Contents

Integration Tooling – Journey

Value Generation (vertical axis)

Technology Complexity (horizontal axis)

Traditional Point-to-Point
Custom Integration

1ˢᵗ Generation: Point to Point, Custom, CORBA, DICOM

Early 90's
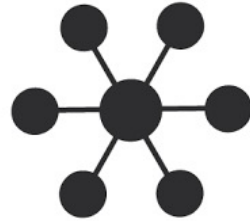
2ⁿᵈ Generation: Message Broker, Hub & Spoke, Adapters, B2B

Late 90's

3ʳᵈ Generation::: Web Services, SOA, Product Suite

Early 00's
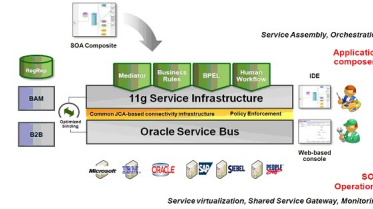
Generation Next: Microservices, Cloud Native, IPaaS, Hybrid Platforms

Early 10's
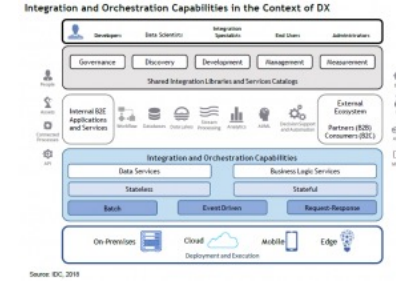
Limitations of Legacy Integration Systems – Business

Value Realization: Limitations

Cost: Integration & Maintenance

Time to Market: Challenges

Application Diversity

Landscape Complexity

Lack of Visibility into Integration

Multiple Integration Tooling
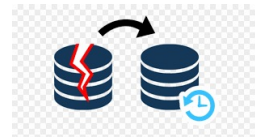
DR: Limitations

Vendor Lock-in

Platform Management

Limitations of Legacy Integration Systems – Technology

Message Structure: Heavy Workload

Scalability: Feature Disparity
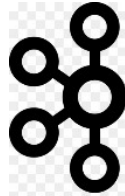
Message Broker: Run Time Addition
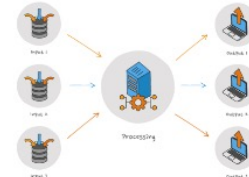
Pub–Sub: Lack of Support

Hybrid Cloud Configuration
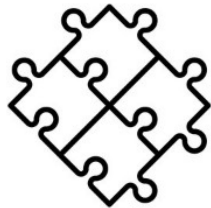
Backward Compatibility

Outdated Inflexible Integration Middleware
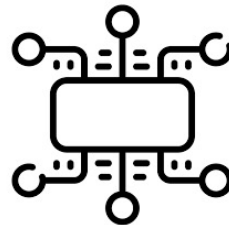
Open Standards : Compatibility

Performance Limitations

Event Driven Architecture

Dimensions of Integration Platform

Integration Persona

Integration Specialist	Citizen Integrators
Business Analysts	Data Specialist

Integration Domains

Application	Data	Process
APIs	Events	B2B

End Points

On Premise	On Cloud
Mobile	IoT–Edge

Standards & Protocols

Communication Protocols	Application Adaptors
Data Formats	Data Standards
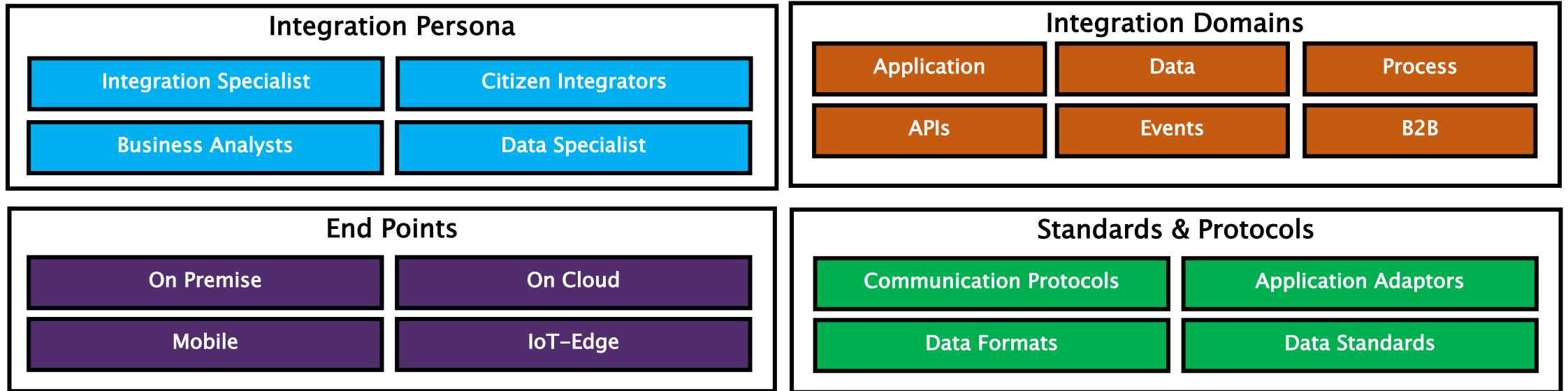
Integration Framework – Reference Architecture

