



Defense Information Systems Agency
Department of Defense

Computing Services and Assured Computing

Colonel James Tschudy
Chief of Operations
1 May 2006

- **Computing Services**

- Background
- Computing environment
- Chain of Command

- **Assured computing**

- Defined
- Data and Software
- Facilities
- Communications
- Processes

- **Net-Centricity**
- **Summary**

Mission Statement

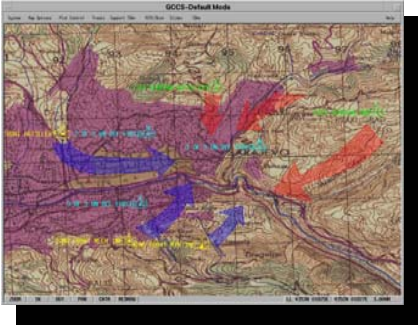
Computing Services

“To deliver computing information products and services that enable and enhance the war-fighters’ ability to execute the mission.”





We run IT Systems that:



**provide command
and control**



provision ships



**provide
medical care**



**manage parts and
replenish supplies**



manage transportation



pay the warfighters



manage maintenance



Our Battlefield

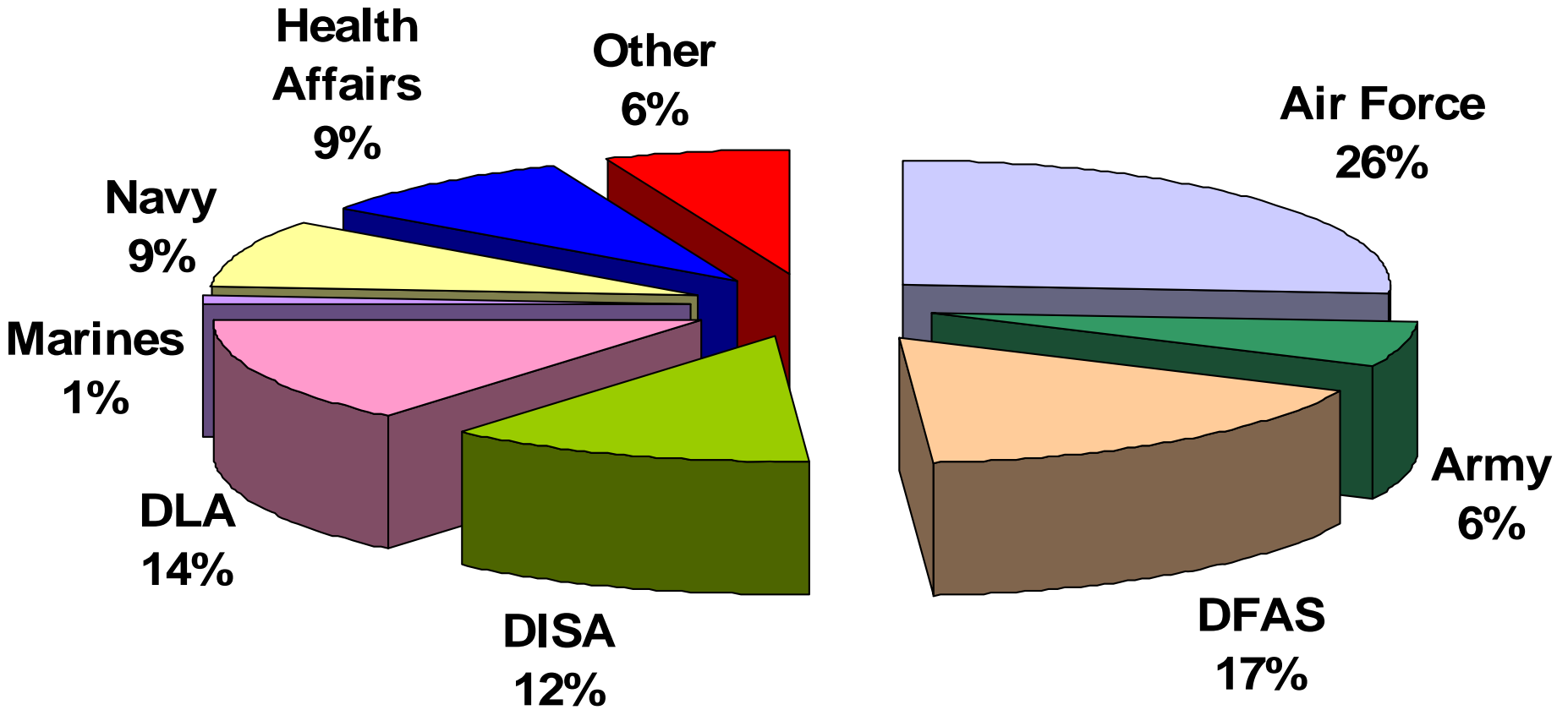
- 3.2 million+ registered users
- 1,400 applications
- 18 facilities
- 180 software vendors
- 18,000+ copies of executive software products
- Virtually every type of mainframe and server
 - 45 mainframes and 4,600+ servers
- Every type of storage device
- Supporting dozens of development activities
- \$700 million annual budget

