System Requirements

ArcGIS Desktop 10.5 system requirements

Visit Esri Support for information on earlier versions.

Supported platforms

Check your computer's ability to run ArcMap

📋 **Note:** Microsoft .NET Framework 4.5 or later must be installed prior to installing ArcMap.

⚠️ **Caution:** Use these system requirements as a guideline for planning purposes, as they are subject to change before the final release of ArcGIS 10.5.

Operating Systems *	Minimum OS Version	Maximum OS Version
Windows 10 Home, Pro, and Enterprise (32 bit and 64 bit [EM64T])		
Windows 8.1 Basic, Pro, and Enterprise (32 bit and 64 bit [EM64T])	Update: April 2014	
Windows 7 Ultimate, Professional, and Enterprise (32 bit and 64 bit [EM64T])	SP1	
Windows Server 2012 R2 Standard and Datacenter (64 bit [EM64T])	Update: April 2014	
Windows Server 2012 Standard and Datacenter (64 bit [EM64T])		
Windows Server 2008 R2 Standard, Enterprise, and Datacenter (64 bit [EM64T])	SP1	
Windows Server 2008 Standard, Enterprise, and Datacenter (32 bit and 64 bit [EM64T])	SP2	SP2

* See Operating system requirements and limitations for additional requirements and information.

ArcMap as a hosted application running on the following virtualized environments

Virtual Desktop Infrastructure (VDI)
Citrix XenDesktop 7.5
Citrix XenDesktop 7.6
Citrix XenDesktop 7.7
Windows Server 2012 R2 Hyper-V
Windows Server 2016 Hyper-V
VMWare vSphere 6.0 Horizon View

Citrix XenApp*		
Version	**Hosted OS**	**Minimum OS version**
Citrix XenApp 6.5	Windows Server 2008 R2	SP1
Citrix XenApp 7.6	Windows Server 2008 R2	SP1
	Windows Server 2012 R2	Update: April 2014
Citrix XenApp 7.7	Windows Server 2012 R2	Update: April 2014
Citrix XenApp 7.11	Windows Server 2016	

* A GPU compatible with your vitalization platform is recommended. For ArcGlobe and ArcScene, a shareable GPU such as an NVIDIA GRID card is recommended.

Hardware requirements

	Supported and Recommended
CPU speed	2.2 GHz minimum; Hyper-threading (HHT) or Multi-core recommended
Platform	x86 or x64 with SSE2 extensions
Memory/RAM	Minimum: 4 GB Recommended: 8 GB
Display properties	24-bit color depth Also see Video/Graphics adapter requirements below.*
Screen resolution	1024x768 recommended minimum at normal size (96 dpi)
Disk space	Minimum: 4 GB Recommended: 6 GB or higher ArcGlobe creates cache files when used. If using ArcGlobe, additional disk space may be required.

* Video/Graphics adapter	64 MB RAM minimum; 256 MB RAM or higher recommended. NVIDIA, ATI, and Intel chipsets supported.
	24-bit capable graphics accelerator
	OpenGL version 2.0 runtime minimum is required, and Shader Model 3.0 or higher is recommended.
	Be sure to use the latest available drivers.

Software requirements

	Description
Python requirement for geoprocessing	ArcMap geoprocessing tools require Python 2.7.12 and Numerical Python 1.9.3 to be installed. If the ArcMap setup does not find either Python 2.7.12 or Numerical Python (NumPy) 1.9.3 installed on the target computer, Python 2.7.12 and Numerical Python 1.9.3 will be installed during a complete installation of ArcMap. You can choose a Custom installation to unselect the Python feature and avoid installing it. Additionally, if the Python setup is executed during the ArcMap installation, you will be provided with the opportunity to choose its installation location. The Python installation location should not include spaces.
Microsoft .NET Framework requirement	Microsoft .NET Framework 4.5 or higher must be installed prior to installing ArcMap.
Browser requirement	Microsoft Internet Explorer (minimum IE 9) must be installed prior to installing ArcMap. Internet Explorer 9, 10, and 11 are supported.

Printer support

ArcMap supports printing to any Microsoft certified Windows printer using the native driver in ArcGIS. Note that some printer drivers do not support complex maps, and the ArcPress printer driver or additional hardware may be needed for these complex maps.

Note: The following configuration is recommended when printing large maps with the ArcPress printer drivers:

- If large complex maps do not print, reboot the computer to ensure the pagefile system is cleared. If the pagefile system is not a dedicated drive or partition, make sure the drive does not need to be defragmented.

- Disk Space: At least 10 GB of free space is required on the drive where %TEMP% is located, as potentially large temporary files will be written there while ArcPress is processing a map for printing.

For more information on supported printers, refer to the following Knowledge Base FAQ: What printers are supported by ArcGIS Desktop?

Software required to connect to a DBMS

Your client machine (for example, the one running ArcMap) will need to have the appropriate client files installed for the RDBMS you are using. These client files are available from their respective RDBMS vendors, but some are also available on My Esri as a convenience. RDBMS client files available from My Esri are IBM DB2 and Microsoft SQL Server. Client files for ALTIBASE, Dameng, IBM Informix, IBM Netezza, Oracle, SAP HANA, and Teradata are not available on My Esri and must be obtained from the RDBMS vendors. See Database clients for more information.

SDK requirements

SDK	Supported and Recommended IDE(s)	Requirements
ArcGIS VBA Resources for Developers	Visual Basic for Applications	ArcMap is required to develop with ArcGIS VBA Resources for Developers. Microsoft .NET Framework 4.5 or higher.
ArcObjects SDK		ArcObjects SDK requirements

Operating system requirements and limitations

All platforms

Windows

ArcReader 10.5 system requirements

Visit Esri Support for information on earlier versions.

Supported platforms

Check your computer's ability to run ArcGIS.

📋 **Note:** Microsoft .NET Framework 4.5 or later must be installed prior to installing ArcReader.

⚠️ **Caution:** Use these system requirements as a guideline for planning purposes, as they are subject to change before the final release of ArcGIS 10.5.

Operating systems*	Minimum version	Maximum version
Windows 10 Home, Pro, and Enterprise (32 bit and 64 bit [EM64T])		
Windows 8.1 Basic, Pro, and Enterprise (32 bit and 64 bit [EM64T])	Update: April 2014	
Windows 7 Ultimate, Professional, and Enterprise (32 bit and 64 bit [EM64T])	SP1	
Windows Server 2012 R2 Standard and Datacenter (64 bit [EM64T])	Update: April 2014	
Windows Server 2012 Standard and Datacenter (64 bit [EM64T])		
Windows Server 2008 R2 Standard, Enterprise, and Datacenter (64 bit [EM64T])	SP1	
Windows Server 2008 Standard, Enterprise, and Datacenter (32 bit and 64 bit [EM64T])	SP2	SP2

*See the Operating system requirements and limitations section for additional requirements and information.

ArcReader as a hosted application running on the following virtualized environments

Virtual Desktop Infrastructure (VDI)
Citrix XenDesktop 7.5
Citrix XenDesktop 7.6
Citrix XenDesktop 7.7
Windows Server 2012 R2 Hyper-V
Windows Server 2016 Hyper-V
VMWare vSphere 6.0 Horizon View

Citrix XenApp*		
Version	Hosted OS	Minimum OS version
Citrix XenApp 6.5	Windows Server 2008 R2	SP1
Citrix XenApp 7.6	Windows Server 2008 R2	SP1
	Windows Server 2012 R2	Update: April 2014
Citrix XenApp 7.7	Windows Server 2012 R2	Update: April 2014
Citrix XenApp 7.11	Windows Server 2016	

*A GPU compatible with your virtualization platform is recommended.

Hardware requirements

	Supported and Recommended
CPU speed	2.2 GHz minimum; Hyper-threading (HHT) or Multi-core recommended
Platform	x86 or x64 with SSE2 extensions
Memory/RAM	Minimum: 4 GB Recommended: 8 GB
Display properties	24-bit color depth Also see Video/Graphics adapter requirements below.*
Screen resolution	1024x768 recommended minimum at normal size (96 dpi)
Disk space	Minimum: 2 GB Recommended: 4 GB or higher ArcReader creates cache files when used and additional disk space may be required.

*Video/Graphics adapter	64 MB RAM minimum; 256 MB RAM recommended. NVIDIA, ATI, and Intel chipsets supported.
	24-bit capable graphics accelerator.
	OpenGL version 2.0 runtime minimum is required, and Shader Model 3.0 or higher is recommended.
	Be sure to use the latest available drivers.

Software requirements

	Description
Microsoft .NET Framework requirement	The .NET Extension Support feature requires Microsoft .NET Framework 4.5 or later be installed prior to installing ArcReader. If Microsoft .NET Framework 4.5 or later is not found, the .NET Extension Support feature will not be available for installation.
	If your operating system includes Microsoft .NET Framework 4.5 or later, make sure it is enabled using Windows Features. If your operating system does not include Microsoft .NET Framework 4.5 or later, you will need to install it before installing ArcReader.
Browser requirement	Microsoft Internet Explorer (minimum IE 9) must be installed prior to installing ArcReader. Internet Explorer 9, 10, and 11 are supported.
Printer support	ArcReader supports printing to any Microsoft-certified Windows printer using the native driver in ArcGIS. Note that some printer drivers do not support complex maps, and the ArcPress printer driver or additional hardware may be needed for these complex maps.
	The following configuration is recommended when printing large maps with the ArcPress printer drivers:
	• If large complex maps do not print, reboot the computer to ensure the page file system is cleared. If the page file system is not a dedicated drive or partition, make sure the drive does not need to be defragmented.
	• Disk space: At least 10 GB of free space is required on the drive where %TEMP% is located, as potentially large temporary files will be written there while ArcPress processes a map for printing.
	For more information on supported printers, refer to the following Esri Support Knowledge Base FAQ: What printers are supported by ArcGIS Desktop?

Operating system requirements and limitations

All platforms

Windows

ArcGIS Enterprise system requirements

ArcGIS Enterprise, the next evolution of the ArcGIS Server product line, has a flexible deployment model allowing for use completely on-premises, in the cloud, or a combination of the two. The ArcGIS Enterprise product includes the following software components that are designed to work together:

- ArcGIS Server
- Portal for ArcGIS
- ArcGIS Data Store
- ArcGIS Web Adaptor

ArcGIS Image Server, ArcGIS GeoEvent Server, ArcGIS GeoAnalytics Server, and Esri Business Analyst Server are specialized licensing roles for ArcGIS Server. See What is ArcGIS Enterprise in the ArcGIS Server help for more information.

ArcGIS Server 10.5 Windows system requirements

The system and hardware requirements required to run ArcGIS Server are listed below. For additional and updated requirements, see the System requirements available on the web. For information about earlier versions, see Esri Support.

It's recommended that you review the deprecation notice to determine if your hardware and software components are still compatible with version 10.5.

Operating system requirements

⚠ **Caution:** Use these system requirements as a guideline for planning purposes, as they are subject to change before the final release of ArcGIS 10.5.

The following 64-bit operating systems satisfy the minimum operating system requirements. Support is not provided for 32-bit operating systems; the setup will only proceed if the operating system is 64-bit.

Machines with an underscore (_) in their names are not supported. Several widely used Internet host name specifications have designated the underscore character as nonstandard. Although Windows allows you to use the underscore in a machine name, it can still cause problems when you interact with other servers and platforms. For this reason, ArcGIS Server will not proceed with installation on servers that have an underscore in the host name.

ArcGIS Server is not supported on domain controllers. Installing ArcGIS Server on a domain controller may adversely affect functionality.

Supported operating system	Lowest tested OS version	Highest tested OS version
Windows Server 2012 R2 Standard and Datacenter	Update: April 2014	
Windows Server 2012 Standard and Datacenter		
Windows Server 2008 R2 Standard, Enterprise, and Datacenter	SP1	
Windows Server 2008 Standard, Enterprise, and Datacenter	SP2	SP2

Future updates or service packs on these OS versions are supported and assumed to work, unless otherwise stated.

📋 **Note:** Windows 10, 8.1, and 7 are supported for basic testing and application development use only. They are not recommended for deployment in a production environment.

Operating system	Minimum OS version	Maximum OS version
Windows 10 Pro and Enterprise		
Windows 8.1 Pro and Enterprise	Update: April 2014	
Windows 7 Ultimate, Professional, Enterprise, and Home Premium	SP1	

Hardware requirements

The minimum RAM requirement for GIS Server is 4 GB. If you are using the software as an ArcGIS GeoEvent Server, ArcGIS Image Server, or Esri Business Analyst for Server, the minimum RAM requirement is 8 GB. If you are using the software as an ArcGIS GeoAnalytics Server, the minimum RAM requirements is 16 GB.

For a production environment, minimum hardware requirements are not listed because the user and business needs of the software may vary. These requirements must be considered in determining hardware needs to meet performance and scalability expectations.