Role Based Users

Integration Specialist	Citizen Integrators	Business Users	Data Specialist

Approaches

- Microservices
- Request Response
- Event Driven
- File Based
- Message Based
- API Based

Integration Scenarios

Application	Data	Process	APIs	RPA
EDI	Events	ETL	Streaming	IoT
SaaS	MDM	BI	ML	AI

Operations

- DevOps
- Observability
- Security

Integration Solutions

API Management	ESB	MQ	Event Broker	Message Broker
Workflow Engine	Event Steaming	ETL	Monitoring	DevOps

Governance

- API Policy Management
- Life Cycle Management
- Metadata Management

Deployment Models

On Premise	On Cloud	Mobile	IoT–Edge

IIASEA

Business Scenarios – Integration Platform Use Cases

#	Integration Platform – Use Case	Solution Theme
1	Platform let publishers and consumers interact using multiple protocols	Pub–Sub Model/Message Broker
2	Platform make it easy to ingest, combine and route data concurrently between multiple systems	Service Bus
3	Solution facilitate event discovery and configurability on streaming flows	Event Discovery and Event Steaming
4	Platform replay a sequence of messages while preserving the order in	Message Queues
5	Solution replay a sequence of messages while preserving the order in which they were sent	Message Queues
6	Platform guarantee the delivery of events with no data loss	Eventing Mesh
7	Solution secure data at rest and in motion	Security by Design at all levels
8	Platform support A/B (Blue–Green) deployments	Deployment Model
9	solution be delivered/configured as "Infrastructure as code" using tools like Terraform or Jenkins	Infrastructure as a Code
10	Platform built with an architecture that's good for stream processing	Event Streaming
11	Platform work with ESB and iPaaS tools	ESB, iPaaS and HIP
12	Platform manage slow or offline consumers	Message Queues
13	Throughput the Platform offers	NFRs: Throughput
14	Platform be deployed in a variety of clouds, such as AWS, Azure, GCP, Huawei and Tencent	Multi Cloud Model
15	Platform be deployed across cloud and on–premises environments	Hybrid Model
16	Platform support business continuity with minimal overhead	Business Continuity & DR
17	Platform allow different kinds of disaster recovery	DR Models
18	Fast does your Platform resume service in the event of a failure	NRFs: RPO and RTO

Digital Integration Platform – Solution Principles

Cloud Native

Provides benefits like automation, auto-scaling, serverless operations and highly customizable. Platform are fully managed by vendor, which frees customers from worries of building, hosting, scaling, managing, monitoring, and maintaining the solutions.

Hybrid Integrations

Integration processes need to run in multiple deployment scenarios whether multi-cloud or on-prem. Deploying applications and not worrying about where they are deployed.

