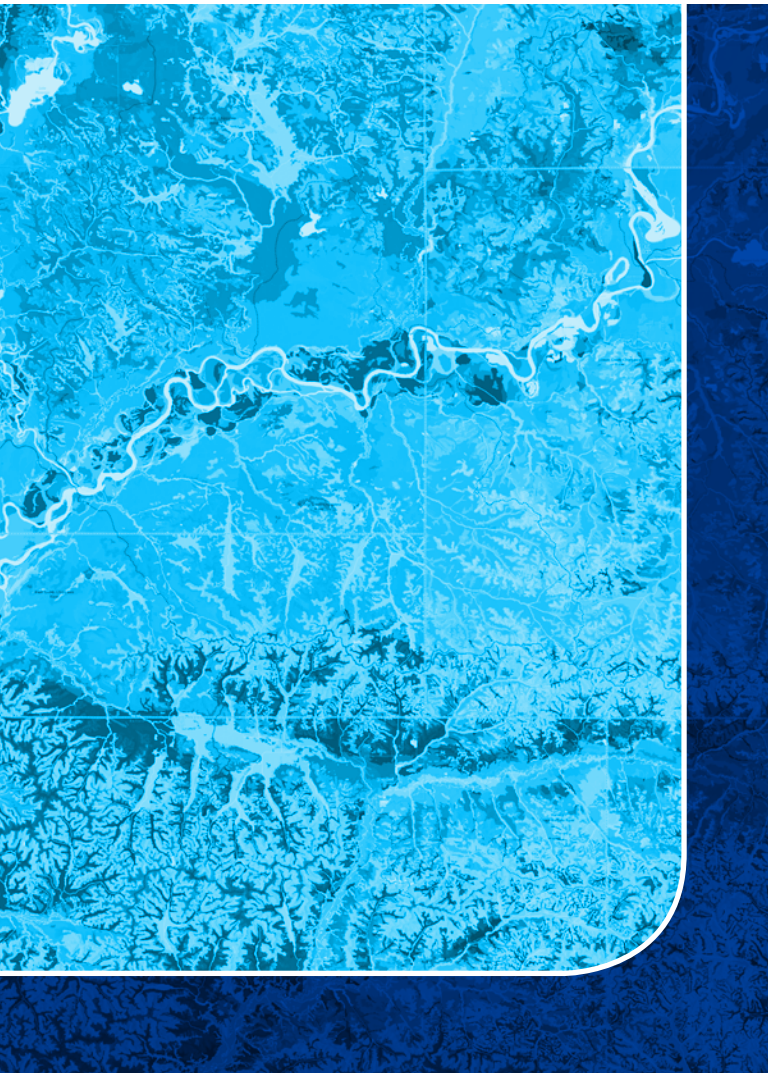
10.6



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.

02
03
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ArcGIS ENTERPRISE 10.6

Functionality Matrix

● Included

○ Additional Purchase

[1] Windows Only

[2] Advanced geoprocessing tools refers to all geoprocessing tools available in ArcGIS Desktop Advanced.

SERVER CAPABILITIES	GIS Server Advanced	GIS Server Standard	GIS Server Basic	Image Server	GeoAnalytics Server	GeoEvent Server	Business Analyst Server [1]
Advanced geoprocessing tools [2]	●						
Analyze and store data in the cloud	●	●		●	●	●	●
ArcGIS 3D Analyst Tools	●						
ArcGIS Business Analyst Tools							●
ArcGIS GeoStatistical Analyst Tools	●						
ArcGIS Spatial Analyst Tools	●						
Batch analytics - big data					●		
Create custom web tools	●	●					
Create data-driven infographics							●
Create geofences						●	
Create hosted feature layer views	●	●					
Create schematic diagrams	●	●					
Display imagery on-the-fly				●			
Distributed/parallel analysis processing				●	●		
Dynamic image mosaicking				●			
Enterprise geodatabase management	●	●	●				
Geo-enabled alerting						●	
Perform advanced geoenrichment							●
Run geoprocessing models and scripts	●	●		●			
Spatiotemporal analysis of big data				●	●	●	
Support for Arcade expressions	●	●			●		
Support for OGC web services	●	●		●			
Use as hosting server	●	●					
Web editing	●	●					

● Included

○ Additional Purchase

[1] Windows Only

[3] The only geoprocessing services that can be served are those that are pre-configured within the server; you cannot add or modify geoprocessing services.

SERVICE TYPES	GIS Server Advanced	GIS Server Standard	GIS Server Basic	Image Server	GeoAnalytics Server	GeoEvent Server	Business Analyst Server [1]
Cached service - Map, Image	●	●		●			
Dynamic map service	●	●					
Feature service	●	●					
Feature service (read-only)	●	●	●				
Geocoding service	●	●					
GeoEnrichment service							●
Geodata service	●	●	●				
Geometry service	●	●	●				
Geoprocessing service	●	●			● [3]		● [3]
Image service - From mosaic dataset				●			
Image service - From single raster	●	●		●			
Network service	●	○					
Print service	●	●					
Schematic service	●	●					
Stream service						●	

HOSTED LAYER TYPES	GIS Server Advanced	GIS Server Standard	GIS Server Basic	Image Server	GeoAnalytics Server	GeoEvent Server	Business Analyst Server [1]
Feature layer	●	●					
Imagery layer				●			
Scene layer	●	●					
Raster tile layer	●	●					
Vector tile layer	●	●					

CONTENT	GIS Server Advanced	GIS Server Standard	GIS Server Basic	Image Server	GeoAnalytics Server	GeoEvent Server	Business Analyst Server [1]
Living Atlas	●	●					
Esri Business Analyst Data (U.S. Demographic, Consumer Spending, Tapestry Segmentation, Market Potential, Business, and Retail Marketplace Data)							●
StreetMap Premium (Display, Routing, Geocoding)	○	○					●

● Included

○ Additional Purchase

[1] Windows Only

[4] 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.

