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Accelerate Growth on Cloud

Disaster Recovery Offerings

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Understanding Disaster Recovery

What is Disaster Recovery (DR)	Disaster recovery is an organization’s method of regaining access and functionality to its IT infrastructure after events like a natural disaster, cyber attack, or even business disruptions.
Why DR is Required	Organizations can’t always avoid disasters, however having disaster recovery plans and the preventative measures they include are essential for minimizing potential damage and enable uninterrupted business continuity.

Disaster Recovery – Key Threats and Risk

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Threats

- Natural Disaster (Hurricane, tornado, Nor'easter, etc.)
- Hardware Failure
- Software Corruption
- Social Engineering Attack
- Disgruntled Employee (Data Deletion, Corporate Espionage Activities, etc.)
- Human Error
- Hacking – Stolen Confidential Information
- Malicious software (Trojans, ransomware, etc.)

Risk

- Lack of a disaster recovery plan
- Inappropriate data center location
- Inadequate resources and lack of testing
- High costs of DR technology
- Slow response and recovery time

Disaster Recovery – Key Findings

60% of organizations do not have fully documented disaster recovery plans	And even for those who have a disaster recovery plan, 40% admit that it is not effective	96% of business experienced an outage in a 3-year period
Just 45% of businesses consider their security budget adequate	2 of 3 midsize businesses suffered Ransomware attack in past 18 months	33% of folders are not protected in any way
28% of data breaches involve malware	82% of breaches involve human error	85% rise in dark web data dumps
Ransomware attacks cause an average of 16.2 days of downtime	97% of data is recovered after a ransomware attack	The average cost of downtime is $1,410 per minute

Disaster Recovery Program Life Cycle Phases

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Program Development and Governance

- Organizational Alignment : Ensure interlock with BCM
- Ensure Stakeholders Understand a DR Program Requires More Than Recovery Plans
- Roles and Responsibilities.

Recovery Requirements

- Risk Scenarios: Focus on Loss Categories Rather Than Specific Event Triggers
- Application Recovery Tiering: Create a Business-Function-Aligned RTO/RPO Matrix

Risk Mitigation and Recovery Strategies

- Strategy Document: Formally Ensure Executive Alignment on Scope; Recovery Posture; Crawl, Walk, Run Roadmap; and Resource Requirements
- Automation and Process Integration: Take an Aggressive Stance
- Vetting Solution and Sourcing Options

Recovery Solutions and Plan Development

- Detailed DR plan
- Number of Plans: Develop Several (Not Just One)

Plan Exercises and Staff Training and Awareness

- Documentation: Centralize and Manage Access Controls
- Contact Details: Include Core DR Program and Secondary/Tertiary Members
- Exercises: Focus on Strengthening the Program — Not on Pass/Fail

Program Maintenance and Management

- Address Capability Gaps: Drive, Measure, Assess and Summarize Opportunities for Improvement for Existing Scope
- Bolster Program's Value: Engage Others and Expand Scope
- Executive Reviews: Go Beyond "Disaster Recovery Theater" and Seize Opportunities

Disaster Recovery – Pillars

Disaster Recovery – Types

Cold DR	Warm DR	Hot DR
DR solution setup by copying data snapshots from primary to secondary region and have all tiers of the app in a shutdown mode	HA Solution setup via inbuilt clustering / replication with app infra running in a scaled down mode to have DR environment ready	HA Solution setup via inbuilt clustering / replication with app infra running on full scale to serve active-active / active-passive user traffic
RPO: < ~ 8 hour - 1 day RTO: ~ 8 hour - 1 day MAINTENANCE: Low COST: Low	RPO: < 1 hour RTO: < 1 hour MAINTENANCE: High COST: Medium	RPO: < 5 min RTO: < 5 min MAINTENANCE: High COST: High

