Building Products with ArcGIS: Common Patterns and Architectures

Rafael Fernandes

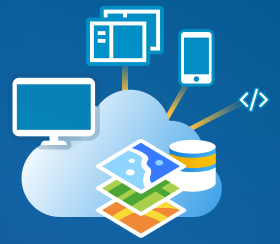
Jay Rajamohan

2021 ESRI DEVELOPER SUMMIT

Opportunities for Developers and Partners

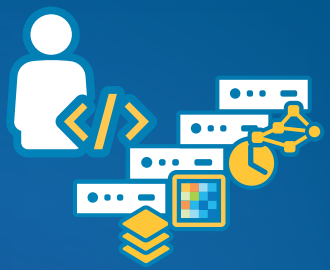
No matter what geospatial challenge you help to solve

Extend



Desktop, Web, and Mobile solutions

Embed



Partner Solutions with embedded ArcGIS capabilities

Content

Vector, Raster, and Real-time content

Services

Consulting, Managed, and Implementation Services

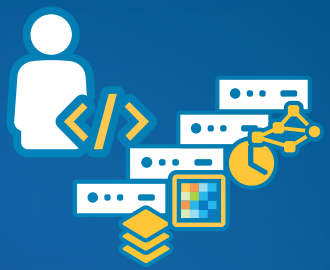
Opportunities for Developers and Partners

Enrich customer's ArcGIS workflows

Extend

Desktop, Web, and Mobile solutions

Embed



Partner Solutions with embedded ArcGIS capabilities

Content

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Services

Consulting, Managed, and Implementation Services

Extend ArcGIS

Options to extend GIS centric workflows

Extend ArcGIS Products to provide industry solutions and support customer workflows

Use customer licenses & infrastructure for your solution

Enhance and customize Esri customers' user experience

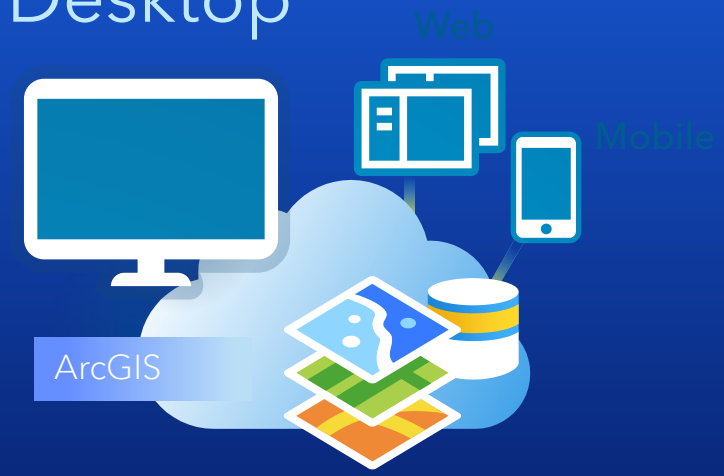
Access all Esri customers

For Developers and Partners

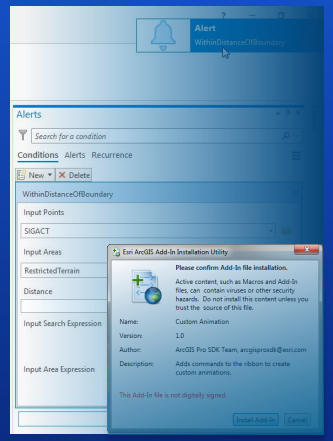
Extend ArcGIS

Desktop

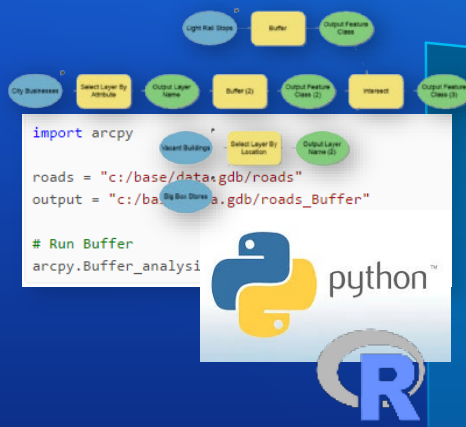
Desktop



Build Add-Ins
ArcGIS Pro SDK



Extend Analysis Tools
Geo Processing Tools

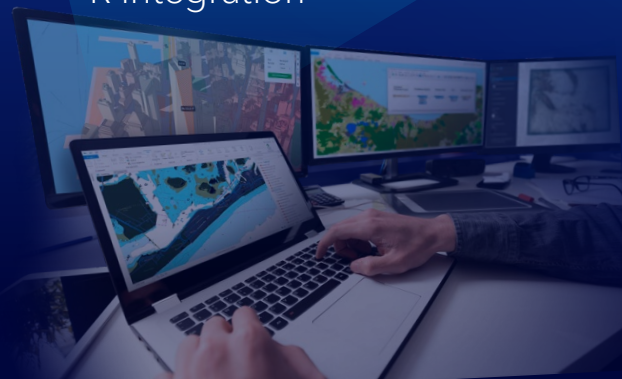


- 60+ New Core Tools (1,200+ total)
- Space-Time
- Charting tools
- Hydrologic Analysis
- Raster Analysis
- Network Analysis
- Python API
- Model Builder
- R integration

Build Custom Desktop Apps
ArcGIS Runtime

- Java
- .NET
- Qt

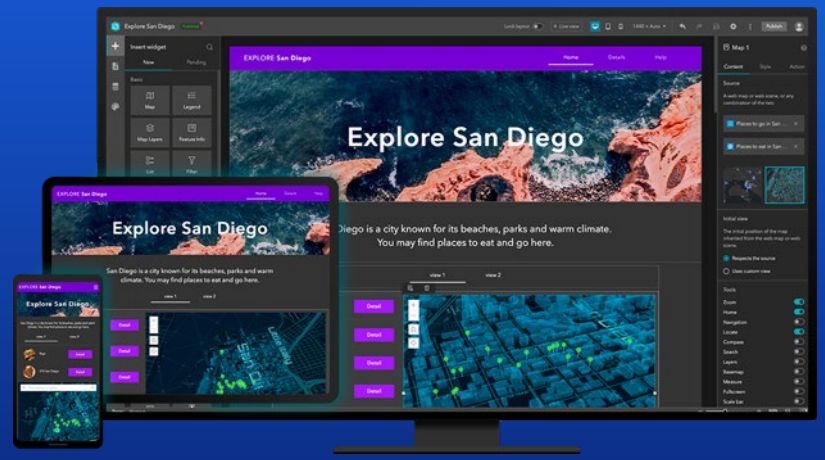
Configure ArcGIS Pro
ArcGIS Pro SDK



Extend ArcGIS

Web

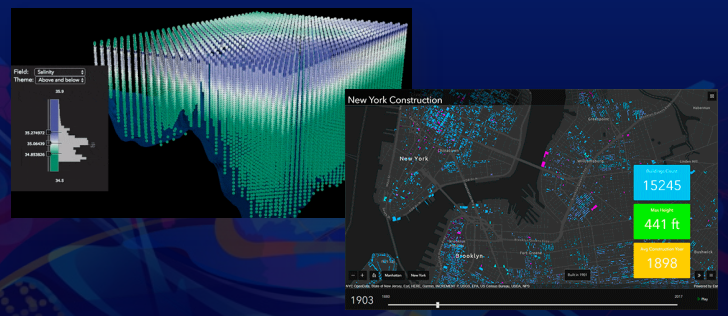
Experience Builder



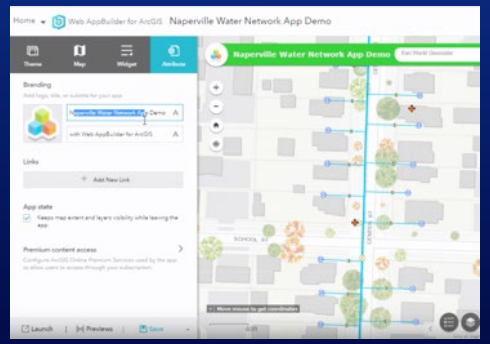
Customize ArcGIS Solutions

- Industry specific: Tools, Applications, Configurations and Workflows
- Managed and Maintained by Esri
- Great starting point for your solutions
- Deliver solutions to you Customers

