

# Azure Logic Apps

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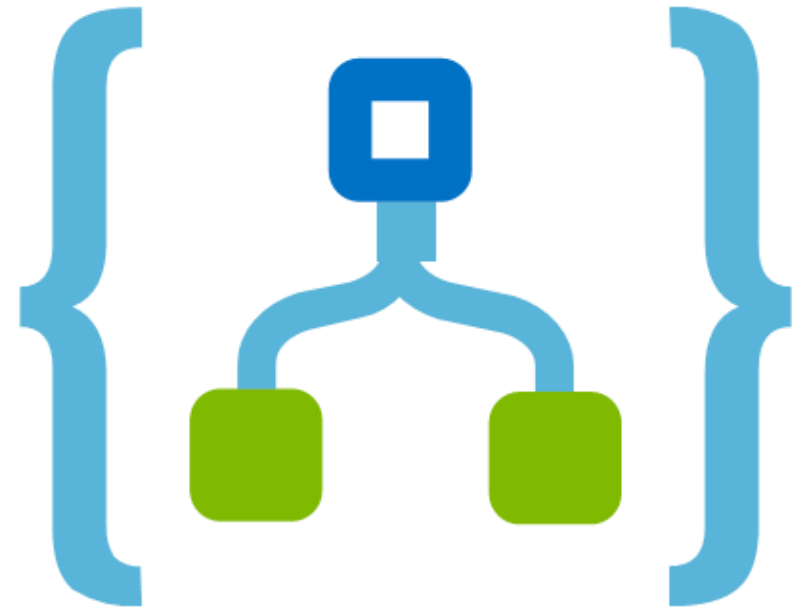
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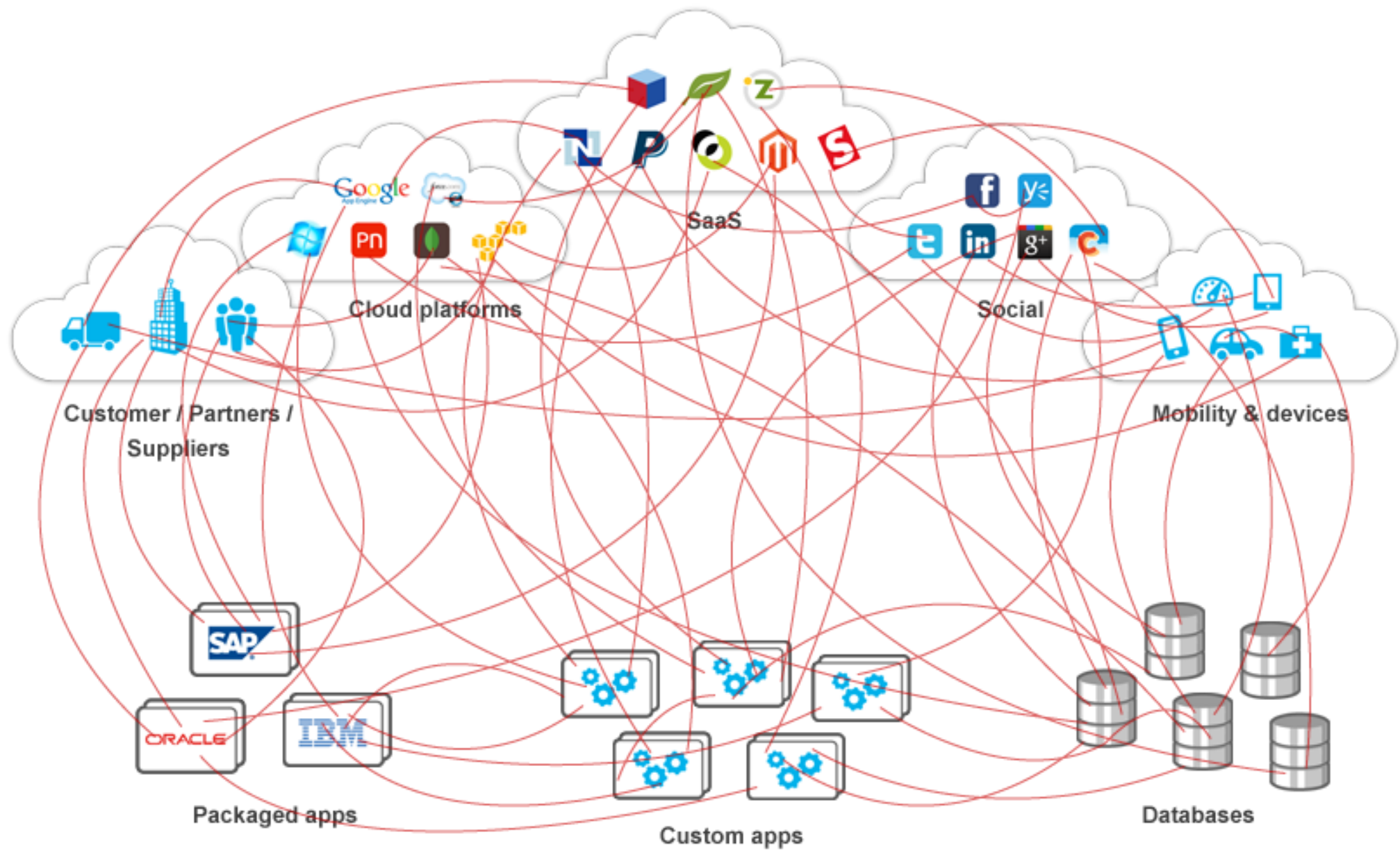


