Banner Document Management Suite

Hardware and Software Requirements

December 2008

Release 8.1

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Revision History Log

Publication Date	Summary
December 2008	New version that supports Banner Document Management Suite 8.1 software

Notice of Rights

Think before you print.

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Solutions Description

Banner Document Management Suite (BDMS) is the baseline Banner module for imaging and document management.

SunGard Higher Education and EMC Documentum, a division of EMC Corporation, have formed a partnership to provide an integrated document management and imaging solution for Banner based upon the ApplicationXtender Content Management platform. SunGard Higher Education is the leading provider of technology and business solutions for higher education. EMC Documentum is a leading provider of mission-critical content and storage management solutions for a wide variety of markets. SunGard Higher Education has partnered with these proven leaders to create, service, and support the ApplicationXtender suite of software products as an integrated element within SunGard Higher Education's own Banner solutions.

Banner Document Management Suite integrates the ApplicationXtender suite with Banner administrative solutions to provide seamless availability of imaging, document management, enterprise workflow, output management, portable document collections, and storage management options for both Banner and non-Banner users.

Purpose of the Document

The purpose of this document is to provide an overview of the various required and optional components of Banner Document Management Suite, as well as to provide hardware and software guidelines for each component.

The information contained in this document is compiled from EMC Documentum and other partner sources. Version-specific updates may be available from SunGard Higher Education partners.

The guidelines listed for "Required Components" are for ApplicationXtender version 5.40+ components. For previous versions of ApplicationXtender and its components, please refer to the "Hardware and Software Requirements Release 8.0".

This document separates these components into two sections.

> Section 1 - Hardware and Software Guidelines for the Required Components
>
> Section 2 - Hardware and Software Guidelines for the Optional Components

Section 1 - Hardware and Software Guidelines for the Required Components

ApplicationXtender database components and Banner integration components are stored and/or run within the Banner database in Oracle. BDMS is delivered in a model similar to other Banner modules, where database objects, tables, and packages are contained within a schema specific to the BDMS module.

ApplicationXtender minimum infrastructure (no Web) is the Banner database, file storage, and a Windows system to run the License Server service. More infrastructure components may be desired for scalability or for other functions such as web access, full-text indexing, and output capture.

The following guidelines listed are specifically for ApplicationXtender components version 5.40+.

Note: For previous versions of ApplicationXtender and its components, please refer to the "Hardware and Software Requirements Release 8.0".

ApplicationXtender (AX)

Processor

Pentium PC (faster processor increases AppXtender Document Manager productivity).

Available Hard Disk Space

The hard disk space required varies, depending upon the workstation type and third-party components needed. For instance, an AX Administrator workstation installation requires up to 455 MB. AX also needs additional space on the drive to store temporary files during the installation process.

Memory

Retrieval stations: 64 MB RAM minimum

Scanning Station: Windows XP Professional and Windows 2003 Server must have at least 128 MB of RAM.

Operating System

Windows XP Professional SP2

AppXtender 5.40 GA:

Windows 2003 Server:

- o R2 Standard or Enterprise Edition
- o SP2 Standard, Enterprise, or Web Edition

AppXtender 5.40 SP1:

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Windows 2003 Server:

> - o SP2
> - o R2 SP2

Windows Vista

Note: Novell networking is supported as long as the NetWare client is installed on any workstations with AX components.

Required Software

EMC License Server 5.40

MDAC 2.8

Scanner drivers may be included with the scanner or can be obtained from the scanner manufacturer. In addition to AX scanner support files, a scanner driver specific to the scanner to be used must be installed.

AX Administrator

Processor

The minimum CPU required to support the operating system.

Available Hard Disk Space

Up to 40 MB, depending on the operating system.

Memory

128 MB of RAM or the minimum RAM required to support the operating system, whichever is higher.

Operating System

AX Administrator is supported on the following operating systems:

- o Windows XP Professional SP2
- o AppXtender 5.40 GA:
  - ▪ Windows 2003 Server

    R2 Standard or Enterprise Edition

    SP2 Standard, Enterprise, or Web Edition

- o AppXtender 5.40 SP1:
  - ▪ Windows 2003 Server:

    SP2

R2 SP2

- Windows Vista

Additional Information

If you intend to upgrade a database or start using a new one, AX Administrator requires the Application Generator component of AX.

