Adastra App / Infra Modernization Overview

Unlock Your Cloud Potential through Adastra's Azure Modernization Assessment Package

Kevin Harmer

Adastra Overview

Solutions & Service

MODERN ARCHITECTURE

Enterprise Architecture
Cloud Architecture
Cloud Computing
Data Lake
Data Engineering
Managed Services

DATA MANAGEMENT

Data Governance
Data Quality
Master Data Mgmt
Reference Data Mgmt
Meta Data Mgmt
Data Lineage
Privacy & Security
Cybersecurity

ANALYTICS

Business Intelligence
Visualization
Machine Learning
Artificial Intelligence
Natural Language Processing
RPA & IPA
Simulation & Optimization

APPLICATION DEVELOPMENT

Software Factory
Mobile Apps
UX/UI
Solution Development

Adastra delivers **industry-leading** solutions & services across the **data & digital** spectrum.

Adastra's Global Presence

Adastra Offices

CANADA
Toronto
Calgary
Ottawa
Vancouver
Montreal

UNITED STATES
Los Angeles
Miami
New York

AUSTRIA/ SLOVAKIA
Bratislava

CZECH REPUBLIC
Prague

GERMANY
Frankfurt
Wolfsburg
Hanover
Munich
Magdeburg
Darmstadt

BULGARIA
Sofia
Varna
Plovdiv

GREECE
Thessaloniki

THAILAND
Bangkok
Chiang Mai

Countries where we have delivered projects

8
Countries

22
Offices

500+
Customers

2,200+
Professionals

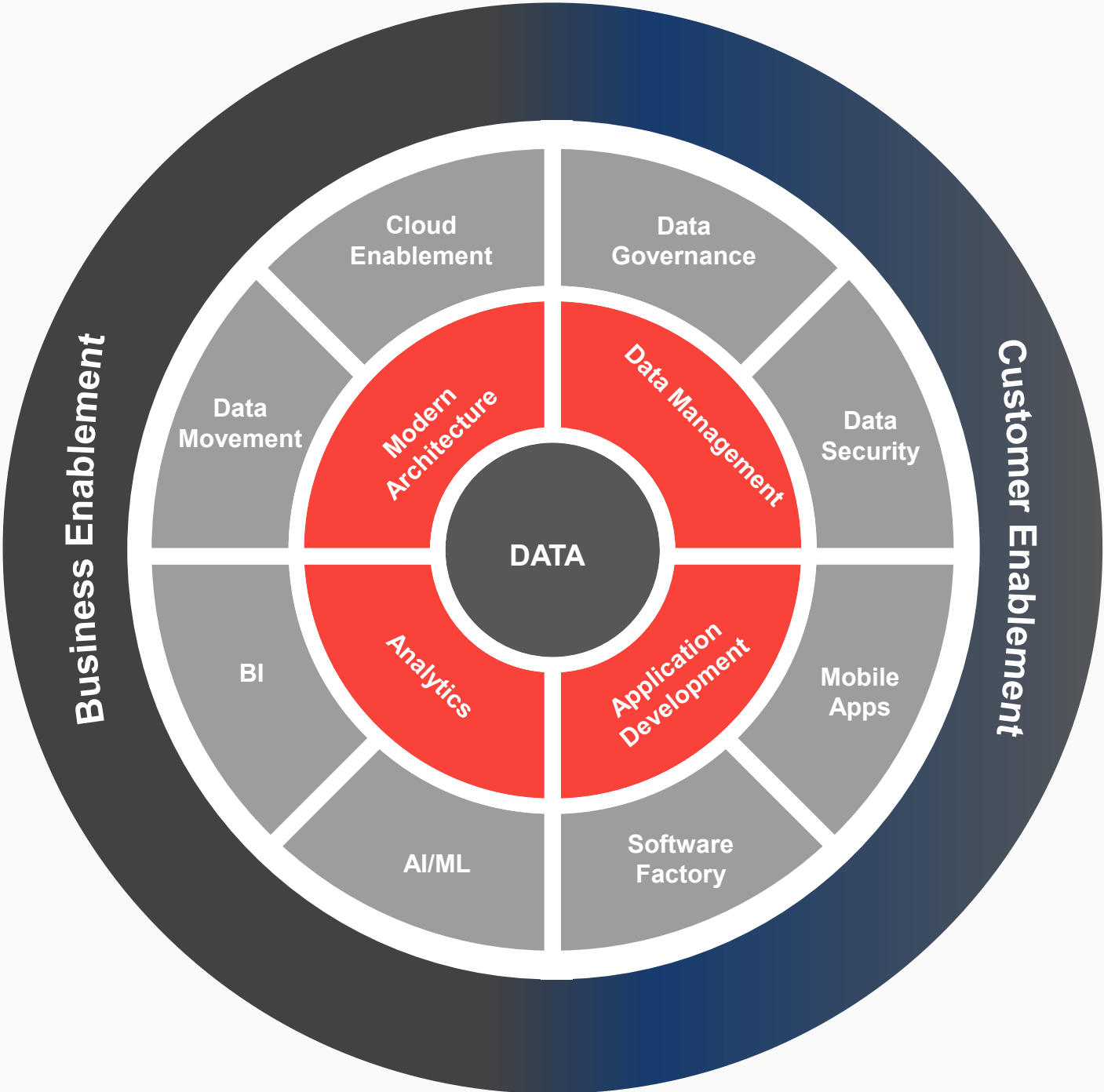**40+**
Countries where we have delivered projects

20+
Languages supported

ADASTRA'S Superpowers

Data is the heartbeat of every organization - it brings strategy to life and enables great customer experiences.

For over 20 years, Adastra has been driving our customers forward leveraging Data & AI as a guiding light and business enabler.

Adastra: #1 Data / AI Partner

Microsoft Impact Awards Won: Analytics, AI, Data Platform Modernization, Financial Services, Manufacturing, Commercial
Microsoft Impact Awards Runner-Up: Partner of the Year, Global Analytics, Global Power BI, Migration, Customer Journey

Ability to Scale

With over 2500 GLOBAL staff, 500 CDN staff, and 500 Azure and Power Platform specialists, Adastra is ready to scale

Complete Stack Delivery

Azure Infrastructure, Azure App Dev, Azure BizApps (O365 / D365), Azure BI Analytics, Azure Big Data, Azure Data Science, and Power Platform

Proven Success

Adastra has the best record in Canada, successfully driving customer Azure adoption / ROI for over 200 organizations in the last two years

Agility

Adastra delivers for customers of all sizes: from SMC to Enterprise

Best Shore Delivery

Adastra's best shore delivery model ensures top global experts can be applied to any project and provides offshore economies of scale for heavy lift tasks, with global teams working in partnership with our on-location experts.
Adastra offers global 24 / 7 delivery and support, through our NA, EUR, and ASIA teams.

Adastra's Deep Microsoft Partnership

Microsoft Solutions Partner
Data & AI
Azure

Specialist
Windows Server and SQL Server
   Migration
Analytics

Microsoft Solutions Partner
Infrastructure
Azure

Specialist
Windows Server and SQL Server
   Migration

Microsoft Solutions Partner
Digital & App Innovation
Azure

Specialist
Low Code Application
   Development

Microsoft Solutions Partner
Business Applications

Specialist
Low Code Application
   Development

Adastra: Go-To Partner for Data & AI

- **10x** Impact Award Winner

- **12x** Impact Award Runner-Up

- **2x** Global Impact Award Runner-Up

- Advanced Specialization for   Azure Analytics

- Advanced Specialization for Azure Migration

- Azure Migration Factory Partner

- Microsoft Fabric 50 Partner

- Product Team Collaboration Partner across Fabric / Databricks / Synapse / Purview products

Adastra Azure Specializations

AZURE FOUNDATION

cloud adoption framework, well architected framework, tenant design, resource naming, service tag approach, network architecture, governance design, tco analysis, hybrid network implementation, devops integration, azure foundation implementation, iac automation, …

AZURE APP / MIGRATION

app / data assessment, app / data decisioning (lift / shift vs modernize), app / data architecture, api architecture, microservices architecture, app/ data security design, migration roadmap, migration execution, iac pipelines, devops integration, …

AZURE SECURITY

security assessment, identity strategy, role based access, secrets management, encryption, data loss protection, api management, private zone configuration, siem / soar integration, policy enforcement, security implementation …

AZURE ANALYTICS

analytics assessment, analytics architecture, analytics roadmap, data zoning, enterprise model design (kimball, inmon, data vault), ETL data pipelines, persona enablement, citizen report development, trusted data as a service, …

AZURE BIG DATA

big data assessment, data lake design, Hadoop integration, PySpark data engineering, ELT pipelines, spark delta lake, spark streaming, serverless compute, devops integration, …

AZURE AI / ML

advanced analytics assessment, cognitive service integration, r&d model training / testing, mlops implementation, ai / ml pipelines, data science workbench automation, devops integration, …

POWER PLATFORM

citizen development assessment, power platform governance, roles / responsibilities, environment strategy, CoE kit, canvas / model apps, power automate flows, power automate rpa, power platform dataverse, power bi datasets / reports, …

AZURE DATA GOVERNANCE

data governance assessment, data catalog, data classification, data sensitivity, data use governance, data privacy, data lineage, master data management, data quality management, reference data management, …

AZURE INTEGRATION PAAS

integration paas assessment, api management, logic workflows, service bus management, event grid distribution, peer to peer patterns, pubsub patterns, managed file transfers, iot telemetry streaming, iot edge device management, ...

Adastra Canada's Growing Azure Team

250 Azure Specialists (200 Data, 50 App/Infra)

35 Azure Architects (25 Data, 10 App/Infra)

50 Azure Data Scientists

150 Azure Certified Resources

100 Power BI Developers

50 Power App / Automate Developers

50% in Canada, 50% in Europe / Asia

Realize Your Data-Driven Destiny

For 20+ years, customers have trusted Adastra to design and deliver comprehensive data-driven solutions that fuel efficiency, innovation and long-term success. Our diverse set of Superpowers transform the way organizations utilize their data, unlocking its full potential.

Our Customers

Applied AI
- Gen AI Deployment
- AI/ML Production

Data Insights
- Business Intelligence
- Data Analysis
- Internet of Things

Data Mastery
- Data Security
- Data Governance
- Data Engineering

Strategic Visioning
- Business Consulting
- Cloud, Data & AI Strategy

Digital Transformation
- Application Innovation
- Software Engineering
- Hyper Automation

Cloud Enablement
- Cloud Migration & Optimization
- Managed Services

Adastra Managed Services

Engage & Onboard

- Needs Discovery
- Service Design
- Service Transition

Run & Operate

- Incident Management
- 24/7 Support
- Monitoring
- Cloud Hosting

Manage & Control

- Service Management
- Cost Management & Optimization
- Provisioning & Change Management
- Identity & Access Management
- Governance & Compliance

Adastra as your Digital Partner as a Service offers you enterprise-grade analytics capabilities, effective cost management, and accelerated time to market

Impact at Customers

400% Business Growth Facilitated by an Azure Cloud Migration at large logistics company

8x faster system integration

400% business growth facilitated

140 virtual machines migrated to Azure

70% improvement in data acquisition speed using Lucid and GenAI for Microsoft Fabric Modernization.

Processed **1.3TB** of POS transaction data from the last 2.5 years.

Over **2 billion** item transactions over 190 supermarkets.

400x reduction in turn-around time for POS data onboarding

20x increase in development speed.

10x cost savings.