# Enterprise Integration Services

- Study of topics such as system interconnection, electronic data interchange, product data exchange and distributed computing environments.

# Enterprise Integration Challenges

- Organizations need an efficient method to enable system interconnectivity in order to seamlessly provide information and resources to those who need it most, at the right time.
- To better equip businesses for problem solving, data residing in numerous systems (e.g. legacy, modern, cloud, etc.) must be effectively integrated.
- Because each system possesses its own data format and protocols, the challenge rests in orchestration between the systems.



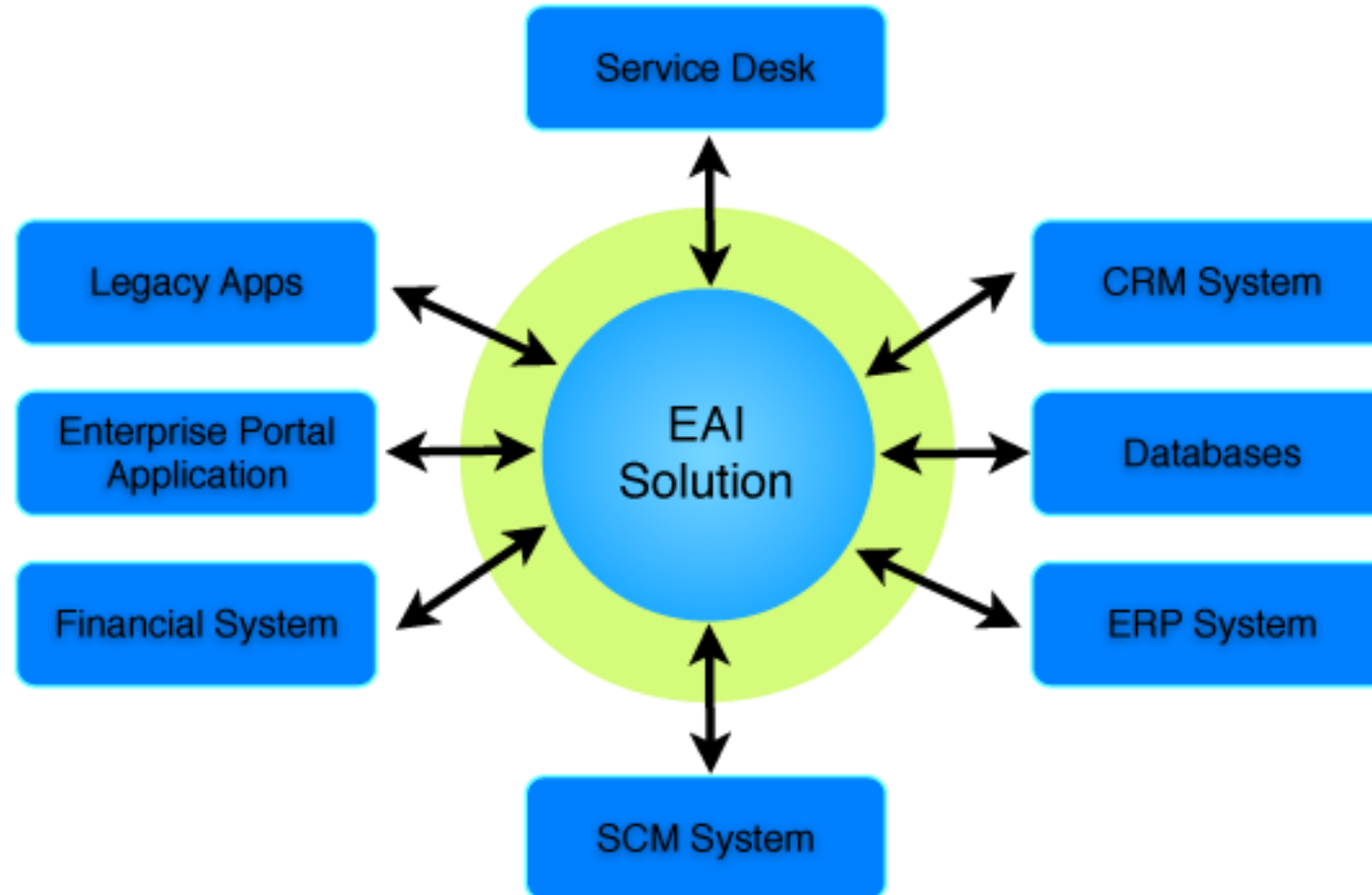
# Enterprise Integration System Benefits

