Be more resilient and drive innovation

Minimize disruption to mission critical systems and proceed with confidence



Design and operate mission-critical systems with confidence.



Single VMLocally Redundant Storage (LRS)*

Improve the availability of **single-instance VMs** by using premium/ultra disks to qualify for an availability SLA.





Local redundancies

Locally Redundant Storage (LRS) with Azure Managed Disks*

Protect against failures with redundancy **within a single datacenter** in the event of hardware malfunctions or software update cycles.





Zonal redundancies

Zone-Redundant Storage (ZRS)

Protect against datacenter failures through redundancy within a single region in the event of power, cooling, or networking issues.





Regional redundancies

Geo-Redundant Storage (GRS)*

Protect against entire-region failures with redundancy **beyond a single region** in the event of a tornado, earthquake, or other large-scale disaster.





Many applications do not need 100% high availability; being aware of this at the beginning of planning can help to optimize costs during non-critical periods.

Design your recovery strategy to protect against zonal, regional, and application-level failure. The following checklist covers the scope of resiliency planning.



Define your resiliency requirements based on business needs.



Design for resiliency. Start with an architecture that follows proven practices and then identify the possible failure points.



Implement strategies to detect and recover from failures.



Test the implementation by simulating faults and triggering forced failovers.



repeatable process.

Monitor the application to detect failures. By monitoring

Deploy the application into production using a reliable and



the system, you can gauge the health of the application and respond to incidents if necessary.

Respond if there are failures that require manual interventions.



Take advantage of built-in features.



High availabilityMaintain acceptable continuous

performance despite temporary failure in services, hardware, or datacenters—as well as fluctuation in load—using Azure Availability Zones and availability sets.



Disaster recoveryProtect against the

Protect against the loss of an entire region through asynchronous replication for failover of virtual machines and data using services like geo-redundant storage and Azure Site Recovery.



Backup and restore

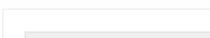
Replicate virtual machines and data to one or more regions using Azure Backup, and conduct self-service recoveries of Azure VMs or disks from a secondary region during an outage.

Cloud services are a shared responsibility.

IaaS, the cloud service provider is responsible for the core infrastructure resiliency, including storage, networking, and compute. As you move from IaaS to PaaS and then to SaaS, you'll find that you're responsible for less and the cloud service provider is responsible for more.

Managed by customer

In the traditional on-premises model, the entire responsibility of managing falls on you. With



Managed by vendor

On-premises	Infrastructure (laaS)	Platform (PaaS)	Software (SaaS)
Applications	Applications	Applications	Applications
Data	Data	Data	Data
Runtime	Runtime	Runtime	Runtime
Middleware	Middleware	Middleware	Middleware
O/S	O/S	O/S	O/S
√isualization	Visualization	Visualization	Visualization
Servers	Servers	Servers	Servers
Storage	Storage	Storage	Storage
Networking	Networking	Networking	Networking