Extending Your Mainframe for More Business Value

Extend Your Investment in System z

Extend the Mainframe Like Never Before

It gets better…the System z10 is a new release of the mainframe.

It has *breakthrough* performance to deploy the extensions we have discussed.

So mainframe extension sounds like the strategy I need.

**Service Oriented Finance
CIO**

IBM

System z10 Vital Statistics

	System z9	*System z10*	
MIPS per processor	580	920	**60% more**
Maximum number of processors	54+10=64	64+13=77	**20% more**
Maximum MIPS per system	17,802	30,361	**70% more**
Clock-speed	1.7 GHz	4.4 GHz	**Compute-intensive tasks benefit ~ 2X**
I/O bandwidth	2.7 GBps	6.0 GBps	**122% more**
One MSU	7.3 MIPS	8.2 MIPS	**12% reduction in MLC price performance**
PVU's (IFL)	100	120	**32% reduction in OTC price performance**

Typical Banking Data Center Workload
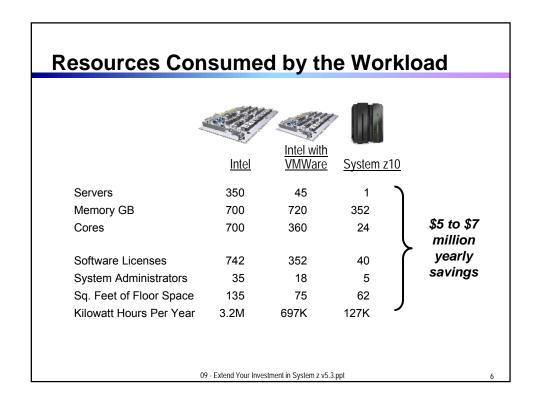
- **Banking by Telephone**
  - ▶ Interactive Voice Response (IVR)
    - − Voice XML with WebSphere Application Server
  - ▶ 50 transactions per second
    - − Each transaction is also logged to DB2 or Oracle
  - ▶ 24x7x365 availability required
- **Branch Transactions Sent to Backend Core Systems**
  - ▶ Message backbone with WebSphere MQ
  - ▶ Millions of messages per day
- **Workload is Separated by Function**
  - ▶ Production, development, quality assurance testing
- *Let's Consider the Cost of Hardware, Software, Labor, Power, Cooling and Floor Space Over 5 Year Timeframe*
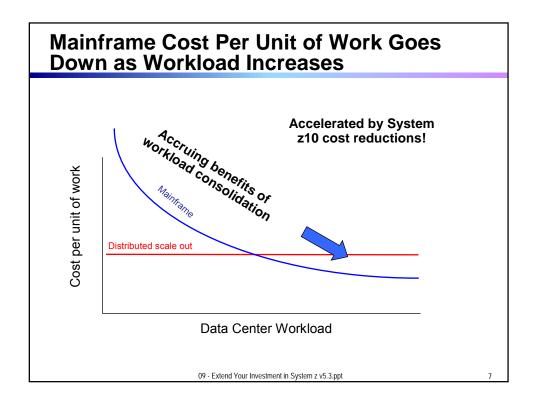
Three Choices to Run the Workload

Intel Servers	Intel Servers with VMWare	System z10 z/VM, Linux, IFL's
350 Intel Servers	45 Larger Intel Servers	1 System z10
2.8 GHz each	3.2 GHz each	24 IFL's 4.4 GHz
700 cores	360 cores	24 cores
2,464,650 rated capacity	1,263,555 rated capacity	14,238 MIPS
Low Utilization	Better Utilization	High Utilization

Resources Consumed by the Workload

	Intel	Intel with VMWare	System z10	
Servers	350	45	1	
Memory GB	700	720	352	
Cores	700	360	24	*$5 to $7 million yearly savings*
Software Licenses	742	352	40	
System Administrators	35	18	5	
Sq. Feet of Floor Space	135	75	62	
Kilowatt Hours Per Year	3.2M	697K	127K	

Mainframe Cost Per Unit of Work Goes Down as Workload Increases

Accelerated by System z10 cost reductions!

Cost per unit of work

Accruing benefits of workload consolidation

Mainframe

Distributed scale out

Data Center Workload

Remember This:

- Deploying a new application on System z will probably cost less if:

- **It is Incremental Workload on an existing system**

- **Specialty Engines can be used**

- **Disaster Recovery is required**

The Value of Mainframe Computing

☑ Extending mainframe core business systems is a strategy to constrain growth of IT costs

☑ Mainframes deliver superior qualities of continuous operations, rapid scale up, virtualization and security

☑ Consolidation saves money and simplifies operations

☑ Mainframes have a lower environmental impact

☑ Modern mainframes leverage the latest hardware and software technology for maximum business value

☑ Modern mainframe tools enable speed to value, flexibility, deployment, productivity and reduced cost

09 - Extend Your Investment in System z v5.3.ppt   10