Efficiency & Control

The platform is highly customizable and provides a plug and play architecture providing agility and faster time to market. In terms of the NFRs the customer load increases, the platform allocates more resources automatically. This can speed up development time and provides a competitive edge.
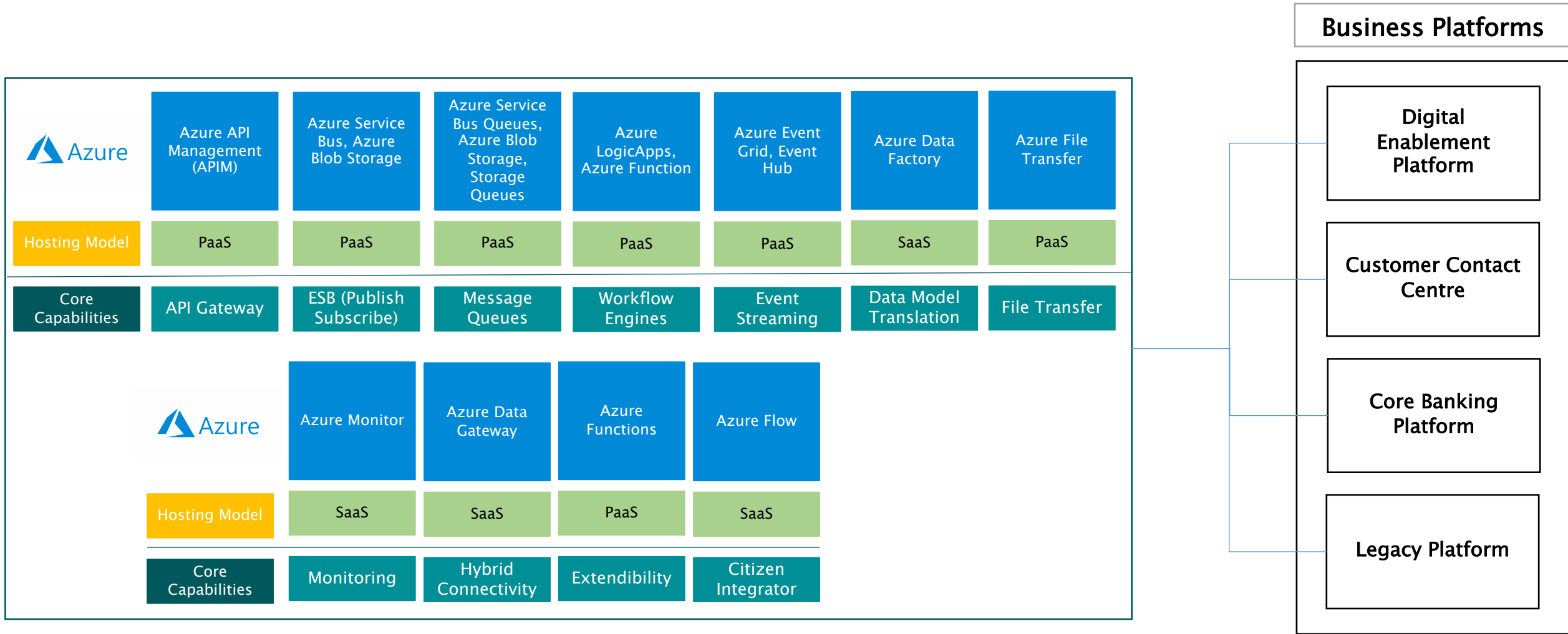
Observability

This enables the monitoring and governance of application and integrations in a real time. This feature implies having reactive observation events that react to monitoring events such as alerts when thresholds are breached. Enables end-to-end detailed traceability, from integration source to destination.
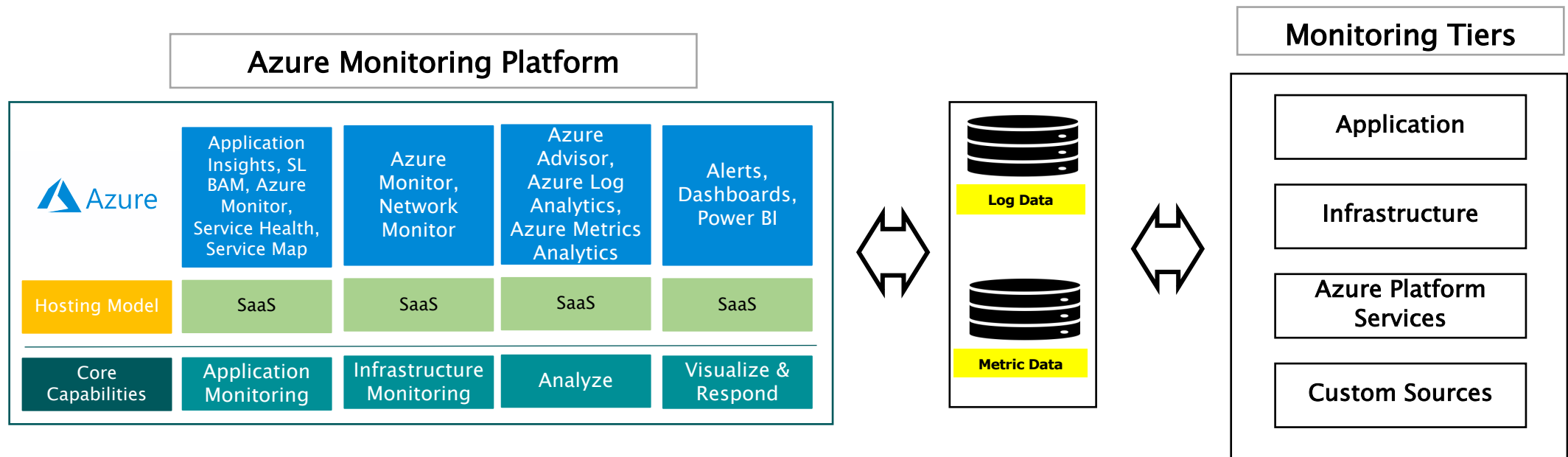
Ease of Maintenance

Platform are fully managed by vendor, which frees us from worries of building, hosting, scaling, managing, monitoring, and maintaining the solutions.

