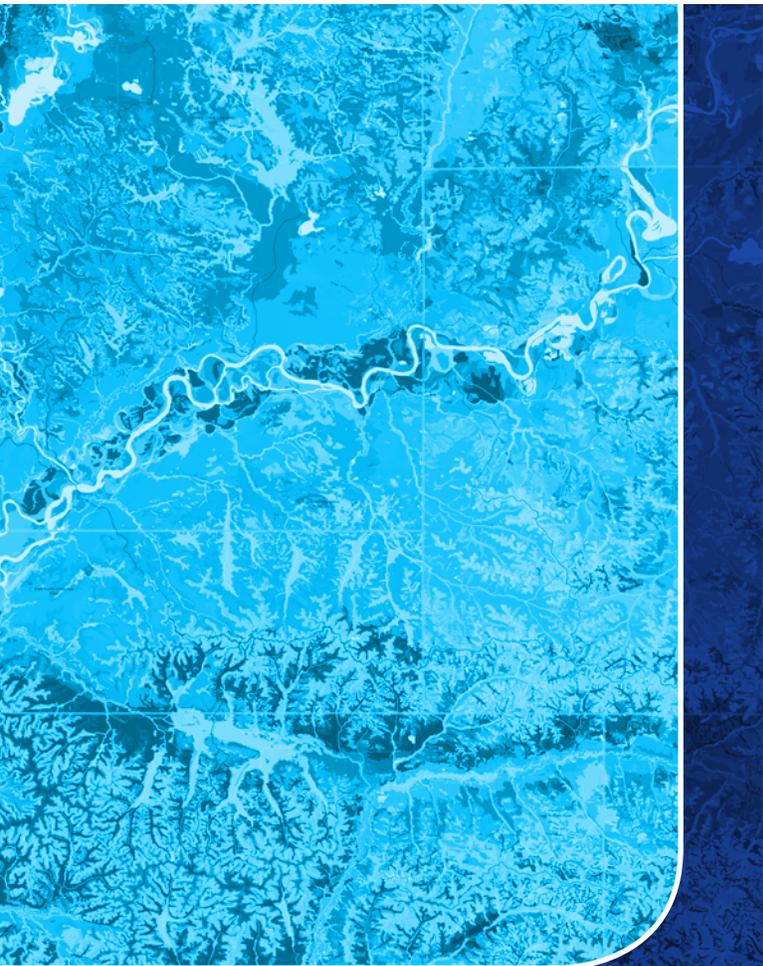




# 10.6.1



# ArcGIS ENTERPRISE

Functionality Matrix

ArcGIS Enterprise is flexible server software for mapping and analytics that allows you to easily manage your location-enabled data and brings a Web GIS into your infrastructure. ArcGIS Enterprise provides your organization the power to analyze, create, and share content to any device, anywhere, at any time - helping you to discover and do more with your data.

Designed for flexibility, ArcGIS Enterprise gives you complete control over the infrastructure the software will use and supports deployments using physical or virtualized machines and cloud infrastructure alike. ArcGIS Enterprise also includes tools to make getting started easier, including a wizard-based builder for all-in-one deployments, Chef scripts to automate custom deployments, and machine images to jumpstart cloud deployments on Amazon Web Services and Microsoft Azure.

The ArcGIS Enterprise portal enables Web GIS and allows members of your organization to search, organize, analyze, store, and share location-enabled content; with it you can transform raw data into a fully functional mobile app without writing a single line of code.

At the heart of ArcGIS Enterprise is powerful server software with capabilities that allow you to serve, map, and analyze geographic information. The vast and diverse capabilities of ArcGIS Enterprise are organized into different servers, each one unlocking a distinct array of functionality. This functionality matrix is organized so that you can identify which servers best fit your needs.

Powerful, collaborative, and secure; ArcGIS Enterprise epitomizes modern GIS in your infrastructure.