- **System interconnectivity:**
  - Connect people, processes, systems, and technologies within your enterprise ecosystem.
- **Improved productivity throughout the company:**
  - Enable communication across differing systems to permit everyone access to the information they need, anytime.
- **The right information when you need it:**
  - Provide accurate data regardless of what system you are deploying.
- **Real-time updates:**
  - Ensure that you are always up to date on your business needs with real-time updates.
- **Coordinate business processes:**
  - Automate business processes, further improving productivity across your company.

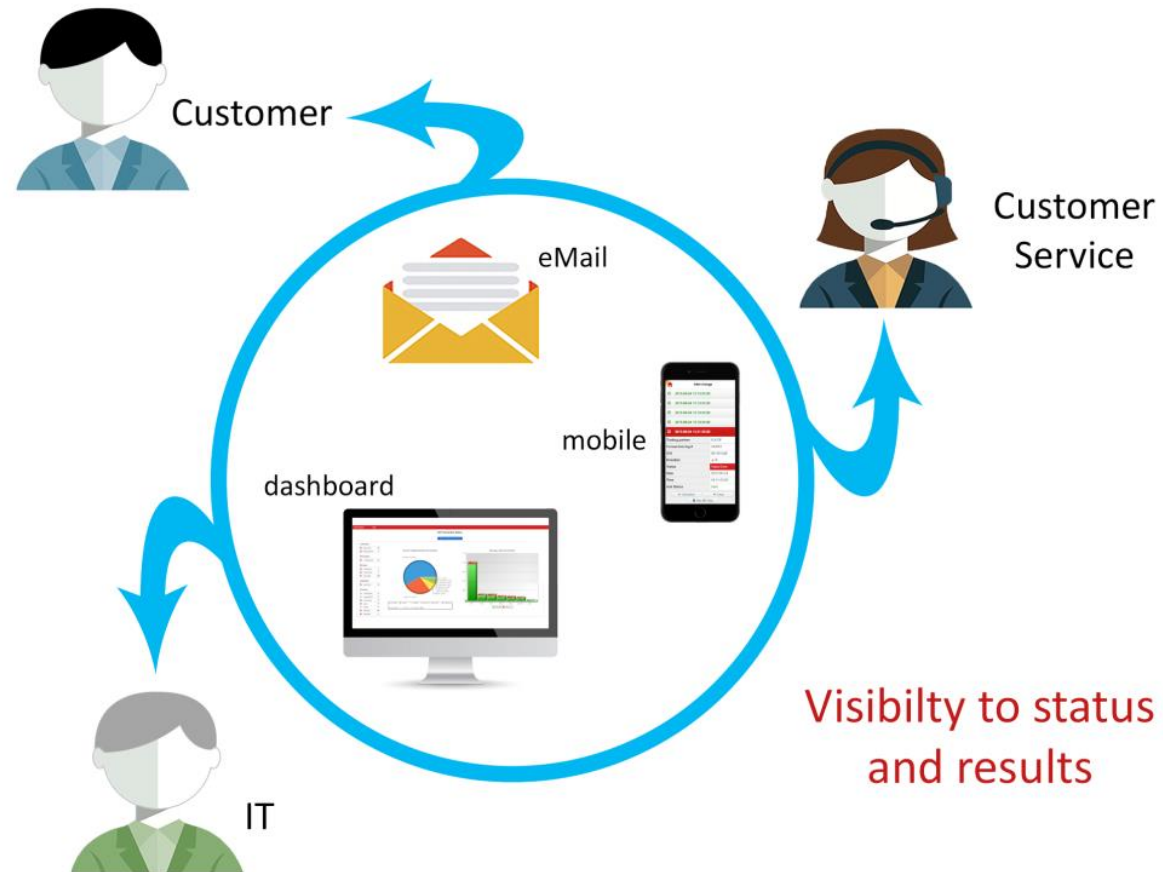
# Enterprise Integration Solutions

- Enterprise Application Integration (EAI)
  - Term used for plans, methods, and tools aimed at modernizing, consolidating, and coordinating the computer applications in an enterprise.
  - EAI aims at integrating different enterprise applications.
- Business to Business (B2B)