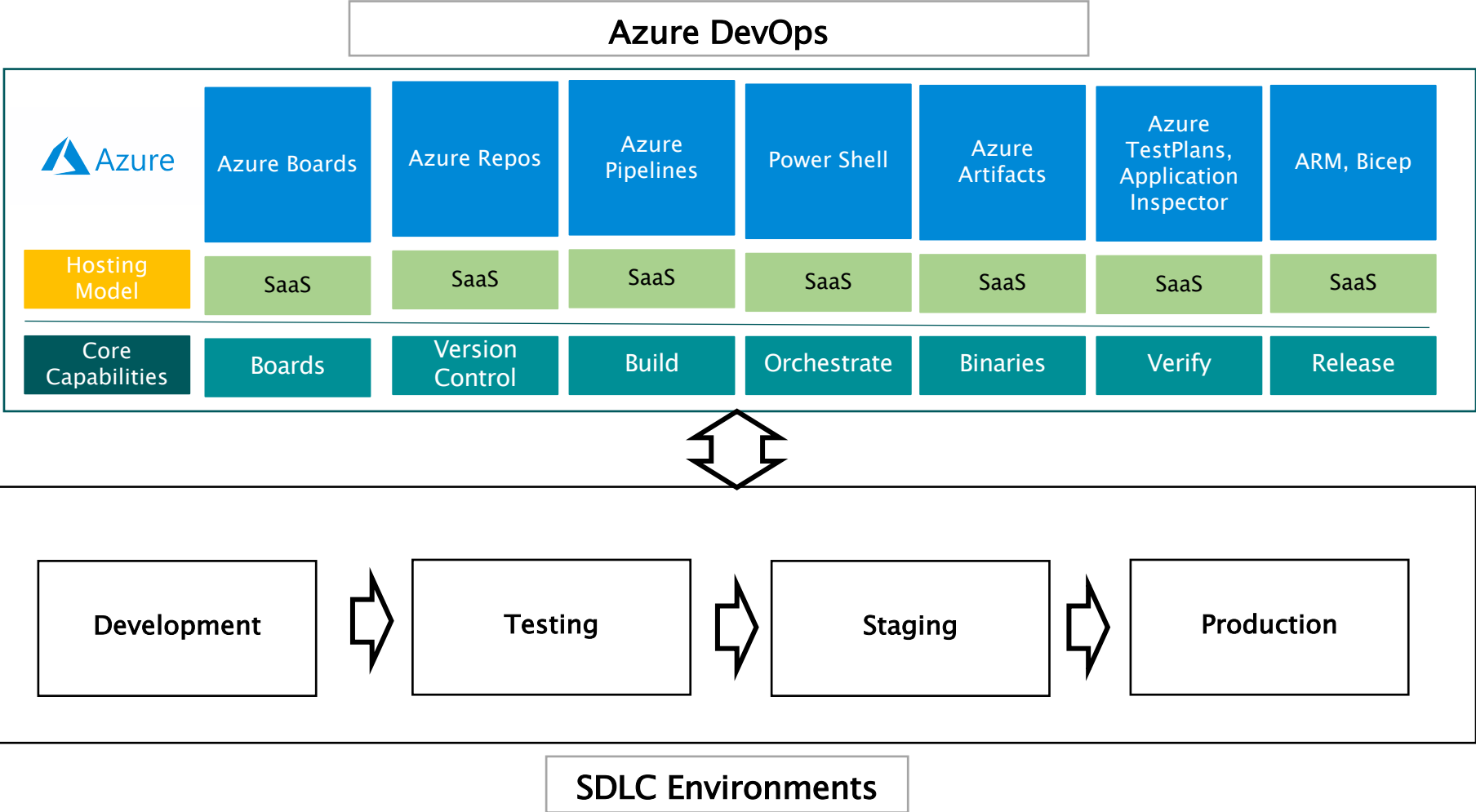# Digital Integration Platform – Azure Native – iPaaS

Business Platforms

	Azure						
Azure	Azure API Management (APIM)	Azure Service Bus, Azure Blob Storage	Azure Service Bus Queues, Azure Blob Storage, Storage Queues	Azure LogicApps, Azure Function	Azure Event Grid, Event Hub	Azure Data Factory	Azure File Transfer
Hosting Model	PaaS	PaaS	PaaS	PaaS	PaaS	SaaS	PaaS
Core Capabilities	API Gateway	ESB (Publish Subscribe)	Message Queues	Workflow Engines	Event Streaming	Data Model Translation	File Transfer

	Azure			
Azure	Azure Monitor	Azure Data Gateway	Azure Functions	Azure Flow
Hosting Model	SaaS	SaaS	PaaS	SaaS
Core Capabilities	Monitoring	Hybrid Connectivity	Extendibility	Citizen Integrator

