



**Opera II Enterprise &
Opera II Enterprise SQL**

System Requirements Guide



Opera II Enterprise & Opera II Enterprise SQL
(Including Executive Dashboards and Document Management)

System Requirements Guide

January 2010

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Manual published by:

Pegasus Software Limited

Orion House

Orion Way

Kettering

Northamptonshire

NN15 6PE

www.pegasus.co.uk

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Introduction

This guide details the computer hardware and software specifications to install and use Opera II Enterprise and Opera II Enterprise SQL, including Pegasus Document Management and Pegasus Executive Dashboards. Separate sections detail the suggested minimum hardware requirements and recommended hardware requirements for file server and workstation computers.

Guidance includes using Opera II Enterprise and Enterprise SQL in a Terminal Services environment.

'Real-World' Hardware Requirements

The hardware requirements in the guide are suggestions based on testing results and feedback from Pegasus partners. They are therefore offered to guide decisions about the hardware required. However, the actual system requirements will also depend on:

- how the computer is configured
- the Windows features that are installed
- the number of applications running on the computer, including anti-virus utilities, backup utilities, screen savers, and power savers. Performance can be adversely affected if other applications are running in parallel
- the number of users logged into Opera II. Server requirements detailed below are based on a system with up to 10 users
- the amount of data through-put in Opera II
- the number of locations where Opera II is used.

Tip: It is advisable to check the Microsoft web site for more details of the system requirements for each operating system mentioned in this guide.

Microsoft Word, Excel, and Outlook

Opera II has been tested with:

- Microsoft Word (2003 & 2007)
- Microsoft Excel (2003 & 2007)
- Microsoft Outlook (2003 & 2007).

Microsoft Internet Explorer

Opera II has been tested with Internet Explorer (6.0) and Internet Explorer (7.0).

Microsoft Service Packs - Pegasus Policy

According to Microsoft, service packs (SPs) *may contain updates for system reliability, program compatibility, security, and more.*

Pegasus has a policy of testing the latest available service packs. These are reflected in the minimum and recommended requirements for server environments and workstation environments on the pages below. Opera II does work with earlier SPs. However, to use the same SP level as that used by the Pegasus software testing team, you should upgrade to the service pack release mentioned in this guide.

For information about each service pack, see the [Microsoft web site](#).

Platform Specific Information

Opera II is available for both Visual FoxPro and SQL Server database platforms. This guide applies to both database platforms, however, there are certain elements that are only relevant to one or the other database, and as such the relevant sections or paragraphs are clearly identified with the following labels:

SQL – only relevant if you are running the application on an SQL Server database

VFP – only relevant if you are running the application on a Visual FoxPro database.

End of Support: Microsoft Windows 2000 Professional and Windows Server 2000

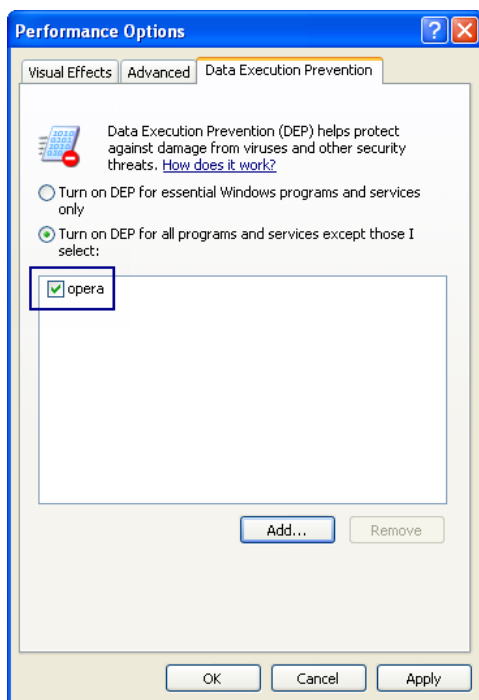
Microsoft will end the extended support of Microsoft Windows 2000 Professional and Windows Server 2000 in the middle of 2010. Opera II Enterprise and Opera II Enterprise SQL (6.72) was the final Opera II release supported in these environments. Users of Microsoft Windows 2000 must upgrade to a supported Windows product before upgrading to Opera II Enterprise and Opera II Enterprise SQL (6.80 or later).