Manufacturing process optimization decreased CO2 emissions and shipment costs by 20%

20% decrease in shipment costs

20% lower CO2 emissions

Accelerate Azure Success with Adastra

Partner With Adastra Through One of Three Options

Cloud Solution Provider (new Subscription) or Digital Partner of Record / Partner Admin Link (existing Subscription)

Through Adastra Partnership

1. Achieve greater ROI from your Azure investments
2. Effectively leverage and integrate new Azure service offerings
3. Gain a trusted partner to guide you through your Azure journey
4. Implement the right fit-for-purpose service architecture
5. Achieve optimal performance at a manageable cost

Choose the right partnership option at **no additional cost!**

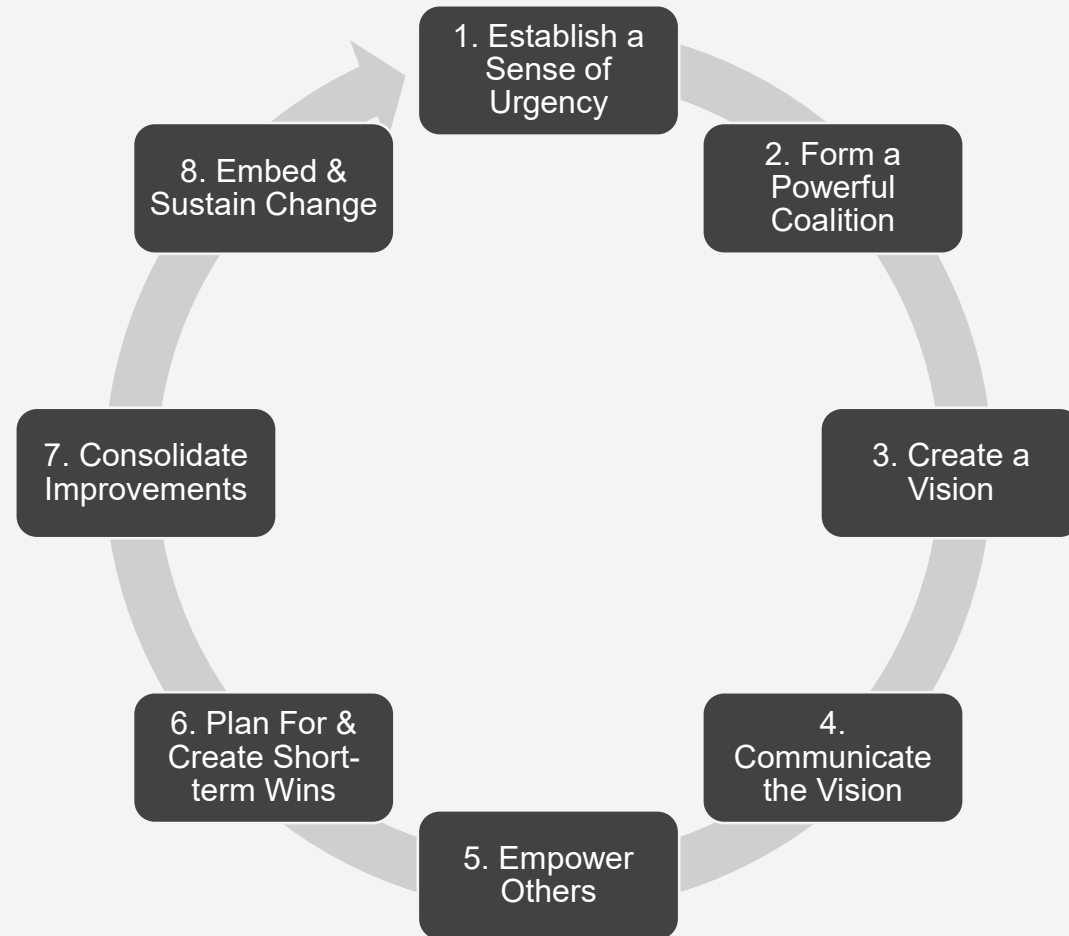| BENEFITS	CSP	DPOR	PAL
Service Planning and Coaching	✓	✓	✓
Service Design	✓	✓	
Cost Advisement	✓	✓	
Cost Management / Alerting	✓		
Service Monitoring / Alerting	✓		
Service Automation	✓		
Help Desk Support	✓		
Service Provisioning	✓		
Adastra Service Credits	✓	✓	✓

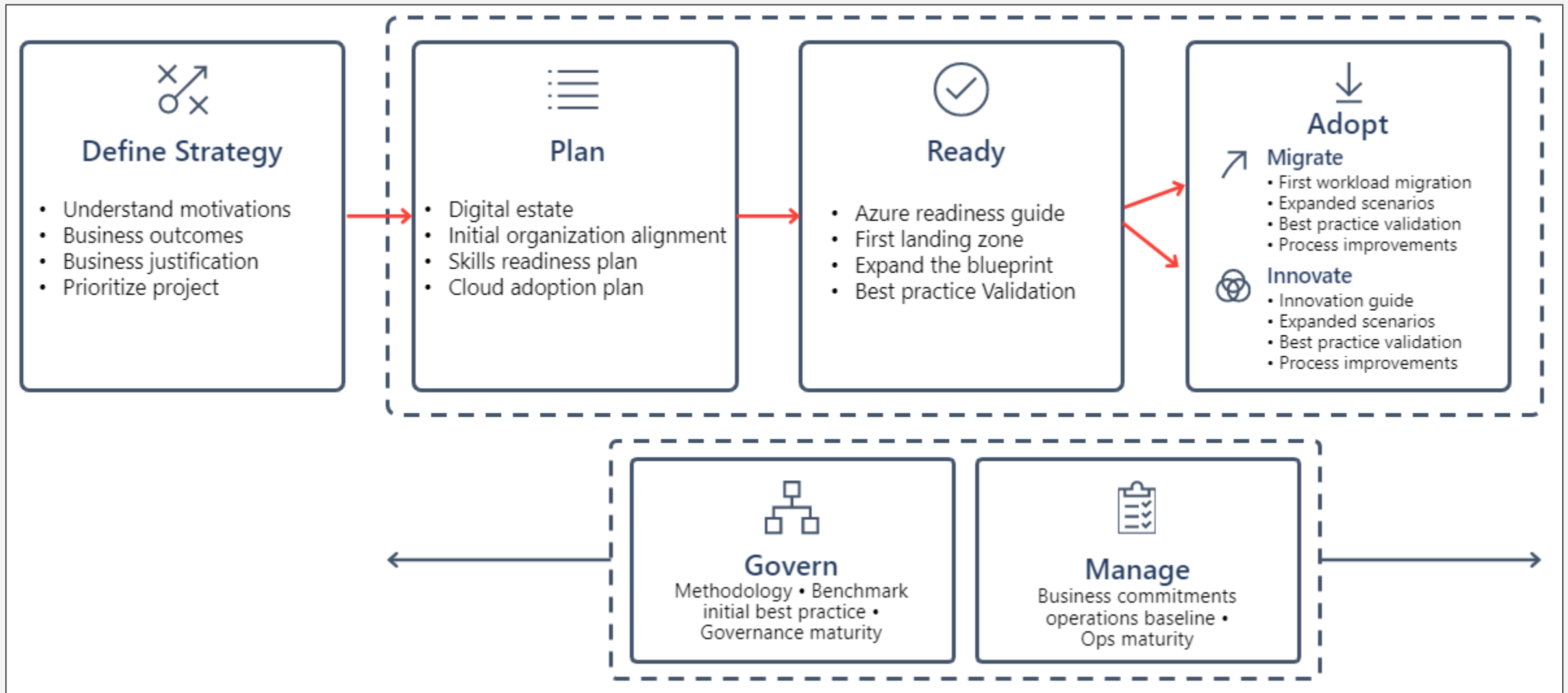# Adastra Azure App Modernization Approach

Drive Differentiating Change

Successful cloud modernization requires organizations <u>create awareness, build a compelling case for change, engage stakeholders, and establish end user readiness</u>.

Adastra's Organizational Change Management (OCM) methodology is founded on key principles, developed through best practice research, practical, on the ground application in a range of environments and maturity level

Design /w Azure Cloud Adoption Framework

Define Strategy
- Understand motivations
- Business outcomes
- Business justification
- Prioritize project

Plan
- Digital estate
- Initial organization alignment
- Skills readiness plan
- Cloud adoption plan

Ready
- Azure readiness guide
- First landing zone
- Expand the blueprint
- Best practice Validation

Adopt

Migrate
- First workload migration
- Expanded scenarios
- Best practice validation
- Process improvements

Innovate
- Innovation guide
- Expanded scenarios
- Best practice validation
- Process improvements

Govern
Methodology • Benchmark initial best practice • Governance maturity

Manage
Business commitments operations baseline • Ops maturity

Verify /w Azure Well Architected Framework

Recommendations for your workload

Actionable items to consider implementing to improve your workload across the five pillars of the Microsoft Azure Well-Architected Framework

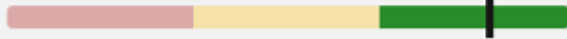### Your overall results

EXCELLENT **You're all set.** You meet the criteria necessary and are ready for successful cloud enablement.
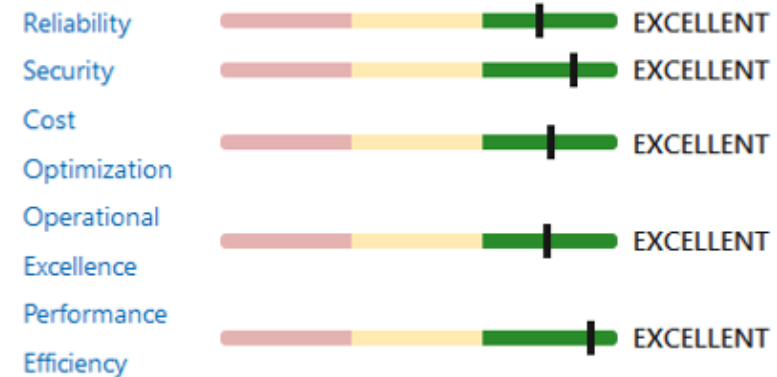
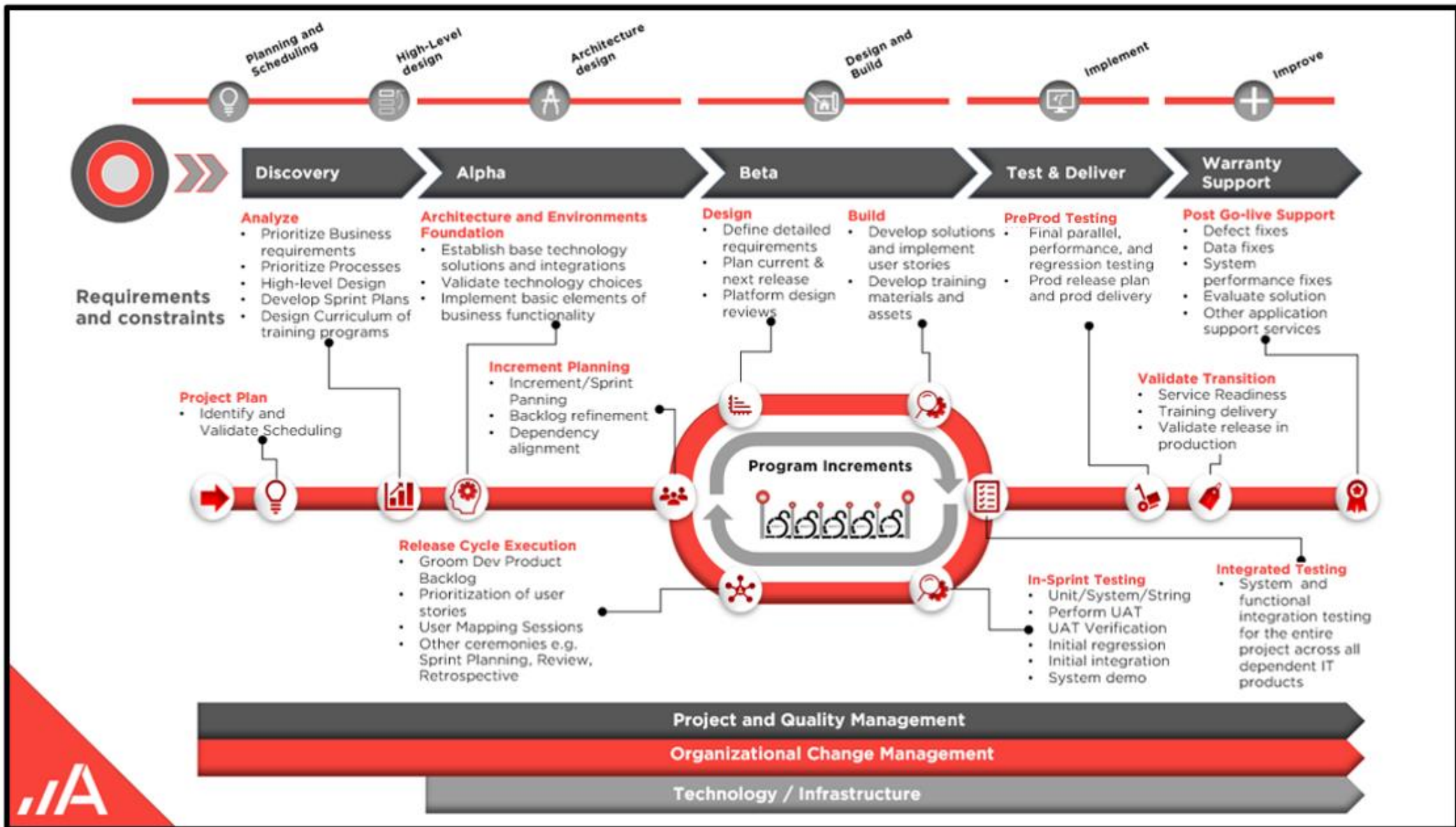Critical 0-33   Moderate 33-67   Excellent 67-100

Your result:
85/100

Categories that influenced your results

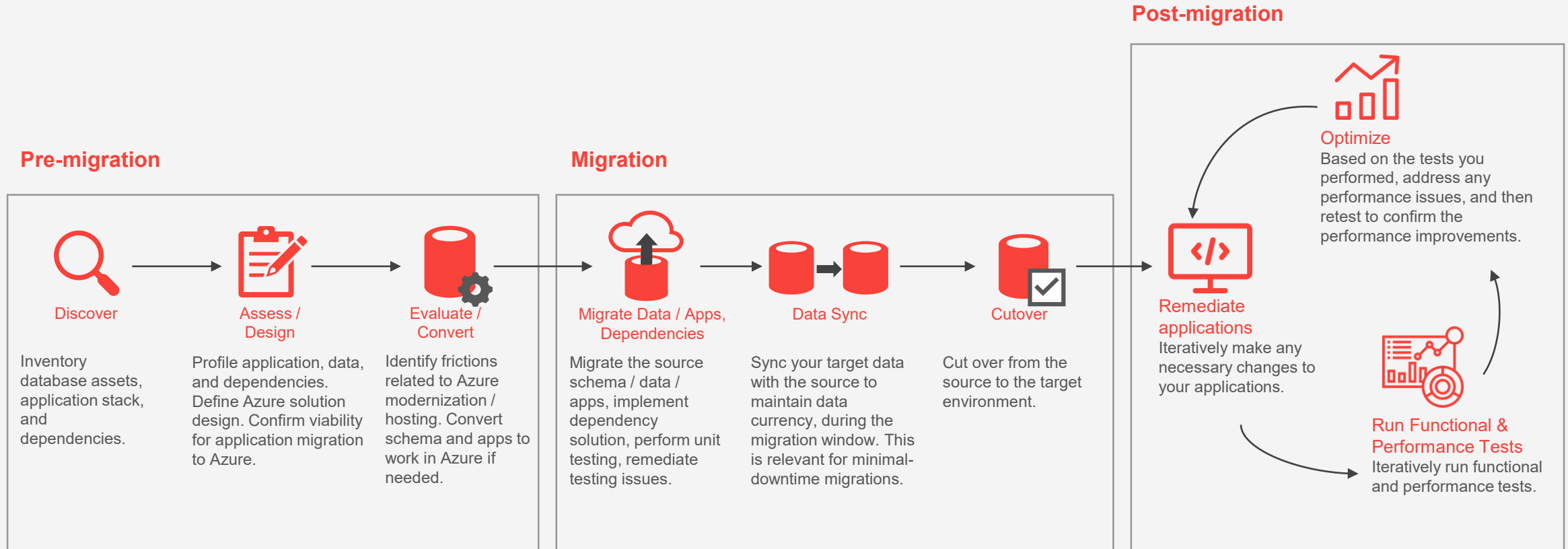|		
Reliability		EXCELLENT
Security		EXCELLENT
Cost Optimization		EXCELLENT
Operational Excellence		EXCELLENT
Performance Efficiency		EXCELLENT

You can find out how to improve on individual categories by reviewing the recommendations below in the report.

