

# Enterprise Services Overview

May 7, 2012

# Agenda

- Enterprise Computing
- Enterprise Services Strategic Objectives
- Building the Services Cloud
- Vision 2016

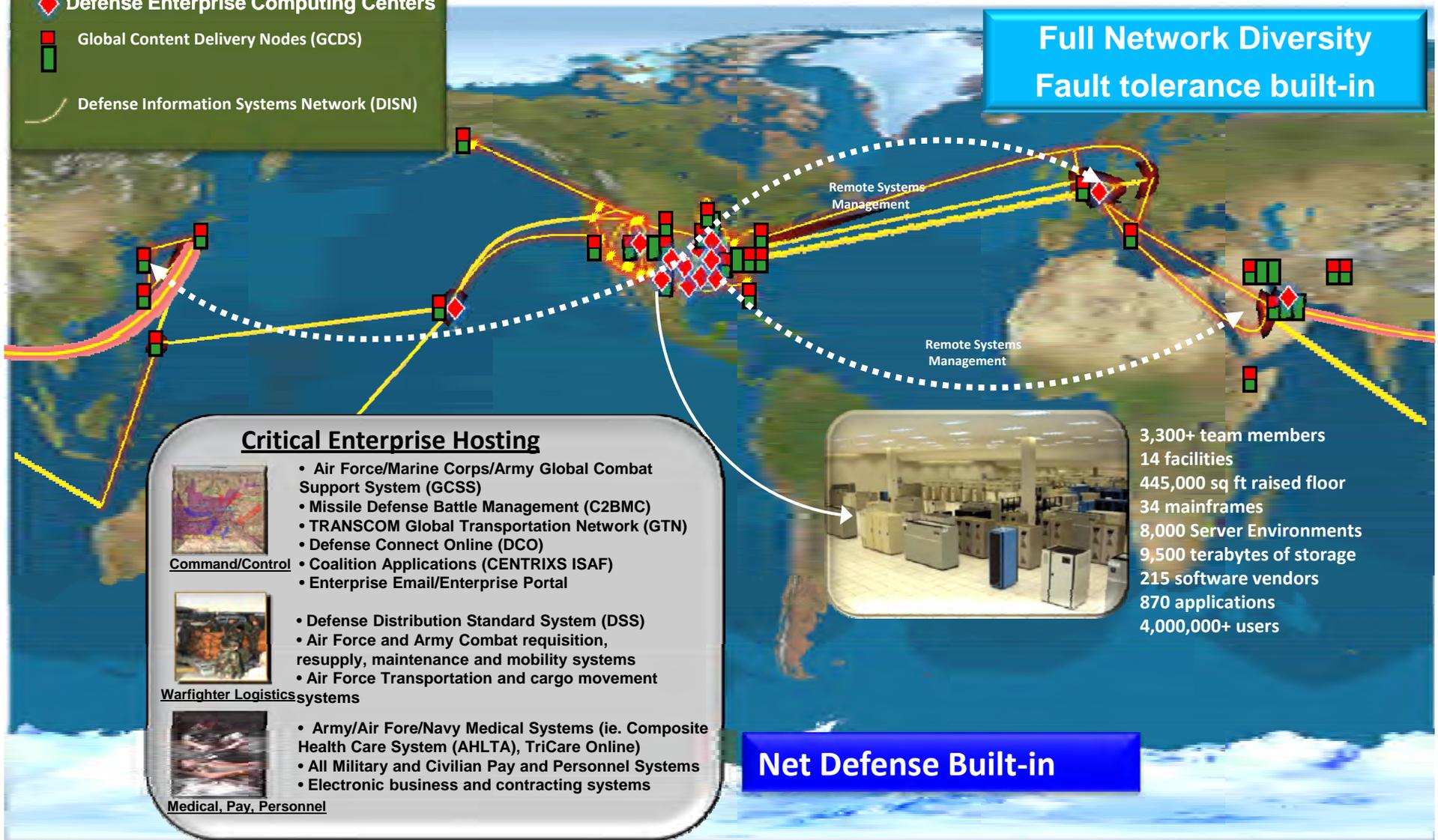




# DISA Computing Today

- ◆ Defense Enterprise Computing Centers
- Global Content Delivery Nodes (GCDS)
- Defense Information Systems Network (DISN)