Data Execution Prevention in Microsoft Windows

Data Execution Prevention (DEP) is a Microsoft Windows feature that performs additional checks on memory to help prevent malicious code from running on a system. DEP is available in Windows Server 2003, Windows Server 2008, Windows XP, Windows Vista, and Windows 7.

In some Windows products like Windows Server 2008, DEP is switched on by default. If DEP is switched on, the Opera II application program - *Opera.exe* - needs to be marked as an exception. If *Opera.exe* is not marked as an exception, an error will be displayed in Opera II when forms are opened.

How you access the DEP dialog depends on the Windows product you are using. Please refer to the Windows Help by searching for "Data Execution Prevention" for information.



DEP dialog box in Microsoft Windows XP

Was this information useful?

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File Servers: Minimum Requirements

These are the suggested minimum requirements for Opera II Enterprise and Opera II Enterprise SQL File Server computers. The requirements are different if installations include Pegasus Document Management.

Windows Server 2008 (x86) SP2	Windows Server 2008 (x64) SP2	Small Business Server 2008 (x64) SP1	Windows Server 2003 (x86) SP2	Windows Server 2003 R2 (x86) SP2	Small Business Server 2003 (x86) SP2
(1)	(1)		(2)	(2)	(2)

Installations without Document Management

Intel Processor	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 1.8 GHz	Pentium 4 1.8 GHz	Pentium 4 2.4 GHz
Space for Programs	350 MB ⁽³⁾	350 MB ⁽³⁾	350 MB ⁽³⁾	350 MB ⁽³⁾	350 MB ⁽³⁾	350 MB ⁽³⁾
Memory	1 GB	2 GB	2 GB	1 GB	1 GB	1 GB

Installations with Document Management

Intel Processor	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz
Space for Programs	650 MB ⁽⁴⁾	650 MB ⁽⁴⁾	650 MB ⁽⁴⁾	650 MB ⁽⁴⁾	650 MB ⁽⁴⁾	650 MB ⁽⁴⁾
Memory (Capture & Retrieval PCs)	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB

All Installations

Monitor	Super VGA (1024 x 768)
Network Card	100 Megabit per second(Mbps)
CD Drive	Bootable
Backup Device	Yes

⁽¹⁾ Windows Server 2008 has been tested using 32-bit (x86) systems and 64-bit (x64) systems.

⁽²⁾ Windows Server 2003 has been tested using 32-bit (x86) systems only. 64-bit systems are not supported.

⁽³⁾ Includes required disk space for the Opera II Client installation.

⁽⁴⁾ Includes required disk space for the Opera II Client installation and Microsoft .Net Framework v2.

Notes:

- Opera II Enterprise SQL has been tested using SQL Server 2000 (SP4) and SQL Server 2005 (SP3). SQL Server 2008 has not been tested.
- It is unlikely that new computers use Pentium 4 processors. Consider Pentium Core 2 Duo 2.66GHz instead as a minimum level.

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File Servers: Recommended Requirements

These are the suggested recommended requirements for Opera II Enterprise and Opera II Enterprise SQL File Server computers. The requirements are different if installations include Pegasus Document Management.

