Microsoft Azure Stack

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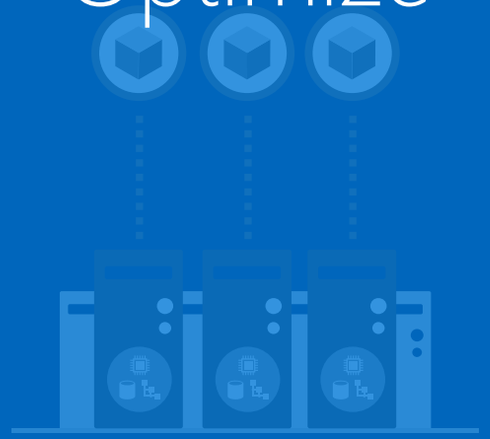
Microsoft

Cloud is a new way to think about your datacenter

Traditional model

- Dedicated infrastructure for each application
- Custom hardware
- Distinct infrastructure and operations teams
- Customized processes and configurations

Optimize



Servers

Cloud model

- Loosely coupled apps and micro-services
- Industry-standard hardware
- Service-focused DevOps teams
- Standardized processes and configurations

Transform

Services

Parsing virtualization from cloud

	Optimize with virtualization	*Transform* with Cloud
Core characteristics	Operational efficiency Resource pooling and abstraction IT sponsored Flexible hardware	Agile development Self-service, on-demand services Business/ App dev / IT sponsored Purpose-built hardware
Use cases	Mission-critical workload optimization Datacenter/Branch office consolidation Hyper-converged storage Secure VMs	Cloud-native apps Hybrid app patterns Seamless app mobility DevOps

Power of Azure in your datacenter

Microsoft Azure Stack is a new hybrid cloud platform product that enables organizations to deliver Azure services from their own datacenter.

Business and technical considerations

Regulations

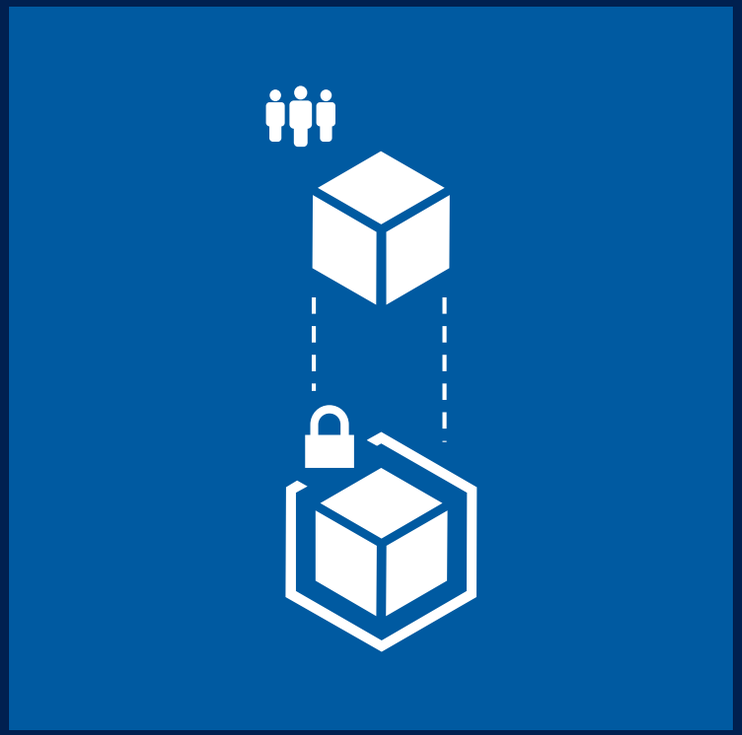
Data sovereignty

Customization

Latency

Hybrid solution

App flexibility

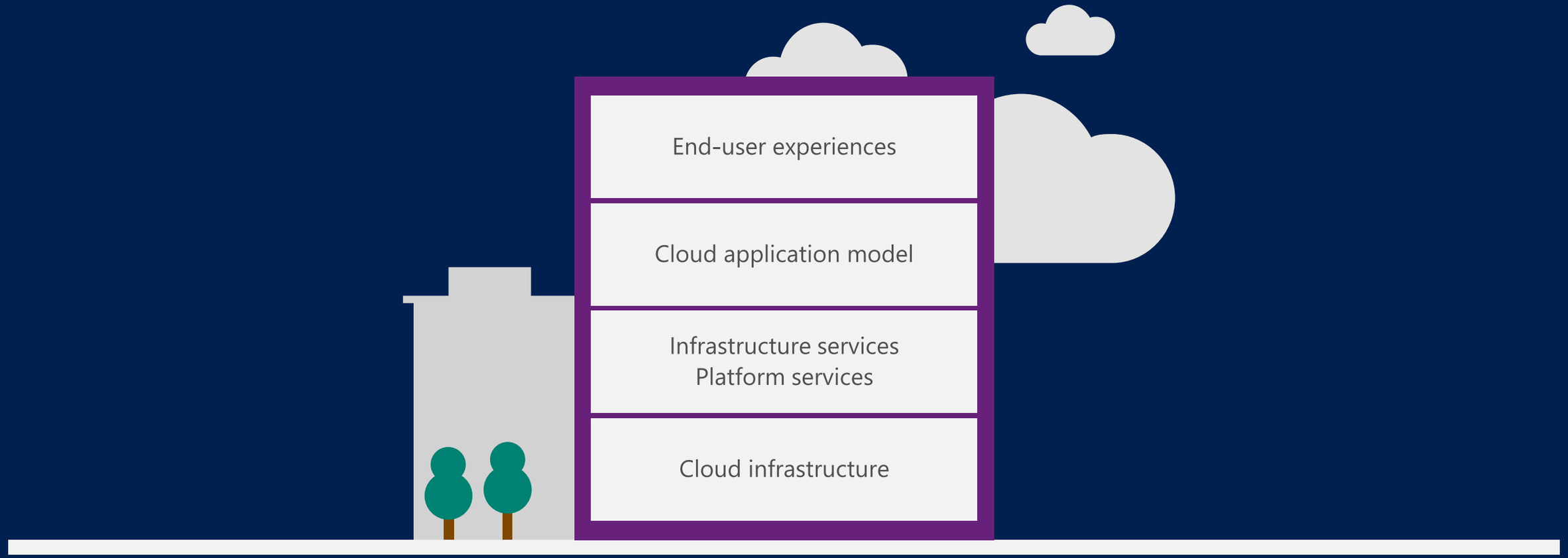


Hybrid
application patterns

Seamless
application mobility

Continuous
DevOps releases

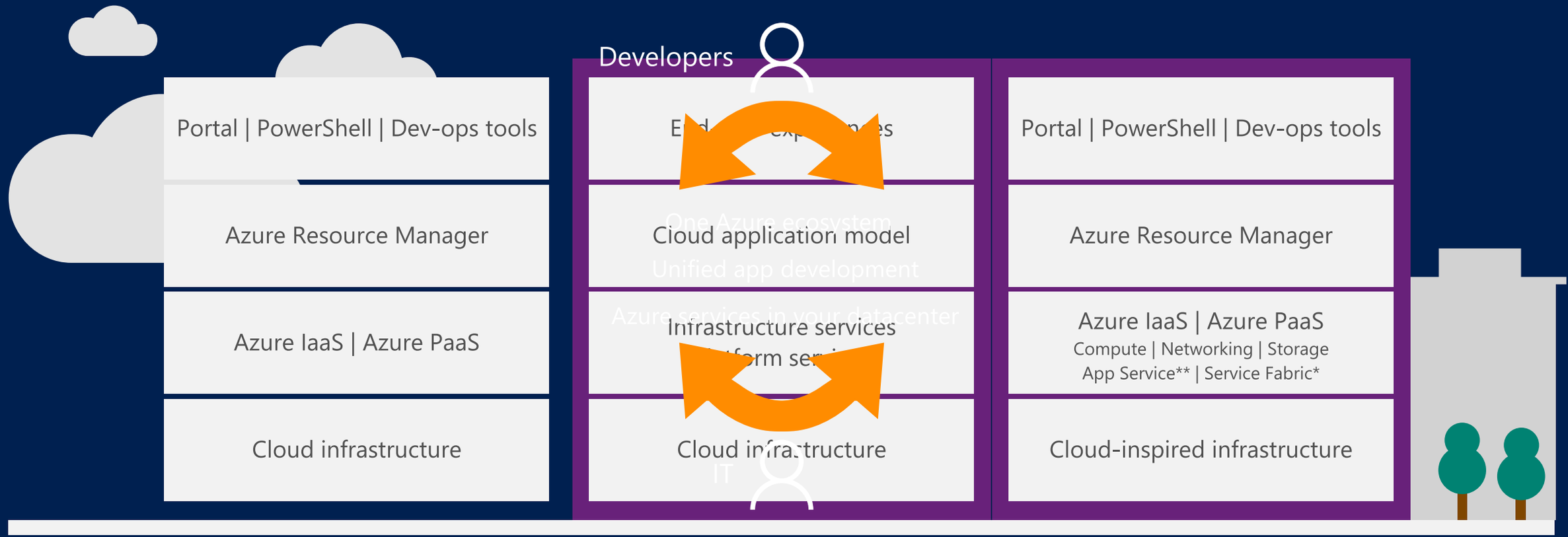
What does a hybrid cloud platform look like?



