

**./ADASTRA**

# **Azure Native Integration PaaS**

**Seamless Solutions, Azure-Native: Uniting  
Businesses with Intelligent Integration PaaS.**

**./ADA STRA**

## **Adastra Overview**



# Solutions & Services

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'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: #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

## Proven Success

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

## 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.

## Complete Stack Delivery

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

## Agility

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



# Adastra's Deep Microsoft Partnership



Data & AI  
Azure

**Specialist**  
Windows Server and SQL Server  
Migration  
Analytics



Infrastructure  
Azure

**Specialist**  
Windows Server and SQL Server  
Migration



Digital & App Innovation  
Azure

**Specialist**  
Low Code Application  
Development



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 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, ...

# 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.

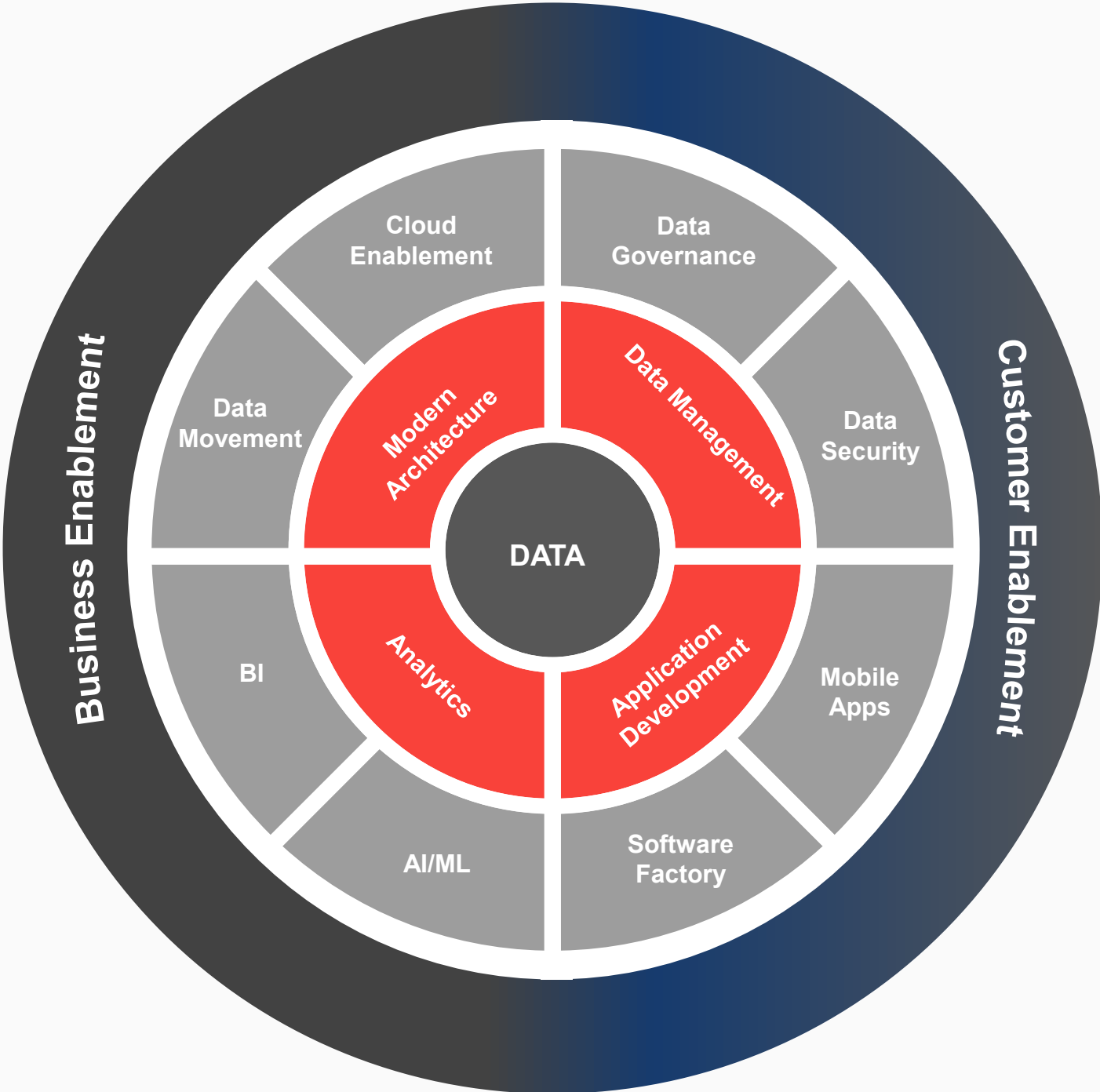




# ADASTRA'S Superpowers

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.



# 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

# Adastra Managed Services



# Key Adatastra Azure Offers

## “Branch of the Future”

**Vertical:** Finance / Retail

**Purpose:** Transform the branch / store customer experience to be sales / preferred product driven (rather than transactional), while lowering costs. Use AI customer tracking, behavior analysis, segmentation, clustering and knowledge mining to improve experience and drive optimal sales. Improve efficiency through digitization, automation, and virtual branch / store.

**Azure Services:**  
Synapse Analytics  
ML Services  
Cognitive Services  
Kubernetes Service

## “Utility Customer Retention”

**Vertical:** Energy

**Purpose:** Prove the value of enrolled energy programs by calculating (at scale) historical / forecasted energy costs without the program. Build program loyalty by demonstrating the real benefits of joining. Produces “what if” bills”; equivalent non-program billing to showcase the value of the Energy program.

**Azure Services:**  
Databricks  
Data Factory  
Power BI

## “Factory of the Future”

**Vertical:** Manufacturing / Production / Industry

**Purpose:** Achieve a three horizon (cloud foundation, predictive operations, lights-out manufacturing) IIoT future state using Azure Native services, enabling IIoT with any hardware (legacy or modern) at >40% lower TCO when compared to appliance solutions. Deliver value added services to your customers through improved engagement and better insights.

**Azure Services:**  
IoT Hub / Edge  
IoT Central  
Cosmos DB  
Synapse Analytics  
ML Services

## “Hadoop to Synapse Migration”

**Vertical:** Any

**Purpose:** Accelerate value realization from corporate data by migrating to lower friction, lower debt, more capable modern cloud services. Via low effort tooling, migrate data lake, convert Hadoop processes to spark, add sql pool for performance, integrate ml / dg services, all in Azure PaaS. Enables modern analytics through an integrated low code environment for any use case / persona, @60% lower TCO.

**Azure Services:**  
Synapse Analytics  
ML Services  
Purview  
Power BI

## “Better Together Data Governance”

**Vertical:** Any

**Purpose:** Complete your data governance journey by integrating Purview’s catalog / classification / lineage capability with Ataccama’s data quality / master data / reference data management. Enables full suite data governance by leveraging Purview’s scanning / classification / catalog engine, then bridging Purview results via Ataccama’s Purview connector.

**Azure Services:**  
Purview  
Kubernetes Service  
Logic Apps

## “Integration PaaS”

**Vertical:** Any

**Purpose:** Facilitate an event based framework using Azure native services, to perform triggered / scheduled information exchange between operational and / or analytic platforms. Supports P2P, PUBSUB, and MFT patterns. Delivers secure endpoints via api proxies, and provides guaranteed message delivery through a message queue and event manager. Enables an Azure Data Hub.

**Azure Services:**  
API Management  
Logic Apps  
Service Bus  
Event Grid  
Data Factory



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## Azure iPaaS Overview



# Azure iPaaS Coverage

- ✓ Connecting applications located anywhere within your organization
- ✓ Connecting applications inside your organization with a business partner
- ✓ Connecting applications inside your organization with a SaaS application
- ✓ Integrating applications with IoT devices

NOTE: Azure iPaaS focuses on exchanging event information between applications / devices, near real time, vs exchanging datasets by batch (i.e. use Azure Data Factory for ETL / ELT instead).