ArcGIS Server requires a minimum of 6 GB of available disk space, in which 350 MB of this total space must be available on the system drive.

Firewall settings

ArcGIS Server communicates on ports 1098, 4000-4004, 6006, 6080, 6099, and 6443. You'll need to open these ports on your firewall before installing the software. For more information, see Ports used by ArcGIS Server.

Domain name service (DNS) and fully qualified domain name (FQDN) recommendations

If you'll be federating your site with Portal for ArcGIS, it's recommended you configure your organization's domain name service (DNS) to include fully qualified domain name (FQDN) entries for each site you intend to federate with the portal. Portal for ArcGIS will request the FQDN of each site when you federate.

SSL certificates

ArcGIS Server comes pre-configured with a self-signed certificate, which allows the server to be initially tested and to help you quickly verify that your installation was successful. You must request a certificate from a trusted certificate authority (CA) and configure the server to use it. This could be a domain certificate issued by your organization or a CA-signed certificate.

Like ArcGIS Server, Portal for ArcGIS also comes with a pre-configured self-signed certificate. If you'll be federating your site with Portal for ArcGIS , you should request a certificate from a trusted CA and configure the portal to use it.

For more information, see Best practices for configuring a secure environment.

Microsoft .NET Framework requirement for .NET Extension Support feature

The .NET Extension Support feature requires Microsoft .NET Framework 4.5 or higher. If Microsoft .NET Framework 4.5 is not found, the .NET Extension Support feature will not be available for installation.

If your operating system includes Microsoft .NET Framework 4.5, make sure it's enabled using Windows Features. If your operating system does not include Microsoft .NET Framework 4.5, you can download it from the installation media and enable it using Windows Features.

Microsoft Core XML Services (MSXML) 6

ArcGIS Server requires Microsoft Core XML Services (MSXML) 6. The ArcGIS Server installation will not proceed if MSXML 6 is not found on the machine. If the ArcGIS Server installation is performed through the GUI, the installation process automatically installs it for you. If you're installing ArcGIS Server silently or in certain deployment environments, MSXML 6 must be installed separately. The MSXML 6 setup is available at <ArcGIS Server`Installation folder>\Support\MSXML6\64-bit\msxml6_x64.msi`.

Geoprocessing requirements

Python 2.7.12, Numerical Python 1.9.3, and Matplotlib 1.5.2 are required to support certain core geoprocessing tools. If these are not detected, the setup will install them automatically (recommended).

Supported web browsers

ArcGIS Server Manager requires one of the following web browsers to be installed:

- Google Chrome
- Mozilla Firefox
- Microsoft Internet Explorer (version 9, 10, or 11)
- Microsoft Edge

ArcGIS Enterprise on cloud platforms

You can deploy ArcGIS Enterprise in the cloud. Many organizations do this to increase performance and capacity without having to buy and configure new hardware. Cloud platforms allow you to add more capabilities to your ArcGIS Enterprise deployment, including resizing computer capacity, automatically scaling capacity up and down according to conditions you define, automatically distributing application traffic across multiple instances for better performance, and much more.

Esri provides ArcGIS Enterprise virtual machine images on two popular cloud platforms: Amazon Web Services and Microsoft Azure.

📄 **Note:** Esri Technical Support is available for Esri software on cloud platforms. However, Esri may not provide support for Amazon Web Services or Microsoft Azure machine images that have been modified beyond standard Esri or operating system updates. It's recommended that you do not modify the software released by Esri.

⚠ **Caution:** ArcGIS Server AMI for Linux is available on Ubuntu. Changes to the Esri-released AMI will be treated as changes on an unsupported system.

Supported virtualization environments

All components of ArcGIS Enterprise are fully supported on virtual environments as long as they run on supported platforms. When running third-party applications with ArcGIS Enterprise, such as relational databases, the application must also be supported in a virtual environment. Check the third-party vendor for its virtualization support.

The following virtualization environments are known to perform well with ArcGIS Enterprise:

- VMware vSphere 5.5 and 6

- Microsoft Hyper-V

For additional information, see Virtualization and ArcGIS Enterprise.

Supported databases

See the following topics for information on databases supported with ArcGIS Server:

- ALTIBASE database requirements
- Dameng database requirements
- IBM DB2 database requirements
- IBM Informix database requirements
- IBM Netezza Data Warehouse Appliance requirements
- Microsoft Azure SQL Database requirements
- Microsoft SQL Server database requirements
- Oracle database requirements
- PostgreSQL database requirements
- SAP HANA database requirements
- SQLite database requirements
- Teradata Data Warehouse Appliance requirements

ArcGIS Server 10.5 Linux system requirements

The system and hardware requirements required to run ArcGIS Server are listed below. For additional and updated requirements, see the System requirements available on the web. A diagnostics tool runs during the setup to help you determine if your machine meets the minimum system requirements. For information about earlier versions, see Esri Support.

It's recommended that you review the deprecation notice to determine if your hardware and software components are still compatible with version 10.5.

Operating system requirements

⚠ **Caution:** Use these system requirements as a guideline for planning purposes, as they are subject to change before the final release of ArcGIS 10.5.

The following 64-bit operating systems satisfy the minimum operating system requirements. Support is not provided for 32-bit operating systems; the setup will only proceed if the operating system is 64-bit. ArcGIS Server is only supported on Linux x86_64, on CPUs that adhere to the x86_64 architecture (64 bit), with supported Linux releases.

Machines with an underscore (_) in the name are not supported. The setup will not proceed if an underscore is detected in the machine name.

You cannot install the software as a root user. If you attempt to do this, the installation will not proceed and a software diagnostics tool will display an error message indicating that you cannot install as root.

Supported operating system	Lowest tested OS version	Highest tested OS version
Red Hat Enterprise Linux Server 7		Update 2
Red Hat Enterprise Linux Server 6		Update 8
SUSE Linux Enterprise Server 12		Service Pack 1
SUSE Linux Enterprise Server 11	Service Pack 2	Service Pack 4
Ubuntu Server LTS	16.04	16.04.1

Future updates or service packs on these OS versions are supported and assumed to work, unless otherwise stated.

📄 **Note:** Esri Technical Support is available for CentOS, Scientific Linux, and Oracle Linux versions that provide full binary compatibility with an equivalent supported Red Hat version. As a prerequisite for logging a defect, any software issue on these operating systems will be attempted to be reproduced on Red Hat Enterprise Linux. For Oracle Linux, support is predicated on the use of the Red Hat compatible kernel.

⚠ **Caution:** The following package groups are required. If you want to install the software, run the ArcGIS Software Authorization Wizard, or run the Check for Updates tool using the operating system graphical user interface (GUI), the X Window System package group is required.

Red Hat Enterprise Linux Server requirements

Red Hat Enterprise Linux Server 6 and 7

- gettext

SUSE Linux Enterprise Server

SUSE Linux Enterprise Server 11 and 12

- gettext-runtime

Ubuntu Server LTS

Ubuntu Server 16.04 LTS

- gettext-base

Hardware requirements

OpenGL version 1.5 or later is required. The minimum RAM requirement for GIS Server is 4 GB. If you are using the software as an ArcGIS GeoEvent Server, ArcGIS Image Server, or Esri Business Analyst for Server, the minimum RAM requirement is 8 GB. If you are using the software as an ArcGIS GeoAnalytics Server, the minimum RAM requirements is 16 GB.

For a production environment, minimum hardware requirements are not listed because the user and business needs of the software may vary. These requirements must be considered in determining hardware needs to meet performance and scalability expectations.

ArcGIS Server requires a minimum of 6 GB of available disk space to successfully install on the target system. Approximately 1.5 GB of the required disk space is used during the installation of this product. This temporary disk use will be removed at the end of the installation.

Note: You cannot install ArcGIS Server on a shared network directory (NFS mounted folder). The directory must be local on the target system.

Temp space requirements

By default, resources are extracted to the system `/tmp` directory. This directory must have read, write, and execute permissions enabled. If the required space is not available in the `/tmp` directory, the setup program will attempt to extract resources to the user's HOME directory. If the required space is not available in the user's HOME directory, the setup program will report an error indicating this problem. Optionally, you can specify an alternate temp location by setting the `IATEMPDIR` environment variable.

Default file permissions

Due to security reasons, all permission types (read, write, and execute) for group and all users are turned off by default.

File handles and processes limits

ArcGIS Server is a data-intensive server product, and many of its data formats consist of hundreds of thousands of files. In heavily used systems, thousands or tens of thousands of files may be in use at any given time. If there are insufficient file handles and processes, requests may start failing randomly, leading to system downtime. The actual number of file handles and processes needed varies based on the data and the number of instances (threads/processes) running. Setting a file handle limit of 65,535 and a process limit of 25,059 will allow you to ensure that the system remains running.

There are soft and hard limits for file handles and processes on Linux. To determine the hard limits, use the `ulimit -Hn -Hu` (or `limit -h descriptors` if you're using csh) command. To determine the soft limits, use the `ulimit -Sn -Su` (or `limit` descriptors if you're using csh) command.

To increase the soft and hard limits, you'll need to edit the `/etc/security/limits.conf` file with superuser access. For example, you can add four lines in the file as follows:

```
<ArcGIS Server installation user> soft nofile 65535
<ArcGIS Server installation user> hard nofile 65535
<ArcGIS Server installation user> soft nproc 25059
<ArcGIS Server installation user> hard nproc 25059
```

After making this change, you'll need to log out and log back in with the particular user for the new values to take effect. To verify that the limits have been modified appropriately, use the `ulimit -Hn -Hu` and `ulimit -Sn -Su` commands as described above.

Firewall settings

ArcGIS Server communicates on ports 1098, 4000-4004, 6006, 6080, 6099, and 6443. You'll need to open these ports on your firewall before installing the software. For more information, see Ports used by ArcGIS Server.

DNS hostname entry

ArcGIS Server must be installed on a machine that has a domain name service (DNS) hostname entry. This may require the system administrators for the site to add an entry to a name server in their network and that this name server be listed in the `/etc/resolv.conf` configuration file on the system.

If you'll be federating your site with Portal for ArcGIS, it's recommended you configure your organization's DNS to include fully qualified domain name (FQDN) entries for each site you intend to federate with the portal. Portal for ArcGIS will request the FQDN of each site when you federate.

SSL certificates

ArcGIS Server comes pre-configured with a self-signed certificate, which allows the server to be initially tested and to help you quickly verify that your installation was successful. You must request a certificate from a trusted certificate authority (CA) and configure the server to use it. This could be a domain certificate issued by your organization or a CA-signed certificate.

Like ArcGIS Server, Portal for ArcGIS also comes with a pre-configured self-signed certificate. If you'll be federating your site with Portal for ArcGIS , you should request a certificate from a trusted CA and configure the portal to use it.

For more information, see Best practices for configuring a secure environment.

Supported web browsers

ArcGIS Server Manager requires one of the following web browsers to be installed:

- Google Chrome
- Mozilla Firefox
- Microsoft Internet Explorer (version 9, 10, or 11)
- Microsoft Edge

ArcGIS Server on cloud platforms

You can deploy ArcGIS Server in the cloud. Many organizations do this to increase performance and capacity without having to buy and configure new hardware. Cloud platforms allow you to add more capabilities to your ArcGIS Server deployment, including resizing computer capacity, automatically scaling capacity up and down according to conditions you define, automatically distributing application traffic across multiple instances for better performance, and much more.

Esri provides ArcGIS Server virtual machine images on two popular cloud platforms: Amazon Web Services and Microsoft Azure.

Note: Esri Technical Support is available for Esri software on cloud platforms. However, Esri may not provide support for Amazon Web Services or Microsoft Azure machine images that have been modified beyond standard Esri or operating system updates. It's recommended that you do not modify the software released by Esri.

Caution: ArcGIS Server AMI for Linux is available on Ubuntu. Changes to the Esri-released AMI will be treated as changes on an unsupported system.

Supported virtualization environments

When running third-party applications with ArcGIS Enterprise, such as relational databases, the application must also be supported in a virtual environment. Check the third-party vendor for its virtualization support.

The following virtualization environments are known to perform well with ArcGIS Enterprise:

- VMware vSphere 5.5 and 6
- Microsoft Hyper-V

For additional information, see Virtualization and ArcGIS Server.

Supported databases

See the following topics for information on databases supported with ArcGIS Server:

- ALTIBASE database requirements
- Dameng database requirements
- IBM DB2 database requirements
- IBM Informix database requirements
- IBM Netezza Data Warehouse Appliance requirements
- Oracle database requirements
- PostgreSQL database requirements
- SAP HANA database requirements
- SQLite database requirements

- Teradata Data Warehouse Appliance requirements

You cannot connect to SQL Server from ArcGIS Server on Linux.