  - To take information out of your business applications and quickly route it into the applications of your business partners (customers, suppliers, banks, logistics providers).
- Service Oriented Architecture (SOA)
  - An architectural pattern that aims at concentrating common business functionality into distinct services and exposing these endpoints.
  - SOA is a means or architectural pattern to achieve EAI.

# Enterprise Application Integration (EAI)

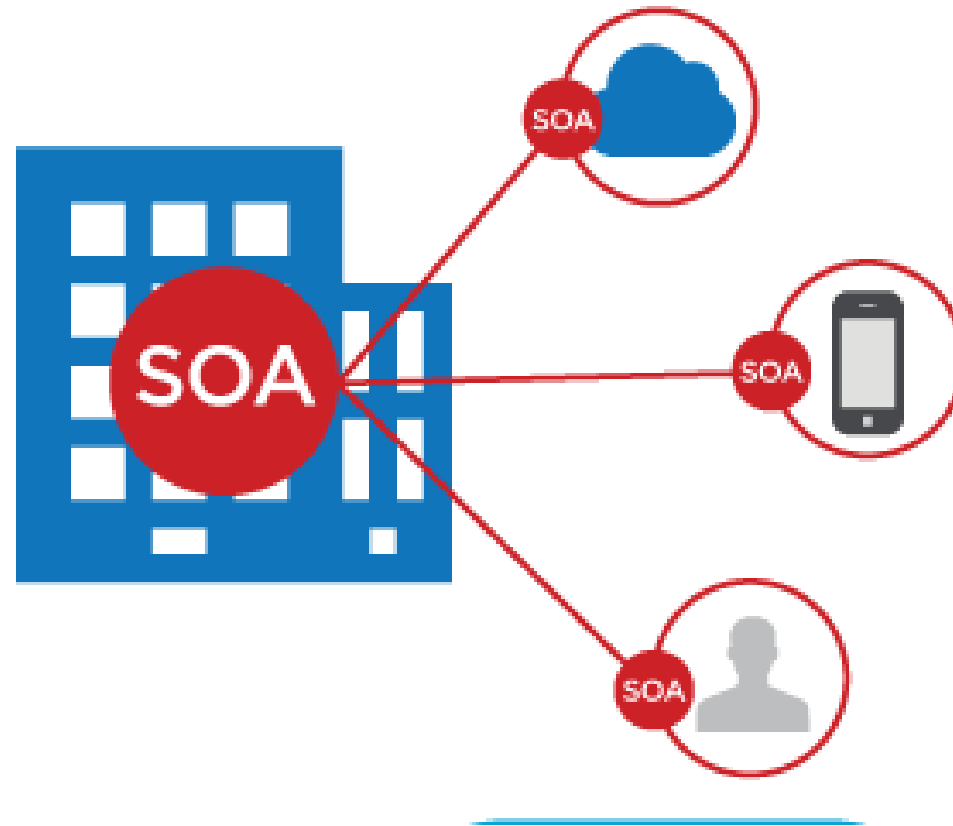


# Business To Business (B2B)



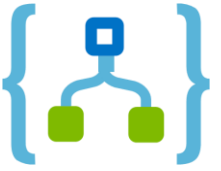


# Service Oriented Applications (SOA)



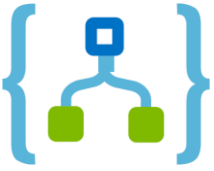
# Enterprise Integration Tools

- Some of the integration services and tools available in the market are:
  - BizTalk Server 2016
  - OpenESB
  - IBM Integration Bus
  - Apache Camel
  - Azure Logic Apps (Cloud based)



# Azure Logic Apps

- Scalable integrations and workflows on Azure.
- iPaaS – Integration Platform as a Service
- Visual Designer to Design complex workflows.
- Connectors to integrate cloud and on-premise services and protocols.