Windows Server 2008 (x86) SP2	Windows Server 2008 (x64) SP2	Small Business Server 2008 (x64) SP1	Windows Server 2003 (x86) SP2	Windows Server 2003 R2 (x86) SP2	Small Business Server 2003 (x86) SP2
(1)	(1)		(2)	(2)	(2)

Installations without Document Management

Intel Processor	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above
Space for Programs	350 MB ⁽³⁾	350 MB ⁽³⁾	350 MB ⁽³⁾	350 MB ⁽³⁾	350 MB ⁽³⁾	350 MB ⁽³⁾
Memory	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB

Installations with Document Management

Intel Processor	Xeon 3 GHz or above	Xeon 3 GHz or above	Xeon 3 GHz or above	Xeon 3 GHz or above	Xeon 3 GHz or above	Xeon 3 GHz or above
Space for Programs	650 MB ⁽⁴⁾	650 MB ⁽⁴⁾	650 MB ⁽⁴⁾	650 MB ⁽⁴⁾	650 MB ⁽⁴⁾	650 MB ⁽⁴⁾
Memory (Capture & Retrieval PCs)	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB

All Installations

Monitor	Super VGA (1024 x 768)
Network Card	100 Megabit per second(Mbps)
DVD Drive	Bootable
Backup Device	Yes

⁽¹⁾ Windows Server 2008 has been tested using 32-bit (x86) systems and 64-bit (x64) systems.

⁽²⁾ Windows Server 2003 has been tested using 32-bit (x86) systems only. 64-bit systems are not supported.

⁽³⁾ Includes required disk space for the Opera II Client installation.

⁽⁴⁾ Includes required disk space for the Opera II Client installation and Microsoft .Net Framework v2.

Note: Opera II Enterprise SQL has been tested using SQL Server 2000 (SP4) and SQL Server 2005 (SP3). SQL Server 2008 has not been tested.

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Stand-Alone Workstations: Minimum Requirements

These are the suggested minimum requirements for Opera II Enterprise single computer installations. The requirements are different if installations include Pegasus Document Management.

VFP			
Opera II Enterprise			
Windows 7 (x86) & (x64)	Windows Vista (x86) SP2	Windows Vista (x64) SP2	Windows XP Professional SP3
(1)	(2)	(2)	

Installations without Document Management

Intel Processor	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 3 450 MHz
Space for Programs (MB)	350 ⁽³⁾	350 ⁽³⁾	350 ⁽³⁾	350 ⁽³⁾
Memory	1 GB	1 GB	1 GB	512 MB

Installations with Document Management

Intel Processor	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz
Space for Programs (MB)	650 ⁽⁴⁾	650 ⁽⁴⁾	650 ⁽⁴⁾	650 ⁽⁴⁾
Memory (Capture PCs)	1 GB	1 GB	2 GB	512 MB
Memory (Retrieval PCs)	1 GB	1 GB	2 GB	512 MB

All Installations

Monitor	Super VGA (1024 x 768)
Network Card	100 Megabit per second(Mbps)
CD Drive	Multi-speed
Backup Device	Yes

⁽¹⁾ Windows 7 (Professional and Ultimate) has been tested using 32-bit (x86) and 64-bit (x64) systems.

⁽²⁾ Windows Vista (SP2) (Business and Ultimate) has been tested using 32-bit (x86) and 64-bit (x64) systems.

⁽³⁾ Includes required disk space for Opera II Client installation.

⁽⁴⁾ Also includes disk space for Opera II Client installation and Microsoft .Net Framework v2.

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Stand-Alone Workstations: Recommended Requirements

These are the suggested recommended requirements for Opera II Enterprise single computer installations. The requirements are different if installations include Pegasus Document Management.

VFP			
Opera II Enterprise			
Windows 7 (x86) & (x64) (1)	Windows Vista (x86) SP2 (2)	Windows Vista (x64) SP2 (2)	Windows XP Professional SP3

Installations without Document Management

Intel Processor	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above
Space for Programs (MB)	350 ⁽³⁾	350 ⁽³⁾	350 ⁽³⁾	350 ⁽³⁾
Memory	2 GB	2 GB	2 GB	1 GB

Installations with Document Management

Intel Processor	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above
Space for Programs (MB)	650 ⁽⁴⁾	650 ⁽⁴⁾	650 ⁽⁴⁾	650 ⁽⁴⁾
Memory (Capture PCs)	2 GB	2 GB	2 GB	2 GB
Memory (Retrieval PCs)	2 GB	2 GB	2 GB	1 GB

All Installations

Monitor	Super VGA (1024 x 768)
Network Card	100 Megabit per second(Mbps)
CD Drive	Multi-speed
Backup Device	Yes

⁽¹⁾ Windows 7 (Professional and Ultimate) has been tested using 32-bit (x86) and 64-bit (x64) systems.