Geographic Locations



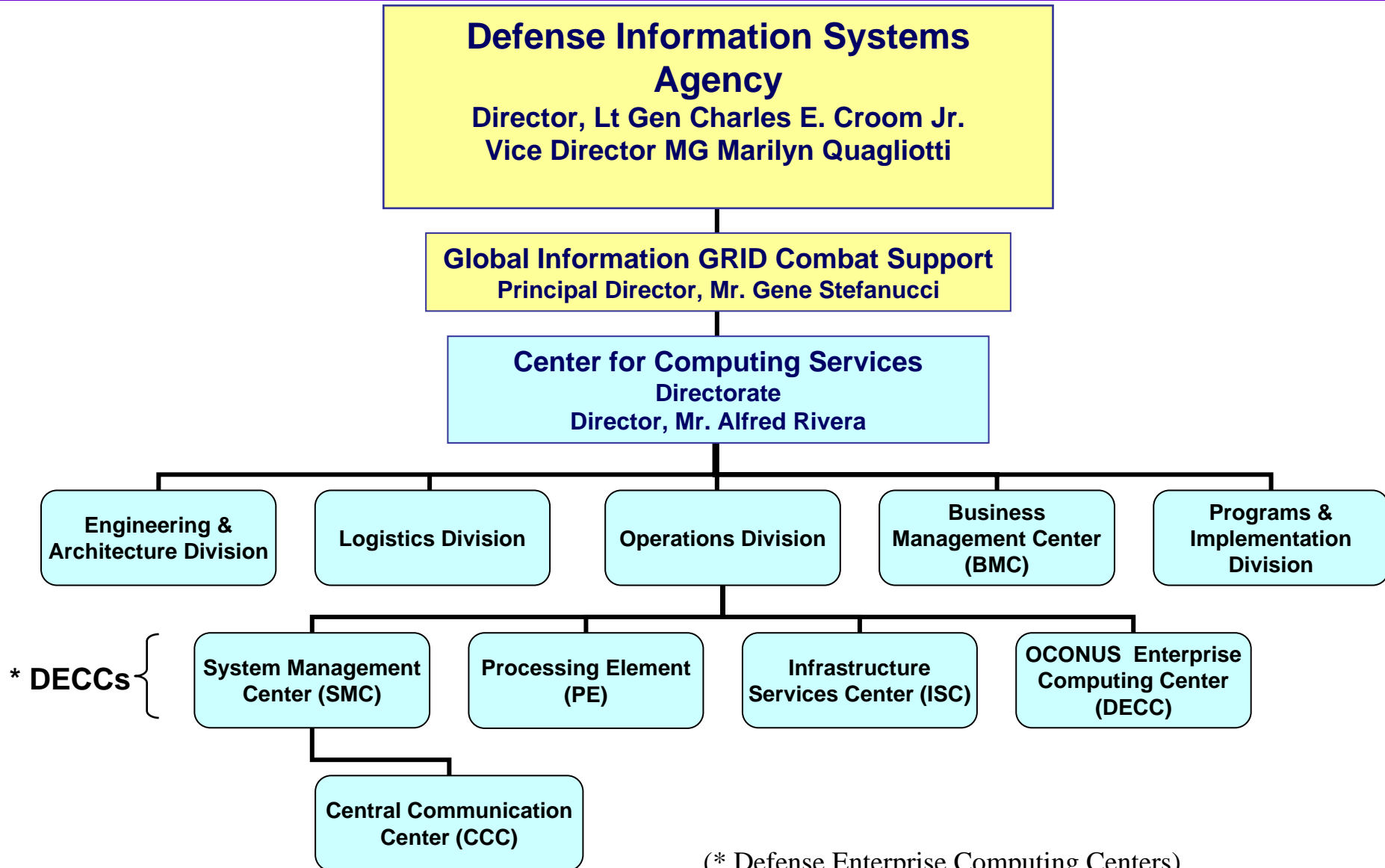


Workloads by Customer





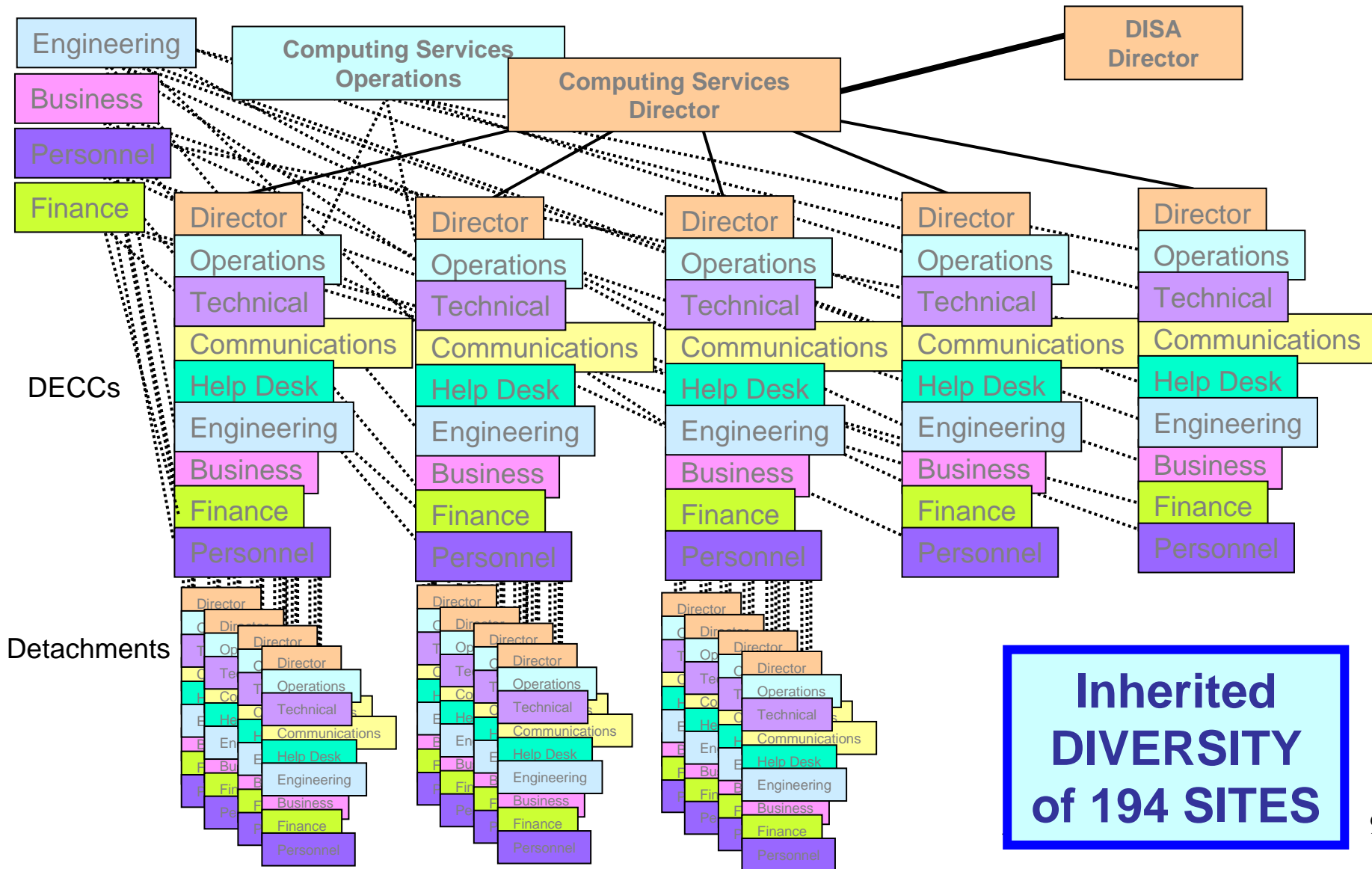
Chain of Command



(* Defense Enterprise Computing Centers)