Private | Hosted | Public

Microsoft's hybrid cloud platform

Power of Azure in your datacenter



Microsoft Azure
Public

Microsoft Azure Stack
Private | Hosted

* - some components will be in Preview at Azure Stack GA

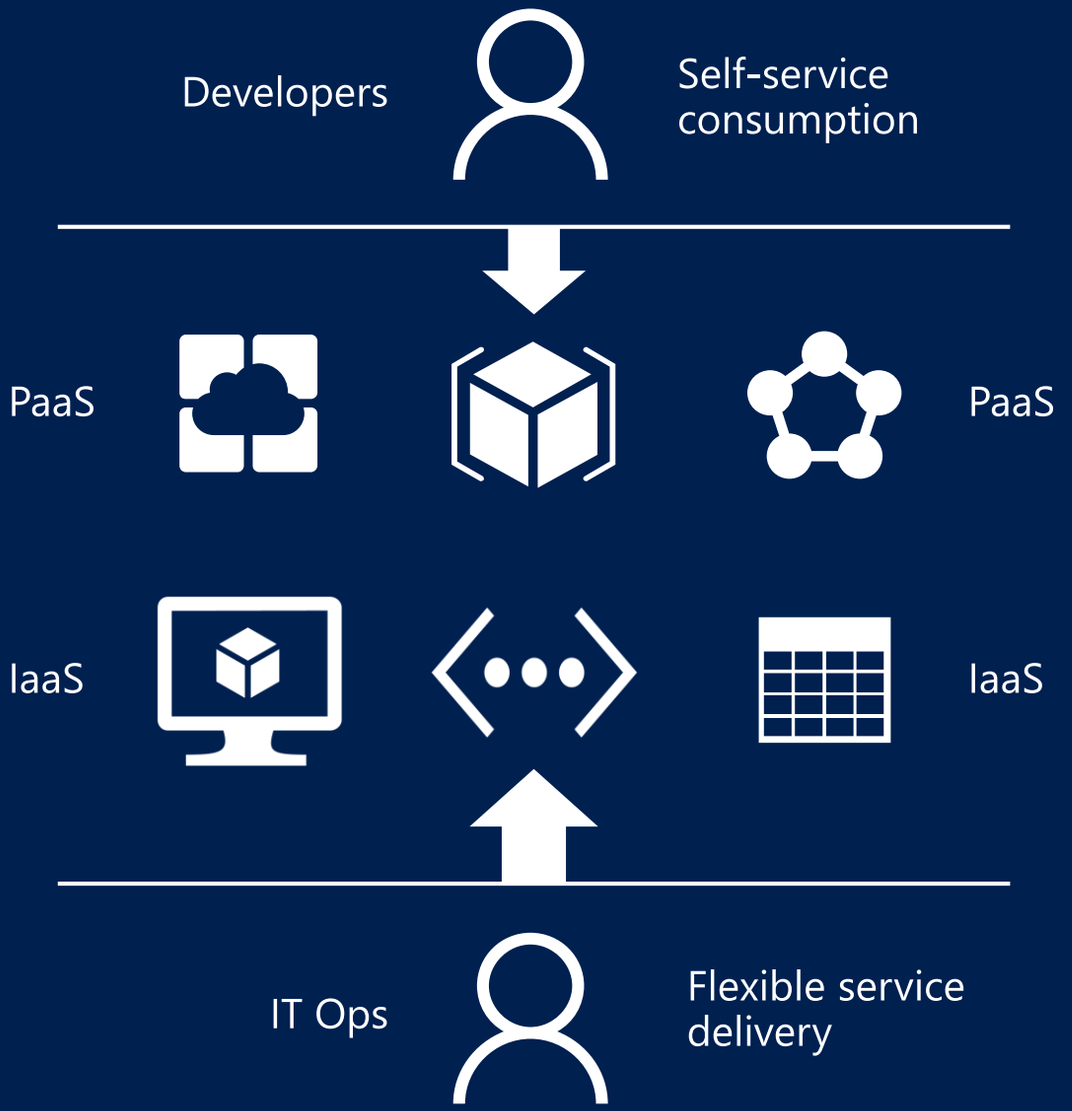
Azure services in your datacenter

Transform datacenter resources into cloud services

Self-service IaaS—Virtual Machines, Virtual Network, Storage, Docker-enabled containers

Self-service PaaS— App Service, Service Fabric*

Flexible service delivery with Azure-based management and automation tools



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Unified app development

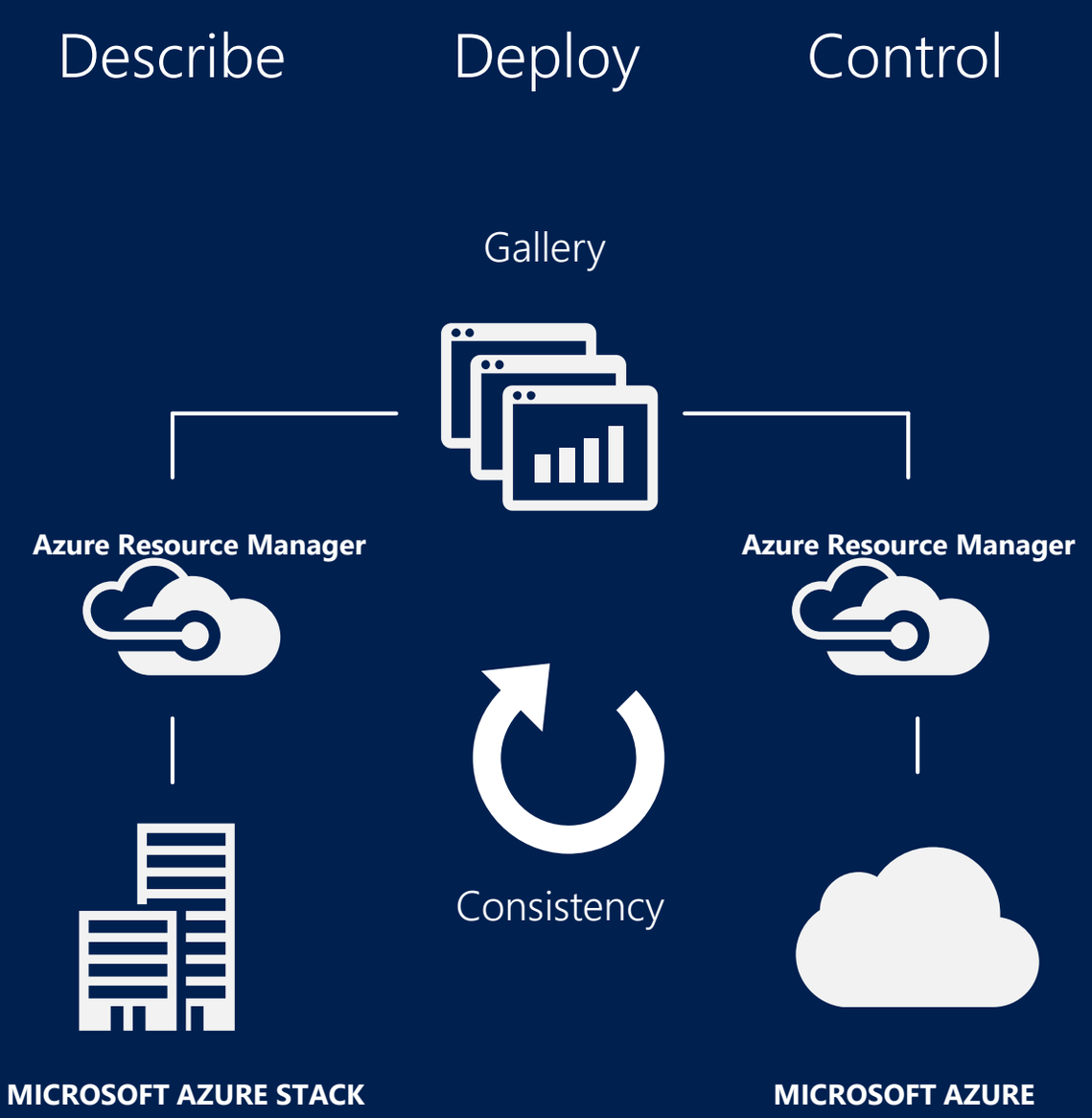
Write once, deploy to Azure or Azure Stack