Full Network Diversity  
Fault tolerance built-in



## Critical Enterprise Hosting



Command/Control

- Air Force/Marine Corps/Army Global Combat Support System (GCSS)
- Missile Defense Battle Management (C2BMC)
- TRANSCOM Global Transportation Network (GTN)
- Defense Connect Online (DCO)
- Coalition Applications (CENTRIXS ISAF)
- Enterprise Email/Enterprise Portal



Warfighter Logistics systems

- Defense Distribution Standard System (DSS)
- Air Force and Army Combat requisition, resupply, maintenance and mobility systems
- Air Force Transportation and cargo movement



Medical, Pay, Personnel

- Army/Air Force/Navy Medical Systems (ie. Composite Health Care System (AHLTA), TriCare Online)
- All Military and Civilian Pay and Personnel Systems
- Electronic business and contracting systems

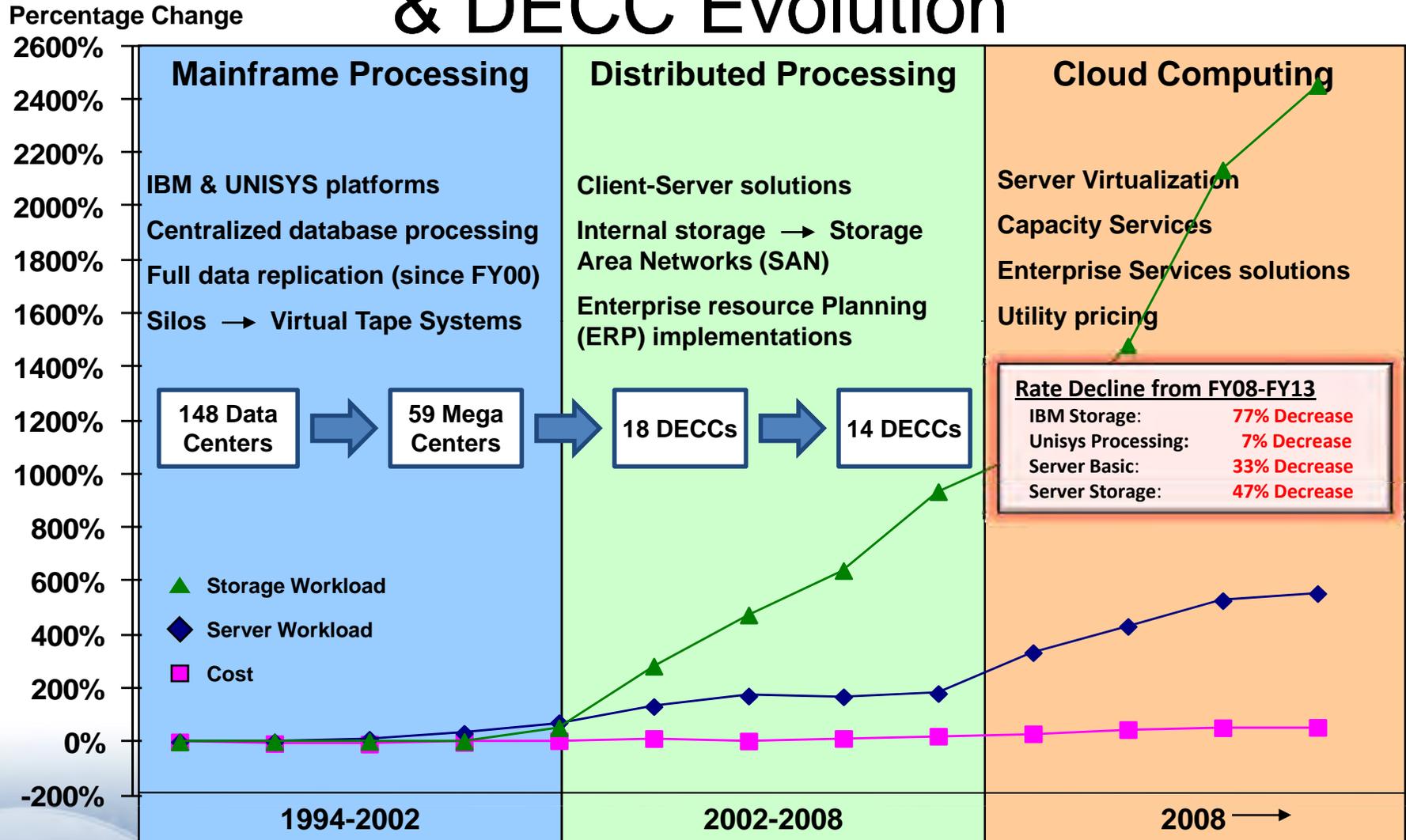


- 3,300+ team members
- 14 facilities
- 445,000 sq ft raised floor
- 34 mainframes
- 8,000 Server Environments
- 9,500 terabytes of storage
- 215 software vendors
- 870 applications
- 4,000,000+ users