[5] ArcGIS Utility Network Management extension required

EXTENSIONS	GIS Server Advanced	GIS Server Standard	GIS Server Basic	Image Server	GeoAnalytics Server	GeoEvent Server	Business Analyst Server [1]
ArcGIS Network Analyst for Server	●	○					
ArcGIS for INSPIRE	○	○					
ArcGIS Data Interoperability for Server [1]	○	○					
ArcGIS Data Reviewer for Server [1]	○	○					
ArcGIS Utility Network Management	○	○					
ArcGIS Workflow Manager for Server [1]	○	○					
ArcGIS for Maritime: Server [1]	○	○					
Esri Defense Mapping for Server [1]	○						
Esri Production Mapping for Server [1]	○	○					
Esri Roads and Highways for Server [1]	○	○					

INPUT DATA TYPES	GIS Server Advanced	GIS Server Standard	GIS Server Basic	Image Server	GeoAnalytics Server	GeoEvent Server	Business Analyst Server [1]
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	●	●	●		●	● [4]	●
Utility networks	● [5]	● [5]					

Supported Databases and Data Connections

[6] To use cloud-hosted databases your ArcGIS Enterprise deployment must be collocated with the database in the same cloud environment.

[7] 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.

[8] Shapefiles, Parquet, ORC, or Delimited Files

[9] 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 [6]
Amazon RDS for PostgreSQL [6]
IBM DB2
IBM Informix
Microsoft SQL Server
Microsoft Azure SQL Database [6]
Oracle
PostgreSQL
SAP HANA [7]

Supported database types for query layers

ALTIBASE
Dameng
IBM Netezza
SAP HANA
SQLite
Teradata

Big Data File Shares supported by GeoAnalytics Server

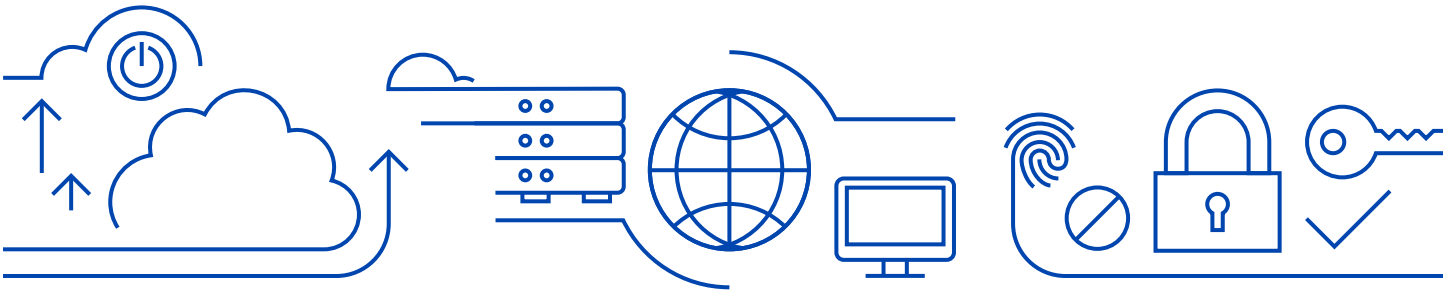
Apache Hadoop HDFS
Apache Hive
Local File Shares [8]
Amazon AWS S3 [8]
Microsoft Azure Storage [8]

Raster Stores supported by Image Servers when running Raster Analytics

AWS S3
Microsoft Azure Storage
Local File Shares

Input Connectors supported by GeoEvent Sever [9]

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 in any cloud or virtualized environment that meets the minimum system requirements. Esri provides technical support and pre-built machine images for:

- Amazon Web Services (AWS)
- Microsoft Azure

To configure, license, and launch ArcGIS Enterprise software you can use free templates and Cloud Builder software: ArcGIS Enterprise on Amazon Web Services or ArcGIS Enterprise on Microsoft Azure.

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 and LDAP)
- TLS 1.0, 1.1, and 1.2

Licensing

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.

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 [10]	5	0
ArcGIS Enterprise Workgroup Advanced [10]	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.

[10] 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.

Deploying ArcGIS Enterprise

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.

BASE ARCGIS ENTERPRISE DEPLOYMENT

ArcGIS Enterprise comprises four software components that are configured together to provide the full functionality of ArcGIS Enterprise. The standard configuration of ArcGIS Enterprise is called a base ArcGIS Enterprise deployment. The base deployment can be setup on physical, virtual, or cloud infrastructure and can be patterned as:

- An all-in-one deployment where the entire base deployment is contained on a single machine – ideal for development or prototype environments, but also suitable to use as the production environment in smaller enterprise organizations.

- A multi-machine deployment where the base deployment spans multiple machines creating a more robust overall deployment – ideal for production environments of any size.

For added resiliency, you can deploy either base deployment pattern with high availability regardless of the infrastructure you use: physical, virtual, or cloud.

Once the base deployment is in place, you can tailor and customize ArcGIS Enterprise to meet your organizations business needs by deploying additional server capabilities.

For more information on ArcGIS Enterprise deployment patterns and architectural recommendations see the ArcGIS Enterprise deployment documentation.

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