CMS Infrastructure
Past, Present and Future

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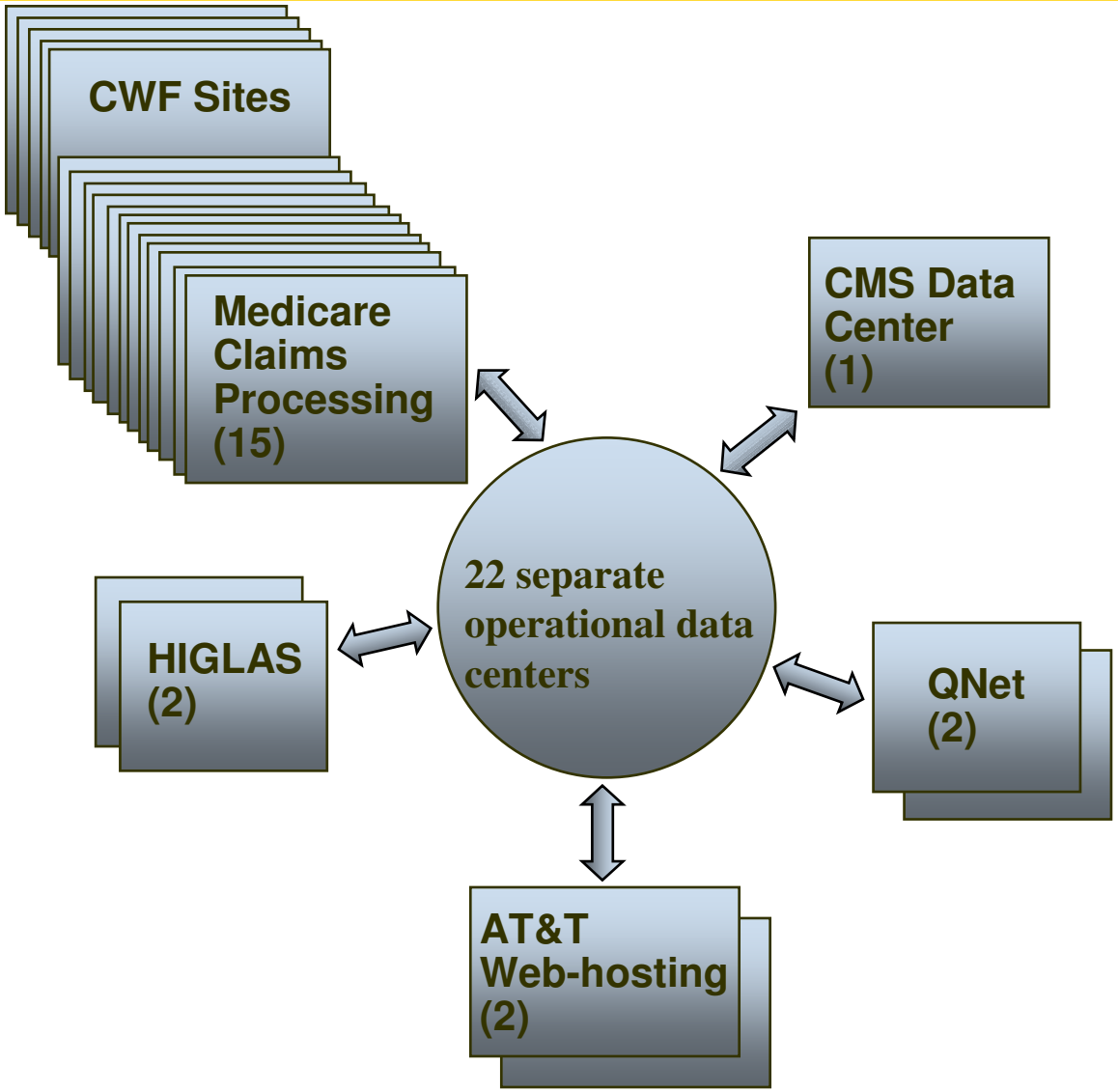
CMS Statistics