Solution Delivery Approach

Application Migration Process

Pre-migration

Discover

Inventory database assets, application stack, and dependencies.

Assess / Design

Profile application, data, and dependencies. Define Azure solution design. Confirm viability for application migration to Azure.

Evaluate / Convert

Identify frictions related to Azure modernization / hosting. Convert schema and apps to work in Azure if needed.

Migration

Migrate Data / Apps, Dependencies

Migrate the source schema / data / apps, implement dependency solution, perform unit testing, remediate testing issues.

Data Sync

Sync your target data with the source to maintain data currency, during the migration window. This is relevant for minimal-downtime migrations.

Cutover

Cut over from the source to the target environment.

Post-migration

Optimize

Based on the tests you performed, address any performance issues, and then retest to confirm the performance improvements.

Remediate applications

Iteratively make any necessary changes to your applications.

Run Functional & Performance Tests

Iteratively run functional and performance tests.

Perform in preprod, then repeat in prod.

Azure Application Decisioning

Web: Azure App Service

Data: Azure SQL Database

Identity: Azure AD

LB: Yes (Azure Application Gateway)

HA/DR: Yes (Azure Traffic Manager)

Auto Scale: Yes (Native)

CI/CD Integrated: Manual

Implementation: Simple

Recommendation: Use for .NET / PHP / JAVA / PYTH Custom Web Applications with no O/S dependencies

Managed PaaS

Web: Azure Kubernetes Service (IIS)

Data: Azure Kubernetes Service (SQL)

Identity: Azure AD

LB: Yes (AKS Controller)

HA/DR: Yes (Docker Repl and ATM)

Auto Scale: Yes (Native)

CI/CD Integrated: Implicit

Implementation: Complex

Recommendation: Use for any Custom Web Applications and COTS Web Applications approved for Docker / Kubernetes

Container PaaS

Web: Azure Windows VM (IIS)

Data: Azure Windows VM (SQL)

Identity: AD Domain Service

LB: Yes (Azure Load Balancer)

HA/DR: Yes (ASR / ARV)

Auto Scale: Yes (Scale Sets)

CI/CD Integrated: Manual

Implementation: Complex

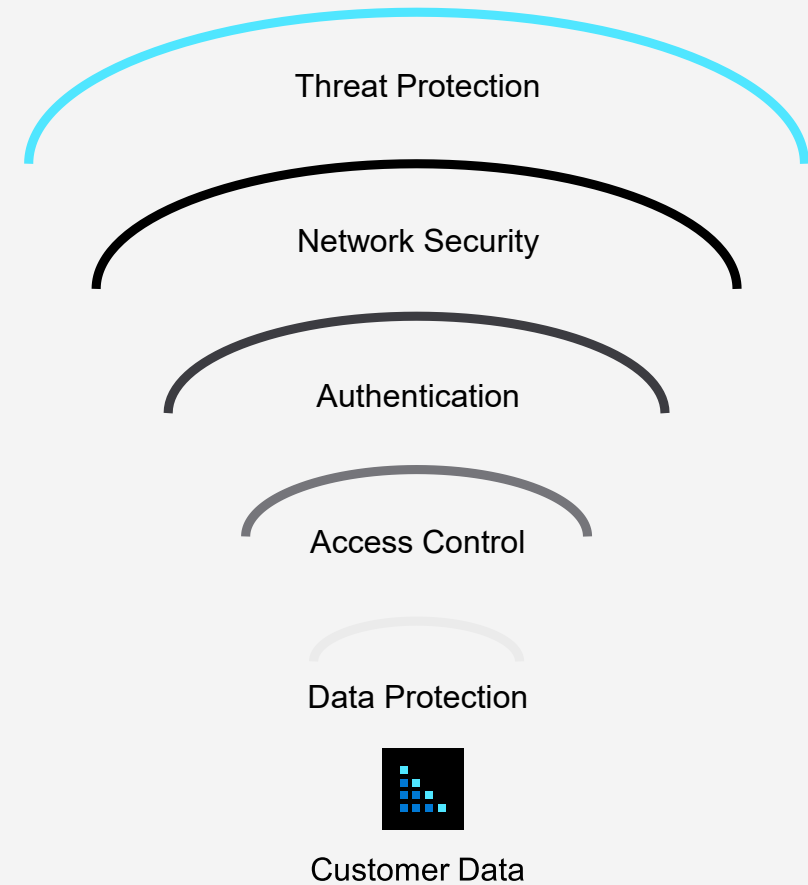**Recommendation:** Use for COTS Web Applications not approved for Docker / Kubernetes

IaaS

Azure Network Security Layers
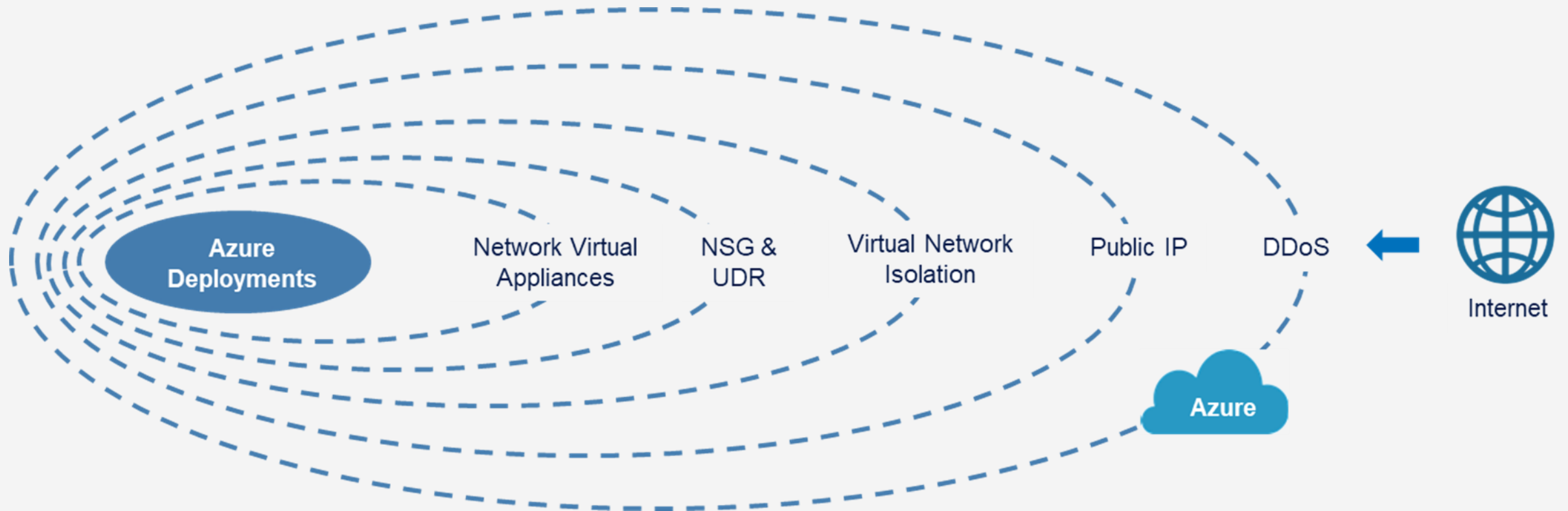
Azure Data Security Layers

Threat Protection

Network Security

Authentication

Access Control

Data Protection

Customer Data

Multiple levels of security between the user and data.

Azure Service Security

| Role	Service	Details
Secret Key	Azure Key Vault	Store all secrets (credentials, certificates, …) in a secure vault, and call from vault in processes.
Monitoring / Reporting	Azure Monitor Azure Log Analytics	Log Analytics covers event and performance monitoring and response.
SIEM / SOAR	Azure Sentinel	ML driven security incident / response detection and resolution.
Policy	Azure Policy	Applies Azure service policies across a subscription / management group.
Exposure Detection	Azure Security Centre	Azure Security Centre provides the Azure centric view.
Endpoint Management	Azure Application Gateway Azure API Management Azure Private Link	←Route external connections to internal resources. ←Secure endpoint routing for external / internal connections. ←Provision private endpoints for Azure PaaS services.
Traffic Management	Azure Front Door Azure Traffic Manager	←HTTP connection routing to regional / failover resources. ←DNS connection routing routing to regional / failover resources.

Azure Data Security

Resources	Encryption at Rest	Encryption in Transit	Field Level Encryption	Access Control
Azure SQL Database	✓	✓	Masking / Encryption Supported	Database, Object, Row, Column
Azure Data Lake Storage	✓	✓	Not Applicable	Folder, File
Power BI	✓	✓	Not Supported	Dataset, Table, Column, Row
Azure Data Pipelines	✓	✓	Masking / Encryption Supported	Dataset, Table, Column, Row
Azure Synapse SQL Runtime	✓	✓	Masking Supported, Encryption Supported Soon	Database, Object, Row, Column
Azure Synapse Spark Runtime	✓	✓	Masking / Encryption Supported	Database, Object, Row, Column

Azure DevOps CI / CD

- Developers check-in code in DevOps development branch

- Code review by Lead/Peers

- Pull request to move code to Master branch

- Automatically triggers build & test processes once pull request is complete

- Automatically triggers release pipeline to deploy code in multiple target environments through gating approvals

- Azure DevOps maintains logs of all build, tests, release/deploy tasks

- Pipelines are executed through Releases in DevOps
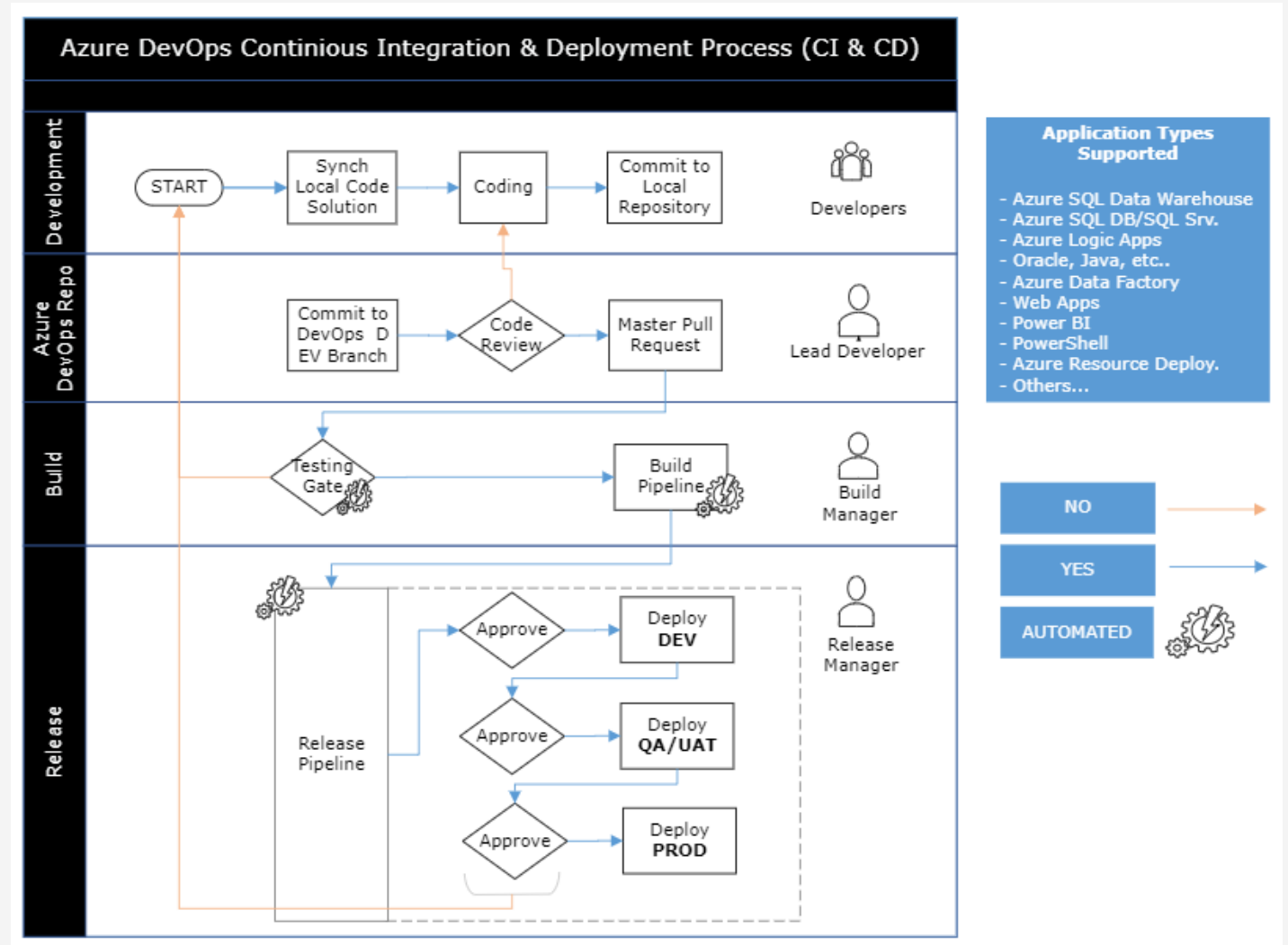
GDPR Compliance

Azure provides a robust set of security and data management capability that enables GDPR compliance.