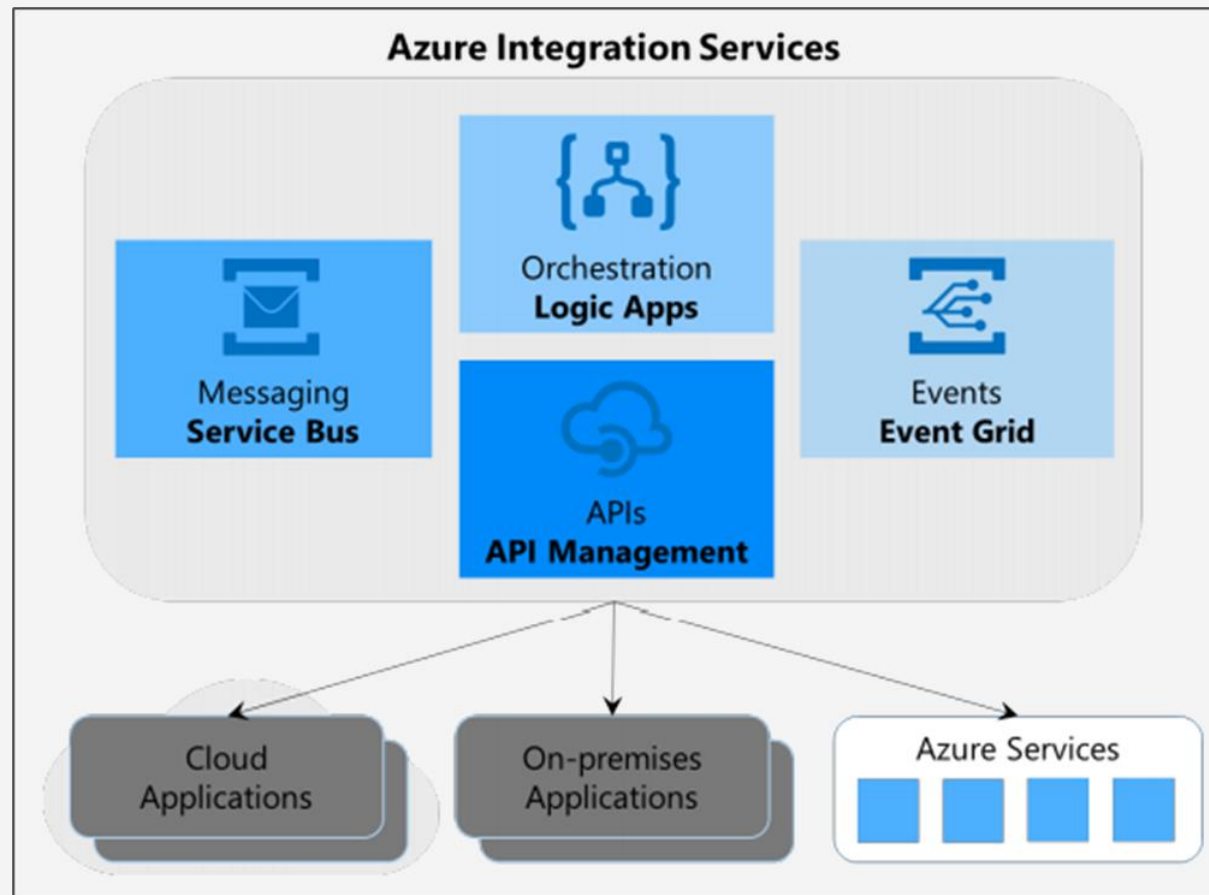


# Azure iPaaS Use Cases

Use Case	Azure iPaaS
A2A	✓
B2B	✓
EDI	✓
IoT	✓

# Azure iPaaS Services

Four Azure services work together to deliver Azure Integration PaaS. Azure Integration PaaS handles JSON / XML / FILE communication between applications / IoT. It is only one of the patterns for IoT ingestion, but the primary pattern for application integration.





# Azure iPaaS Benefits

**Services Implement  
in Minutes**

**Unlimited Scale**

**Pay for Use Pricing**

**>100 Connectors  
Supported**

**Fully Integrated  
Platform as a Service**

**Azure Governance  
Ecosystem**

**Reduces TCO by 50%**

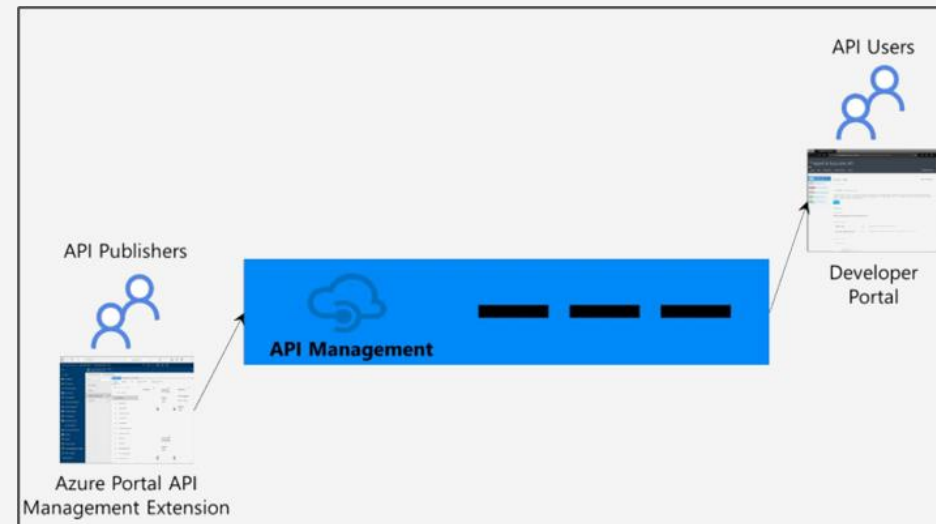
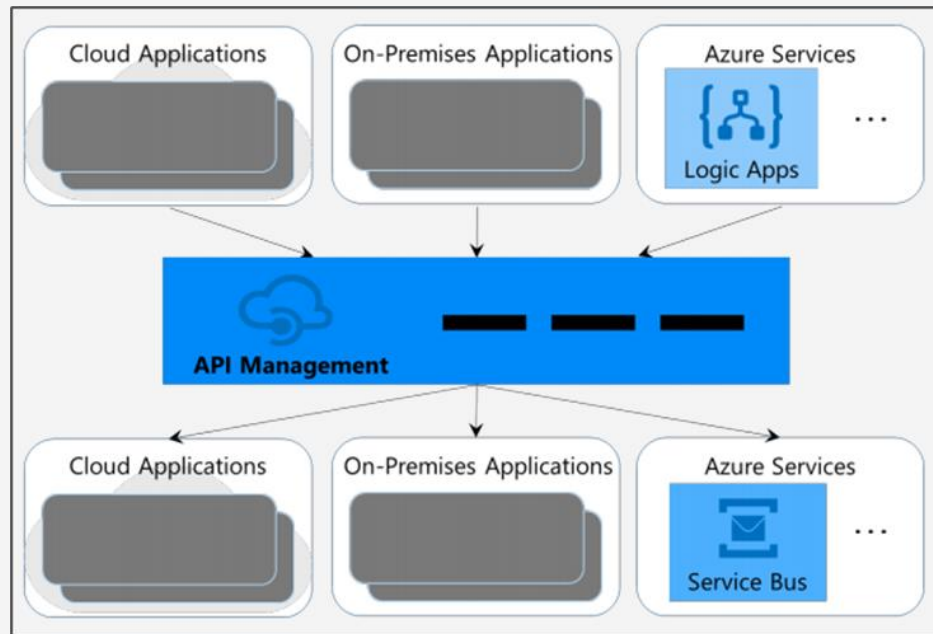
**Realize App Integrations  
2X Faster**

**No Code  
Development**

# Azure API Management

To effectively manage Azure iPaaS, a robust API management capability is needed.

