BESPIN GLOBAL

Azure Architecture Resiliency Assessment & Migration

bespinglobal.ae

800 BESPIN (237746)
info@bespinglobal.ae

Agenda

- UAE Region Availability Zones General Availability
- Azure Availability Zones Overview
- Why Migrating to Availability Zones?
- Azure Multi-AZ Migration Methodology
- Assessment Sample Risk Score Card
- Sample Migration Plan
- Assessment Report
- Assumptions and Prerequisites

◎ UAE Region Availability Zones Announcement

Generally available: UAE North Availability Zones

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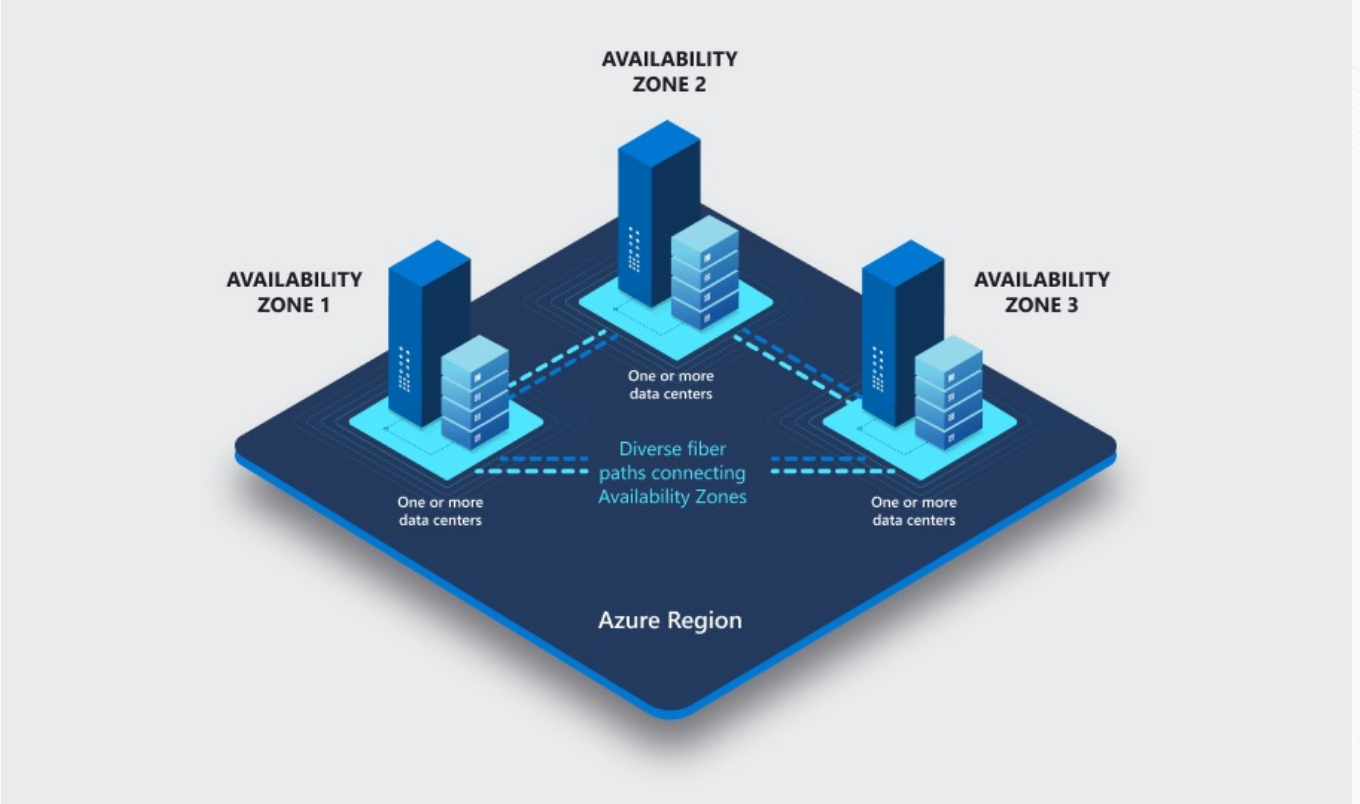
Availability Zones in UAE North are made up of three unique physically separated locations or “zones” within a single region to bring higher availability and asynchronous replication across Azure regions for disaster recovery protection.