As standard practice, Adastra implements these security and data management services for our customers, to position our Azure solutions for compliance, and to enable successful compliance auditing

Capabilities Adastra will enable to ensure future GDPR compliance:

- Enable Azure Data Subject Request capability to align to GDPR "right to be forgotten" requirements
  - Azure Data Subject Requests for the GDPR and CCPA - Microsoft GDPR | Microsoft Docs
- Implement Azure Security Center to activate unified security management and advanced thread protection
  - Azure Security Center | Microsoft Azure
- Configure Azure Policy to ensure types of data stay within their required regions
  - Azure Policy Cloud and Compliance Management | Microsoft Azure
- Follow Azure GDPR Blueprint best practices to ensure architecture and configuration is compliant
  - AzureGDPR/Azure Security and Compliance Blueprint - GDPR IaaS WebApp Overview.md at master · sukykaur/AzureGDPR · GitHub
- Leverage MS Cloud Compliance Center to evaluate current risk and prepare for GDPR audits
  - Home - Microsoft 365 compliance
- Adopt Azure Information Protection to scan, label, and protect sensitive data
  - Azure Information Protection | Microsoft Azure

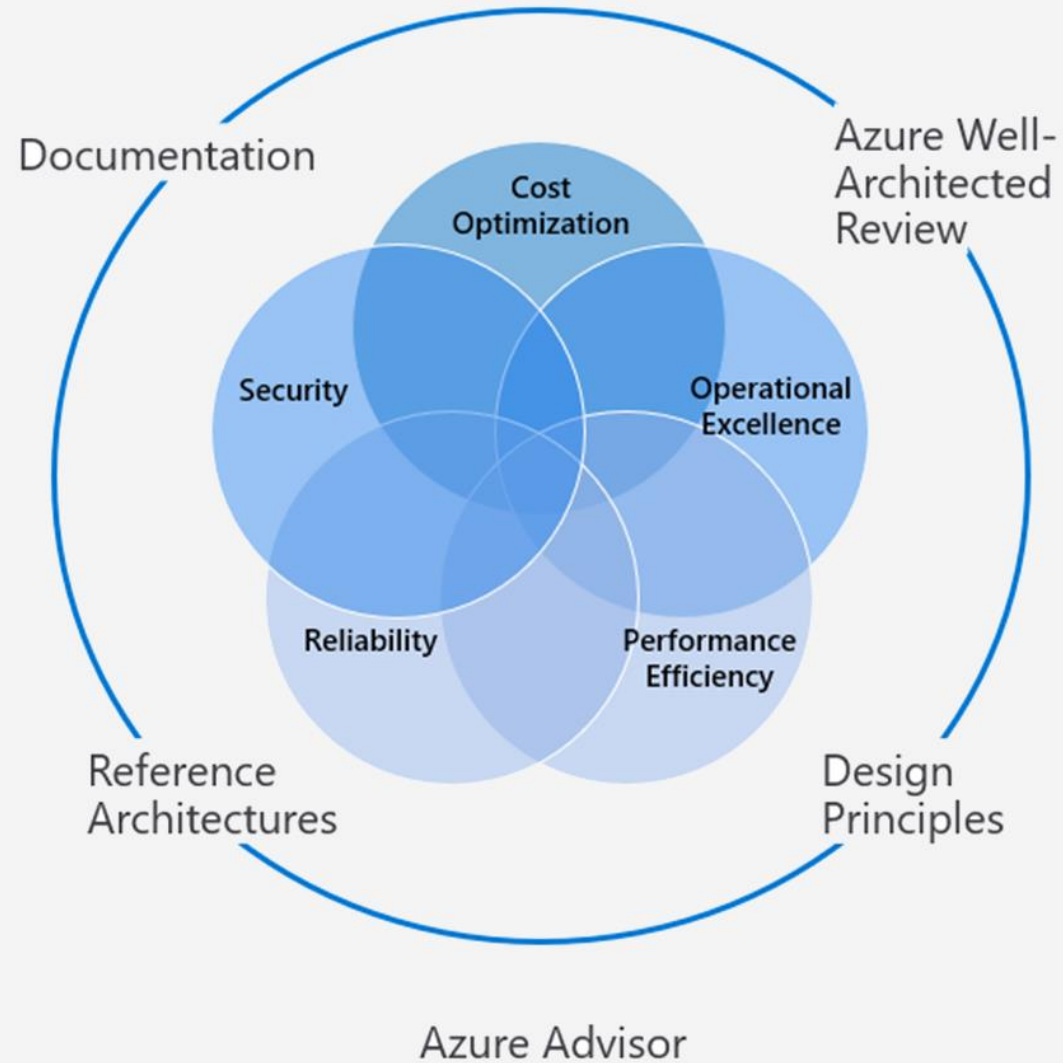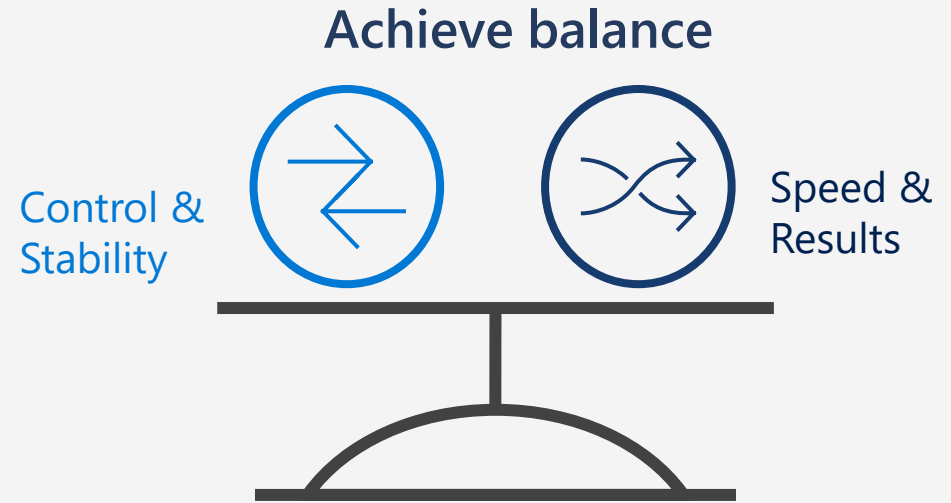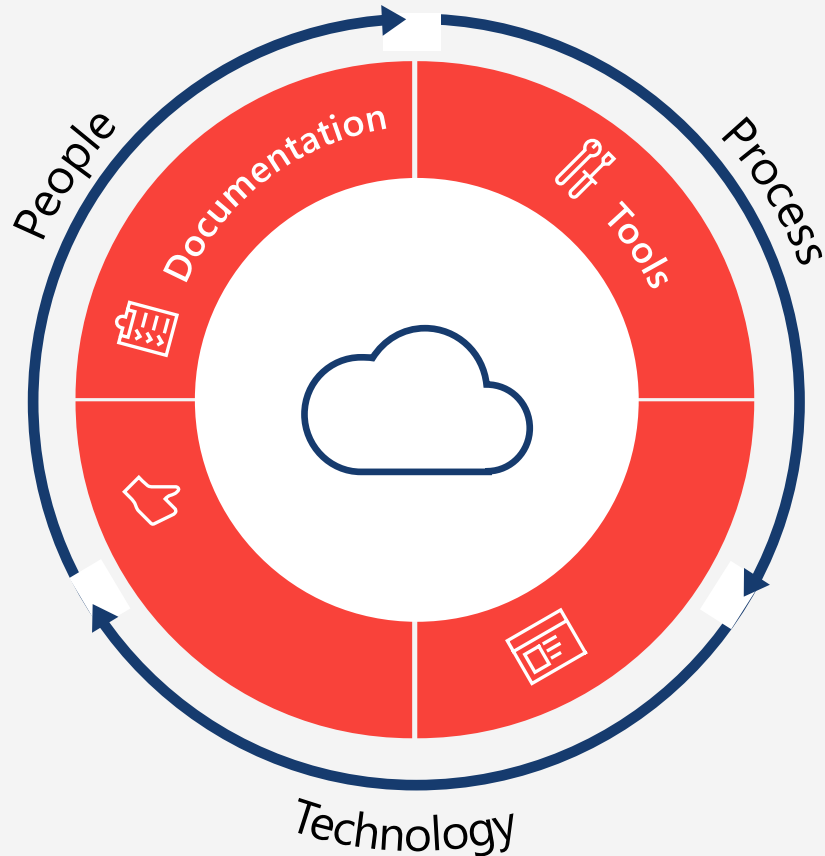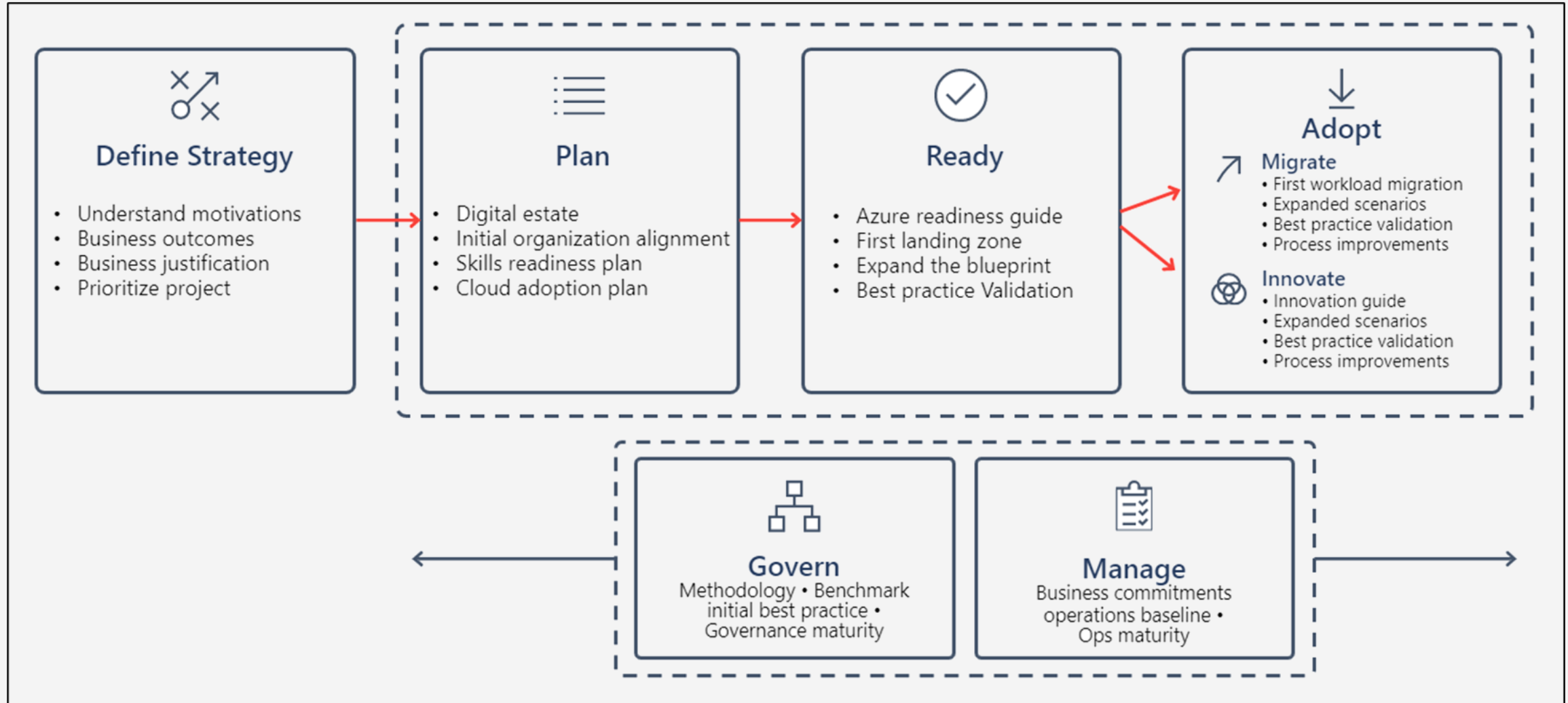# Adastra Landing Zone Approach

Azure Well-Architected Framework & CAF

Microsoft Cloud Adoption Framework for Azure

Align business, people and technology strategy to achieve business goals with actionable, efficient, and comprehensive guidance to deliver fast results with control and stability.