Microsoft .NET Framework 2.0

Network access to EMC License Server 5.40

License Server

All workstations accessing AX or Web servers running AX Web Access must have network access to the computer where the License Server is located.

When you install the License Server, you actually install two services:

EMC Electronic Licensing Management (ELM) License Service

ApplicationXtender License Service

Operating System

EMC License Service is supported on the following operating systems:

- o License Server 5.40 GA:
  - Windows 2003 Server

  - R2 Standard or Enterprise Edition
  - SP2 Standard, Enterprise, or Web Edition

- o License Server 5.40 SP1:
  - Windows 2003 Server:

    SP2

    R2 SP2

Note: If you are using DiskXtender with ApplicationXtender, you still need to use the License Server provided with DiskXtender.

AX Web Access .Net (WX .NET)

Processor

(Minimum): - Pentium 4, 2 GHZ (or the minimum CPU required to run the operating system, whichever is higher)

(Recommended) - Pentium 4 HT, 3 GHZ or higher

Dual or quad Intel Xeon processors recommended for high-volume deployments

Available Hard Disk Space

170 MB (for WX Server, Component Registration, IE Web Controls, and WX Configuration Service)

Cache Disk Space

20 GB of free space should be reserved on the computer where the WX Server session cache resides; if the session cache is located on the WX Server, add 20GB to the amount of required available hard disk space.

Speed

Use of fast SCSI hard drives with access times less than 0.5 ms are recommended for best performance.

Memory

(Minimum) - 1 GB

(Recommended) - x 2 GB or higher

Operating System

Web Access .Net 5.40 GA:

Windows 2003 Server:

- o R2 Standard or Enterprise Edition
- o SP2 Standard, Enterprise Edition, or Web Edition

Web Access .Net 5.40 SP1:

Windows 2003 Server:

- o SP2
- o R2 SP2

Additional Required Software

Internet Information Server 6.0

SMTP (required if you intend to use AppXtender Web electronic mail functionality - must have relay enabled for the AppXtender Web Server)

Windows Indexing Service (optional - allows for client-side full-text searches of your web site)

Windows Script Debugger (optional - assists in troubleshooting and debugging)

Note: The following are installed automatically during WX setup:

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Microsoft .NET framework 2.0, including each of the following features:

- o ASPNET user (must be installed on the web site you intend to use with AppXtender Web.NET and must have permissions applied as detailed in ApplicationXtender Concepts and Planning Guide 5.40)

- o Microsoft Common Runtime

- o Microsoft Foundation Classes Runtime 7.1

- o Microsoft Data Access Components (MDAC) 2.8

- o Microsoft XML 6.0

- o Microsoft Windows Installer (MSI) 2.0

Supported Browsers:

Microsoft Internet Explorer 7.0 and 6.0 (SP1 or higher)

Firefox 2 for Windows (AX Web Access .Net 5.40 SP1, Thin-client Mode Only)

Firefox 2 for MAC O/S 10.5 (AX Web Access .Net 5.40 SP1, Thin-client Mode Only)

Safari for MAC O/S 10.5 (AX Web Access .Net 5.40 SP1, Thin-client Mode Only)

AX Web Access J2 (WXJ2)

Processor for Windows Installation:

Minimum - Pentium 4, 2 GHZ (or the minimum CPU required to run the operating system, whichever is higher)

Recommended - Pentium 4 HT, 3 GHZ or higher

Dual or quad Intel Xeon processors recommended for high-volume deployments

Processor for Solaris Installation:

Minimum - UltraSPARC IIIi, 1 GHZ

Dual processors recommended for high-volume deployments

Processor for SUSE Linux Installation:

Minimum - Pentium III, 1 GHZ

Dual 1.8 GHZ recommended for high-volume deployments

Available Hard Disk Space

42 MB for WXJ2 Server and Component Setup Wizard. Additional hard drive space is required for J2SE Development Kit (JDK) and Jakarta Tomcat if those programs are not yet installed. For more information on the drive space requirements for those programs, consult the J2SE Development Kit (JDK) documentation and Tomcat documentation respectively.

