Purkinje | Dossier System requirements

Version 5.14

SYSTEM REQUIREMENTS

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1 GETTING STARTED

Purkinje|Dossier applications have been designed to support scalability, customization and adherence to the IT standards in the healthcare industry. In the following lists of supported systems, our recommendations appear in **bold**.

1.1 Supported database management systems

- ◆ Oracle 9i, Oracle 10g, and **Oracle 11g R2**, Oracle 12c R1. For Oracle compatibility with Windows 7, please contact Purkinje
- ♦ Microsoft SQL Server 2008 R2 (32-bit or 64-bit), Standard or Enterprise editions, Service Pack 3
- Microsoft SQL Server 2012 (64 bits), Service Pack 2
- Microsoft SQL Server 2014 (64 bits)

1.2 Supported operating systems

Client-Server configuration - Dedicated server

Client

- Windows 7 (32-bit or 64-bit) Professional, Ultimate and Enterprise, Service Pack 1
- Windows 8 (32-bit or 64-bit) standard, Professional and Enterprise

Server

- Microsoft Windows Server 2008 R2, Service Pack 1
- Microsoft Windows 2012 (64 bits) with Terminal Services
- Microsoft Windows 2012 R2 (64 bits) with Terminal Services
- Citrix XenApp 6.5

For Citrix compatibility with Windows Server 2008, please contact Purkinje

Client-Server configuration - Non dedicated server

Client

- Windows 7 (32-bit or 64-bit) Professional and Ultimate and Enterprise, Service Pack 1
- ♦ Windows 8 (32-bit or 64-bit) standard, Professional and Enterprise

Server

- Windows 7 (32-bit or 64-bit) Professional, Ultimate and Enterprise, Service Pack 1
- Windows 8 (32-bit or 64-bit) standard, Professional and Enterprise

Standalone configuration

- Windows 7 (32-bit or 64-bit) Professional, Ultimate and Enterprise, Service Pack 1
- Windows 8 (32-bit or 64-bit) standard, Professional and Enterprise

1.3 General comments on system installation and configuration

To optimize the performance of Purkinje|Dossier, we recommend that you follow the installation guidelines below:

- Please take note that any installation older than 4.30 must first be upgraded to 4.30 before it can be upgraded to version 5.14.
- Installing Purkinje|Dossier on the same disk as that on which Windows is installed is not recommended.
- The Database Management System will need to regularly access the disks on the computer. We therefore recommend that you install your database on a disk with the highest possible access speed.
- Do not forget that servers normally use temporary disk space on the drive containing the Operating System (OS). You must therefore ensure that the disk containing the Windows OS has sufficient space for all these files. If you install Purkinje|Dossier and Windows on the same disk, you must take into account the space needed by these files (as specified in the tables on the following pages).
- Changing the default Windows DPI settings for the display is not recommended.
- Operating a Terminal Server architecture using a Remote Desktop connection requires a *True Color*(32 bit) display or better. As Remote Desktop starts, click Options and choose the Display tab to
 configure the color level.
- You cannot use a pen or stylus if you are running Purkinje|Dossier through Remote Desktop.
- You need to verify if the MSInk components are installed. The procedure for this verification depends on your operating system.
 - Windows 7 Pro SP1 (64-bit): from the Control Panel choose Programs and features, click Turn Windows features on or off and then check if Tablet PC Components is checked in the Windows features list.
 - Windows 2008 R2 SP1 (64-bit): from the Administrative Tools choose Server Manager, click Features Summary, check if it lists the Ink and Handwriting Services.
 - Windows 8: from the Control Panel, choose Programs and Features, click Turn Windows features on or off and check if Desktop Experience is checked in the Windows feature list.
- When installing Dossier, there cannot be a space (blank) in the name of the database, otherwise the installation will not succeed.
- To ensure the security of your system and your data, you must make sure that you have adequate security procedures in place:
 - a proven backup system
 - a state-of-the-art anti-virus software installed and running
 - a contingency plan in case of a hardware malfunction.

Purkinje can help you build security procedures that will suit your needs.

2 HARDWARE REQUIREMENTS

Note

The following requirements are recommended configurations. An analysis of your environment and business volume will be done prior to the installation to ensure that the most suitable configuration is applied. The analysis must be done by a staff member of Purkinje's Implementation department.