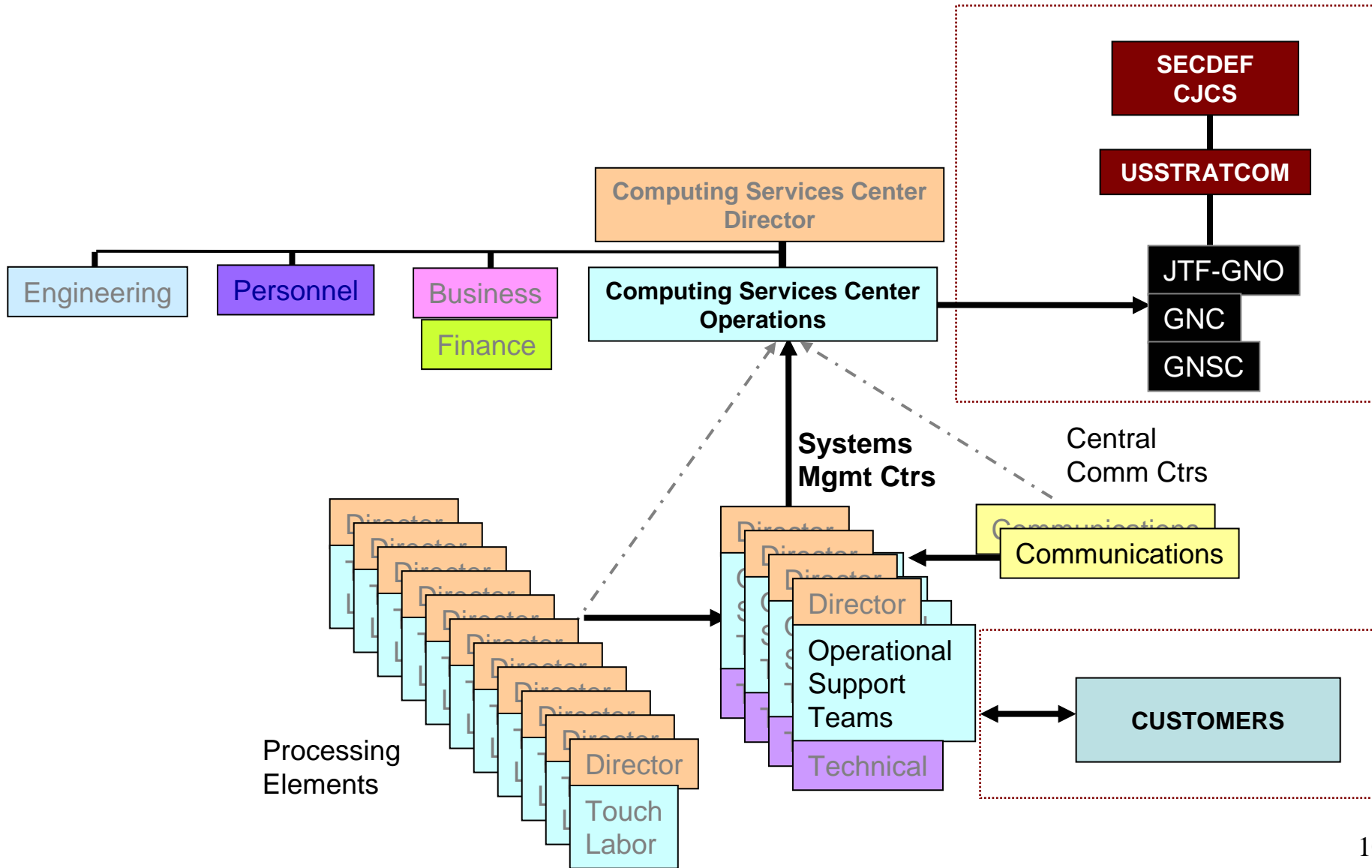


Pre-Transformation Reporting Chain





Post-Transformation Reporting Chain

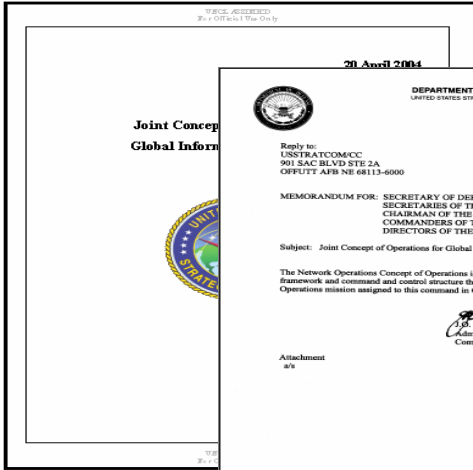




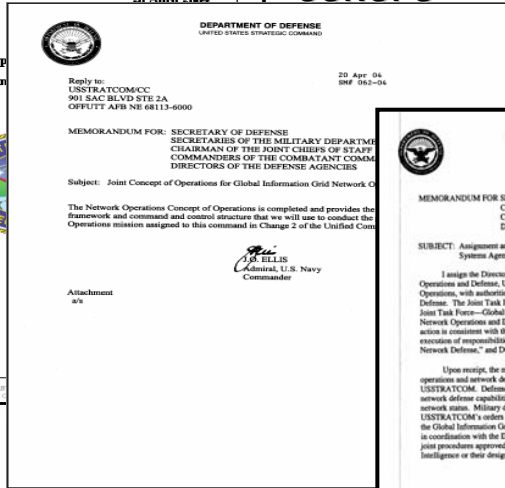
USSTRATCOM – DISA



**Commander
USSTRATCOM**

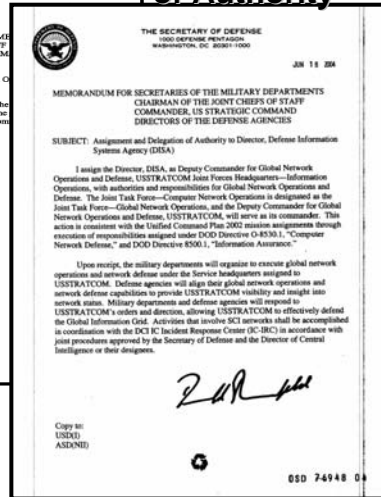


CONOPS



Signed by USSTRATCOM,
20 Apr 04

Assignment & Delegation of Authority



Signed by SECDEF,
18 Jun 04



**Director DISA
Cdr, JTF-GNO**

- Operate & Defend the GIG
- Sustain, Maintain, Equip Theater NetOps Centers
- Develop Technical NetOps Solutions

SECDEF designated DISA Director as Commander, JTF-Global Network Operations

One Team, One Fight

Assured Computing



Importance and Combat

- **The last two decades --**
 - **Increasing day-to-day reliance on IT by warfighter**
 - **Information has become fundamental to prosecution of the nation's will**
 - **Inextricably threaded into warfighter processes**
 - **Enables joint task force deployment, employment, sustainment**
- **Warfighter IT support today**
 - **A single system of data processing**
 - **Systems known as “combat support” now essential to successful combat operations**



Decreasing Tolerance for Down Time

“We need to prevent disruptions, and when they occur, we need to make sure they are infrequent, short, and manageable.”

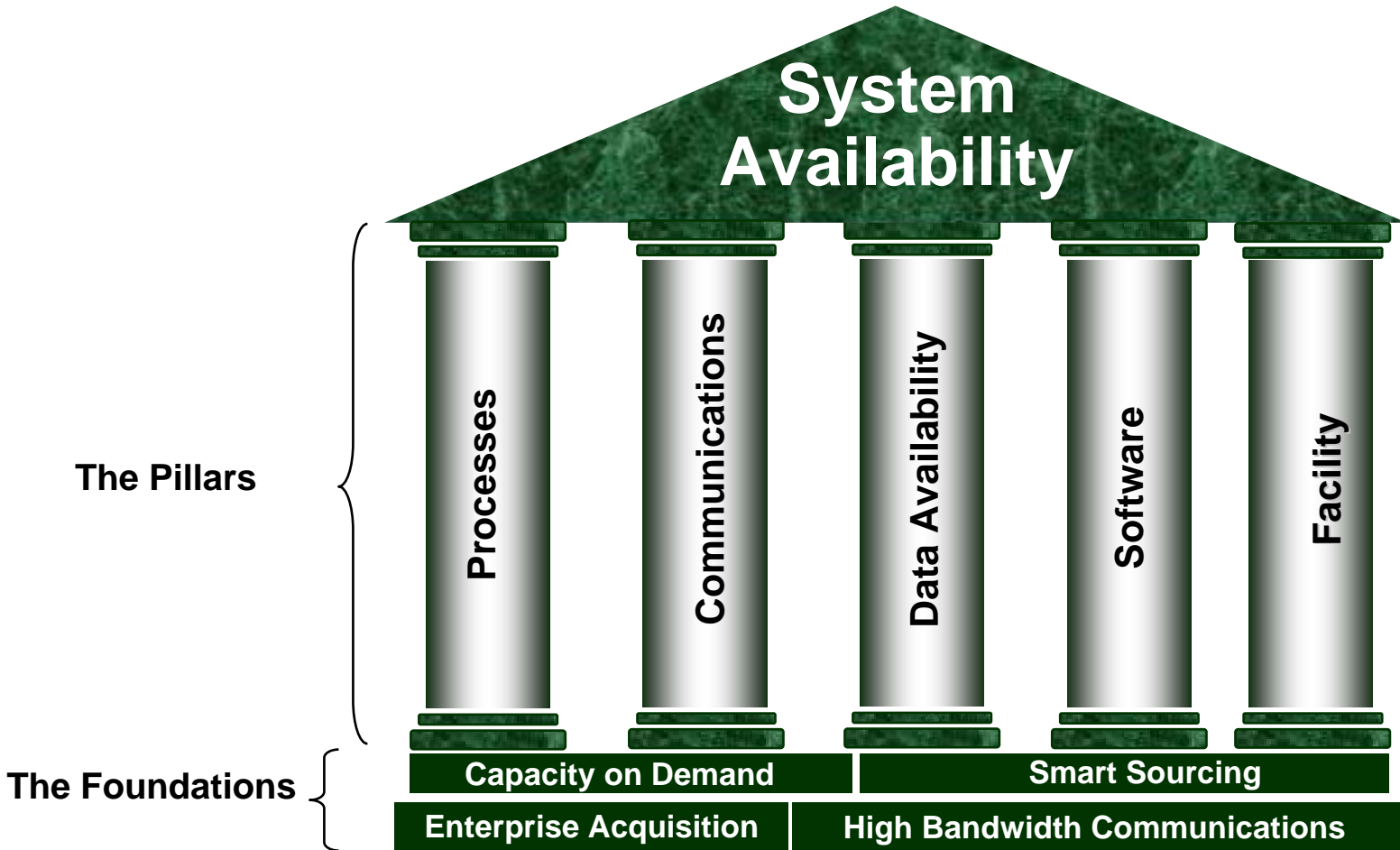
Thomas Ridge, Director of Home Security Act