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Cache Disk Space

20 GB of free space should be reserved on the computer where the WXJ2 Server session cache resides; if the session cache is located on the WXJ2 Server, add 20GB to the amount of required available hard disk space.

Speed

Use of fast SCSI hard drives with access times less than 0.5 ms are recommended for best performance.

Memory

Minimum - 512 MB (or the minimum RAM required to run the operating system, whichever is higher)

Recommended - 1 GB or higher

Operating System

Windows 2003 Server:

- o R2 Standard or Enterprise Edition
- o SP2 Standard, Enterprise or Web Edition

Sun Solaris 10

SUSE Linux 10

Additional Required Software

J2SE Development Kit (JDK) 5.0

Apache® Jakarta Tomcat 5

AppXtender Web Services 5.40+

Additional Optional Software

Application Servers (required for production environments):

- o Apache® 2.0.48 Web Server, with the mod-jk2 connector for connectivity with Jakarta Tomcat
- o IBM WebSphere 6.1, with the WebSphere Connector to Apache Web Server

Note: If using Tomcat standalone, use the Coyote HTTP / 1.1 connector. If using Tomcat with Apache Web Server, use the mod-jk2 connector.

Note: The AppXtender WebJ2 deployment model does not support Sysbase SQL Anywhere and Microsoft Access.

Supported Browsers

Microsoft Internet Explorer 7.0 and 6.0 (SP1 or higher)

AppXtender Web Services Server

Required for AppXtender WebJ2 deployments. The AppXtender Web Services computer requires an authentication account.

Processor

Minimum - Pentium 4, 2 GHZ (or the minimum CPU required to run the operating system, whichever is higher)

Recommended - Pentium 4 HT, 3 GHZ or higher

Dual or quad Intel Xeon processors recommended for high-volume deployments

Available Hard Disk Space

170 MB (for WX Server, Component Registration, IE Web Controls, and WX Configuration Service)

Memory

Minimum - 512 MB (or the minimum RAM required to run the operating system, whichever is higher)

Recommended - 1 GB or higher

Operating System

Web Services 5.40 GA:

Windows 2003 Server:

- o   R2 Standard or Enterprise Edition
- o   SP2 Standard, Enterprise Edition, or Web Edition

Web Services 5.40 SP1:

Windows 2003 Server:

- o   SP2
- o   R2 SP2

Additional Required Software

Internet Information Server 6.0

Windows Indexing Service (optional - allows for client-side full-text searches of your web site)

Windows Script Debugger (optional - assists in troubleshooting and debugging)

Note: The following are installed automatically during WX setup:

Microsoft .NET framework v2.0, including each of the following features:

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- o ASPNET user (must be installed on the web site you intend to use with AppXtender Web.NET and must have permissions applied as detailed in ApplicationXtender Concepts and Planning Guide 5.40)

- o Microsoft Common Runtime

- o Microsoft Foundation Classes Runtime 7.1

- o Microsoft Data Access Components (MDAC) 2.8

- o Microsoft XML 6.0

- o Microsoft Windows Installer (MSI) 2.0

- o XSHost (if you select XSHost as your web server during setup)

File Storage

Documents, images, and any objects managed by ApplicationXtender are maintained on file storage. File storage can be as simple as shared RAID drives, to SAN (Storage Area Network) or NAS (Network Attached Storage) devices, to HSM (Hierarchical Storage Management) and integrated storage management systems like DiskXtender.

Typical image file storage sizing for image file storage within Higher Education are about 7GB per 100,000 images for letter-size B&W, 300 dpi, single-sided, Group 4 Tiff files - the most common format for monochrome document imaging. This represents an average file size of 70KB - a figure useful for rough network impact estimations.