Cloud Adoption Framework

Cloud Governance

This demonstrates the interactions between business risk, policy and compliance, monitor and enforce to create a governance strategy.

Business Risks

Document evolving business risks and the business tolerance for risk, based on data classification and application criticality

Policy & Compliance

Convert Risk decisions into policy statements to establish cloud adoption boundaries

Process

Establish processes to monitor violations and adherence to corporate policies

Disciplines of Cloud Governance

Cost Management

Evaluate & Monitor costs, limit IT Spend, scale to meet need, create cost accountability

Security Baseline

Ensure compliance with IT security requirements by applying a security baseline to all adoption efforts

Resource Consistency

Ensure consistency in resource configuration, Enforce practices for on-boarding, recovery, and discoverability
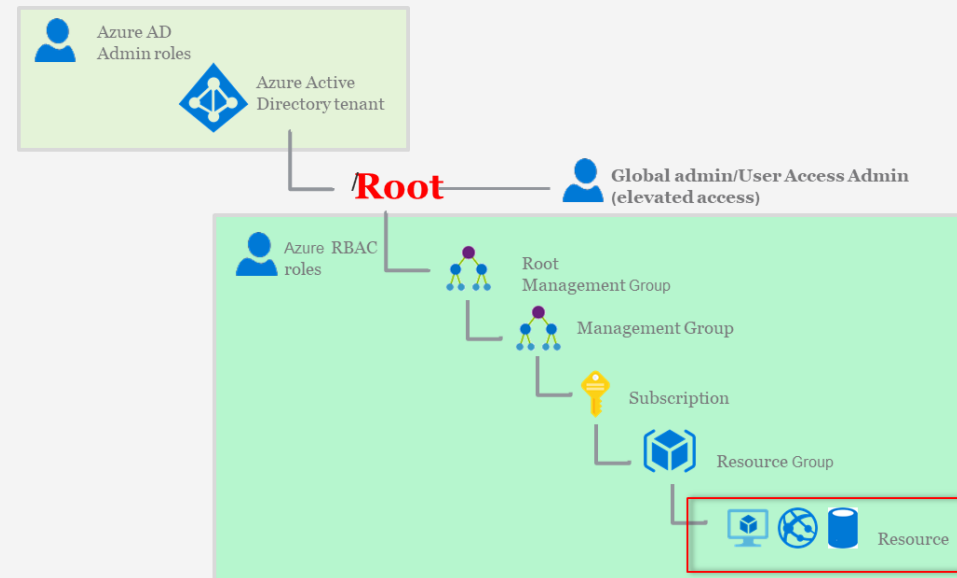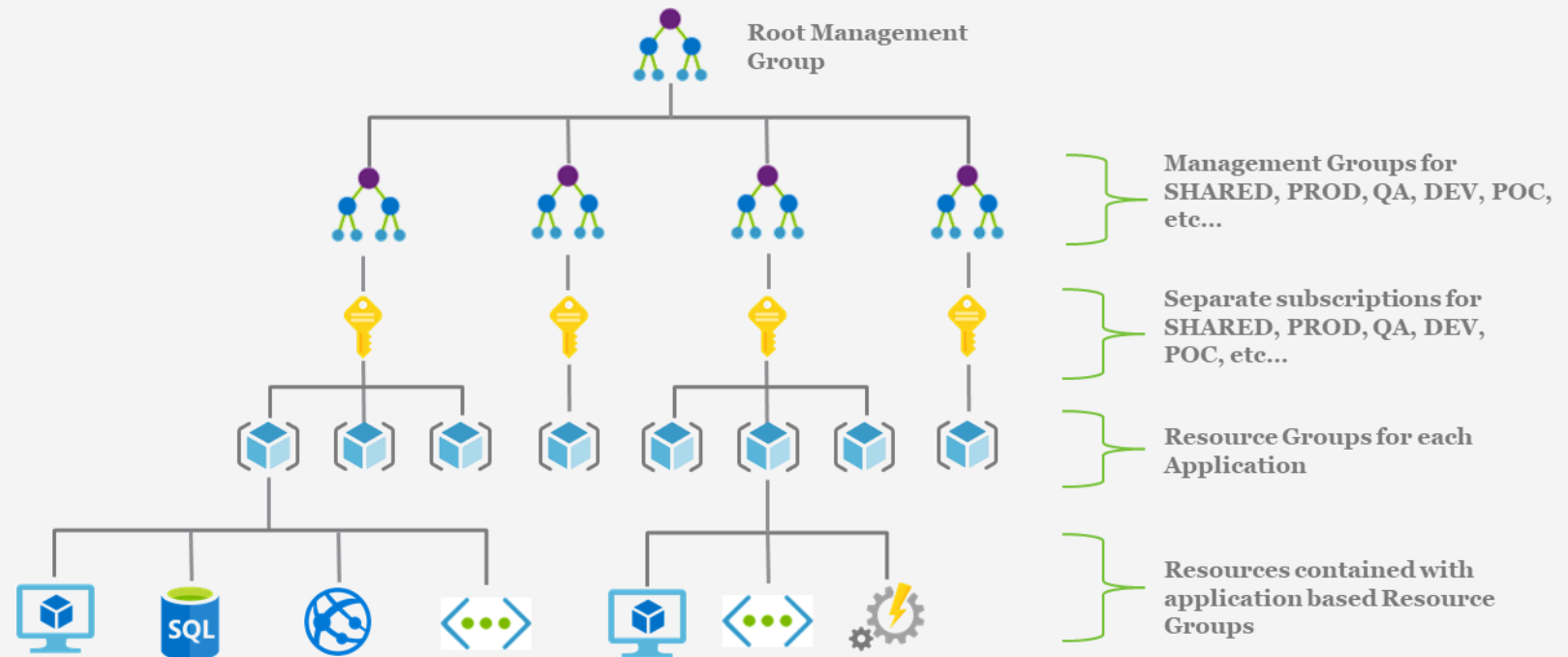
Identity Baseline

Ensure the baseline for identity and access are enforced by consistently applying role definitions and assignments
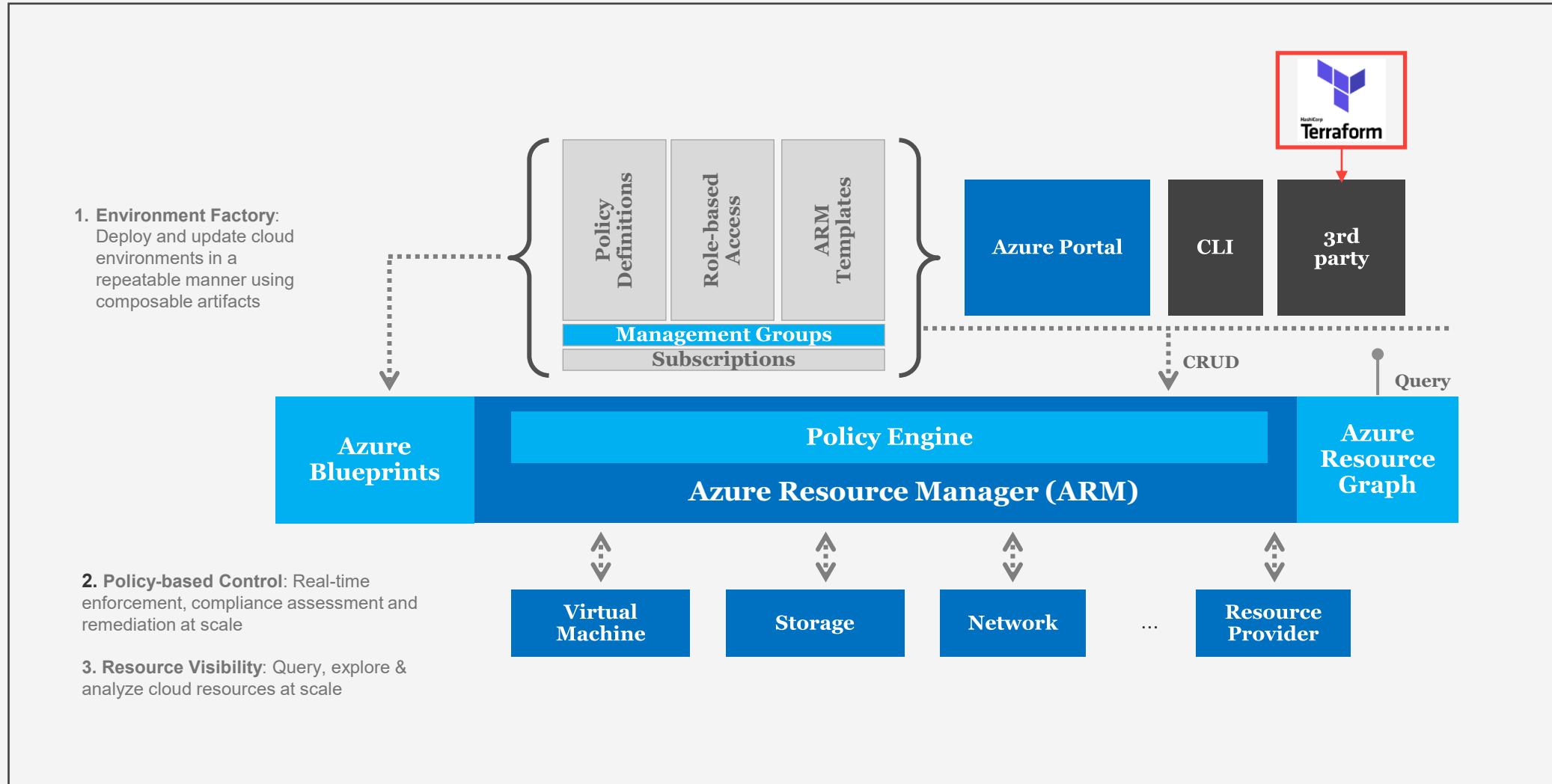
Deployment Acceleration

Accelerate deployment through centralization, consistency, and standardization across deployment templates

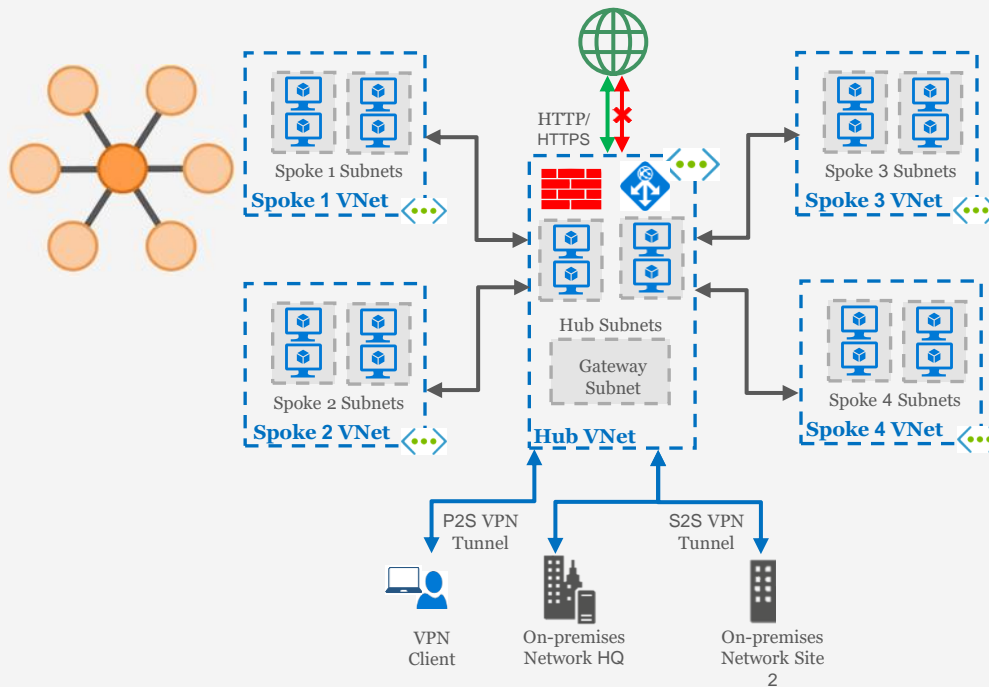# Foundation Step: Azure Landing Zone

1. Creation of Naming standards

2. Creation of subscriptions

3. Setup of Azure DevOps project

4. Build out of Azure foundation
   1. Management Group
   2. Accounts
   3. Vnets
   4. Subnets
   5. VNet Peering

Foundation Step: Azure Governance Design

1. Environment Factory: Deploy and update cloud environments in a repeatable manner using composable artifacts

2. Policy-based Control: Real-time enforcement, compliance assessment and remediation at scale

3. Resource Visibility: Query, explore & analyze cloud resources at scale

Policy Definitions

Role-based Access

ARM Templates

Management Groups

Subscriptions

Azure Portal

CLI

3rd party

Terraform

CRUD

Query

Azure Blueprints

Policy Engine

Azure Resource Manager (ARM)

Azure Resource Graph

Virtual Machine

Storage

Network

...