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# ArcGIS ENTERPRISE

## Functionality Matrix

# 10.6.1

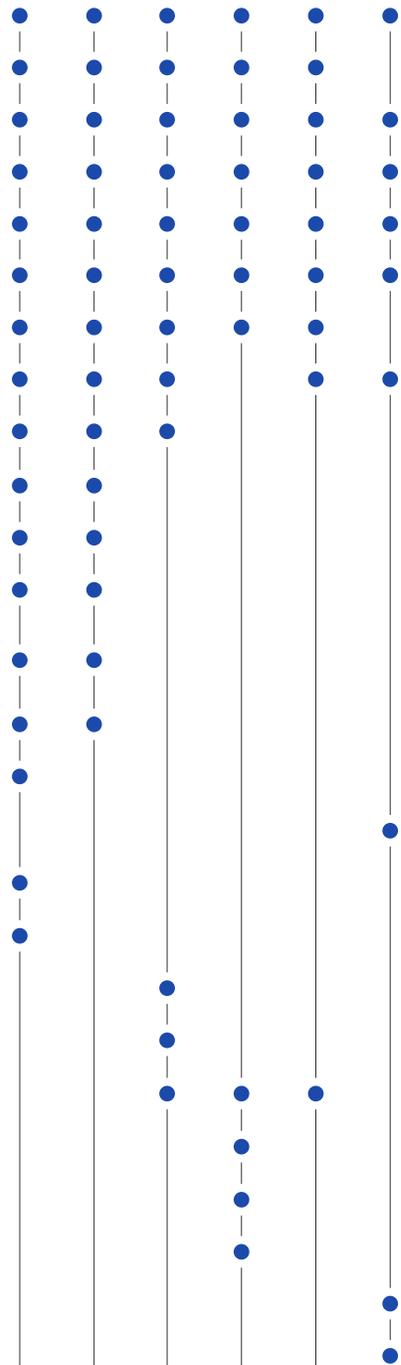
- Included
- Additional Purchase

<sup>1</sup> Only applicable if you have the corresponding ArcGIS Desktop extension.

### SERVER CAPABILITIES

- Run on Windows
- Run on Linux
- Deploy in the cloud
- Deploy on premises
- Deploy disconnected from the open internet
- Script and automate workflows
- Create analytical models and model chains
- Edit data on the web
- Create OGC compliant web services
- Convert location information to XY (Geocode)
- Visualize data as a schematic diagram
- Support disconnected/field editing
- Create geoprocessing services from ArcGIS Desktop analysis tools
- Create geoprocessing services as web tools
- Serve 3D Analyst tools <sup>1</sup>
- Serve Business Analyst tools and apps
- Serve GeoStatistical Analyst tools <sup>1</sup>
- Serve Spatial Analyst tools <sup>1</sup>
- Create image and raster mosaics dynamically
- Display imagery and raster data on-the-fly
- Process and analyze big data
- Analyze streaming data in real-time
- Generate geo-enabled alerts
- Create geofences
- Create data driven infographics
- Enrich data

GIS Server Advanced  
 GIS Server Standard  
 Image Server  
 GeoEvent Server  
 GeoAnalytics Server  
 Business Analyst Server



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● Included

○ Additional Purchase

<sup>2</sup> The only geoprocessing services that can be served are those that are pre-configured within the server; you cannot add or modify geoprocessing services.

<sup>3</sup> ArcGIS Network Analyst for Server extension required.

U.S. Demographic, Consumer Spending, Tapestry Segmentation, Market Potential, Business, and Retail Marketplace Data.

## SERVICE TYPES

Service Type	GIS Server Advanced	GIS Server Standard	Image Server	GeoEvent Server	GeoAnalytics Server	Business Analyst Server
Cached service - Map, Image	●	●	●			
Dynamic map service	●	●				
Feature service	●	●				
Feature service (read-only)	●	●				
Geocoding service	●	●				
GeoEnrichment service						●
Geodata service	●	●				
Geometry service	●	●				
Geoprocessing service	●	●	●	● <sup>2</sup>	● <sup>2</sup>	
Image service - From mosaic dataset			●			
Image service - From single raster	●	●	●			
Network service	●	● <sup>3</sup>				
Print service	●	●				
Schematic service	●	●				
Stream service				●		

