AP ENPS

Hardware and Software Requirements

This section lists the minimum hardware and software for servers, client workstations, prompters, and virtual machines. Keep in mind the following notes about these requirements:

- You should consult ENPS Support before you purchase new hardware.

- Server requirements will vary based on the number of users at your site and other factors. You may need to add additional servers as your organization grows.

- All hardware must have the appropriate drivers.

> **NOTE:** The physical and virtual server requirements in this guide will vary based on the number of users at your site and other factors. You may also need additional servers as your organization grows. Performance and speed will be enhanced if your computer's processor, memory, and available disk space exceed the minimum requirements.

Server Requirements

Hardware Server Requirements

The following table lists physical server requirements. Refer to *Virtual Server Requirements* if setting up a virtual server. These requirements apply to your ENPS Primary and Buddy Servers and the servers that will be running NOMWebService:

	Minimum Server Requirements	Recommended Server Specs
CPU	Two physical processors with more than 4 cores each. A multi-core processor does not take the place of multiple processors.	Each server must have at least two modern processors (within last 3 years) with at least 4 cores. A multi-core processor does not take the place of multiple processors.
RAM	16 GB	32 GB or more
Hard Disk Storage	A RAID array yielding 300 GB of usable space. RAID 1, 5 or 10 are recommended. SCSI, SAS or SSD drives are supported.	A RAID array yielding 500 GB of usable space. RAID 1, 5 or 10 are recommended. A second RAID array has potential benefits but is not required. SCSI, SAS or SSD drives are supported.

	Minimum Server Requirements	Recommended Server Specs
Operating System	Windows Server 2012, Windows Server 2012 R2, Windows Server 2016 (standard or data center), Windows Server 2019 (standard or data center), Windows Server 2022 (standard or data center) The operating system you are using must have the latest Microsoft service packs and security patches installed for your servers. Microsoft .NET Framework 4.7.2 or higher must be installed.	
Wire Ingestion	If your server will be ingesting AP WebFeeds, FTP-delivered wire feeds or any Social Media feeds, an Internet connection is required. For serial-data wire feeds, a multi-port serial card such as Comtrol Rocketport or Digi serial interface adapters with one port for each incoming serial port-based wire feed is required.	If your server will be ingesting AP WebFeeds, FTP-delivered wire feeds or any Social Media feeds, an Internet connection is required. For serial-data wire feed, Internal (PCI or PCI Express) multiport serial cards are recommended. USB connectors are not recommended.
Network Interface Card	100 megabit or greater bandwidth in a Windows networking environment.	100 megabit or greater bandwidth in a Windows networking environment.

	Minimum Server Requirements	Recommended Server Specs
Backup System		A network-based or local backup system is strongly recommended.
Additional Software	Ensure that your discs are being properly defragmented, either via the Windows task scheduler or via third-party software like Diskeeper. Disable real-time scanning for any installed antivirus software. Refer to Antivirus Software Recommendations section of the ENPS Operations Guide for more information.	Ensure that your discs are being properly defragmented, either via the Windows task scheduler or via third-party software like Diskeeper. Disable real-time scanning for any installed antivirus software. Refer to Antivirus Software Recommendations section of the ENPS Operations Guide for more information.

Software Requirements

Make sure you have the following software on your server:

- *Latest version of Amazon Corretto 8 OpenJDK.* Install on all ENPS 9.0 servers.

Virtual Server Requirements

Keep the following requirements in mind before you install an ENPS server on a virtual machine:

- The Associated Press does not support third party software such as VMWare. You should contact the virtual machine vendor for support issues related to their software.
- You are solely responsible for meeting the virtual machine's requirements for hardware, networking, wire ingestion, and integration.
- There should be a minimum of 2 GB of RAM available to the host machine after the virtual machine is mounted.

- Make sure that anti-virus software on the host machine does not scan virtual machine files. Just like a physical ENPS server, an ENPS server in a virtual machine environment should not run anti-virus software with real-time scanning.
- Running an ENPS Primary server and its corresponding Buddy server as virtual ENPS servers on the same machine simultaneously is not an acceptable configuration.