- More than 90 Million Covered Lives
- $1.3 Billion – *PER DAY!*
- 1.2 Billion Medicare FFS claims annually
- 1.2 Billion Medicare Prescription Drug Events
- 2.5 Billion Medicaid Claims Data Events
- *15 million eligibility inquiries per week*

CMS IT Drivers

- Stable, ongoing operations
- Cost
- Scalability
- Flexibility
- Information Security

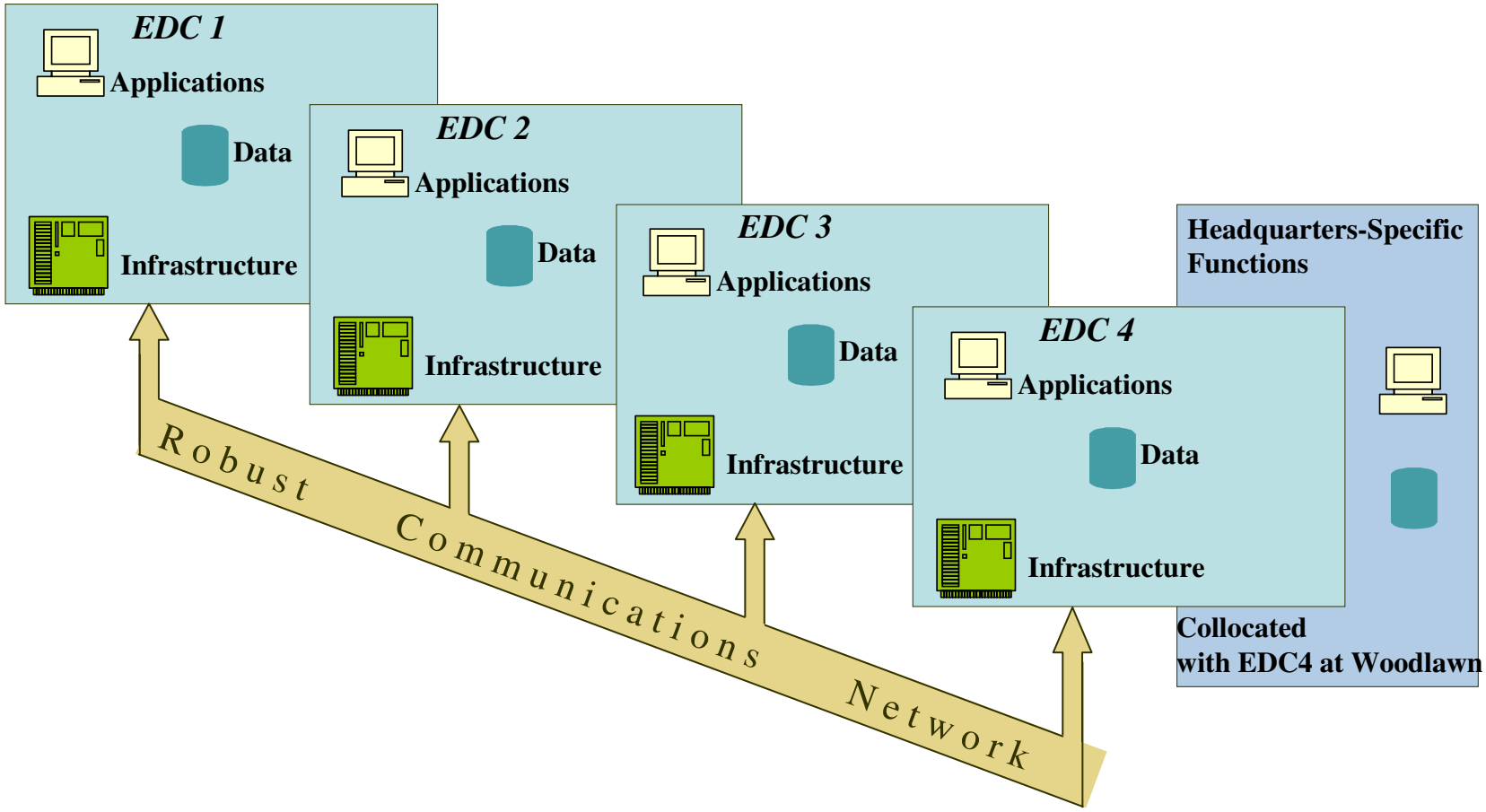
Current CMS Data Centers …by the Numbers