⁽²⁾ Windows Vista (SP2) (Business and Ultimate) has been tested using 32-bit (x86) and 64-bit (x64) systems.

⁽³⁾ Includes required disk space for Opera II Client installation.

⁽⁴⁾ Also includes disk space for Opera II Client installation and Microsoft .Net Framework v2.

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Networked Workstations: Minimum Requirements

These are the suggested minimum requirements for Opera II Enterprise and Opera II Enterprise SQL client computers. The requirements are different if installations include Pegasus Document Management.

VFP				SQL			
Opera II Enterprise				Opera II SQL ⁽¹⁾			
Windows 7 (x86) & (x64)	Windows Vista (x86) SP2	Windows Vista (x64) SP2	Windows XP Professional SP3	Windows 7 (x86) & (x64)	Windows Vista (x86) SP2	Windows Vista (x64) SP2	Windows XP Professional SP3
(2)	(3)	(3)		(2)	(3)	(3)	

Installations without Document Management

Intel Processor	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 3 450 MHz	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 1.8 GHz
Space for Programs (MB)	100	100	100	100	100	100	100	100
Memory	1 GB	1 GB	1 GB	512 MB	1 GB	1 GB	1 GB	512 MB

Installations with Document Management

Intel Processor	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 3 GHz
Space for Programs (MB)	250 ⁽⁴⁾	250 ⁽⁴⁾	250 ⁽⁴⁾	250 ⁽⁴⁾	250 ⁽⁴⁾	250 ⁽⁴⁾	250 ⁽⁴⁾	250 ⁽⁴⁾
Memory (Capture & Retrieval PCs)	2 GB	1 GB	2 GB	512 MB	2 GB	1 GB	2 GB	512 MB

All Installations

Monitor	Super VGA (1024 x 768)
Network Card	100 Megabit per second(Mbps)
CD Drive	Multi-speed
Backup Device	Yes

⁽¹⁾ Opera II Enterprise SQL has been tested using SQL Server 2000 (SP4) and SQL Server 2005 (SP3).

⁽²⁾ Windows 7 (Professional and Ultimate) has been tested using 32-bit (x86) and 64-bit (x64) systems.

⁽³⁾ Windows Vista (Business and Ultimate) has been tested using 32-bit (x86) and 64-bit (x64) systems.

⁽⁴⁾ Includes disk space for Opera II Client installation and Microsoft .Net Framework v2.

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Networked Workstations: Recommended Requirements

These are the suggested recommended requirements for Opera II Enterprise and Opera II Enterprise SQL. The requirements are different if installations include Pegasus Document Management.

VFP				SQL			
Opera II Enterprise				Opera II SQL ⁽¹⁾			
Windows 7 (x86) & (x64) (2)	Windows Vista (x86) SP2 (3)	Windows Vista (x64) SP2 (3)	Windows XP Professional SP3	Windows 7 (x86) & (x64) (2)	Windows Vista (x86) SP2 (3)	Windows Vista (x64) SP2 (3)	Windows XP Professional SP3

Installations without Document Management

Intel Processor	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above
Space for Programs (MB)	100	100	100	100	100	100	100	100
Memory	2 GB	2 GB	2 GB	1 GB	2 GB	2 GB	2 GB	1 GB

Installations with Document Management

Intel Processor	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above	Core 2 Duo 2.66GHz or above
Space for Programs (MB)	250 ⁽⁴⁾	250 ⁽⁴⁾	250 ⁽⁴⁾	250 ⁽⁴⁾	250 ⁽⁴⁾	250 ⁽⁴⁾	250 ⁽⁴⁾	250 ⁽⁴⁾
Memory (Capture PCs)	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB
Memory (Retrieval PCs)	2 GB	2 GB	2 GB	1 GB	2 GB	2 GB	2 GB	1 GB

All Installations

Monitor	Super VGA (1024 x 768)
Network Card	100 Megabit per second(Mbps)
DVD Drive	Multi-speed
Backup Device	Yes

⁽¹⁾ Opera II Enterprise SQL has been tested using SQL Server 2000 (SP4) and SQL Server 2005 (SP3).

