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Sybase to Azure SQL Migration

Kevin Harmer

ADA STRA





Adastra Overview



Adastra delivers industry leading **Solutions and Services** across the **Data & Digital** spectrum

DATA

Cloud
Data Engineering
CRM & ERP
Architecture
Managed Services

GOVERNANCE

Data Governance
Data Quality
Master Data Mgmt
Reference Data Mgmt
Meta Data Mgmt
Data Lineage

ANALYTICS & AI

Machine Learning
Statistical Analysis
Text Mining
Visual Analytics
RPA & IPA

DIGITAL & DESIGN

Mobile Apps & Web
Development
UX/UI
Personalized Videos
Emerging
Technologies



Adastra Global Footprint

2000+

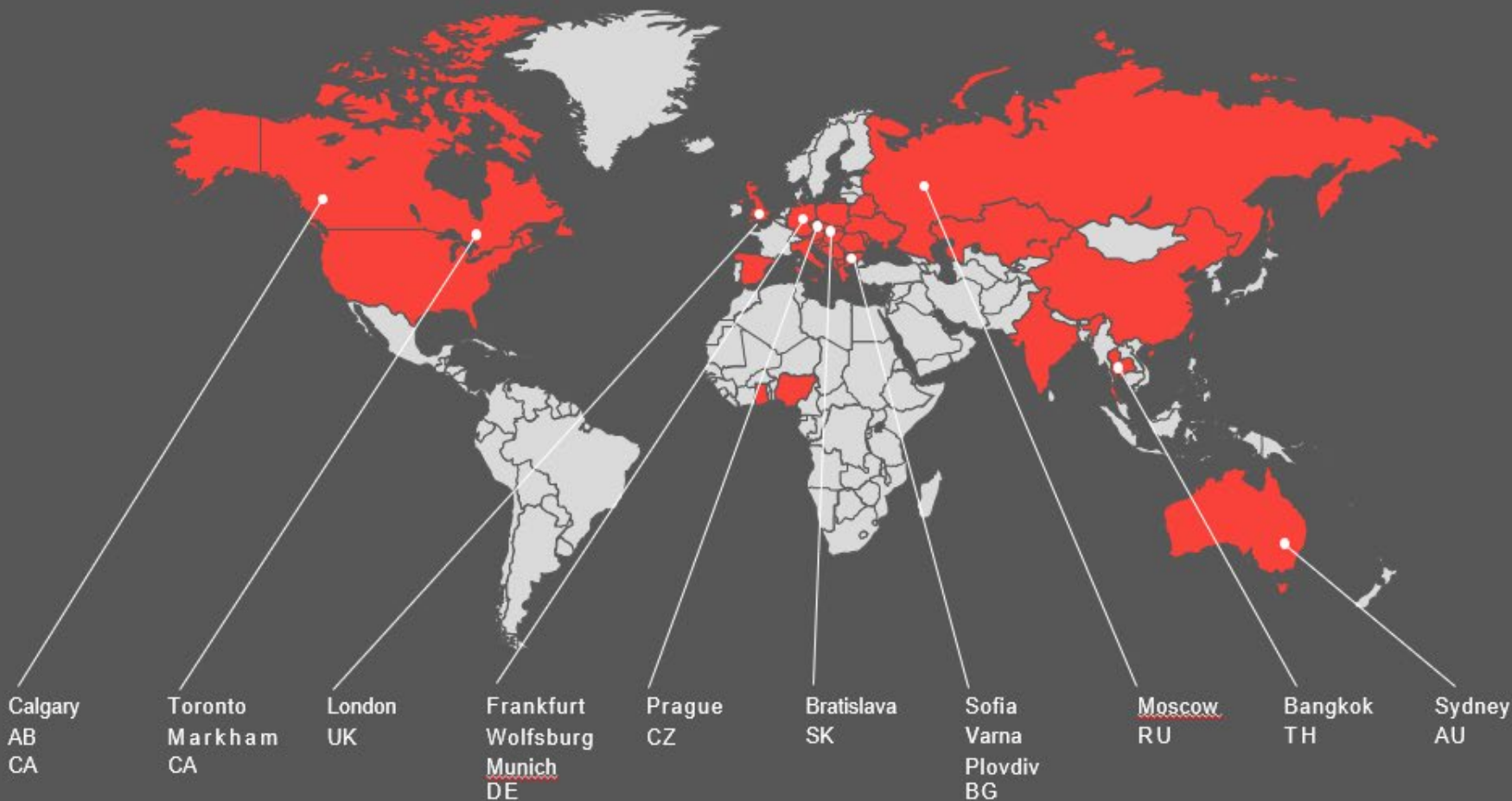
2000+ professionals

1000+

Projects in 46 countries

1

Focus





Adastra Success Stories

Adastra has successfully architected / implemented Azure Modernization solutions for > 85 organizations in the last 24 months. Select clients:



Next Done Now.™





Adastra: #1 Data / AI Partner in Canada

Microsoft Canada ranks Adastra as their #1 Data / AI Partner

2021 Canadian Partner Winner for Three Awards: Analytics Impact, AI Impact, and Data Platform Modernization

2021 Global Partner Finalist for One Award: Analytics Impact



ABILITY TO SCALE

With over 2000 GLOBAL staff, 500 CDN staff, and 250 Azure and Power Platform specialists, Adastra is ready to scale



COMPLETE STACK DELIVERY

Azure Infrastructure, Azure AppDev, 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 85 organizations in the last two yrs



AGILE AND RESPONSIVE

Adastra's agility enables us to react / deliver for SMB customers, while also having breadth / depth for Enterprise customers



BESTSHORE DELIVERY

Adastra's bestshore delivery model ensures top global experts can be applied to any project, 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 Microsoft Partnership

Microsoft
Partner



Gold Data Analytics
Gold Data Platform
Gold Cloud Platform
Gold Datacenter
Gold Application Integration

Adastra: Go-To Partner for Data & AI

Microsoft IMPACT Award Recipient:

- 2021 Analytics Impact Award
- 2021 AI Impact Award
- 2021 Data Platform Modernization Award
- 2020 / 2019 Commercial Partner of the Year
- 2019 Manufacturing Innovation Impact Award

Azure Migration Partner

Advanced Specialization for Analytics

Advanced Specialization for Windows / Azure
SQL Migration to Azure

Lead Canadian Partner for Synapse Migration
/ Implementation

Product Team Collaboration for Azure Synapse
/ Azure Purview / Azure Databricks



Adastra Azure Specializations

AZURE FOUNDATION

cloud assessment, 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 Sybase Migration Success Story



Success Story: Sybase Migration

Adastra partnered with an exclusive provider of online property search and registration. The provider owns and operates a Land Registration System, which is recognized as one of the world's most advanced, secure and sophisticated systems.

Project Objective: Enhanced the system stability and scalability of the provider's mission-critical customer-facing platform, while also modernizing the data estate to cloud.

Scope Delivered:

- Successfully migrated the Database tier from Sybase to Azure SQL, and updated application layers to work with the new DB platform, through a no downtime approach
 - Client Application Suite was served from 12 databases hosted in Sybase 15.5 v7.0, all migrated to Azure SQL
 - Data volume of 1.4TB
 - There were 5 critical application dependencies fully addressed / resolved thru the migration



Key Considerations

Infrastructure

- Azure SQL architecture successfully:
 - Maintained system availability level of >99.97%
 - Achieved response time requirement (from database) of less than a second, on average
 - Provided full redundancy and high availability
 - Local HA and Geo DR
 - ...

Database

- Sybase to Azure SQL migration successfully:
 - Refactored all Sybase code that was not directly supported in Azure SQL
 - Changed the Database to replace current custom sequencing with Azure SQL native sequencing
 - Replaced current logical Sybase Partitions and segments to Azure SQL partitions
 - Modified all hard coded error codes within Sybase objects
 - Supported special characters
 - Handled Timestamp differences between Sybase and Azure SQL
 - ...



Why Migrate to Azure?



Innovation & Growth Benefits

Organizations that harness data, the cloud, and AI outperform their peers

~ 2X Operating margin

> \$100M Additional operating income

Keystone Research CIO Survey

Infrastructure

80% reduction in administrative work

Remove patching, network setup, firewall configuration

Enable application innovation

Forrester TEI of Azure

Apps

Websites running in minutes

Remove the need to wait for servers

Improve app delivery time by 50%

Forrester TEI of Azure

Infrastructure

New data analysis approaches

With cloud, we collect data we couldn't before

Make personal connections that stand out in a sea of information

Anheuser-Busch InBev



Achieve Differentiating Value

Security

6.5 trillion threat signals analyzed daily

3,500 security experts

\$1 billion per year investment in security

Innovation

Intelligent capabilities, trained on millions of DBs

Only cloud with evergreen SQL, which never needs to be patched or updated

Only fully-managed service for any .NET app

Offers

Up to 5x less expensive than AWS

Azure Hybrid Benefit

Free Extended Security Updates

Leadership in performance and scale



Built-in Hybrid

Operate seamlessly across your datacenter and the cloud

Only cloud provider with end-to-end hybrid infrastructure

2.5M+ hybrid enabled Windows Servers through Windows Admin Center

Most comprehensive backward and forward SQL compatibility with Azure SQL DB Managed Instance