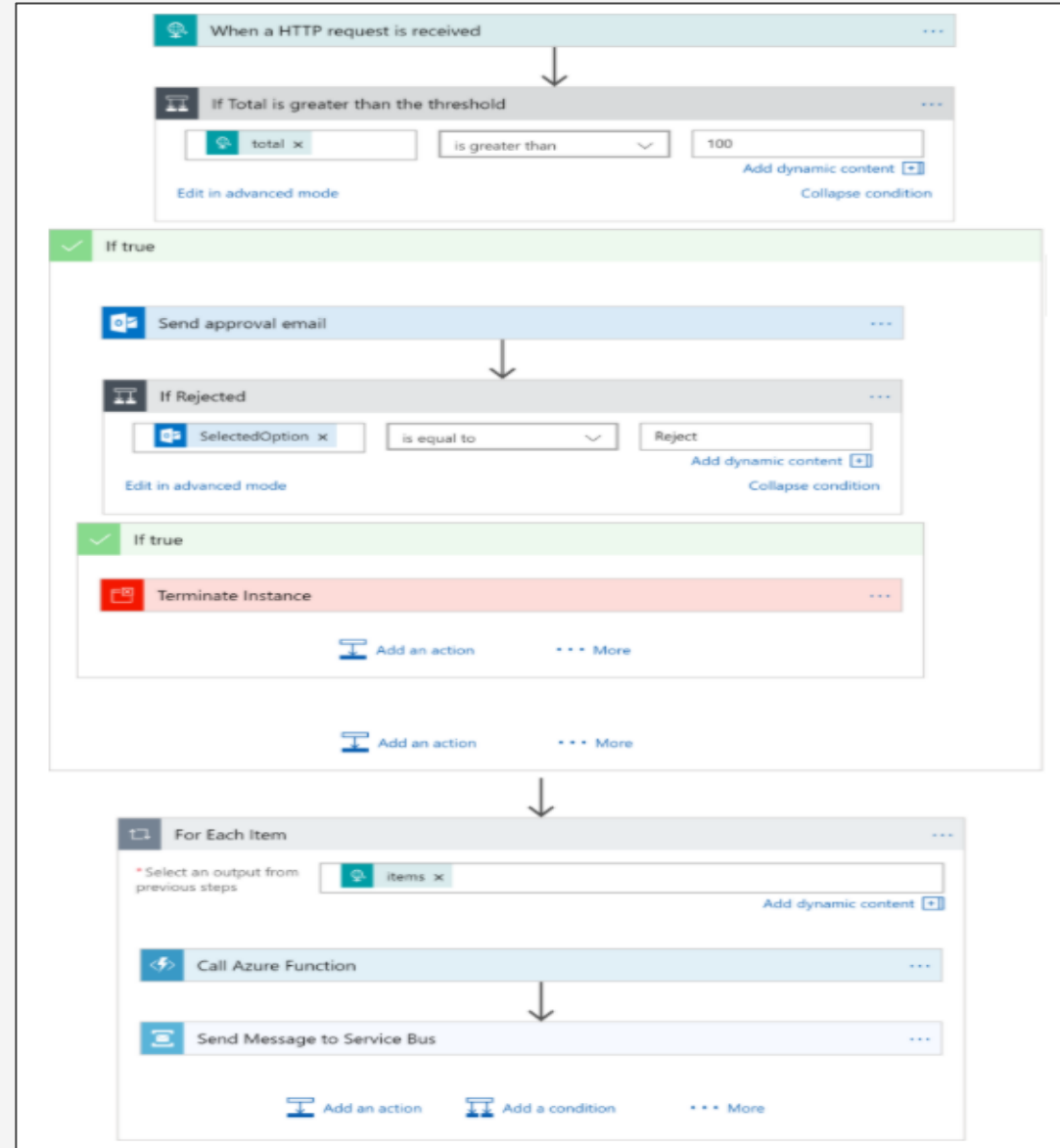
- Control the number of API calls allowed.
- Require API authentication.
- Manage performance thru caching.
- Monitor API activity.
- Analyze API trends.
- Facilitate API use by developers.



# Azure Logic Apps

Azure Logic Apps provide a no code workflow engine to orchestrate the flow of data and actions.

- Monitor an FTP site for a new file and trigger a notification and file transfer when the file appears.
- Respond to a JSON file received via an API by performing a lookup to add data then sink to a service bus
- Acquire a JSON file from a service bus, transform to an XML file, then send to a target application API
- ...



# Azure Logic Apps EIP

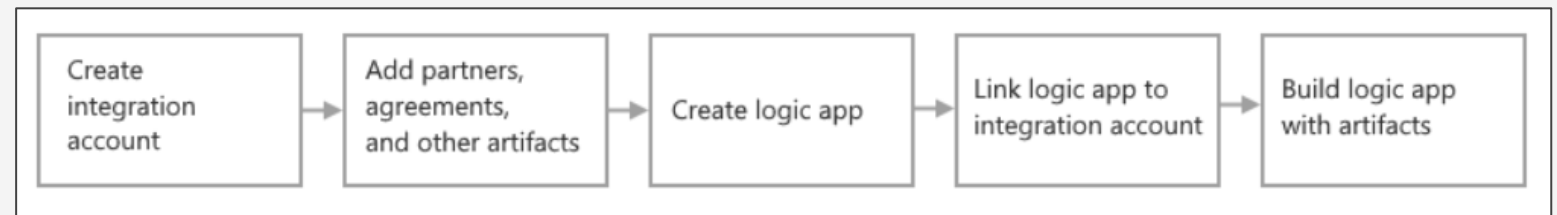
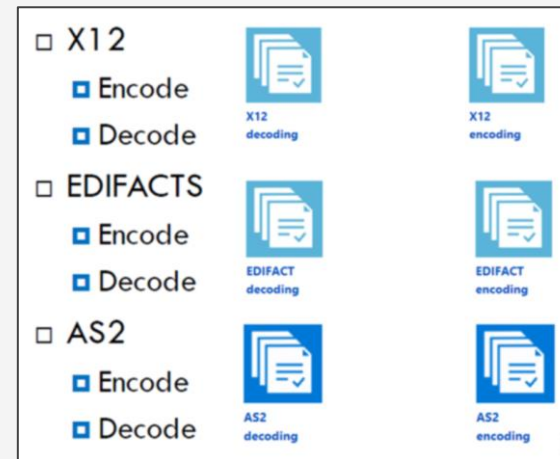
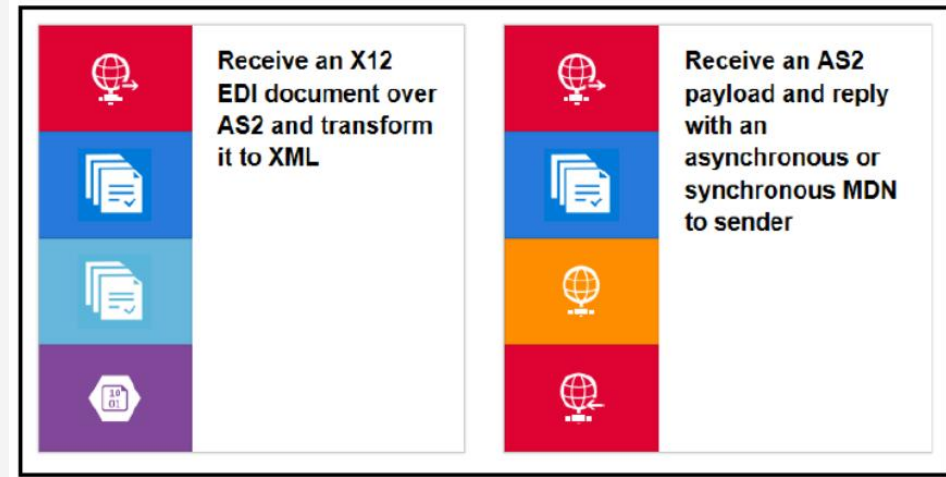
The Azure Logic Apps Enterprise Integration Pack facilitates seamless communication between organizations using standard EDI format.