2.1 One or two users - Standalone configuration

	Recommended
Processor	2.0 GHz or higher
Memory	4 GB RAM or more
Disk space	80 GB free space after OS installation.
	Note that total disk requirements might increase with data storage requirements.
Monitor	1024X768 minimum resolution -
Operating system	Please refer to Supported operating systems on page 4
Database management system	Please refer to Supported database management systems on page 4
Web browser	Microsoft Internet Explorer 7, 8 or 9
Internet Access	High-speed Internet connection recommended for remote support and for communicating with the RAMQ (Quebec users)
Scanner	Please refer to Chapter 4: Supported peripherals
Printer	Please refer to Chapter 4: Supported peripherals
PDF document viewer	 Adobe Acrobat, Standard or Professional editions, versions 6, 7, 8 or 9 ^(*) (Acrobat 9.2 or higher must be used with Windows 7) are still supported but new installations are now deployed with Purkinje PDF Viewer v5 (see below). Acrobat Versions X and above are not supported. or Purkinje PDF Viewer v5 (integrated directly into the software)

^{*} Due to restrictions imposed by Adobe Inc, Purkinje|Dossier is not able to support Adobe *Acrobat Reader* (the free version of the application). Users who wish to read PDF files must install the full version of Adobe *Acrobat*.

2.2 Small clinic, 3 to 10 users - Client-Server configuration

Dedicated database server		
	Recommended	
Processor	Dual Core 2.4 GHz or higher	
Memory	8 GB RAM or more	
Disk configuration	RAID 1 configuration for the OS, RAID 5 for the database	
Disk space	80 GB minimum after OS installation. Total disk requirements might increase with data storage requirements	
Network	Network Interface Card 100 MB, TCP/IP protocol	
Operating system	Please refer to Supported operating systems on page 4	
Database management system	Please refer to Supported database management systems on page 4	
Web Browser	Microsoft Internet Explorer 7, 8 or 9	
Internet Access	High-speed Internet connection recommended for remote support and for communicating with the RAMQ (Quebec users)	
UPS	Uninterruptible Power Supply with capacity for at least 30 minutes	
Scanner	Please refer to Chapter 4: Supported peripherals	
Printer	Please refer to Chapter 4: Supported peripherals	
PDF document viewer	 Adobe Acrobat, Standard or Professional editions, versions 6, 7, 8 or 9 (*) (Acrobat 9.2 or higher must be used with Windows 7) are still supported but new installations are now deployed with Purkinje PDF Viewer v5 (see below). Acrobat Versions X and above are not supported. or Purkinje PDF Viewer v5 (integrated directly into the software) 	

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Client workstation		
	Recommended	
Processor	2.0 GHz or higher	
Memory	2 GB RAM or more	
Disk space	80 GB capacity, with 50 GB free space after OS installation. Note that total disk requirements might increase with data storage requirements.	
Monitor	1024X768 minimum resolution	
Operating system	Please refer to Supported operating systems on page 4	
Database management system	Please refer to Supported database management systems on page 4	
Networking	Network Interface Card 100 MB, TCP/IP protocol	
Web Browser	Microsoft Internet Explorer 7, 8 or 9	
Internet Access	High-speed Internet connection recommended for remote support and for communicating with the RAMQ (Quebec users)	
Scanner	Please refer to Chapter 4: Supported peripherals	
Printer	Please refer to Chapter 4: Supported peripherals	
PDF document viewer	 Adobe Acrobat, Standard or Professional editions, versions 6, 7, 8 or 9 (*) (Acrobat 9.2 or higher must be used with Windows 7) are still supported but new installations are now deployed with Purkinje PDF Viewer v5 (see below). Acrobat Versions X and above are not supported. or Purkinje PDF Viewer v5 (integrated directly into the software) 	

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2.3 Small clinic, 3 to 10 users - Microsoft *Terminal Services* or Citrix *Presentation Server/XenApp* configuration

Application with database server		
	Recommended	
Processor	Dual Core 2.4 GHz or higher	
Memory	8 GB RAM or more <i>plus</i> 400 MB per user	
Disk configuration	RAID 1 configuration for the OS, RAID 5 for the database	
Disk space	100 GB minimum after OS installation. Total disk requirements might increase with data storage requirements	
Network	Network Interface Card 100 MB, TCP/IP protocol	
Operating system	Please refer to Supported operating systems on page 4	
Database management system	Please refer to Supported database management systems on page 4	
Web Browser	Microsoft Internet Explorer 7, 8 or 9	
Internet Access	High-speed Internet connection recommended for remote support and for communicating with the RAMQ (Quebec users)	
UPS	Uninterruptible Power Supply with capacity for at least 30 minutes	
Scanner	Please refer to Chapter 4: Supported peripherals	
Printer	Please refer to Chapter 4: Supported peripherals	
PDF document viewer	 Adobe Acrobat, Standard or Professional editions, versions 6, 7, 8 or 9 (*) (Acrobat 9.2 or higher must be used with Windows 7) are still supported but new installations are now deployed with Purkinje PDF Viewer v5 (see below). Acrobat Versions X and above are not supported. or Purkinje PDF Viewer v5 (integrated directly into the software) 	