Not all components of ArcGIS Server Workgroup are available on Linux; for example, you cannot install SQL Server Express to create a database server and workgroup geodatabases on Linux.

Portal for ArcGIS 10.5 Windows system requirements

The system and hardware requirements required to run Portal for ArcGIS are listed below. For additional and updated requirements, see the System requirements available on the web. For information about earlier versions, see Esri Support.

It's recommended that you review the deprecation notice to determine if your hardware and software components are still compatible with version 10.5.

Operating system requirements

⚠ **Caution:** Use these system requirements as a guideline for planning purposes, as they are subject to change before the final release of ArcGIS 10.5.

The following 64-bit operating systems satisfy the minimum operating system requirements. Support is not provided for 32-bit operating systems; the setup will only proceed if the operating system is 64-bit.

Machines with an underscore (_) in their names are not supported. Several widely used Internet host name specifications have designated the underscore character as nonstandard. Although Windows allows you to use the underscore in a machine name, it can still cause problems when you interact with other servers and platforms. For this reason, Portal for ArcGIS will not proceed with installation on servers that have an underscore in the host name.

Portal for ArcGIS is not supported on domain controllers. Installing Portal for ArcGIS on a domain controller may adversely affect functionality.

Supported operating systems	Lowest tested OS version	Highest tested OS version
Windows Server 2012 R2 Standard and Datacenter (64 bit [EM64T])	Update: April 2014	
Windows Server 2012 Standard and Datacenter (64 bit [EM64T])		
Windows Server 2008 R2 Standard, Enterprise, and Datacenter (64 bit [EM64T])	SP1	
Windows Server 2008 Standard, Enterprise, and Datacenter (64 bit [EM64T])	SP2	SP2

Future updates or service packs on these OS versions are supported and assumed to work, unless otherwise stated.

📓 **Note:** Windows 10, 8.1, and 7 are supported for basic testing and application development use only. They are not recommended for deployment in a production environment.

Supported operating systems	Lowest tested OS version	Highest tested OS version
Windows 10 Pro and Enterprise (64 bit [EM64T])		
Windows 8.1 Pro and Enterprise (64 bit [EM64T])	Update: April 2014	
Windows 7 Ultimate, Professional, and Enterprise (64 bit [EM64T])	SP1	

Hardware requirements

- Processor: 4 cores for 100 concurrent users

- Memory/RAM: 4 GB or more

- Disk space: A base installation of Portal for ArcGIS requires a minimum of 4.8 GB of available disk space. All content created by your users will also be stored on disk. Carefully consider how data will be uploaded and created by your users and allocate disk space accordingly. If desired, you can change the location of where the portal stores its content after installing the software.

Firewall settings

Portal for ArcGIS communicates on ports 7080, 7443, 7005, 7099, 7199, and 7654. You'll need to open these ports on your firewall before installing the software. For more information, see Ports used by Portal for ArcGIS.

Domain name service (DNS) and fully qualified domain name (FQDN) requirements

Your organization's domain name service (DNS) needs to include an entry of the fully qualified domain name (FQDN) of the machine hosting Portal for ArcGIS. Similarly, if you'll be using ArcGIS Server with your portal, it's recommended that you include FQDN entries for each site you intend to federate with Portal for ArcGIS.

If desired, you can configure your DNS to use a friendly name for the portal (for example, `friendly.domain.com` instead of `portal.domain.com`). When doing this, assign the name to the portal machine before you install the software. Then use the friendly name when setting up the portal. For example, setup activities that require use of the friendly name include the following:

- Configure ArcGIS Web Adaptor with your portal.

- Federate an ArcGIS Server site with your portal.

- Add Portal for ArcGIS to your organization's reverse proxy server. If you're not using a reverse proxy server, it's recommended you assign a friendly name to the machine hosting ArcGIS Web Adaptor.

⚠ **Caution:** If you configure a friendly DNS name after setting up your portal, existing items in the portal may become unusable, as they will include the nonfriendly name. You'll need to manually re-create each item in order to use them again.

SSL certificates

Portal for ArcGIS comes preconfigured with a self-signed server certificate, which allows the portal to be initially tested and to help you quickly verify that your installation was successful. You must request a certificate from a trusted certificate authority (CA) and configure the portal to use it. The certificate can be signed by a corporate (internal) or commercial CA.

You should configure each applicable ArcGIS component in your organization with a certificate from a corporate or commercial CA. Common examples include ArcGIS Web Adaptor and ArcGIS Server. For example, ArcGIS Server also comes with a preconfigured self-signed certificate. If you'll be federating an ArcGIS Server site with your portal, it's very important that you request a CA-signed certificate and configure the server and Web Adaptor to use it.

For more information, see Security best practices.

ArcGIS Web Adaptor

ArcGIS Web Adaptor is a required component of Portal for ArcGIS, which allows you to integrate your portal with your existing web server and your organization's security mechanisms. You cannot deploy Portal for ArcGIS in your organization without the Web Adaptor.

You can only use the Web Adaptor with port 80 or 443. Using different ports is not supported. See About ArcGIS Web Adaptor for details.

Supported web browsers

For the best performance in the portal website, use the latest browser versions listed below. The scene viewer has its own browser and hardware requirements. Some of the common clients of Portal for ArcGIS have different requirements. See their documentation for details.

- Microsoft Internet Explorer 9 and higher. Compatibility View is not supported.

- Microsoft Edge

- Mozilla Firefox

- Google Chrome

- Safari

- iOS Safari

- Android Browser

- Chrome for Android

Browser limitations

Some web browsers have functional limitations, as noted below:

- You cannot add CSV items (in **My Content**) as web layers in the map. This limitation applies to IE 9 and Safari.

- You cannot use the scene viewer. This limitation applies to IE 9 and 10.

- You cannot view streaming feature layers in the map viewer. This limitation applies to IE 9.

- If the browser is running in compatibility mode, the graphics on the **Manage Licenses** page do not load correctly. This limitation applies to IE 9 and 10.

- The X-Frame Options ALLOW-FROM header is not supported in Chrome and Safari. When viewing the portal website, you may encounter an error in Chrome and Safari stating that the header is invalid and will be ignored. You can safely dismiss this warning.

External access

If you'll be using Esri-provided services, such as basemaps and data from ArcGIS Online, the machine hosting Portal for ArcGIS will need access to the Internet. If your portal will not have access to the Internet, you'll need to perform some additional configuration steps to ensure your portal is pointing to local resources. For instructions, see Configuring a disconnected deployment.

Supported virtualization environments

All components of ArcGIS Enterprise are fully supported on virtual environments as long as they run on supported platforms. When running third-party applications with ArcGIS Enterprise, such as relational databases, the application must also be supported in a virtual environment. Check the third-party vendor for its virtualization support.

The following virtualization environments are known to perform well with ArcGIS Enterprise:

- VMware vSphere 5.5 and 6
- Microsoft Hyper-V

For additional information, see Virtualization and ArcGIS Enterprise.

Portal for ArcGIS 10.5 Linux system requirements

The system and hardware requirements required to run Portal for ArcGIS are listed below. For additional and updated requirements, see the System requirements available on the web. A diagnostics tool runs during the setup to help you determine if your machine meets the minimum system requirements. For information about earlier versions, see Esri Support.

It's recommended that you review the deprecation notice to determine if your hardware and software components are still compatible with version 10.5.

Operating system requirements

⚠️ **Caution:** Use these system requirements as a guideline for planning purposes, as they are subject to change before the final release of ArcGIS 10.5.

The following 64-bit operating systems satisfy the minimum operating system requirements. Support is not provided for 32-bit operating systems; the setup will only proceed if the operating system is 64-bit. Portal for ArcGIS is only supported on Linux x86_64, on CPUs that adhere to the x86_64 architecture (64 bit), with supported Linux releases.

Machines with an underscore (_) in the name are not supported. The setup will not proceed if an underscore is detected in the machine name.

You cannot install the software as a root user. If you attempt to do this, the installation will not proceed and a diagnostics tool will display an error message indicating that you cannot install as root.

Supported operating systems	Lowest tested OS version	Highest tested OS version
Red Hat Enterprise Linux Server 7		Update 2
Red Hat Enterprise Linux Server 6		Update 8
SUSE Linux Enterprise Server 12		Service Pack 1
SUSE Linux Enterprise Server 11	Service Pack 2	Service Pack 4
Ubuntu Server LTS	16.04	16.04

Future updates or service packs on these OS versions are supported and assumed to work, unless otherwise stated.

📋 **Note:** Esri Technical Support is available for CentOS, Scientific Linux, and Oracle Linux versions that provide full binary compatibility with an equivalent supported Red Hat version. As a prerequisite for logging a defect, any software issue on these operating systems will be attempted to be reproduced on Red Hat Enterprise Linux. For Oracle Linux, support is predicated on the use of the Red Hat compatible kernel.

⚠️ **Caution:** If you want to install the software, run the ArcGIS Software Authorization Wizard, or run the Check for Updates tool using the operating system graphical user interface (GUI), the X Window System package group is required.

Red Hat Enterprise Linux Server requirements

Red Hat Enterprise Linux Server 6 and 7

- dos2unix
- fontconfig
- freetype
- libICE
- libSM
- libXtst
- libXrender
- gettext

SUSE Linux Enterprise Server requirements

SUSE Linux Enterprise Server 12

- dos2unix
- libSM6
- gettext-runtime

SUSE Linux Enterprise Server 11

- dos2unix
- xorg-x11-libXrender
- xorg-x11-libSM6
- gettext-runtime

Ubuntu Server LTS

Ubuntu Server 16.04 LTS

- dos2unix
- fontconfig
- gettext-base
- libice6
- libsm6
- libxtst6
- libxrender1

Hardware requirements

- Processor: 4 cores for 100 concurrent users
- Memory/RAM: 4 GB or more
- Disk space: A base installation of Portal for ArcGIS requires a minimum of 4.8 GB of available disk space. All content created by your users will also be stored on disk. Carefully consider how data will be uploaded and created by your users and allocate disk space accordingly. If desired, you can change the location of where the portal stores its content after installing the software.

Temp space requirements

By default, resources are extracted to the system `/tmp` directory. This directory must have read, write, and execute permissions enabled. If the required space is not available in the `/tmp` directory, the setup program will attempt to extract resources to the user's HOME directory. If the required space is not available in the user's HOME directory, the setup program will report an error indicating this problem. Optionally, you can specify an alternate temp location by setting the `IATEMPDIR` environment variable.

File system requirements

On Linux systems, the `ext3` file system limits the number of item subfolders to less than 32,000; this means your portal is limited to having no more than 32,000 items. No new items can be added to Portal for ArcGIS when this limit is reached. It's recommended that you update or move the installation directory to an `ext4` file system that does not have this limitation.

File handles limits

For the portal to run properly, the file handle limits for the installation user are required to be set to 65,535. An installation diagnostics tool will check to validate whether the limits are set properly in the `/etc/security/limits.conf` file. If the limits are set incorrectly, the diagnostics check will fail.

There are soft and hard limits for file handles on Linux. To determine the limits, use the following commands:

- Soft limit: `ulimit -Sn`
- Hard limit: `ulimit -Hn`

To increase the soft and hard limits, you'll need to edit the `/etc/security/limits.conf` file with superuser access. For example, add two lines in the file like this:

```
<Portal for ArcGIS installation user> soft nofile 65535
<Portal for ArcGIS installation user> hard nofile 65535
```

After making this change, you will need to log out and log back in with the particular user for the new values to take effect. To verify that the limits have been modified appropriately, you can use the `ulimit -Sn` and `ulimit -Hn` commands as described above.

Firewall settings

Portal for ArcGIS communicates on ports 7080, 7443, 7005, 7099, 7199, and 7654. You'll need to open these ports on your firewall before installing the software. For more information, see Ports used by Portal for ArcGIS.

Domain name service (DNS) and fully qualified domain name (FQDN) requirements

Your organization's domain name service (DNS) needs to include an entry of the fully qualified domain name (FQDN) of the machine hosting Portal for ArcGIS. Similarly, if you'll be using ArcGIS Server with your portal, it's recommended that you include FQDN entries for each site you intend to federate with Portal for ArcGIS.

If desired, you can configure your DNS to use a friendly name for the portal (for example, `friendly.domain.com` instead of `portal.domain.com`). When doing this, assign the name to the portal machine before you install the software. Then use the friendly name when setting up the portal. For example, setup activities that require use of the friendly name include the following:

- Configure ArcGIS Web Adaptor with your portal.
- Federate an ArcGIS Server site with your portal.
- Add Portal for ArcGIS to your organization's reverse proxy server. If you're not using a reverse proxy server, it's recommended you assign a friendly name to the machine hosting ArcGIS Web Adaptor.