# Why Logic Apps?

- Easy to use design tools
- Connect APIs easily
- Get started quickly from templates
- Extensibility backed-in
- Real integration horsepower

# Azure Logic Apps vs Azure BizTalk services

EAI Features	v1	v2
XML Transformation		
Validation		
Content Based Routing		
Request Response		
AD Auth		
OAuth		
Flat File		
JSON		
XML		
Connector Extensibility		
Custom Code		

B2B Features	v1	v2
AS2 / X12 / EDIFACT		
Agreement Decoupling		
Batching / De-batching		
Archiving		
Transform		
Trading Partner Management (API & Portal)		
Vertical Extensibility		
Tracking		
Custom Code		

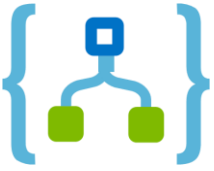
Rules Features	v1	v2
Vocabulary		
Policy		
Sources (XML only today)		
Test Policy		
Browser Rule Editing		

Workflow Features	v1	v2
Long Running		
Browser Designer		
Control Flow		
Instance Management		
Tracking		
Large Messages (1GB)		
Config Support		
Expressions		

Other Features	v1	v2
OOB Connectors		
Marketplace		
Hybrid Connectivity		
Custom Code Isolation		
Unified Portal		
Auto Update with Opt Out		

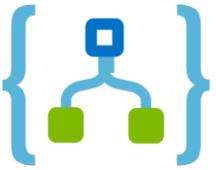
V1 = BizTalk Services

V2 = App Service (BizTalk + Logic + API)