## HOSTED LAYER TYPES

Hosted Layer Type	GIS Server Advanced	GIS Server Standard	Image Server	GeoEvent Server	GeoAnalytics Server	Business Analyst Server
Feature layer	●	●				
Imagery layer			●			
Scene layer	●	●				
Raster tile layer	●	●				
Vector tile layer	●	●				

## CONTENT

Content Type	GIS Server Advanced	GIS Server Standard	Image Server	GeoEvent Server	GeoAnalytics Server	Business Analyst Server
Living Atlas	●	●				
Esri Business Analyst Data						●
StreetMap Premium (Display, Routing, Geocoding)	○	○				

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- Included
- Additional Purchase

<sup>4</sup> Windows Only

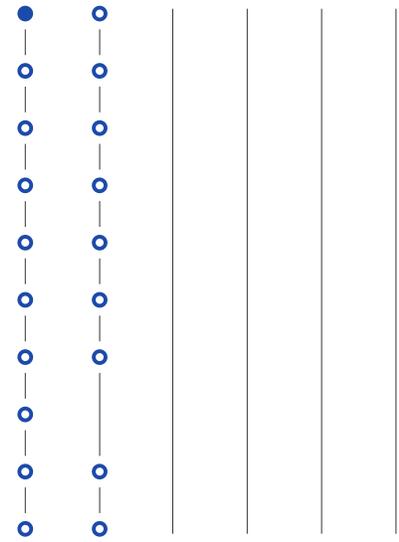
<sup>5</sup> GeoEvent Server can ingest data from system files, which may be in a table format. GeoEvent Server can also poll a feature service for feature records, which are maintained in a feature class or table. But direct database table support is not included; queries need to be made through a feature service.

<sup>6</sup> ArcGIS Utility Network Management extension required.

## EXTENSIONS

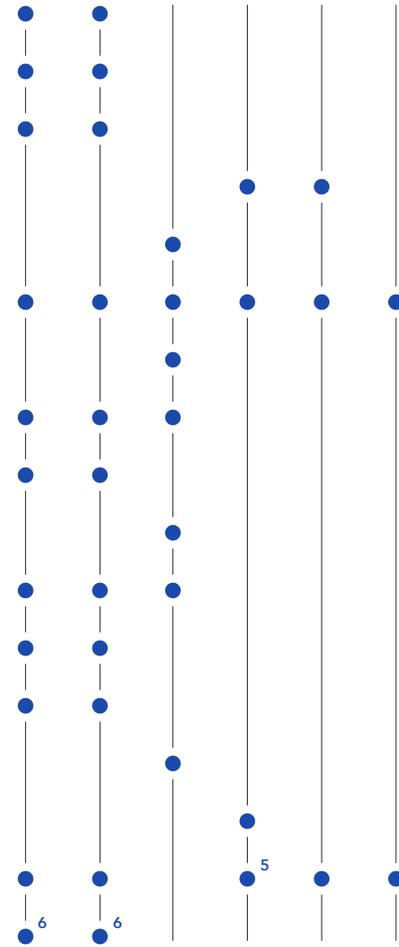
- ArcGIS Network Analyst for Server
- ArcGIS for INSPIRE
- ArcGIS Data Interoperability for Server <sup>4</sup>
- ArcGIS Data Reviewer for Server <sup>4</sup>
- ArcGIS Utility Network Management
- ArcGIS Workflow Manager for Server <sup>4</sup>
- ArcGIS for Maritime: Server <sup>4</sup>
- Esri Defense Mapping for Server <sup>4</sup>
- Esri Production Mapping for Server <sup>4</sup>
- Esri Roads and Highways for Server <sup>4</sup>

GIS Server Advanced  
 GIS Server Standard  
 Image Server  
 GeoEvent Server  
 GeoAnalytics Server  
 Business Analyst Server



## INPUT DATA TYPES

- 3D Feature (point, object, extrusions)
- 3D Scenes
- Address locators
- Big data - Feature
- Big data - Raster/imagery
- Feature data (points, lines, polygons)
- Imagery/Raster data - Mosaic dataset
- Imagery/Raster data - Single raster
- Integrated mesh
- Lidar/Terrain data - Mosaic dataset
- Lidar/Terrain data - Single raster
- Multipatch data
- Point clouds
- Raster elevation surfaces
- Real-time data streams
- Tabular data
- Utility networks



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# Supported Databases and Data Connections

<sup>7</sup> To use cloud-hosted databases your ArcGIS Enterprise deployment must be collocated with the database in the same cloud environment.