Net Defense Built-in

Computing and Services power from the Edge back

# Computing Technology & DECC Evolution



Continuous DECC consolidations and transformations have yielded significant reductions in unit cost

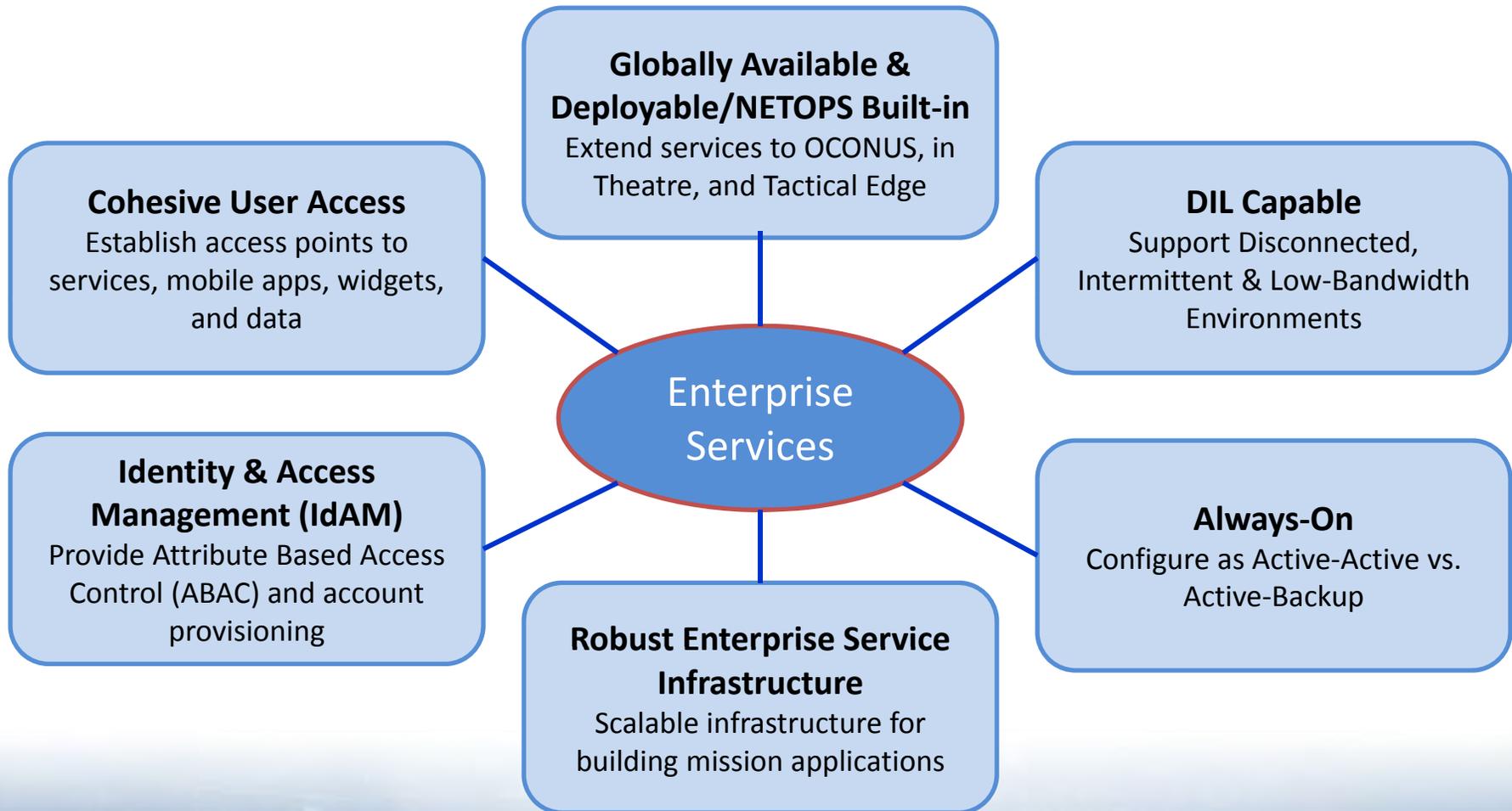


# The Foundation: Standard Architectures

- **Improve data center efficiency with rigorous standards**
  - Standard hardware platforms
  - Standard software products (Web, app, database, security)
  - Standard directory structure (e.g. Enterprise Application Service Forest)