Identical application model with same APIs

Role-based Access Control (RBAC)

Same deployment experience—PowerShell, Azure portal, or Visual Studio

Choice of open source application platforms, languages, and frameworks

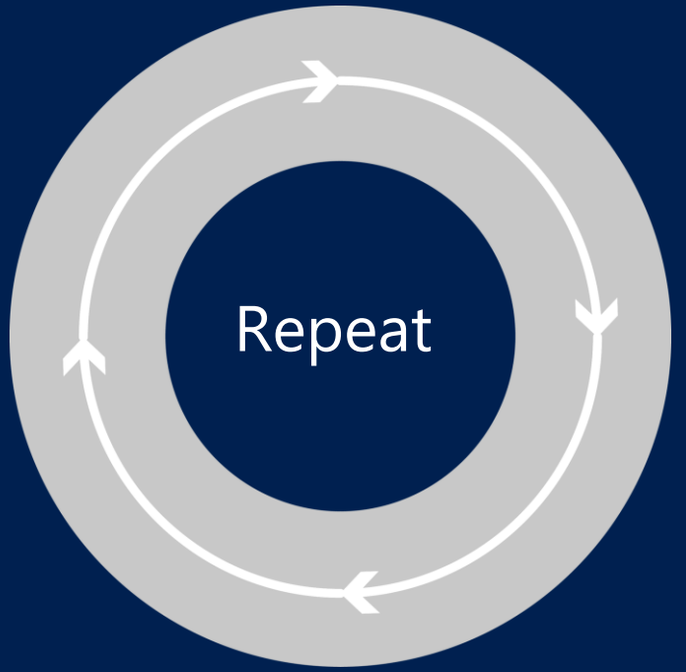



One Azure ecosystem
38
Azure regions today
More than AWS & Google combined
100s of service providers
1,000s of enterprises

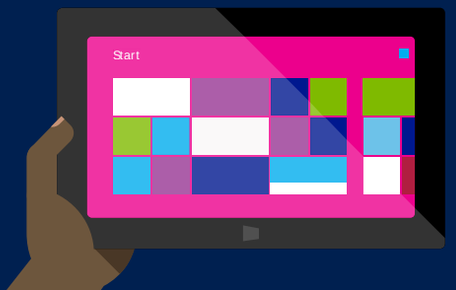
Delivering continuous innovation from Azure

Develop Azure Services

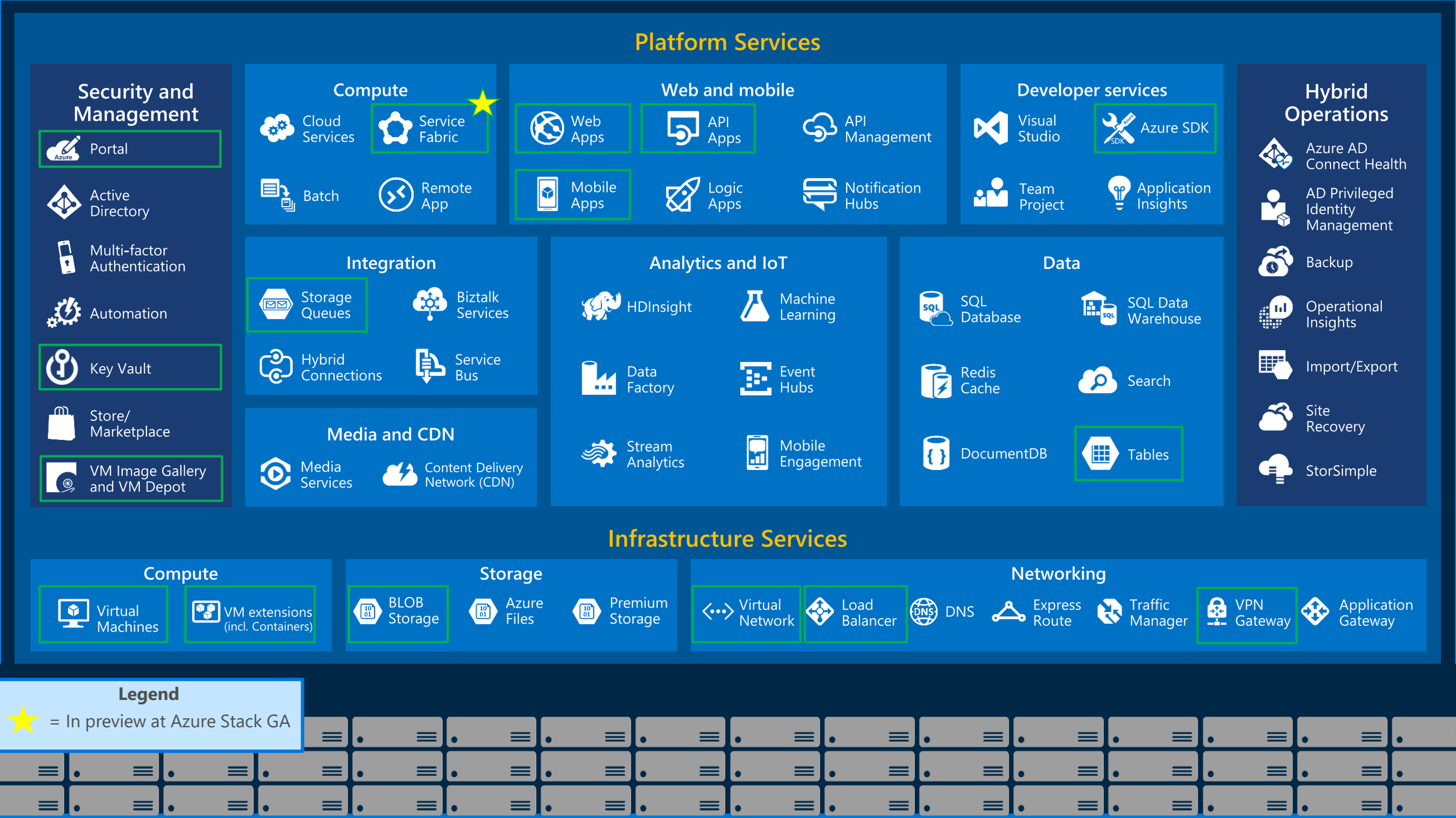
Deliver services from your datacenter



Operate at Hyper-Scale



Add admin experiences and service integration points


Platform Services
Security and Management
Portal
Active Directory
Multi-factor Authentication
Automation
Key Vault
Store/ Marketplace
VM Image Gallery and VM Depot
Compute
Cloud Services
Service Fabric
Batch
Remote App
Web and mobile
Web Apps
API Apps
API Management
Mobile Apps
Logic Apps
Notification Hubs
Developer services
Visual Studio
Azure SDK
Team Project
Application Insights
Hybrid Operations
Azure AD Connect Health
AD Privileged Identity Management
Backup
Operational Insights
Import/Export
Site Recovery
StorSimple
Integration
Storage Queues
Biztalk Services
Hybrid Connections
Service Bus
Analytics and IoT
HDInsight
Machine Learning
Data Factory
Event Hubs
Stream Analytics
Mobile Engagement
Data
SQL Database
SQL Data Warehouse
Redis Cache
Search
DocumentDB
Tables
Media and CDN
Media Services
Content Delivery Network (CDN)
Infrastructure Services
Compute
Virtual Machines
VM extensions (incl. Containers)
Storage
BLOB Storage
Azure Files
Premium Storage
Networking
Virtual Network
Load Balancer
DNS
Express Route
Traffic Manager
VPN Gateway
Application Gateway
Legend
= In preview at Azure Stack GA