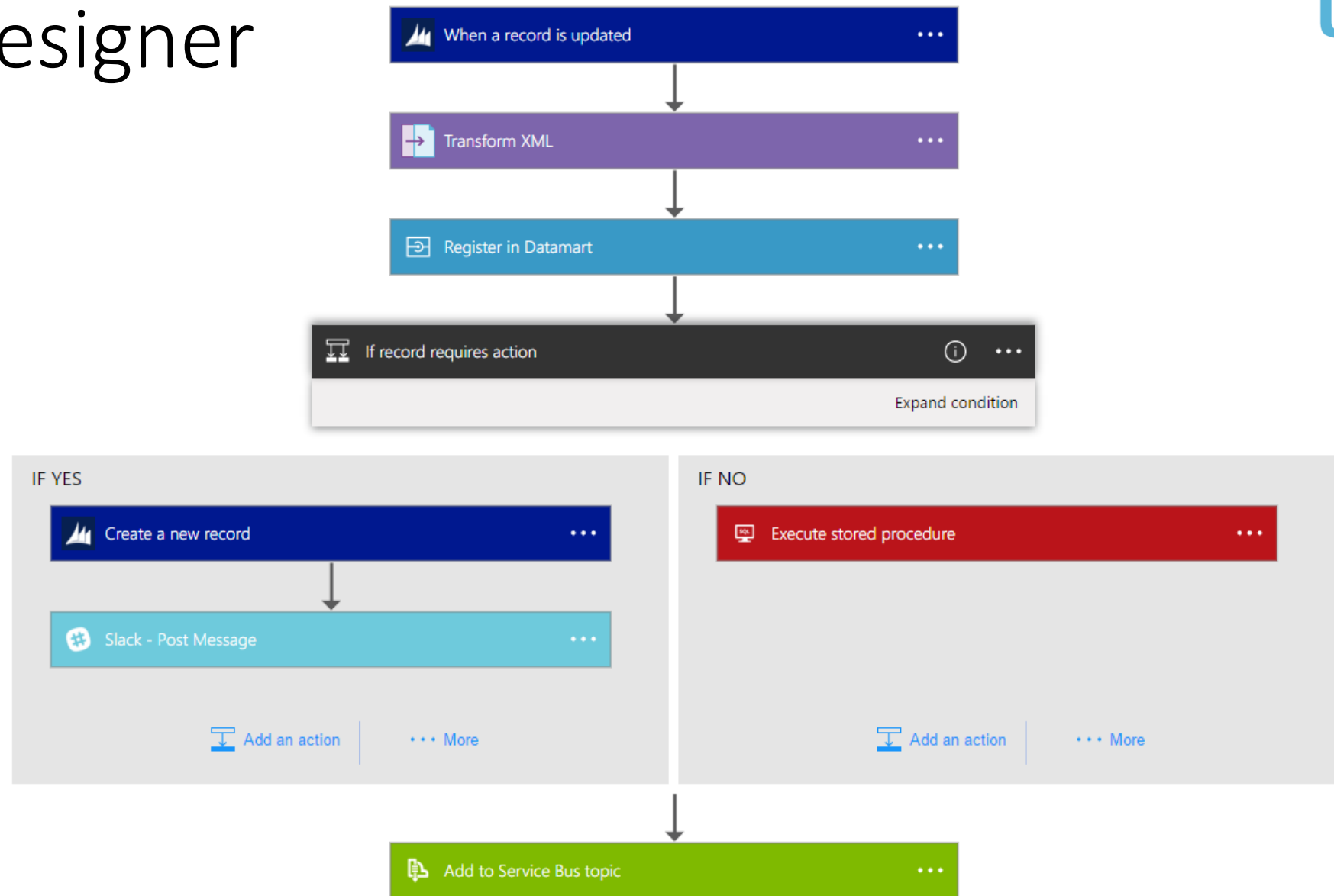


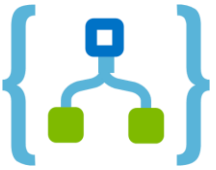
# Logic App Concepts

- Workflow
  - Graphical way to model business processes as a series of steps or workflow.
- Managed Connectors
  - Helps to connect on-premise and cloud services and protocols.
- Triggers
  - Starts a new instance of workflow based on an event.
  - Connectors can act as triggers.
- Actions
  - Each steps after the trigger is called actions.
  - Each action maps to a managed connector or custom API connector.
- Enterprise Integration Pack
  - Biztalk for more advanced integration scenarios.
  - Enterprise Integration Pack connectors allow you to easily include validation, transformation, and more.



# Visual Designer





## Standard connectors

### Connectors



GitHub



appFigures



Asana



Azure  
DocumentDB



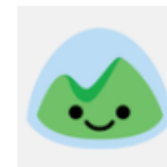
Azure ML



Google Sheets



Instagram



Basecamp 3



Bitly



BizTalk Server



Blogger



Pinterest



WordPress



YouTube

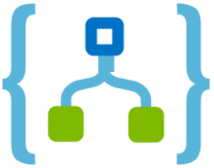


Vimeo



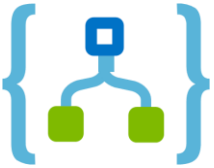
Visual Studio  
Team Services





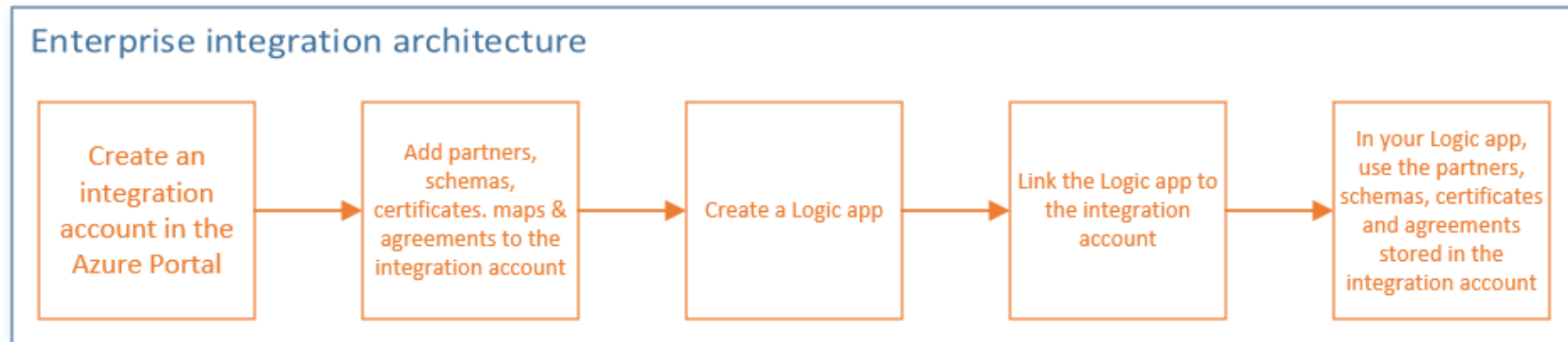
# Enterprise Integration Pack

- A cloud based solution which provides B2B workflows and seamless communication with Logic Apps.
- The pack transforms different formats into a format that organizations' systems can interpret and process.
- Organizations can exchange messages through industry-standard protocols, including AS2, X12, and EDIFACT.
- Also secure messages with encryption and digital signatures.
- Similar to BizTalk Server and Microsoft Azure BizTalk services.
- Enterprise Integration uses ***integration accounts*** to simplify the storage and management of artefacts used in B2B communications.