<sup>8</sup> Compatible with publishing workflows between ArcGIS Enterprise 10.6 and ArcGIS Pro 2.1. SAP HANA enterprise geodatabases cannot be used with older versions of ArcGIS Enterprise or ArcGIS Desktop (ArcMap or ArcGIS Pro). Not compatible with ArcMap.

<sup>9</sup> Shapefiles, Parquet, ORC, or Delimited Files

<sup>10</sup> GeoEvent Server input connectors included in this section are only those connectors that ship with the software. Additional GeoEvent Server input connectors can be added to the software from the [ArcGIS GeoEvent Gallery](#) and [ArcGIS GeoEvent Partner Gallery](#).

## Supported database types for enterprise geodatabases + query layers

Amazon RDS for Microsoft SQL Server <sup>7</sup>  
 Amazon RDS for PostgreSQL <sup>7</sup>  
 IBM DB2  
 IBM Informix  
 Microsoft SQL Server  
 Microsoft Azure SQL Database <sup>7</sup>  
 Microsoft Azure Database for PostgreSQL  
 Oracle  
 PostgreSQL  
 SAP HANA <sup>8</sup>

## Supported database types for query layers

ALTIBASE  
 Dameng  
 IBM Netezza  
 SQLite  
 Teradata

## Big Data File Shares supported by GeoAnalytics Server

Apache Hadoop HDFS  
 Apache Hive  
 AWS S3 <sup>9</sup>  
 Azure Data Lake Store <sup>9</sup>  
 Local File Shares <sup>9</sup>  
 Microsoft Azure Storage <sup>9</sup>

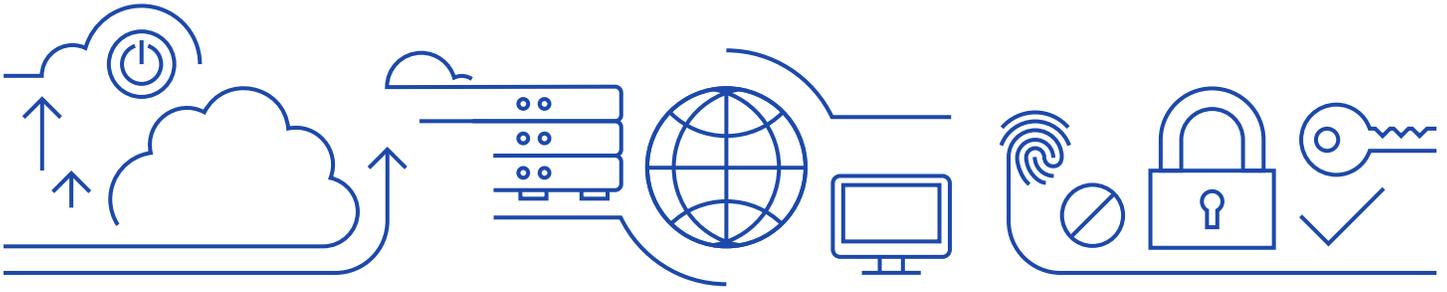
## Raster Stores supported by Image Servers when running Raster Analytics

Alibaba Cloud OSS  
 AWS S3  
 Huawei Cloud OBS  
 Local File Shares  
 Microsoft Azure Storage

## Input Connectors supported by GeoEvent Server <sup>10</sup>

ArcGIS Server  
 File (CSV, JSON)  
 RSS  
 Socket (TCP, UDP)  
 Web (REST, JSON, GeoJSON, XML)  
 WebSocket (JSON, GeoJSON)





## Supported Cloud Environments

ArcGIS Enterprise can be deployed on any cloud platform using infrastructure that meets the system requirements. For Amazon Web Service (AWS) and Microsoft Azure, ArcGIS Enterprise comes with pre-built images and deployment tooling that makes it even easier to install and configure your deployment.