Resource Provider

Foundation Step: Azure VNET Integration

Virtual network peering enables the seamless connecting of Azure virtual networks. Once peered, the virtual networks appear as one, for connectivity purposes. The traffic between virtual machines in the peered virtual networks is routed through the Microsoft backbone infrastructure, much like traffic is routed between virtual machines in the same virtual network, through private IP addresses only

Azure Supports:
- **VNet peering** - connecting VNets within the same Azure region
- **Global VNet peering** - connecting VNets across Azure regions

Azure Network Security Layers
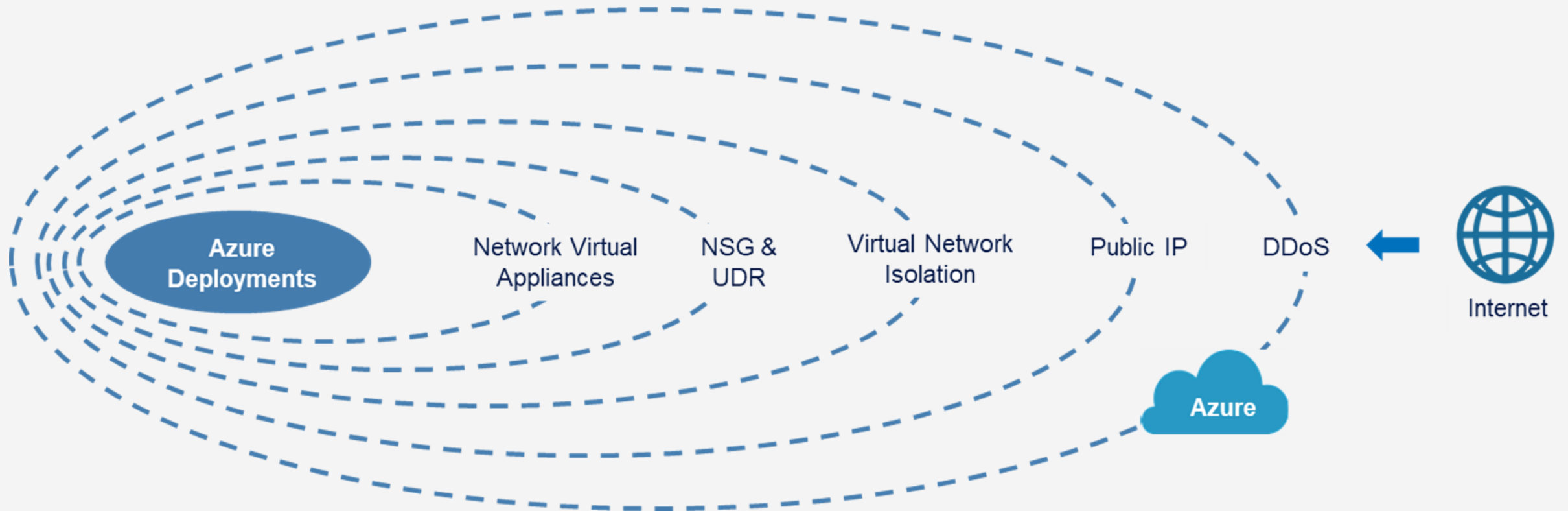
Application Gateway + WAF

1. WAF on Application Gateway is based on Core Rule Set (CRS) 3.1, 3.0, or 2.2.9 from the Open Web Application Security Project (OWASP).

2. Secure Sockets Layer (SSL/TLS) termination

3. Autoscaling

4. Zone redundancy

5. Static VIP

6. Ingress Controller for AKS

7. URL-based routing

8. Multiple-site hosting

9. Redirection

10. Session affinity

11. Websocket and HTTP/2 traffic

12. Connection draining

13. Custom error pages

14. Rewrite HTTP headers and URL

15. Sizing
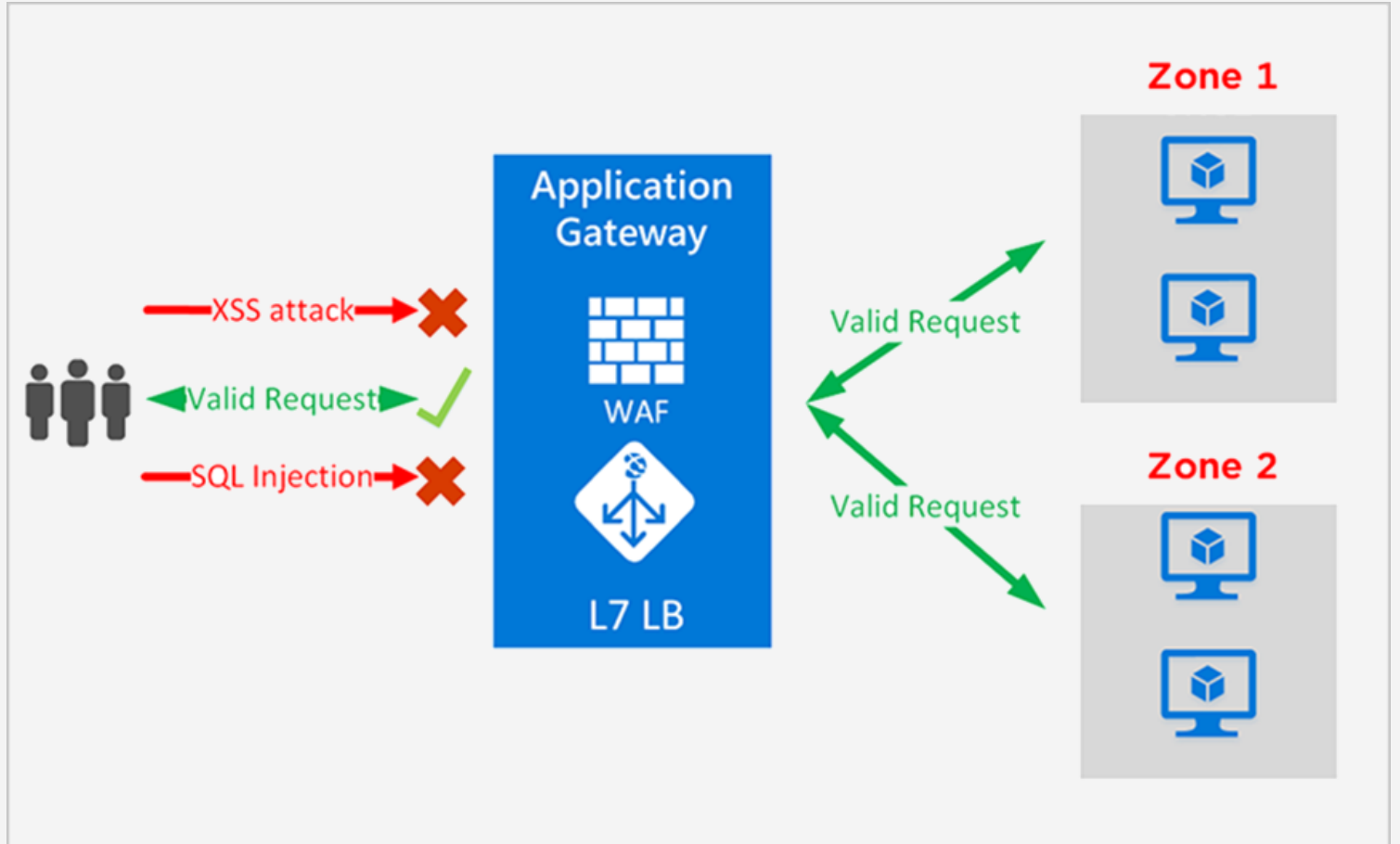
How an Application Gateway Works
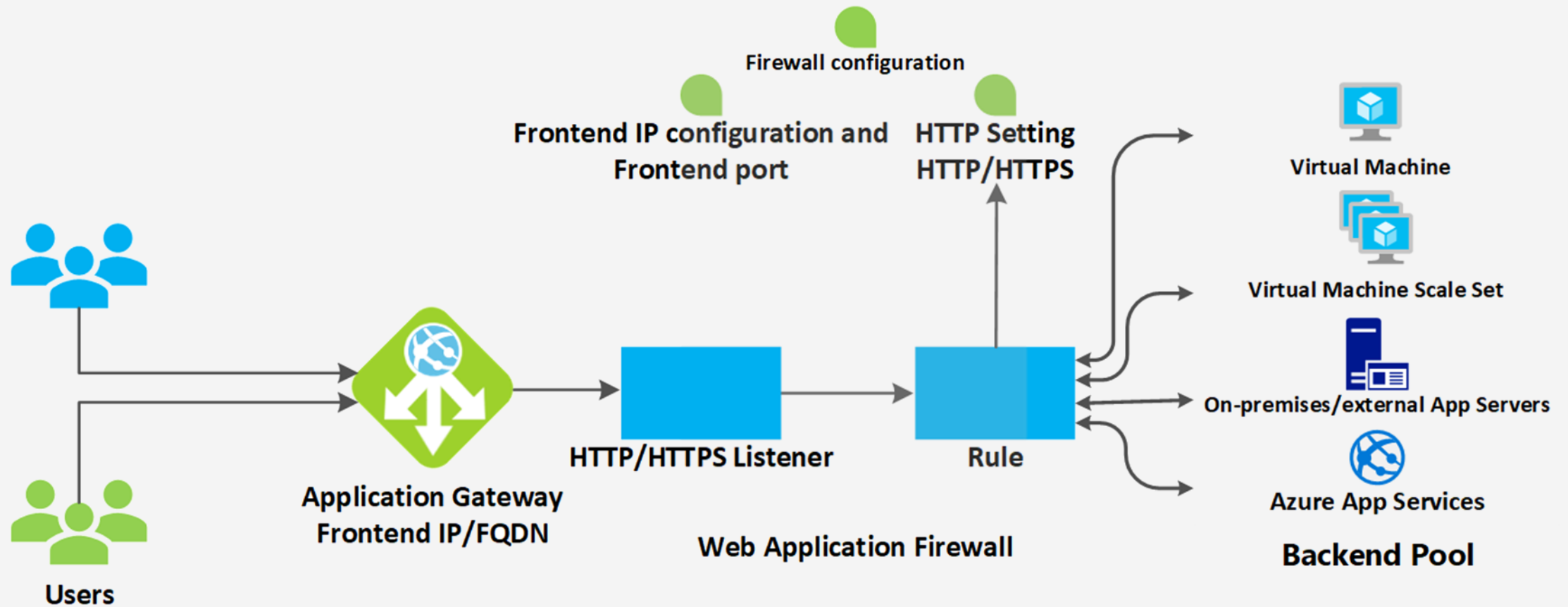
Azure Firewall