Build Custom Web Apps
ArcGIS API for JavaScript



Web AppBuilder for ArcGIS

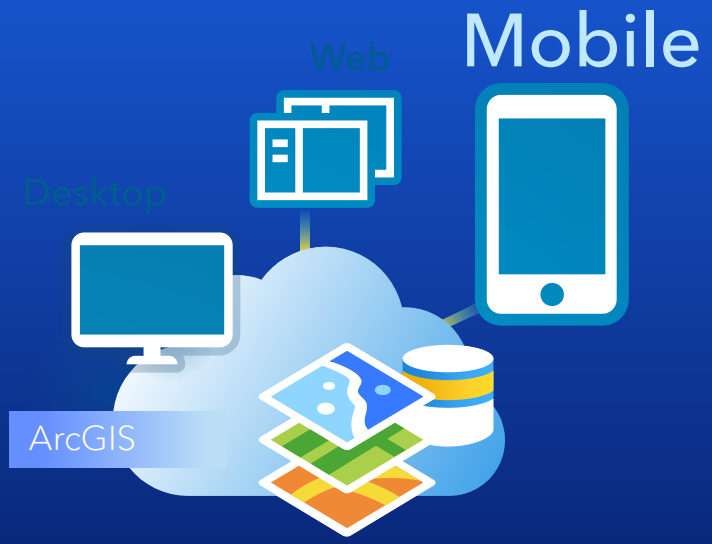


- App creation without coding
- Run on any device or browser
- Build self-help apps
- Extensible framework
- Build a web app in four steps

Local Government
State Government
Emergency Management
Water
Electric
Gas
Telecommunications
Defense
Business
Intelligence

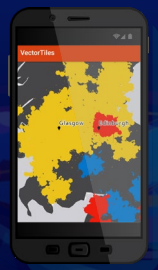
Extend ArcGIS

Mobile



Build Custom Native Apps
ArcGIS Runtime

iOS
Android
Java
.Net
Qt

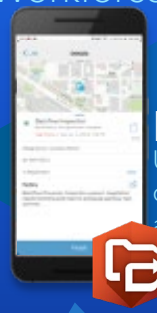


App linking

Partner Runtime App

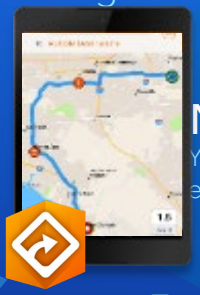
Plan
Use location to coordinate field activities

Workforce



Navigate
Your roads, your data – even while offline

Navigator



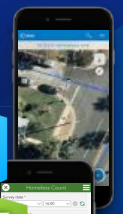
ArcGIS Field Maps
App Linking

Understand
Provide visual context in the field with maps

Explorer

Capture
Perform accurate data collection and inspections

Collector

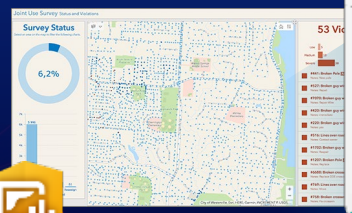


Survey123

QuickCapture

Monitor
Make decisions at a glance

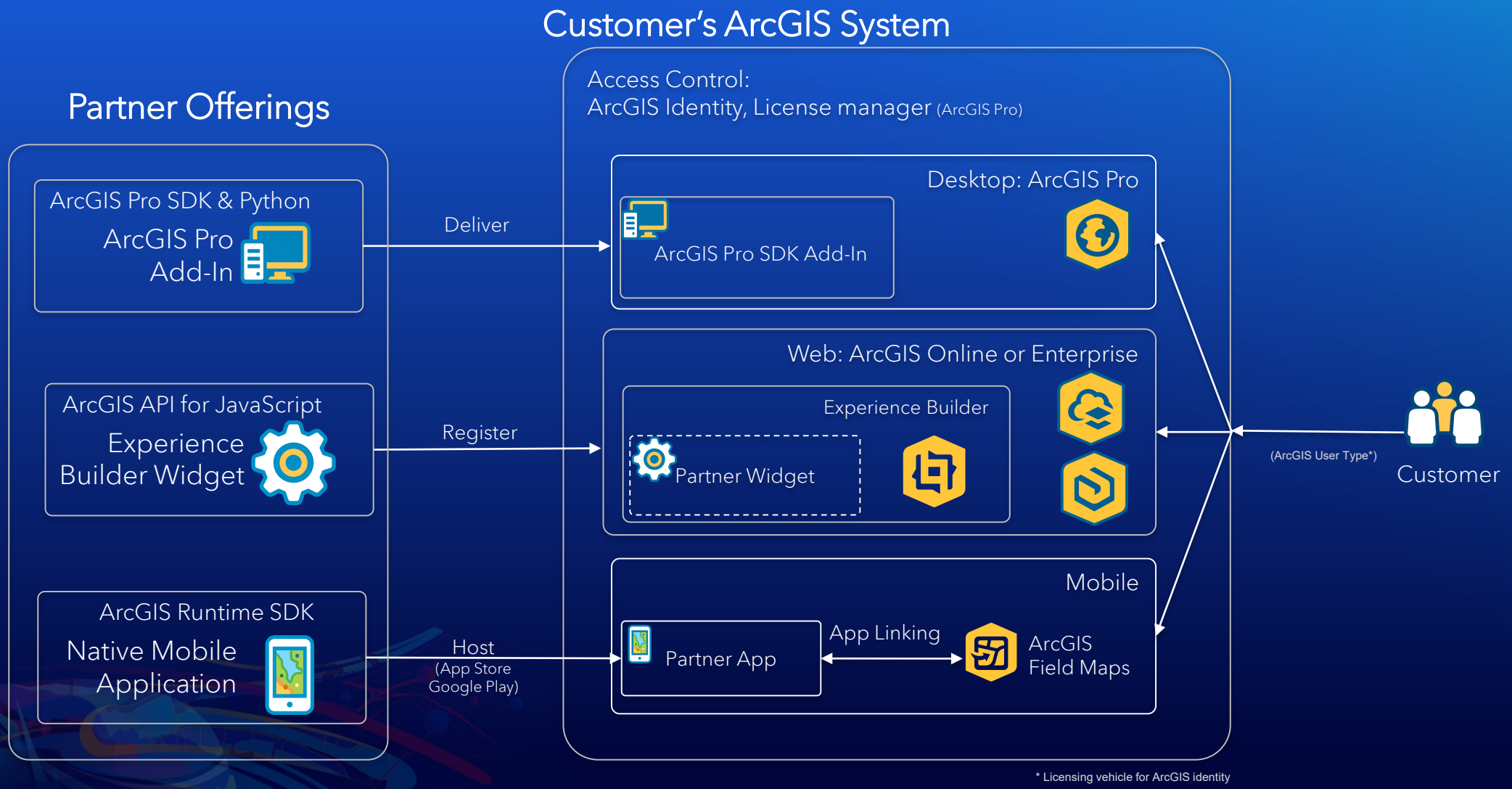
ArcGIS Dashboards



Tracker

Extend ArcGIS

How to add capabilities to customer's ArcGIS



Recap | Extend ArcGIS

Options to extend GIS centric workflows

Highlights

- Use customer licenses & infrastructure for your solution
- Access all Esri customers
- Enhance and customize Esri customers' user experience

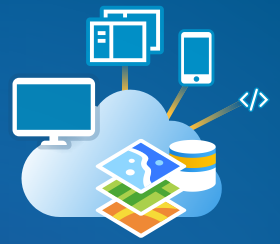
Places to start

- Desktop
  - Build ArcGIS Pro-Add-ins
- Web
  - Extend an ArcGIS Solution
  - Build a widget
  - Make a custom Web App
- Mobile
  - Include Esri applications to your mobile workflows with App linking

Opportunities for Developers and Partners

Enrich your solution with geospatial capabilities

Extend



Desktop, Web, and Mobile solutions

Embed

Partner Solutions with embedded ArcGIS capabilities

Content

Vector, Raster, and Real-time content

Services

Consulting, Managed, and Implementation Services

Embed ArcGIS

Options to embed ArcGIS into your solutions

Enhance your industry and market solutions with geospatial technology

Save development time by embedding ArcGIS capabilities to solve spatial challenges

Use identity controls to access and secure ArcGIS

Embed ArcGIS into your SaaS or On-prem solutions

Embed ArcGIS Capabilities

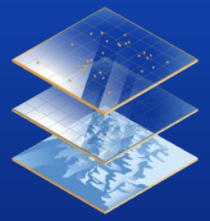
Partner Products – Core Concepts

Pattern		Product Requirements	
1	ArcGIS Platform	Location Services using API keys	For Developers and Partners
2	ArcGIS Identity	GIS mapping & Location Services using identity	Requires Partnership
+			
3	Advanced Capabilities	Workflows with Esri SaaS & Server Software	Requires Partnership

ArcGIS Platform (PaaS)