In addition to deploying on various cloud platforms, ArcGIS Enterprise has support for cloud native features on several clouds. This includes support for cloud native storage and support for cloud managed databases. See this functionality matrix for an overview and the documentation for specific details on what features are supported with the different cloud stores.

Cloud native storage:

- AWS S3
- Microsoft Azure Storage
- Alibaba Cloud OSS
- Huawei Cloud OBS

## Supported OGC and Open Web Services

As part of [Esri's Open Vision](#) the ArcGIS GIS Server (Advanced and Standard) in ArcGIS Enterprise can serve out the following Open Geospatial Consortium (OGC) and open web services:

- WMS - Web Map Service (versions: 1.0, 1.1, 1.1.1, and 1.3)
- WFS - Web Feature Service (versions 1.0, 1.1, and 2.0)
- WCS - Web Coverage Service (versions 1.0.0, 1.1.0, 1.1.1, 1.1.2, and 2.0.1)
- WMTS - Web Map Tile Service (version 1.0)
- WPS - Web Processing Service (version 1.0)
- KML - Keyhole Markup Language (version 2.2)
- GeoJSON

ArcGIS Servers licensed as Image Servers will be able to serve out Web Coverage Services at the same version levels as listed for ArcGIS GIS Server.

## Security, Authentication, and Authorization

ArcGIS Enterprise comes with a robust and effective security framework that includes options for managing access and enforcing permissions for secured resources. [Configurable security settings](#) supported include:

- Web-tier authentication (IWA, PKI)
- GIS-tier authentication (built-in identity)
- Enterprise logins (SAML 2.0)
- Enterprise Groups (Active Directory, LDAP, and SAML 2.0)
- TLS 1.0, 1.1, and 1.2

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# Deploying ArcGIS Enterprise

<sup>11</sup> Can only upgrade a deployment that was setup using the tool.

You can deploy ArcGIS Enterprise manually - installing and configuring each component in sequence, or you can automate the deployment process by using one of the ArcGIS Enterprise deployment automation tools. Before deciding on a deployment automation tool, you should have planned the type of deployment that you will need (for example, single-machine, highly available, etc.) and be aware of any other system or architectural specifications your organization has outlined (for example, you must deploy using Windows, Linux, in a cloud environment, etc.).

The following matrix compares common deployment characteristics with the ArcGIS Enterprise deployment automation tools and can be a useful guide in choosing the appropriate deployment automation tool.

DEPLOYMENT CHARACTERISTICS	Automation tool				
	Chef	Powershell DSC	AWS	Azure	ArcGIS Enterprise Builder
Cloud deployments	●	●	●	●	—
On premises deployments	●	●	—	—	●
Windows OS	●	●	●	●	●
Linux OS	●	—	●	—	●
Single machine deployments	●	●	●	●	●
Multi-machine deployments	●	●	●	●	—
Highly available deployments	●	●	●	●	—
Set up base ArcGIS Enterprise deployment	●	●	●	●	●
Set up GIS Server	●	●	●	●	—
Set up Image Server	●	●	●	●	—
Set up GeoEvent Server	●	●	●	●	—
Set up GeoAnalytics Server	●	●	●	●	—
Set up Business Analyst Server	●	—	—	—	—
Can be used to upgrade the deployment <sup>11</sup>	●	●	—	—	●
Provides configurable deployment templates	●	●	●	—	—
Provides configurable machine images	—	—	●	●	—
Provides command line interface	●	●	●	●	●
Provides wizard style interface	—	—	—	●	●

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# Access

<sup>12</sup> The Workgroup level of ArcGIS Enterprise supports a maximum of 10 users per deployment regardless of edition. ArcGIS Enterprise Workgroup Standard includes five Level 2 Named Users. You can add up to five additional Named Users (Level 1 (Viewer), Level 2, or a combination thereof), so long as the total number of users for your organization does not exceed 10. As ArcGIS Enterprise Workgroup Advanced already includes 10 Level 2 Named Users, additional Named Users (of any level) cannot be added.