Supports industry standard protocols AS2 / X12 / EDIFACT / ...

Supports Electronic Data Interchange / Enterprise Application Integration standards.

Supports SAP / IBM / ... (50+ connectors).

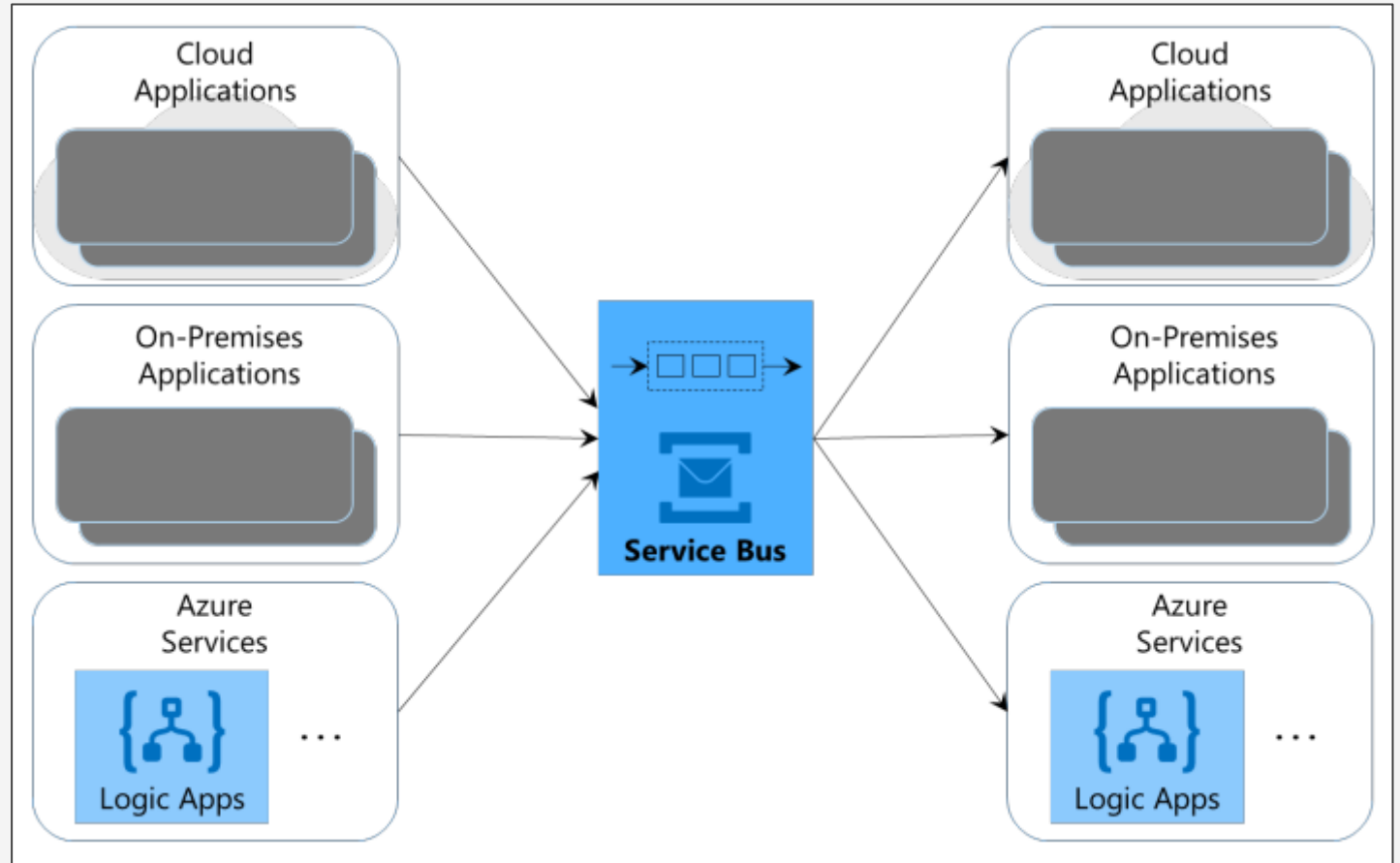
Stores artifacts (partners, agreements, schemas, maps, certs) centrally in an Azure integration account.



# Azure Service Bus

Azure Service Bus facilitates async communication between applications, enabling guaranteed message delivery.

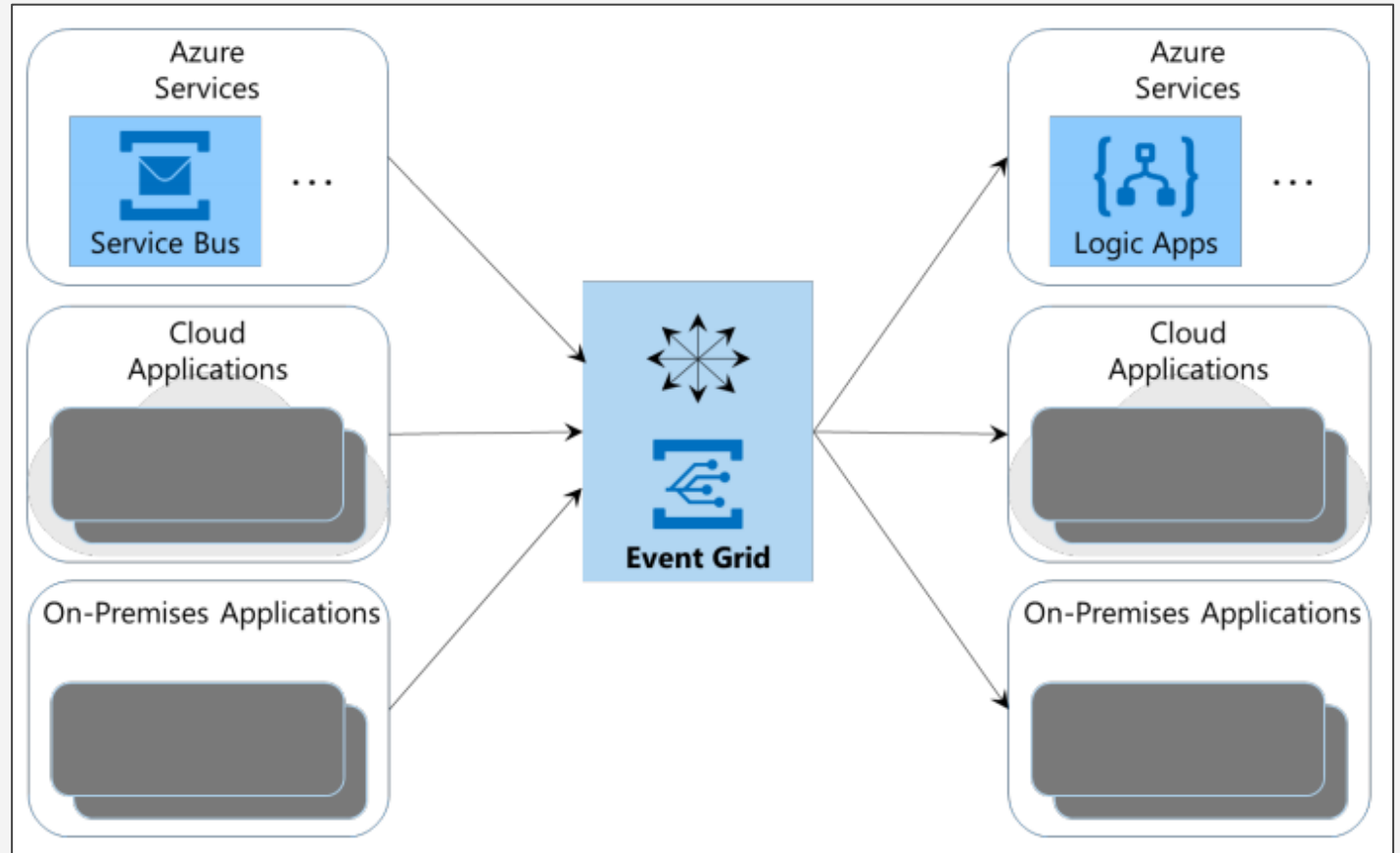
- Queue management (first in / first out, ...).
- Detect / delete duplicate message capability.
- Atomic transactions (queue events part of whole)
- Poison message handling (manage bad messages)
- Exception handling / retry controls
- Dead letter queue
- High availability / geo-replication / disaster recovery
- ...



