Cloud Computing: A Perspective

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Defense Information Systems Agency: Vision & Mission

Vision

Leaders enabling information dominance in defense of our Nation

Mission

DISA, a Combat Support Agency, engineers and provides C2 capabilities and enterprise infrastructure to continuously operate and defend a global net-centric enterprise in direct support to joint warfighters, National level leaders, and other mission and coalition partners across the full spectrum of operations

- *Network Services*
- *Program Executive Offices*
- *Computing Services*

Defense Enterprise Computing Centers (DECC)

Maintenance
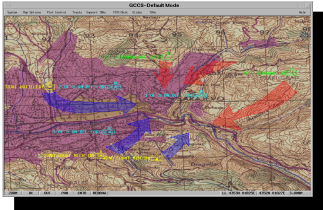
Command and Control

Financial

Medical

Logistics

- 4,000,000+ users

- 2,900+ team members

- 14 facilities

- 445,000 sq ft raised floor

- 34 mainframes

- 6,100 servers

- 3,800 terabytes of storage

- 2,800 application / database instances

- 215 software vendors

DISA Cloud Services Portfolio

Data-as-a-Service

Software-as-a-Service → Forge.mil

Software Development

Platform/Infrastructure-as-a-Service → RACE

Compute/Store

GCDS

Content Delivery
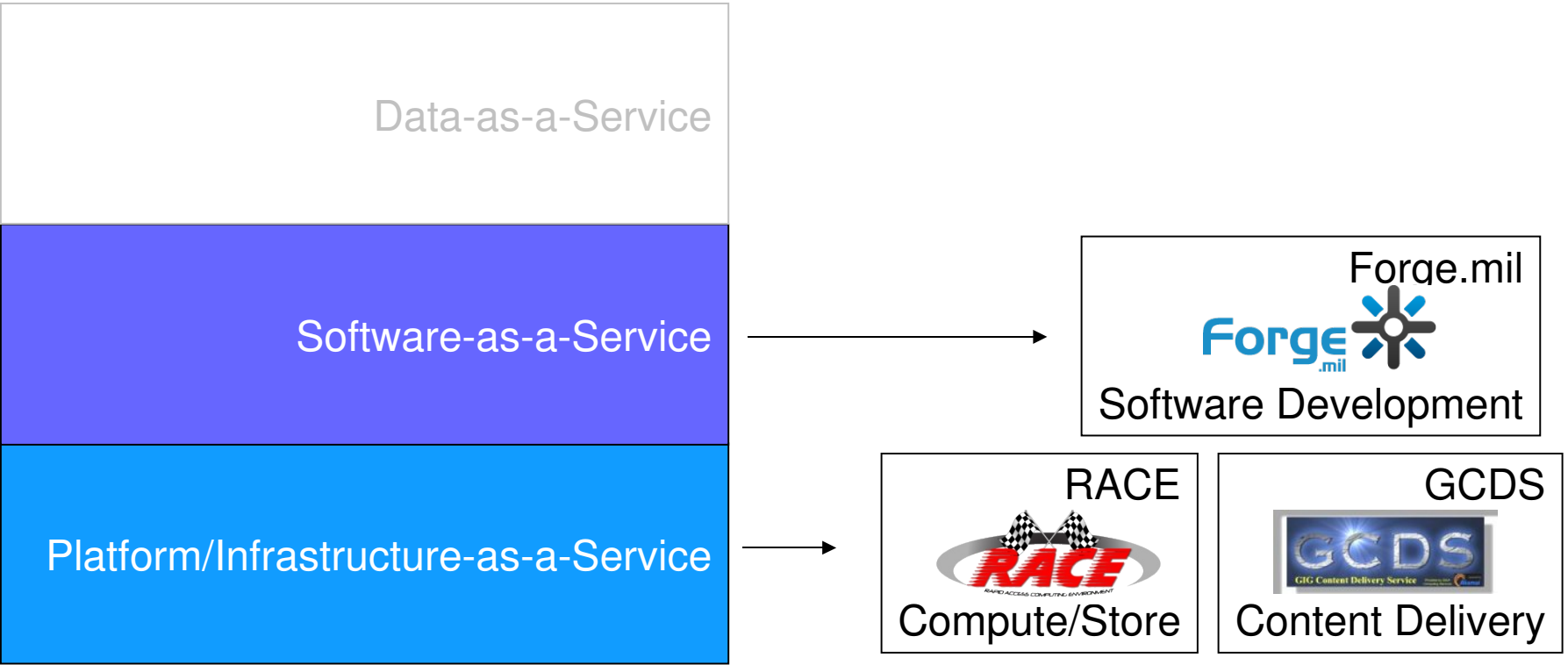
Rapid Access Computing Environment (RACE)