Availability Zones give you additional options for high availability for your most demanding applications and services as well as confidence and protection from potential hardware and software failures by providing three or more unique physical locations within an Azure region.

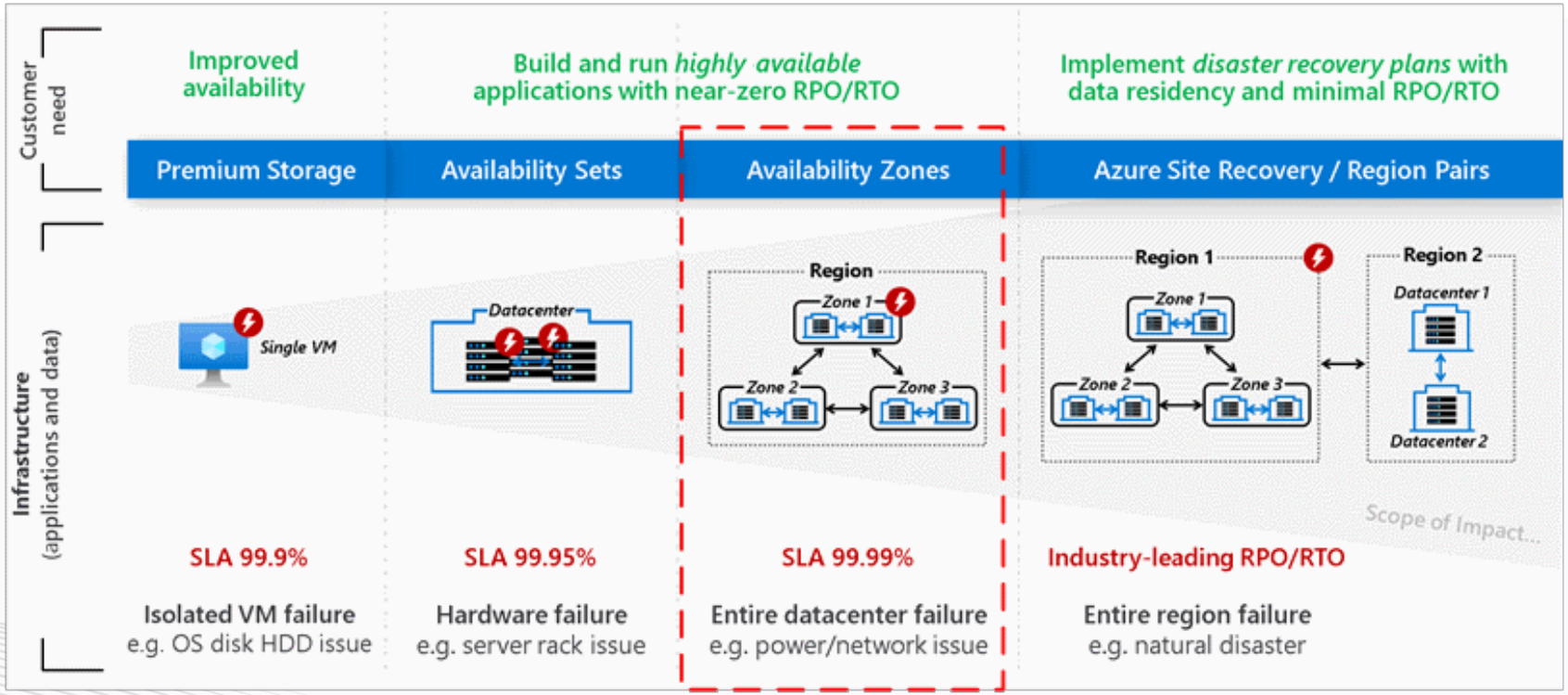
◎ Azure Availability Zones Overview

Azure availability zones are **physically separate locations** within an Azure Region

- Each zone comprises of **two or more datacenters** equipped with independent cooling, power and networking.
- **Latency** between the zones is less than 2ms.
- If one zone went **down** the regional services will be carried out by the remaining two zones.
- Availability Zones brings RPO and RTO to near zero



◎ Why Migrating from Single to Multi-AZ?