# Azure Event Grid

Azure Event Grid notifies receivers when a new message has arrived. This reduces noisy polling for messages.

- Arrival of a new message in Azure Service Bus is detected by Event Grid (which is subscribed to the service bus), which then notifies a Logic App to execute (which acquires the message as its first action)
- Arrival of a new file in Azure Storage is detected by Event Grid (which has subscribed to the storage account), which then notifies a cloud application to process the file
- ...

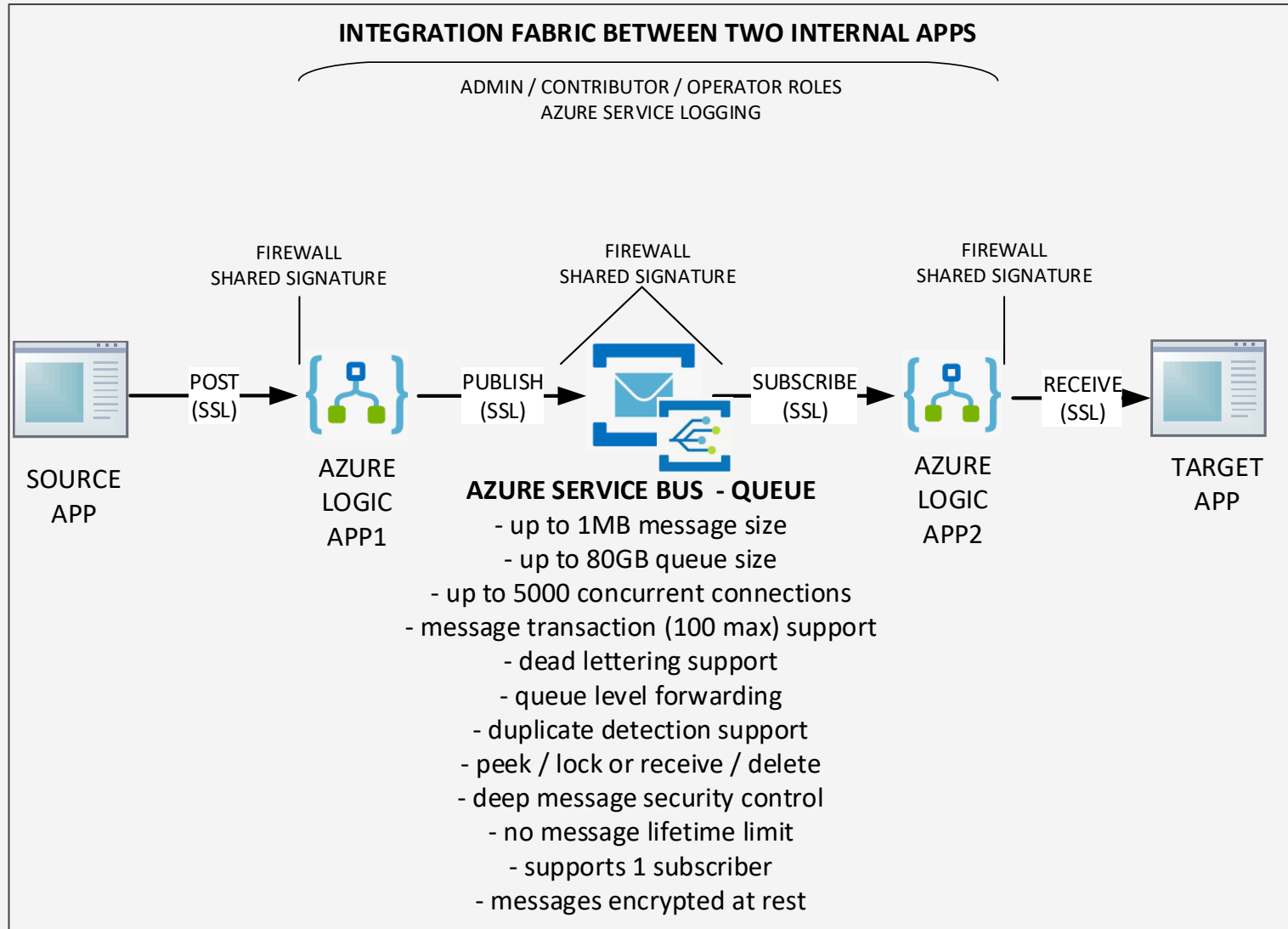