Blazeclan Disaster Recovery Offering

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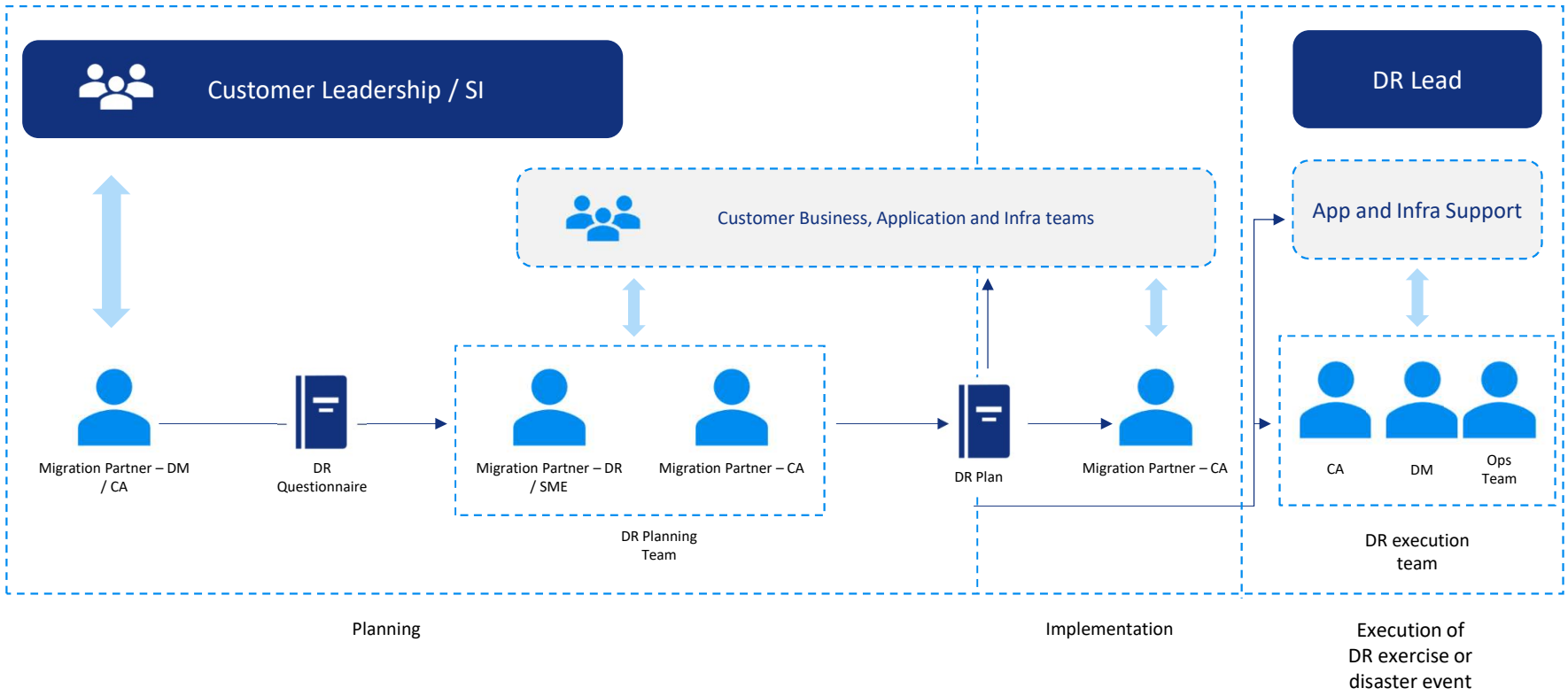
Disaster Recovery plan & runbook	DR setup & Implementation (Infrastructure)	Failover Test	DR Exercise / Testing
■ Consulting on best approach for disaster recovery ■ Create Disaster Recovery plan ■ Target architecture design on Azure	■ Setup DR environment as per approved architecture design ■ Setup DR tool as per requirement (Cloud Native/Third Party) ■ Configure Storage and Network workloads as per DR requirements ■ Setup and validate connectivity between DC and DR ■ Setup replication of data layer	■ Select application for Failover test ■ Start data replication for data layer ■ Setup recovery plan ■ Conduct Failover test for data layer ■ Validate VM in Azure ■ Calculate RTO and RPO ■ Scale data replication for data layer ■ Setup and configure recovery plan for each scenario	■ Identify DR scenarios for DR Drill ■ Preparation for DR drill with set of machines ■ Support App/infra team stakeholders for DR Drill preparation ■ Execute DR drill with complete switchover ■ Record learning and update DR Plan

