Enterprise WAS & Portal on zSeries

Enterprise Deployment of WebSphere & Portal On zSeries Linux at USDA

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Agenda

- USDA, National IT Center, and Enterprise Shared Services
- Rationale for zSeries
- Design and Deployment Approach
- Efficiencies and Cost Savings
- Next Steps
- Q & A

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USDA

- Leads the Food Stamp, School Lunch, School Breakfast, and the WIC Programs
- The steward of our nation's 192 million acres of national forests and rangelands
- The country's largest conservation agency, encouraging voluntary efforts to protect soil, water, and wildlife on the 70 percent of America's lands that are in private hands
- Responsible for the safety of meat, poultry, and egg products

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USDA

- Made up of 29 Agencies (comparable to corporations)
  - Animal and Plant Health Inspection Service (APHIS)
  - Farm Service Agency (FSA)
  - Forest Service (FS)
- 11 Offices
  - Office of the Chief Information Officer (OCIO)
    - National Information Technology Center (NITC)
  - Office of Communications (OC)
    - Owner of usda.gov & myusda.gov Portal application
  - Office of the Chief Financial Officer (OCFO)

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NITC

- Ø 7 x 24 x 365 Operations at 2 locations – KC & WDC
- Ø Hosting for USDA and Other Departments
  - DOT, DOL, GSA, Coast Guard
  - ü 5 Mainframes
    - v Approx. 1900 MIPS – z/OS
      - z9-EC, z9-BC, z800
    - v Approx. 2900 MIPS – Linux IFLs
      - Two z9-ECs
  - ü 600+ Client Server/Mid-range/Wintel servers
- Ø Application Development

NATIONAL INFORMATION TECHNOLOGY CENTER

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Enterprise Shared Services (ESS)

- Departmental e-gov initiative for all 29 agencies
  - ü e-Authentication
  - ü e-Grants
  - ü e-Learning (AgLearn)
  - ü e-Permits
  - ü e-Deployment (later renamed to ESS)
    - v WAS & Portal Hosting
    - v Web Content Mgt. (WCM), DM, RM, & BPM
      - Stellent
    - v Collaboration
    - v Oracle - DBMS
    - v Google Search Engine

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Enterprise Shared Services (ESS)

- **Business Principles -** Enables greater cross-agency collaboration and use of shared solutions and best practices.
- **Technology Principles –** Promotes consolidation and standardization of technology where appropriate.
- **Data Principles -** Maximizes data sharing and minimizes cost associated with duplicate management efforts.

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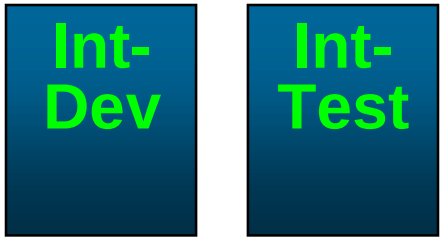
Enterprise Shared Services (ESS)