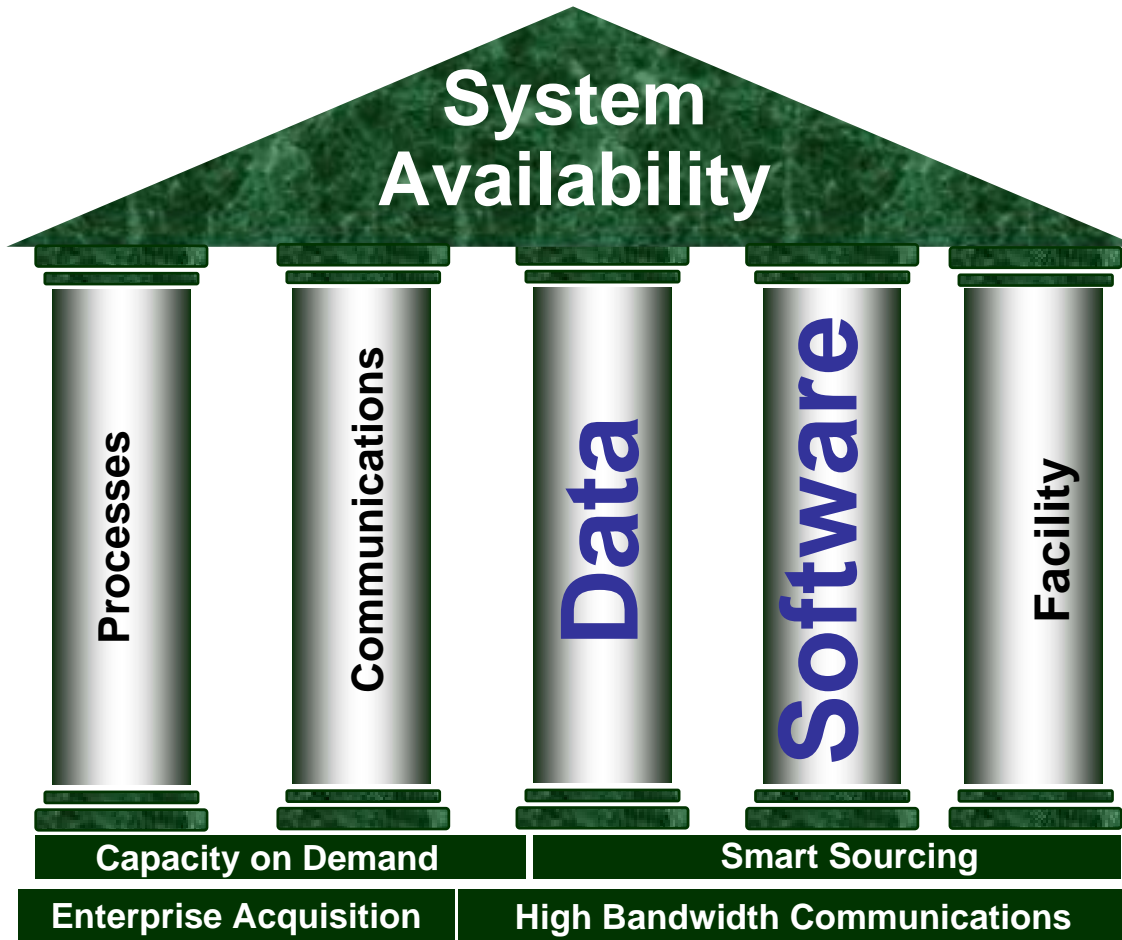
The Answer.... Assured Computing

Non-disruptive service to the end user, achieved through reliable, secure, and virtualized processing and networking environments.