Extensive Content and Powerful Capabilities

Location Services

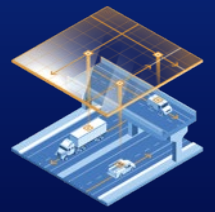


Basemaps

Data Hosting

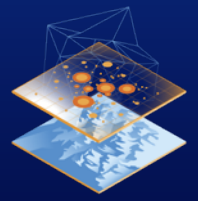
Data Visualization

Geocoding & Search



Routing & Directions

Maps & Data



Spatial Analytics

Developer Experience

New Developer Experience
Developer Resources

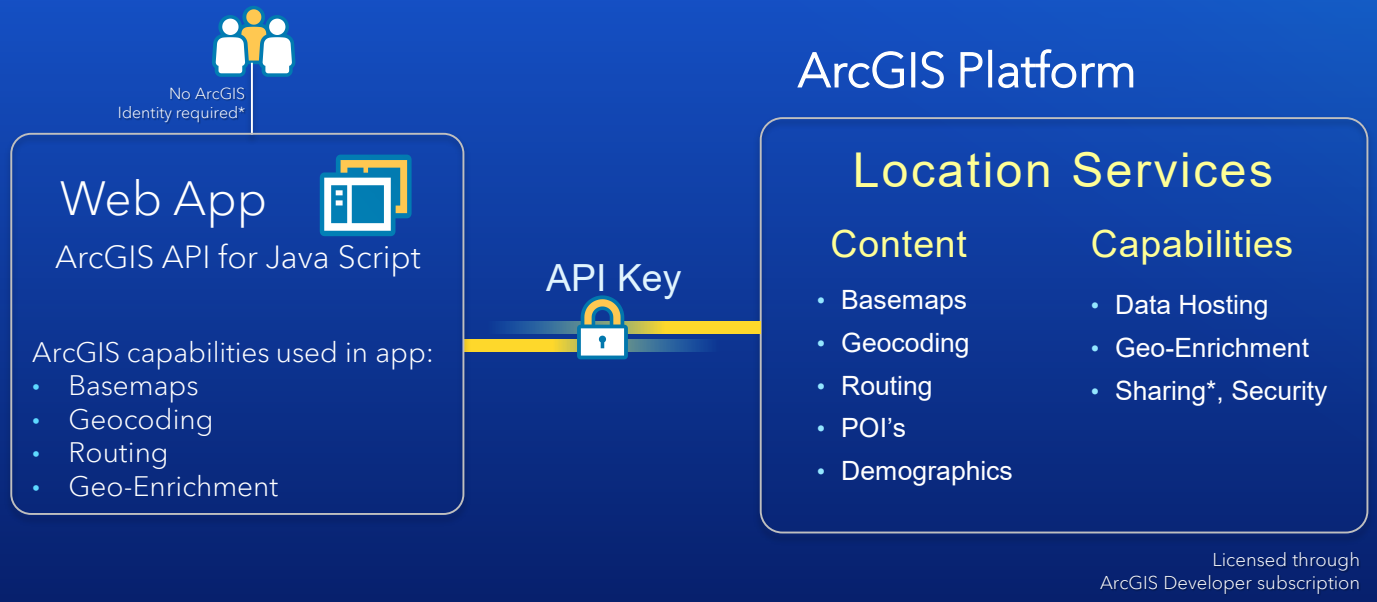
Business Model

Consumption-Based

For Developers and Partners

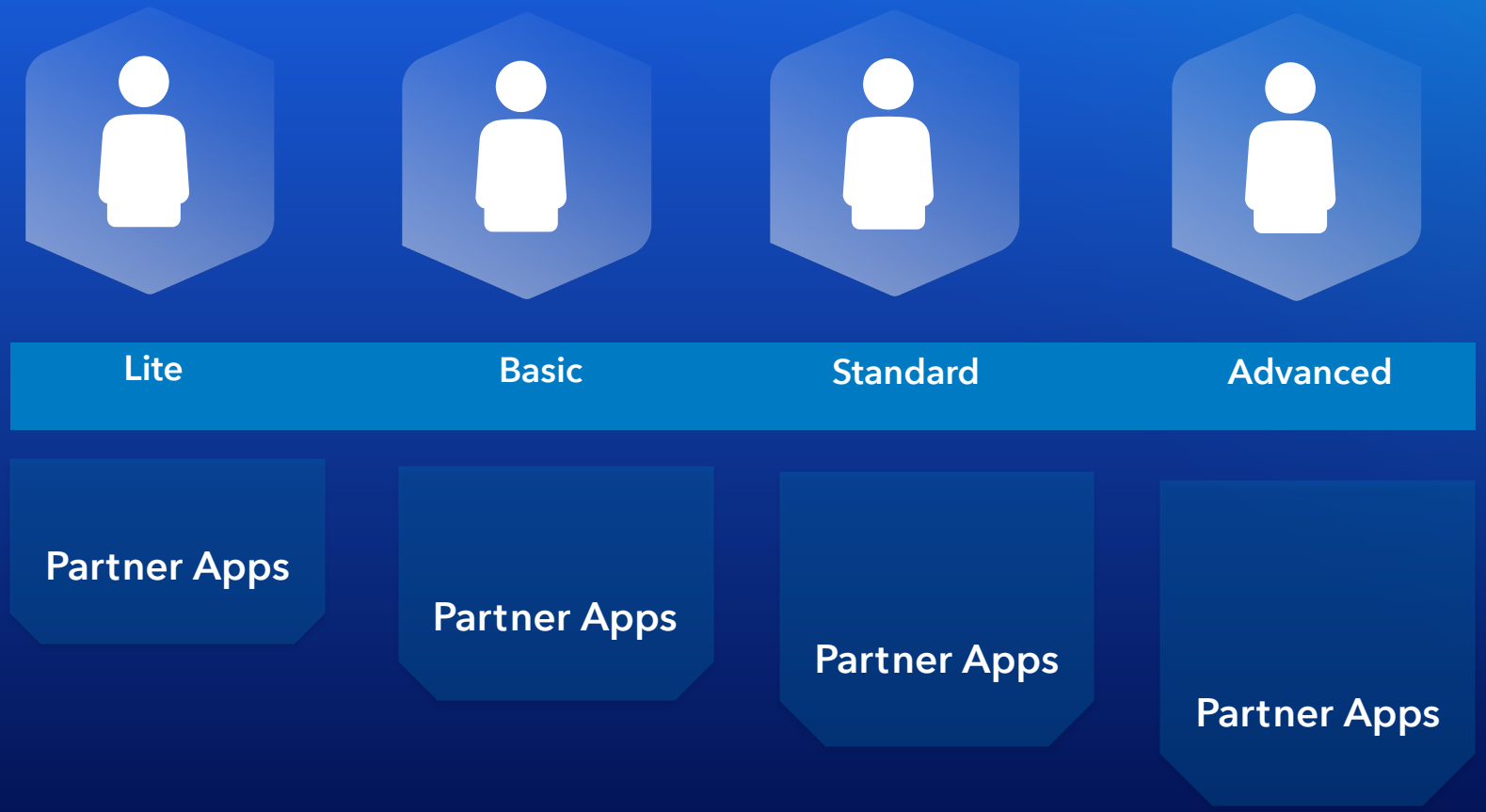
Embed ArcGIS Capabilities

Conceptual Architecture: Partner Solution with ArcGIS Platform



Embed ArcGIS Capabilities

ArcGIS Identity: Partner User Types



For Partners

Embed ArcGIS Capabilities

ArcGIS Identity: Partner User Type

	Lite	Basic	Standard	Advanced
Partner User Type Level	Lite	Basic	Standard	Advanced
ArcGIS Capabilities	View items and content	View with ability to edit features	View and edit with ability to author	View and edit with ability to author
ArcGIS Online Credits	0	250	500	500
Runtime Levels	Lite	Basic	Standard	Advanced

Location Services: Mapping | Geocoding | Data Layers | Routing | GeoEnrichment

Add-ons: ArcGIS Online Credits | Esri Apps & Bundles | User Type Extensions | Location Services