- Architecture – Standard Environments
  - Business Application Support

  - Integration Support



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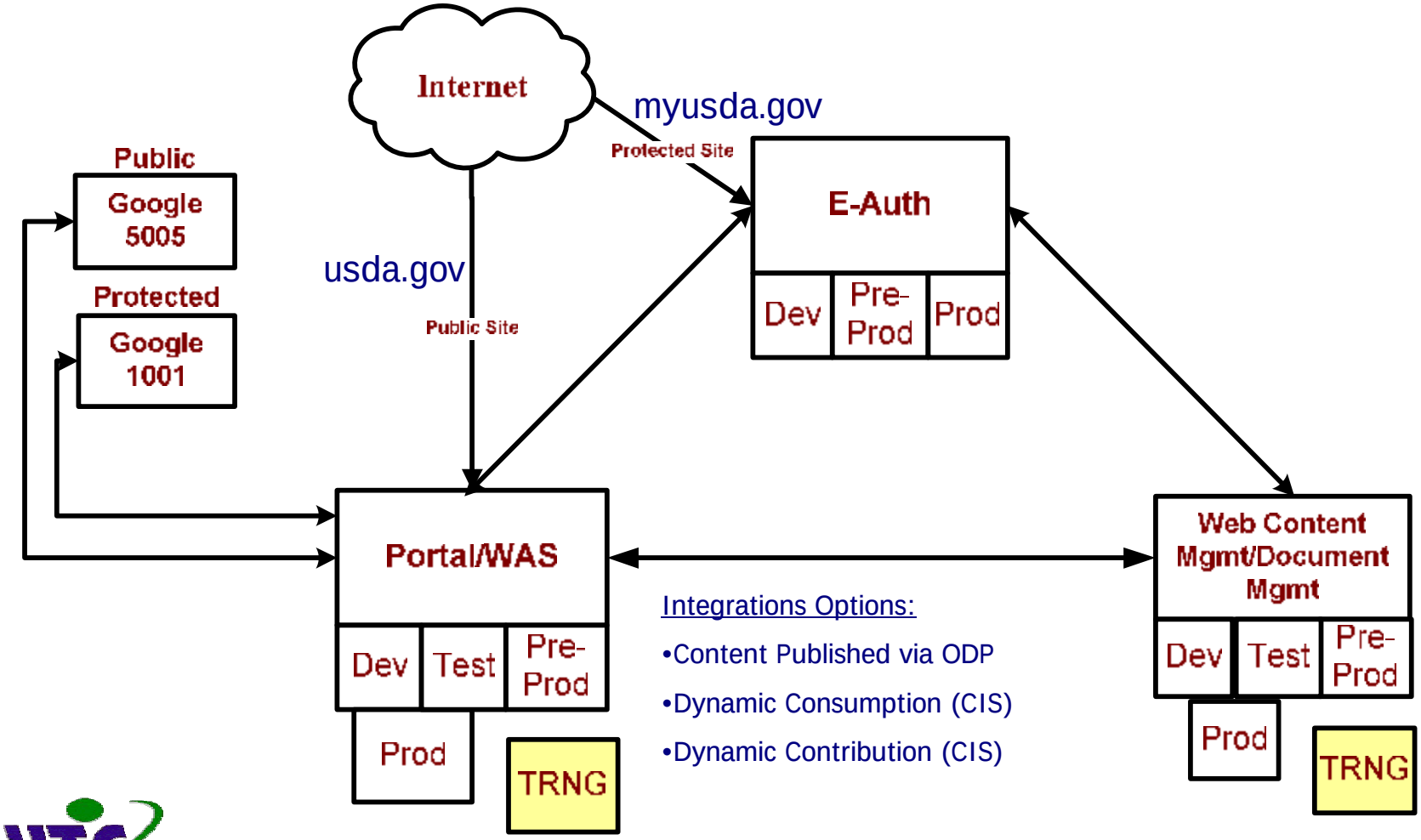
ESS Integration – High Level View



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ESS Integration – Many to Many

- Portal – Stellent -CIS Interface for Portlets
- Portal – Google -Google Integrations
- Portal – E-Auth -Secured Portal Sites
- WAS – Stellent -CIS Interface for WAS Apps
- WAS - Google -Google Integrations
- WAS – E-Auth -Secured Sites
- Stellent – E-Auth -Secured Access to UI
- Google – E-Auth -Searching Secured Sites
- Directory Integrations -LDAP and AD Population