Azure Firewall Standard provides L3-L7 filtering and threat intelligence feeds directly from Microsoft Cyber Security. Threat intelligence-based filtering can alert and deny traffic from/to known malicious IP addresses and domains which are updated in real time to protect against new and emerging attacks.
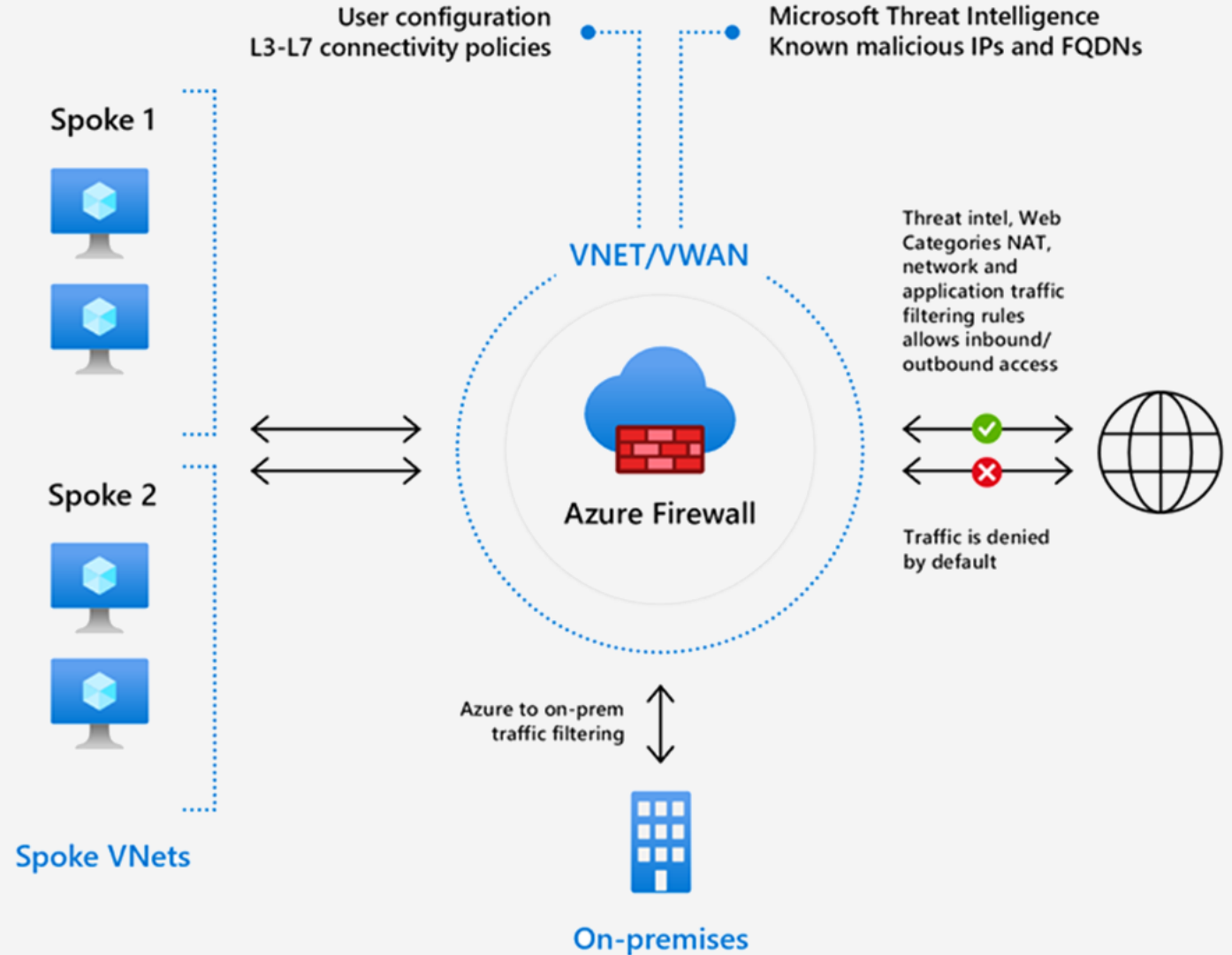
Azure High Availability
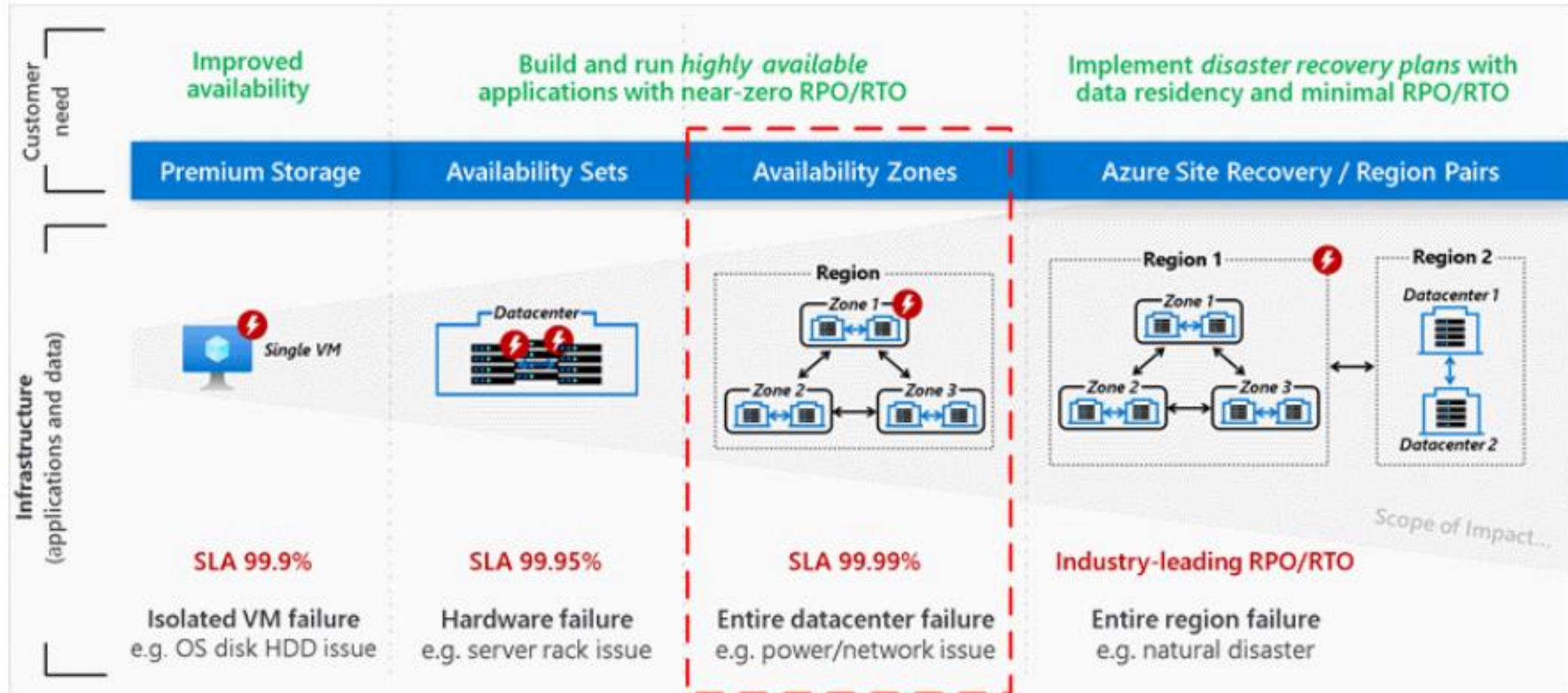
Infrastructure as Code (IaC)

Infrastructure as Code (IaC) is the process of managing and provisioning computing infrastructure (processes, bare-metal servers, virtual servers, etc.) and their configuration through machine-processable definition files, rather than physical hardware configuration or the use of interactive configuration tools.
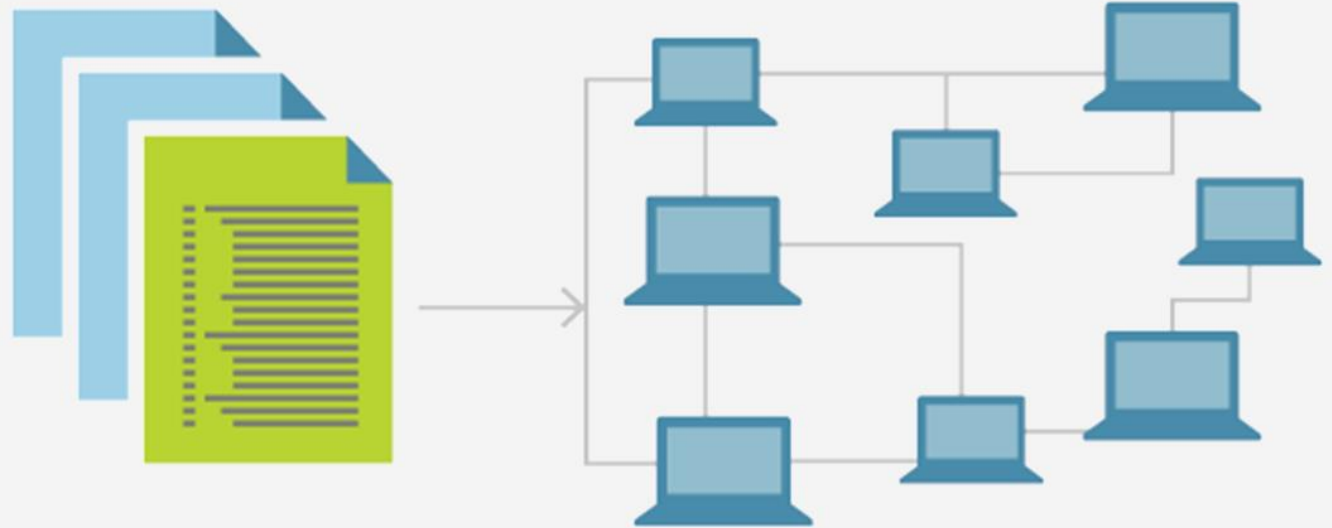
Azure DevOps

Azure Boards

Deliver value to your users faster using proven agile tools to plan, track, and discuss work across your teams.

Azure Pipelines

Build, test, and deploy with CI/CD that works with any language, platform, and cloud. Connect to any Git provider and deploy continuously.

Azure Repos

Get unlimited, cloud-hosted private Git repos and collaborate to build better code with pull requests and advanced file management.

Azure Test Plans

Test and ship with confidence using manual and exploratory testing tools.
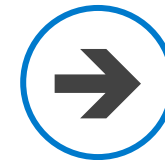
Azure Artifacts

Create, host, and share packages with your team, and add artifacts to your CI/CD pipelines with a single click.

https://azure.com/devops

Cloud Operation Model

A comprehensive set of capabilities needed to successfully operate cloud-based environments

DevOps and Infrastructure Automation
- Release Management
- Continuous Integration
- Continuous Deployment
- App Version Support

**ITIL Service Management/ServiceNow***
- Triage & Escalation
- Automated Monitoring, Ticketing & Alerting
- Change & Configuration Management
- Incident and Problem Management
- Event Management

Cost Management & Billing
- Account Management
- Consolidated billing
- Cost allocation & optimization

Monitoring and Logging
- Centralized log aggregation across platforms
- Infrastructure capacity performance and Network health Monitoring
- Security event and incident monitoring through SIEM solution
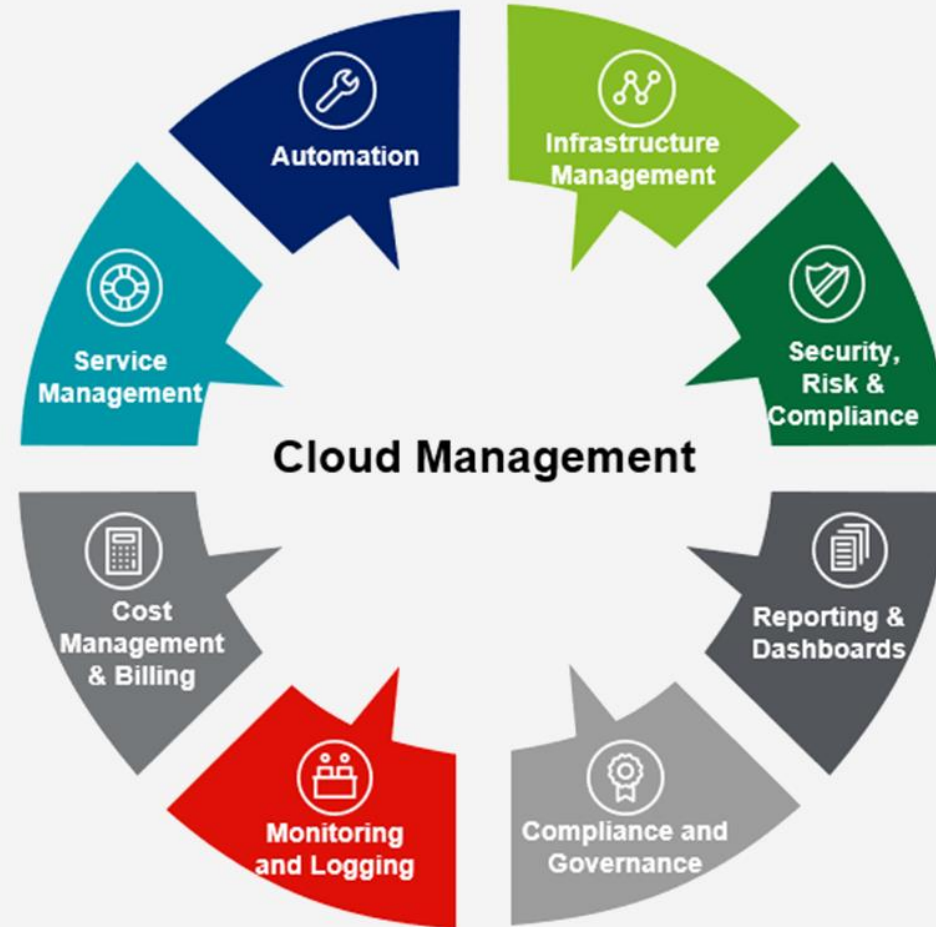
Infrastructure Management
- Infrastructure Provisioning
- Site-to-Site VPN Connection management; IP and routing configuration
- OS Image/Patch Management
- Backup Management & Disaster Recovery
- Client Compartmentalization

Security, Risk & Compliance
- Identity & Access Management
- Vulnerability Management
- Data Protection, Encryption & Privacy
- Security Monitoring
- Infra. Security Hardening
- Antivirus management

Reporting & Dashboards
- Service Management Reports
- Consumption & Billing Reports
- Account Health Check Reports
- Security & Compliance Reports

Compliance and Governance
- Integrated Controls Framework
- SOC2, PIPEDA, ISO 27001, PCI Compliance certification roadmap
- Policy based resources provisioning
- Tagging and Quota management

Automation
Infrastructure Management
Security, Risk & Compliance
Reporting & Dashboards
Compliance and Governance
Monitoring and Logging
Cost Management & Billing
Service Management

Cloud Management

Cloud Operating Model Journey

The journey to achieve target state maturity will require tangible changes to organization culture and skillsets, ways of working, and also service delivery and operations to achieve long term success

P3 Ongoing: Continuous operations within standard. Working toward mature model.

P2 Baseline: Automate, document, learn, repeat

Mature Digital Operating Model

Redistributed operating model with key capabilities aligned to product teams

P1 Transition: Onboard, develop runbooks and support plans

Stable Cloud Operating Model

Operations are stable and predictable. Standards are routinely met or exceeded

Baseline Cloud Operations

Operations takes over support from project team.