⚠ **Caution:** If you configure a friendly DNS name after setting up your portal, existing items in the portal may become unusable, as they will include the nonfriendly name. You'll need to manually re-create each item in order to use them again.

SSL certificates

Portal for ArcGIS comes preconfigured with a self-signed server certificate, which allows the portal to be initially tested and to help you quickly verify that your installation was successful. You must request a certificate from a trusted certificate authority (CA) and configure the portal to use it. The certificate can be signed by a corporate (internal) or commercial CA.

You should configure each applicable ArcGIS component in your organization with a certificate from a corporate or commercial CA. Common examples include ArcGIS Web Adaptor and ArcGIS Server. For example, ArcGIS Server also comes with a preconfigured self-signed certificate. If you'll be federating an ArcGIS Server site with your portal, it's very important that you request a CA-signed certificate and configure the server and Web Adaptor to use it.

For more information, see Security best practices.

ArcGIS Web Adaptor

ArcGIS Web Adaptor is a required component of Portal for ArcGIS, which allows you to integrate your portal with your existing web server and your organization's security mechanisms. You cannot deploy Portal for ArcGIS in your organization without the Web Adaptor.

You can only use the Web Adaptor with port 80 or 443. Using different ports is not supported. See About ArcGIS Web Adaptor for details.

Supported web browsers

For the best performance in the portal website, use the latest browser versions listed below. The scene viewer has its own browser and hardware requirements. Some of the common clients of Portal for ArcGIS have different requirements. See their documentation for details.

- Microsoft Internet Explorer 9 and higher. Compatibility View is not supported.
- Microsoft Edge
- Mozilla Firefox
- Google Chrome
- Safari

- iOS Safari

- Android Browser

- Chrome for Android

Browser limitations

Some web browsers have functional limitations, as noted below:

- You cannot add CSV items (in **My Content**) as web layers in the map. This limitation applies to IE 9 and Safari.

- You cannot use the scene viewer. This limitation applies to IE 9 and 10.

- You cannot view streaming feature layers in the map viewer. This limitation applies to IE 9.

- If the browser is running in compatibility mode, the graphics on the **Manage Licenses** page do not load correctly. This limitation applies to IE 9 and 10.

- The X-Frame Options ALLOW-FROM header is not supported in Chrome and Safari. When viewing the portal website, you may encounter an error in Chrome and Safari stating that the header is invalid and will be ignored. You can safely dismiss this warning.

External access

If you'll be using Esri-provided services, such as basemaps and data from ArcGIS Online, the machine hosting Portal for ArcGIS will need access to the Internet. If your portal will not have access to the Internet, you'll need to perform some additional configuration steps to ensure your portal is pointing to local resources. For instructions, see Configuring a disconnected deployment.

Supported virtualization environments

All components of ArcGIS Enterprise are fully supported on virtual environments as long as they run on supported platforms. When running third-party applications with ArcGIS Enterprise, such as relational databases, the application must also be supported in a virtual environment. Check the third-party vendor for its virtualization support.

The following virtualization environments are known to perform well with ArcGIS Enterprise:

- VMware vSphere 5.5 and 6

- Microsoft Hyper-V

For additional information, see Virtualization and ArcGIS Enterprise.

ArcGIS Web Adaptor 10.5 (IIS) system requirements

The system and hardware requirements required to run ArcGIS Web Adaptor are listed below. For information about earlier versions, see Esri Support.

It's recommended that you review the deprecation notice to determine if your hardware and software components are still compatible with version 10.5.

Operating system and application/web server requirements

Application/web servers	Supported operating systems	Lowest tested OS version	Highest tested OS version
Windows 10 Pro and Enterprise	8u51		IIS 10
Windows Server 2012 R2 Standard and Datacenter	Update: April 2014		IIS 8.5
Windows 8.1 Pro and Enterprise	Update: April 2014		
Windows Server 2012 Standard and Datacenter			IIS 8
Windows Server 2008 R2 Standard, Enterprise, and Datacenter	SP1		IIS 7.5
Windows 7 Ultimate and Professional	SP1		

> **Note:** Windows 7, 8.1, and 10 are supported for basic testing and application development use only. They are not recommended for deployment in a production environment.

Maximum installation instances

You can install a maximum of 21 instances of ArcGIS Web Adaptor on a single machine. If more instances of ArcGIS Web Adaptor are required, you'll need to install them on a separate machine.

If you have earlier versions installed on the machine, you are not required to uninstall them. For example, you can have 5 instances of ArcGIS Web Adaptor 10.3 and 21 instances of ArcGIS Web Adaptor 10.5 installed on the same machine. The maximum value only applies to instances of the same software version.

> **Legacy:** In earlier versions, only 11 instances of the same Web Adaptor version were allowed on a single machine. Beginning at 10.3.1, you can install up to 21 instances of the same Web Adaptor version on a single machine.

Microsoft .NET Framework 4.5 support

ArcGIS Web Adaptor requires Microsoft .NET Framework 4.5 or higher in order to be installed. If your operating system includes Microsoft .NET Framework 4.5, make sure it's enabled using Windows Features. If your operating system does not include Microsoft .NET Framework 4.5, you can download it from the installation media and enable it using Windows Features.

> **Legacy:** In earlier versions, ArcGIS Web Adaptor required Microsoft .NET Framework 3.5 Service Pack 1 (SP1), 4.0, or 4.5 in order to be installed.

Microsoft IIS required components

ArcGIS Web Adaptor supports IIS in Windows 7, 8.1, 10, Server 2008, 2008 R2, Server 2012, and 2012 R2. This corresponds to IIS versions 7.0, 7.5, 8.0, 8.5, and 10. IIS must be enabled along with specific IIS 7.0, 7.5, 8.0, 8.5, and 10 components. The setup will not proceed if IIS is not detected and specific IIS components enabled.

If you already have IIS 7.0, 7.5, 8.0, or 8.5 installed but are missing required IIS components, the setup will display the **IIS requirements verification** dialog box. This gives you the option to allow the installation to automatically enable any missing required IIS components. To do this, click **I agree**. To learn more, see Automatically enabling IIS components.

> **Note:** If you're going to perform a silent installation of ArcGIS Web Adaptor, all required IIS components must be enabled manually. The setup will not automatically enable missing IIS components when you're performing a silent installation.

To learn how to enable IIS on your operating system and optionally enable the missing IIS 7.0, 7.5, 8.0, or 8.5 components on your own, see the following topics:

- Enabling IIS and required IIS components on Windows Server 2012/2012 R2
- Enabling IIS and required IIS components on Windows Server 2008/2008 R2
- Enabling IIS and required IIS components on Windows 8.1

- Enabling IIS and required IIS components on Windows 7

ArcGIS Web Adaptor 10.5 (Java Platform) Windows system requirements

The system and hardware requirements required to run ArcGIS Web Adaptor are listed below. For information about earlier versions, see Esri Support.

It's recommended that you review the deprecation notice to determine if your hardware and software components are still compatible with version 10.5.

Application/web server and operating system requirements

Application/web servers	Supported operating systems	Lowest tested OS version	Highest tested OS version
Apache Tomcat 7.0.65 and 8.0.32	Windows Server 2012 R2 Standard and Datacenter	Update: April 2014	
	Windows Server 2012 Standard and Datacenter		
	Windows Server 2008 R2 Standard, Enterprise, and Datacenter	SP1	
GlassFish 4.1.1	Windows Server 2012 R2 Standard and Datacenter	Update: April 2014	
	Windows Server 2012 Standard and Datacenter		
	Windows Server 2008 R2 Standard, Enterprise, and Datacenter	SP1	
IBM WebSphere 8.5.5.9 and 9	Windows Server 2012 R2 Standard and Datacenter	Update: April 2014	
	Windows Server 2012 Standard and Datacenter		
	Windows Server 2008 R2 Standard, Enterprise, and Datacenter	SP1	
JBoss Enterprise Application Platform 7	Windows Server 2012 R2 Standard and Datacenter	Update: April 2014	
	Windows Server 2012 Standard and Datacenter		
	Windows Server 2008 R2 Standard, Enterprise, and Datacenter	SP1	
Oracle WebLogic 12c R1	Windows Server 2012 R2 Standard and Datacenter	Update: April 2014	
	Windows Server 2012 Standard and Datacenter		
	Windows Server 2008 R2 Standard, Enterprise, and Datacenter	SP1	

Java support

ArcGIS Web Adaptor supports Java 8.x. Java 6.x and 7.x are not supported.

Legacy: In earlier versions, ArcGIS Web Adaptor supported Java 6.x. At 10.4, ArcGIS Web Adaptor supported Java 7.x and 8.x. Beginning at 10.5, ArcGIS Web Adaptor only supports 8.x.

ArcGIS Web Adaptor 10.5 (Java Platform) Linux system requirements

The system and hardware requirements required to run ArcGIS Web Adaptor are listed below. For information about earlier versions, see Esri Support.

It's recommended that you review the deprecation notice to determine if your hardware and software components are still compatible with version 10.5.

Application/web server and operating system requirements

Application/web servers	Supported operating systems	Lowest tested OS version	Highest tested OS version
Apache Tomcat 7.0.65 and 8.0.32	Red Hat Enterprise Linux Server 7		Update 2
	Red Hat Enterprise Linux Server 6		Update 8
	SUSE Linux Enterprise Server 12		Service Pack 1
	SUSE Linux Enterprise Server 11	Service Pack 2	Service Pack 4
	Ubuntu Server LTS	16.04	16.04
GlassFish 4.1.1	Red Hat Enterprise Linux Server 7		Update 2
	Red Hat Enterprise Linux Server 6		Update 8
	SUSE Linux Enterprise Server 12		Service Pack 1
	SUSE Linux Enterprise Server 11	Service Pack 2	Service Pack 4
	Ubuntu Server LTS	16.04	16.04
IBM WebSphere 8.5.5.9 and 9	Red Hat Enterprise Linux Server 7		Update 2
	Red Hat Enterprise Linux Server 6		Update 8
	SUSE Linux Enterprise Server 12		Service Pack 1
	SUSE Linux Enterprise Server 11	Service Pack 2	Service Pack 4
	Ubuntu Server LTS	16.04	16.04
JBoss Enterprise Application Platform 7	Red Hat Enterprise Linux Server 7		Update 2
	Red Hat Enterprise Linux Server 6		Update 8
	Ubuntu Server LTS	16.04	16.04
Oracle WebLogic 12c R1 and R2	Red Hat Enterprise Linux Server 7		Update 2
	Red Hat Enterprise Linux Server 6		Update 8
	SUSE Linux Enterprise Server 12		Service Pack 1
	SUSE Linux Enterprise Server 11	Service Pack 2	Service Pack 4
	Ubuntu Server LTS	16.04	16.04

Future updates or service packs on these OS versions are supported and assumed to work, unless otherwise stated.

⚠ **Caution:** If you want to install the software using the operating system graphical user interface (GUI), the X Window package group is required.

📋 **Note:** Esri Technical Support is available for CentOS, Scientific Linux, and Oracle Linux versions that provide full binary compatibility with an equivalent supported Red Hat version. As a prerequisite for logging a defect, any software issue on these operating systems will be attempted to be reproduced on Red Hat Enterprise Linux. For Oracle Linux, support is predicated on the use of the Red Hat compatible kernel.

Temp space requirements

By default, resources are extracted to the system `/tmp` directory. If the required space is not available in the `/tmp` directory, the setup program will attempt to extract resources to the user's HOME directory. If the required space is not available in the user's HOME directory, the setup program will report an error indicating this problem. Optionally, you can specify an alternate temp location by setting the `IATEMPDIR` environment variable.

Java support

ArcGIS Web Adaptor supports Java 8.x. Java 6.x and 7.x are not supported.

🕐 **Legacy:** In earlier versions, ArcGIS Web Adaptor supported Java 6.x. At 10.4, ArcGIS Web Adaptor supported Java 7.x and 8.x. Beginning at 10.5, ArcGIS Web Adaptor only supports 8.x.

ArcGIS Data Store 10.5 Windows system requirements

The system and hardware requirements that are required to run ArcGIS Data Store are listed below. For additional and updated requirements, see the System requirements available on the web. ArcGIS Data Store is a component of ArcGIS Enterprise; they both support the same operating systems and browsers.

It's recommended that you review the deprecation notice to determine if your hardware and software components are still compatible with version 10.5.

Operating system requirements

The following 64-bit operating systems satisfy the minimum operating system requirements. Support is not provided for 32-bit operating systems; the setup will only proceed if the operating system is 64-bit.

Machines with an underscore (_) in their names are not supported. Several widely used Internet host name specifications have designated the underscore character as nonstandard. Although Windows allows you to use the underscore in a machine name, it can still cause problems when you interact with other servers and platforms. For this reason, ArcGIS Data Store will not proceed with installation on servers that have an underscore in the host name.