  - Virtualization (server, network, storage)
    - Drives up utilization, lowers HW costs
    - Cost efficiencies on power, heat, space, FTE, maintenance
  - DoD DMZ
  - Business-to-business gateways
  - Out-of-band management
  - Resilient and redundant communications architecture
  - Enterprise backup networks isolate backup traffic from production, remote management of backups

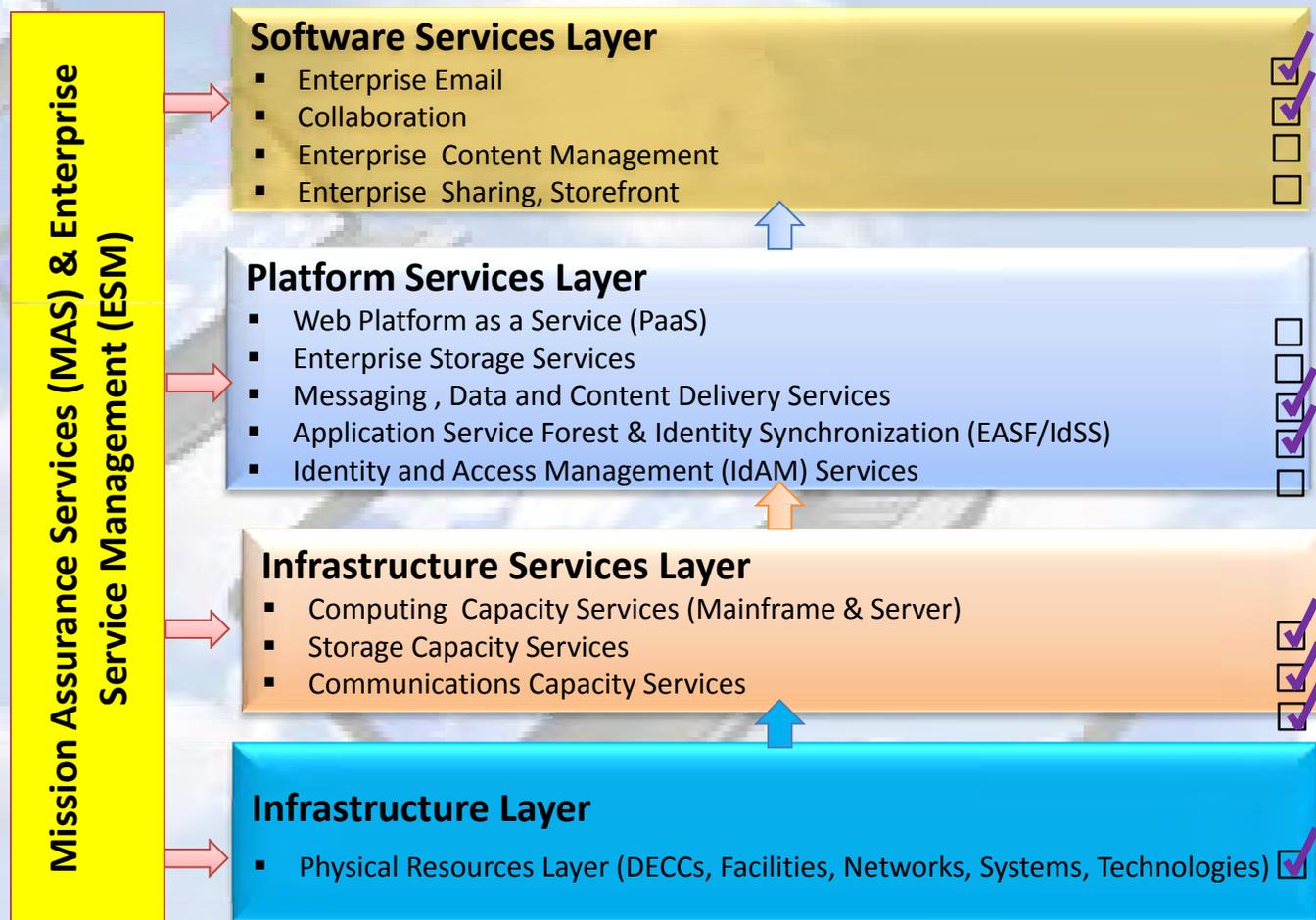
Standards equal efficiency and lower costs