Envisioning hybrid solutions with Azure and Azure Stack

Digital marketing

Mobile

E-commerce

Micro-service applications

Development and test

SharePoint on Azure Stack

Business intelligence

Disaster recovery

Backup and archive

Predictive maintenance with IoT

Remote monitoring with IoT

Big data and analytics

Envisioning hybrid solutions: Azure Stack services @GA

Digital marketing

Mobile

E-commerce

Micro-service applications

Development and test

SharePoint on Azure Stack

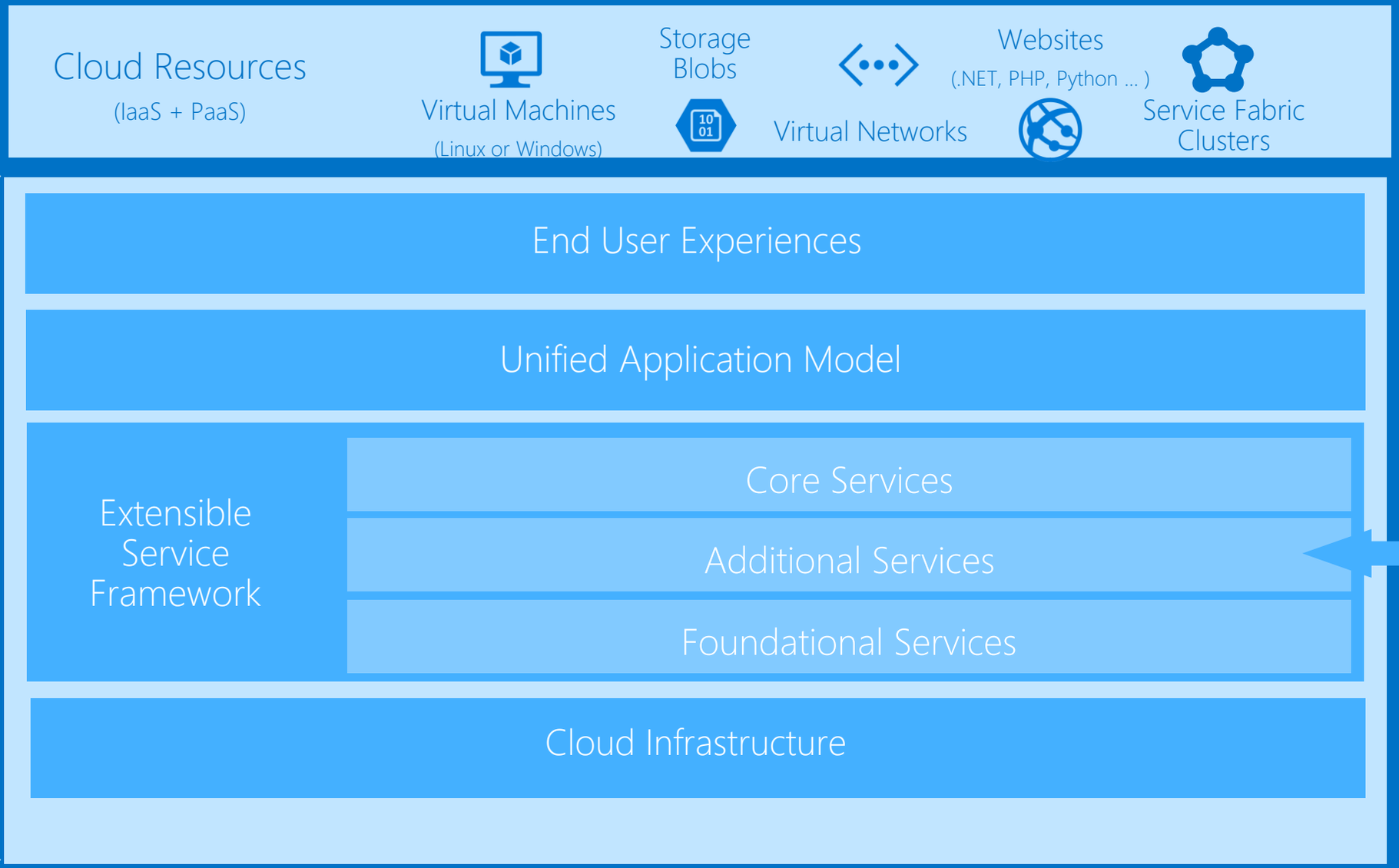
Management, Security and Identity/Access: Azure Portal | Key Vault | Azure AD & ADFS integration

Azure PaaS: Web Apps | Mobile Apps | API Apps | Service Fabric*

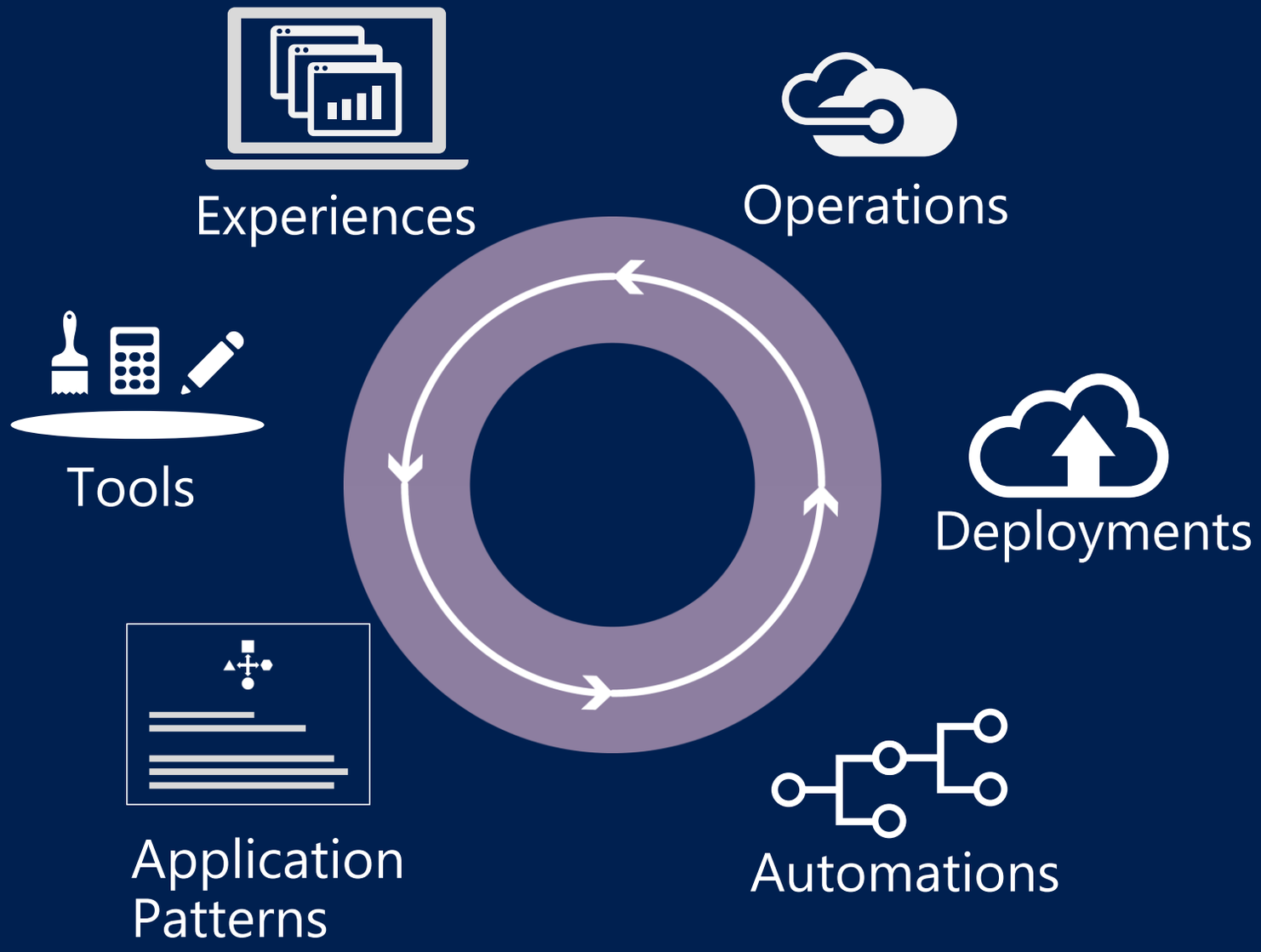
Azure IaaS: Virtual Machines (incl. container extensions) | Storage (Blobs, Tables, Queues) | Networking (Virtual Network, Load Balancer, VPN Gateway)