ArcGIS Data Store is not supported on domain controllers. Installing ArcGIS Data Store on a domain controller may adversely affect functionality.

Supported operating systems	Lowest tested OS version	Highest tested OS version
Windows Server 2012 R2 Standard and Datacenter (64 bit [EM64T])	Update: April 2014	
Windows Server 2012 Standard and Datacenter (64 bit [EM64T])		
Windows Server 2008 R2 Standard, Enterprise, and Datacenter (64 bit [EM64T])	SP1	
Windows Server 2008 Standard, Enterprise, and Datacenter (64 bit [EM64T])	SP2	SP2

Future updates or service packs on these OS versions are supported and assumed to work, unless otherwise stated.

Note: Windows 10, 8.1, and 7 are supported for basic testing and application development use only. They are not recommended for deployment in a production environment.

Supported operating systems	Lowest tested OS version	Highest tested OS version
Windows 10 Pro and Enterprise (64 bit [EM64T])		
Windows 8.1 Pro and Enterprise (64 bit [EM64T])	Update: April 2014	
Windows 7 Ultimate, Professional, and Enterprise (64 bit [EM64T])	SP1	

Disk space requirements

To install and configure ArcGIS Data Store requires a minimum of 11 GB of available disk space on the system drive. This is the minimum disk space requirement is for a machine with one empty data store type; it does not take into account the data you will store in the data store or backup files that might be stored on the machine.

Note: When the machine contains less than 10 GB of free disk space, ArcGIS Data Store begins logging warnings that you are running out of disk space. Once the disk drive contains less that 1 GB of free space, relational data stores are placed in read-only mode, and tile cache and spatiotemporal data stores are shut down.

To determine the amount of disk space needed on an ArcGIS Data Store machine, you need to take all of the following into consideration:
- The software installation uses 700 MB.

- Each data store uses an additional amount of space when created (and still empty):
    ▪ Relational data store = 300 MB

    ▪ Tile cache data store = 1 MB

    ▪ Spatiotemporal big data store = 200 MB

- You need to estimate the amount of disk space needed for the data stored in the data stores.

- Backups stored on the data store machine also consume disk space. If you do not configure backups to be written to a shared system drive, you must plan for this additional use of disk space.

Firewall settings

ArcGIS Data Store uses specific ports to communicate with your portal and ArcGIS Server.

- HTTPS port—ArcGIS Data Store is accessed via secured port 2443.

- Data store ports—Relational data stores communicate through port 9876. Tile cache data stores communicate through ports 29080 and 29081. Spatiotemporal big data stores communicate through ports 9220 and 9320.

Supported web browsers

ArcGIS Data Store Administration Resources requires one of the following web browsers to be installed:

- Google Chrome

- Mozilla Firefox

- Microsoft Internet Explorer (version 9, 10, or 11)

- Microsoft Edge

Supported virtualization environments

All components of ArcGIS Enterprise are fully supported on virtual environments as long as they run on supported platforms.All components of ArcGIS Enterprise are fully supported on virtual environments as long as they run on supported platforms. When running third-party applications with ArcGIS Enterprise, such as relational databases, the application must also be supported in a virtual environment. Check the third-party vendor for its virtualization support.

The following virtualization environments are known to perform well with ArcGIS Enterprise:

- VMware vSphere 5.5 and 6

- Microsoft Hyper-V

For additional information, see Virtualization and ArcGIS Enterprise.

ArcGIS Data Store 10.5 Linux system requirements

The system and hardware requirements that are required to run ArcGIS Data Store are listed below. For additional and updated requirements, see the System requirements available on the web. ArcGIS Data Store is part of ArcGIS Server; they both support the same operating systems and browsers.

It's recommended that you review the deprecation notice to determine if your hardware and software components are still compatible with version 10.5.

Operating system requirements

The following 64-bit operating systems satisfy the minimum operating system requirements. Support is not provided for 32-bit operating systems; the setup will only proceed if the operating system is 64-bit. ArcGIS Data Store is only supported on Linux x86_64, on CPUs that adhere to the x86_64 architecture (64-bit), with supported Linux releases.

Machines with an underscore (_) in the name are not supported. The setup will not proceed if an underscore is detected in the machine name.

You cannot install the software as a root user. If you attempt to do this, the installation will not proceed and a diagnostics tool will display an error message indicating that you cannot install as root.

Supported operating systems	Lowest tested OS version	Highest tested OS version
Red Hat Enterprise Linux Server 7		Update 2
Red Hat Enterprise Linux Server 6		Update 8
SUSE Linux Enterprise Server 12		Service Pack 1
SUSE Linux Enterprise Server 11	Service Pack 2	Service Pack 4
Ubuntu Server LTS	16.04	16.04.01

Future updates or service packs on these OS versions are supported and assumed to work, unless otherwise stated.

Note: Esri Technical Support is available for CentOS, Scientific Linux, and Oracle Linux versions that provide full binary compatibility with an equivalent supported Red Hat version. As a prerequisite for logging a defect, any software issue on these operating systems will be attempted to be reproduced on Red Hat Enterprise Linux. For Oracle Linux, support is predicated on the use of the Red Hat compatible kernel.

Caution: The following package groups are required. If you want to install the software, run the ArcGIS Software Authorization Wizard, or run the Check for Updates tool using the operating system graphical user interface (GUI), the X Window System package group is required.

Red Hat Enterprise Linux Server requirements

Red Hat Enterprise Linux Server 6 and 7

- gettext

SUSE Linux Enterprise Server

SUSE Linux Enterprise Server 11 and 12

- gettext-runtime

Ubuntu Server LTS

Ubuntu Server 16.04 LTS

- gettext-base

Disk space requirements

To install and configure ArcGIS Data Store requires a minimum of 11 GB of available disk space on the system drive. This is the minimum disk space requirement is for a machine with one empty data store type; it does not take into account the data you will store in the data store or backup files that might be stored on the machine.

Note: When the machine contains less than 10 GB of free disk space, ArcGIS Data Store begins logging warnings that you are running out of disk space. Once the disk drive contains less that 1 GB of free space, relational data stores are placed in read-only mode, and tile cache and spatiotemporal data stores are shut down.

To determine the amount of disk space needed on an ArcGIS Data Store machine, you need to take all of the following into consideration:

- The software installation uses 700 MB.

- Each data store uses an additional amount of space when created (and still empty):
    - Relational data store = 300 MB

    - Tile cache data store = 1 MB

    - Spatiotemporal big data store = 200 MB

- You need to estimate the amount of disk space needed for the data stored in the data stores.

- Backups stored on the data store machine also consume disk space. If you do not configure backups to be written to a shared system drive, you must plan for this additional use of disk space.

Temp space requirements

By default, resources are extracted to the system `/tmp` directory. If the required space is not available in the `/tmp` directory, the setup program will attempt to extract resources to the user's `HOME` directory. If the required space is not available in the user's `HOME` directory, the setup program will report an error indicating this problem. Optionally, you can specify an alternate temp location by setting the `IATEMPDIR` environment variable.

File handles and processes limits

ArcGIS Data Store is a data-intensive product, and many of its data formats consist of hundreds of thousands of files. In heavily used systems, thousands or tens of thousands of files may be in use at any given time. If there are insufficient file handles and processes, requests may start failing randomly, leading to system downtime. The actual number of file handles and processes needed varies based on the data and the number of instances (threads/processes) running. Setting a file handle limit of 65,535 and a process limit of 25,059 will allow you to ensure that the system remains running.

There are soft and hard limits for file handles and processes on Linux. To determine the hard limits, use the `ulimit -Hn -Hu` (or `limit -h descriptors` if you're using csh) command. To determine the soft limits, use the `ulimit -Sn -Su` (or `limit` descriptors if you're using csh) command.

To increase the soft and hard limits, you'll need to edit the `/etc/security/limits.conf` file with superuser access. For example, you can add four lines in the file as follows:

```
<ArcGIS Data Store installation user> soft nofile 65535
<ArcGIS Data Store installation user> hard nofile 65535
<ArcGIS Data Store installation user> soft nproc 25059
<ArcGIS Data Store installation user> hard nproc 25059
```

After making this change, you'll need to log out and log back in with the particular user for the new values to take effect. To verify that the limits have been modified appropriately, use the `ulimit -Hn -Hu` and `ulimit -Sn -Su` commands as described above.

Additional environment settings for spatiotemporal big data stores

In addition to the file limits listed in the previous section, the following additional environment settings must be set on Linux machines running a spatiotemporal big data store:

- `vm.max_map_count` must be set to at least 262144. If you do not set this, you may receive out of memory exceptions.

- `vm.swappiness` must be set to 1; otherwise, it will negatively affect the performance of the spatiotemporal big data store.

These settings apply to the whole system. To change them, edit the `/etc/sysctl.conf` file with superuser access. For example, add the following to the `sysctl.conf` file:

```
vm.max_map_count = 262144
vm.swappiness = 1
```

Save and close the `sysctl.conf` file.

Firewall settings

ArcGIS Data Store uses specific ports to communicate with your portal and ArcGIS Server.

- HTTPS port—ArcGIS Data Store is accessed via secured port 2443.

- Database port—The PostgreSQL database clusters created for ArcGIS Data Store listen on port 9876.

Supported web browsers

ArcGIS Data Store Administration Resources requires one of the following web browsers to be installed:

- Google Chrome
- Mozilla Firefox
- Microsoft Internet Explorer (version 9, 10, or 11)
- Microsoft Edge

Supported virtualization environments

All components of ArcGIS Server are fully supported on virtual environments as long as they run on supported platforms. When running third-party applications with ArcGIS Server, such as relational databases, the application must also be supported in a virtual environment. Check the third-party vendor for its virtualization support.

The following virtualization environments are known to perform well with ArcGIS Server:

- VMware vSphere 5.5 and 6
- Microsoft Hyper-V

For additional information, see Virtualization and ArcGIS Server.

ALTIBASE database requirements for ArcGIS 10.5

Visit Esri Support for general support information on Esri's Supported Environment Policy, as well as information on earlier versions.

Supported database versions

ALTIBASE 6.1.1.4.2

ALTIBASE 6.3.1.2.1

ALTIBASE 6.5.1.0.1

Database requirements/limitations

- Required service packs/patches: Patch 6.3.1.1.4 has a fix for an ALTIBASE bug on "GRANT SELECT ON <sequence> TO PUBLIC" (BUG-38451)
- Geodatabase functionality is not supported with ALTIBASE

Software required to connect to a DBMS

Your client machine (for example, the one running ArcMap) will need to have the appropriate client files installed for the RDBMS you are using. These client files are available from their respective RDBMS vendors, but some are also available on My Esri as a convenience. RDBMS client files available from My Esri are IBM DB2 and Microsoft SQL Server. Client files for ALTIBASE, Dameng, IBM Informix, IBM Netezza, Oracle, SAP HANA, and Teradata are not available on My Esri and must be obtained from the RDBMS vendors. See Database clients for more information.

Dameng database requirements for ArcGIS 10.5

Visit Esri Support for general support information on Esri's Supported Environment Policy

Supported database versions

Dameng v7.1.5

Database requirements/limitations

Geodatabase functionality is not supported with Dameng.

Software required to connect to a DBMS

Your client machine (for example, the one running ArcMap) will need to have the appropriate client files installed for the RDBMS you are using. These client files are available from their respective RDBMS vendors, but some are also available on My Esri as a convenience. RDBMS client files available from My Esri are IBM DB2 and Microsoft SQL Server. Client files for ALTIBASE, Dameng, IBM Informix, IBM Netezza, Oracle, SAP HANA, and Teradata are not available on My Esri and must be obtained from the RDBMS vendors. See Database clients for more information.

IBM DB2 database requirements for ArcGIS 10.5

Visit Esri Support for general support information on Esri's Supported Environment Policy as well as information on earlier versions.

Supported database versions

IBM DB2 Version 9.7 Fix Pack 4

IBM DB2 Version 10.1 Fix Pack 2

IBM DB2 Version 10.5 Fix Pack 5

IBM DB2 Version 11.1

IBM DB2 Version 10 for z/OS

IBM DB2 Version 11 for z/OS

Click here for DB2 Fix Pack support

Database requirements and limitations

IBM DB2 V9.7 for Linux, UNIX, and Windows (64 bit)

- Minimum required service packs/patches: Fix Pack 4
- Recommended service packs/patches: n/a
- Required add-ons: IBM Spatial Extender Version 9.7 Fix Pack 4

IBM DB2 V10.1 for Linux, UNIX, and Windows (64 bit)

- Minimum required service packs/patches: Fix Pack 2
- DB2 Spatial Extender is now included in the DB2 database product media.
- Recommended service packs/patches: n/a

IBM DB2 V10.5 for Linux, UNIX, and Windows (64 bit)

- Minimum required service packs/patches: Fix Pack 5
- DB2 Spatial Extender is included in the DB2 database product media.
- Recommended service packs/patches: n/a

IBM DB2 V11.1 for Linux, UNIX, and Windows (64 bit)

- Minimum required service packs/patches: n/a
- DB2 Spatial Extender is included in the DB2 database product media.
- Recommended service packs/patches: n/a

IBM DB2 V10 for z/OS

- Required service packs/patches: APAR PM49678/UK74734, PM49549/UK73788, UK64134/J2AG210.
- Required add-ons: IBM Spatial Support for DB2 10 for z/OS-DB2 Accessories Suite.
- The following limitations only apply to DB2 z/OS databases that have not been enabled as a geodatabase:
  - Feature services are not supported.
  - Geoprocessing operations that write information to the database are not supported.