File Storage Supported Systems

Network File Server

Shared Network Drive

EMC DiskXtender (Optical, WORM, Tape, DVD-RAM, and CD-ROM)

Certified Scanners

The scanners and drivers below have been certified by Pixel Translations with the release of the Pixel Scan Drivers 7.0 (SP3):

Third-party Scanners and Drivers Supported via Pixel Translations

Scanners	Pixel Translations Drivers
Fujitsu fi-4010	1.1.10409.20001
Fujitsu fi-4120C2 (ADF & imprinter model)	1.1.10407.6004
Fujitsu fi-4220C2 (ADF, FB, no imprinter model)	1.1.10407.6004
Fujitsu fi-5110c	1.1.10408.31001
Fujitsu fi5650c bundled with QuickScan Pro Demo	1.0.10405.12002
Kodak i30 bundled with QuickScan Pro Demo	1.0.10408.06002
Kodak i40 bundled with QuickScan Pro Demo	1.0.10408.06002

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Additional information on scan drivers supported with the Pixel Translations toolkit may be obtained at http://www.pixtran.com/support.

Additionally, the following scanners have been tested by EMC for compatibility with AppXtender Document Manager and AppXtender Image Capture:

Third-party Scanners

Scanners	AppXtender Release
Canon DR 5020	4.61.016
Canon DR-3060	4.60.038
Canon DR-4580	4.61.016
Contex CRYSTAL 40" Monochrome	4.51.051
Fujitsu M4097D	4.51.051
Fujitsu M4097D VRS	4.51.051
IDEAL SuperWIDE40 Monochrome	4.51.051
Kodak i200	5.00.051
Kodak i280	5.30.068
	5.30.082
Kodak i40	5.20.033
Kodak i60	4.61.016
Kodak i840	4.51.051
Panasonic KB-S2026C	5.00.051
Panasonic KV-S1025C	5.30.068
	5.30.082
Panasonic KV-S2046C	5.00.051
Panasonic KV-S3065CW	5.30.035
Panasonic KV-S3105C	5.30.035
Panasonic KV-S7065C	5.20.033

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Section 2 - Hardware and Software Guidelines for Optional Components

ApplicationXtender Reports Management (AppXtender Reports Mgmt) (fka ERMXtender)

Minimum Server Requirements

Pentium 300 or higher

Windows 2003 Server:

- o   R2 Standard or Enterprise Edition
- o   SP2 Standard, Enterprise or Web Edition

Windows Vista

Memory - 128 MB RAM

Available hard disk space for AppXtender Reports Management - 20 MB

Available hard disk space for Printstream Processor - plan on five time the size of the largest report to be processed

Available hard disk space for Report Processor - plan on 1.5 times the size of the largest report to be processed

Software:

- o   Microsoft Management Console (MMC) 2.0 or higher (required to run AppXtender Reports Mgmt)
- o   Microsoft Data Access Components (MDAC) 2.8 (required to run AppXtender Reports Mgmt)
- o   Microsoft Internet Explorer 6.0 SP1 or higher (required to run AppXtender Reports Mgmt)
- o   Adobe Acrobat Reader 8.0 or higher (required for viewing PDF reports in the Report View)
- o   ApplicationXtender Workflow (AppXtender Workflow) for AppXtender Reports Mgmt component selected during custom Workflow installation (required if you want AppXtender Reports Mgmt to start an AppXtender Workflow business process)
- o   Internet Information Server (IIS) 6.0 (required to use AppXtender Reports Mgmt Configuration Admin remotely)
- o   Terminal Services (required to use AppXtender Reports Mgmt Configuration Admin remotely)

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- o   Remote Desktop Web Connection (required to use AppXtender Reports Mgmt Configuration Admin remotely)

Minimum Workstation Requirements

Pentium 166 or higher

32 MB RAM (64 MB Recommended)

64 MB Hard drive space (120 MB for installation)

Supported Print Formats

PDF

ASCII

Non-standard ASCII

EBCDIC(K)

IBM AFP - optional component required

Xerox Metacode (also known as DJDE) - optional component required

HP PCL (Level 4 and 5, but not 6) - optional component required

Adobe PDF - optional component required

Storage Support

DiskXtender v6.2 (Optical, WORM, Tape, DVD-RAM, CD-ROM)

Network File Server

Local or shared network drive

DiskXtender (DX) for Windows - Minimum Server Requirements

Media volumes may be interfaced through SCSI, Serial, FibreChannel or other supported mass storage device interfaces including DX2000 MediaStor (DXMS), EMC Centera, Tivoli Storage Manager (TSM), Storage Tek's Automated Cartridge System Library Software (ACSLS), and RAID/Network Attached Storage (NAS).