- Increase application resiliency
- Increase service reliability
- Increase data fault tolerance

- Higher service SLA
- Higher service availability
- Automatic transitioning of services between zones.

◎ Bespin Azure Resiliency Migration Methodology

Discovery: Gather information about the customer's current Azure cloud environment, including the customer's disaster recovery and failover strategies.

Analysis: Evaluate the customer's current resiliency capabilities, including availability, disaster recovery, and failover. Identify any gaps or areas for improvement and create risk score cards for eligible services, SLA.

Short/Long Term Recommendations: to improve the customer's resiliency capabilities. Prioritized based on risk, business requirements, and technology limitations

Planning: a detailed implementation plan outlining the steps that will be taken to implement the recommendations, including timelines, resource requirements, key milestones and cost to move to Multi-AZ

Implementation: working with the customer technical team to migrate the services to Multi-AZ with minimum downtime and risk

◎ Sample of the Assessed Services

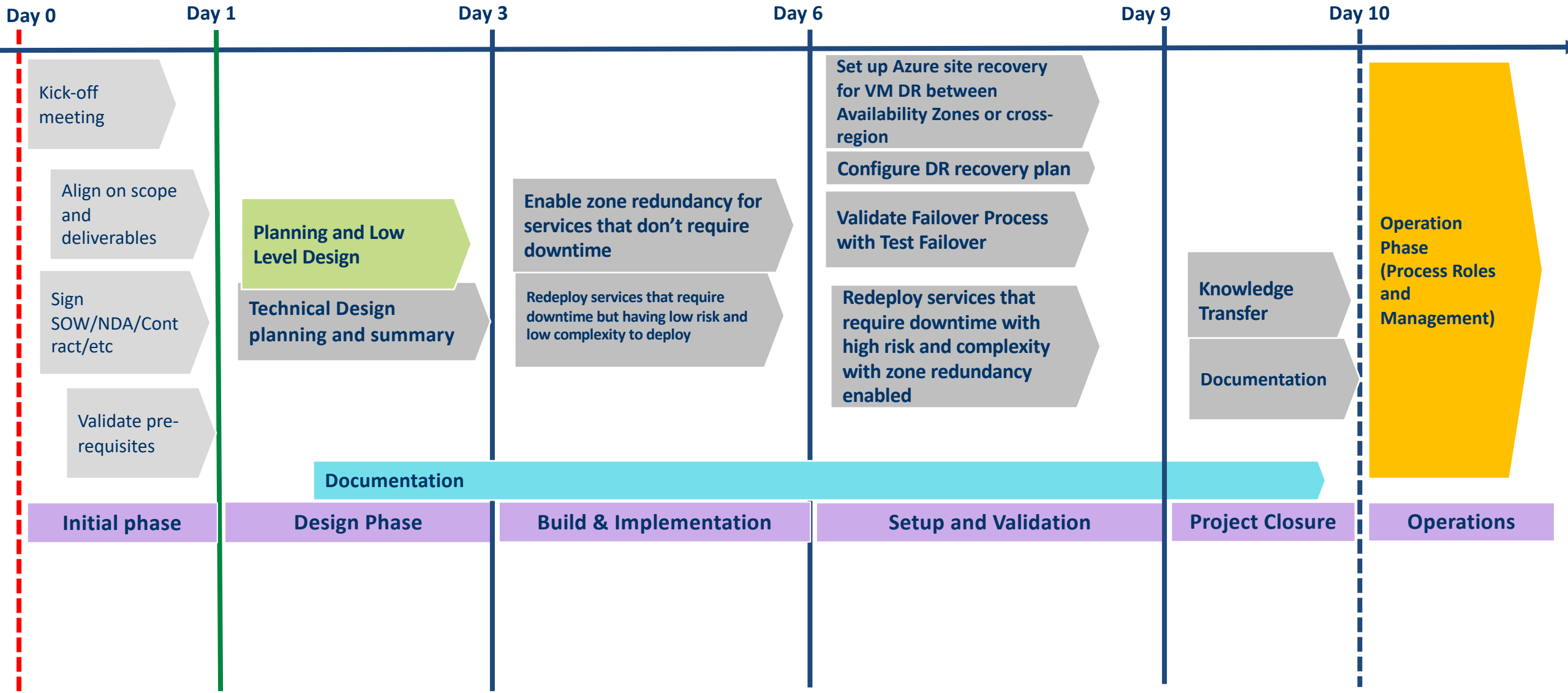
SN	Service Name	Service Type	Zone Redundant by Default	Supports Zone Redundancy	Requires Downtime	Current SLA	Expected SLA	Current Monthly Cost	Expected Monthly Cost After Av. Zones
1	AFW-Hub	Azure Firewall	No	Yes	Yes	99.95%	99.99%	$1,277.50	*$1,277.50+
2	AGW-PER-AEN	Azure Application Gateway	No	Yes	Yes	99.95%	99.99%	$485.37	**$485.37+
3	PIP-AFW-HUB	Public IP	No	Yes	Yes	99.95%	99.99%	$2.63	$3.65
4	VM-CA-PRD-1	Virtual Machine	No	Yes	Yes	99.95%	99.99%	$309.52	$309.52
5	SQL-DB-AD-01	SQL Database	No	Yes	No	99.99%	99.995%	$445.62	$627.96
6	KV-AFW-HUB	Key Vault	Yes	NA	NA	99.99%	NA	$82.99	NA
7	VNET-BKD-SA1	Virtual Network	Yes	NA	NA	NA	NA	NA	NA