IBM DB2 V11 for z/OS

- Required service packs/patches: P15212/UI18434(J2AG310).
- Required add-ons: IBM Spatial Support for DB2 11 for z/OS-DB2 Accessories Suite.
- The following limitations only apply to DB2 z/OS databases that have not been enabled as a geodatabase:
  - Feature services are not supported.

▪ Geoprocessing operations that write information to the database are not supported.

Supported operating systems

- If your database management system is installed on a server where ArcGIS products are installed, the server operating system must meet the ArcGIS product system requirements as well as the operating system requirements for your DB2 version.

- If your database is not installed on the same server as an ArcGIS product, see the IBM documentation for operating system requirements for your DB2 version.

ArcGIS is tested and certified on DB2 Enterprise Server Edition. Other versions of DB2, such as DB2 Workgroup Server Edition and DB2 Personal Edition, share a common code base and are supported as long as they meet the ArcGIS Server requirements. For more information on the distributed editions of DB2, refer to the articles listed below.

- Which distributed edition of DB2 Version 9 is right for you?
- Comparing the distributed DB2 UDB servers
- DB2 system requirements
- IBM DB2 z/OS documentation(v10)
- IBM Spatial Support for z/OS

DB2 database Fix Pack support

- DB2 9.7 Fix Pack 4 is the minimum supported DBMS version. In general, later fix packs are assumed to work. However, there are known issues with using DB2 9.7 Fix Pack 5 with ArcGIS. For this reason, Fix Pack 5 is not supported.

- DB2 9.7 Fix Pack 6 is supported. However, there is a known issue when creating a spatial index after an IBM spatial extender upgrade. Refer to the IBM Support site for more information and a workaround. This issue is fixed in DB2 9.7 Fix Pack 7.

- DB2 9.7 migration of 32-bit databases to the 64-bit version is supported with a workaround found in APAR IC87081-SQL0471N IS RETURNED UPON CALLING LANGUAGE SQL SYSTEM ROUTINES POST MIGRATION OF 32-BIT DATABASES TO 64-BIT VERSION. IBM highly recommends upgrading to FP8 for this issue.

- DB2 10.1 Fix Pack 2 is supported with the workaround found in APAR IC90915-DB2 CAN TRAP IN SQLNO_ZZ_STARJN_COMPUTE_INDEX_QUNS_REFD

Software required to connect to a DBMS

Your client machine (for example, the one running ArcMap) will need to have the appropriate client files installed for the RDBMS you are using. These client files are available from their respective RDBMS vendors, but some are also available on My Esri as a convenience. RDBMS client files available from My Esri are IBM DB2 and Microsoft SQL Server. Client files for ALTIBASE, Dameng, IBM Informix, IBM Netezza, Oracle, SAP HANA, and Teradata are not available on My Esri and must be obtained from the RDBMS vendors. See Database clients for more information.

IBM Informix database requirements for ArcGIS 10.5

Visit Esri Support for general support information on Esri's Supported Environment Policy as well as information on earlier versions.

Minimum supported database versions

Enterprise edition

IBM Informix Server 64 Bit 11.70.FC4

IBM Informix Server 64 Bit 12.10.FC3

Supported operating systems

- If your database management system is installed on a server where ArcGIS products are installed, the server operating system must meet the ArcGIS product system requirements as well as the operating system requirements for your Informix version.

- If your database is not installed on the same server as an ArcGIS product, see the IBM documentation for operating system requirements for your Informix version.

Software required to connect to a DBMS

Your client machine (for example, the one running ArcMap) will need to have the appropriate client files installed for the RDBMS you are using. These client files are available from their respective RDBMS vendors, but some are also available on My Esri as a convenience. RDBMS client files available from My Esri are IBM DB2 and Microsoft SQL Server. Client files for ALTIBASE, Dameng, IBM Informix, IBM Netezza, Oracle, SAP HANA, and Teradata are not available on My Esri and must be obtained from the RDBMS vendors. See Database clients for more information.

IBM Netezza Data Warehouse Appliance requirements for ArcGIS 10.5

Visit Esri Support for general support information on Esri's Supported Environment Policy as well as information on earlier versions.

Supported database versions

Data Warehouse Appliances

IBM Netezza Platform Software (NPS) v7.1 / IBM Netezza Analytics (INZA) v3.0

IBM Netezza Platform Software (NPS) v7.2 / IBM Netezza Analytics (INZA) v3.2

Database requirements/limitations

- See Connect to Netezza from ArcGIS for important information about configuring ODBC for Netezza.

- Geodatabase functionality is not supported with Netezza database.

- If using the legacy Netezza Spatial Package, all spatial columns must be named, or aliased, to SHAPE for ArcGIS to recognize it as a spatial column in the table.

- Feature services are not supported with Netezza.

- Any geoprocessing operation that writes information to the database requires the generation of unique ObjectID values. Netezza does not generate ObjectIDs; therefore, any tool that writes data to the database is not supported with Netezza.

- ArcGIS direct connect driver will not work with an IBM Netezza appliance that is configured with a multiple schema support setting other than the default (enable_schema_dbo_check 0)

- Geospatial capability comes with the IBM Netezza Analytics software package, and there are two types of supported spatial libraries.
    - nzSpatial—The legacy variant of the spatial library.
    - nzSpatial_Esri—The Esri variant of the spatial library.

- *For further information about Netezza, visit http://www-01.ibm.com/software/data/netezza/.

Software required to connect to a DBMS

Your client machine (for example, the one running ArcMap) will need to have the appropriate client files installed for the RDBMS you are using. These client files are available from their respective RDBMS vendors, but some are also available on My Esri as a convenience. RDBMS client files available from My Esri are IBM DB2 and Microsoft SQL Server. Client files for ALTIBASE, Dameng, IBM Informix, IBM Netezza, Oracle, SAP HANA, and Teradata are not available on My Esri and must be obtained from the RDBMS vendors. See Database clients for more information.

Microsoft SQL Server database requirements for ArcGIS 10.5

Visit Esri Support for general support information on Esri's Supported Environment Policy as well as information on earlier versions.

Supported database versions

Standard/Enterprise editions

Microsoft SQL Server 2016 (64-bit) See Note below**

Microsoft SQL Server 2014 (64-bit)

Microsoft SQL Server 2012 SP3 (64-bit)

Express editions

Microsoft SQL Server 2016 (64-bit) See Note below**

Microsoft SQL Server 2014 (32-bit* & 64-bit)

Microsoft SQL Server 2012 SP3 (32-bit* & 64-bit)

*Microsoft SQL Server Express (32-bit) is only supported for desktop geodatabases.

Note: **The Microsoft ODBC Driver 13 for SQL Server is only supported by ArcGIS 10.5 and 10.4.1 clients. For connections from ArcGIS 10.4 clients, the Microsoft ODBC Driver 11 must be used.

Supported operating systems

If your database management system is installed on a server where ArcGIS products are installed, the server operating system must meet the ArcGIS product system requirements as well as the operating system requirements for your SQL Server version.

If you use the ST_Raster storage type (libst_raster_sql.dll) with your geodatabase in SQL Server, the server operating system must meet ArcGIS Server (Windows) operating system requirements.

If your database is not installed on the same server as an ArcGIS product, see the Microsoft documentation for operating system requirements for your SQL Server version.

Software required to connect to a DBMS

Your client machine (for example, the one running ArcMap) will need to have the appropriate client files installed for the RDBMS you are using. These client files are available from their respective RDBMS vendors, but some are also available on My Esri as a convenience. RDBMS client files available from My Esri are IBM DB2 and Microsoft SQL Server. Client files for ALTIBASE, Dameng, IBM Informix, IBM Netezza, Oracle, SAP HANA, and Teradata are not available on My Esri and must be obtained from the RDBMS vendors. See Database clients for more information.

Note: ArcGIS 10.5 and newer clients connecting to SQL Server must use a SQL Server 2012 SP3 or newer client. This applies even when connecting to an older release geodatabase in SQL Server 2008 or 2008 R2.

Microsoft Azure SQL Database requirements for ArcGIS 10.5

Visit Esri Support for general support information on Esri's Supported Environment Policy, as well as information on earlier versions.

Supported database versions

Cloud-based database service editions:

Microsoft Azure SQL Database 12

Database requirements/limitations

- ArcGIS connections to Microsoft Azure SQL Databases and geodatabases in Azure SQL Databases must originate from machines within Microsoft Azure. For best performance, they should originate from machines within the same Azure region.

Note: For more information about Microsoft Azure SQL Database, see https://azure.microsoft.com/en-us/services/sql-database/.

Software required to connect to a DBMS

Your client machine (for example, the one running ArcMap) will need to have the appropriate client files installed for the RDBMS you are using. These client files are available from their respective RDBMS vendors, but some are also available on My Esri as a convenience. RDBMS client files available from My Esri are IBM DB2 and Microsoft SQL Server. Client files for ALTIBASE, Dameng, IBM Informix, IBM Netezza, Oracle, SAP HANA, and Teradata are not available on My Esri and must be obtained from the RDBMS vendors. See Database clients for more information.

Oracle database requirements for ArcGIS 10.5

Visit Esri Support for general support information on Esri's Supported Environment Policy, as well as information on earlier versions.

Supported database versions

Standard/Standard One/Enterprise Editions:

Oracle 11g R2 (64 bit) 11.2.0.4

Oracle 12c R1 (64 bit) 12.1.0.2

Click here for Oracle Patch Support

Supported operating systems

Database	Supported Operating System(s)	Minimum OS Version	Maximum OS Version
Oracle 11g R2 (64 bit) 11.2.0.4 Click here for Database Requirements	IBM AIX 6.1.0.0		
	IBM AIX 7.1.0.0		
	Oracle Linux Server 5 (64 bit) (see note below)	Update 8	
	Oracle Linux Server 6 (64 bit) (see note below)		
	Red Hat Enterprise Linux AS/ES 5 (64 bit)	Update 11	
	Red Hat Enterprise Linux AS/ES 6 (64 bit)		
	Sun Solaris 10 (64 bit [SPARC])		
	Sun Solaris 11 (64 bit [SPARC])		
	SUSE Linux Enterprise Server 11 (64 bit)	SP2	
	Windows Server 2008 R2 Standard, Enterprise, and Datacenter (64 bit [EM64T])	SP1	
	Windows Server 2012 Standard and Datacenter (64 bit [EM64T])		
Oracle 12c R1 (64 bit) 12.1.0.2 Click here for Database Requirements	IBM AIX 7.1.0.0		
Oracle Linux Server 5 (64 bit)	Update 8		
Oracle Linux Server 6 (64 bit)			
Red Hat Enterprise Linux AS/ES 5 (64 bit)	Update 11		
Red Hat Enterprise Linux AS/ES 6 (64 bit)			
Red Hat Enterprise Linux AS/ES 7 (64 bit)			
Sun Solaris 10 (64 bit [SPARC])			
Sun Solaris 11 (64 bit [SPARC])			
SUSE Linux Enterprise Server 11 (64 bit)	SP2		
Windows Server 2008 R2 Standard, Enterprise, and Datacenter (64 bit [EM64T])	SP1		
Windows Server 2012 Standard and Datacenter (64 bit [EM64T])			
Windows Server 2012 R2 Standard and Datacenter (64 bit [EM64T])			

Note:

- Support for Oracle Linux is based on Oracle documentation that Oracle Linux is compatible—both source and binary—with Red Hat Enterprise Linux. See Oracle Linux FAQ http://www.oracle.com/us/technologies/027617.pdf.

- Support for the Oracle Exadata Database Machine is based on Oracle guidance that OEM software that supports both Oracle Linux and Oracle RAC is compatible with Oracle Exadata.

- A new option in Oracle 12c, called Multitenant Architecture, consisting of a container database that can hold many pluggable databases, is supported at the pluggable database level. ArcGIS supports the same functionality in pluggable databases as is supported for Oracle 11g R2. Esri is evaluating new Oracle 12c features that are appropriate for the ArcGIS platform and will add support for them based on suitability and customer demand.