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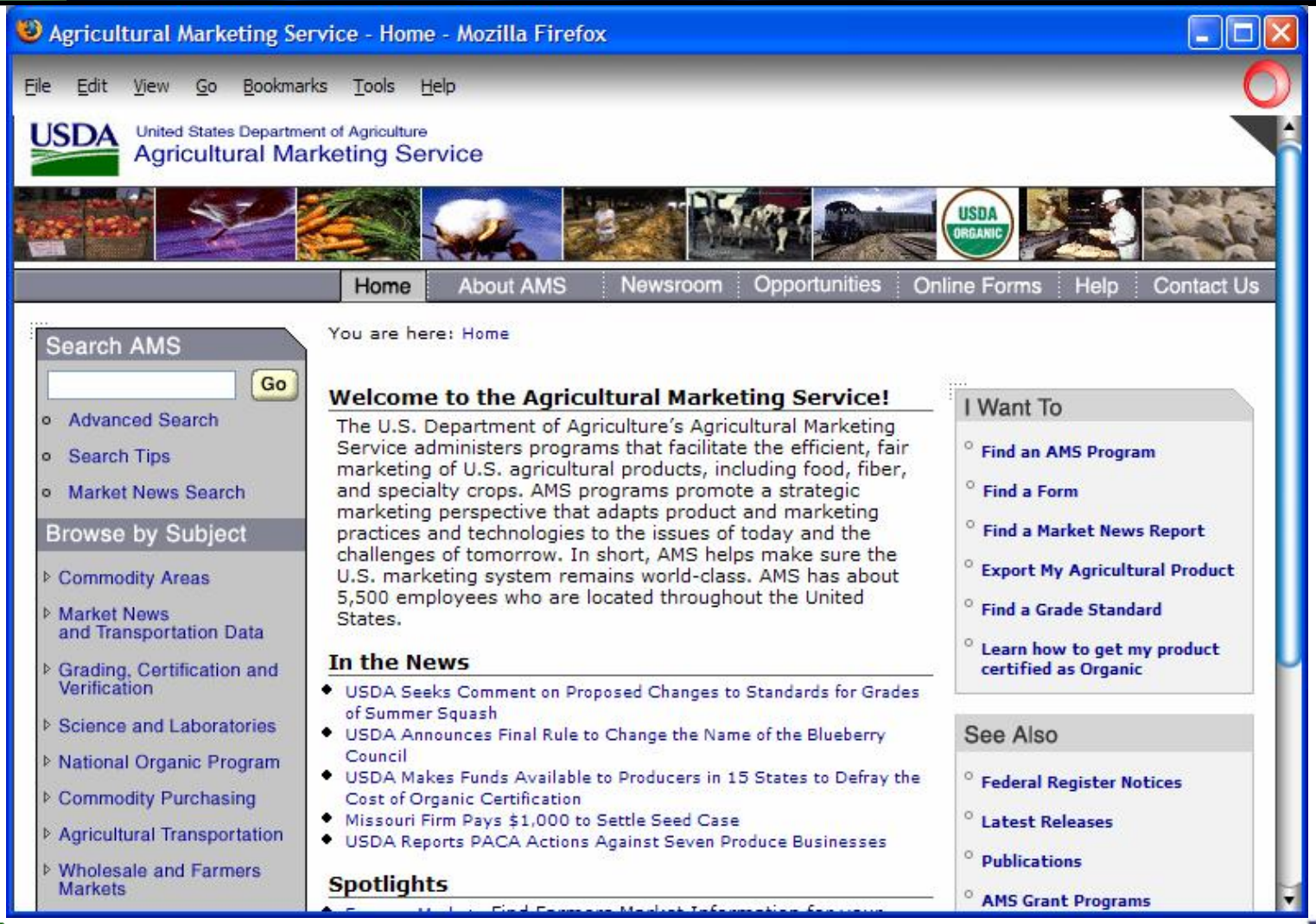

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Rationale for zSeries

- Mainframe Resources Available
- New Cost Model for MF Virtual Linux Servers
  - Versus old MF MIPS based cost model
  - Based on Client-Server/Mid Range model
    - Less floor space and environmentals
    - Less time to provision new servers
    - Fewer administrators

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Rationale for zSeries

- Affordable DR using Capacity Backup (CBU)
- Meaningful Accounting for Chargeback
- Software Savings – Fewer, Larger Processors
- Overhead to handle Internet “Spikes”
- Extremely Reliable and Scalable
- Leverage Existing NITC Skill Set (MF & Linux)
- Exploit Mature Mainframe Tools and Processes

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Design and Deployment Approach

- NITC' Goals for Deployment:
  - Leverage existing NITC Infrastructure where possible (Incl. Chg & Config Mgt.)
  - Minimize SW and Personnel Costs
  - Deploy based on Vendor/Industry Best Practices
  - Simplify Disaster Recovery planning where possible