# Enterprise Services Strategic Objectives



The objectives drive the design & implementation of all enterprise services

# Building the Services Cloud





# Infrastructure Layer: Capacity Services

- **Objective:**

- Acquire capacity as a service provided by vendor partners
- Pay much like a homeowner does for utilities, e.g., by GB or CPU-hours consumed

- **Performance to date:** *Outstanding*

**Processor - 2,407 total orders completed with \$108.9M annualized value**

- Average delivery timelines: 6 days for mainframe; 17 for server
- 195 orders took less than 5 days; 655 orders took between 5–14 days

**Storage – 1,115 total orders completed with \$61M annualized value**

- Average delivery timelines: 16 days for new equipment; 7 days for capacity addition; 3 days for capacity enablement

- **New Capability (Nov 2011):** Capacity Services for Communications

- Brings all DECC routers, switches, firewalls, etc. into same “pay for what you use” model



All Infrastructure as a Service (IaaS) commodities now services-based



# Infrastructure Layer: Mainframe Improvements

- **Unisys Environment**

- Operating System upgrade deploying by 30 June 2012
  - Increased security with new FIPS 140-2 cryptographic module
  - Supports secure file transfers via FTPS (SSL/TLS) and Enterprise Output Manager (EOM)

- **IBM Environment**

- Operating System upgrade deploying by 30 September 2012
  - Enhanced batch processing and interoperability for Java and Cobol updates to DB2
  - Increased scalability for applications requiring 64 bit address space
- Linux on System z Service Pack upgrade
  - Provides performance improvements in memory management and enhanced support for cryptographic processing
  - Tomcat product fully supported with subscription maintenance

- **Enhancements for both environments**

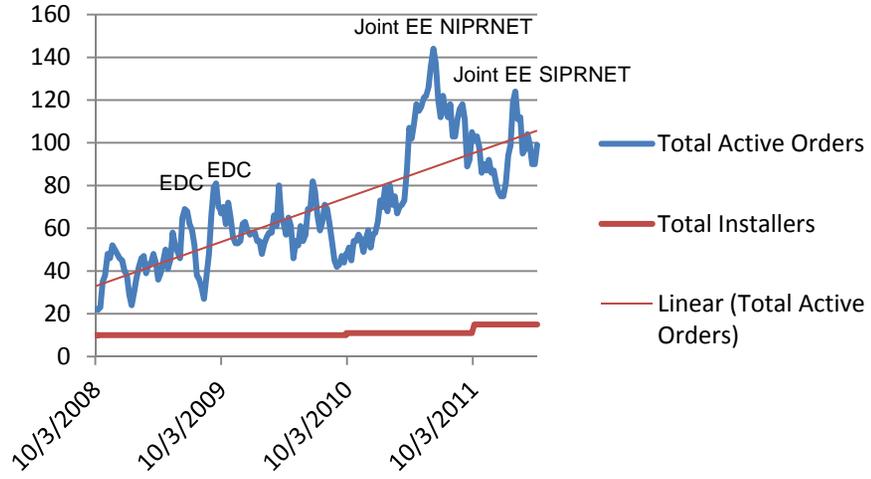
- Security improvements:
  - Continuing to add more products to security guides
  - Pushing software vendors to identify security changes in their documents
- Uptime metrics over 99.999%



A Combat Support Agency

# IaaS Progress

## Server Workload



## Server Totals

<u>HP Call Orders</u>	<u>Encl</u>	<u>Serv</u>	<u>OEs</u>
FY2009	39	821	1275
FY2010	44	1143	2332
FY2011	119	2326	3990
FY2012 Year to Date	22	805	1473

<u>Oracle/SUN Call Orders</u>	<u>Serv</u>	<u>OEs</u>
FY2009	233	268
FY2010	128	178
FY2011	117	200
FY2012 Year to Date	52	80

## Server Completion Times

HP Server	FY09	FY10	FY11	FY12
More than 10	38 Days	36 Days	30 Days	35 Days
10 or less	32 Days	31 Days	45 Days	30 Days