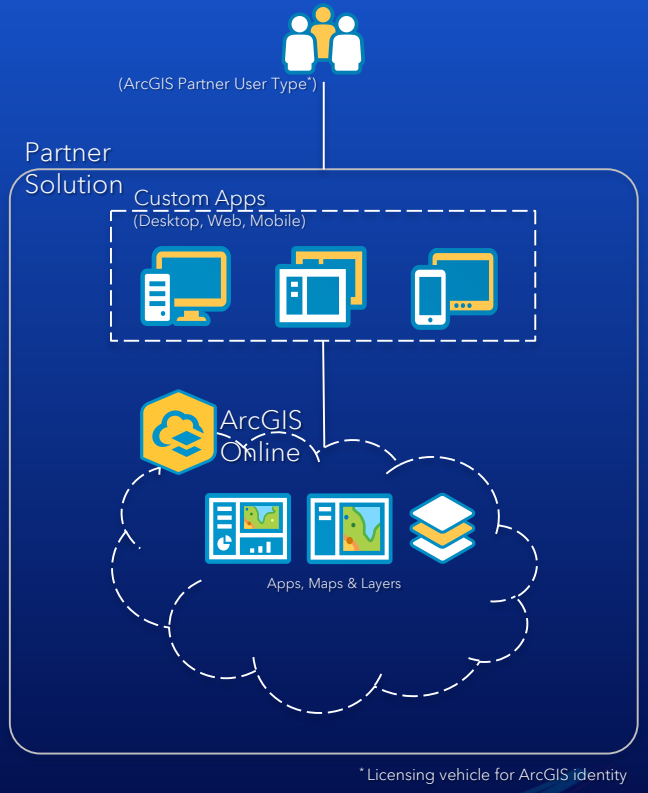
Partner Product

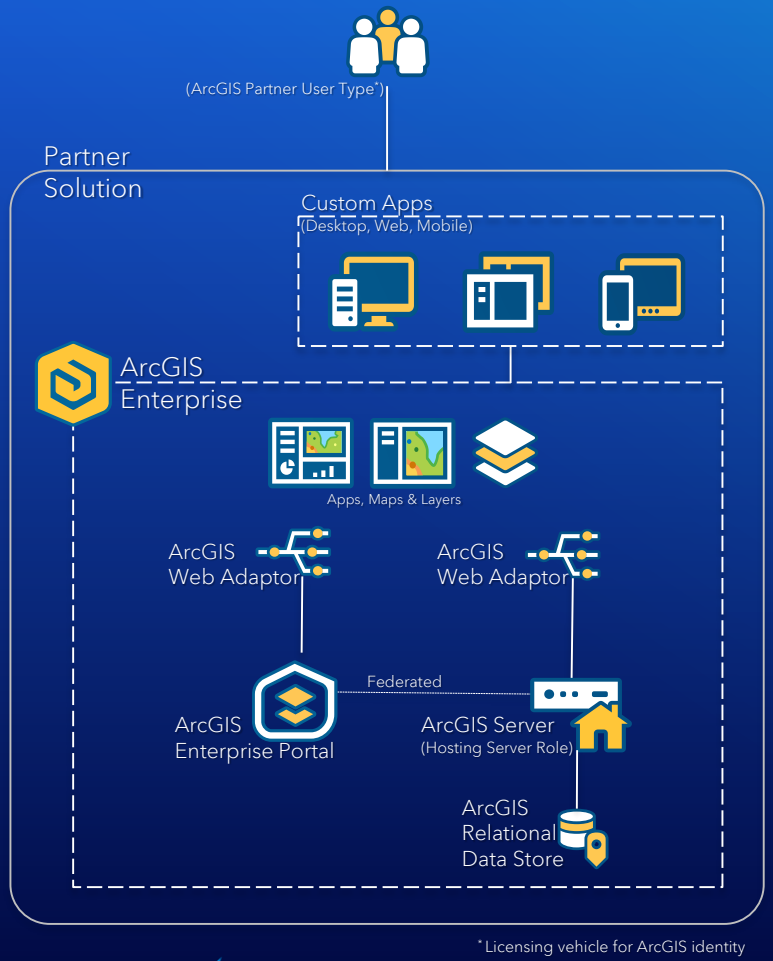
- No upfront cost to partner
- Partner managed & maintained
- Provides access to ArcGIS components
- Supports external identity providers (SAML / OID Connect)
- User Authentication with OAuth