ENPS Primary and Buddy Servers

	Minimum Server Requirements	Recommended Server Specs
CPU	Two physical processors with more than 4 cores each.	Each server must have at least two modern processors (within last 3 years) with at least 4 cores. A multi-core processor does not take the place of multiple processors.
RAM	16 GB	32 GB or more
Hard Disk Storage & RAID Setup	Two (2) Virtual Drives (.vhd files): VHD1: 200 GB Windows Operating System 100 GB & Indexes Solr 100 GB. VHD2: ENPS data 100 GB. This provides the option of upgrading the operating system while retaining the ENPS data.	Three (3) Virtual Drives (.vhd files): VHD1: Windows OS 100 GB. VHD2: E: Solr index 100 GB. VHD3: ENPS data 200 GB. This provides the option of upgrading the operating system while retaining the ENPS data.

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Operating System	Windows Server 2012, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019 and Windows Server 2022 The operating system you are using must have the latest Microsoft updates installed. Microsoft .NET Framework 4.7.2 at a minimum must be installed.	Windows Server 2012, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019 and Windows Server 2022 The operating system you are using must have the latest Microsoft updates installed. Microsoft .NET Framework 4.7.2 at a minimum must be installed.
Wire Ingestion	If your server will be ingesting AP WebFeeds or any Social Media feeds, an Internet connection is required. For serially delivered wires, you will need a virtual serial port enabled to deliver content into ENPS.	If your server will be ingesting AP WebFeeds or any Social Media feeds, an Internet connection is required. For serially delivered wires, you will need a virtual serial port enabled to deliver content into ENPS.
Network Interface Card	100 megabit or greater bandwidth in a Windows networking environment.	100 megabit or greater bandwidth in a Windows networking environment.
Backup System	We recommend a networked backup solution to either take a regular snapshot of the server or to incrementally backup the data.	We recommend a networked backup solution to either take a regular snapshot of the server or to incrementally backup the data.

Additional Software	Ensure that your discs are being properly defragmented, either via the Windows task scheduler or via third-party software like Diskeeper. Disable real-time scanning for any installed antivirus software. Refer to Antivirus Software Recommendations section of the ENPS Operations Guide for more information.	Ensure that your discs are being properly defragmented, either via the Windows task scheduler or via third-party software like Diskeeper. Disable real-time scanning for any installed antivirus software. Refer to Antivirus Software Recommendations section of the ENPS Operations Guide for more information.

ENPS Mobile and Apps Servers (Physical or Virtual)

- CPU: Single modern CPU with a minimum of 4 cores

- RAM: Minimum of 16 GB

- C: 120 GB

For maximum redundancy, the Mobile/Apps servers may be configured behind a load balancer.

Client Requirements

The following table lists minimum hardware and software requirements for the client workstation:

	Minimum Client Requirements	Recommended Client Specs
CPU	Intel Core i3 processor	Intel Core i5 or better Faster workstations are recommended for optimal plug-in usage.
RAM	We recommend a minimum of 8 GB of RAM for ENPS. However, for workstations running other components, we recommend 16 GB of RAM for improved performance	

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	Minimum Client Requirements	Recommended Client Specs
Hard Disk	25 GB (minimum)	80 GB or more
Supported Operating Systems	• Windows 8.1 Enterprise • Windows 10 Professional or Enterprise NOTE: Home editions of any Windows operating system are *not* supported. The operating system must have the latest Windows updates from Microsoft installed. Microsoft .NET Framework 4.6.2 or higher must be installed. The workstation must have a Server Client Access License and it must be a member of your site's Windows domain.	
Video Display	1024x768 is the minimum supported display resolution	Display resolution of 1366x768 or better is recommended