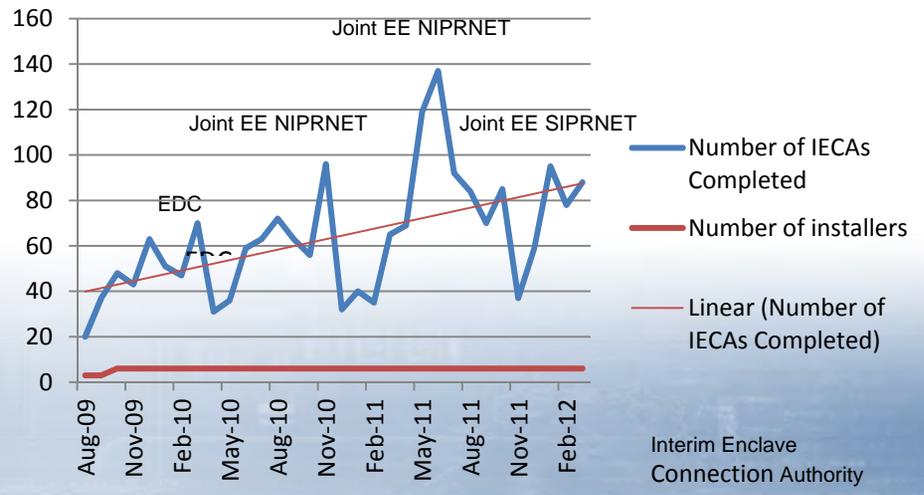
  

HP VOE	FY09	FY10	FY11	FY12
More than 10	32 Days	14 Days	25 Days	10 Days
10 or less	30 Days	11 Days	25 Days	7 Days

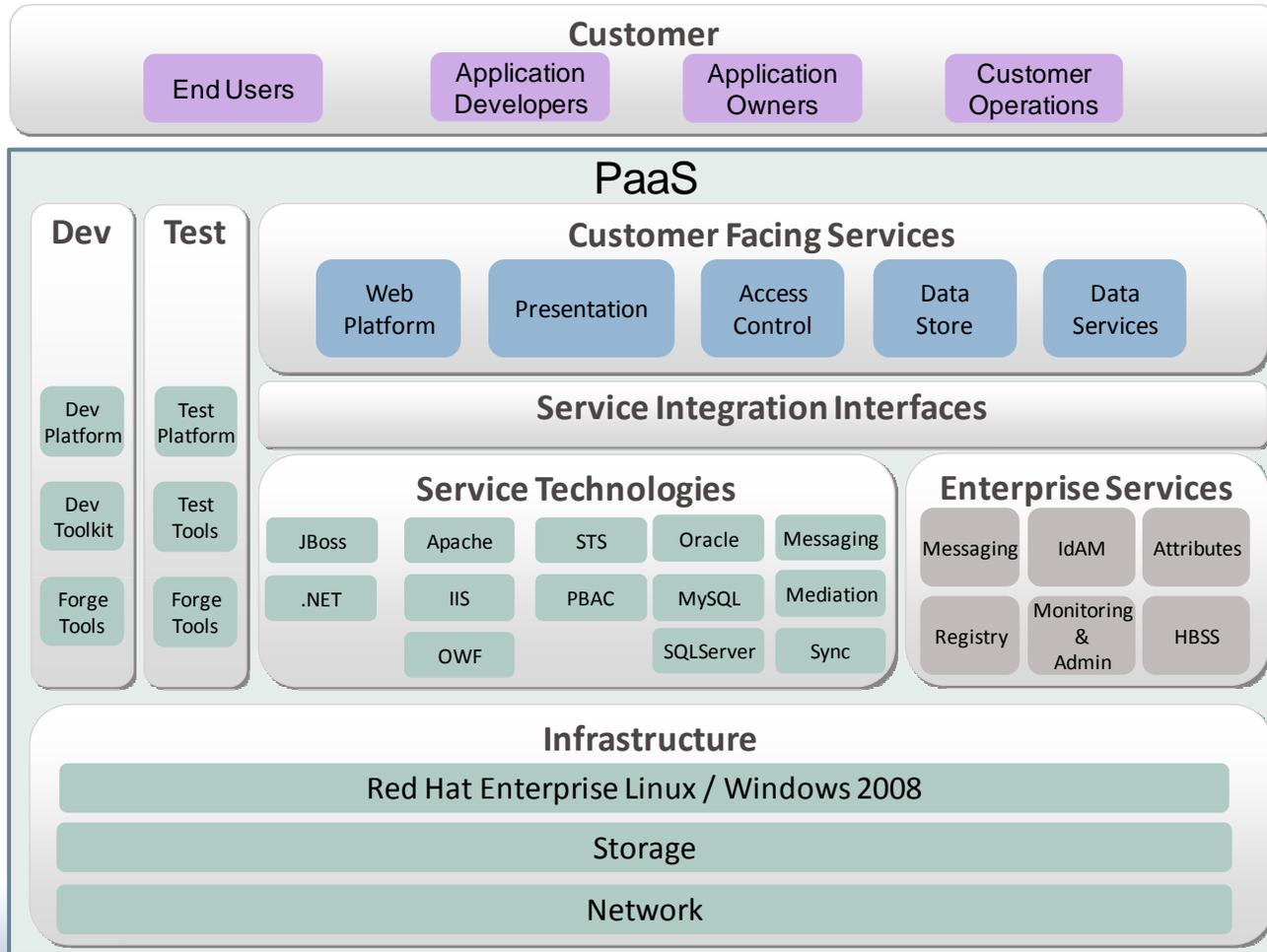
Oracle Server	40 Days	35 Days	45 Days	32 Days
Oracle LDOM	32 Days	15 Days	24 Days	12 Days