For Partners

Embed ArcGIS Capabilities

Conceptual Architecture: Partner Solution using ArcGIS Partner User Type



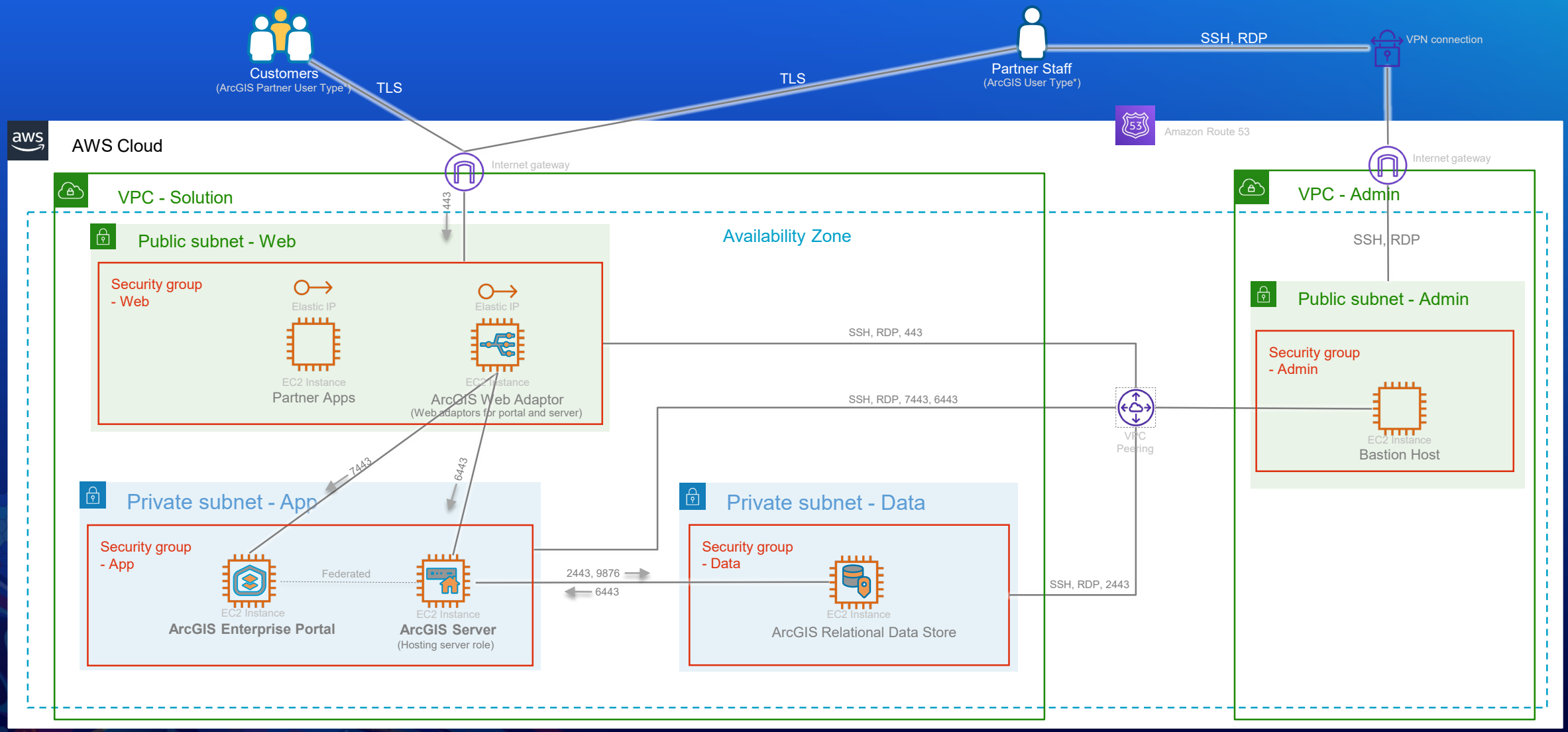


aws Azure

For Partners

Embed ArcGIS Capabilities

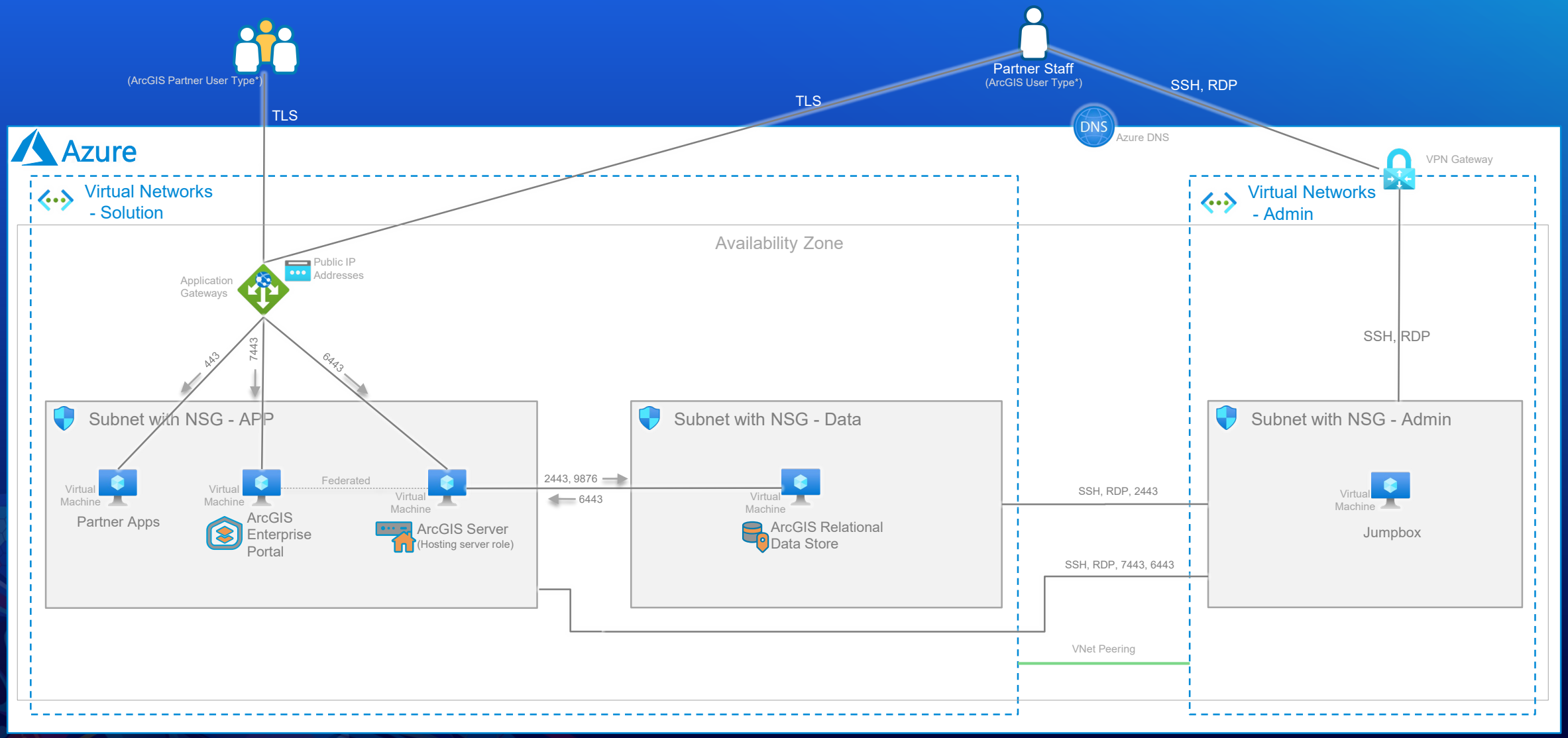
AWS Cloud Deployment Consideration: Partner Solution using ArcGIS Partner User Type



* Licensing vehicle for ArcGIS identity

Embed ArcGIS Capabilities

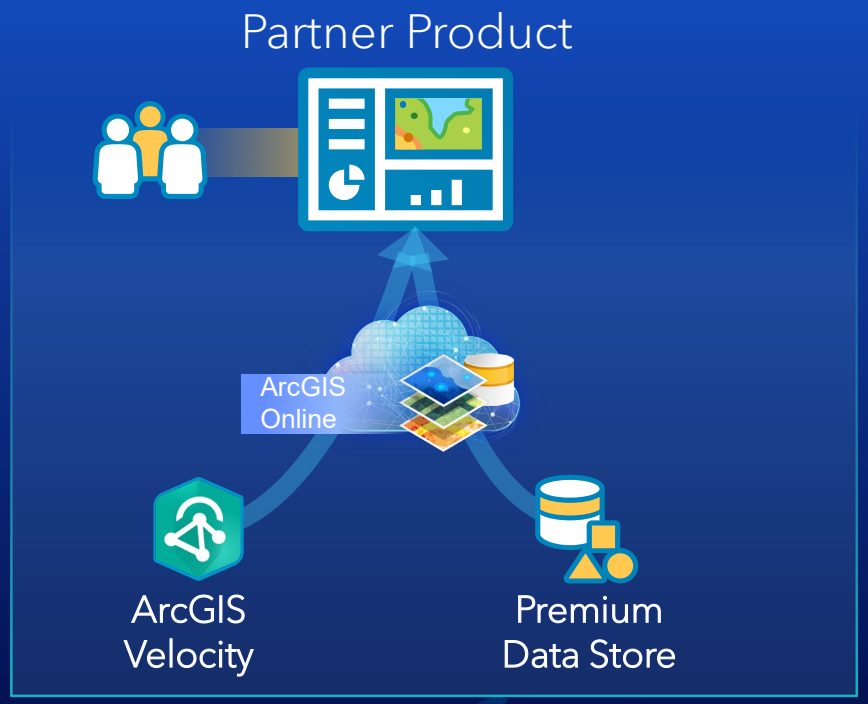
Azure Cloud Deployment Consideration: Partner Solution using ArcGIS Partner User Type