* – In Preview @GA

Azure Stack architecture summary



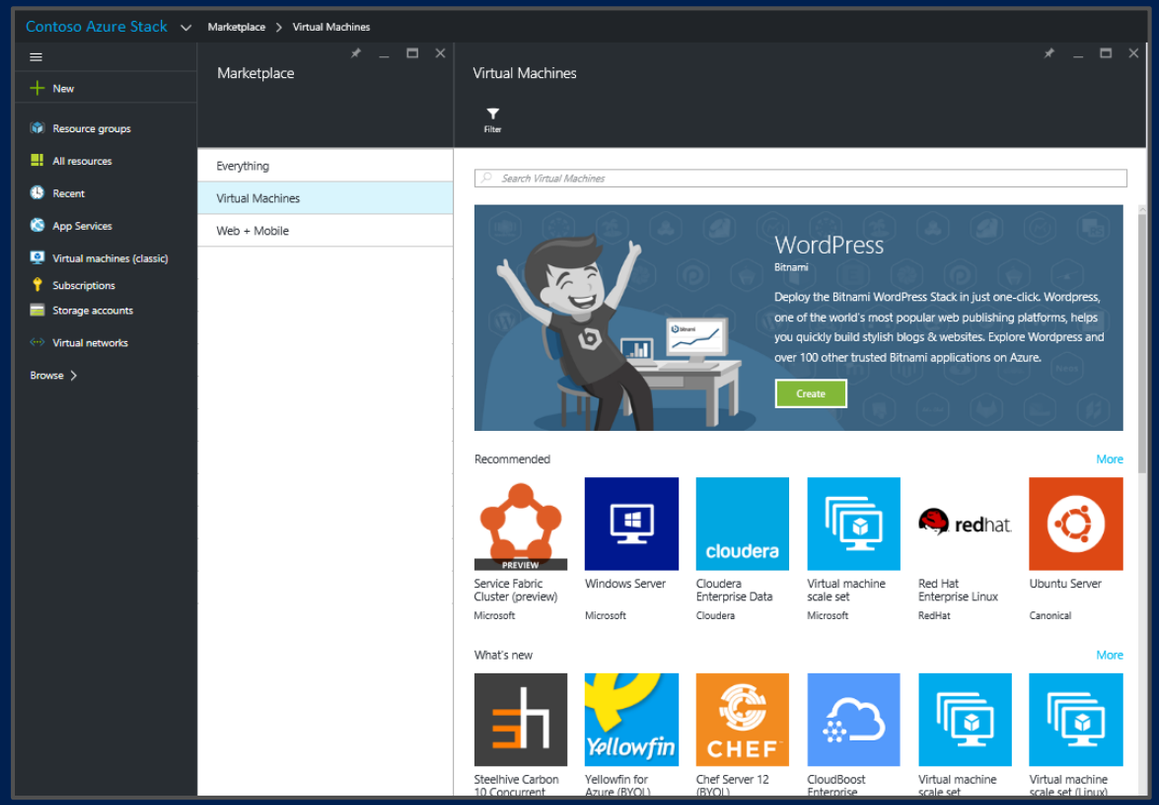
Consistency across clouds



Continuing the Azure-consistency journey with TP2

Included enhancements

- **Key Vault:** Enhanced protection of applications' digital secrets
- **Queue Storage:** Asynchronous messaging for apps
- **VPN Gateway:** Cross-site connectivity between Azure Resource Manager resource groups
- Improved Azure Resource Manager template compatibility
- Beginnings of infrastructure management



TP2 is a single-node POC environment with the same hardware specifications as TP1

Cloud consumer scenarios (app developer)

Accelerate your DevOps initiatives

- Deploy Windows and Linux workloads from open source repository and/or Visual Studio
- Manage configuration drift with VM extensions (example: DSC/PowerShell)
- Manage application secrets with Key Vault

Run cloud-native workloads

- Deploy LAMP stack from GitHub
- Deploy 3-tier app using Azure Resource Manager template
- Deploy container-based app on Linux or Windows Server

Work flexibly

- VPN into POC environment, connect to Azure Stack from different devices (incl. MAC)
- Use cross platform development tools, incl. Azure CLI, PowerShell, Visual Studio

Cloud provider scenarios (service ops)

Cultivate a cloud services portfolio

- Offer custom marketplace items
- Develop custom cloud services
- Automate creation and updates of offers/ plans

Run traditional workloads

- Deploy Active Directory domain in IaaS
- Deploy SQL Server in IaaS
- Deploy SharePoint farm
- Deploy load-balanced Linux web servers

Organize, control, and manage cloud resources

- Apply granular role-based access control (RBAC)
- Allow delegated providers to manage services for their customers
- Configure storage recovery

Cloud provider scenarios (infrastructure ops)

Manage availability

- Monitor Azure Stack resource health
- Enable Azure Stack health to be exposed in other monitoring tools (example: System Center, OMS, Nagios)

Manage cloud capacity

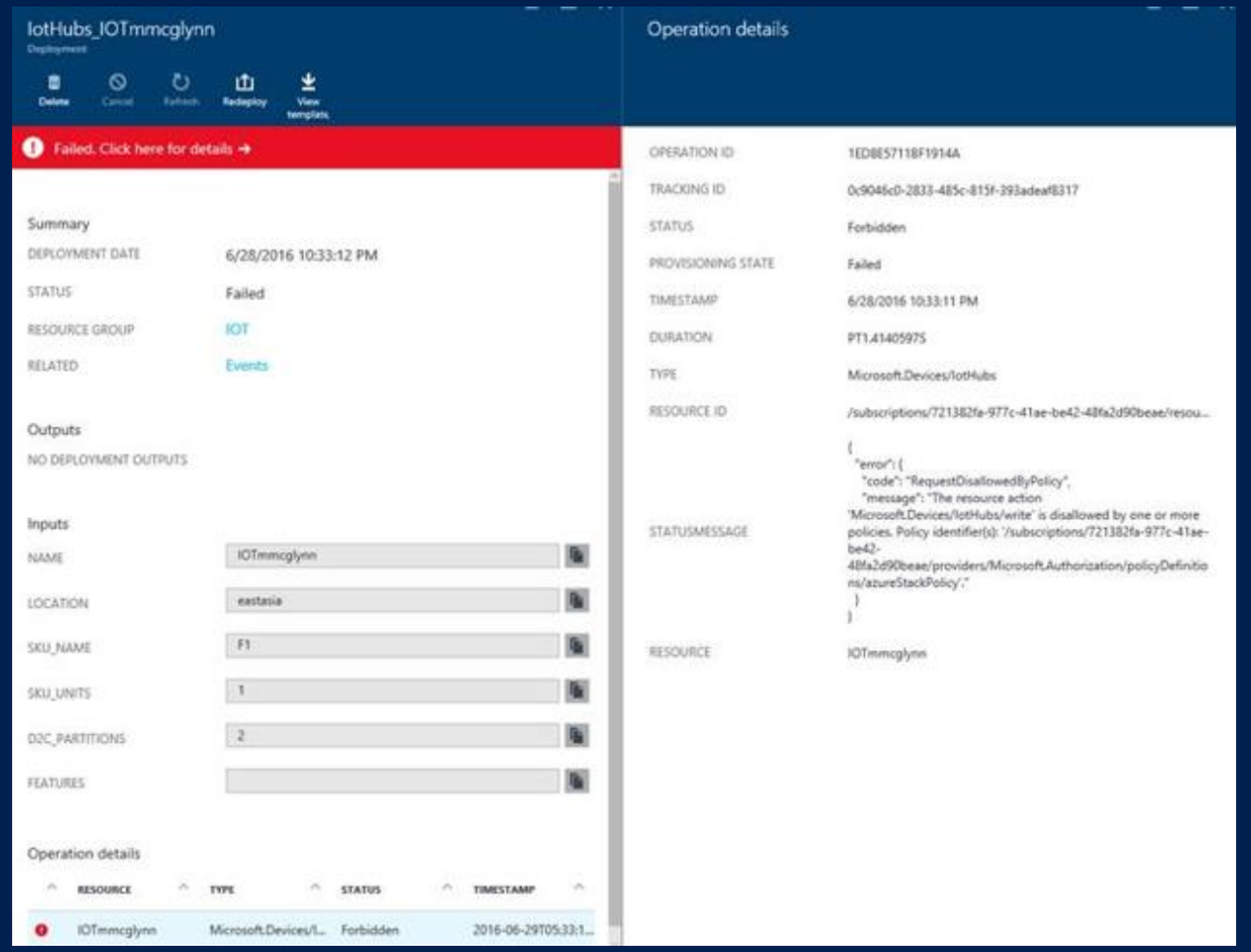
- Track resource usage by region
- Reclaim unused storage resources
- Recover deleted storage accounts

