Jump Starting Solution Deployments on Linux for zSeries

SHARE Long Beach - Session 9223
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IBM Patterns for e-business

- Business Patterns identify the interaction between users, businesses, and data. Business patterns are used to create simple, end-to-end e-business applications.
  - Business Patterns: Self-Service, Collaboration, Information Aggregation, Extended Enterprise

- Self-Service (User-to-Business) Pattern: Provides for direct interaction between interested parties (users) and a business. Interested parties include customers, Business Partners, stakeholders, employees, and all other individuals with whom the business intends to interact.
Application Topology for Self-Service Business Pattern

Directly Integrated Self-Service Pattern: Topology 2
## Requirements

<table>
<thead>
<tr>
<th>Requirement Type</th>
<th>Requirement Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solution Scope</td>
<td>Solution can be installed on a new or existing IBM eServer zSeries 800 or 900 (z800 or z900) machines that support Integrated Facility for Linux (IFL) engines.</td>
</tr>
<tr>
<td>Solution Environment</td>
<td>Solution workloads should be able to coexist on the same machine with existing legacy workloads and new Linux workloads for server consolidation.</td>
</tr>
<tr>
<td>Scalability</td>
<td>Solution should be able to scale for e-business workload to utilize zSeries resources, such as number of IFL engines</td>
</tr>
<tr>
<td></td>
<td>Solution in a basic topology should be able to scale &quot;horizontally&quot; (by adding more virtual servers) into a topology that supports Workload Management and High Availability.</td>
</tr>
<tr>
<td>Performance</td>
<td>Solution should utilize new zSeries technologies that provide high-performance networking among LPARs and virtual machines</td>
</tr>
<tr>
<td>Usability</td>
<td>Solution should help minimize deployment time</td>
</tr>
<tr>
<td></td>
<td>Solution should provide help in sizing the environment</td>
</tr>
<tr>
<td>Integration</td>
<td>Solution should help integrate new J2EE application with existing z/OS® applications</td>
</tr>
</tbody>
</table>
Solution Configurations

Topologies
- Internet and Intranet

Optional software
- DB2 Universal Database™
- DB2 and WebSphere MQ connectors to existing z/OS applications
- WebSphere MQ Server to communicate with MQ clients
- Tivoli Directory Server (LDAP)

Application server
- WebSphere Application Server or
- WebSphere Portal or
- both

High security level
- Optional use of Tivoli Access Manager for e-Business

Inter-application communication
- High performance communication to existing applications or DBs in other LPAR or other zSeries

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Internet Topology with TAMe on IBM eServer zSeries 9xx

Note: Connections between servers in the different LPARs, marked as will be implemented as HiperSockets

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Internet Topology on IBM eServer zSeries 800

Public Key Infrastructure

Domain Name Server

User

Internet

Outside World

Protocol Firewall

Internet DMZ

Domain Firewall

OSA

IBM HTTP server w. WAS Plug-In

WS Portal 5.0.2, incl. WAS EE 5.0.2, DB2 Connect 8.1, MQ client 5.3

IDS 5.2 (LDAP)

DB2 UDB 8.1

WAS 5.1, DB2 Connect 8.1, MQ client 5.3

IBM HTTP server w. WAS Plug-In

IBM HTTP server w. WAS Plug-In

Domain Name Server

Intranet

User

Company Intranet

Protocol Firewall

Intranet DMZ

Domain Firewall

Internal Network

MQ server 5.3

OSA

OSA

DB2

Legacy applications

MQ server

z/OS

S/390 or zSeries

z/VM

LPAR1 - Linux Workloads

IFLs

z800 Hardware

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Intranet Topology with TAMe on z9xx

Company Intranet

- Domain Name Server
- User

Intranet DMZ

- OSA
- WebSeal 5.1
- IBM HTTP server w. WAS Plug-in
- IBM HTTP server w. WAS Plug-in

Domain Firewall

Internal Network

- IDS 5.2 (LDAP)
- TAM Policy Server 5.1
- WAS 5.1, DB2 Connect 8.1, MQ client 5.3
- WS Portal 5.0.2, incl. WAS EE 5.0.2
- DB2 Connect 8.1, MQ client 5.3

MQ server 5.3

z/VM

- VS Virtualswitch

z/OS

LPAR1 - Linux Workloads

- IFLs
- z900 Hardware

LPAR2 - Legacy

- CPs

Note: Connections between servers in the different LPARs, marked as will be implemented as HiperSockets

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Intranet Topology on z9xx

Note: Connections between servers in the different LPARs, marked as will be implemented as HiperSockets

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Network Implementation of the Internet Topology on z9xx
VLAN-based Network Implementation of the Internet Topology on z9xx
## Memory and DASD Requirements

<table>
<thead>
<tr>
<th>Functional Node</th>
<th>SW Product</th>
<th>Required Memory (MB)</th>
<th>Recom. Memory (MB)</th>
<th>Recom. Memory (MB) - high load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Server redirector</td>
<td>IBM HTTP server</td>
<td>128</td>
<td>512</td>
<td>1024</td>
</tr>
<tr>
<td>Application Server</td>
<td>WAS 5.1</td>
<td>1024</td>
<td>1536</td>
<td>2048</td>
</tr>
<tr>
<td>LDAP (optional)</td>
<td>IBM Directory Server 5.1</td>
<td>256</td>
<td>512</td>
<td>512</td>
</tr>
<tr>
<td><strong>Total w/o DB2</strong></td>
<td></td>
<td><strong>1408</strong></td>
<td><strong>2560</strong></td>
<td><strong>3584</strong></td>
</tr>
<tr>
<td>Database server (optional)</td>
<td>DB2 UDB Enterprise Server Edition 8.1</td>
<td>256</td>
<td>512</td>
<td>1024</td>
</tr>
<tr>
<td><strong>Total with DB2</strong></td>
<td></td>
<td><strong>1664</strong></td>
<td><strong>3072</strong></td>
<td><strong>4608</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Server Node</th>
<th>Installed Software (MB)</th>
<th>Temporary files (GB)</th>
<th>User Application data (GB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTTP</td>
<td>50</td>
<td>1-6</td>
<td>1-7</td>
</tr>
<tr>
<td>WAS</td>
<td>350</td>
<td>1-6</td>
<td>1-7</td>
</tr>
<tr>
<td>LDAP (optional)</td>
<td>250</td>
<td>1-6</td>
<td>1-7</td>
</tr>
<tr>
<td>DB2 (optional)</td>
<td>250</td>
<td>1-6</td>
<td>10-200</td>
</tr>
<tr>
<td>Related Web pages</td>
<td>URL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
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<tr>
<td>IBM eServer Integrated Platform for e-business on zSeries*</td>
<td>ibm.com/servers/eserver/zseries/linux/integrated/</td>
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* From the zSeries page you can get to the Resource Link pages

** The IBM eServer Integrated Platform for e-business landing page takes you to the Web pages for all IBM eServer brands
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