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# Azure iPaaS Patterns

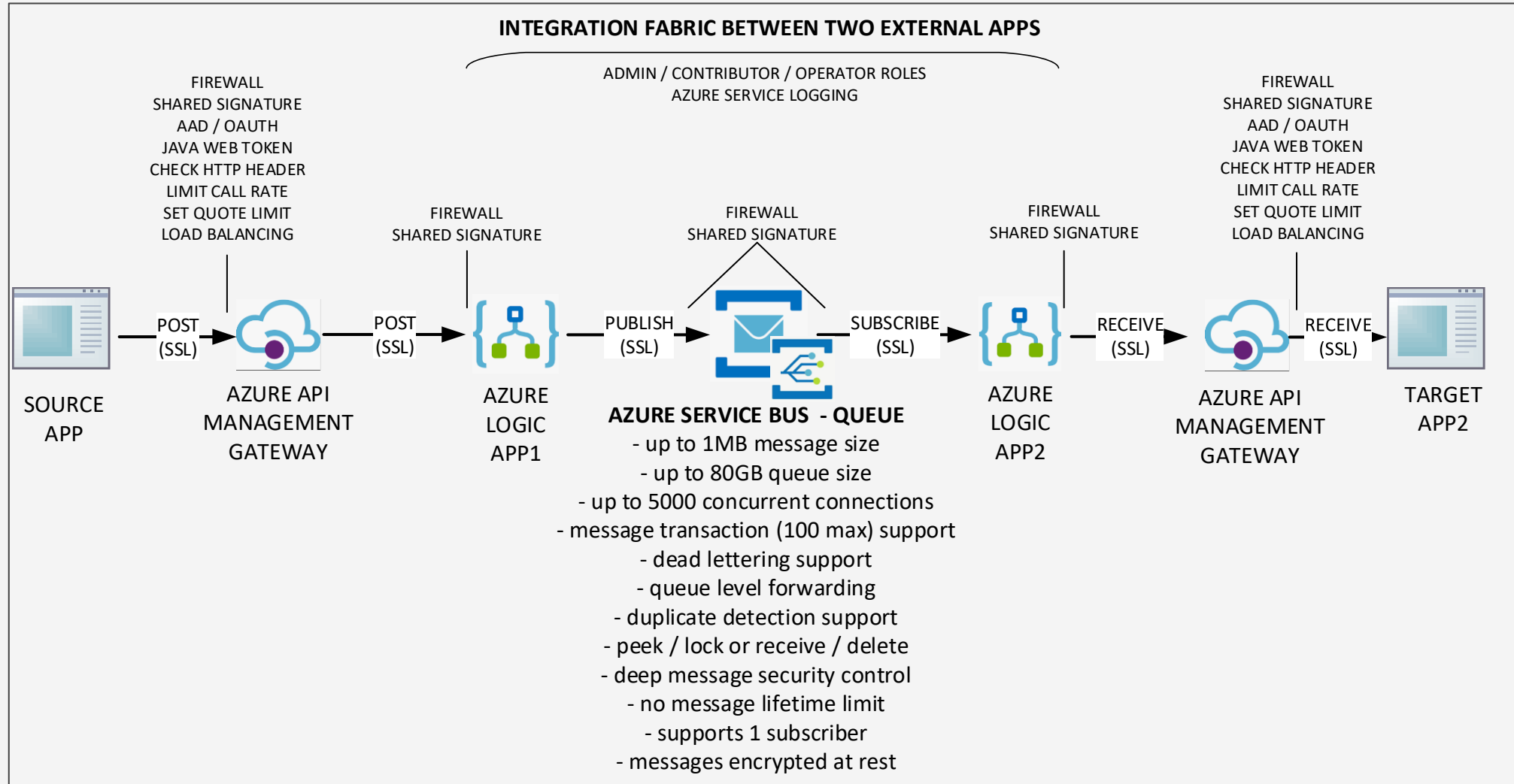


# Internal Apps (A2A)

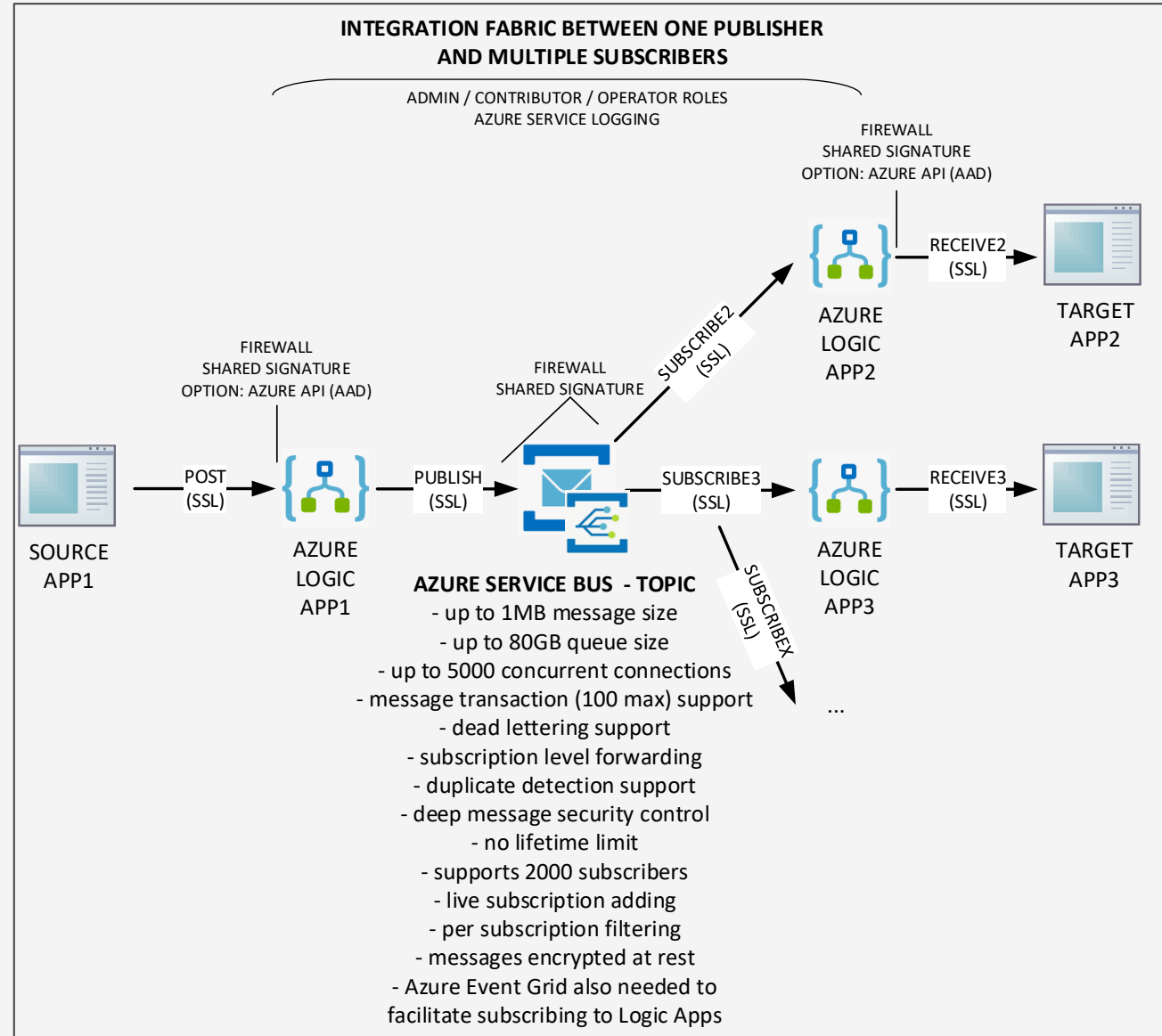




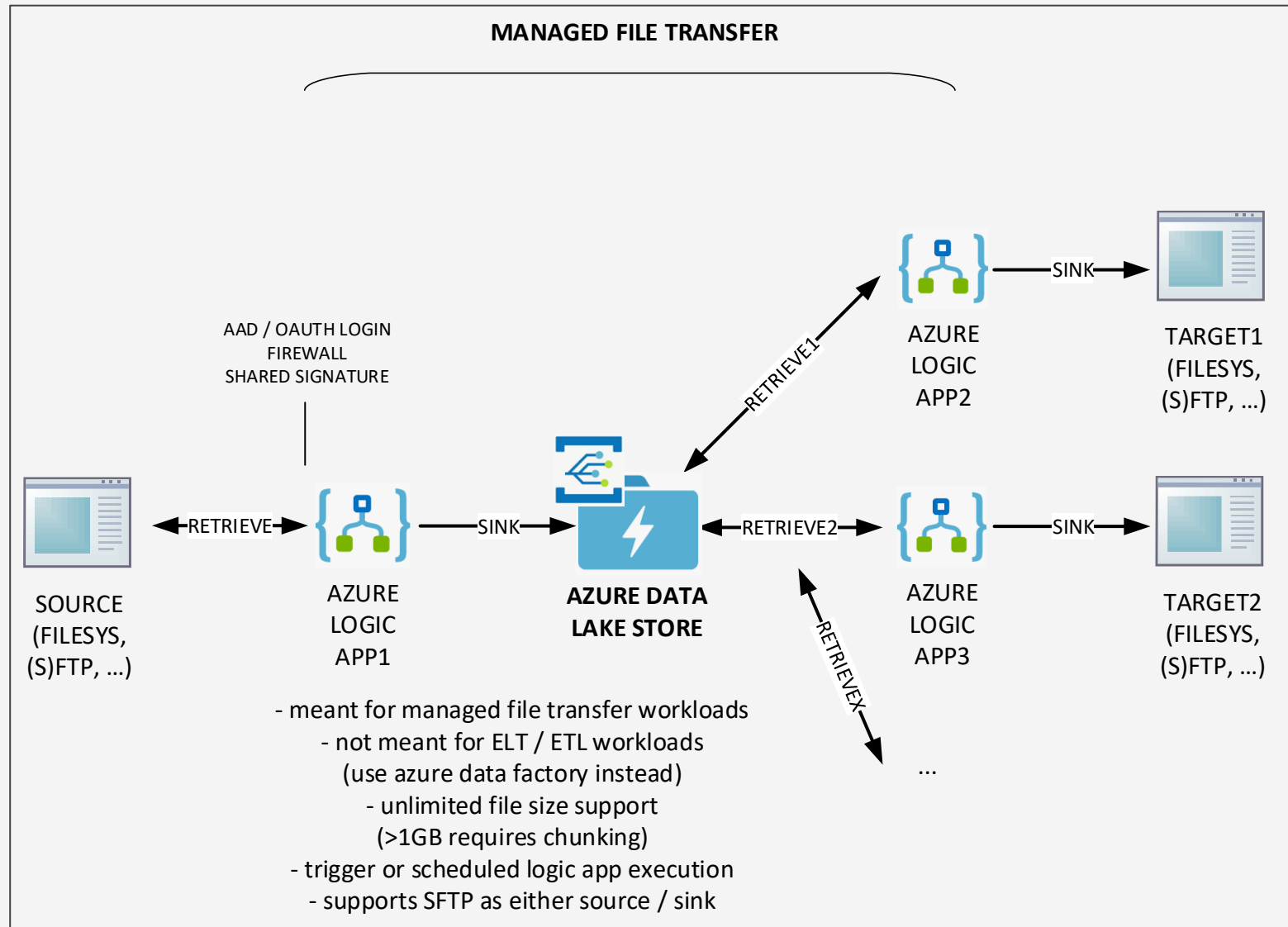
# External Apps (B2B)



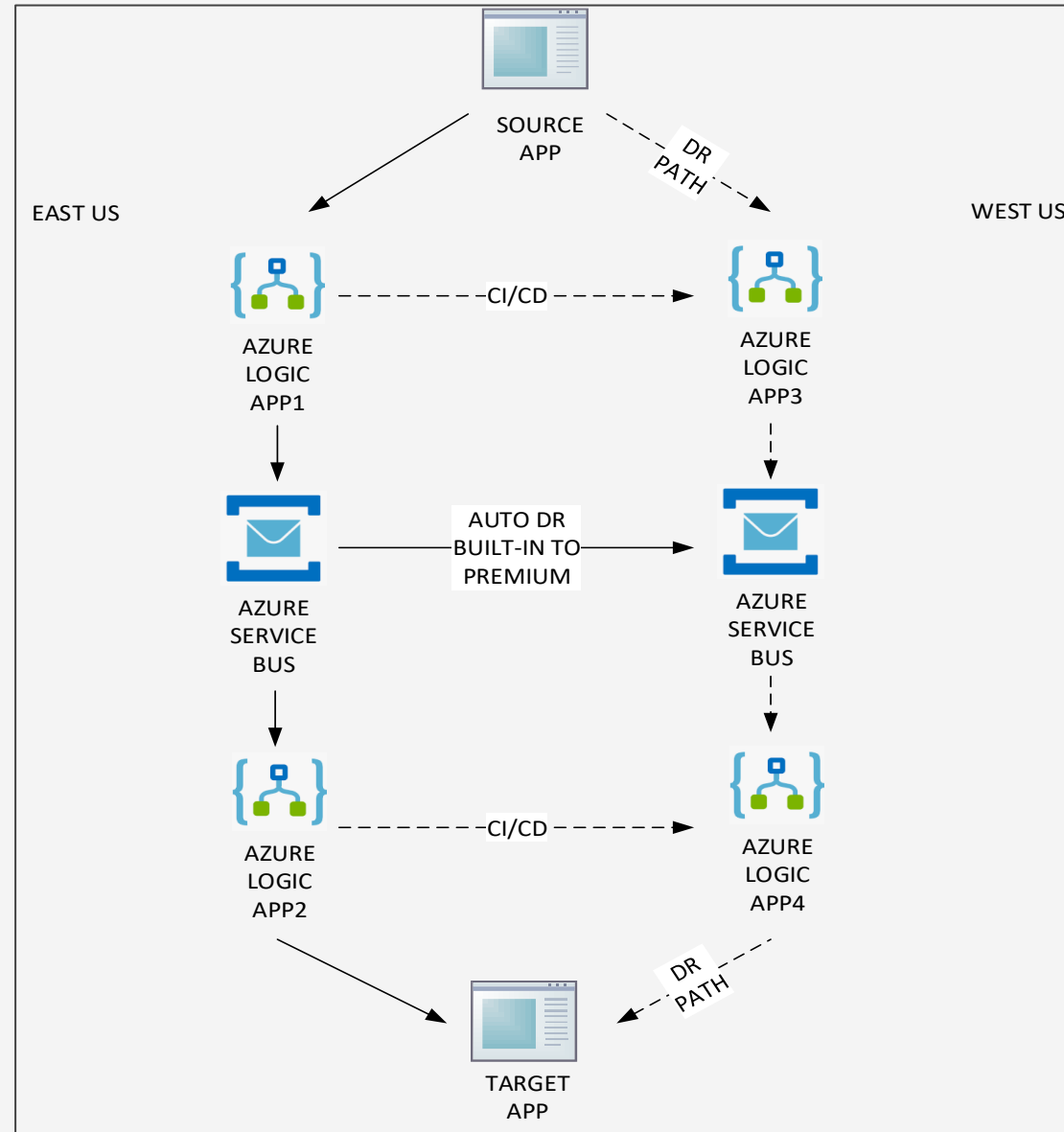
# PubSub



# Managed File transfer



# DR



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# Azure iPaaS Best Practices



# Azure iPaaS for IoT

IoT Approach	Azure Services	Use Case
Azure iPaaS	Azure Logic Apps Azure Service Bus	< 10k events per minute Significant transformation required Periodic managed file transfers
Azure IIoT	Azure IoT Hub Azure Event Hub Azure Functions	> 10k events per minute Limited transformation required

# Azure Logic Apps

## Exception Handling

Logic Apps have “retry policy” enabled for actions, by default (4 retries at increasing intervals, up to 45s).

Retry policies can be customized by action / trigger, up to 90 retries / 1 day intervals.

For exception handling, create an “on failure” path in the Logic App workflow.

Group multiple actions together in a “scope”, to consider the actions as a group, from a retry or exception handling perspective.