* Licensing vehicle for ArcGIS identity

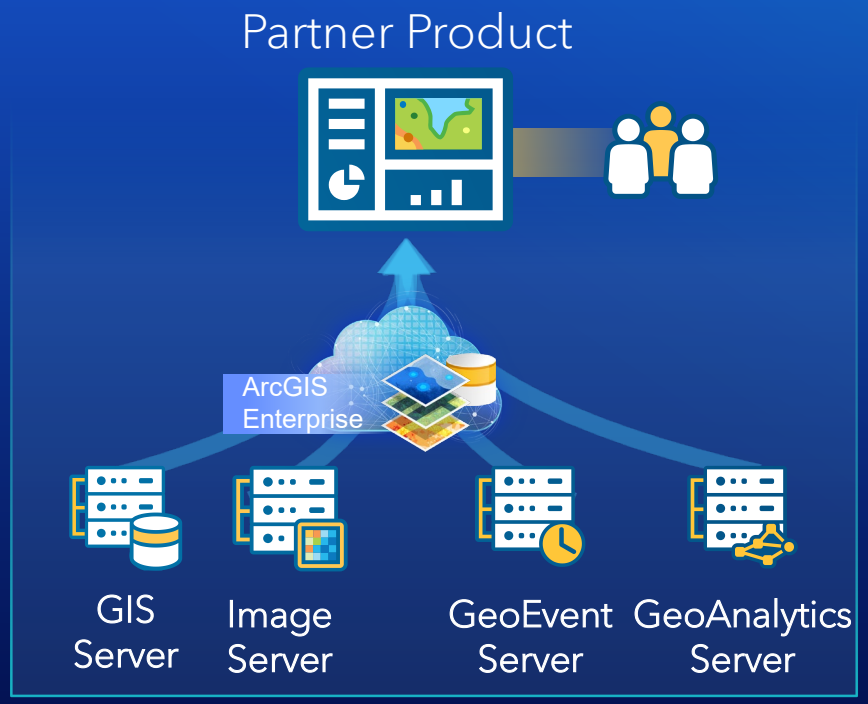
Embed ArcGIS Capabilities

Advanced Capabilities



Esri SaaS

Vector | Real-time | Big Data



Esri Server Software

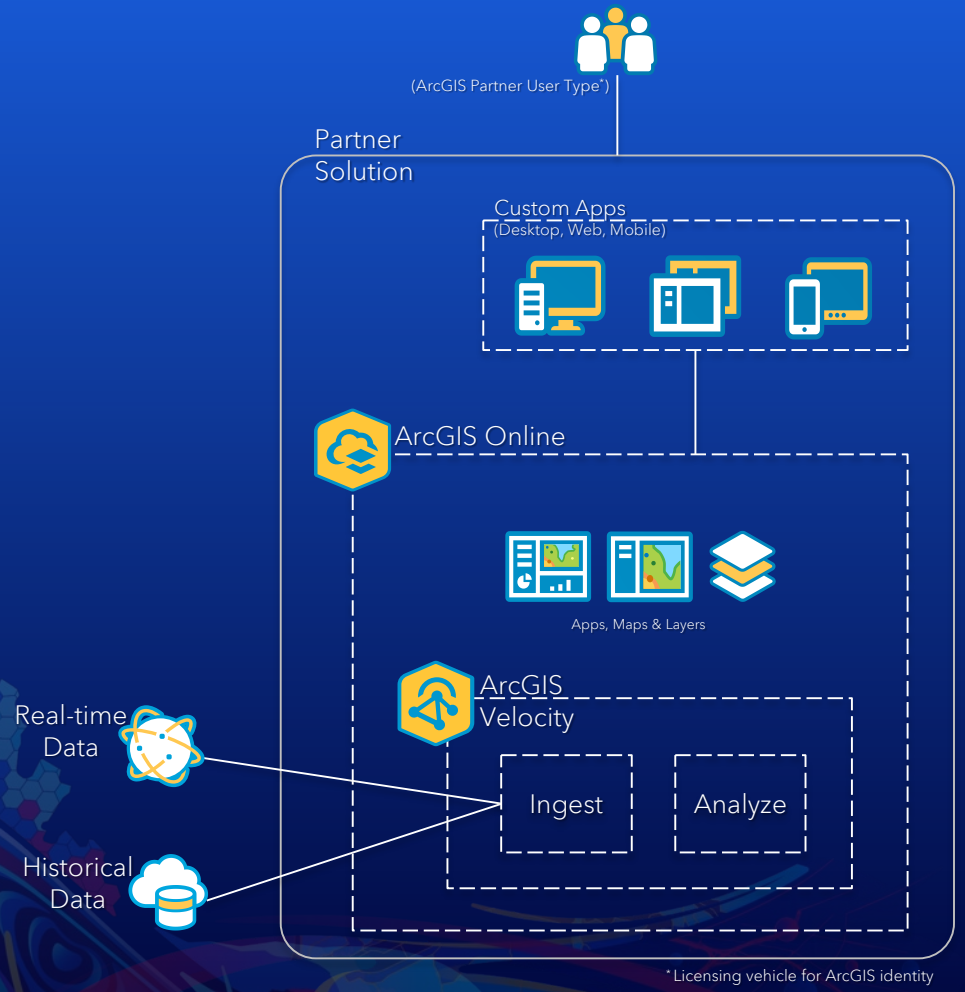
Vector | Imagery | Real-time | Big Data

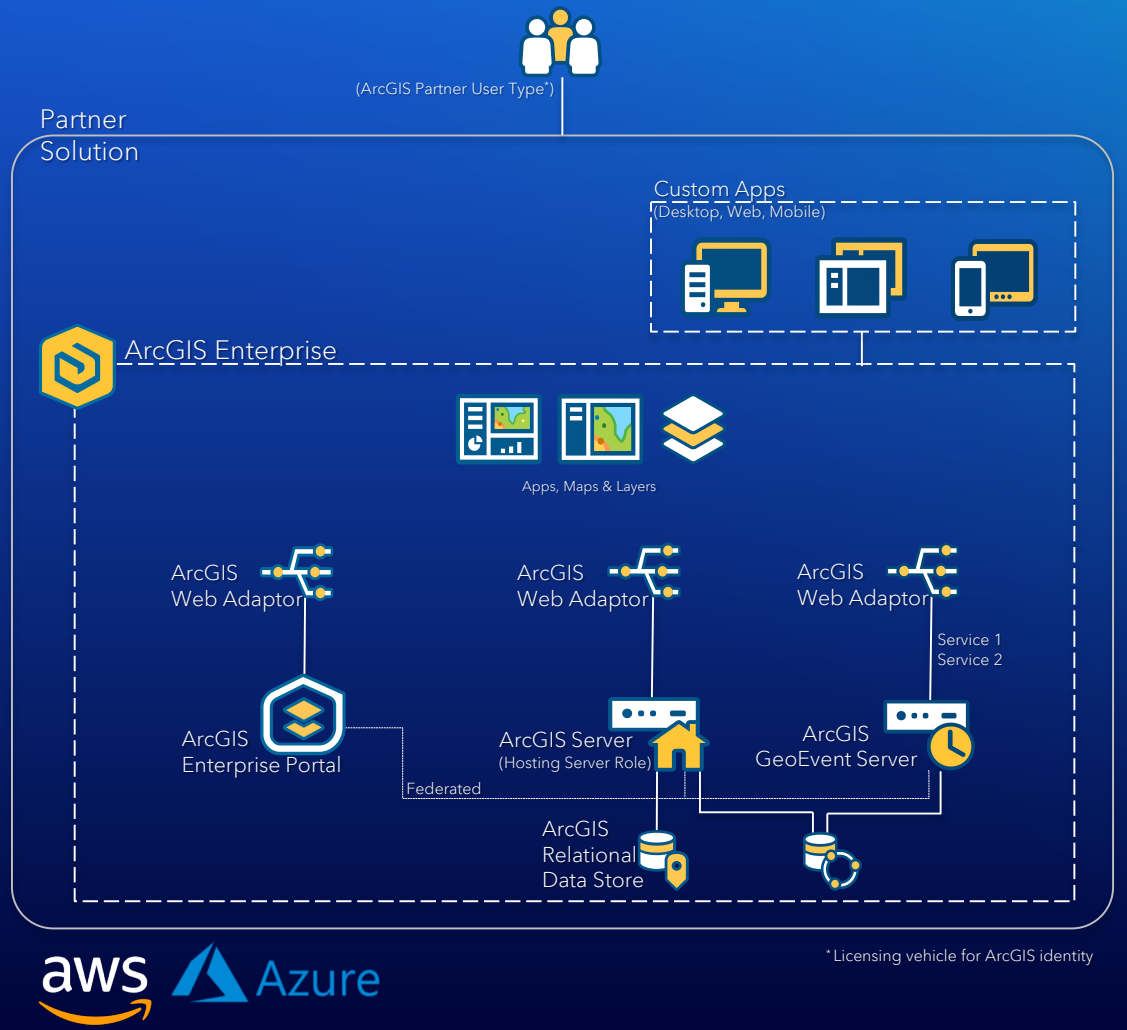
aws Azure

For Partners

Embed ArcGIS Capabilities

Conceptual Architecture: Partner Solution with ArcGIS Real-time Capability

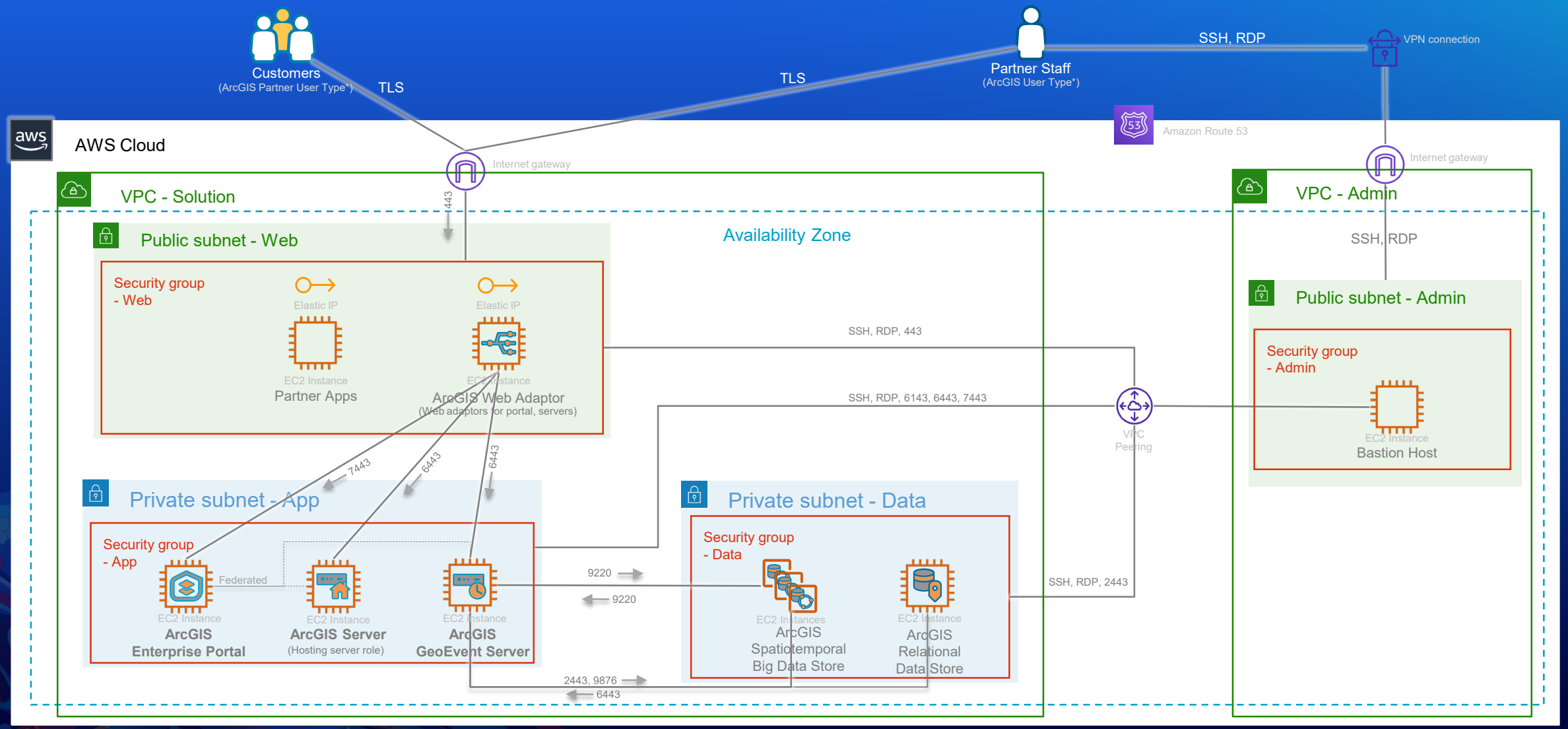