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Client workstation		
	Recommended	
Processor	2.0 GHz or higher	
Memory	2 GB RAM or more	
Disk space	80 GB capacity, with 50 GB free space after OS installation.	
Monitor	1024X768 minimum resolution	
Operating system	Please refer to Supported operating systems on page 4	
Networking	Network Interface Card 100 MB, TCP/IP protocol	
Web Browser	Microsoft Internet Explorer 7, 8 or 9	
Internet Access	High-speed Internet connection recommended for remote support and for communicating with the RAMQ (Quebec users)	
PDF document viewer	Adobe Acrobat, Standard or Professional editions, versions 6, 7, 8 or 9 (Acrobat 9.2 or higher must be used with Windows 7) are still supported but new installations are now deployed with Purkinje PDF Viewer v5 (see below). Acrobat Versions X and above are not supported. or	
	◆ Purkinje <i>PDF Viewer v5</i> (integrated directly into the software)	

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2.4 Clinic, 11 to 25 users - Microsoft *Terminal Services* or Citrix *Presentation Server/XenApp* configuration

Application with database server		
	Recommended	
Processor	Dual Core 2.4 GHz or higher	
Memory	8 GB RAM or more <i>plus</i> 400 MB per user	
Disk configuration	RAID 1 configuration for the OS, RAID 5 for the database	
Disk space	150 GB minimum. Total disk requirements might increase with data storage requirements	
Network	Network Interface Card 100 MB, TCP/IP protocol	
Operating system	Please refer to Supported operating systems on page 4	
Database management system	Please refer to Supported database management systems on page 4	
Web Browser	Microsoft Internet Explorer 7, 8 or 9	
Internet Access	High-speed Internet connection recommended for remote support and for communicating with the RAMQ (Quebec users)	
UPS	Uninterruptible Power Supply with capacity for at least 30 minutes	
Scanner	Please refer to Chapter 4: Supported peripherals	
Printer	Please refer to Chapter 4: Supported peripherals	
PDF document viewer	 Adobe Acrobat, Standard or Professional editions, versions 6, 7, 8 or 9 (*) (Acrobat 9.2 or higher must be used with Windows 7) are still supported but new installations are now deployed with Purkinje PDF Viewer v5 (see below). Acrobat Versions X and above are not supported. or Purkinje PDF Viewer v5 (integrated directly into the software) 	

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Client workstation		
	Recommended	
Processor	2.0 GHz or higher	
Memory	2 GB RAM or more	
Disk space	80 GB capacity, with 50 GB free space after OS installation.	
Monitor	1024X768 minimum resolution	
Operating system	Please refer to Supported operating systems on page 4	
Networking	Network Interface Card 100 MB, TCP/IP protocol	
Web Browser	Microsoft Internet Explorer 7, 8 or 9	
Internet Access	High-speed Internet connection recommended for remote support and for communicating with the RAMQ (Quebec users)	
PDF document viewer	Adobe Acrobat, Standard or Professional editions, versions 6, 7, 8 or 9 (Acrobat 9.2 or higher must be used with Windows 7) are still supported but new installations are now deployed with Purkinje PDF Viewer v5 (see below). Acrobat Versions X and above are not supported. or	
	◆ Purkinje <i>PDF Viewer v5</i> (integrated directly into the software)	

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2.5 Large clinic, more than 25 users - Microsoft *Terminal Services* or Citrix *Presentation Server/XenApp* configuration

IMPORTANT

This configuration requires a <u>dedicated application server</u> and a <u>dedicated database server</u> in a domain environment $^{(*)}$