⁽²⁾ Windows 7 (Professional and Ultimate) has been tested using 32-bit (x86) and 64-bit (x64) systems.

⁽³⁾ Windows Vista (Business and Ultimate) has been tested using 32-bit (x86) and 64-bit (x64) systems.

⁽⁴⁾ Includes disk space for Opera II Client installation and Microsoft .Net Framework v2.

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Terminal Services

These server requirements are based on a system with up to five user connections.

When determining how powerful the server needs to be, you should consider the types of users who will be using the system and be aware that as the number of users increases, the CPU usage will increase and you may need to increase the server capacity to allow for better performance.

In general, processor and memory requirements scale linearly: you can support double the number of users on a multiprocessor-capable system by doubling the number of processors and doubling the amount of memory. For this reason, purchasing a system that supports multiple processors, even if you initially purchase only one processor, allows you to add capacity easily as your requirements grow.

Performance can vary depending on the programs you run on a Terminal server. You should test your system by running the programs you use to judge the processing power and RAM required for each user. For example, a multiple processor configuration can maximize CPU availability. Installing extra physical memory can maximize memory accessibility. Finally, disk access performance can be made optimal by configuring multiple disks.

Opera II Enterprise and Opera II Enterprise SQL have been tested on Terminal Services running on Windows Server 2003, Windows Server 2008 32-bit (x86), and Windows Server 2008 32-bit (x64). Minimum Server Hardware requirements are detailed on page 13. Recommended Server Hardware requirements are detailed on page 14.

Windows Server 2008 - Terminal Services Remote App Manager

Windows Server 2008 includes *TS RemoteApp Manager* that manages single applications, instead of entire desktops, over a remote desktop connection. The advantage of this approach is that a remote application is opened directly from the remote computer and appears as though it is running on the local computer rather than from the servers' desktop. Users only see the applications they need to use.

You can implement Opera II as a single application run over a remote desktop connection in Microsoft Windows Server 2008. To do so follow these steps:

In the *TS RemoteApp Manager* utility:

- Create a *RemoteApp Program* with a *path* setting to the Opera II client executable program (*opera.exe*) for the server installation. The default path `c:\Program Files\Pegasus\Client XXX\` (32-bit Windows operating systems) or `c:\Program Files (x86)\Pegasus\Client XXX\` (64-bit Windows operating systems) where *XXX* is either *VFP* or *SQL*.
- Create a *.rdp* file called *Opera II.rdp* and save it in a shared folder on the server that each Opera II client computers have access to.

On each local Opera II client computer:

- Open the shared folder on the server, and run the *Opera II.rdp* file.

For a step-by-step guide to using *Terminal Services RemoteApp* in Windows 2008, click this address to the Microsoft web site: <http://www.microsoft.com/downloads/thankyou.aspx?familyId=96596fd3-dbdd-4809-b64a-80fd044f984a&displayLang=en>.

Minimum Server Hardware Requirements (Terminal Services) (Terminal Services)

These are the suggested minimum requirements for server installations of Opera II Enterprise and Opera II Enterprise SQL running under Terminal Services. The requirements are different if installations include Pegasus Document Management.