Database requirements

📄 **Note:**
- The Oracle Text component must be installed. The Text component is installed by default in Oracle; however, if you did not perform a default installation, the Text component may not have been installed.

- Also note that if there is no native ArcGIS build for the operating system of the server hosting the Oracle database, then there is no support for SQL access to ST_Geometry or ST_Raster. ST_Geometry and ST_Raster storage can be used from ArcGIS clients, but SQL access to this data is not supported.

Oracle database patch support

Oracle 11.2.0.4 and 12.1.0.2 or higher Oracle Patch. This includes Oracle patch set levels and Oracle Interim (One-Off) Patch as per Oracle Corporation's Patch Set Overview and Interim Patch documentation.

See Oracle Support for all Oracle patch set (and Interim Patch) documentation and installation instructions. Esri recommends making a full backup of your Oracle database prior to applying any Oracle patch sets or interim patch. If functionality that was working prior to applying the Oracle patch set or interim patch stops working, return to the previous version of Oracle. Contact Oracle support as needed.

Software required to connect to a DBMS

Your client machine (for example, the one running ArcMap) will need to have the appropriate client files installed for the RDBMS you are using. These client files are available from their respective RDBMS vendors, but some are also available on My Esri as a convenience. RDBMS client files available from My Esri are IBM DB2 and Microsoft SQL Server. Client files for ALTIBASE, Dameng, IBM Informix, IBM Netezza, Oracle, SAP HANA, and Teradata are not available on My Esri and must be obtained from the RDBMS vendors. See Database clients for more information.

PostgreSQL database requirements for ArcGIS 10.5

Visit Esri Support for general support information on Esri's Supported Environment Policy, as well as information on earlier versions.

Minimum supported database versions

The following versions of PostgreSQL and PostGIS are supported with ArcGIS. The specific versions listed are the minimum minor version supported and certified for each supported major release of PostgreSQL. Newer minor versions are supported but are not certified.

- PostgreSQL 9.5.3 (64 bit)
    - PostGIS 2.2

- PostgreSQL 9.4.8 (64 bit)
    - PostGIS 2.2

- PostgreSQL 9.3.13 (64 bit)
    - PostGIS 2.2

Supported operating systems

Windows

Operating system	Minimum OS version	Maximum OS version
Windows Server 2012 R2 Standard and Datacenter	Update: April 2014	
Windows Server 2012 Standard and Datacenter		
Windows Server 2008 R2 Standard, Enterprise, and Datacenter	SP1	
Windows Server 2008 Standard, Enterprise, and Datacenter	SP2	SP2

Future updates or service packs on these OS versions are supported and assumed to work unless otherwise stated.

Note: Windows 10, 8.1, and 7 are supported for basic testing and application development use only. They are not recommended for deployment in a production environment.

Operating system	Minimum OS version	Maximum OS version
Windows 10 Pro and Enterprise		
Windows 8.1 Pro and Enterprise	Update: April 2014	
Windows 7 Ultimate, Professional, Enterprise, and Home Premium	SP1	

Linux

Operating system	Minimum OS version	Maximum OS version
Red Hat Enterprise Linux Server 7		Update 2
Red Hat Enterprise Linux Server 6		Update 8
SUSE Linux Enterprise Server 12		Service Pack 1
SUSE Linux Enterprise Server 11	Service Pack 2	Service Pack 4
Ubuntu Server LTS	16.04	16.04.1

Future updates or service packs on these OS versions are supported and assumed to work unless otherwise stated.

Software required to connect to a DBMS

Most ArcGIS applications that can connect to a PostgreSQL database include the required PostgreSQL client libraries. These applications include: ArcGIS Server, ArcGIS Desktop, and ArcReader.

Esri tests and certifies specific major and minor releases of PostgreSQL installations that are available from `PostgreSQL.org`. For each PostgreSQL release Esri supports, available PostGIS modules are also tested and certified. No other modules extending PostgreSQL functionality are included in Esri certification.

SAP HANA database requirements for ArcGIS 10.5

Visit Esri Support for general support information on Esri's Supported Environment Policy, as well as information on earlier versions.

Supported database versions

SAP HANA 1.0 SPS09 or SPS10

> **Note:** Geodatabase functionality is not supported with SAP HANA.

Supported operating systems

Database	Supported Operating Systems
SAP HANA 1.0 SPS09 or SPS10	SAP HANA is available either in the cloud or as a pre-configured system on Linux. Please contact SAP for the available configurations.

Database requirements/limitations

- ODBC connections must set parameter SPATIALTYPES=1

Software required to connect to a DBMS

Your client machine (for example, the one running ArcMap) will need to have the appropriate client files installed for the RDBMS you are using. These client files are available from their respective RDBMS vendors, but some are also available on My Esri as a convenience. RDBMS client files available from My Esri are IBM DB2 and Microsoft SQL Server. Client files for ALTIBASE, Dameng, IBM Informix, IBM Netezza, Oracle, SAP HANA, and Teradata are not available on My Esri and must be obtained from the RDBMS vendors. See Database clients for more information.

SQLite database requirements for ArcGIS 10.5

Visit Esri Support for general support information on Esri's Supported Environment Policy, as well as information on earlier versions.

Supported database versions

SQLite 3.14.1

SQLite 3.9

SQLite 3.8.4.3

Supported add-ons

Spatialite 4.0

GeoPackage 1.1

Database requirements/limitations

- SQLite files must have a `.sqlite` extension to be recognized by ArcGIS.

- GeoPackage files must have a `.gpkg` extension to be recognized by ArcGIS.

- You cannot create a geodatabase in SQLite.

- Feature services are not supported with SQLite.

Platform support

- All platforms supported by ArcGIS Desktop

- All platforms supported by Runtime

- All platforms supported by ArcGIS Server

Teradata Data Warehouse Appliance requirements for ArcGIS 10.5

Visit Esri Support for general support information on Esri's Supported Environment Policy, as well as information on earlier versions.

Supported database versions

Data Warehouse Appliances

Teradata 14.10 (see note below)

Teradata 15.0 (see note below)

Teradata 15.10 (see note below)

Supported operating systems

Database	Supported Operating Systems	Minimum OS Version	Maximum OS Version
Teradata 14.10 (see note below)	SUSE Linux Enterprise Server (SLES)	SLES 10	SLES 11
Teradata 15.0 (see note below)	SUSE Linux Enterprise Server (SLES)	SLES 10	SLES 11
Teradata 15.10 (see note below)	SUSE Linux Enterprise Server (SLES)	SLES 10	SLES 11

Note: R-Tree based spatial index capability requires Teradata 14.10 or higher release.
Geometry with Z coordinate support requires 15.0 or higher release.
The Teradata 15.10 ODBC driver is installed as part of Teradata TTU 15.10; minimum requirement is ODBC 15.10.01.001 or above.

Database requirements/limitations

- ODBC connections must use Teradata session mode and Native Large Object Support.

- Geodatabase functionality is not supported with Teradata.

- All spatial columns must be named, or aliased to, SHAPE for ArcGIS to recognize it as a spatial column in the table.

Software required to connect to a DBMS

Your client machine (for example, the one running ArcMap) will need to have the appropriate client files installed for the RDBMS you are using. These client files are available from their respective RDBMS vendors, but some are also available on My Esri as a convenience. RDBMS client files available from My Esri are IBM DB2 and Microsoft SQL Server. Client files for ALTIBASE, Dameng, IBM Informix, IBM Netezza, Oracle, SAP HANA, and Teradata are not available on My Esri and must be obtained from the RDBMS vendors. See Database clients for more information.

ArcGIS License Manager system requirements

The latest system and hardware requirements required to run ArcGIS License Manager are listed below. For information about earlier versions, see Esri Support.

Operating system requirements

The following 32-bit and 64-bit operating systems satisfy the minimum operating system requirements.

On Linux systems, the software should not be installed on an OS (binary) that has been modified. Esri does not provide support for products installed on a developer's release of an operating system.

Operating system	Minimum OS version	Maximum OS version
Windows Server 2012 R2 Standard and Datacenter	Update: April 2014	
Windows Server 2012 Standard and Datacenter		
Windows Server 2008 R2 Standard, Enterprise, and Datacenter	SP1	
Windows Server 2008 Standard, Enterprise, and Datacenter	SP2	SP2
Windows 10 Home, Pro, and Enterprise		
Windows 8.1 Basic, Pro, and Enterprise	Update: April 2014	
Windows 7 Ultimate, Professional, and Enterprise	SP1	
Red Hat Enterprise Linux Server 6	Update 1	
Red Hat Enterprise Linux Server 5	Update 7 with libX11 patch	
SUSE Linux Enterprise Server 11	Service Pack 2	

Red Hat Enterprise Linux Server requirements

The following 32-bit packages are required.

Red Hat Enterprise Linux Server 6

- dbus-libs
- hal
- libdrm
- libgcc
- libstdc++
- libX11
- libXau
- libxcb
- libXcursor
- libXdamage
- libXext
- libXfixes
- libXrender
- libXtst
- libXxf86vm
- mesa-dri-drivers
- mesa-libGL
- mesa-libGLU
- redhat-lsb

Red Hat Enterprise Linux Server 5

- dbus-libs
- hal
- libdrm
- libgcc
- libstdc++
- libX11
- libXau
- libXcursor
- libXdamage
- libXdmcp
- libXext
- libXfixes
- libXrender
- libXtst
- libXxf86vm
- mesa-libGL
- mesa-libGLU
- redhat-lsb

SUSE Linux Enterprise Server

The following 32-bit packages are required.

SUSE Linux Enterprise Server 11

- dbus
- hal
- libdrm
- libgcc
- libstdc++
- mesa
- xorg-x11-libX11
- xorg-x11-libXau
- xorg-x11-libXext
- xorg-x11-libXfixes
- xorg-x11-libXrender
- xorg-x11-libXt

Hardware requirements

Hardware	Supported and Recommended
CPU	2.2 GHz minimum; Hyper-threading (HHT) or Multi-core recommended
Platform	x86 or x64 with SSE2 extensions
Memory/RAM	2 GB minimum
Display properties	24-bit color depth Also see Video/Graphics adapter requirements below.*
Screen resolution	1024x768 recommended minimum at normal size (96 dpi)

Disk space	53 MB Windows, 343 MB Linux
* Video/Graphics adapter	64 MB RAM minimum; 256 MB RAM or higher recommended. NVIDIA, ATI, and Intel chipsets supported.
	24-bit capable graphics accelerator
	OpenGL version 2.0 runtime minimum is required, and Shader Model 3.0 or higher is recommended.
	Be sure to use the latest available drivers.

ArcGIS Engine 10.5 system requirements

Visit Esri Support for information on earlier versions.

⚠ **Caution:** Use these system requirements as a guideline for planning purposes, as they are subject to change before the final release of ArcGIS 10.5.

ArcGIS Engine supported platforms (Windows)*

Check your computer's ability to run ArcGIS.

See the ArcGIS Engine and SDK Quick Start Guide.

Operating Systems	Minimum OS Version	Maximum OS Version
Windows 10 Home, Pro, and Enterprise (32 bit and 64 bit [EM64T])		
Windows 8.1 Basic, Pro, and Enterprise (32 bit and 64 bit [EM64T])	Update: April 2014	
Windows 7 Ultimate, Professional, and Enterprise (32 bit and 64 bit [EM64T])	SP1	
Windows Server 2012 R2 Standard and Datacenter (64 bit [EM64T])	Update: April 2014	
Windows Server 2012 Standard and Datacenter (64 bit [EM64T])		
Windows Server 2008 R2 Standard, Enterprise, and Datacenter (64 bit [EM64T])	SP1	
Windows Server 2008 Standard, Enterprise, and Datacenter (32 bit and 64 bit [EM64T])	SP2	SP2

*See the Operating system requirements and limitations section for additional requirements and information.

Hardware requirements

	Supported and Recommended
CPU Speed	2.2 GHz minimum; Hyper-threading (HHT) or Multi-core recommended
Platform	x86 or x64 with SSE2 extensions
Memory/RAM	2 GB minimum
Display properties	24-bit color depth Also see Video/Graphics adapter requirements below.*
Screen resolution	1024x768 recommended minimum at normal size (96 dpi)
Disk space (for runtime only)	1.6 GB ArcGIS Engine creates cache files when used; additional disk space may be required.
*Video/Graphics adapter	64 MB RAM minimum; 256 MB RAM or higher recommended. NVIDIA, ATI, and Intel chipsets supported. 24-bit capable graphics accelerator OpenGL version 2.0 runtime minimum is required, and Shader Model 3.0 or higher is recommended. Be sure to use the latest available drivers.