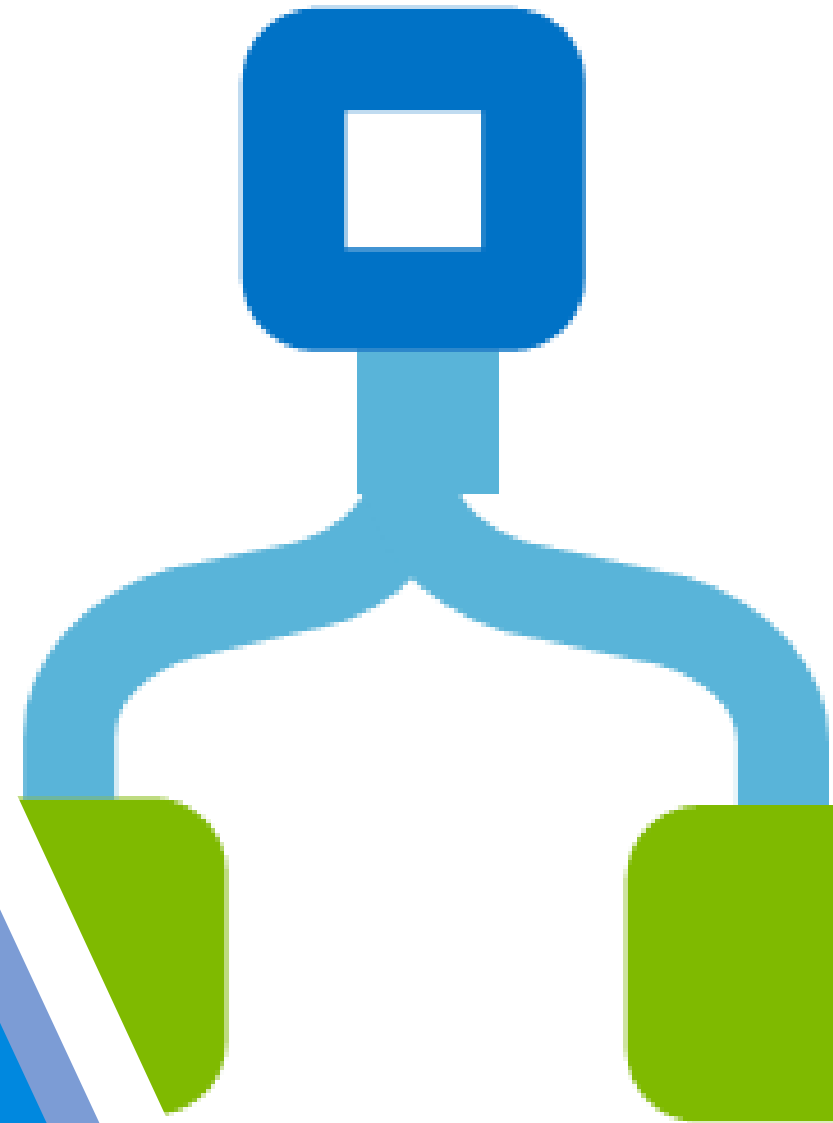


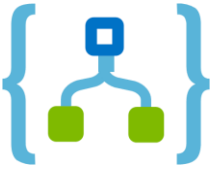
# Integration Accounts

- Cloud-based containers that store all your artifacts, like schemas, partners, certificates, maps, and agreements.
- Use these artifacts to design, deploy, and maintain your B2B apps and also to build B2B workflows for logic apps.
- Before you can use these artifacts, you must first link your integration account to your logic app.



