MS SQL Solution on HPE SimpliVity

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How do you balance the needs of your can’t-fail applications?
## Infrastructure requirements

Choosing the right platform for your core, mission-critical workloads

### for your SQL Server database

<table>
<thead>
<tr>
<th>Scalability</th>
<th>Performance</th>
<th>Availability</th>
<th>TCO</th>
<th>SQL Server Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>− Consolidate complex workloads</td>
<td>− Speed for the most complex workloads</td>
<td>− Always-on for continuous business services</td>
<td>− OPEX saving to invest in innovation</td>
<td>− End-to-end service &amp; consulting</td>
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<tr>
<td>− Support for large in-memory databases</td>
<td>− Efficiency &amp; agility to respond to customer inquiries</td>
<td>− Protect valuable enterprise data</td>
<td>− Hardware &amp; Software standardization</td>
<td>− Need assessment</td>
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<tr>
<td>− Expand the compute resource as business growth</td>
<td>− Real-time business decision support</td>
<td>− Eliminate planned and minimize unplanned downtime to ensure customer access</td>
<td>− Quick time-to-revenue</td>
<td>− Workload sizing</td>
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<td>− Flexibility to mix OLAP &amp; OLTP</td>
<td></td>
<td></td>
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<td>− Performance tuning</td>
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</tbody>
</table>
What can HPE SimpliVity hyperconvergence do for you?

Reduce IT costs and streamline operations

- 69% cost savings compared to traditional IT infrastructure (Forrester Consulting)
- 10:1 device reduction (Forrester Consulting)
- 55% of customers using HPE SimpliVity built-in data protection retired existing third-party backup or replication (IDC)

Improve agility and time to production

- 91% increase in time available to spend on new projects (IDC)
- Rapid scaling to 1,000 VMs with peak and predictable performance (ESG)
- One hour to provision eight-node cluster (ESG)

Maximize uptime and prevent data loss

- 82% of customers improved backup and recovery as primary challenge (IDC)
- 57% of customers reduced recovery time from days or hours to minutes (TechValidate)
- 57% improvement in backup/recovery and DR reported by HPE SimpliVity customers (IDC)
SQL server 2017 Performance

Scale-up Results

Batch Requests/Sec

<table>
<thead>
<tr>
<th>VM Size</th>
<th>Batch Requests/Sec</th>
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<tbody>
<tr>
<td>2 vCPU/16GB RAM</td>
<td>200</td>
</tr>
<tr>
<td>4 vCPU/32GB RAM</td>
<td>400</td>
</tr>
<tr>
<td>8 vCPU/64GB RAM</td>
<td>800</td>
</tr>
<tr>
<td>16 vCPU/128GB RAM</td>
<td>1600</td>
</tr>
<tr>
<td>32 vCPU/256GB RAM</td>
<td>3200</td>
</tr>
</tbody>
</table>
SQL server 2017 Performance

Scale-Out Results

Batch Requests/sec

Nodes in SimpliVity Federation

2+2

4+4
SQL Server Backup and DR
Microsoft SQL Server Pre-production using SimpliVity Clone
Microsoft SQL Server Disaster recovery with RapidDR
SimpliVity for Microsoft SQL Server AlwaysOn Availability Groups

1. Best Practices for three Availability Groups architectures:
   A. High Availability (Synchronous)
   B. Disaster Recovery (Asynchronous)
   C. High Availability with Disaster Recovery

2. Accelerate failovers and minimize service disruptions for mission-critical applications

3. Mitigate service disruptions at the database level in the event of disasters or outages

4. Simplify failover and failback processes in multi-subnet environments
Prod/Test/Dev Operational Workflow for SQL server on SimpliVity
Remote backup, restore and cloning allows rapid provisioning of dev/test landscapes

2. SQL 2014 Reference Architecture:

3. SQL AlwaysOn Availability Group White Paper:

4. Videos for App Consistent Backups:
   https://hpe-my.sharepoint.com/:f:/p/prashanto_kochavara/ElDngj3kl8BFuG2cikVwMfwB2HsYplgcAk9XmI5D16y5ig?e=9T3CPZ
Thank you

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