Layered Data Security Approach



Compliance: FedRAMP, HIPAA, PCI, EU Model Clauses, GDPR, UK G-Cloud, ISO



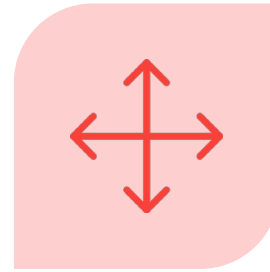
Resolve Current State Challenges



Datacenter contracts expiry



Quickly integrate acquisitions



Urgent capacity needs



Software and hardware refresh



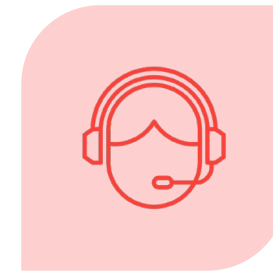
Security threats



Compliance



Application innovation



Software end of support








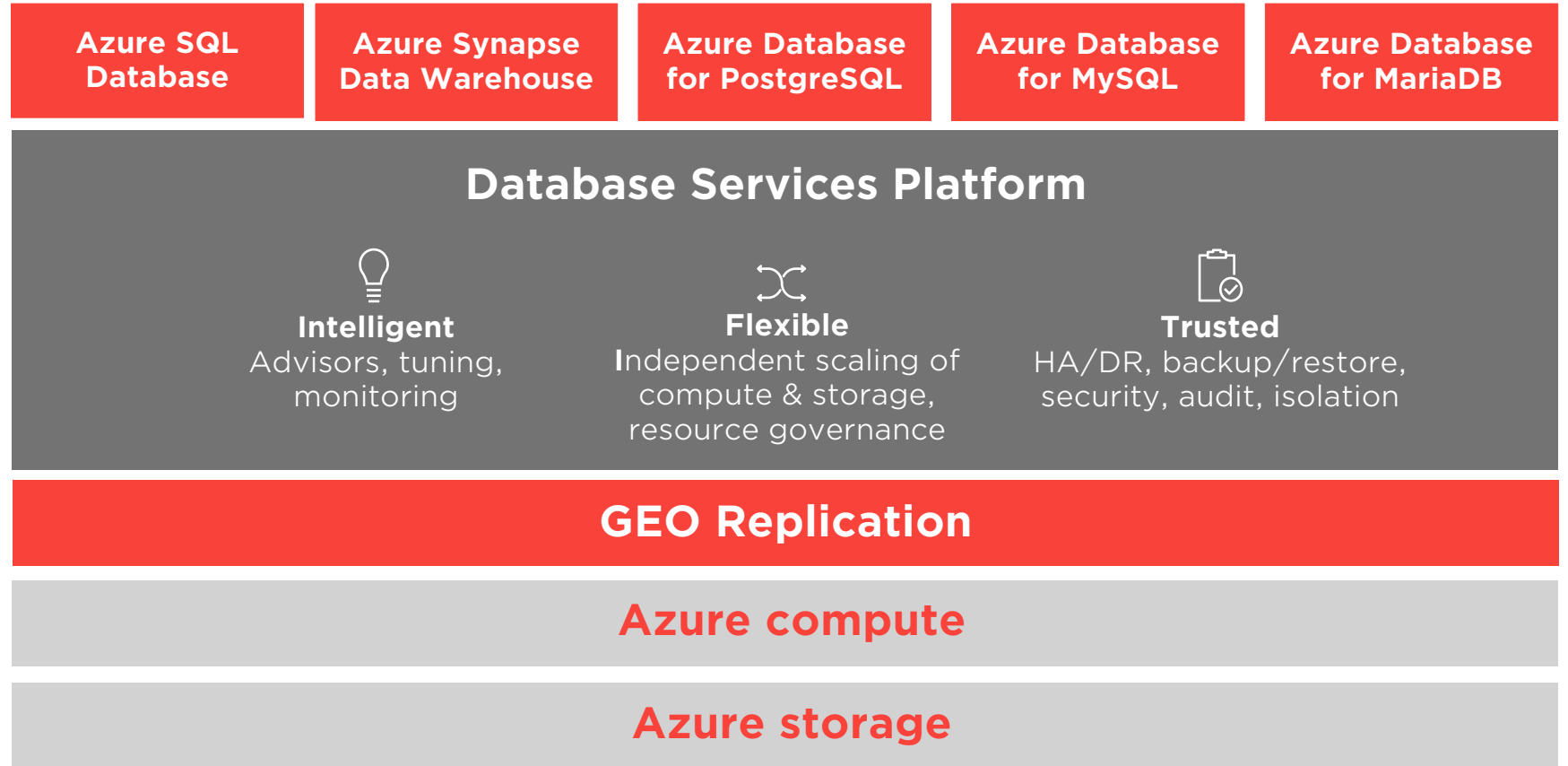
Azure Data Migration Decisioning



Azure Data Platform Options

Common services for all data engines on intelligent perf, security, hyperscale with built-in HA

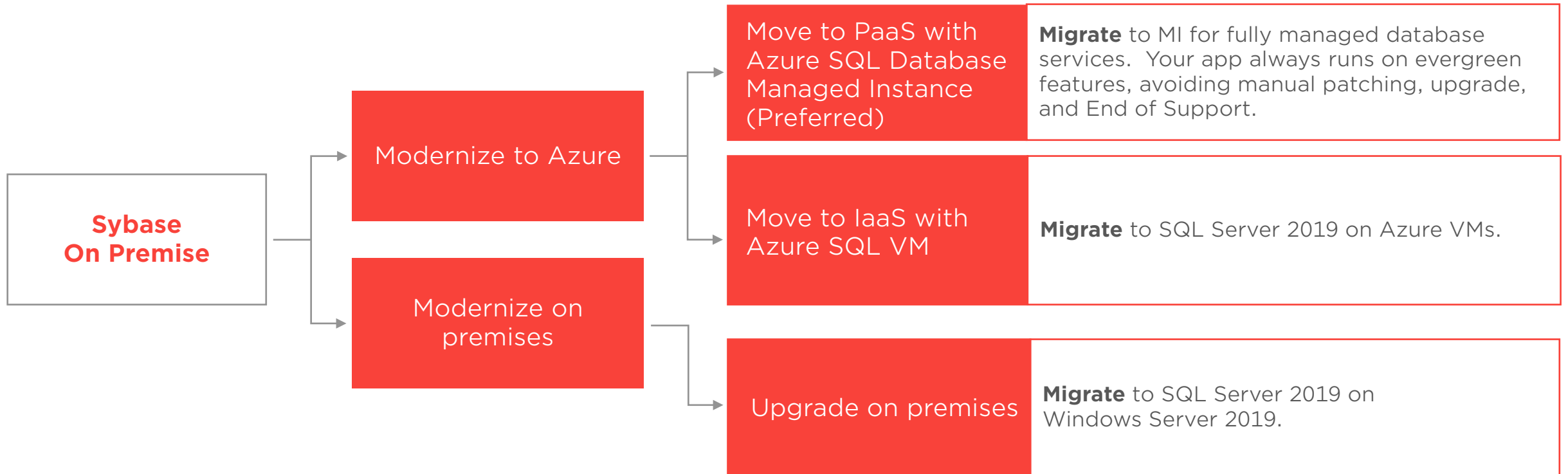
-  Power BI
-  Azure App Services
-  Azure Data Factory
-  Azure Analysis Services
-  Azure Machine Learning
-  Azure Cognitive Services
-  Azure Bot Service



← Globally Available in 54 Regions →



Migration Options Targeting Azure SQL





Azure SQL Database Managed Instance:

The best destination for fully-managed SQL in the cloud

Evergreen SQL

- Eliminates manual patching, upgrades and end of support

Best TCO

- Meets mission critical requirements
- Costs 86% less than SQL Server on AWS RDS¹

SQL Parity

- Full parity based on 100% code consistency, supporting source version back to SQL 2005

SQL Support

- Up to 99.995% availability SLA, industry's only business continuity SLA

PaaS++

- Machine-Learning based, intelligent performance and security on top of PaaS



Sybase to Azure SQL Adastral Migration Approach



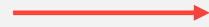
Migration Planning and Execution

Migration plan

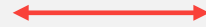
TCO | Target workloads | Approach (e.g., Rehost) | Timelines



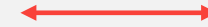
Assess



Migrate



Optimize



**Secure and
manage**

Azure Migrate | Azure Database Migration Service | Azure Cost Management | Azure Security & Management