Dedicated Application server		
	Recommended	
Processor	Quad Core 2.4 GHz or higher	
Memory	8 GB RAM or more <i>plus</i> 400 MB per user	
Disk configuration	RAID 1 configuration for the OS, RAID 5 for the database	
Disk space	150 GB minimum.	
Network	Network Interface Card 100 MB, TCP/IP protocol	
Operating system	Please refer to Supported operating systems on page 4.	
Web Browser	Microsoft Internet Explorer 7, 8 or 9	
Internet Access	High-speed Internet connection recommended for remote support and for communicating with the RAMQ (Quebec users)	
UPS	Uninterruptible Power Supply with capacity for at least 30 minutes	
Scanner	Please refer to Chapter 4: Supported peripherals	
Printer	Please refer to Chapter 4: Supported peripherals	
PDF document viewer	 Adobe Acrobat, Standard or Professional editions, versions 6, 7, 8 or 9 (*) (Acrobat 9.2 or higher must be used with Windows 7) are still supported but new installations are now deployed with Purkinje PDF Viewer v5 (see below). Acrobat Versions X and above are not supported. or Purkinje PDF Viewer v5 (integrated directly into the software) 	

^{*} You also will require a dedicated Domain controller. The Application server or the Database server cannot simultaneously serve as a Domain controller.

^{*} Due to restrictions imposed by Adobe Inc, Purkinje|Dossier is not able to support Adobe *Acrobat Reader* (the free version of the application). Users who wish to read PDF files must install the full version of Adobe *Acrobat*.

Dedicated Database server and HL7 Exchange (*)		
	Recommended	
Processor	Quad Core 2.4 GHz or higher	
Memory	8 GB RAM or more <i>plus</i> 400 MB per user	
Disk configuration	RAID 1 configuration for the OS, RAID 5 for the database	
Disk space	500 GB minimum. Total disk requirements might increase with data storage requirements	
Network	Network Interface Card 100 MB, TCP/IP protocol	
Operating system	Please refer to Supported operating systems on page 4.	
Database management system	Please refer to Supported database management systems on page 4.	
Web Browser	Microsoft Internet Explorer 7, 8 or 9	
Internet Access	High-speed Internet connection recommended for remote support and for communicating with the RAMQ (Quebec users)	
UPS	Uninterruptible Power Supply with capacity for at least 30 minutes	
Scanner	Please refer to Chapter 4: Supported peripherals	
Printer	Please refer to Chapter 4: Supported peripherals	
PDF document viewer	 Adobe Acrobat, Standard or Professional editions, versions 6, 7, 8 or 9 (*) (Acrobat 9.2 or higher must be used with Windows 7) are still supported but new installations are now deployed with Purkinje PDF Viewer v5 (see below). Acrobat Versions X and above are not supported. or Purkinje PDF Viewer v5 (integrated directly into the software) 	

^{*} A fault-tolerant (clustered) database server with external storage should be considered.

^{*} Due to restrictions imposed by Adobe Inc, Purkinje|Dossier is not able to support Adobe *Acrobat Reader* (the free version of the application). Users who wish to read PDF files must install the full version of Adobe *Acrobat*.

Client workstation		
	Recommended	
Processor	2.0 GHz or higher	
Memory	2 GB RAM or more	
Disk space	80 GB capacity, with 50 GB free space after OS installation.	
Monitor	1024X768 minimum resolution	
Operating system	Please refer to Supported operating systems on page 4	
Networking	Network Interface Card 100 MB, TCP/IP protocol	
Web Browser	Microsoft Internet Explorer 7, 8 or 9	
Internet Access	High-speed Internet connection recommended for remote support and for communicating with the RAMQ (Quebec users)	
PDF document viewer	• Adobe Acrobat, Standard or Professional editions, versions 6, 7, 8 or 9 (*) (Acrobat 9.2 or higher must be used with Windows 7) are still supported but new installations are now deployed with Purkinje PDF Viewer v5 (see below). Acrobat Versions X and above are not supported. Or	
	 Purkinje PDF Viewer v5 (integrated directly into the software) 	

^{*} Due to restrictions imposed by Adobe Inc, Purkinje|Dossier is not able to support Adobe *Acrobat Reader* (the free version of the application). Users who wish to read PDF files must install the full version of Adobe *Acrobat*.

3 RECOMMENDED TOOLS FOR REMOTE SUPPORT CONNECTION

Application	Details
Microsoft Terminal Services or Citrix Presentation Server 4	 High-speed Internet connection with adequate security configuration
Remote Desktop Connection	 High-speed Internet connection with adequate security configuration
	 Only available with Microsoft Windows XP, Windows Vista and Windows 7 operating systems

4 SUPPORTED PERIPHERALS

4.1 Supported printers

Label printers				
Model	Manufacturer	Characteristics		
GC420d	Zebra	Direct thermal label printer		
GC420t	Zebra	Direct thermal with thermal transfer label printer. The labels generated with this printer last longer		

Prescription printers				
Model	Manufacturer	Characteristics		
Laserjet P1102/P1606	Hewlett Packard	Up to 17 pages per minute; Hi-speed USB 2.0 connectivity.		
TSP 800	Star Micronics	Direct thermal printer that can be used for prescriptions; interchangeable interfaces include RS232, parallel, USB and Ethernet.		
HL-2240	Brother	Up to 20 pages per minute; only one sheet feeder tray; connections include high speed USB and Ethernet 10/100.		

