

AP ENPS

Hardware and Software requirements

This document 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.

Server Requirements

The following table lists server requirements. 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	Each server must have at least two Intel Xeon 2 GHz processors. Having a dual-core processor does not take the place of multiple processors.	At least two Intel Xeon processor E5-2400 or E5-2400 v2 or better.
RAM	32-bit servers require 4 GB. 64-bit servers require a minimum of 8 GB.	32-bit servers: 6 GB 64-bit servers: 16 GB or more.
Hard Disk Storage	Two (2) RAID's are required for ENPS server operations in any environment. Common configurations include: RAID-5: 3 x 60 GB 10k RPM+ SCSI or SAS drives or	For configuration questions or if you would like to set up a different RAID configuration than what is listed, please refer to the Hard Drives section below or contact ENPS

	RAID-1: 2 x 120 GB 10k RPM+ SCSI or SAS drives. This must be a hardware-based RAID; software based RAIDs will not work.	Support.
64-bit	Two (2) RAIDs, each of which should yield a minimum of 120GB of space, including the operating system.	Three (3) RAIDs – one for the operating system, one for the Index partition, and one for the remaining ENPS partitions. For more details on recommended RAID configurations, please see the Hard Drives section below.
32-bit	Two (2) RAIDs, each of which should yield a minimum of 120GB of space, including the operating system	For more details on recommended RAID configurations, please see the Hard Drives section below.
Operating System	Windows Server 2008 (32-bit) or Windows Server 2008 R2 (64-bit), Windows Server 2012 (64-bit), and Windows Server 2012 R2 (64-bit). The operating system you are using must have the latest Microsoft service packs and security patches installed. Microsoft .NET Framework 4.X must be installed.	
Wire Ingestion	If your server will be ingesting AP WebFeeds or any Social Media feeds, an Internet connection is required. Multi-port serial card such as Control Rocketport or Digi Board with one port for each	PCI or PCI Express connectors for the multi-port serial cards are recommended. USB connectors are not recommended.

	incoming serial port-based wire feed.	
Network Interface Card	10/100BASE-T minimum; the card must support TCP/IP in a Windows networking environment.	10/100/1000BASE-T recommended.
Backup System		A network-based or local backup system is strongly recommended.
Additional Software	<p>Microsoft Internet Explorer 7.0 or later.</p> <p>A defragmentation tool with scheduling capabilities is required - Diskkeeper Server is recommended.</p>	<p>A tool to provide remote access to server such as Microsoft Windows Remote Desktop or some other 3rd party software (as preferred).</p> <p>Adobe IFilter 6.0 to index PDF files. This tool is available as a free download from the Adobe website at http://www.adobe.com/support/downloads/detail.jsp?ftpID=2611</p> <p>Real-time antivirus software is <i>not</i> recommended. Refer to Antivirus Software Recommendations for more information.</p>

Hard Drives

On 64-bit operating systems, a minimum of 6 hard drives (SCSI, SAS, SSD or similar enterprise-level storage devices) are required for best performance; 8 drives allow for highest availability. 3.5" platter hard drives are preferred as they have been found to provide slightly better performance compared to 2.5" drives. SSD drives have not shown to offer significant performance increases to justify their increased cost at present, although this may change. Sites using virtual servers should maintain the same drive configurations, swapping a virtual hard drive (VHD) for each physical RAID listed below.

Software RAID is not supported or recommended.

Best Performance Configuration for 64-bit systems – 3 RAIDS (min. 6 drives)

RAID 1	RAID 1	RAID 1 or RAID 5 or RAID 10
Operating System (C:\)	Index (E:\)	ENPS Work (F:, G:, H:\)

Normal, Acceptable Configuration for 64-bit systems – 2 RAIDS (min. 4 drives)

RAID 1	RAID 1 or RAID 5 or RAID 10	
Operating System (C:\)	Index (E:\)	ENPS Work (F:, G:, H:\)

Recommended for 32-bit systems, Not Recommended for 64-bit systems

RAID 1	RAID 1 or RAID 5 or RAID 10
Operating System (C:\)	ENPS Work and Index (E:, F:, G:, H:\)

NOTE: The recommendations above mean that sites which have previously run ENPS with only C: (system) and D: (index and ENPS data) drives in the past, should change their drive configurations to include at least 3 drives – system, index and ENPS data – when building 64-bit servers for use with ENPS. For acceptable performance, the index should be on its own partition; for optimal performance it should also be on its own RAID array. Having the index and ENPS data on the same partition can slow down access to ENPS data during times of heavy indexer activity.

Client Requirements

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

	Minimum Client Requirements	Recommended Client Specs
CPU	Intel Pentium G2030, 3GHz minimum	Intel Core i5 or better Faster workstations are recommended for optimal plug-in usage.
Supported Operating Systems	<ul style="list-style-type: none">• Windows Vista Professional• Windows 7 Professional, both 32-bit and 64-bit operating systems are supported• Windows 8/8.1 Enterprise• Windows 10 Professional or Enterprise <p>NOTE: Home editions are <u>not</u> supported.</p> <p>The operating system must have the latest Service Packs from Microsoft installed.</p> <p>Microsoft .NET Framework 4.5.1 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>	
RAM	4 GB minimum	8 GB recommended
Video Card	1024x768 is the minimum supported display resolution	Display resolution of 1366x768 or better is recommended

Hard Disk	25 GB (minimum)	80 GB or more
Browser	Microsoft Internet Explorer 7.0 or later.	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	10/100BASE-T minimum. The card must support TCP/IP in a Windows networking environment.	10/100/1000BASE-T recommended. 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:

- Citrix
- Parallels
- Fusion
- Remote Desktop
- VNC
- Boot Camp
- Windows on Apple Hardware

In these cases, support is provided for the ENPS application as it is run within the Microsoft Windows Operating System. Specific technologies required to bring the Windows Operating System and ENPS Application 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 ENPS, 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 ENPS is run, but the resources allocated to that environment should meet or exceed the normal ENPS Client minimum specifications.

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:

Prompter/Captioning Workstation Requirements	
CPU	Pentium IV 1 GHz or faster is recommended
Supported Operating Systems	Windows XP Professional, Windows Vista Professional or Windows 7 Professional. Home editions are not supported. The operating system must be installed with the latest Service Pack from Microsoft. The workstation must have a Server Client Access License and it must be a member of your site's Windows domain.
Prompter	It is recommended that you use +WinPlus+ as the primary or backup prompter. The +WinPlus+ prompter is an ISA/PCI hardware board with NTSC/PAL outputs. It comes with a hand controller and can be genlocked.
RAM	1 GB minimum; 2 GB or more is recommended
Video Card Memory	128 MB minimum
Hard Disk	2 GB
Network Interface Card	10/100BASE-T minimum; 10/100/1000BASE-T recommended. The card must support TCP/IP in a Windows networking environment.
Other Hardware	Serial (RS-232) port for optional hand controller. 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.

Virtual Machines

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. ENPS servers on virtual machines require the same operating system, memory, storage, and processing power as [physical ENPS servers](#).
- 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 antivirus software with real-time scanning. Refer to [Antivirus Recommendations](#) for more information.
- Running an ENPS Primary server and its corresponding Buddy server as virtual ENPS servers on the same machine simultaneously is not an acceptable configuration.