Adastra: Azure Migration Partner



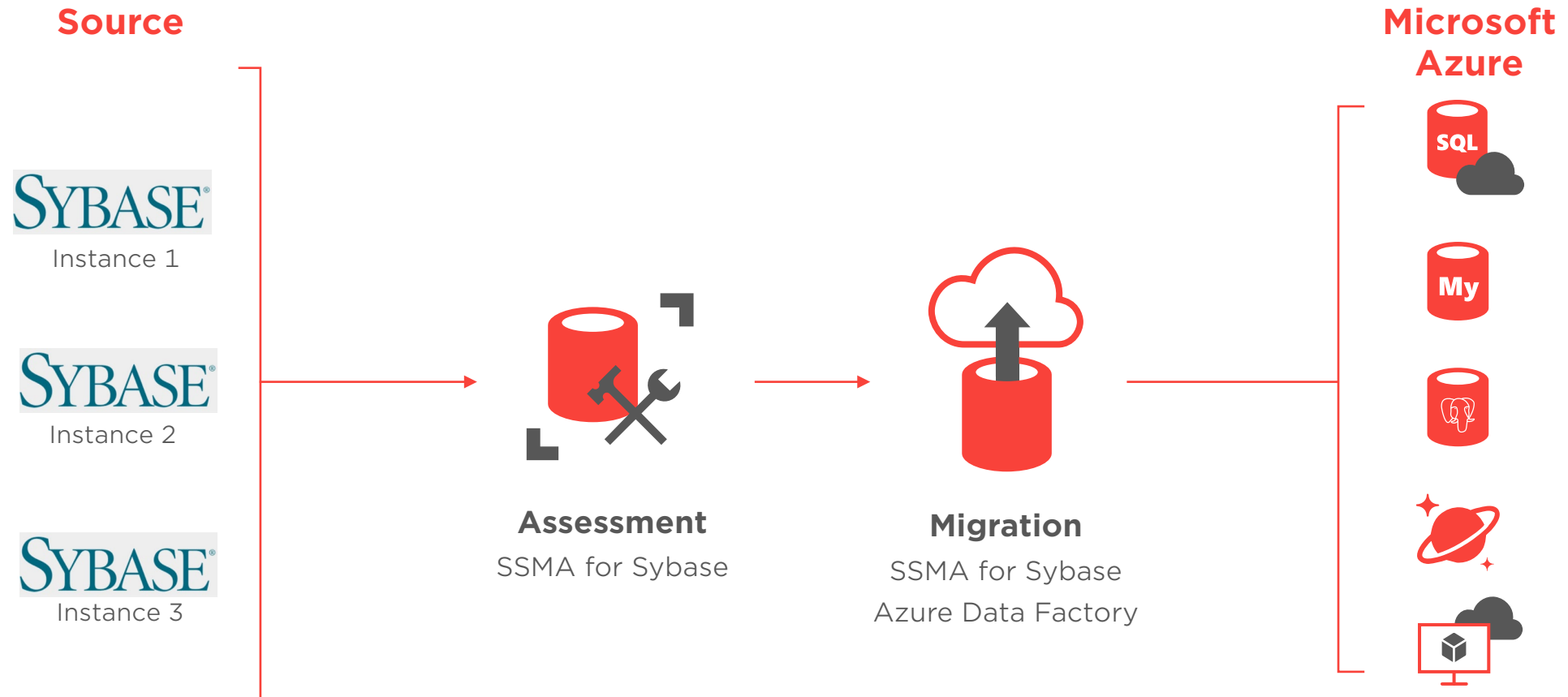
Microsoft Cloud Adoption Framework for Azure

Guide's Adastra's Azure data migration,
ensuring the right foundation for cloud data