For Partners

Embed ArcGIS Capabilities

AWS Cloud Deployment Consideration: Partner Solution ArcGIS Real-time Capability



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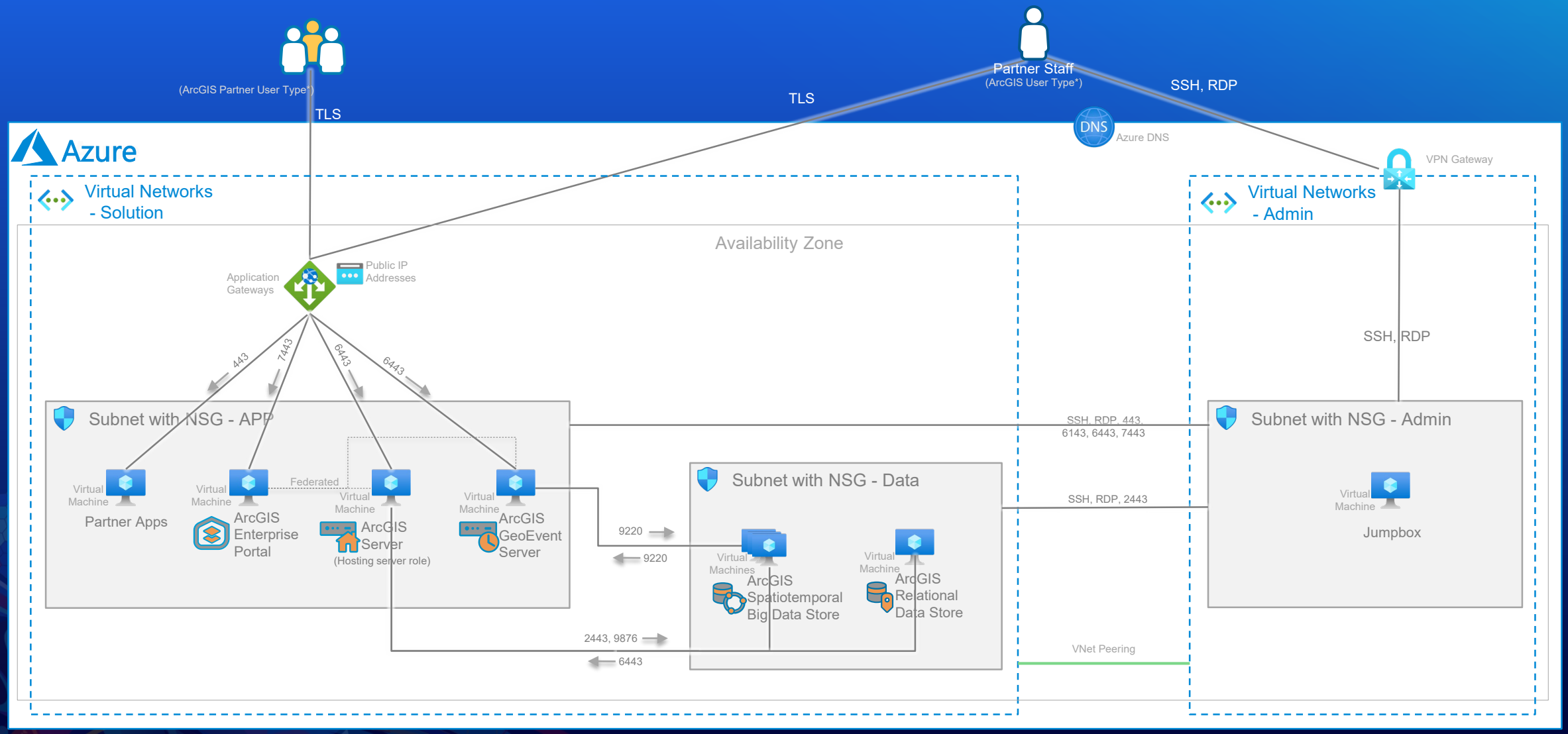
Embed ArcGIS Capabilities

Azure Cloud Deployment Consideration: Partner Solution ArcGIS Real-time Capability



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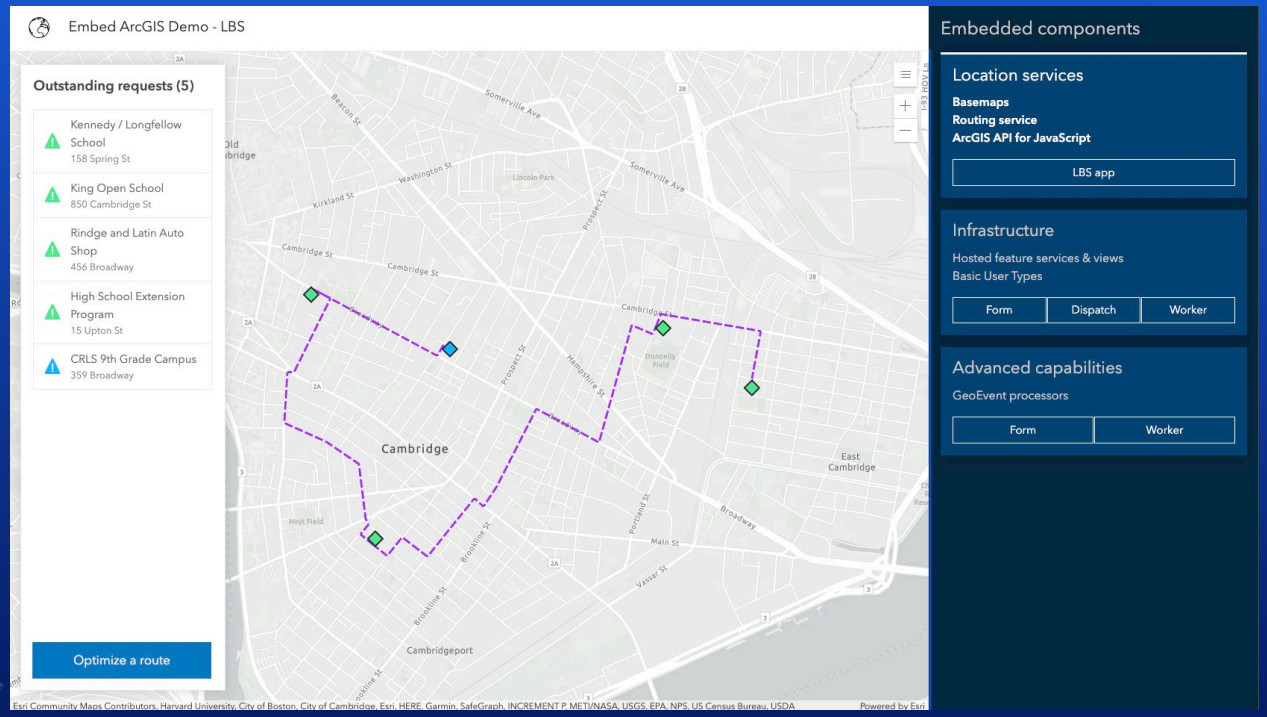
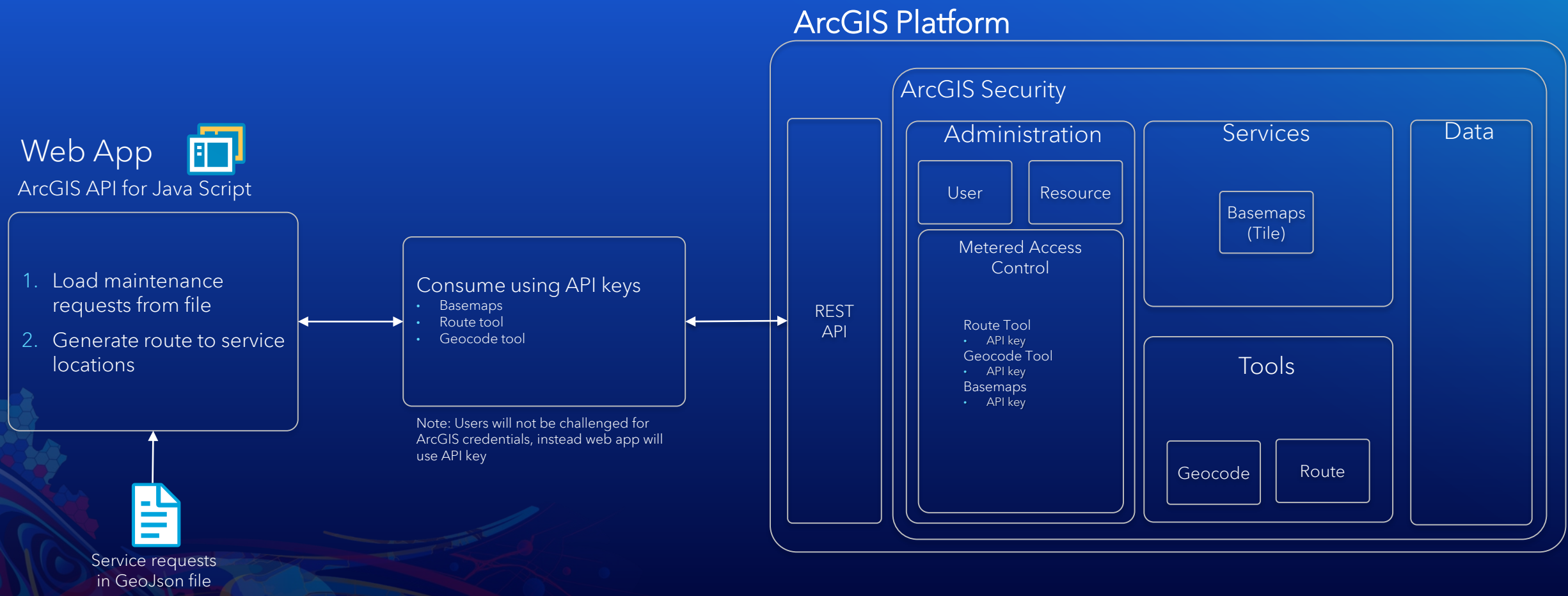