Assured Computing



Assured Computing



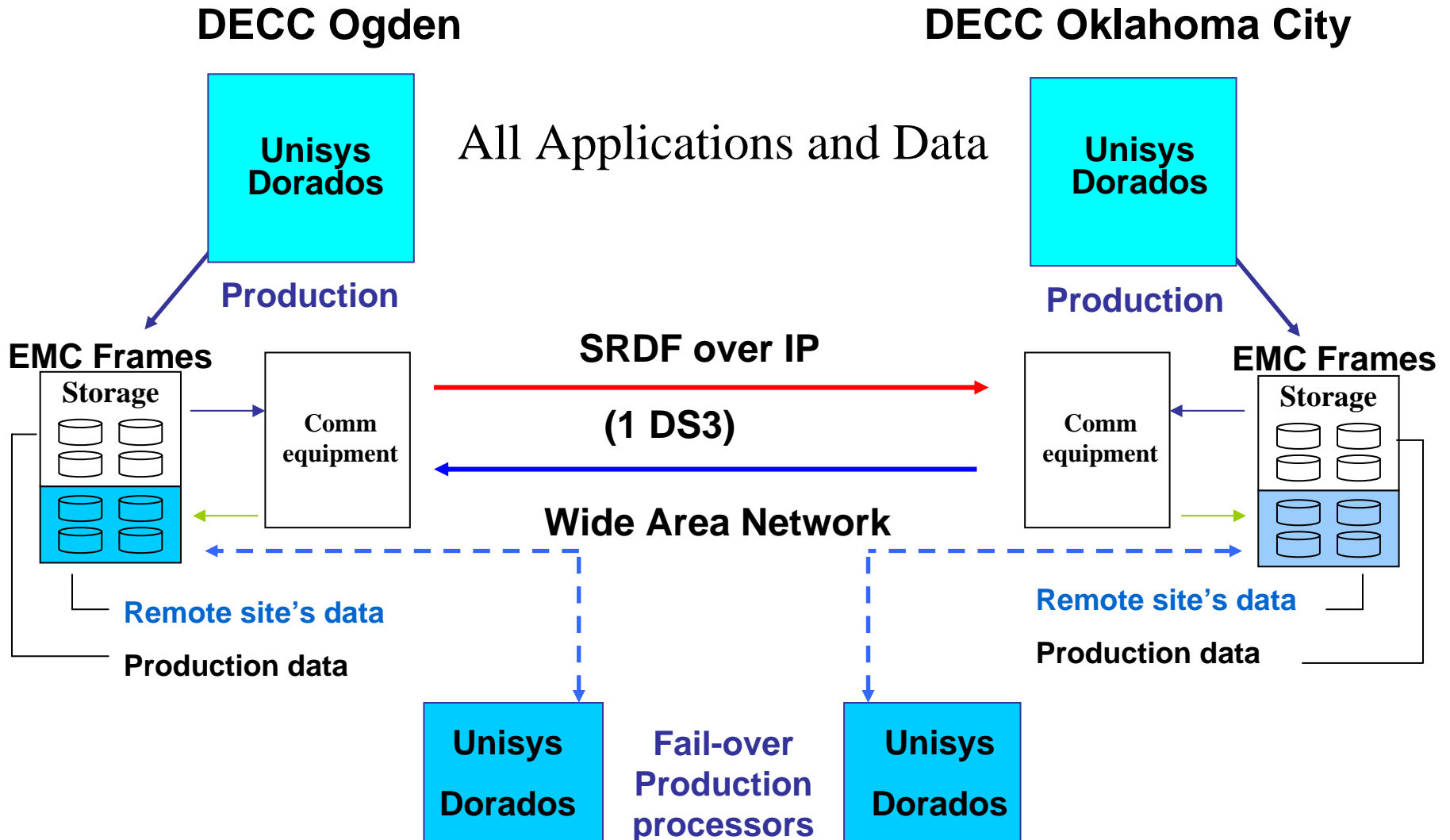


Data and Application Replication

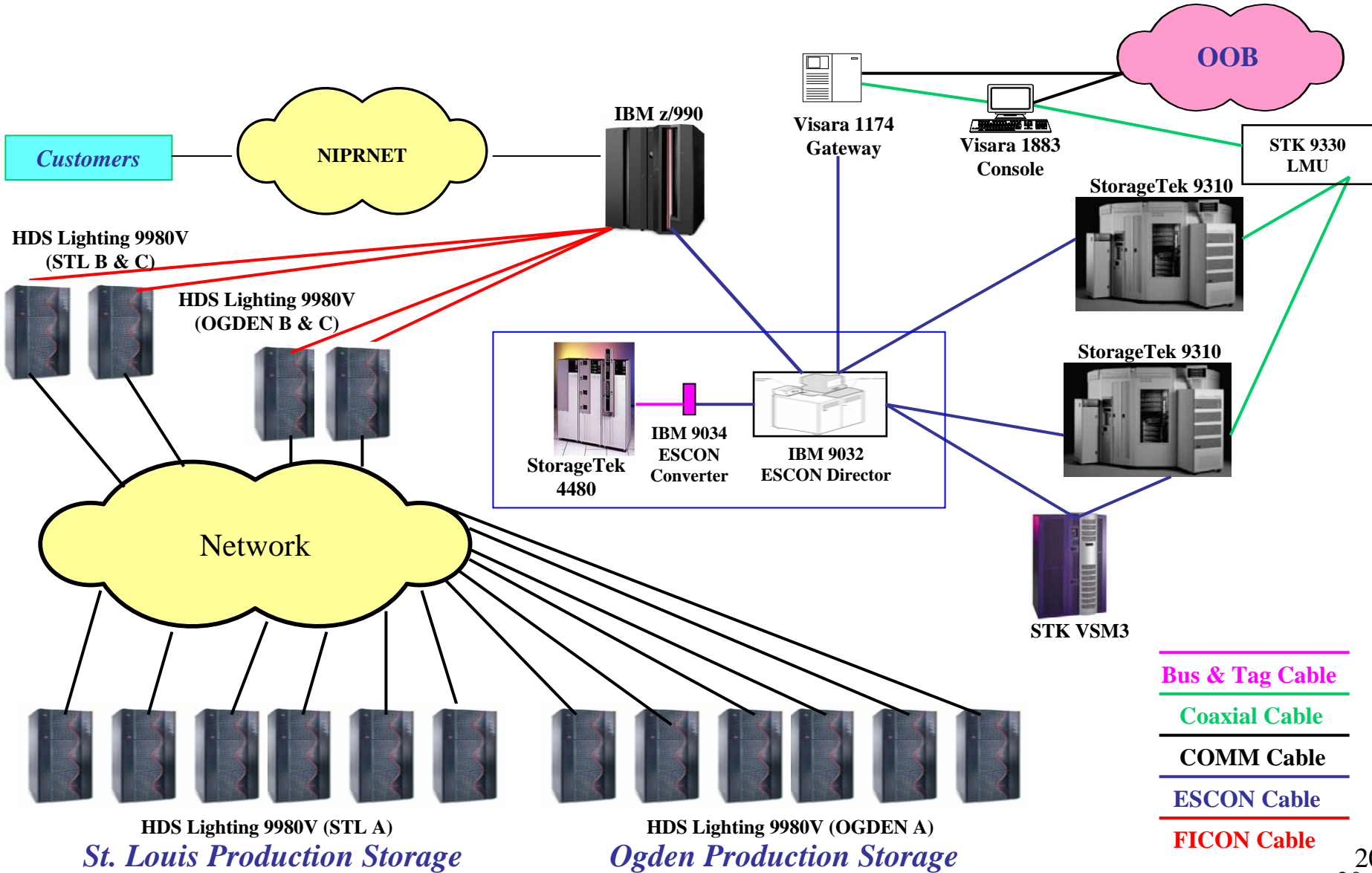
- **Unisys mainframes**
 - Application and data replication between DECCs operational since Dec 2001
 - 24 TB < 2 min data loss
- **IBM mainframes**
 - Application and data replication between DECCs operational since Sep 2005
 - 83 TB < 1 sec data loss
 - Also includes backup CPUs, capacity for production and testing, silo capacity, and peripheral support
- **Servers – case by case**



Mainframe Example Unisys



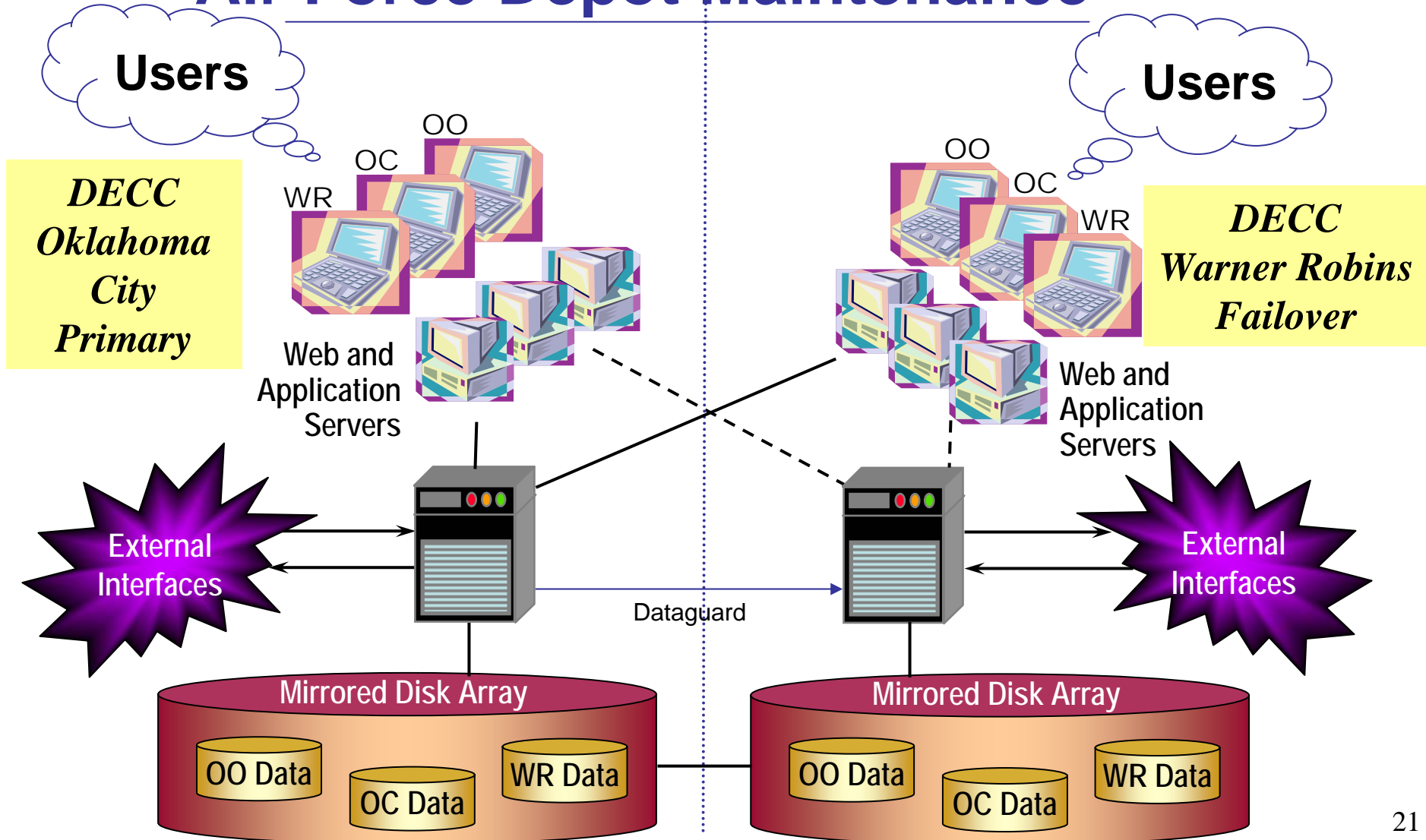
Mainframe Example IBM



-
- Bus & Tag Cable
-
- Coaxial Cable
-
- COMM Cable
-
- ESCON Cable
-
- FICON Cable