Business Platforms

- Digital Enablement Platform
- Customer Contact Centre
- Core Banking Platform
- Legacy Platform

ASA

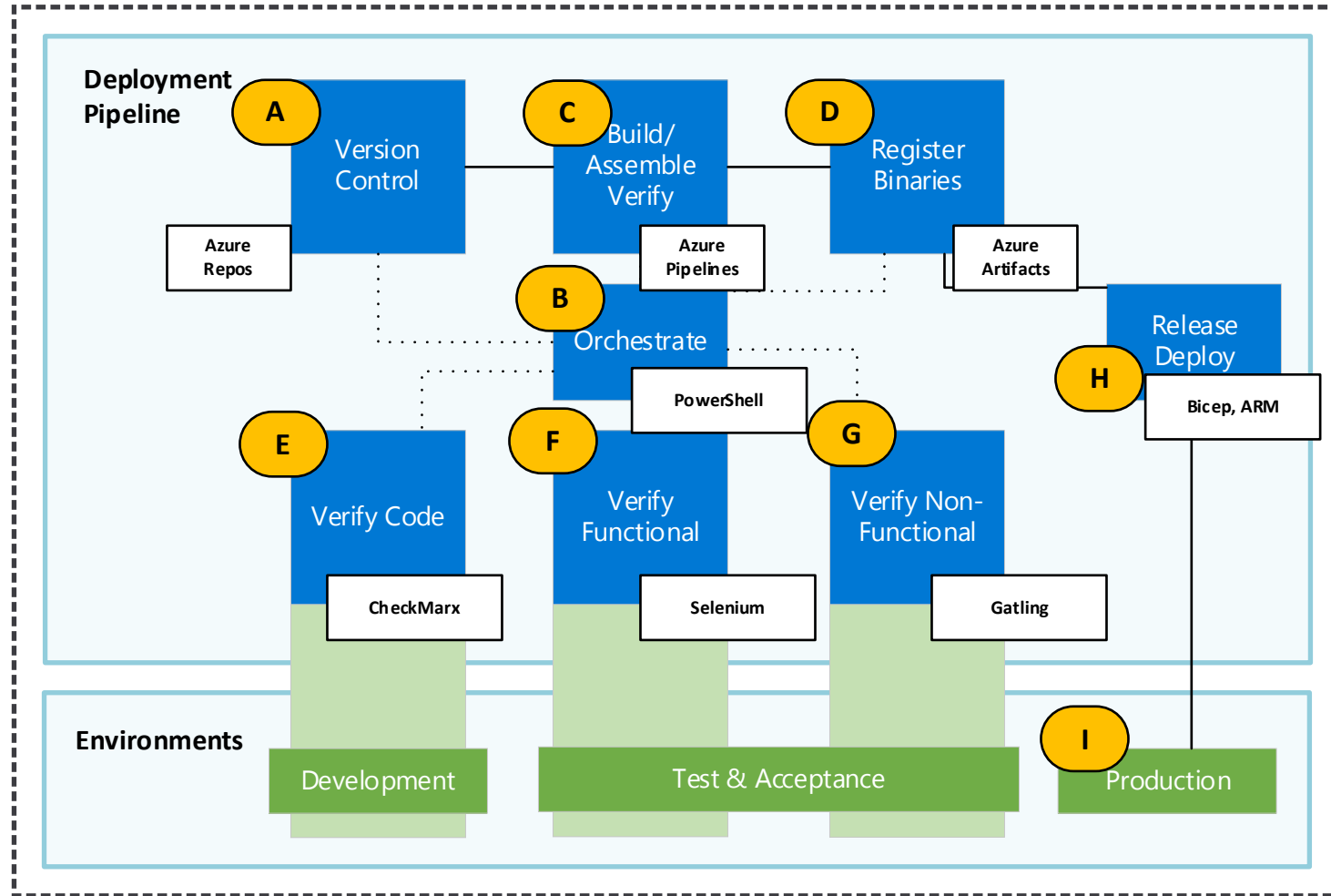# Digital Integration Platform – Azure Monitoring Platform

Azure Monitoring Platform: Maximize the availability and performance of the applications and services. It delivers a comprehensive solution for collecting, analyzing, and acting on telemetry from your cloud and on-premises environments. This platform will provide business operations oversight and end-to-end detect and response.

