

AP ENPS

Hardware and Software Requirements

This section lists the minimum hardware and software for ENPS servers, client workstations, 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.
- Performance and speed will be enhanced if your computer's processor, memory, and available disk space exceed the minimum requirements.
- All hardware must have the appropriate drivers.

Server Requirements

Hardware and Software 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	<p>Two physical processors with more than 4 cores each.</p> <p>A multi-core processor does not take the place of multiple processors.</p>	<p>Each server must have at least two modern processors (within last 3 years) with at least 4 cores.</p> <p>A multi-core processor does not take the place of multiple processors.</p>
RAM	32 GB	32GB is sufficient for many sites, but more may be needed to ensure optimal performance at sites with larger amounts of archives.
Hard Disk Storage	<p>A RAID array yielding 300 GB of usable space. RAID 1, 5 or 10 are recommended.</p> <p>SCSI, SAS and SSD drives are supported.</p>	<p>A RAID array yielding 500 GB of usable space. RAID 1, 5 or 10 are recommended.</p> <p>A second RAID array has potential benefits but is not required.</p> <p>SSD drives are preferred.</p>

	Minimum Server Requirements	Recommended Server Specs
Operating System	<p>Windows Server 2012, Windows Server 2012 R2, Windows Server 2016 (standard or data center), Windows Server 2019 (standard or data center) or Windows Server 2022 (standard or data center)</p> <p>The operating system you are using must have the latest Microsoft service packs and security patches installed for your servers.</p> <p>Microsoft .NET Framework 4.7.2 or higher must be installed.</p>	
Wire Ingestion	<p>If your server will be ingesting content via the AP Media API, FTP-delivered wire feeds or any Social Media feeds, an Internet connection is required.</p>	
Network Interface Card	<p>100 megabit or greater bandwidth in a Windows networking environment.</p>	
Backup System		<p>A network-based or local backup system is strongly recommended.</p>

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

Virtual Server Requirements

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

- The Associated Press does not provide support for 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	Each ENPS server must have at least two processors with 4 cores each, for a total of 8 cores.	Two processors with more than 4 cores each.
RAM	32 GB	32GB is sufficient for many sites, but more memory may be needed to ensure optimal performance at sites with larger amounts of archives.
Hard Disk Storage & RAID Setup	<p>Two (2) Virtual Drives (.vhd files):</p> <p>VHD1: 300GB Windows Operating System 100GB & Indexes.</p> <p>VHD2: ENPS data 200GB.</p> <p>This provides the option of upgrading the operating system while retaining the ENPS data.</p>	<p>Four (4) Virtual Drives (.vhd files):</p> <p>VHD1: Windows OS 100GB.</p> <p>VHD2: E: Solr index 100 GB.</p> <p>VHD3: ENPS data 200GB.</p> <p>This provides the option of upgrading the operating system while retaining the ENPS data. Additionally it separates the indexes from the ENPS Data and each other, for maintenance purposes.</p>

	Minimum Server Requirements	Recommended Server Specs
Operating System	<p>Windows Server 2012, Windows Server 2012 R2, Windows Server 2016, and Windows Server 2019</p> <p>The operating system you are using must have the latest Microsoft service packs and security patches installed.</p> <p>Microsoft .NET Framework 4.7.2 or higher must be installed.</p>	
Wire Ingestion	<p>If your server will be ingesting content via the AP Media API or any Social Media feeds, an Internet connection is required.</p>	
Network Interface Card	<p>10/100BASE-T minimum; the card must support TCP/IP in a Windows networking environment.</p>	
Backup System	<p>We recommend a networked backup solution to either take a regular snapshot of the server or to incrementally backup the data.</p>	
Additional Software	<p>Ensure that your discs are being properly defragmented, either via the Windows task scheduler or via third-party software like Diskeeper.</p>	

Software Requirements

Make sure you have the following software on your server:

- **Latest version of Amazon Corretto 11 OpenJDK.** Install on all ENPS 9.x servers.
- **Latest version of Google Chrome.** Install on all ENPS 9.x servers.
- **Latest version of Internet Explorer.** Install on all ENPS 9.x servers.

ENPS Mobile and Apps Servers (Physical or Virtual)

- CPU: 2x8 core
- RAM: 32 GB
- C: 120 GB
- If running as a virtual machine, all storage can be on one VHD file.

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.	
Hard Disk	25 GB (minimum)	80 GB or more

	Minimum Client Requirements	Recommended Client Specs
Supported Operating Systems	<ul style="list-style-type: none"> • Windows 10 Professional or Enterprise • Windows 11 Professional or Enterprise <div style="border: 1px solid #0070C0; padding: 5px; margin: 10px 0;"> <p>NOTE: Home editions of any Windows operating system are <i>not</i> supported.</p> </div> <p>The operating system must have the latest Windows updates from Microsoft installed.</p> <p>Microsoft .NET Framework 4.6.2 or higher must be installed.</p> <p>The workstation must have a Server Client Access License and it must be a member of your site's Windows domain.</p>	
Video Display	1024x768 is the minimum supported display resolution	Display resolution of 1366x768 or better is recommended
Browser	The most current version of Internet Explorer	
Media Player	VLC Media Player which is available for free from http://www.videolan.org/vlc/index.html	

	Minimum Client Requirements	Recommended Client Specs
Network Interface Card	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

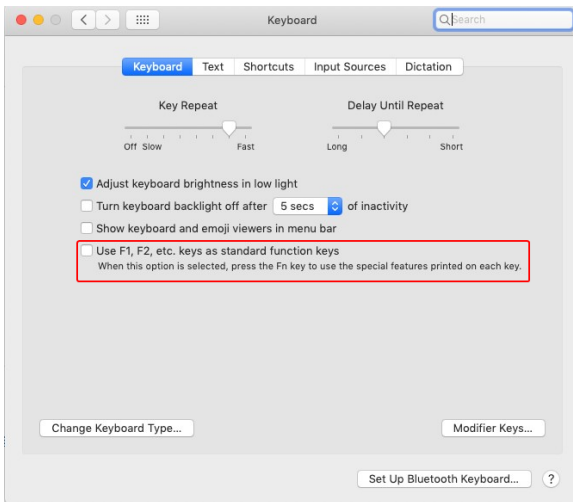
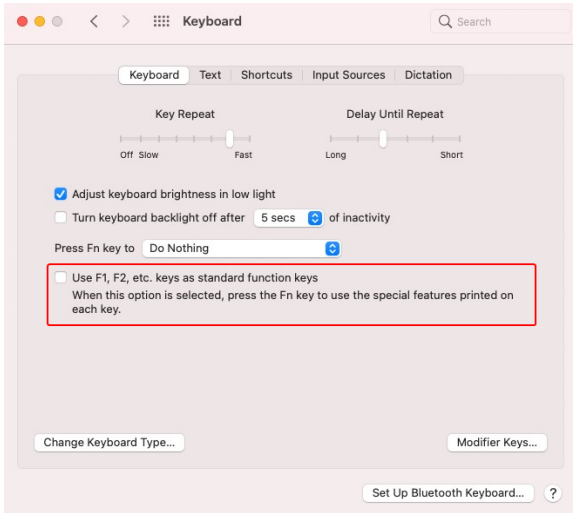
In these cases, support is provided for the ENPS client as it is run within the Microsoft Windows Operating System. Specific technologies required to bring the Windows Operating System and ENPS client UI to the Apple desktop are provided by third parties. Third party technologies bring with them specific 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.