## NAMED USER LICENSES

ArcGIS Enterprise uses an identity-based security model. To access content secured within ArcGIS Enterprise, individuals must be a member of the ArcGIS Enterprise deployment and have an identity within the system. Throughout ArcGIS, identities are provisioned and allocated through named user licenses, called Named Users. These Named Users are what are used to create member accounts for your users.

There are two types of Named User, Level 1 (Viewer) and Level 2.

**Level 1 (Viewer)** Named Users are Viewers. Users with a member account created from a Level 1 (Viewer) Named User license can access, view, and interact with any of the items in your portal, but cannot edit, share, or create any new content. ArcGIS Enterprise Standard and Advanced include unlimited Level 1 Named Users at no additional cost.

**Level 2** Named Users have a broad range of privileges. Users with member accounts created from a Level 2 Named User license can create, own, analyze, share, and store data and content within the ArcGIS Enterprise portal. Level 2 privileges can be tailored to fit specific needs by creating custom user roles. The level and edition of ArcGIS Enterprise you have licensed will determine how many Level 2 Named Users will be included with your initial purchase. Additional Level 2 Named Users can be purchased and added to your deployment.

The following table shows the Named Users included per edition/level of ArcGIS Enterprise.

## NAMED USERS INCLUDED WITH INITIAL PURCHASE

ARCGIS ENTERPRISE EDITION/LEVEL	LEVEL 2 NAMED USERS	LEVEL 1 (VIEWER) NAMED USERS
ArcGIS Enterprise Standard	5	Unlimited
ArcGIS Enterprise Advanced	50	Unlimited
ArcGIS Enterprise Workgroup Standard <sup>12</sup>	5	0
ArcGIS Enterprise Workgroup Advanced <sup>12</sup>	10	0

**Note:** The Named User information listed here may not be applicable if you licensed ArcGIS Enterprise as part of a special program, such as an Enterprise License Agreement (ELA) or an Education site license. Contact your Esri representative for more details on how Named Users apply to your organization.

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## ARCGIS ENTERPRISE STANDARD AND ADVANCED

You can license ArcGIS Enterprise in two editions offered at two different capacity levels. The editions are Standard and Advanced, and the levels are ArcGIS Enterprise and ArcGIS Enterprise Workgroup. Collectively, we refer to ArcGIS Enterprise to mean any edition or level when there isn't a need to distinguish.

## ARCGIS ENTERPRISE WORKGROUP LEVEL

ArcGIS Enterprise Workgroup is a lower capacity level of ArcGIS Enterprise. It offers all the same functionality as ArcGIS Enterprise but is designed for use in smaller teams and organizations. The Workgroup level has the following differences:

- There is a limit of 10 simultaneous desktop connections to workgroup geodatabases. Workgroup geodatabases are only supported on Microsoft SQL Server Express and have a maximum size of 10 GB.
- The Workgroup level is only [licensed for use](#) with file-based data sources (e.g. file geodatabases) and workgroup geodatabases. It is not licensed for use with enterprise geodatabases.
- The base ArcGIS Enterprise deployment must be deployed all-in-one on a single machine with up to 4 cores.
- Each server role has a 4-core maximum. The additional roles can be deployed on separate machines from the base deployment. The spatiotemporal big data store from ArcGIS Data Store may be configured on a single, separate 4-core machine.

For more information and to determine if ArcGIS Enterprise Workgroup Level is a good fit for your organization, contact your local Esri representative.

## OTHER SERVER LICENSING

ArcGIS GIS Server Basic is a limited functionality GIS Server that primarily provides enterprise geodatabase functionality. ArcGIS GIS Server Basic cannot be federated as part of an ArcGIS Enterprise deployment and does not enable any Web GIS access for functionality.

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