Connect your infrastructure

- Integrate networking resources across sites using VPN Gateway
- Integrate with Azure AD

Build 'Azure Stack-ready' applications in Azure today
Azure Resource Manager Policy for Azure Stack

- Prototype Azure Resource Manager-based apps for Azure Stack on Azure
- Make your Azure subscription behave as though it were running in an Azure Stack environment
- Policy-based guardrails that flags resources that are not supported in Azure Stack TP2



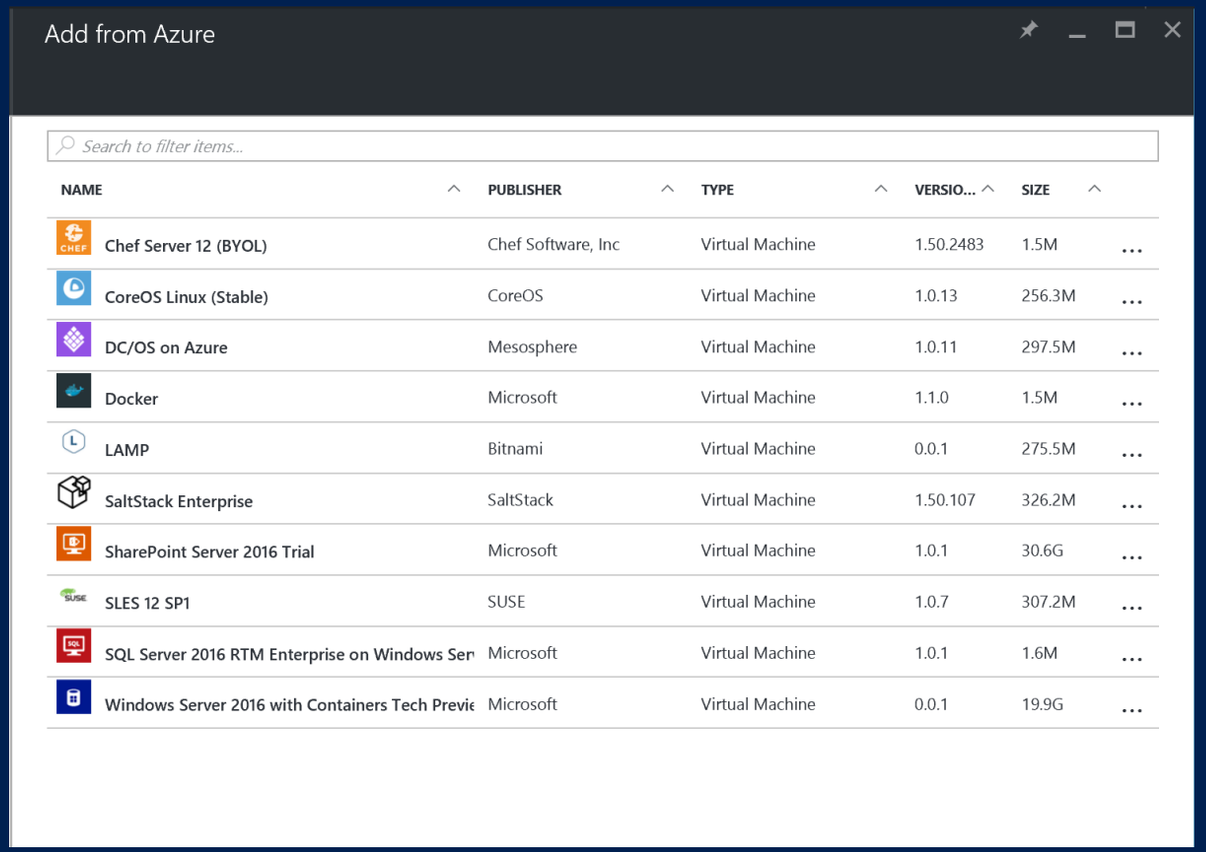
Download the tool: https://github.com/Azure/AzureStack-Tools

One Azure Ecosystem: Syndicating Azure Marketplace items to Azure Stack

Enables Azure Stack customers to access Azure Marketplace content

Enables Azure Marketplace ISVs to extend their offerings to hybrid clouds

Delivering Azure-consistent application components to Azure Stack (1/2)



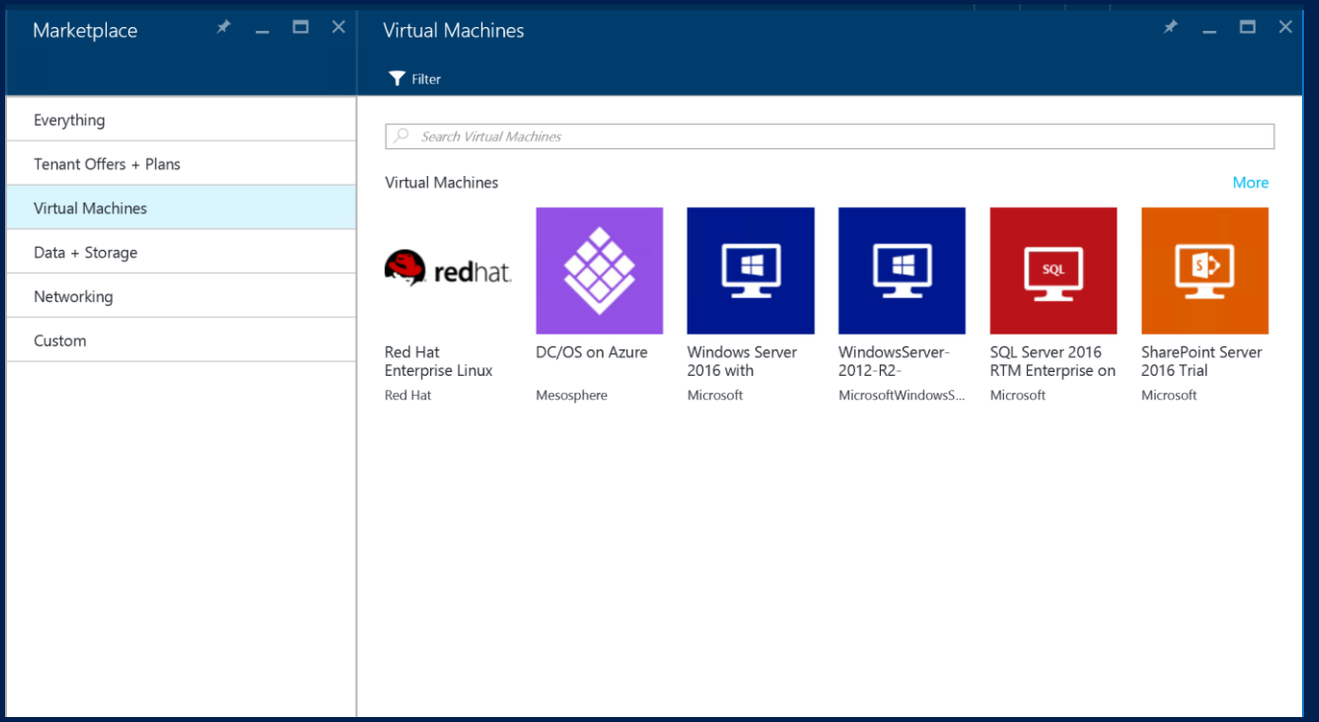
Standardize service delivery offerings across Azure and Azure Stack:

- Download sub-set** of gallery items from Azure Marketplace to Azure Stack*
- Downloaded items kept in sync with Azure

*Downloads enabled through an Azure service which is in Private Preview
** Initially scoped to BYOL VM images, but will expand to other Azure Marketplace offerings with time

Consuming Azure-consistent application images in Azure Stack (2/2)

- Standardize app development efforts across Azure and Azure Stack
- Consume breadth of application images in Azure Stack:
  - Azure Marketplace items*
  - Custom items specific to your organization