Progressive Implementation of Embedded Solutions

with maintenance requests

Embed ArcGIS Capabilities: Location Services

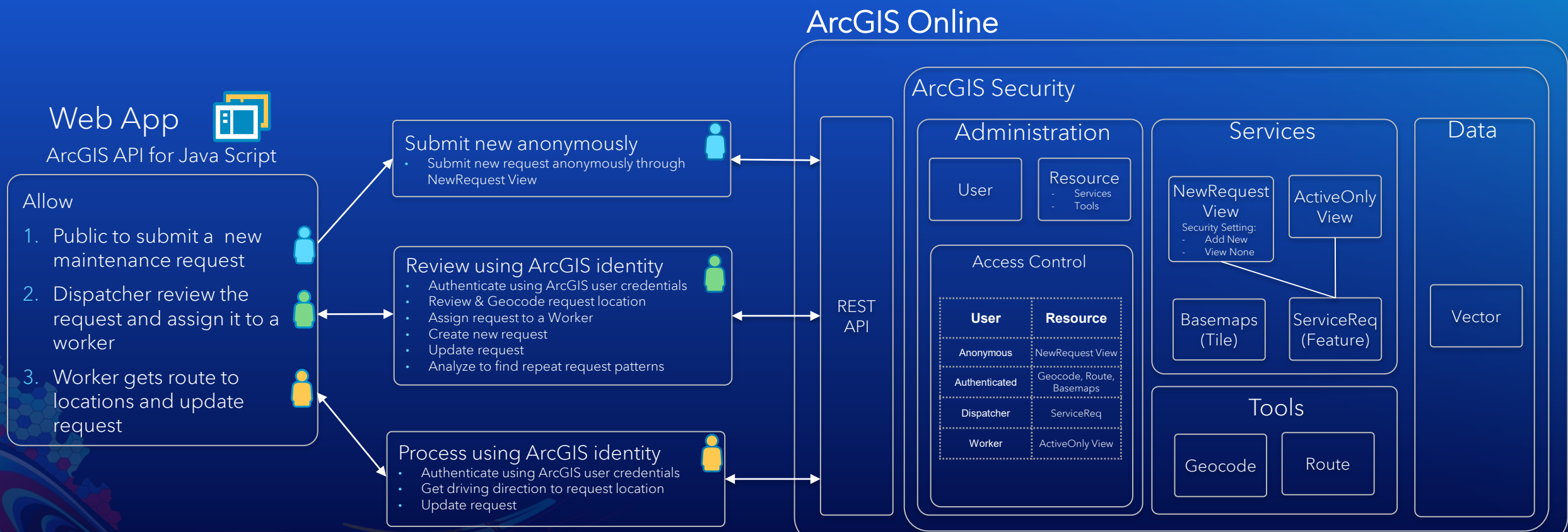
Workflow: Use API key and embed ArcGIS Platform



For Developers and Partners

Embed ArcGIS Capabilities: Workflows by Persona

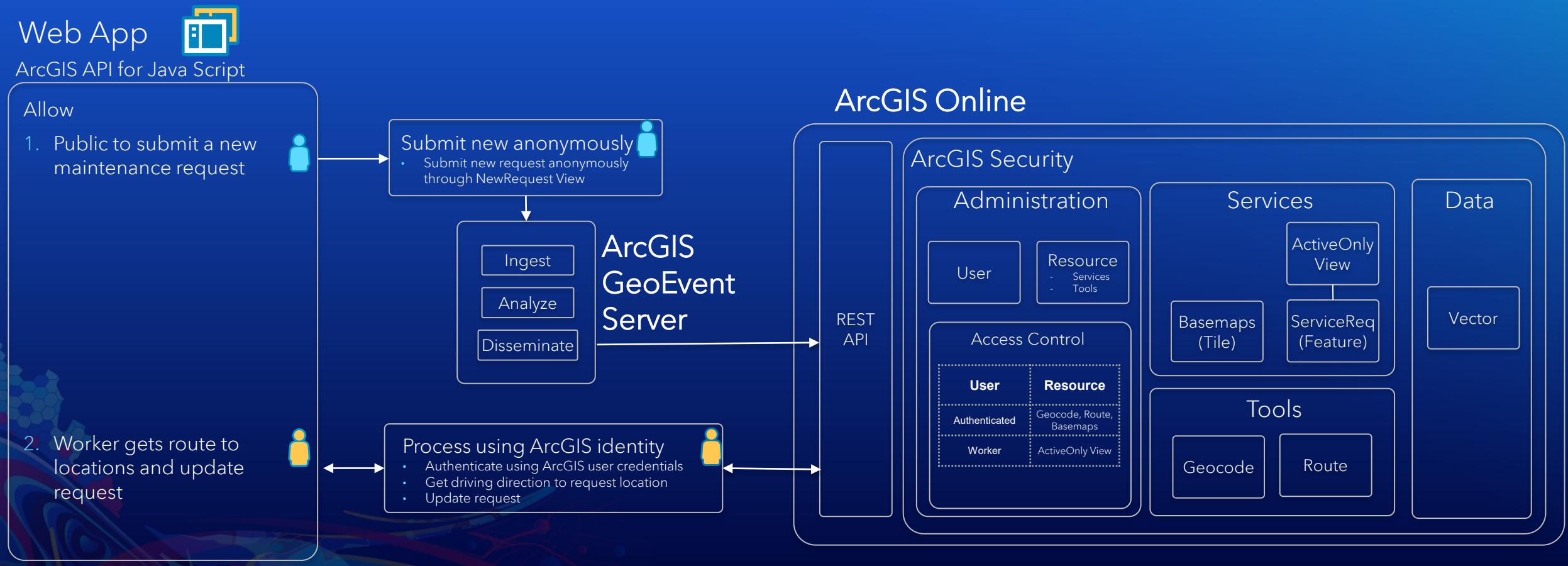
Workflow: Use ArcGIS identity to embed ArcGIS Online



For Partners

Embed ArcGIS Capabilities: Automated Workflows

Workflow: Use ArcGIS identity to embed ArcGIS Online and ArcGIS GeoEvent Server



For Partners

Recap | Embed ArcGIS

Options to embed ArcGIS into your solutions

Highlights

- Embed ArcGIS capabilities to solve spatial challenges
- Use identity controls to access and secure ArcGIS
- Embed ArcGIS into your SaaS or On-prem solutions

Places to start

- Sign-up as a developer to use ArcGIS Platform

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