DevOps Platform – Azure DevOps

Azure DevOps

Azure	Azure Boards	Azure Repos	Azure Pipelines	Power Shell	Azure Artifacts	Azure TestPlans, Application Inspector	ARM, Bicep
Hosting Model	SaaS	SaaS	SaaS	SaaS	SaaS	SaaS	SaaS
Core Capabilities	Boards	Version Control	Build	Orchestrate	Binaries	Verify	Release

Development ⇒ Testing ⇒ Staging ⇒ Production

SDLC Environments

CI/CD Pipeline Automation – Azure DevOps

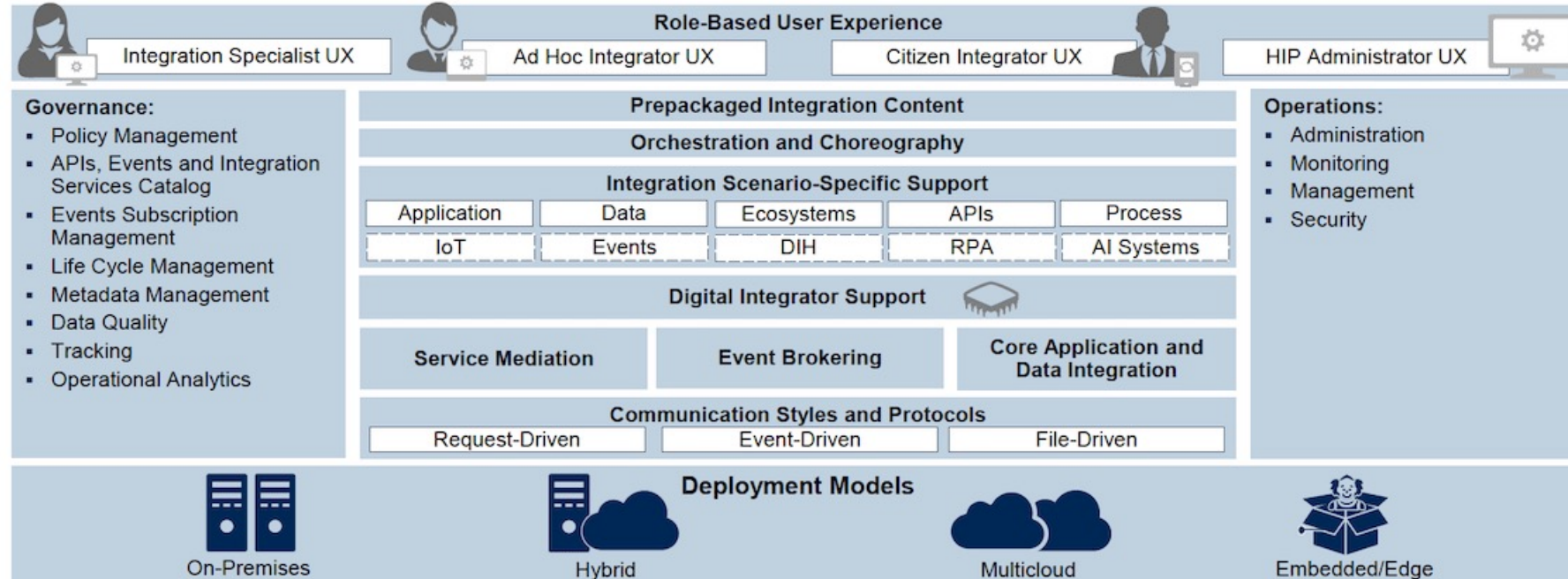# Digital Integration Platform – Integration Architecture
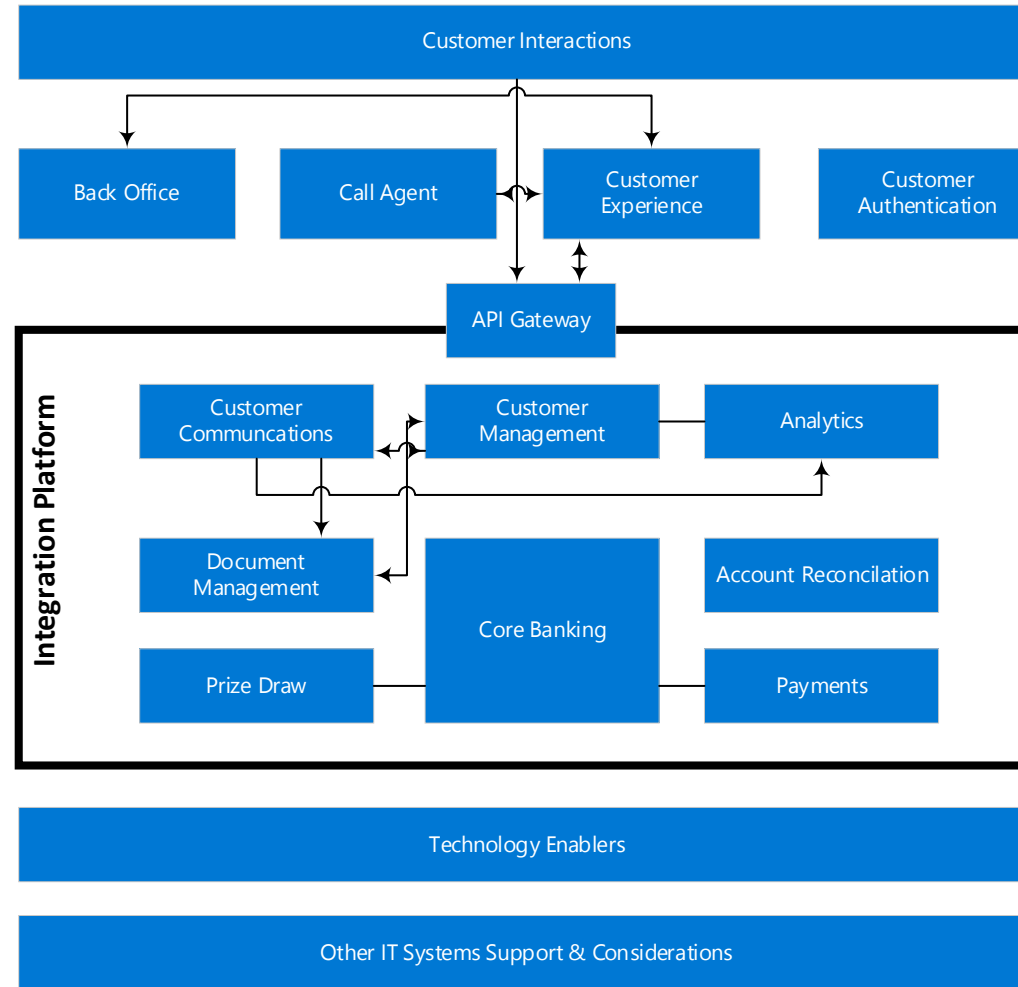
Event Driven Architecture – Eventing Backbone
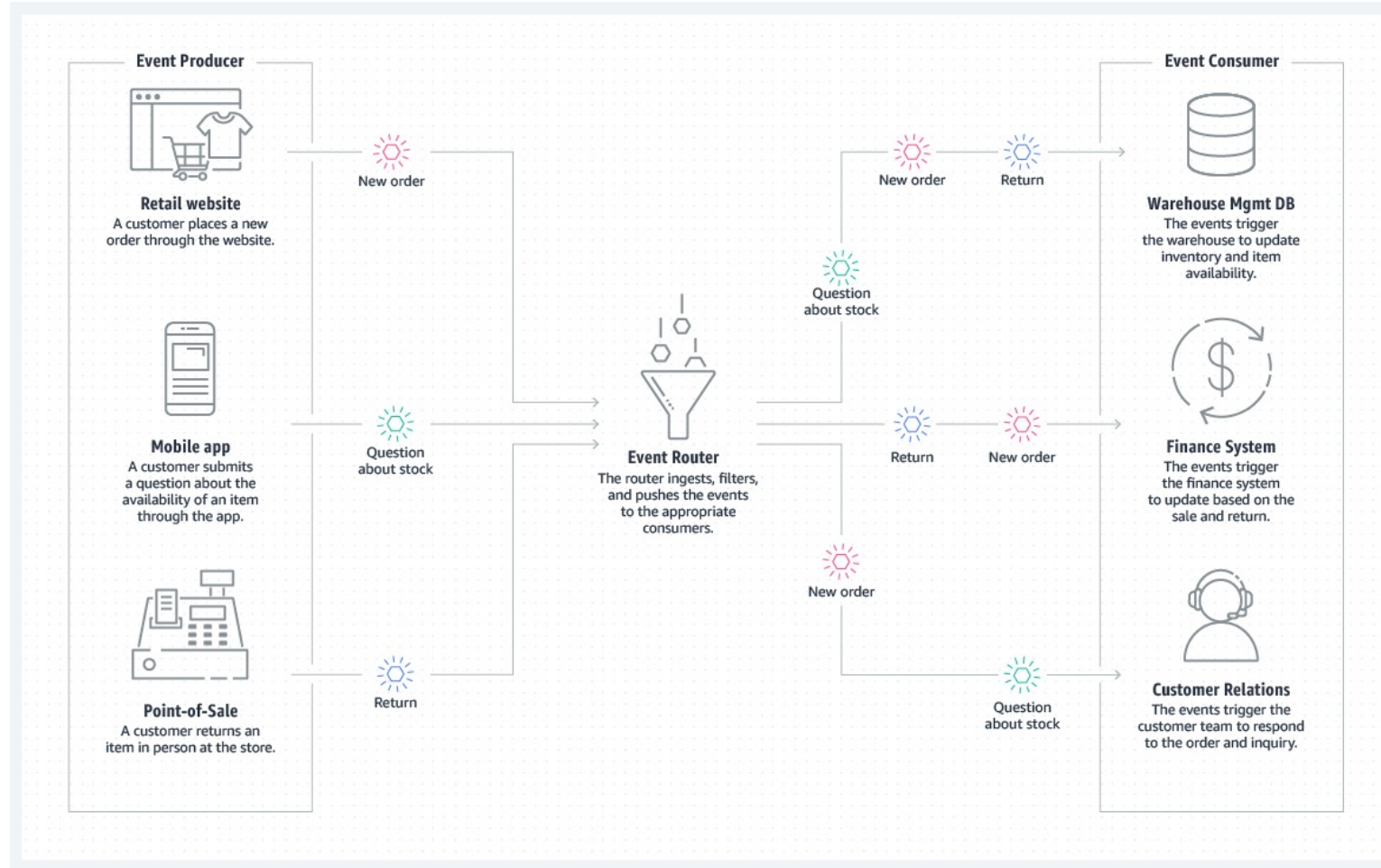
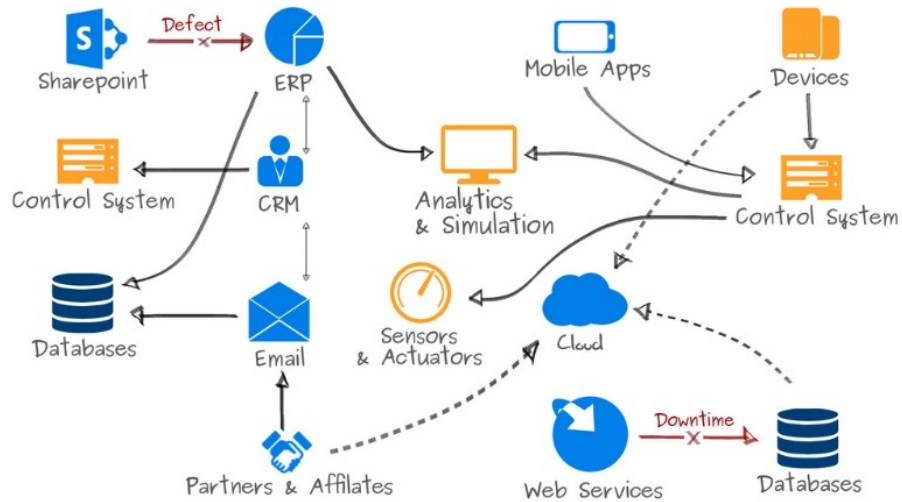# Hybrid Integration Platform – HIP