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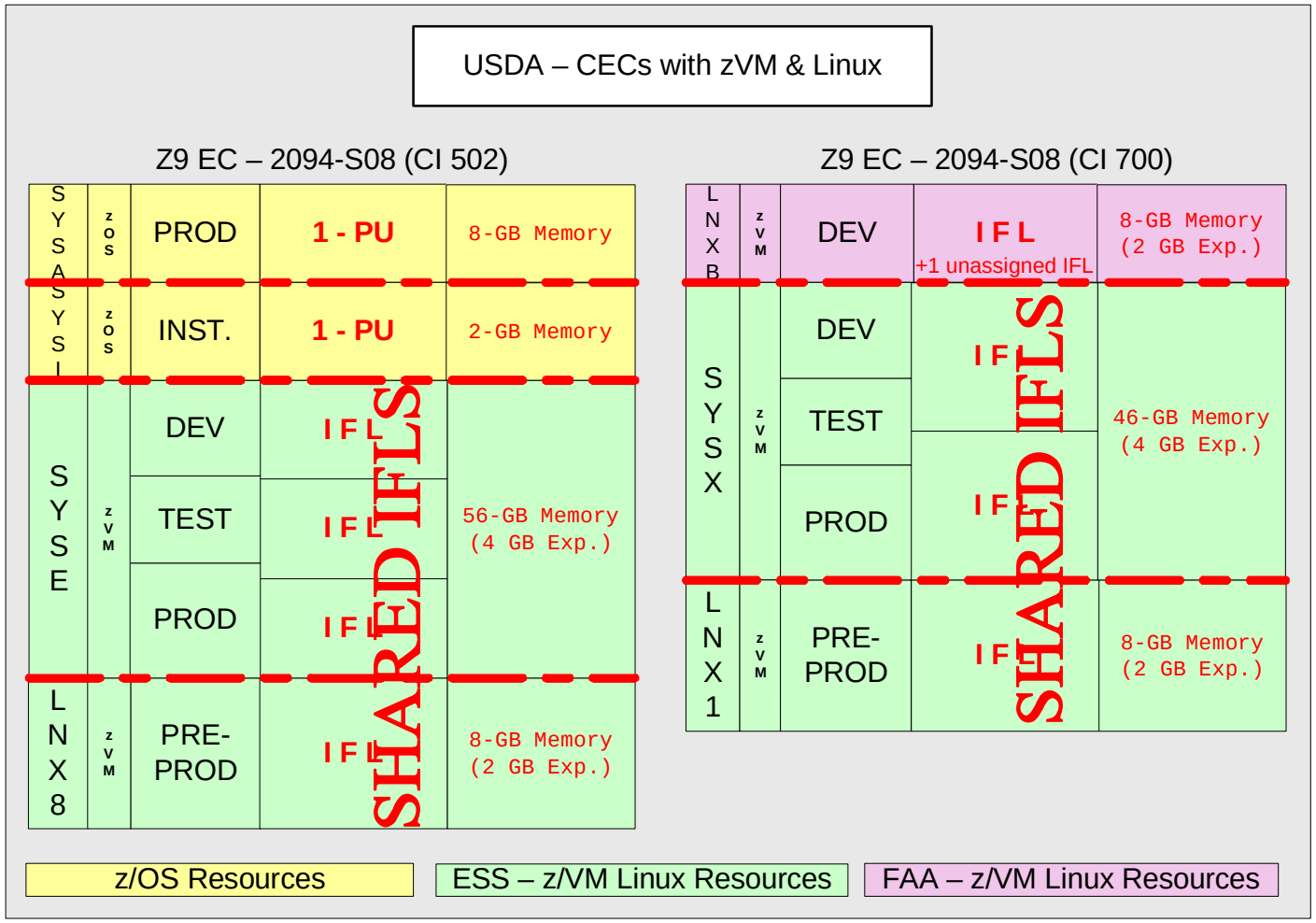
Design and Deployment Approach