Note

Purkinje does not recommend inkjet printers for prescriptions. They are less reliable and considering the cost of supplies, their upkeep will cost more over time than a laser printer.

Other document printing

Purkinje|Dossier supports any other printer that is supported by Microsoft Windows.

Note however that some printers are not compatible when used under a Terminal Server configuration. For more information, please check with the printer manufacturer.

4.2 Supported scanners

Purkinje|Dossier interacts directly with scanners using the TWAIN software protocol. Since each TWAIN implementation is slightly different among scanners, each scanner used with Purkinje|Dossier must be certified prior to use.

Model	Manufacturer	Characteristics
fi-6110	Fujitsu	Color duplex (scans two sides at a time) with a speed of 40 pages / 80 images per minute and a USB 2.0 / 1.1 interface. Scans through the sheet feeder only.
fi-6130z	Fujitsu	Color duplex (scans two sides at a time) with a speed of 80 pages / 160 images per minute and a USB 2.0 / 1.1 interface. Scans through the sheet feeder only.
fi-6230z	Fujitsu	Color duplex (scans two sides at a time) with a speed of 80 pages / 160 images per minute and a USB 2.0 / 1.1 interface. Scans via sheet feeder or via available flatbed for odd sized documents.
fi-6800	Fujitsu	Color duplex (scans two sides at a time) with a speed of 130 pages / 260 images per minute and two connection possibilities: high speed USB and ultra SCSI. Scans via sheet feeder only.

IMPORTANT - ALWAYS PERFORM COLOUR SCANNING

Purkinje strongly recommends that you perform **colour scanning** of all your documents with a minimum resolution of 150 dpi – even if the original document is in black and white.

When we refer to *colour scanning* vs. *black and white scanning*, we are not referring to how the original document appears, but rather how each pixel is interpreted.

Colour scanning produces images whose pixels each have a red, green and blue (RGB) component. Different intensities of red, green and blue can produce over sixteen million colours (including black, white and shades of grey in between).

Black and white scanning produces images with only black and white pixels – the scanning software establishes a *threshold pixel intensity*; when the scanned image is created, image components that have an intensity higher than the threshold will be converted to black pixels, while components that have an intensity lower than the threshold will be converted to white pixels.

The behaviour of the black and white scanning process can <u>significantly reduce the quality and clarity of</u> the image and the readability of results. For example:

- Defects on the paper (creases, stains, smudges) might appear intense enough during the scan such
 that the software converts these image components to black pixels, resulting in an image with
 black spots.
- Alternatively, text on the paper that is light might have an intensity lower than the threshold, such
 that the software converts these image components to white pixels.

This can even potentially alter the data itself – for example, the number "8" in a paper document might appear as the number "3" after it is scanned (or vice versa).

If you decide to scan in black and white, you are responsible for carrying out a complete visual "quality-assurance" verification of the scanned document before disposing of the paper version, to ensure that the integrity of the data has been maintained.

IMPORTANT - SUPPORTED PDF DOCUMENT READERS

<u>Purkinje</u>|Dossier recommends Purkinje *PDF Viewer v5* as the PDF document reader. This is the reader that Purkinje installs now.

However, Adobe *Acrobat*, Standard or Professional editions, versions 6, 7, 8 or 9 ^(*), (Acrobat 9.2 or higher with Windows 7) are still supported for existing installations. Versions X and above are not supported.

IMPORTANT - SUPPORTED ENVIRONMENT

- Virtualization please contact Purkinje support for more information
 - Macintosh Operating System please contact Purkinje support for more information.

^{*} Due to restrictions imposed by Adobe Inc, Purkinje|Dossier is not able to support Adobe *Acrobat Reader* (the free version of the application). Users who wish to read PDF files must install the full version of Adobe *Acrobat*.

4.3 Supported magnetic card reader

Purkinje supports magnetic card readers in some applications. The following model has been certified to use with Purkinje applications.

Model	Manufacturer	Characteristics		
MX53- USB-BLK	POSH	Triple Track Reading (Selectable Tracks), bi-directional swiping and audible / LED Good Read and Error Indicator		