

# FlexPod®

## Keep Your Business Applications Running

### FlexPod Datacenter with Microsoft SQL Server 2014 AlwaysOn Technology

#### Keeping Pace in a Nonstop Business Environment

In today's competitive environment, nonstop access to applications is critical to success. That's why many organizations use FlexPod Datacenter running Microsoft SQL Server AlwaysOn software. With this innovative solution, you can help ensure that your online transaction processing (OLTP) and other business applications continue to run, and that you can stay ahead of your competitors.

#### Accelerate Deployment with an Integrated Infrastructure Approach

Preconfigured infrastructure reduces the complexity of your business application environments. Tested, validated, and documented through a Cisco® Validated Design, the solution reduces risk and guesswork by giving your architects and administrators a guidebook for implementing the solution. By following the guidelines in this Cisco Validated Design, you can

create highly available application infrastructure that protects against compromise while delivering a simplified, standardized, and trusted approach for the use and management of your IT resources.

The solution uses the FlexPod Datacenter platform based on Cisco Unified Computing System™ (Cisco UCS®) Integrated Infrastructure. It combines Cisco UCS B200 M4 Blade Servers, Cisco Nexus® 9000 Series Switches, next-generation NetApp E-Series SAN storage systems, NetApp FAS8000 Series storage systems, and Microsoft SQL Server AlwaysOn software. You can run your business applications with confidence on a highly available infrastructure that supports near-site disaster recovery and is easy to deploy and manage.

#### Reduce Unplanned Downtime

The solution is clustered and can be configured with integrated data protection software to provide

fast recovery from system, site, and regional outages for business continuity. The combination of Microsoft SQL Server AlwaysOn software and NetApp SnapMirror technologies with Cisco UCS Manager offers automated monitoring and failover as well as cost-effective replication to a secondary site for continuous protection against unplanned downtime.

The underlying infrastructure is redundant to enhance the flexibility and availability of the solution. All hardware and software components, including network switches and physical and virtual PortChannels, can be failed over to help ensure that data traffic continues if a networking component becomes inaccessible.

#### Optimize Availability

Whether you need to add more IT resources or modify your configuration, keeping applications running during maintenance activities is a necessity. Using Cisco



UCS service profiles, your IT staff can move virtual server and storage resources and data nondisruptively across hardware to reduce planned downtime. Microsoft SQL Server configurations can be replicated easily and accurately because all characteristics—server identity, personality, and I/O connectivity—can be applied automatically to reduce downtime.

As demand changes, you can expand your environment to make more database workloads and business applications available to your users. You can purchase exactly the infrastructure you need today and scale up (by adding more resources to the FlexPod system) or scale out (by adding more FlexPod instances to your database and application infrastructure).

#### Make Data Accessible

Whether your deployment is large or small, it is important for your data to be available when you need it. The solution configures storage resources to optimize database server performance. And you can use data acceleration technologies such as flash drives to improve data-access performance.

You can use NetApp E5500 SAN storage arrays to deliver a high rate of database I/O operations per second (IOPS) in a high-density storage configuration. High-speed continuous data access and modular flexibility allow you to easily customize configurations with support for multiple types of disk drives and SAN network interfaces.

As your storage capacity and performance requirements increase, you can incorporate NetApp FAS8020 storage arrays into the environment. With a unified scale-out storage architecture and with NetApp Clustered Data ONTAP, you can scale your cluster configuration to 24 nodes with nondisruptive data migration activities. With the solution's support for many types of flash storage, hard disk drives, and interface cards, you can use the right storage in the right place to meet your capacity and performance requirements.

#### Lower Total Cost of Ownership

Economic factors continue to force IT departments to find ways to deploy more cost-effective infrastructure. FlexPod solutions based on Cisco UCS Integrated Infrastructure can help you build a robust and redundant environment that gets more work done with the same (or fewer) resources. With these innovative solutions, your IT staff can run more database workloads and business applications on fewer servers so there are fewer components to buy and manage. These solutions can also reduce cabling, power, and cooling requirements and automate routine tasks to increase productivity.

#### Rely on Cooperative Support

NetApp and Cisco offer a cooperative support model that takes advantage of the combined experience, resources, and technical support expertise of NetApp and Cisco experts. You

#### Solution Fast Facts

##### FlexPod

Jointly delivered by Cisco and NetApp, FlexPod is a ready-to-use platform that has been validated by Microsoft to run Microsoft SQL Server with AlwaysOn technology.

##### Business and IT Benefits

- Take the guesswork out of deployments with pretested and validated solutions for Microsoft SQL Server.
- Deploy highly available infrastructure to keep systems and applications running.
- Lower TCO by getting more work done with the same (or fewer) resources.
- Rely on cooperative support from Cisco and Microsoft to resolve issues and keep your systems and business running.

have access to a simplified process for identifying and resolving FlexPod problems, regardless of where a problem resides.

#### Conclusion

For your IT department to remain relevant to your lines of business, it must deliver reliable systems. With FlexPod Datacenter with Microsoft SQL Server 2014 AlwaysOn technology, you can deploy a highly available solution with near-site disaster recovery capabilities. Let Cisco and NetApp help you build the IT foundation you need to keep your services and business running.

#### For More Information

Read the [FlexPod Datacenter with Microsoft SQL Server 2014 High-Availability](#) design guide.

To learn more about Cisco UCS, visit <http://www.cisco.com/go/ucs>.

To learn more about FlexPod, visit <http://www.netapp.com/flexpod>.