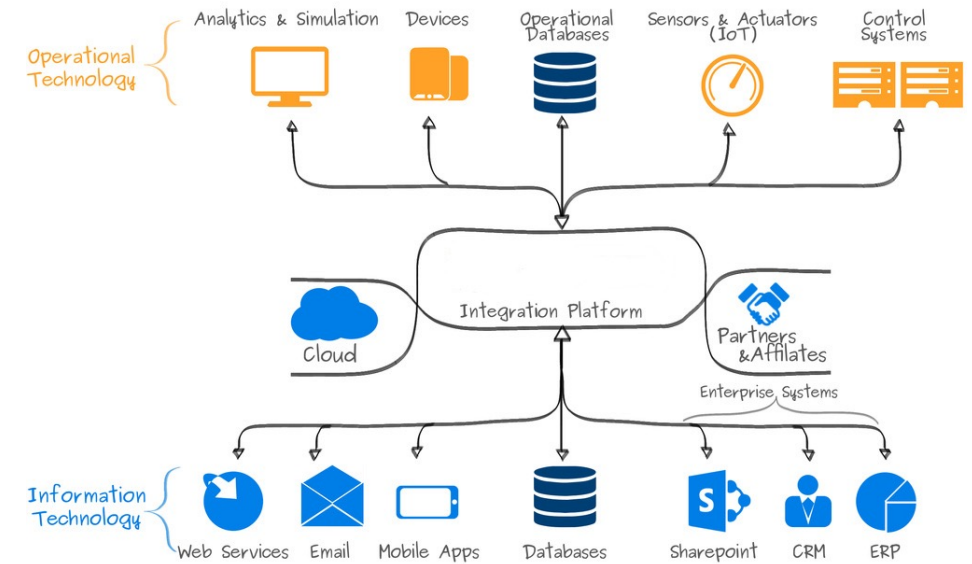The HIP Aggregates Technology Plumbing and Products Into a Platform for Service Delivery (the "3Ps")

Gartner Hybrid Integration Platform Capability Framework

Closing Notes..

For further information, please contactus@iasaglobal.org

IASA
An Association for All IT Architects