Operational Support

Project teams support operations on a best efforts basis

Start

Cloud Operating Model Maturity

1 month **4 months** **?**

ADASTRA

Adastra Azure
Sample Designs

Tenant Design

4 Subscriptions

12+ Resource Groups

Galileo Digital

Root Management Group

Prod Management Group

DevTest Management Group

Shared Services Management Group

Application Production Subscription

Application DevTest Subscription

Shared Core NW/IT Services Management Group

Shared Data Services Management Group

Shared Data Services Resource Group

Prod App Shared Services Resource Group

Dev App Shared Services Resource Group

Test App Shared Services Resource Group

Shared Core NW/IT Subscription

Shared Data Services Subscription

Prod Domain 1 Resource Group

Dev Domain 1 Resource Group

Test Domain 1 Resource Group

Prod Domain n Resource Group

Dev Domain n Resource Group

Test Domain n Resource Group

Networking Shared Services Resource Groups

Data Shared Services Resource Groups

Network Architecture

Application Architecture

Data Hub Architecture

FC SYSTEMS | **AZURE**

SOURCE --- FLOW --- STORE --- FLOW --- PLATFORM --- ACCESS

MONERIS
VIN DECODER
D & B

EXTERNAL
INTERNAL

HUBSPOT
ZENDESK
L20
WMS
RECURLY
ADF IR
PBI GW
ACTIVE DIRECTORY

API GATEWAY
LOGIC APPS external
LOGIC APPS internal
LOGIC APPS internal

AZURE SERVICE BUS
QUEUES (P2P)
TOPICS (PUBSUB)

LOGIC APPS D365
LOGIC APPS MDC

POWERAPPS PORTAL data steward

D365 CONNECTOR
D365 IMPORT EXPORT
CDM   CDS

D365 F&O
D365 SALES

F&O PORTAL f&o user
SALES PORTAL sales user

ataccama **MASTER DATA CENTRE**
STREAM API
NATIVE API
EVENT PUB
CUSTOMER
CONTACT
PRODUCT

ataccama **MDC PORTAL** data steward

AZURE DATA LAKE STORE
\CDM\METADATA
\CDM\DATA
\INTEGRATION\MESSAGE
\INTEGRATION\FILE
\SUBJECT\RAW
\SUBJECT\CURATED

ADF

AZURE SQL DATABASE MANAGED INSTANCE
STAGING   MASTER
ADF PIPE

AZURE SQL DATA WAREHOUSE
STAGING
INTEGRATION
WAREHOUSE

POLYBASE
PROCESS

AZURE ANALYSIS SERVICES
POWER BI SERVICE
LIVE   IMPORT

POWER BI PORTAL report user

AZURE DATA FACTORY

AZURE AD CONNECT
AZURE ACTIVE DIRECTORY

MESSAGE (REAL TIME, P2P, PUBSUB)
MFT (SCHEDULED / TRIGGER, ANY SINK, ROBUST WORKFLOW, SMALL / MEDIUM FILES)
ELT (SCHEDULED, AZURE SINK, LIGHT WORKFLOW, LARGE FILES)
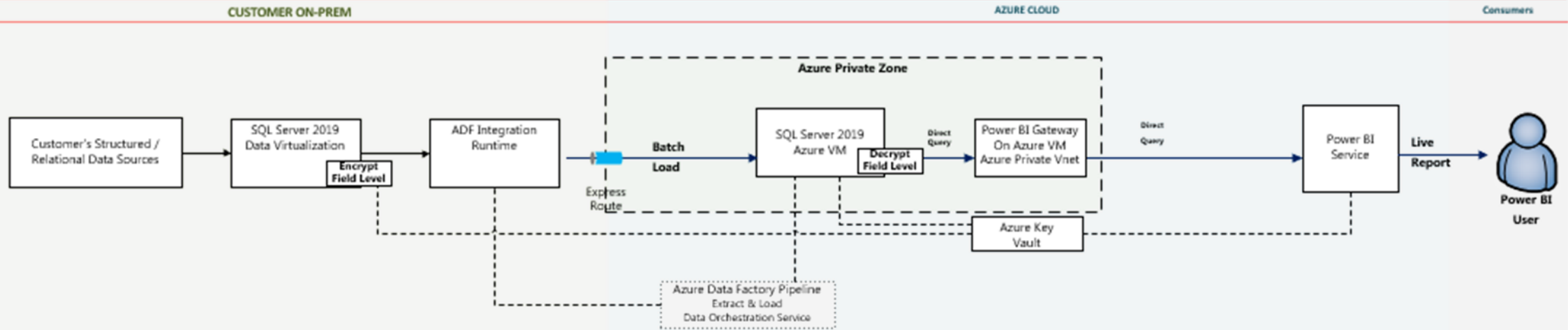AD HOC (SCHEDULED, DATA MASHUP)

PII Data Security

Power BI Data Encryption Pattern (B)

Data Encryption in Transit

TLS 1.2, MS-TDS, RSA-based 2,048-bit, using Microsoft keys

Data Encryption in Rest

Microsoft SQL Server TDE (Transparent Data Encryption) using customer managed keys
Power BI Premium Capacity Storage Encryption using customer managed keys

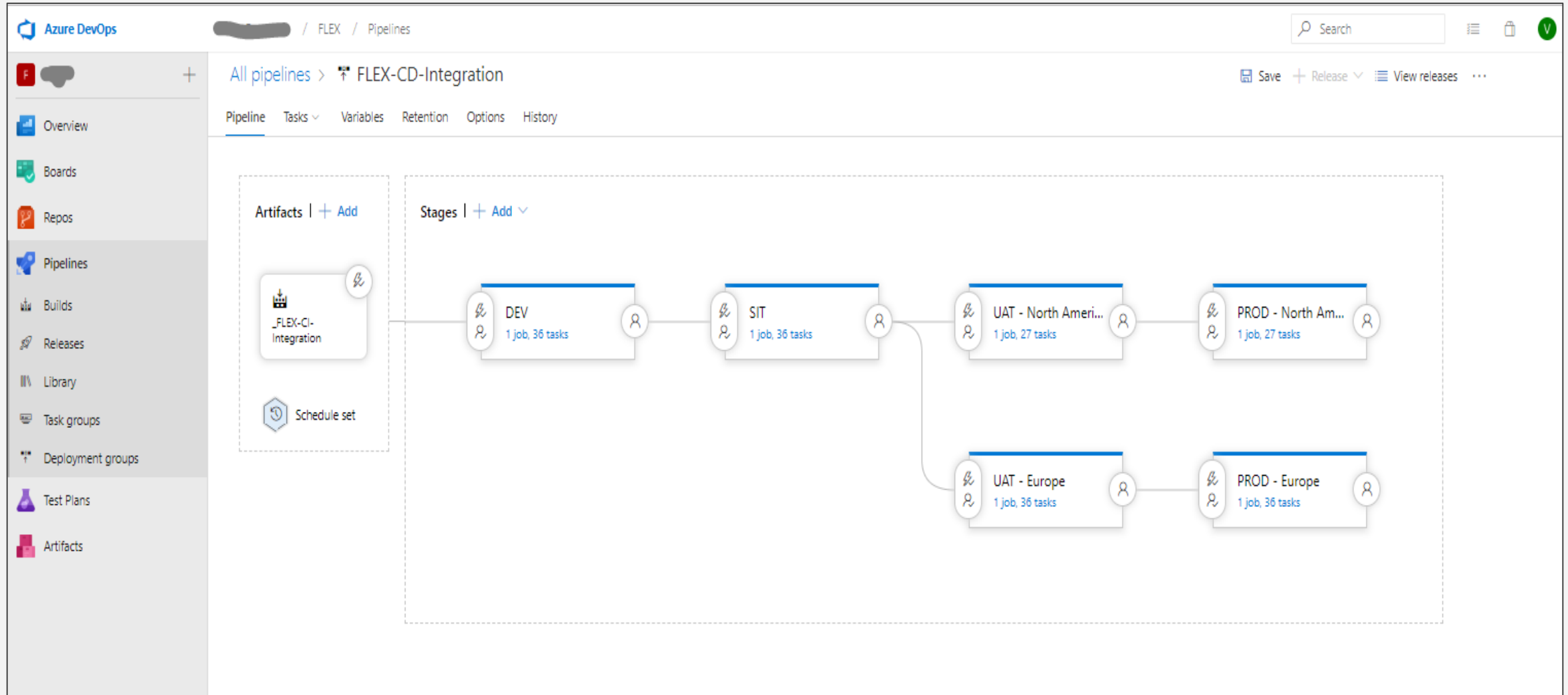**Field Level Data Encryption (PII/PCI Fields)**

SQL Crypto Functions Encryption using customer managed keys

Key Management

Azure Key Vault Service

Key Management
Secret Management
Certificate Management
Hardware Security Module
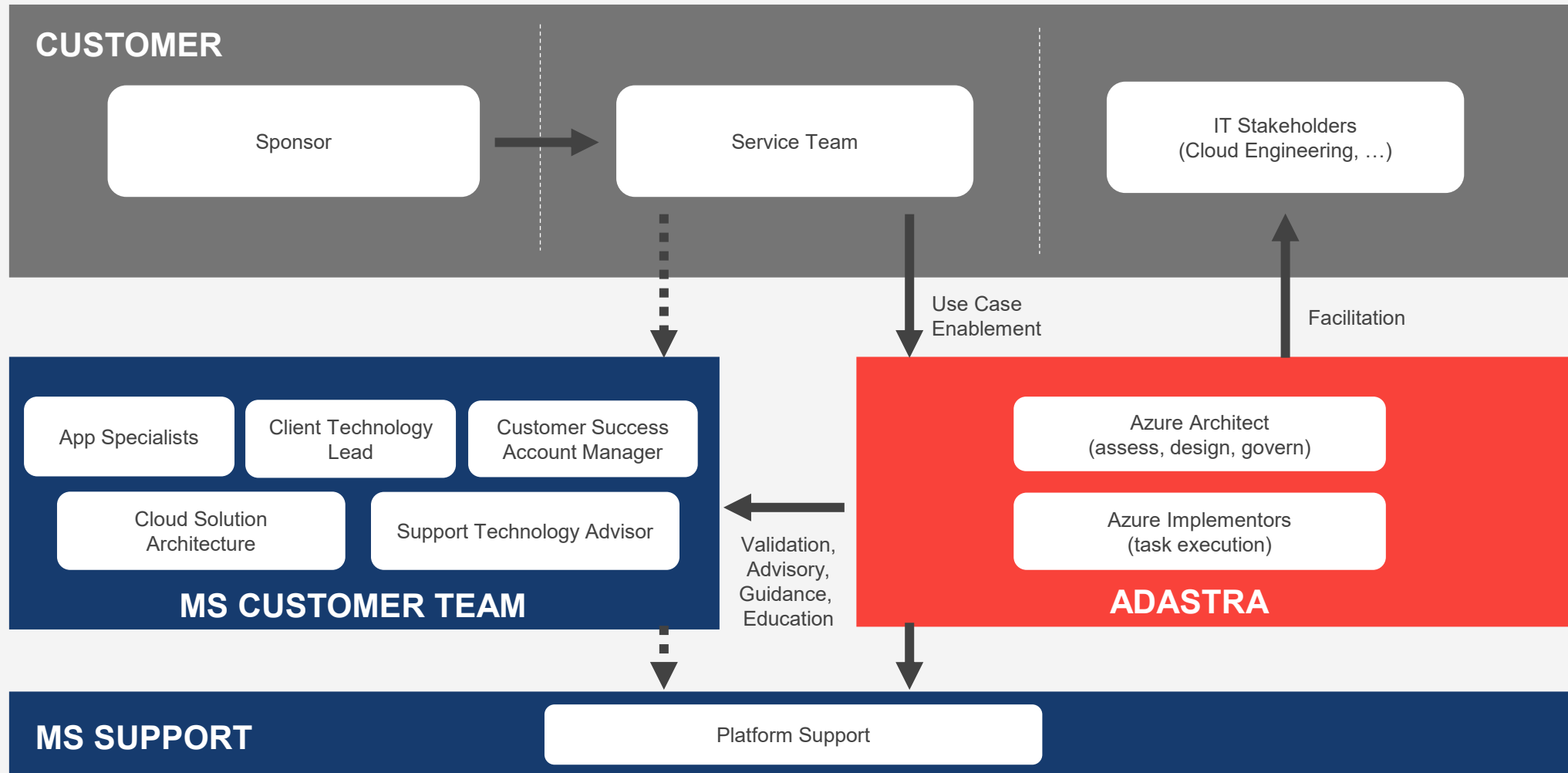(FIPS 140-2 Level 2 validated HSMs)

Global Deployment thru Devops

Next Steps

ADASTRA

Adastra / Microsoft Collaborative Team Structure

Azure Modernization Assessment

| Workshop 1 | Workshop 2 | Workshop 3 |

Modernization Proposal

- North star / purpose playback
- High level architecture
- Estimated Azure run cost
- Implementation plan
- Implementation costs

Assessment Workshops

- Cloud modernization goals / outcomes
- Current state application services / architecture / systems
- Current state network architecture / data center design
- Future state service growth / global deployment goals
- Cloud architecture and service requirements

Pricing and Resources

Post workshops, Adastra will deliver assessment outcomes within 10 business days.

- 1 x Azure Architect
- **Cost: $15k**

Why Adastra?

Adastra's deep experience with Devops standardizes and accelerates global deployment of services.

Adastra's global delivery team enables 24 / 7 support and economies of scale for our customers.

Adastra's WAgile approach ensures the right foundation, while enabling incremental value post foundation.

Adastra has implemented successful, proven Azure modernization solutions at >130 organizations.

Adastra is ranked as the top Microsoft app / data partner in Canada, and is a Microsoft global finalist.

Adastra's team of 250 certified Azure modernization specialists have deep experience realizing Azure customer success.

Adastra maintains strategic, long term partnerships with our customers. We are invested in our customers long term success.

As a 25 year old global organization, Adastra is the right strategic partner to work with; Delloite's Top 50 Managed Companies status.

Adastra delivers the complete solution life cycle for our customers; discovery, design, plan, implement, release, support.

Thank You!

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