## Communications Workload



Interim Enclave Connection Authority

# Platform Layer: Web PaaS



## Features

- Standards-based web platform
- Common, central access control
- Data services
- Continuity of Operations
- Shared situational awareness
- Portable for DIL users

## Characteristics

- Self-service from catalog
- Utility billing
- Distributed, Elastic, and Scalable
- Multi-tenant
- Rapid path to production
- Pre-integrated Enterprise Services
- Metered
- Development lifecycle management
- Conforms to DOD security standards



# Software Service Layer: Enterprise Collaboration



## Collaboration Services

- Instant messaging
- Chat
- Presence
- Web conferencing
- Telephone bridging (FY12)
- VTC bridging (FY12)

## DoD Enterprise Focus

- Supports tactical, administrative, and humanitarian assistance functions
- 625,000 users
- 100 million user minutes per quarter
- 1700 average meetings per day

## Commercially-Managed Service

- Cost is half of equivalent commercially-available service
- DISA DECC Hosted
- Classified and Unclassified
- Service provider manages software baseline; DoD consumes provided services
- Fully Redundant; Highly Available
- 24 X 7 Operations

# Software Service Layer: DoD Enterprise Email

## • DoD Enterprise Focus

- Enterprise Data & Scaling
- US Army first

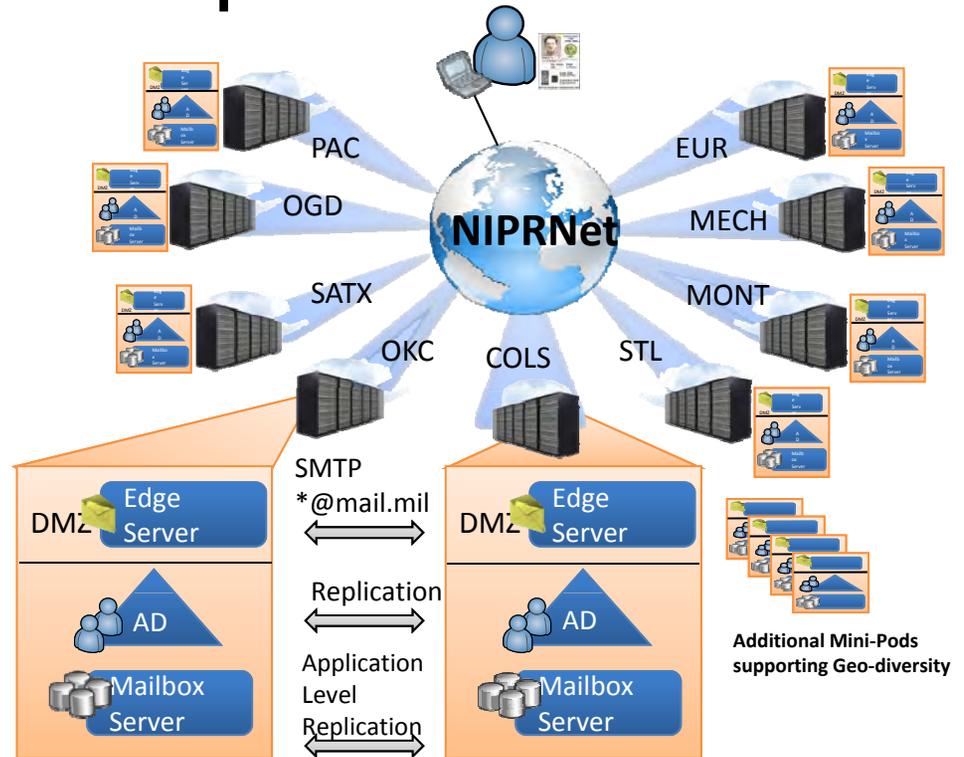
## • DISA Managed Service

- DISA DECC Hosted
- Fully Redundant; Highly Available
- Globally Distributed
- 24 X 7 Operations

## • NIPRNet first, then SIPRNet

### Classes of Service

- Outlook Web Access (all users)
- Outlook (business class users)
- Blackberry Service (select users)



### Enterprise-identity and access control – sets the foundation

1. **Enterprise Synchronization Service**/ensures account data is the same across the department
2. **Enterprise active directory** provides access control and GAL for enterprise apps
3. DMDC publishing persona data for all DOD users

# Enterprise Services Evolution

## Data Dissemination

- Enterprise Messaging
  - *Machine to Machine Messaging (M2M)*
  - *Joint User Messaging (JUM)*
- Enterprise Service Management (ESM)

## Registry Services

- Data Services Environment (DSE)
  - *DOD MetaData Registry (MDR)*
  - *Service Discovery*
  - *Enterprise Authoritative Data Source Registry (EADS)*
- *XML Data Registry (NSLDSS)*
- *Common Data Mediation Service (CDMS)*

## Infrastructure Services

- Rapid Access Computing Environment (RACE)
- *Web Platform (PaaS)*

## Delivery Services

- Enterprise File Delivery (EFD)