1 October 2008

Development/Test

- **24-hour automated provisioning**
- **Customer root access**
- **Ability to promote from Dev to Test**
- **Standard CSD Operating Environments**
- **Minimized and streamlined accreditation**
- **Increase capacity ~ 24 hours**
- **Month-to-month service**
- **Reduced cost**

Today

Production

- **User self-service provisioning within the PRODUCTION environment**
- **Ability to promote from test to production**
- **Streamlined/Automated accreditation**
- **Pre-established inherited IA controls**

FY10 Initiatives

- **SIPRNet deployment**
- **Complete integrate accreditation automation processes**
- **Continue to refine RACE Portal**
- **Interface with Forge.Mil Projects**
- **Complete integration with DISA standardized configuration management system (BladeLogic)**
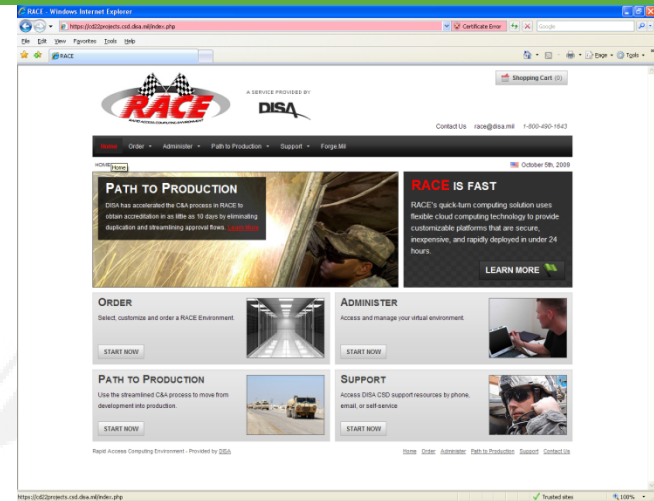
User Self-Service ~ Highly Standardized ~ Cost Effective ~ Fast

RACE Screenshots

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GIG Content Delivery Service (GCDS)

- The Global Information Grid (GIG) Content Management System (GCDS):
  - DoD designated content delivery service
  - Managed by the Defense Information System Agency (DISA's) Computing Services Directorate (CSD).
  - GCDS is a global platform
    - Uses Akamai™ technology, that provides intelligent routing and caching of web-based content.
    - Interfaces with web-based applications and portals.
    - Requires the local system be configured to allow GCDS to handle communications between it and the Defense Information Systems Network (DISN).

DISN CLOUD	ARMY	NAVY	AIR FORCE	MARINES	DoD	Pending	TOTAL
NIPRNET	2	8	3	0	9	1	23
SIPRNET	2	0	1	2	15	7	27
TOTAL	4	8	4	2	24	24	50

Forge.mil

OpenGridForum

A collaborative platform to improve DoD's ability to rapidly deliver dependable software and services in support of net-centric operations and warfare

Available Now	softwareForge.mil	**Collaborative software development and reuse**
Q1 FY10	projectForge.mil	**On-demand application development tools**
Future	certificationForge.mil	**Agile certification process**
	TestForge.mil	***Common test and evaluation environment***
	standardsForge.mil	**Collaborative development of IT standards**

Challenges and Barriers

Current
- Balancing Security and Usability
  - User Validation
  - Virtualization; servers, firewalls, networks
  - Access
- Business processes
  - Flexible funding; credit cards, speeding MIPR process
- Cultural inertia
  - Sharing the vision
  - Convincing "Box Huggers"
- Controlling expectations
  - "Why can't it….."

Future
- Security optimization
  - "Shared" accreditation
  - Validation of customer applications
  - Integrating Software as a Service
  - Accessing federated and shared services
  - Varying interpretations of security guidelines
- Business streamlining
  - Each Service and Agency has unique processes
  - Funding hurdles – Capital (Procurement) vs. Operating

Lessons Learned

- Recommendations:
  - Understand that it's a journey
  - Recognize that the infrastructure fundamentals matter
  - Know your "marketplace" – recognize that this is a different marketplace than normal IT operations
  - Clearly define the marketplace offering
  - Adjust the launch to satisfy requirements not timelines ensure
  - Engage with the software developers much earlier in the design
- What critical success factors?:
  - Which portion of cloud computing?
  - How will you define and measure the return on value analysis?
  - How will you define and measure the return on investment analysis?

OGG OCCI Support

DISA looks forward to adoption of standards such as those being developed by the OCCI working group:

- Reduce vendor lock-in
- Interoperability
    - Development and Production environments may differ - standards can help here to reduce life cycle cost
- DISA researching Data Clouds as well - very interested in how data can be securely distributed
    - Security concerns surrounding elasticity in an environment which is traditionally static

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