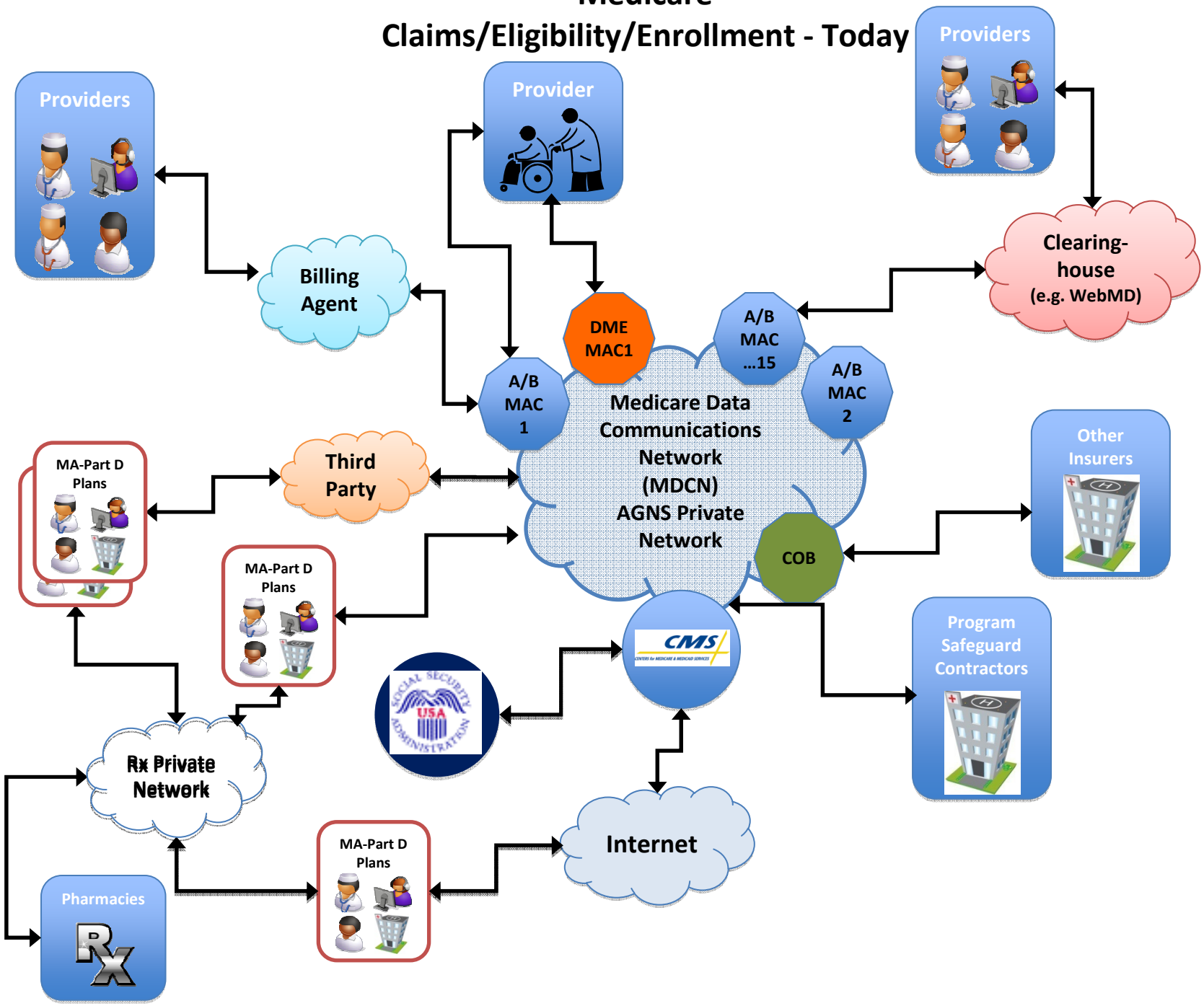
Medicare Claims Processing

- 35 insurance companies
- 54 separate contracts for data center services
- Annual cost of Medicare data centers is $150M-$250M (excludes CWF)
- Cost per claim ranges from 9¢ to 30¢

CMS Data Center Vision



Medicare
Claims/Eligibility/Enrollment - Today



Part D Scenario

Pharmacies

COB Contractor

MA-Part D Plans

CMS CENTERS for MEDICARE & MEDICAID SERVICES