Software requirements

	Description
Python requirement for geoprocessing	ArcGIS Engine geoprocessing tools require Python 2.7.10 and Numerical Python (NumPy) 1.9.3 to be installed. If the ArcGIS Engine setup does not find either Python 2.7.10 or Numerical Python (NumPy) 1.9.3 installed on the target computer, Python 2.7.10 and Numerical Python 1.9.3 will be installed during a complete installation of ArcGIS 10.5. You can choose a Custom installation to unselect the Python feature and avoid installing it. Additionally, if the Python setup is executed during the ArcGIS Engine installation, you will be provided with the opportunity to choose its installation location. The Python installation location should not include spaces.
Microsoft .NET Framework	Microsoft .NET Framework 4.5 or later must be installed for solutions developed using the Microsoft .NET Framework.
Java	Java Runtime Environment (JRE) version 8 (32 bit) is required for solutions developed using the Java platform; Java 8 update 65 and later are supported.
Browser requirement	Microsoft Internet Explorer (minimum IE 9) must be installed prior to installing ArcGIS Engine. Internet Explorer 9, 10, and 11 are supported.

Software required to connect to a DBMS

Your client machine (for example, the one running ArcMap) will need to have the appropriate client files installed for the RDBMS you are using. These client files are available from their respective RDBMS vendors, but some are also available on My Esri as a convenience. RDBMS client files available from My Esri are IBM DB2 and Microsoft SQL Server. Client files for ALTIBASE, Dameng, IBM Informix, IBM Netezza, Oracle, SAP HANA, and Teradata are not available on My Esri and must be obtained from the RDBMS vendors. See Database clients for more information.

SDK requirements

ArcObjects SDK requirements

Operating system requirements and limitations

All platforms

Windows

Linux

ArcObjects SDK 10.5 system requirements

Visit Esri Support for information on earlier versions.

Supported Windows platforms*

Operating System(s)	Minimum Version	Maximum Version	ArcObjects SDK for the Java Platform	ArcObjects SDK for the Microsoft .NET Framework
Windows 10 Home, Pro, and Enterprise (32 bit and 64 bit [EM64T])			Supported	Supported
Windows 8.1 Basic, Pro, and Enterprise (32 bit and 64 bit [EM64T])	Update: April 2014		Supported	Supported
Windows 7 Ultimate, Professional, and Enterprise (32 bit and 64 bit [EM64T])	SP1		Supported	Supported
Windows Server 2012 R2 Standard and Datacenter (64 bit [EM64T])	Update: April 2014		Supported	Supported
Windows Server 2012 Standard and Datacenter (64 bit [EM64T])			Supported	Supported
Windows Server 2008 R2 Standard, Enterprise, and Datacenter (64 bit [EM64T])	SP1		Supported	Supported
Windows Server 2008 Standard, Enterprise, and Datacenter (32 bit and 64 bit [EM64T]) **	SP2	SP2	Supported	Not Supported **

* See Operating system requirements and limitations for additional requirements and information.

** Microsoft .NET Framework requires Visual Studio 2013 or Visual Studio 2015. These IDEs are not supported on Windows Server 2008. Refer to the following links for Microsoft Visual Studio system requirements:

- Microsoft Visual Studio 2013

- Microsoft Visual Studio 2015

Hardware requirements

Disk space requirements

ArcObjects SDK	Disk Space
ArcObjects SDK for the Java Platform	767 MB
ArcObjects SDK for the Microsoft .NET Framework	631 MB

Developer Solutions (SDK) requirements

ArcObjects SDK	Supported and Recommended IDEs	SDK Requirements
ArcObjects SDK for the Java Platform	Developer IDE plug-ins, which offer an enhanced developer experience through templates, code snippets, and project wizards, are provided with ArcObjects SDK for the Java Platform and are supported in the IDEs listed below. (Note: Visual beans users must manually install Visual Editor.) • Eclipse Neon (4.6) IDE for Java Developers • Eclipse Neon (4.6) IDE for Java EE Developers • Eclipse Mars (4.5) IDE for Java Developers • Eclipse Mars (4.5) IDE for Java EE Developers	ArcGIS Desktop, ArcGIS Engine, or ArcGIS Enterprise is required to develop with ArcObjects SDK. Java Development Kit (JDK) version 8 Update 65 or later is supported.
ArcObjects SDK for the Microsoft .NET Framework	Microsoft Visual Studio 2013 (C++, C#, VB.NET) Community, Professional, Premium, Ultimate Edition Microsoft Visual Studio 2015 (C++, C#, VB.NET) Community, Professional, Enterprise	ArcGIS Desktop, ArcGIS Engine, or ArcGIS Enterprise is required to develop with ArcObjects SDK. Microsoft .NET Framework 4.5

Operating system requirements and limitations

All platforms

Windows

Linux

ArcGIS Data Reviewer for Desktop system requirements

ArcGIS Data Reviewer for Desktop requires that the same version of ArcGIS Desktop is installed and that the license level is either Basic, Standard or Advanced.

Learn more about ArcGIS Desktop system requirements

ArcGIS Data Reviewer for Server system requirements

ArcGIS Data Reviewer for Server requires ArcGIS Server. ArcGIS Server must be installed with .NET Extension Support enabled. If you installed ArcGIS Server without .NET Extension support, you must install the correct Microsoft .NET Framework version and then enable it by modifying your ArcGIS Server installation.

For more information about installing ArcGIS Server with .NET Extension Support, see ArcGIS Server system requirements.

System requirements for ArcGIS Data Reviewer for Server match those of ArcGIS Server.

Learn more about ArcGIS Server system requirements

ArcGIS Workflow Manager for Desktop and Server system requirements

Minimum System Requirements—Desktop

Your computer must meet minimum system requirements to install ArcGIS Workflow Manager for Desktop.

ArcGIS Workflow Manager for Desktop requires the same release of ArcGIS Desktop with the Desktop Standard or Desktop Advanced license level installed. ArcGIS Workflow Manager for Desktop has the same system requirements as ArcGIS Desktop.

Learn more about ArcGIS Desktop system requirements

Database requirement

The Workflow Manager system requires an enterprise geodatabase to support the central jobs repository. Any of the enterprise RDBMS types supported by ArcGIS can be used.

Additional guidance on configuring the repository is included in the user guide installed with ArcGIS Workflow Manager.

Minimum system requirements—Server

Your computer must meet these minimum system requirements to install ArcGIS Workflow Manager for Server.

ArcGIS Workflow Manager for Server requires the same release of ArcGIS Server with the ArcGIS Server Standard or ArcGIS Server Advanced license level installed.

ArcGIS Workflow Manager for Server has the same system requirements as ArcGIS Server.

Learn more about ArcGIS Server system requirements

Note: ArcGIS Workflow Manager for Server is supported for the Windows operating system only. It is not supported for the Linux operating system.

Microsoft .NET Framework 4.5 requirement

Before many Esri products can be installed, they require Microsoft .NET Framework 4.5 to be installed.

Download Microsoft .NET Framework 4.5

The following links direct you to the Microsoft Download page where you can download this requirement.

English

Simplified Chinese

French

German

Japanese

Spanish

Operating system limitations—all platforms

When running in a 64-bit environment, ArcGIS Desktop, ArcGIS Engine, andArcReader run as 32-bit applications.

Operating system limitations - Windows

- See Knowledge Base Technical Article 45362 on Windows 10 known issues

- ArcGIS Developer Help System on Windows 7 requires Adobe Reader 9.1.2 or later. See Knowledge Base Technical Article 37244 for more details.

Operating system limitations - Linux

ArcGIS Engine-related products are only supported on Linux CPUs that adhere to the x86 architecture with supported Linux releases.

It is a requirement that the OS (binary) not be modified. Esri does not support a developer's release of any operating system.

Red Hat Enterprise Linux Server 5

The Red Hat Enterprise Linux Server 5 Update 7 (32-bit and 64-bit) with the libX11-1.0.3-11 patch minimum will be supported as long as it is from Red Hat without any modification to the kernel/glibc version.

The following package groups are required:

- The Base System > X Window System - all package groups
- The Base System > Legacy Software Support group
- The Development > Development Tools - all package groups
- The Development > Legacy Software Development - all package groups
- The Development > X Software Development group - all package groups

The following packages are required**:

- cairo
- compat-gcc-34
- compat-libstdc++-33
- compat-libstdc++-296
- compat-libf2c-34 (Fortran 77 compatibility)
- compat-libgcc-296
- compat-openldap-2.3
- freeglut -2.4
- freeglut-devel-2.4
- gmp-4 (GNU arbitrary precision library)
- glibc 2.5 (GNU C Library)
- gkt2-2.10
- gtk2-devel-2.10
- libgfortran-4.4
- libidn
- libXScrnSaver
- libSM
- libstdc++-4.1
- libXp
- libXp-devel
- libXss.so.1
- libXtst
- libXtst-devel
- libX11-devel-1.0.3-11.el5_7. 1
- mesa-libGL-6.5*
- mesa-libGLU-6.5*
- openldap (Openldap package)
- openssl (Openssl package)

- readline (Readline Library)
- redhat-lsb-4.0-2.1.4.el5 (The Linux Standard Base (LSB) libraries)
- Xorg-x11-libs

Note:
- When listed, package versions must be at level stated or higher.
- ** For 64-bit OS support, if 32-bit (i386) versions of the above packages are available, they must be installed prior to installing ArcGIS.

Red Hat Enterprise Linux Server 6

The Red Hat Enterprise Linux Server 6 Update 1 minimum (32-bit and 64-bit) will be supported as long as it is from Red Hat without any modification to the kernel/glibc version.

The following package groups are required:

- The Base System > X Window System - all package groups
- The Compatibility Libraries - all package groups
- The Development Tools - all package groups**
- The Development > X Software Development group - all package groups

The following packages are required***:

- cairo
- compat-db43 (i686) (compat-db43-4.3.29-15.el6.i686) Berkley DB database
- compat-gcc-34
- compat-libf2c-34 (Fortran 77 compatibility)
- compat-libstdc++-296
- compat-libstdc++-33
- compat-openldap
- compat-readline-5 (i686) (readline-6.0-4.el6.i686)
- freeglut -2.4
- freeglut-devel-2.4
- fontconfig
- gmp-4 (GNU arbitrary precision library)
- glibc 2.12 (GNU libc Libraries)
- gtk2-2.10
- gtk2-devel-2.10
- gtk2-engines-2.18
- gtk2-devel-2.18
- libcanberra-0.22-1.el6
- libcanberra-devel-0.22-1.el6
- libcanberra-gtk2-0.22-1
- libgcc
- libgfortran-4.4*
- libidn
- libstdc++
- libSM
- libXp
- libXp-devel

- libXScrnSaver-1.2.0-1.el6
- libXss.so.1
- libXtst
- libXtst-devel
- mesa-libGL-6.5*
- mesa-libGL-devel
- mesa-libGLU-6.5*
- openldap
- openssl
- readline (The Readline library)
- redhat-lsb-4.0-3.el6 (The Linux Standard Base (LSB) libraries)
- Xorg-x11-libs

📑 **Note:**
- When listed, package versions must be at level stated or higher.
- ** The user should confirm that optional packages (especially compat-gcc* and gcc*) are installed after installing the group.
- *** For 64-bit OS support, if 32-bit (i686) versions of the above packages are available, they must be installed prior to installing ArcGIS.

SuSE Linux Enterprise Server 11

The Linux patches for SuSE Linux Enterprise Server Update 2 minimum (32-bit and 64-bit) will be supported as long as they are from SuSE Linux without modification to the kernel/glibc version.

The following groups are required**:

From Development > Languages > Fortran group
- libg2c33
- libgfortran43*

From Development > Libraries > X11 group
- cairo
- cairo-devel
- gtk-devel 2.18
- xorg-x11-devel
- xorg-x11-libX11-devel

From the System/Libraries group
- compat-dapl
- fontconfig
- freeglut
- freeglut-devel
- glibc 2 (GNU C Library)
- gmp (GNU MP Library)
- gtk2 2.18
- libcanberra
- libidn (IDN support)
- libreadline5 (Readline Library)
- libstdc++33 (C++ shared Library)
- Mesa

- MesaGLw

- openmotif

- openmotif22-libs

- xorg-x11-libSM

- xorg-x11-libX11

- xorg-X11-libXp

- xorg-X11-libXp-devel

- xorg-X11-libXt

- xorg-X11-libXt-devel

- zlib

From the System/X11/Servers/XF86_4 group

- xorg-x11-server

- openldap2-client (OpenLDAP Client Libraries)

From the Productivity/Networking/LDAP/Clients group

- libldap-2 (OpenLDAP Client Libraries)

- xorg-x11-server-extra (includes Xvfb)

The following additional software packages are required**:

- compat-openssl

- libopenssl

- lsb-release (Linux Standard Base Release Tools)

- openssl (SSL Security packages)

- xscreensaver

Note:
- When listed, package versions must be at level stated or higher.

- ** For 64-bit OS support, if 32-bit versions of the above packages are available, they must be installed prior to installing ArcGIS.