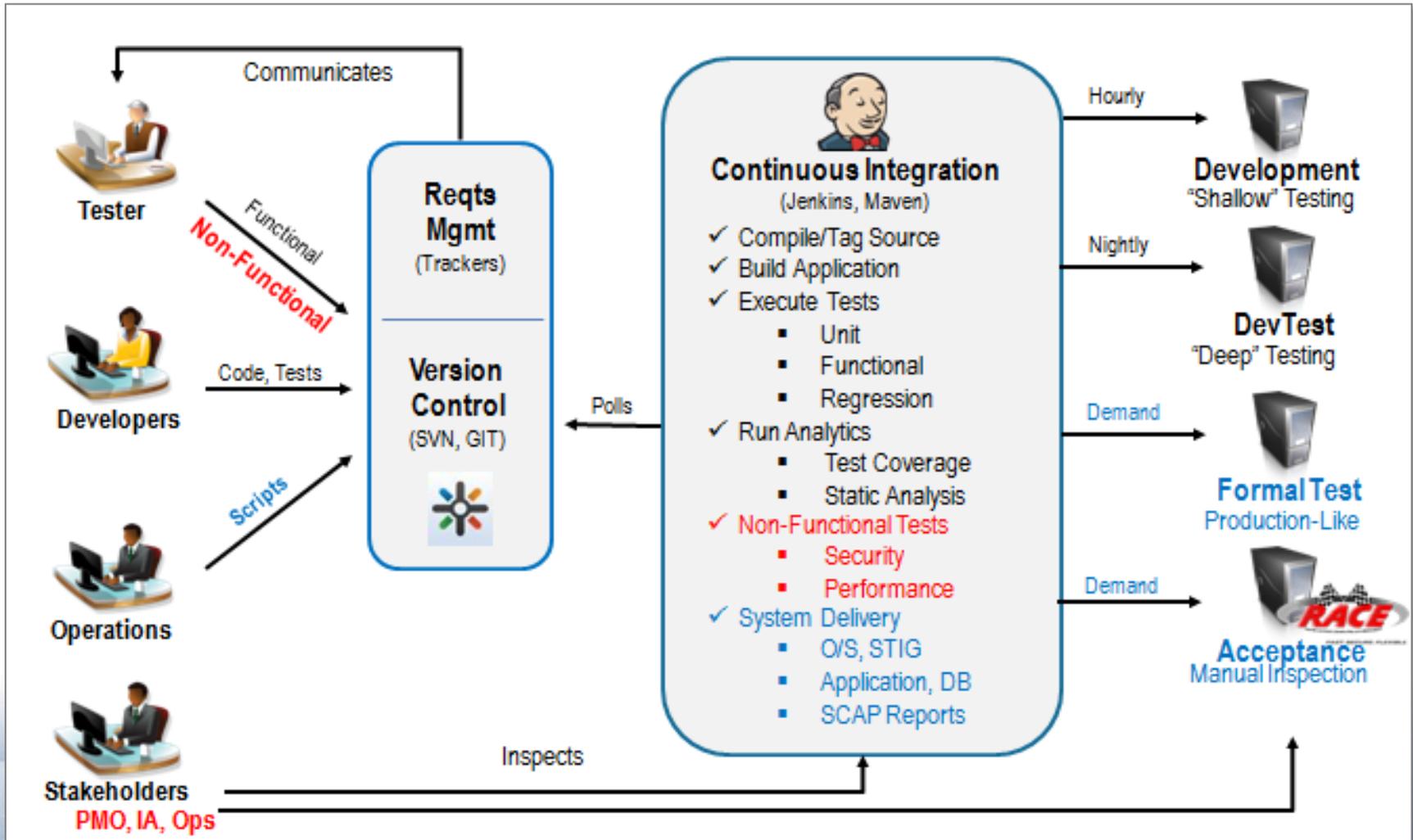
Lean methods link developers and users to hit the mark quickly

Agile requires cross-functional teams to work collaboratively



- Use Tracker to capture Release/Iteration Plans and User Stories
- Make Continuous Integration a Hub for Coding/Test – Build – Test – Integrate – Report
- Automate Everything and Deploy Often (Continuous Delivery)

# Using Forge, milCloud & Jenkins for Continuous Delivery



# Contact Info



Email us at [community@forge.mil](mailto:community@forge.mil)



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