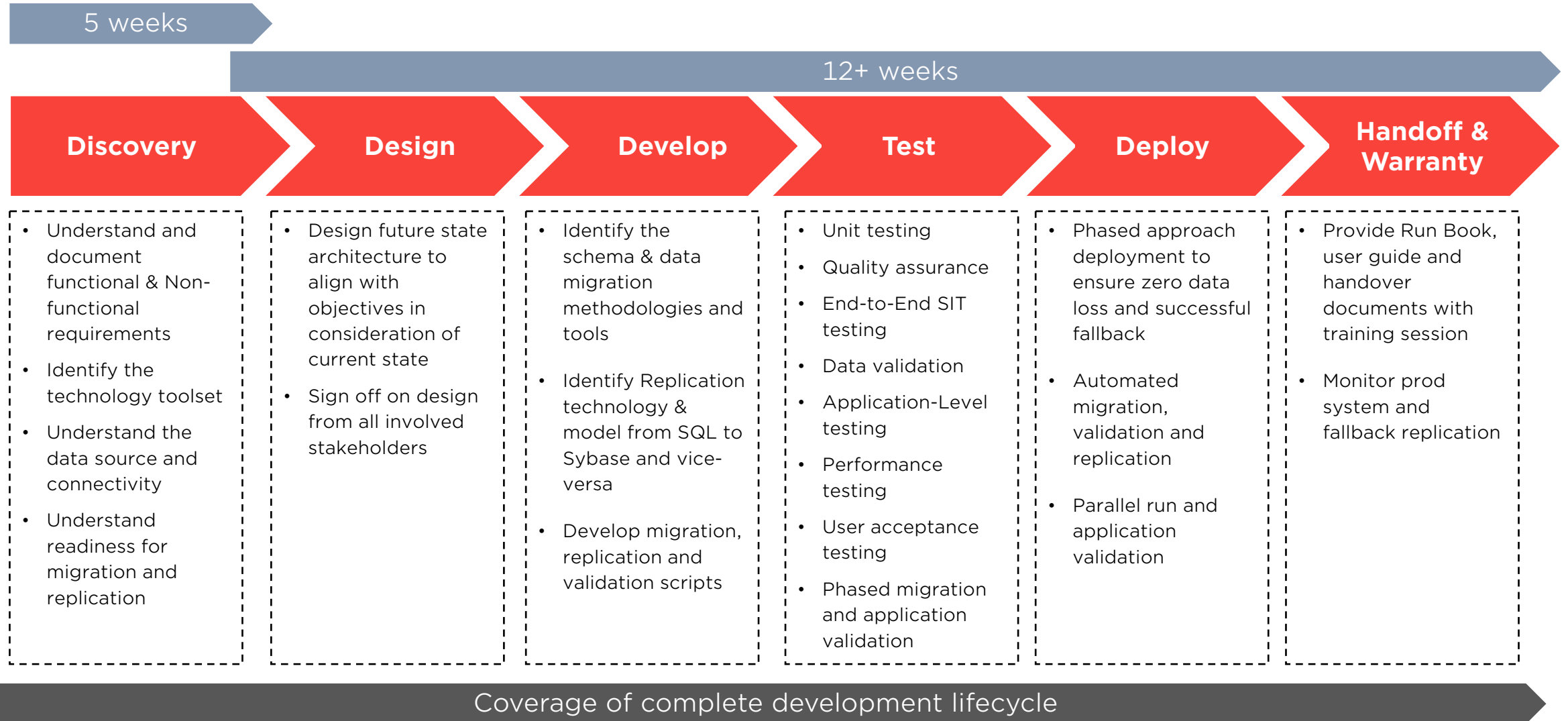
Sybase to Azure Data Journey



Seamless, end to end solution | Near-zero downtime | Resilient | Migrate at-scale from multiple sources



Phased Sybase Migration



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Getting Started



Adastra Sybase to SQL Discovery Engagement

- **Requirements gathering:**
 - Functional
 - Non-Functional incl. Performance
- **Current State inventory:**
 - Application
 - Database
 - Data
 - Views
 - Stored Procedures
 - ETLs (including Change Data Capture)
 - Reports
- **High level target Architecture:**
 - Transitional Architecture:
 - Sybase to Azure SQL
 - Azure SQL to Sybase
 - Roll back strategy
 - Steady state Architecture
 - Infrastructure sizing:
 - Production
 - Non-Prod
 - Licensing
- **SQL Refactoring Analysis**
- **Detailed Migration Plan:**
 - Approach (incl. Testing/Validation)
 - Schedule
 - Resourcing
 - Cost
- **Decommissioning Plan**
- **SOW Preparation**
- **Stakeholder Review**

Sybase to SQL Discovery is typically a 5w exercise



Proposed Sybase Migration: Discovery/Assessment

5 week discovery assessment will provide:

- Current State inventory
- High level target Architecture
- SQL Refactoring Analysis
- Detailed Migration Plan
- Migration Estimate & SOW
- Transition, Cutover & Decommissioning Plan

\$50k for the Discovery / Assessment Phase.



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For questions contact:

Kevin Harmer

Chief Cloud Officer

Kevin.harmer@adastragr.com

(647) 990-2101