* There's no extra cost for a firewall deployed in more than one Availability Zone. However, there are added costs for inbound and outbound data transfers associated with Availability Zones.

◎ Sample Risk Score Card

SN	Service Name	Service Type	Risk	Complexity	Migration Action
1	AFW-Hub	Azure Firewall	High	Low	Downtime required - Delete and redeploy firewall
2	AGW-PER-AEN	Azure Application Gateway	High	High	Delete and redeploy application gateway
3	PIP-AFW-HUB	Public IP	High	Low	Redeploy with zone redundant option
4	VM-CA-PRD-1	Virtual Machine	Medium	Medium	VM will be replicated from one zone to another zone Using Azure Site Recovery service. Migration Option 2: Azure Resource Mover
5	SQL-DB-AD-01	SQL Database	Low	Low	Enable database zone redundant

Resiliency Improvement Roadmap



◎ Assessment Deliverables - Report

We will provide an assessment **report** that contains the following:

- Executive summary: A brief overview of the assessment, including the scope, objectives, key findings and services that support availability zones in UAE.
- Current state assessment: A detailed analysis of the customer's current Azure cloud architecture and its resiliency capabilities, including an evaluation of all Azure Infra, Azure Security and Azure Apps resiliency, as well as the customer's disaster recovery and failover strategies.
- Risk score card showing the service criticality, complexity and downtime requirements for migrating each eligible service
- Recommendations: Based on the current state assessment, the report will provide a set of recommendations for how to improve the customer's resiliency capabilities and alternate solutions for services that doesn't support zone redundancy.
- Implementation plan: A detailed plan outlining the steps that will be taken to implement the recommendations, including timelines, resource requirements, and key milestones.

◎ Assessment Prerequisites and Assumptions

- This assessment touches the customer's Azure environment only and doesn't include assessment of on-premises environments
- We need **read-only access** on customer's Azure environment
- Understand customer's **RPO** and **RTO** requirements
- Understand customers current architecture and **resiliency strategy**
- Assessment will cover all resources currently hosted on Azure whether it is **infrastructure**, **security** or **apps** related
- Understand the **downtime** requirements to migrate each resource from single to multi-AZ
- Assessment will identify any **gaps**, **risks** or **limitations** that could prevent achieving the required resiliency
- Extensive **workshops** with the customer's architecture team to agree on the best options to implement the recommendations

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info@bespinglobal.ae