1 Beneficiary Enrolls in Part D Plan

2 Part D Plan Enrolls Beneficiary

3 Plan notifies CMS of enrollment Includes 4Rx Data

4 CMS sends data to COB Contractor

5 Store Coverage Data

6 Request Prescription

7 Check eligibility with COB contractor

8 Answer query

9 Fill Rx and file claim with Part D Plan

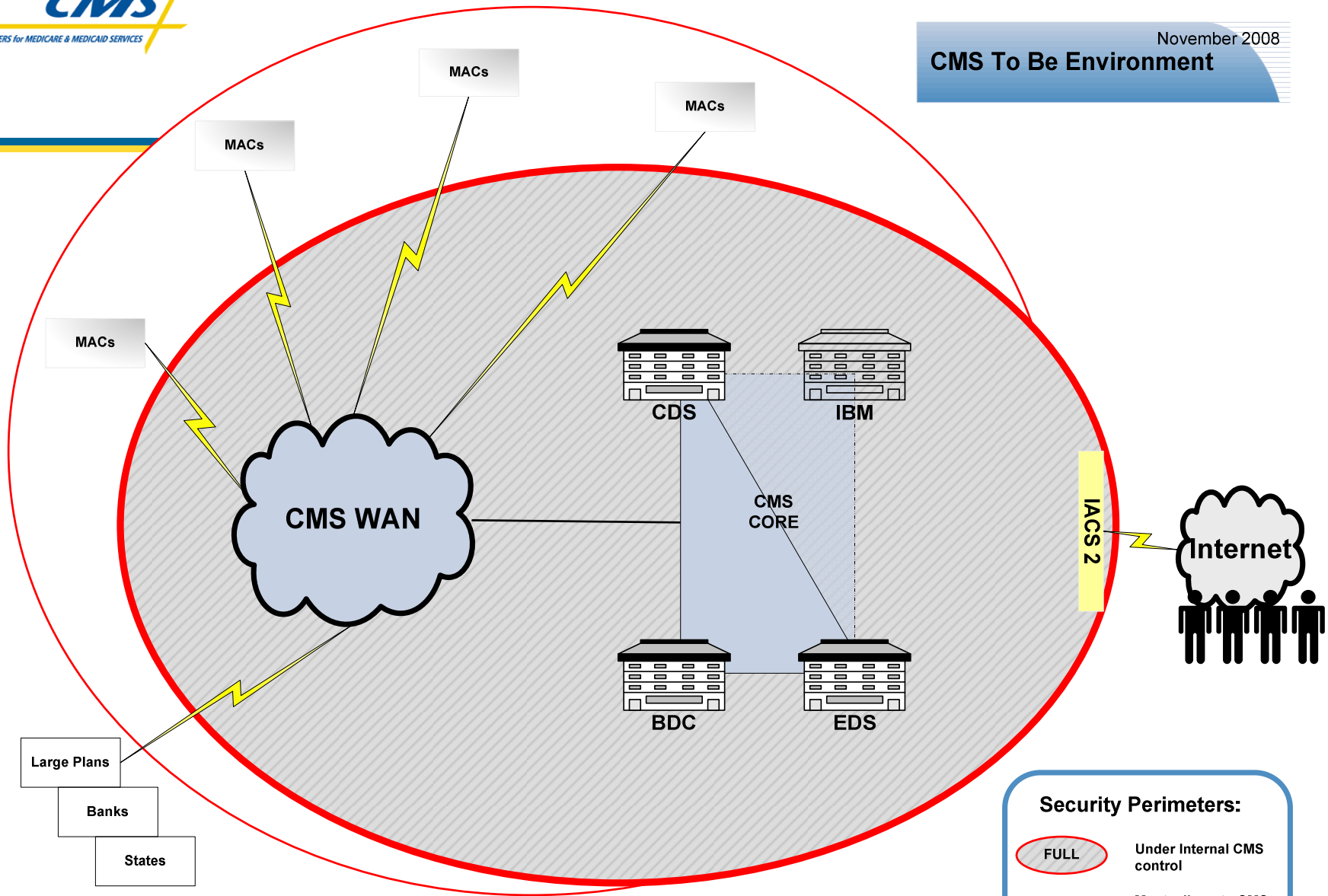
10 Pay Claim &Submit Prescription Drug Event