* Enabled through an Azure service which is in Private Preview

Delivering Azure Stack as an Integrated System

Software

Hardware

Support

Services

Azure Stack Integrated Systems

Accelerated time to value

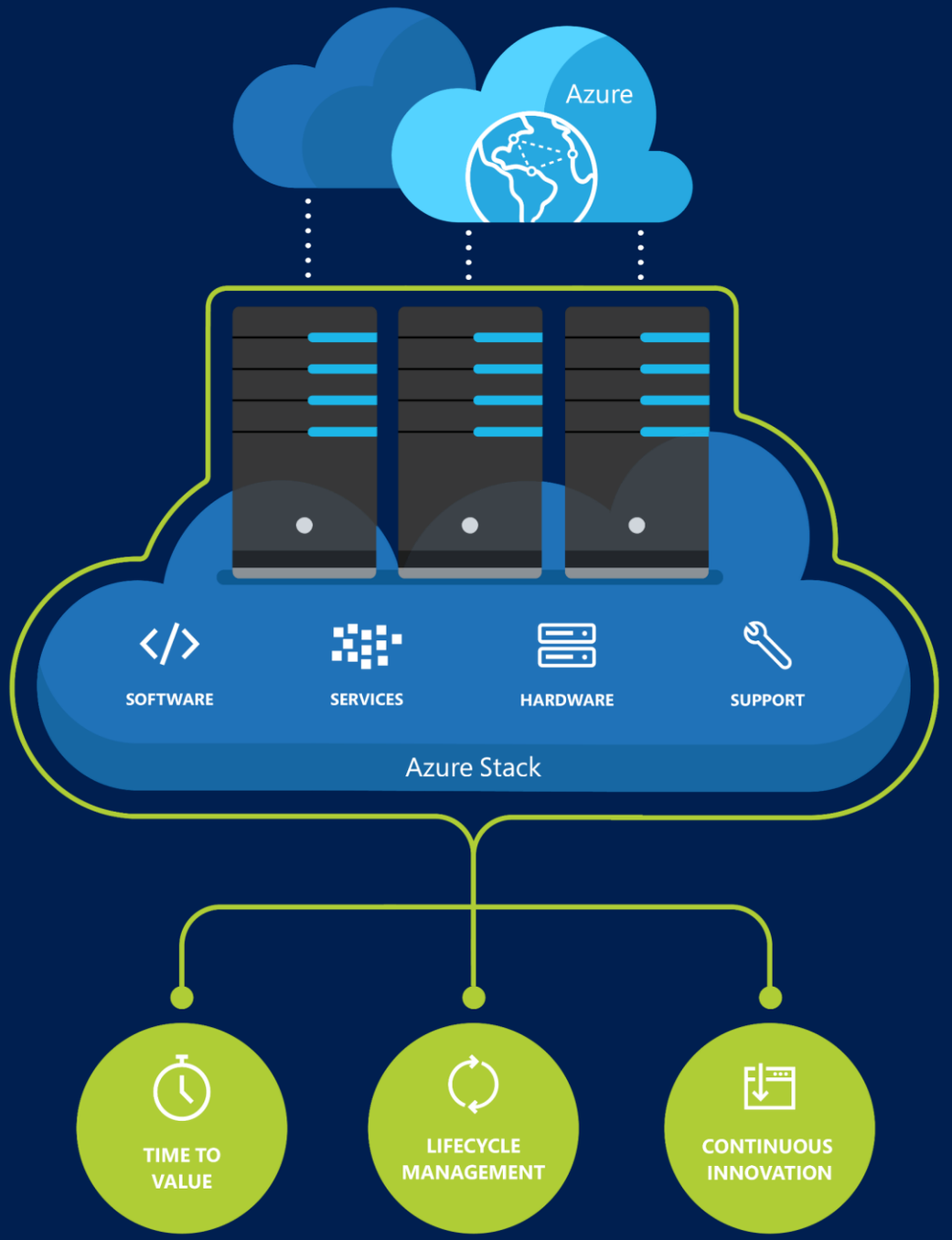
- From concept to operations in days, not months
- Help developers be productive much faster

Enriched lifecycle management

- Greater quality and system reliability
- Focus on delivering Azure services, not operations

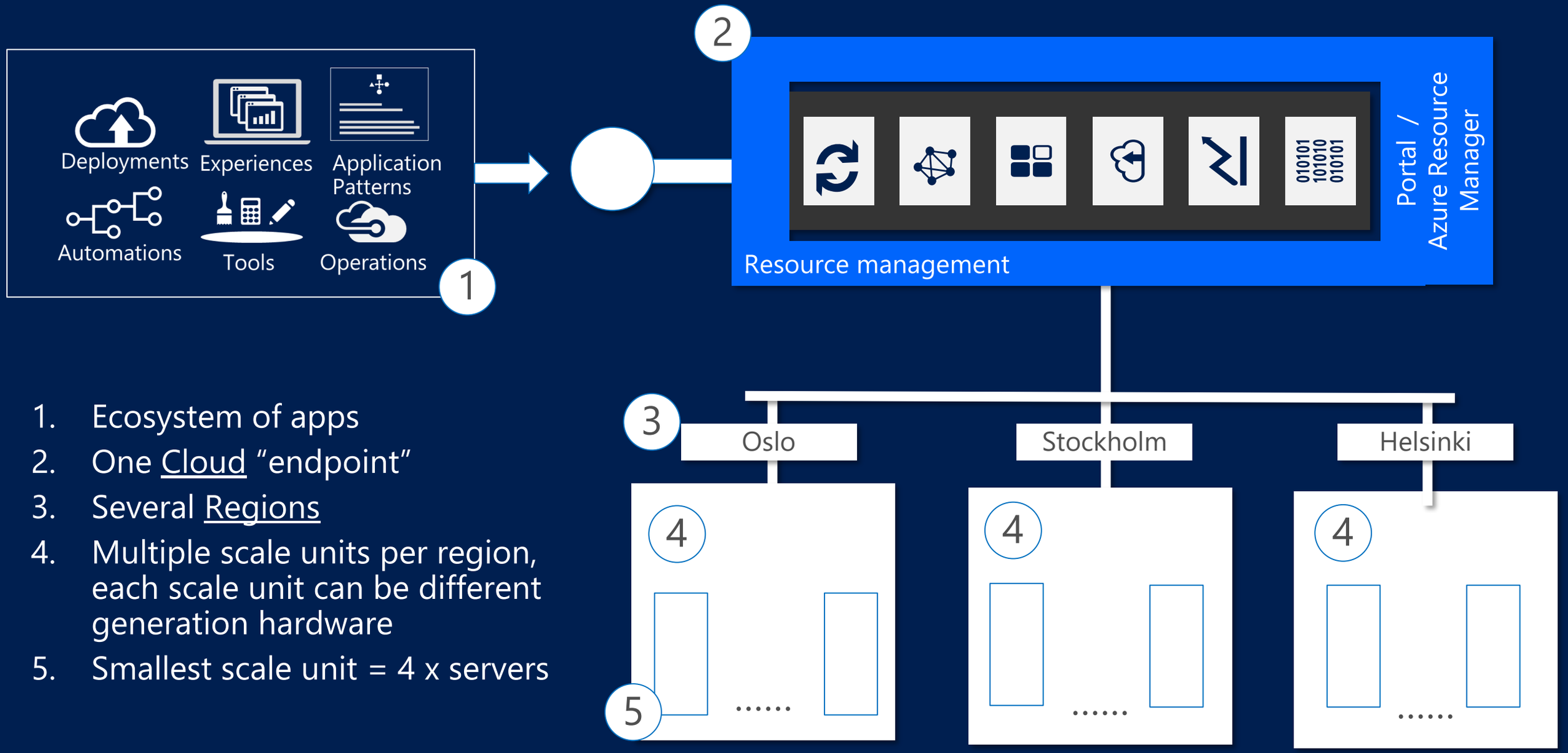
Continuous innovation

- Newest services and fastest updates
- No disruption to tenant availability or experience