- GIG Content Delivery Service (GCDS)

## Identity and Access Management (IdAM)

- DoD Visitor
- Enterprise Identity Attribute Service (EIAS)
- *NSLDSS Local Attribute Store (LAS)*

**Enterprise Infrastructure**  
Jason Martin 301-225-7013

## Joint Services

- Defense Knowledge Online (DKO) (Sunset FY12)
- DoD Enterprise Portal Service (DEPS)
- DoD Enterprise Email (DEE)
  - *Widget Framework*
  - *Widget Storefront*
  - *Mobile Apps Store*
  - *Mobile Device Management*
  - *Enterprise File Sharing*
  - *Joint Content Management Service*

## Discovery Services

- Enterprise Directory Service (EDS)
- *Strategic Knowledge Integration Web (SKIWeb)*
- Content Discovery (aka Enterprise Search/Enterprise Catalog)

## Collaboration

- Defense Connect Online (DCO)

**Enterprise Applications**  
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**laptop**



**radio**



**phone**



**smart phone**

**Any Device, Any Location**

Legend:

*Red, Italics text* = New Capability

**Enterprise Services facilitate secure information sharing to support the enterprise user vision of “go anywhere in the DOD, log in, and be productive”**

# Vision 2016

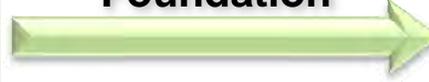
## Current State

- Dedicated Resources – Resources are aligned to more static operations
- Data stores tightly coupled with applications
- Development and test hosting environments inconsistent with end-state production hosting

- Data and storage coupled with applications – limited interoperability across functional areas
- Limited point-to-point networking capabilities for data movement supporting replication and COOP

- Content delivery globally deployed to 61 nodes worldwide
- Net monitoring via SYNAPS across NIPRNet and SIPRNet – select apps
- MAC-2 designed Content Delivery solution in place
- Net Storage on NIPRNET and SIPRNET

### Cloud Hosting Foundation



## Target State

- Shared computing resources that enable elastic response to demand spikes
- Shared data stores, separate apps from data, enable accessibility & deep search
- Dynamic resource scaling

### Interoperability



- Global Meshed Computing across Dept. resources – dynamic metro pairing
- Baked in resilience with geo-redundancy; predictably adapt to loss of data center
- Integrated with the Network for seamless NETOPs

### Design to the Edge



- Virtualized content delivery across the globe – applications built into capability
- Intranet Performance Acceleration (IPA) – supporting streaming media
- JWICS implementation
- Edge computing / MAC-1 designed/mobility

Questions?