Windows Server 2008 (x86) SP2	Windows Server 2008 (x64) SP2	Windows Server 2003 (x86) SP2
		(1)

Installations without Document Management

Intel Processor	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 1.8 GHz
Server Memory for Operating System	2 GB	2 GB	2 GB
Server Memory for each Opera II user	256 MB	256 MB	256 MB
Example	2 GB system memory + 5 clients = 3328 MB total system memory.	2 GB system memory + 5 clients = 3328 MB total system memory.	2 GB system memory + 5 clients = 3328 MB total system memory.
Space for Programs	350 MB		

Installations with Document Management⁽²⁾

Intel Processor	Pentium 4 3 GHz	Pentium 4 3 GHz	Pentium 4 1.8 GHz
Server Memory for Operating System	2 GB	2 GB	2 GB
Server Memory for each Opera II user	256 MB	256 MB	256 MB
Example	2 GB system memory + 5 clients = 3328 MB total system memory.	2 GB system memory + 5 clients = 3328 MB total system memory.	2 GB system memory + 5 clients = 3328 MB total system memory.

All Installations

Space for Programs	650 MB
Network Card	100 Megabit per second (Mbps)
CD Drive	Multi-speed
Backup Device	Yes

⁽¹⁾ Windows Server 2003 has been tested using 32-bit (x86) systems only. 64-bit systems are not supported.

⁽²⁾ Document Management installations running on Terminal Services allow document retrieval and electronic file capture. Document capture using scanners attached to the client computer is not possible.

Recommended Server Hardware Requirements (Terminal Services)

These are the suggested recommended requirements for server installations of Opera II Enterprise and Opera II Enterprise SQL running under Terminal Services. The requirements are different if installations include Pegasus Document Management.

Windows Server 2008 (x86) SP2	Windows Server 2008 (x64) SP2	Windows Server 2003 (x86) SP2
		(1)

Installations without Document Management

Intel Processor	Intel Xeon 3 GHz or higher	Intel Xeon 3 GHz or higher	Intel Xeon 3 GHz or higher
Server Memory for Operating System	4 GB	4 GB	4 GB
Server Memory for each Opera II user	256 MB	256 MB	256 MB
Example	4 GB system memory + 5 clients = 5328 MB total system memory.	4 GB system memory + 5 clients = 5328 MB total system memory.	4 GB system memory + 5 clients = 5328 MB total system memory.
Space for Programs	350 MB		

Installations with Document Management ⁽²⁾

Intel Processor	Intel Xeon 3 GHz or higher	Intel Xeon 3 GHz or higher	Intel Xeon 3 GHz or higher
Server Memory for Operating System	4 GB	4 GB	4 GB
Server Memory for each Opera II user	256 MB	256 MB	256 MB
Example	4 GB system memory + 5 clients = 5328 MB total system memory.	4 GB system memory + 5 clients = 5328 MB total system memory.	4 GB system memory + 5 clients = 5328 MB total system memory.

All Installations

Space for Programs	650 MB
Network Card	100 Megabit per second (Mbps)
DVD Drive	Multi-speed
Backup Device	Yes

⁽¹⁾ Windows Server 2003 has been tested using 32-bit (x86) systems only. 64-bit systems are not supported.

⁽²⁾ Document Management installations running on Terminal Services allow document retrieval and electronic file capture. Document capture using scanners attached to the client computer is not possible.

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Requirements for Pegasus Document Management

Basic Requirements

The basic requirements for Document Management above those for Opera II Enterprise or Opera II Enterprise SQL are:

- A suitable scanner to capture documents - detailed in the next section.
- A suitable data store for the captured documents. Supported databases are Microsoft SQL Server 2005 (SP3), Microsoft SQL Server 2005 Express (SP3), Microsoft SQL Server 2000 (SP4), or Microsoft SQL Server Desktop Engine (MSDE).
- Microsoft .Net Framework v2 must be installed on the server and all client computers before Document Management is installed. You can install it from the Opera II CD if it is not already installed.

Choosing the right edition of SQL Server

The performance of any edition of SQL Server is affected by the performance of the hardware and operating systems on which it is installed. Choosing the right hardware, operating system, and SQL Server edition is critical to the performance of Document Management.

- For installations of Opera II Enterprise SQL, because SQL Server 2005 Express and MSDE are not supported, the choice for Document Management is likely to be either SQL Server 2000 or SQL Server 2005.
- For installations of Opera II Enterprise, the choice for Document Management could be any of the four editions mentioned above.