11 Store and Analyze PDE

CMS Current Business Drivers

- Stable, ongoing operations
- Speed and flexibility
- Data Accessibility and Transparency
- Information Security, especially Continuity of Operations

CMS To Be Environment



Security Perimeters:

FULL	Under Internal CMS control
LIMITED	Must adhere to CMS security policy & the BPSSM

Why Linux on System z

- **Strategic platform for CMS to consolidate workloads and lower IT costs**
- **Running mission-critical Linux images on mainframes to benefit from the reliability, scalability and performance that the mainframe offers**
- **Migrating workloads to mainframe Linux provides numerous cost savings and environmental benefits**
  - Reduced energy consumption and floor space
  - Reduce software costs
  - Improved hardware utilization rates
  - Reduced network access points
  - Increased staff productivity
  - Positions CMS' IT assets for flexibility and growth
  - Leverages the sophisticated virtualization and resource sharing capabilities needed for large-scale consolidation to Linux on the mainframe.

Linux on System z

- **IT infrastructure simplification and optimization**
- **Leverage the virtualization functionality of the mainframe to optimize IT resources**
  - ✓ **Cost-effective**
  - ✓ **Flexible**
  - ✓ **Scalable**
  - ✓ **Secure**
- **Potential cost savings by moving "mid-tier" (distributed server) workloads to the mainframe, e.g., reduced floor space, power, cooling, networking costs, and software costs**
- **Future savings to CMS by leveraging the System z platforms that are available at the CMS Enterprise Data Centers to support "mid-tier" application hosting needs**

Return on Investment

Production Servers	Sun/Solaris	IBM/zLinux
condo021/e49l021p* * only 4 applications (ddx,iui,miir,qrep)	16 dual core CPUs 64 GB memory	7 IFLs 92 GB memory
condo046/e49l046p	16 dual core CPUs 64 GB memory	7 IFLs 92 GB memory
condo054/e49l054p* * condo054 retired	8 dual core CPUs 32 GB memory	7 IFLs 92 GB memory
condo124/e49l124p* * condo124 retired	16 dual core CPUs 64 GB memory	7 IFLs 92 GB memory
Total Resources	56 dual core CPUs (112 cores) 224 GB memory	7 IFLs 92 GB memory

Return on Investment – cont.

- **Reduced mid-tier hardware footprint**
- **Reduced software costs**
- **Enhanced disaster recovery capabilities**
- **Improved application performance**
  - DDX daily processing times reduced by approximately 3 hours
  - IUI nightly processing times reduced by approximately 2 hours
  - Q-Replication processing times for high volume quarterly and yearly activities reduced significantly
    - MA-PD MARx payment extensions (distributed platform 3 days; zLinux platform 0 days)