Disaster Recovery – Workflow

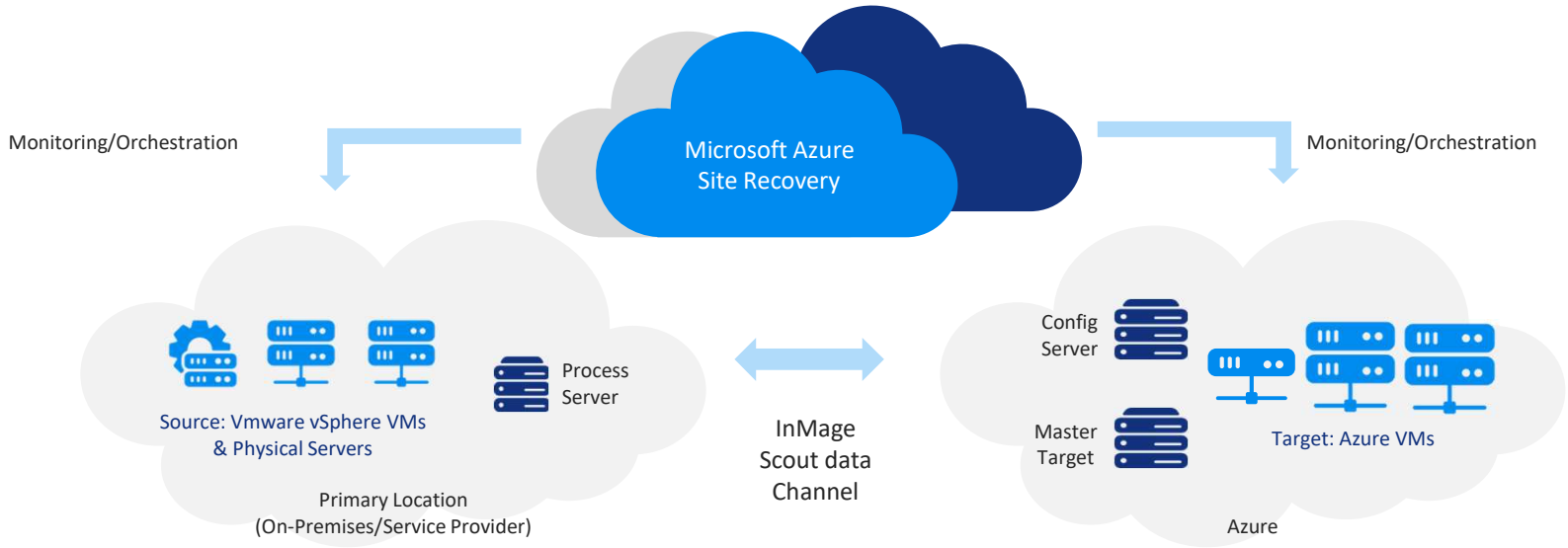


Disaster Recovery Tools Landscape

Tools	Azure
Disaster Recovery Service	Azure Site Recovery
Cross region backup & restore	Azure Backup
Traffic routing via DNS	Azure Traffic Manager
RDBMS - Global Database	MS-SQL
NoSQL - Global Database	Cosmos DB

Azure Site Recovery

Azure Site Recovery (ASR) is Azure's DRaaS for cloud and hybrid cloud architectures