SQL Server 2005 Express & MSDE

SQL Server 2005 Express is a free version based on Microsoft SQL Server 2005. MSDE is a free version based on Microsoft SQL Server 2000.

Consider the following as a starting point for SQL Server 2005 Express or MSDE:

- Microsoft does not support MSDE on Windows Vista.
- The database limit for SQL Server 2005 Express is 4 Gigabytes (GB); for MSDE it is 2 GB.
- The maximum usable memory for SQL Server 2005 Express is 1 GB; for MSDE it is 2 GB.
- The suggested maximum number of concurrent Document Management user connections is five for either SQL Server 2005 Express or MSDE. The number of concurrent Document Management users, rather than the number of users licensed to use the Opera II, is important when deciding which edition of SQL Server to use. For example, if the Opera II license is for 25 users, and up to five users will use Document Management concurrently, then you could consider SQL Server 2005 Express or MSDE. If there are more than five concurrent Document Management users, you should consider Microsoft SQL Server 2000 or Microsoft SQL Server 2005.
- The scanning workload is important. For example, if a system of 10 Opera II users has two or three production scanners scanning thousands of pages a day, neither SQL Server 2005 Express nor MSDE will support this workload. If the scanning workload is much lower, you could consider SQL Server 2005 Express or MSDE.
-

Important: The database capabilities of the free versions are different to the other editions. If you are considering using SQL Server 2005 Express or MSDE, read the full technical details using Microsoft information resources so that you are comfortable the capabilities are correct for the Document Management installation.

Additional Optional Requirements

For Document Management to work best in a production environment you should consider these additional recommended but not essential hardware and software requirements:

- **Image Processing** is a process of converting an input image into an output image with the desired properties.
- **Image Enhancement** is a process that improves the visual appearance of the output image (i.e.: after it has been converted but before it is committed to the system).

Image Processing

Document Management includes embedded image controls from Kofax, which creates image-processing products to help transform an input image into a high quality output image. Kofax also produce a range of processing hardware and software products called 'Adrenaline' that enhance the capabilities of the Document Management and the scanners used for capturing images.

Important: You need an Adrenaline product with Document Management if you intend to use bar code recognition or want to enhance the performance of image processing.

Adrenaline Hardware

There are two hardware options – 650 and 650i cards - that work with Document Management:

- **Adrenaline 650** is an Ultra Wide certified SCSI controller board with 40Mbps throughput. It supports TWAIN, Image and Scanner Interface Specification (ISIS), and Kofax ImageControls applications.
- TWAIN is a standard software protocol and applications programming interface (API) for communication between software products and image capture devices, like scanners and digital cameras.
- ISIS is an industry standard driver for image scanning technologies, developed by Pixel Translations.
- **Adrenaline 650i** adds advanced image processing and bar code recognition capabilities to the 650 card.

Adrenaline Software

The software option, which has identical capabilities to the Adrenaline 650 card, is called Adrenaline Image Processing Engine (AIPE).

Image Enhancement

Image enhancement is the improvement of the scanned image either automatically or manually before it is committed to the system. Kofax produce a number of image enhancement products.

Virtual ReScan (VRS)

Document Management supports the Virtual ReScan (VRS) product. VRS automatically adjusts and improves the image produced by the scanner. Almost no user intervention is needed as VRS improves the image without the operator needing to consider things like coloured paper, coloured objects, faint documents, bleed-through, different paper sizes in the same batch etc.

Generally, VRS is either included with high-end production scanners or comes in two versions that can be purchased separately, Basic or Professional.

- **VRS Basic** is sometimes included with some smaller scanners and provides a simple solution to basic blank and white scanning.
- **VRS Professional** can be purchased separately or bundled with Adrenaline products.

Important: You need VRS with Document Management to do any form of production scanning using Image and Scanner Interface Specification (ISIS) scanner drivers. ISIS is an industry standard interface for image scanning technologies, developed by Pixel Translations.