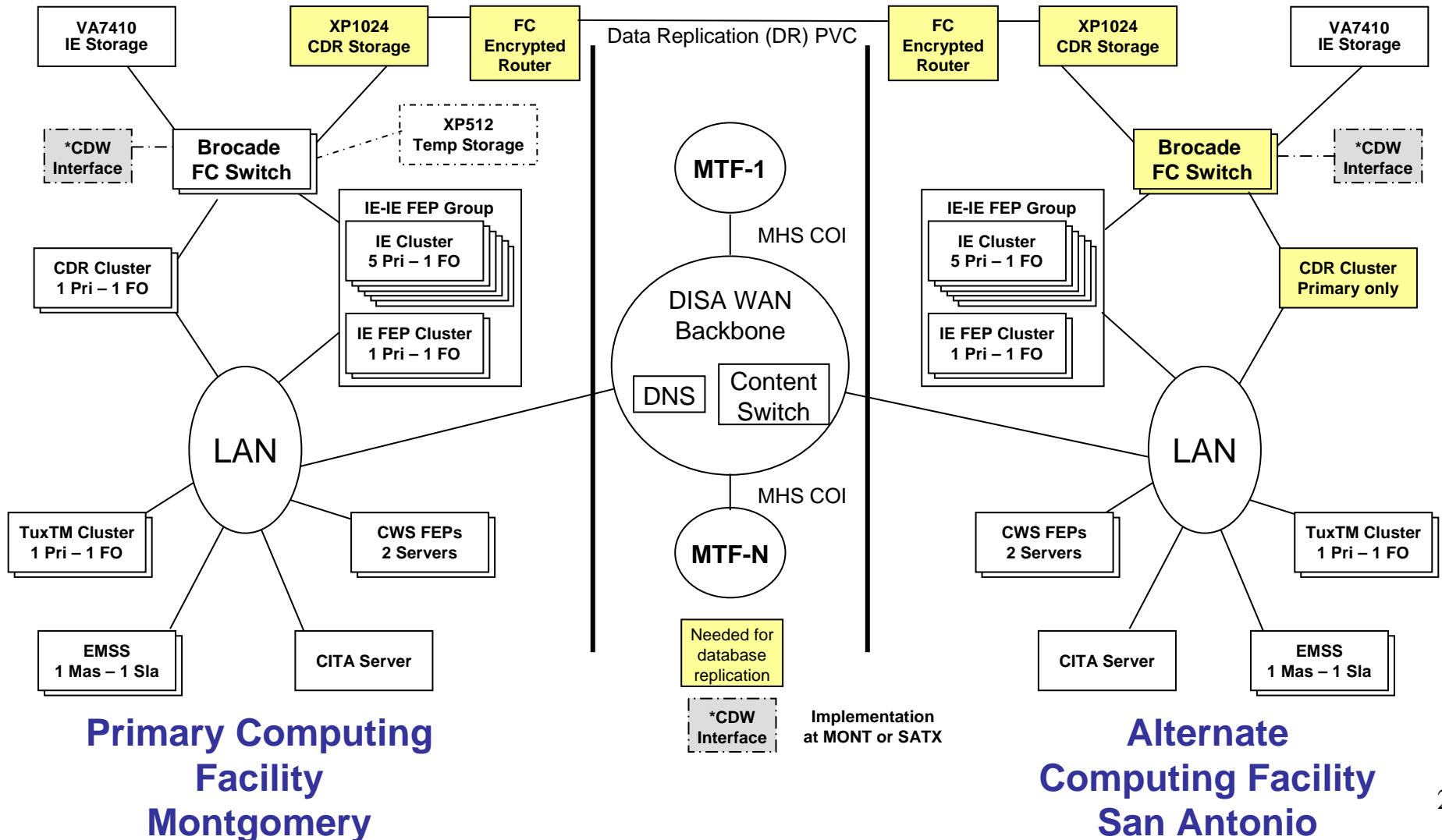
Server - Example 1

Air Force Depot Maintenance

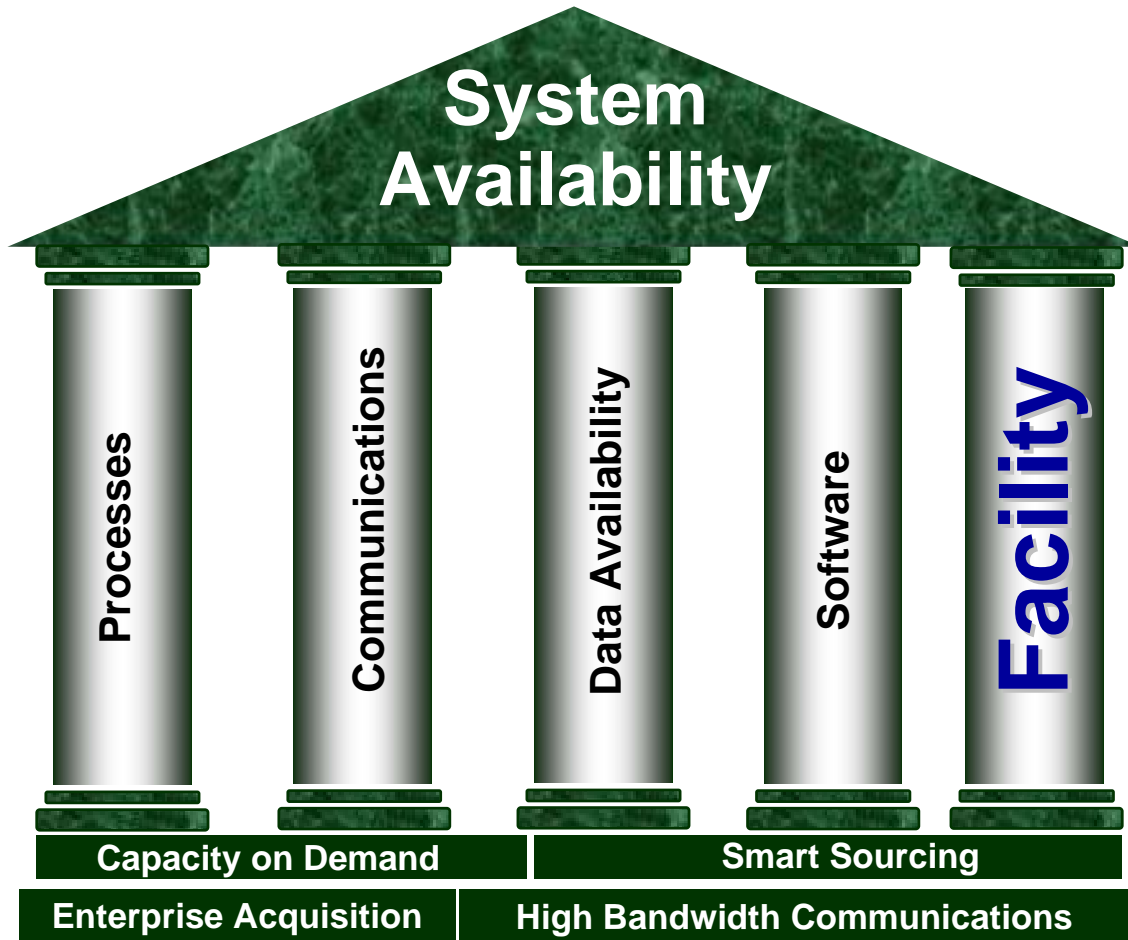


Server - Example 2

Ahlta (Military Health Care System)



Assured Computing



Typical DECC Facility

DECC Oklahoma City



98,000 square feet; 68,500 of raised floor

DECC Oklahoma City (as a typical DECC)



Sub Station A 12,470 Volt Feed



Automatic Transfer Switch



Sub Station B 12,470 Volt Feed



1200 Batteries/5000 kVA UPS



UPS Control Panel



Main Switch-Gear



Four 1750 kW Diesel Generators



22k Gallon Fuel Reserve

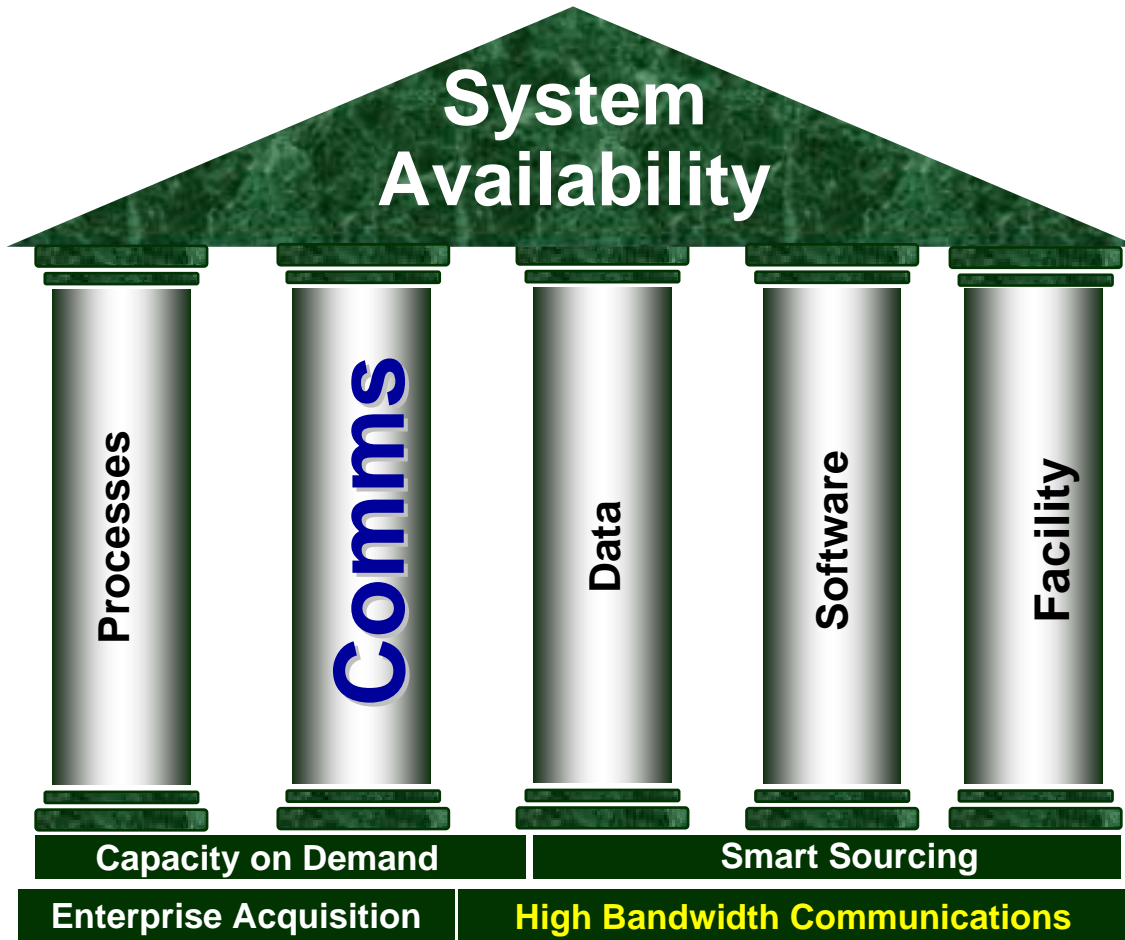
DECC Oklahoma City (as a typical DECC)