Removable Media Supported - CD-ROM, DVD-R, DVD-RAM, DVD-ROM, Magneto-optical (MO), Tape (DLT, AIT, 9840, Magstar, 8mm DAT), UDO (Ultra Density Optical), WORM, and WORM-Tape

DiskXtender Specifications

Operating Systems:

- o   Windows 2000 (32-bit) SP4 Standard or Advanced Edition
- o   Windows 2003 SP2 (32-bit) Standard or Enterprise Edition
- o   Windows 2003 R2 (32-bit) Standard or Enterprise Edition
- o   Windows 2003 (32-bit) R2 Storage server

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o Windows 2003 (32-bit) SP2 Storage server

Pentium 450MHz or higher

Minimum 256 MB RAM

NTFS hard drive (size depends on application requirements)

One or more storage media services (see supported list)

Recommendations for Mass Storage for DiskXtender

While DX supports many platforms and formats, for most SunGard Higher Education clients' needs, SunGard recommends HP Magneto-Optical (MO) Libraries with either Read-Write (RW) or Write Once Read Many (WORM) disks or RAID-to-RAID/NAS/SAN services.

Full-Text Indexing Server

For optimum performance in enterprise systems, the Index Server should be installed to a dedicated computer. For smaller deployments or standalone systems, a non-dedicated workstation should suffice.

The Index Server must be located on a computer with one of the following operating systems:

Windows 2003 Server:

o R2 Standard or Enterprise Edition

o SP2 Standard or Enterprise

OCR Network

Minimum requirements are the same as for AX Minimum Workstation requirements.

Data Capture and Forms Capture Solutions Specifications - SSD

Data and Forms Capture solutions are available to provide recognition of handwriting (ICR), machine print (OCR), check marks (OMR) and bar codes to extract data from scanned images for document filing and automated data entry into systems like Banner. SunGard Higher Education partners with an automation solution provider, SSD (Software Services of Delaware) for these solutions.

Axiom User Interface – (Enterprise or Desktop Version)

Windows 2000 or XP Professional

.NET Framework 1.1 or higher

800MHz Pentium III processor

256 MB RAM (512 recommended)

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1024 x 768 monitor resolution (800 x 600 minimal)

40 MB available disk space

Oracle 8i or 9i client installation (minimal necessary for ODBC connection)

Administrative privileges to local PC for installation

Axiom Service – (Enterprise Version Only)

Windows 2000/2003 Server or Windows 2000 or XP Professional

.NET Framework 1.1 or higher

Reliable connection to database system

100MB Network Connection (10MB minimal)

Oracle 8i or 9i client installation (minimal necessary for ODBC connection)

OCR for AnyDoc Scan/Indexing Station

Pentium III 600 MHz or better, 256 MB RAM, 17" monitor, local hard drive with 100MB free space, Free PCI slot, CD-ROM, Windows 2000 or Windows XP. Table space for the scanner is also necessary next to the scan station. Drive mapped to server space.

The Scan/Index station is required for standalone or network configurations.

OCR for AnyDoc Verification Stations

The Verification station is only required for a network configuration when distribution of work is desired. The OCR for AnyDoc™ Verify station requires Windows 2000 or Windows XP. Pentium II 600 MHz, 128mb RAM, 17" monitor, and local hard drive with 100MB free space & CD-ROM. Drive mapped to server space.

Server Space

It is necessary to provide space on your server for storing images being processed. We recommend 2-4 GB of space for in-process work. The server space must be available from all of the workstations that are part of the solution via a mapped network drive. UNC pathnames are not supported.

Scanner Requirements for Paper Forms

A quality image is vital to the success of this implementation. SSD strongly recommends the use of a Kodak mid-volume scanner. A list of other approved scanners can be provided upon request.

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