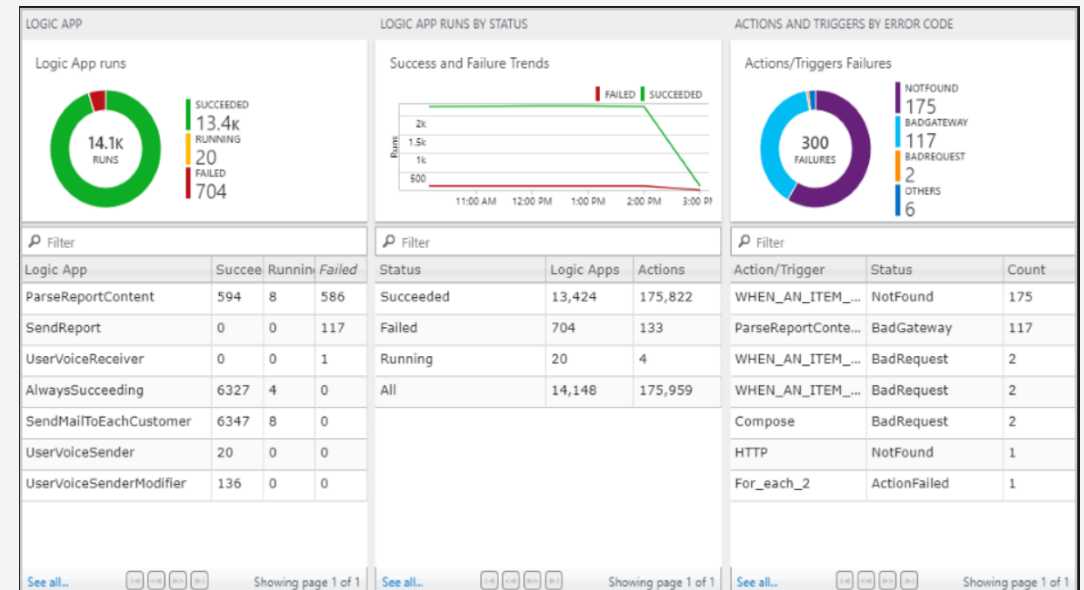
For custom exception response, use an @result() call in the JSON response, to determine the type of error, then customize the response based on the error type.

Setup alerts from off Azure Log Analytics workspace, to respond to specific exceptions reactively.

## Logging

All Logic Apps should have integration with Azure Log Analytics enabled. Azure Log Analytics provides aggregated logging across all Logic Apps, covering correlation ID's, status, resubmission status, execution time, ...

All Logic Apps will post event details to the central Azure Log Analytics workspace. From this workspace, enterprise wide Logic App details will be queried and can be alerted from.



# Azure Service Bus

## Exception Handling

Azure Service Bus retries sends up to 10 times by default, but this is configurable.

Messages that fail to send after max retries are passed to the Dead Letter Queue. This queue is automatically created with every endpoint. Messages also land in the Dead Letter Queue, if they expire, or no subscription filter match's the message.

An additional process must be implemented (Logic App, Custom Code, Manual), to handle messages that land in the Dead Letter Queue.

For guaranteed message delivery use cases, the Logic App will trigger a “peek and lock” response with Azure Service Bus (rather than “receive and delete”). This way, the message stays in the bus, until the Logic App confirms successful receipt by the client.

## Logging

Azure Service Bus should be configured to integrate bus diagnostic logs with the Azure Log Analytics workspace.

All Azure Service Bus queues / topics will consolidate logging into one Azure Log Analytics workspace.

This positions Azure Log Analytics as the one stop shop for end to end event monitoring, from Logic Apps to Service Bus to Logic Apps, across all integrations.

Enables centralized auditing and centralized alert definitions.



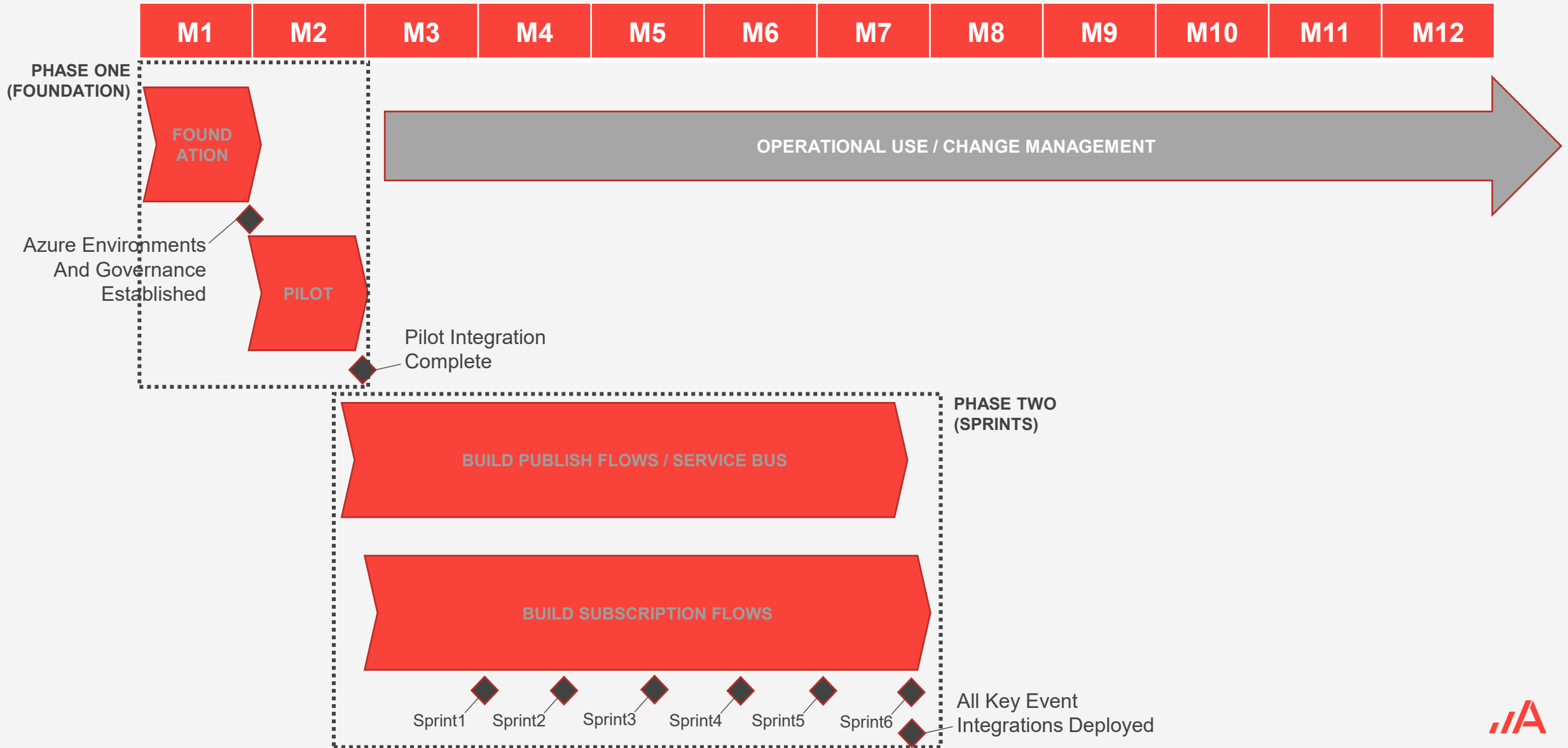


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# Azure iPaaS Roadmap



# Typical iPaaS Roadmap



# Phase One – Foundation / Pilot

## 1. Foundation (3w)

- a) Execute Discovery (goals / outcomes, systems, event types, technical requirements, ...)
- b) Define Azure Architecture / Governance (service, network, endpoint, security, retry, exception, monitor, alert, devops)
- c) Define Apotex Event Map / Volumetrics
- d) Provide TCO for Azure Solution
- e) Define Roadmap for Event Adoption
- f) Implement Azure Services
- g) Identify Pilot Use Case

## 2. Pilot (3w)

- a) Define Business Requirements Specification (event details, schema's, mappings, transformations, ...)
- b) Define Technical Design Specification
- c) Build Queue / Flow / EndPoint Solution
- d) Perform QA / UAT Testing
- e) Deploy to Production



# Thank You!



[adastracorp.com](https://adastracorp.com)



[hello@adastragr.com](mailto:hello@adastragr.com)