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	Minimum Client Requirements	Recommended Client Specs
Browser		The most current version of Internet Explorer is recommended.
Media Player		VLC Media Player which is available for free from http://www.videolan.org/vlc/index.html
Network Interface Card	100 megabit or greater bandwidth in a Windows networking environment.	100 megabit or greater bandwidth in a Windows networking environment. For multimedia plug-ins optimization and configuration please consult with the vendor for their networking requirements.
Additional Hardware	Audio card and speakers	

ENPS Client on a Mac-based Computer

The full ENPS client application will run on a Mac when combined with the following third party applications:
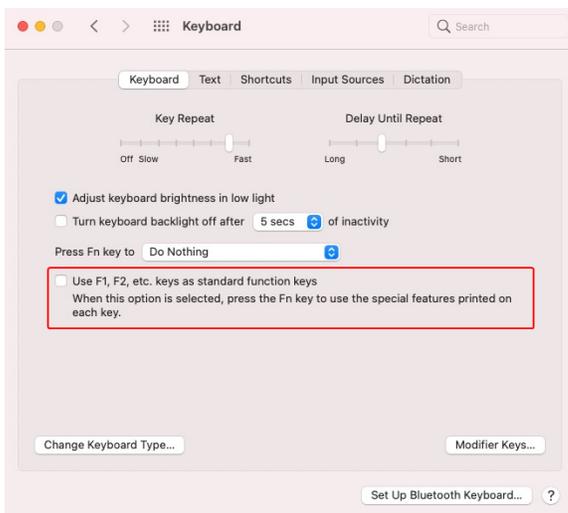
- Parallels
- Fusion
- Hosted Environments (ex: Remote Desktop, Microsoft RemoteApp, AWS AppStream)
- VNC
- Boot Camp
- Windows on Apple Hardware

In these cases, support is provided for the ENPS client as it is run within the Microsoft Windows Operating System. Specific technologies required to bring the Windows Operating System and ENPS client UI to the Apple desktop are provided by third parties. Third party technologies bring with them specific feature sets. As with Windows System Administrators, Apple System Administrators should be familiar with the Apple OS as well as specific third party applications and features.

A list of recommendations can be provided on how to best configure many of these third party technologies to work with the ENPS client, but direct support is not provided for third party software.

Any Mac workstation that is to be used to host an ENPS client should not only meet the minimum specifications of the software being used to host the environment in which the ENPS client is run, but the resources allocated to that environment should meet or exceed the normal ENPS client minimum specifications.

Once you have configured your Mac workstation to run ENPS, it is recommended that you change the default function key behavior by adjusting the keyboard setting and enable **Use F1, F2, etc. keys as standard function keys** to use your ENPS Macros:

> **NOTE:** Once this setting is enabled it changes the behavior for all the Mac system function keys at the top of a Mac keyboard. For example, if you are accustomed to using F11 to lower the volume, you will need to press the Function (Fn) key + F11 to lower the volume.

> **NOTE:** If you choose to not change the default Function key behavior, you can hold the Fn key when pressing a function key. For example, pressing Fn + F12 will perform the action assigned to the F12 key, instead of raising the volume.

Prompter Requirements

Refer to your prompter or captioning manual for information about the hardware requirements for your setup. You can use the following requirements as general guidelines:

- *CPU*. Intel i3 core or greater is recommended.
- *Supported Operating Systems*. Windows 10 Professional is recommended. Home editions are *not* supported. The operating system must be installed with the latest Windows updates from Microsoft. The workstation must have a Server Client Access License and it must be a member of your site's Windows domain.
- *Prompter*. AP offers optional Autoscript WinPlus Lite prompter software that you may install. Sites will often use this as a remote or backup prompter.
- *RAM*. 2 GB or more is recommended.
- *Video Card Memory*. 128 MB minimum.
- *Hard Disk*. 100 GB.
- *Network Interface Card*. 100 megabit or greater bandwidth in a Windows networking environment. The card must support TCP/IP in a Windows networking environment.
- *Other Hardware*. VGA10-to-NTSC converter such as Black Box VGA to Video Portable Pro Videoing Inc. Print-To-Video Standard Mouse and/or Trackball for controlling the prompter.