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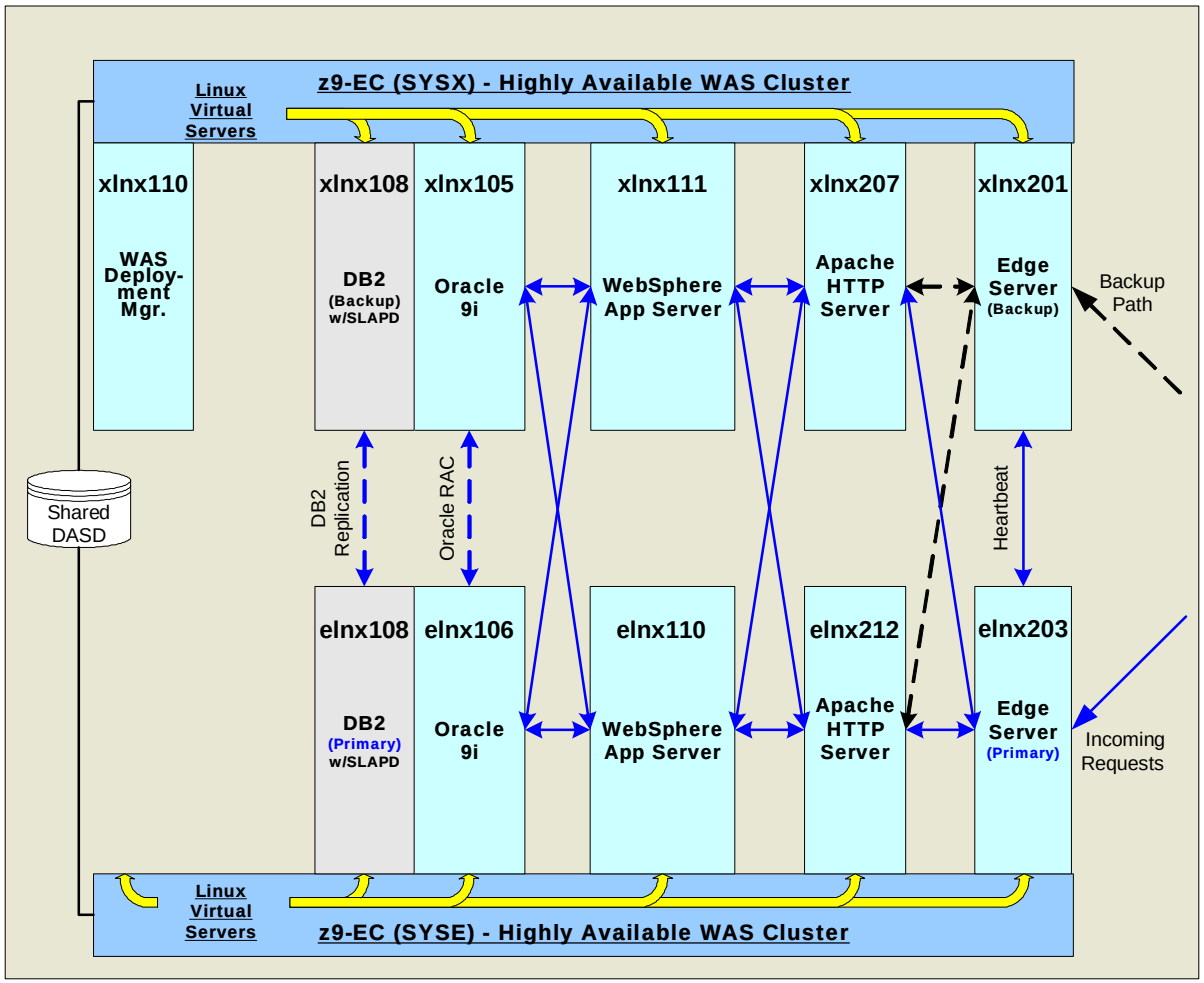
Design and Deployment Approach



zLinux Virtual Servers – Production Topology

- **Allows resource utilization to be tracked per customer**
- **Dev/Test Systems are not HA Clusters**

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Design and Deployment Approach

- zLinux Virtual Servers – Topology
  - SuSE Linux - SLES8
  - Websphere/WAS Portal (5.0.2)
  - Oracle 9i (User Data stores only)
  - DB2-UDB v8
    - WAS/WPS configuration data only
    - LDAP stores for WAS/WPS
  - Deployment Manager
  - Edge Servers
  - Apache HTTP Servers (req'd PHP)

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Efficiencies and Cost Savings

- z/VM & Linux – SW Maint. Purchased from IBM
- Virtual Server Advantages
  - Cloned Images from a Standard Template
  - Shared Disk for Common Images
  - Simplified Maintenance & Patch Mgt.
  - Simple/Low-cost Migrations to New Technology

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Efficiencies and Cost Savings

- z/VM Automation to Shut Down Unused Env.
  - Reclaims Processor Cycles and Memory
- Exploit ShadowImage™ and NITC DR Process
  - Reduced Down Time
  - Proven DR Processes
- Akamai Used to Keep Cycles Off The Systems

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Next Steps

- Phase-II rollout of WAS/Portal Environments
  - All the latest “Certified” versions
    - SUSE SLES9 (64bit)
    - WAS/Portal v6 (Was-XD)
    - DB2 v9
    - Oracle 10g
- Shorten WAS/Portal Deployment Times
  - 6.x Versions designed with Cloning in mind