- **Engineered fault tolerant, high availability**
 - Four, 350-ton chillers and cooling towers provide 100 percent redundancy
 - 40 air units distribute conditioned air throughout facility
 - Power distributed to 25 power distribution modules
 - Dual, independent electrical feeds to each platform, - each platform with dual power supplies
- **“Smart” automated facility management system**
 - Moisture, under floor water, temperature sensors and alarms

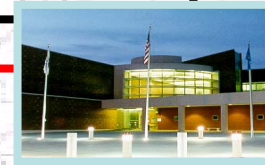
- **Physical Security**
 - 24 x 7 Security Guards
 - Controlled/Alarmed Access
 - Security Cameras
- **Information Assurance**
 - Security Professionals
 - DoD/NSA Compliant Policies and Tools
 - Security Readiness Reviews
 - Network Monitoring / Intrusion Detection



Assured Computing

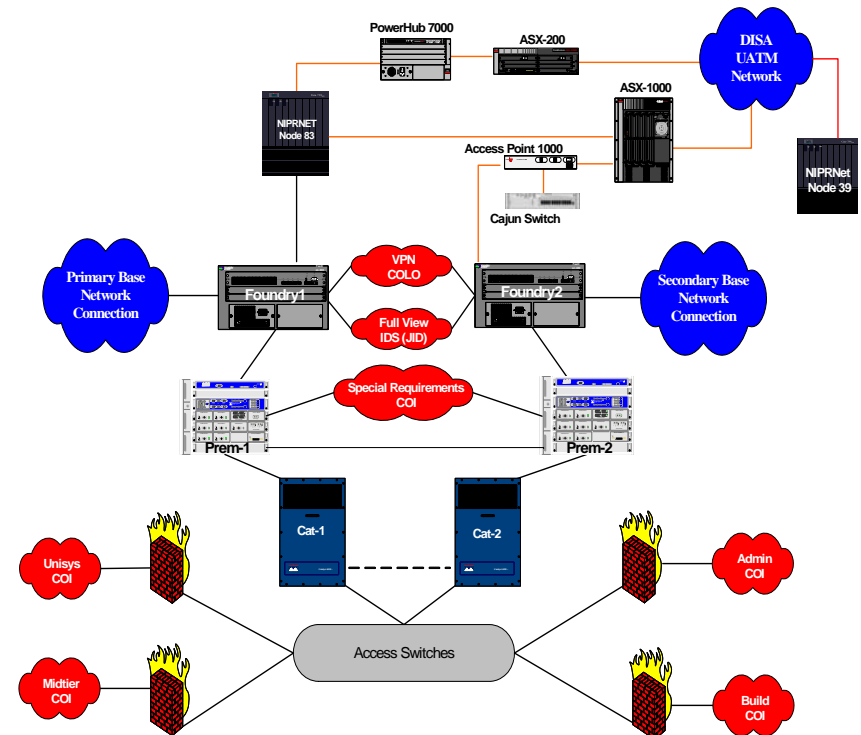


DECC Oklahoma City (as a typical DECC)

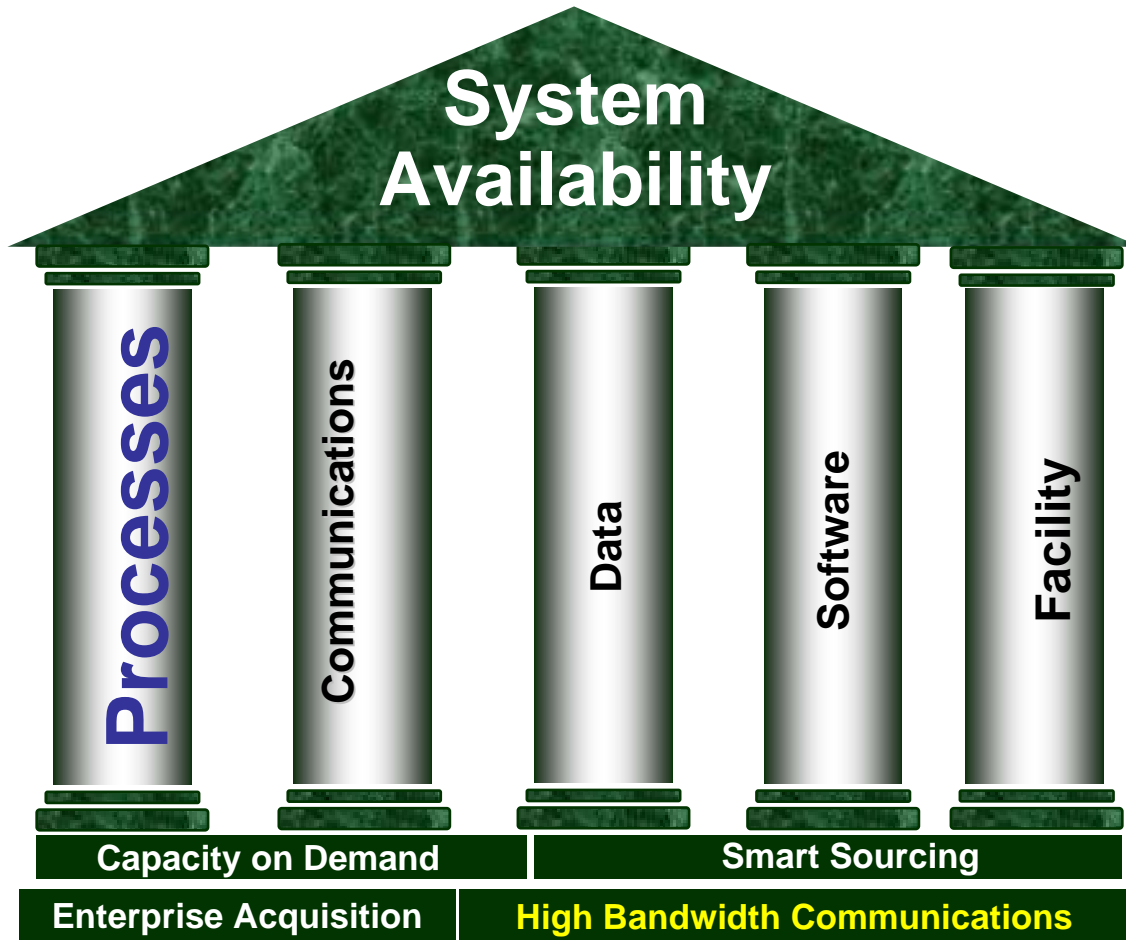


- Vendor Diversity (COX + SBC)
- Path Redundancy
- Self-healing fiber architecture
- High bandwidth (OC192)

- **Local Infrastructure**
 - Redundant DISN hubs
 - Redundant NIPRNet core routers
 - Fault-tolerant internal routers and switches
 - Gigabit switching
 - Multiple Virtual Private Network implementations
 - Redundant SIPRNet connections
 - Separate management VPN