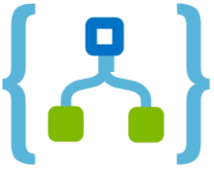
# Demo: Connect to Twitter using Logic Apps





# Logic Apps features

- Conditional Logic
  - executes an action only when a certain condition is met.
- Looping using ForEach
  - forEach loop specifies an array to repeat an action over.
- Triggers
  - Manual trigger
  - Recurrence trigger -runs at an interval that you specify
- Code View to edit existing Logic Apps
- Parameters
  - Parameters make it easy to re-use values throughout your logic app.
- Callback using REST APIs
  - Services can call a logic app endpoint to start a workflow.
  - Callable endpoints



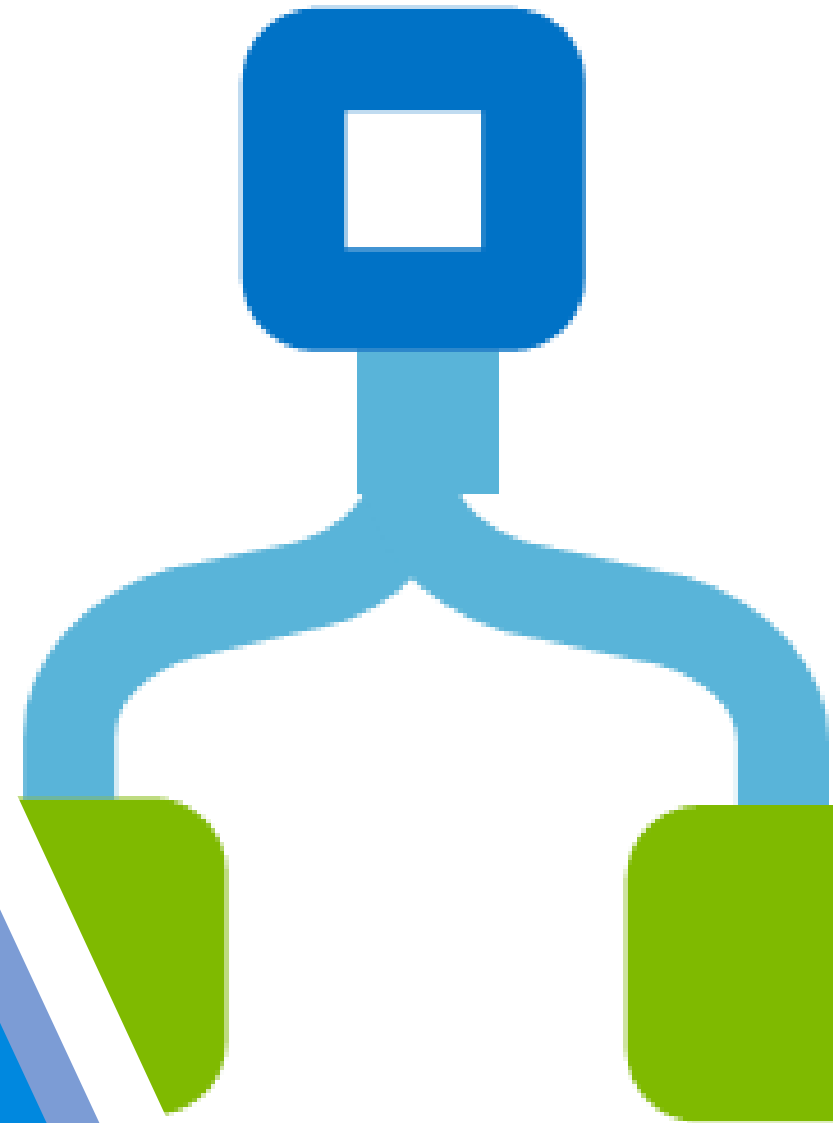
# On-premises data gateway

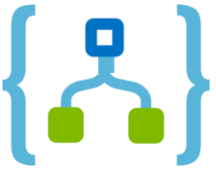
- Logic apps connectors allow you to configure your connection to access on-premises data via the on-premises data gateway.

<https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-gateway-install>

- Connect on-premises data servers such as SQL Server.

# Demo: Create and Access Callable endpoints in Logic Apps





# Logic Apps using Visual Studio

- Create and Deploy Logic Apps using Visual Studio.
  - Microsoft Azure SDK 2.9.1 or later.
  - Logic Apps Tools for Visual Studio
  - Visual Studio 2013 or 2015
  - PowerShell
- ResourceGroup project
  - LogicApp.json
  - LogicApp.parameters.json
  - Logic App Designer (Logic App Tools for VS need to be installed)
  - Deploy-AzureResourceGroup.ps1

# Demo: Create and Deploy Logic Apps using Visual Studio