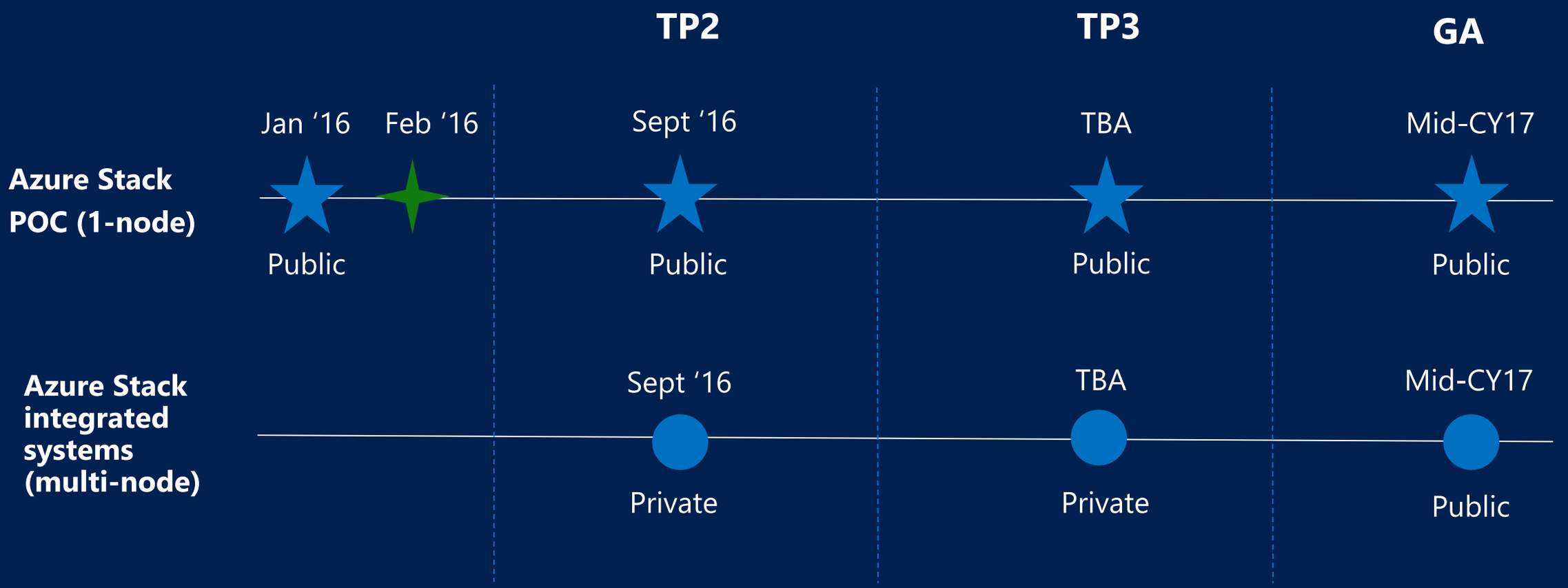
Azure Stack integrated systems partners @GA

Approach to scale Azure Stack



1. Ecosystem of apps
2. One Cloud "endpoint"
3. Several Regions
4. Multiple scale units per region, each scale unit can be different generation hardware
5. Smallest scale unit = 4 x servers

Timelines

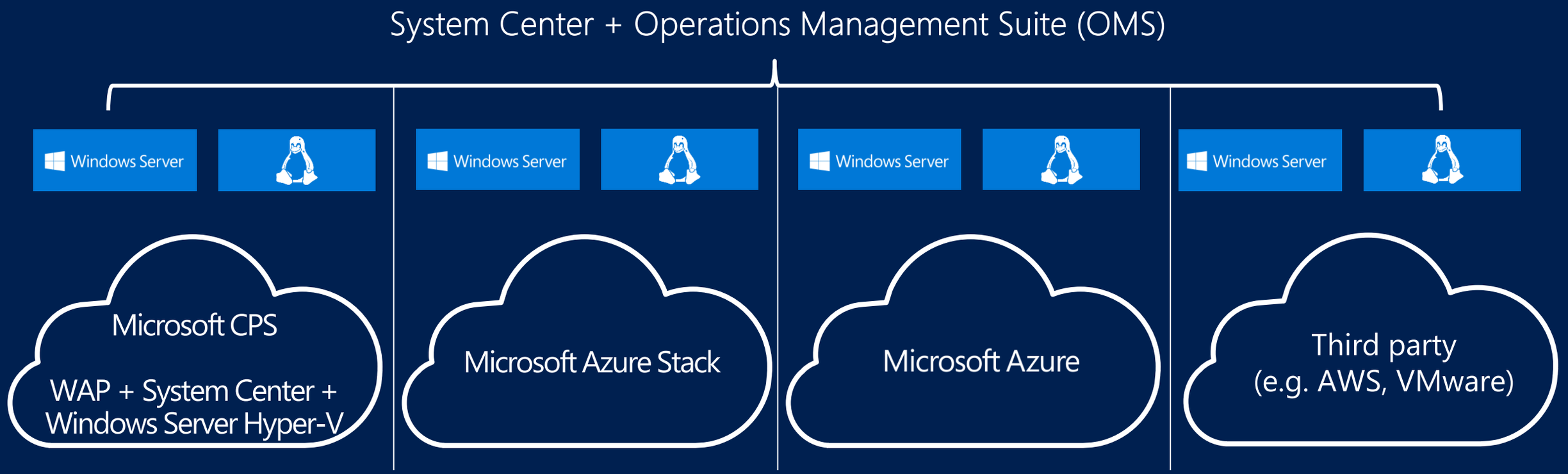


Legend

Each Technical Preview (TP) will include “foundational” Azure services such as Compute, Networking, Storage. In between TPs, we will release incremental updates with new customer scenarios.

Following each TP, we will release updates for “additional” Azure services, such as Web Apps.

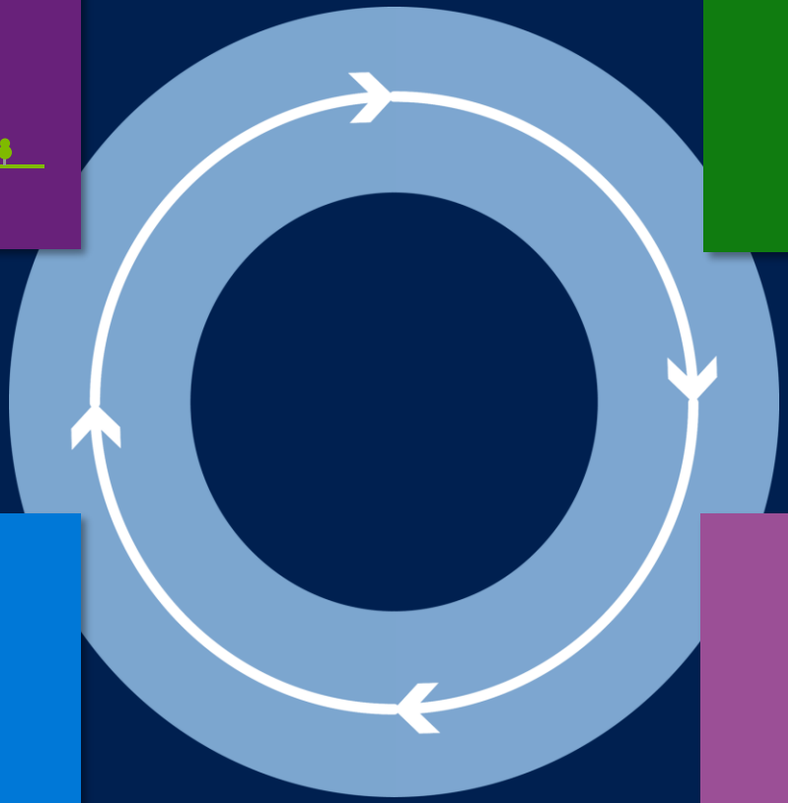
Windows Server powers your apps on any cloud



Azure Stack ecosystem opportunities

Deliver Azure services from your datacenter

Hosting service providers



Deploy, customize, and operate Azure Stack

Systems Integrators

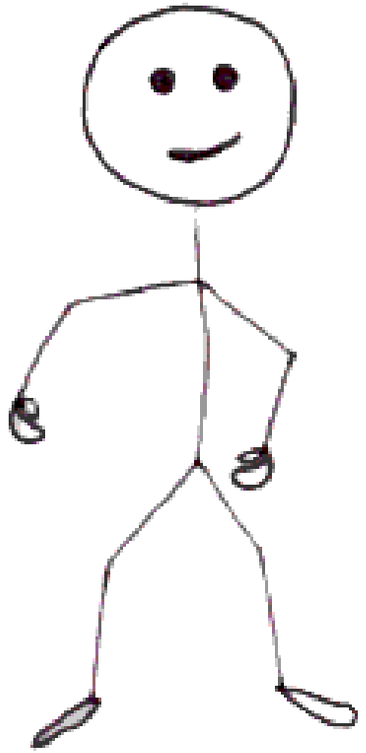
Design, deploy and operate Azure solutions

System Integrators
Managed Service Providers

Write Azure compatible software

Independent Software Vendors

This is
my
thank you
dance!



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