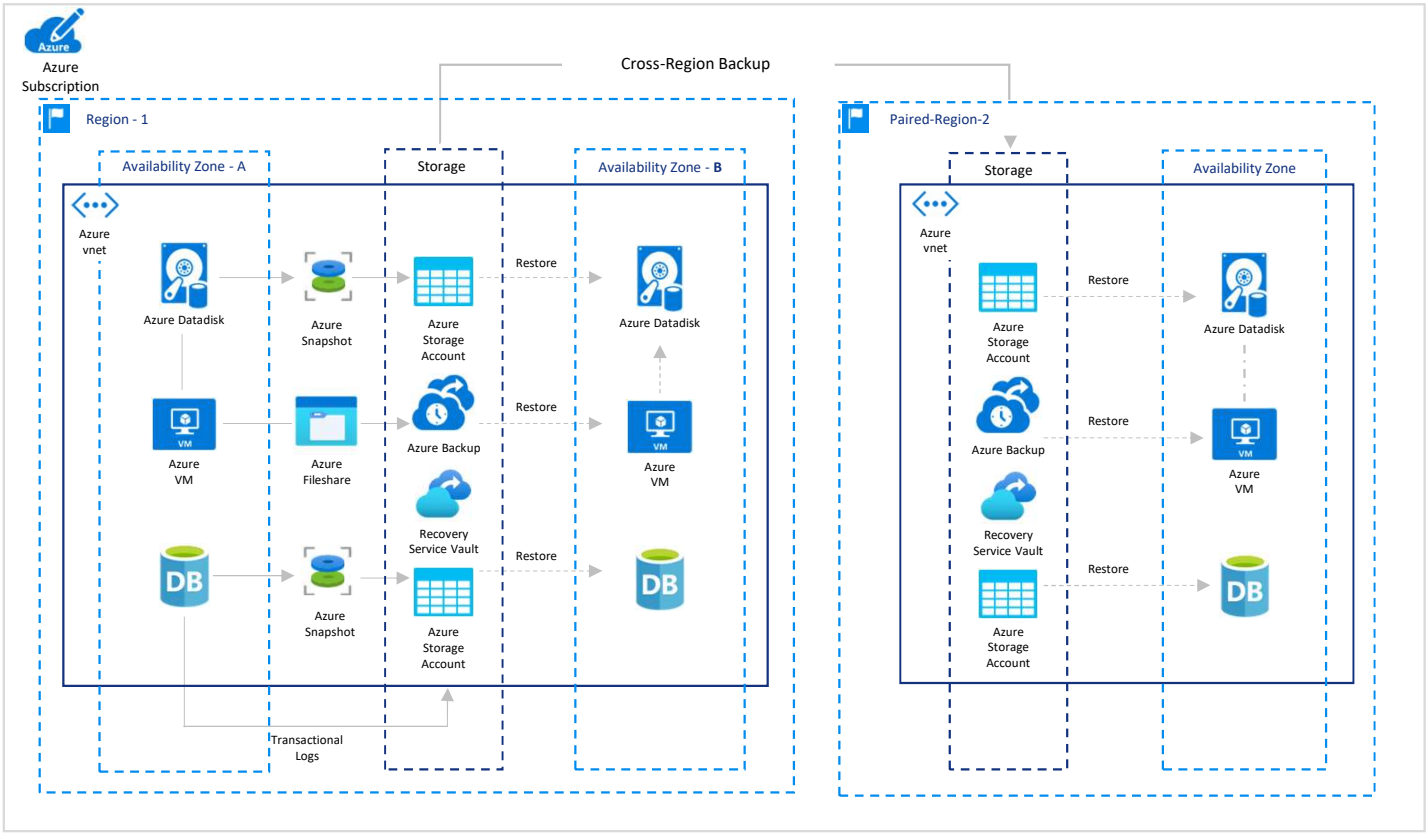


Process Server – Used for Caching Compression & Encryption

Config Server – Used for Centralized Management of InMage Scout

Master Target – Used as a repository & for retention

Disaster Recovery: (Azure) – Reference Architecture



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