If VRS is not embedded with the scanner then the Professional version should be preferred for any production environment. If VRS Basic is bundled with the scanner then you must consider whether this is adequate for the task.

Tip: To check whether your scanner is supported with VRS, check the Kofax web site at www.kofax.com.

Considerations when Choosing a Scanner

When selecting a scanner you should consider the following:

- How is scanning going to be done and who will be involved?
- Should multiple smaller scanners be purchased as opposed to a larger device?
- What are the minimum and maximum paper sizes to be scanned?
- What is the maximum paper weight to be scanned?
- What is the paper quality and colour?
- Is colour or greyscale scanning needed? Scanning in colour or greyscale significantly increases the storage requirement for documents. Scanning in black and white using VRS is likely to generate equivalent quality and readability.

Note: If your scanner is not listed below it may still work if the suitable drivers have been supplied by the manufacturer.

Which Scanner for which Environment?

The following example environments will provide a guide to the selections that should be made based on scanners from two leading manufactures, Fujitsu and Canon, with additional scanners from HP at the lower levels. This list is designed purely as an example and all specific scanners should be selected and checked for compatibility based on the questions previously noted.

The Accounts Office

This is likely to be an ad-hoc scanning environment, where different types of documents are captured. Devices may well be multi-function to save desk and office space. Paperwork is generally “clean”, A4 or smaller, colour is not important and indexing is generally manual.

Low volume

- HP Officejet 6310 - no VRS
- Fujitsu fi-5110C - Desktop VRS included
- Canon DR-2050C - no VRS

Medium Volume

- HP Scanjet 7800 - Workgroup VRS optional upgrade
- Fujitsu fi-6130C - Workgroup VRS included
- Canon DR-3010C - Desktop VRS optional extra

The Warehouse/Goods In

This is likely to be an ad-hoc scanning environment where different types of documents are captured. Devices would generally be dedicated to scanning. Paperwork is likely to be “dirty”, usually A4 or smaller but possibly the odd A3 document, and perhaps carbon copy. Colour is not important and indexing is generally manual but bar coding may be used for documents such as Delivery notes.

Low volume

- HP Scanjet 7800 - Workgroup VRS optional upgrade
- Fujitsu fi-6130C - Workgroup VRS included
- Canon DR-3010C - Desktop VRS optional extra

Mid Volume

- Fujitsu fi-6230C, Workgroup VRS included

High volume

- Fujitsu fi-4340C - Workgroup VRS included
- Canon DR-3080CII - Workgroup VRS optional extra

The Haulier

This is likely to be a batch scanning environment focusing on specific documents that are produced in-house. Devices would definitely be dedicated. Paper is likely to be “dirty”, A4 or smaller, possibly carbon copy, colour is not important and indexing is most likely to be bar code driven.

Low volume

- HP Scanjet 7800 - Workgroup VRS optional upgrade
- Fujitsu fi-6130C - Workgroup VRS included
- Canon DR-3010C - Desktop VRS optional extra

Mid Volume

- Fujitsu fi-6230C - Workgroup VRS included

High volume

- Fujitsu fi-4340C - Workgroup VRS included
- Fujitsu fi-6770A - Workgroup VRS included
- Canon DR-3080CII - Workgroup VRS optional extra
- Canon DR-7580 - Workgroup VRS optional extra

System Requirements Guide

Requirements for Pegasus Executive Dashboards

The hardware requirements for using Pegasus Executive Dashboards are the same as the requirements for Opera II detailed above. However, there are additional software requirements.

Server Prerequisites

The prerequisites for installing Pegasus Executive Dashboards Server are the following.

- Microsoft .NET Framework 2.0
- Microsoft Internet Information Services (IIS) version 5.0 or later.

Client Prerequisites

The prerequisites for client computers using Pegasus Executive Dashboards are the following:

- Internet Explorer (6.0) or later (version 7 recommended)
- Adobe Flash Player (8.0) or later. If this is not installed on the computer, you will be prompted to install it when you load Pegasus Executive Dashboards.