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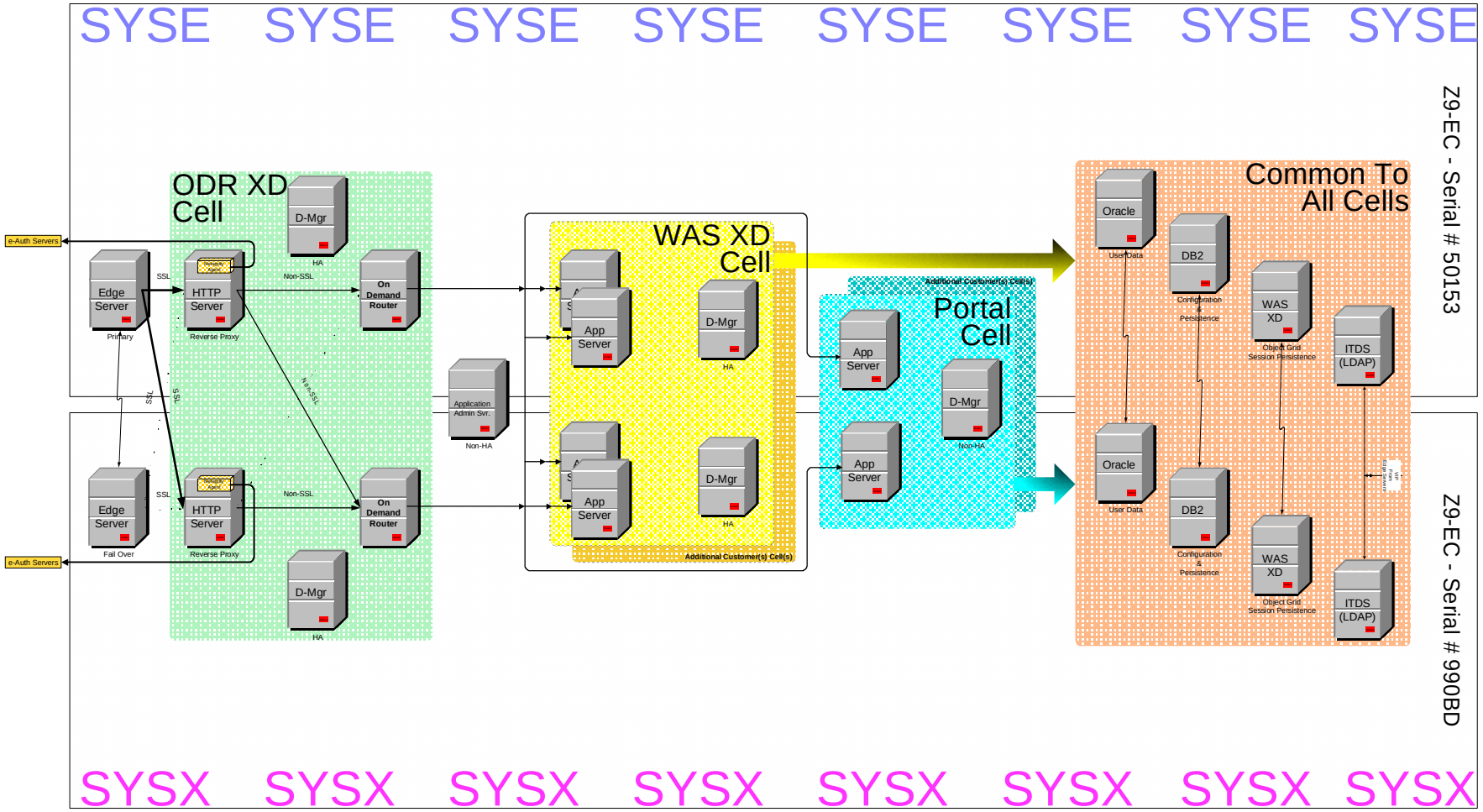
ESS – Phase-II – WAS/PORTAL Topology



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Next Steps

- Continue to Maximize ROI
  - Bigger/Faster IFLs for zLinux LPARs
- Shorten WAS/Portal Deployment Times
  - 6.x Versions designed with Cloning in mind

U.S. Department of Agriculture
eGovernment Program

Any Future Questions?

call or e-mail -

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