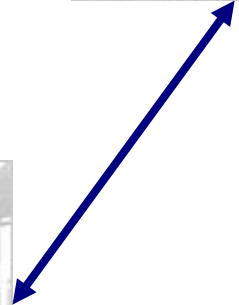


Assured Computing



“Process” Tenants

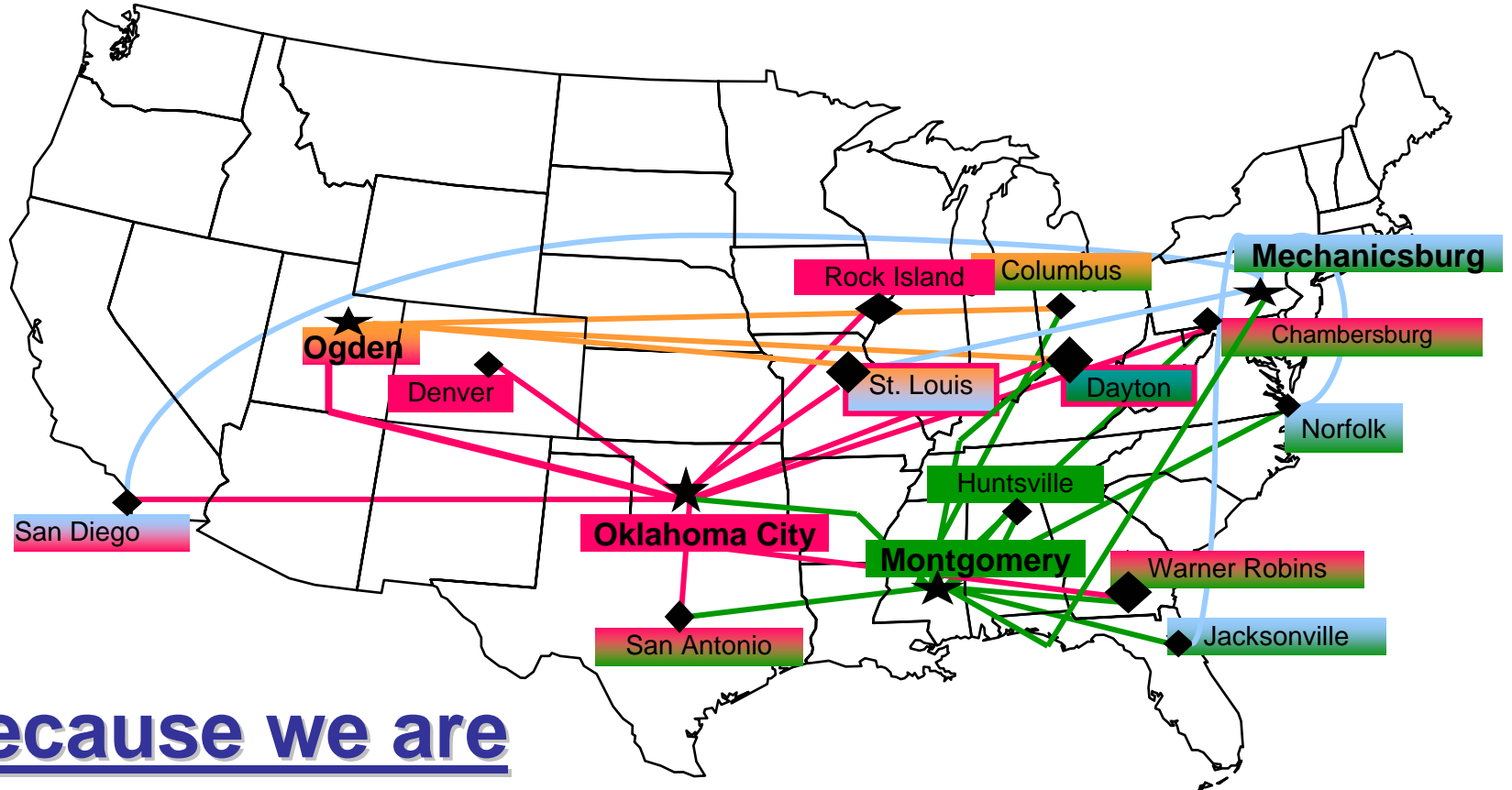
- **Virtualized management: technical capability**
 - From any location (secure)
 - Of all platforms/comms at any location (secure)
- **Virtualized systems management: staff**
 - Application, operating system, database, & communications expertise hot “failover”
 - Help desk hot “failover”
- **COOP/BCP**
 - Systems, sites, headquarters
 - Tested until SOP



(= Net-Centricity)

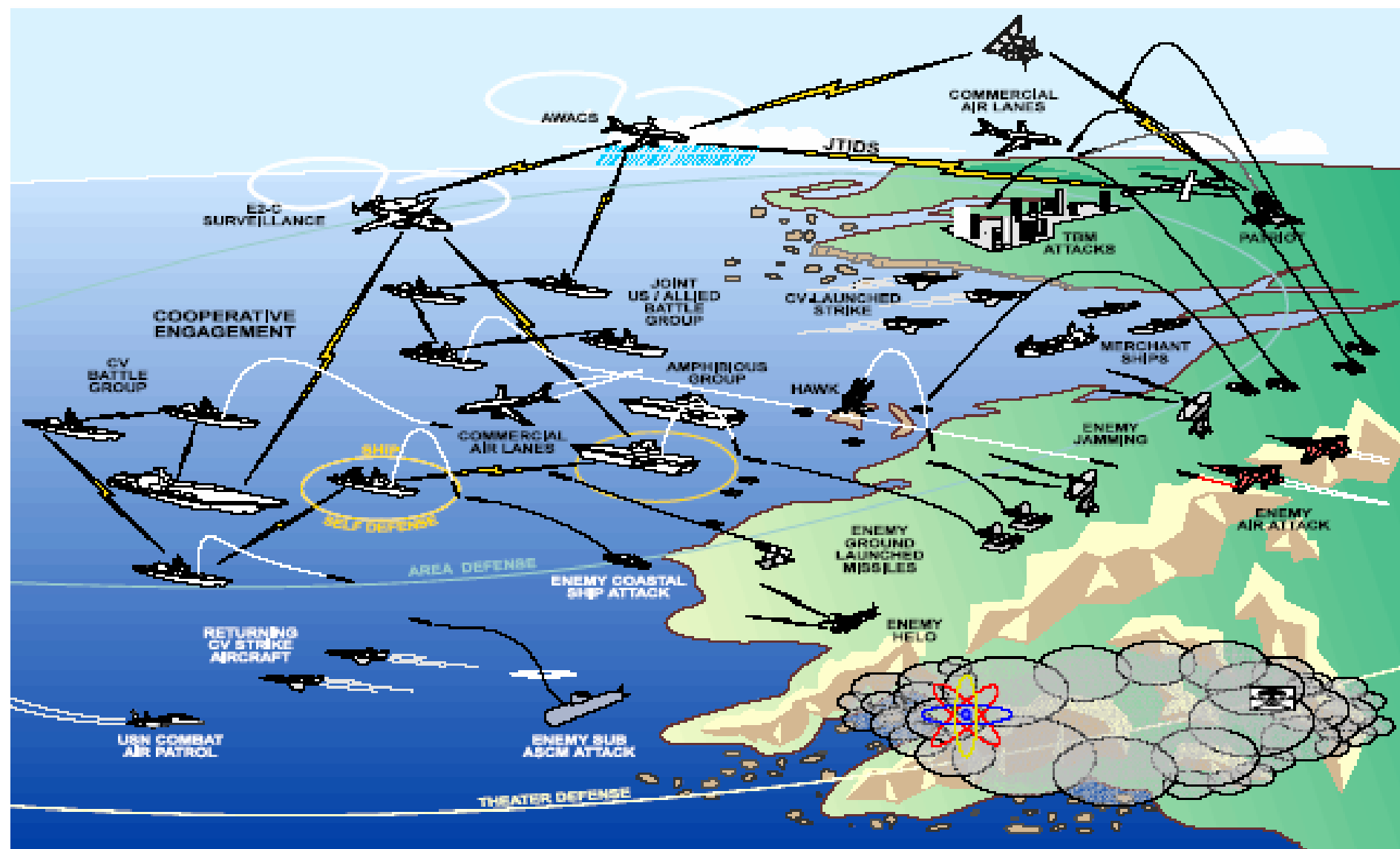
Within Computing Services:

- Geographic location has become irrelevant
- Management from anywhere is SOP



because we are

Supporting Net-Centric Warfare



Which Is



Who We Are
What We Do
Why We're Here



- **Assured Computing provides:**
 - Net-centric computing and operations
 - Customer service and support
 - Information mart
 - Data availability
 - Data integrity
 - Data accessibility
 - Data recovery
 - Content to the 'Edge', around the globe
- **Always “there” exactly when needed!**





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