Perceptive Intelligent Capture

Technical Specifications

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Lexmark™ Enterprise Software

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About the Perceptive Intelligent Capture technical specifications

Perceptive intelligent Capture (PIC) is a product suite that automates the processing of incoming documents. PIC automatically classifies these documents, extracts meaningful information, and exports that data for use by other systems. PIC works with any document that is electronically available, including scanned images, e-mails, files, and faxes.

This document provides the technical specifications for PIC. Use the requirements provided in this document as a guideline. The actual hardware and software configuration depends on your specific requirements.

About PIC server requirements

The primary PIC server powers the PIC processes such as licensing, OCR, classification, and extraction. All PIC servers require a server-class system to run in a production environment.

The requirements do not include any amount of memory or disk space you require for the operating system, environment, or other software that runs on the same machine. In addition to the recommended disk space, we recommend hot swappable hard drives and the use of RAID controllers.

Minimum hardware recommendations vary based on the number of daily processed documents. If your daily volume exceeds 10,000 pages, contact your Lexmark representative for recommendations.

For all software and operating systems listed, we recommend using the latest patch version.

The recommendations in this guide are based on a standard Perceptive accounts payable project with the following properties.

- 1-3 page TIFF documents
- Document resolution of 300 dpi
- Average TIFF file size of approximately 80 KB
- Average WorkDoc size of approximately 21 KB
- A project size of less than 5 MB and less than 10 document classes
- Cleanup of exported batches within 1-3 days

Servers processing up to 500 pages per day

The following table lists the minimum requirements for PIC servers processing up to 500 pages per day.

Specification	Description
Hardware	As a minimum requirement, use a dual core processor running at 3 GHz.
Memory	Minimum 4 GB, 2 GB per core
Disk space	20 – 40 GB

Servers processing up to 5,000 pages per day

The following table lists the minimum requirements for PIC servers processing up to 5,000 pages per day.

Specification	Description
Hardware	As a minimum requirement, use a quad core processor running at 3 GHz.
Memory	Minimum 8 GB, 2 GB per core
Disk space	100-200 GB

Servers processing up to 10,000 pages per day

The following table lists the minimum requirements for PIC servers processing up to 10,000 pages per day.

Specification	Description
Hardware	As a minimum requirement, use a 8 core processor running at 3 GHz
Memory	Minimum 16 GB, 2 GB per core
Disk space	Minimum 200 GB

Additional server requirements

The following table lists the additional requirements for PIC servers.

Specification	Description
Operating Systems	Microsoft Windows Server 2012 R2
Software	Microsoft .NET Framework 4.5.2
Network	A 100 MB/s network, configured at full duplex or auto-negotiate. We recommend a 1 GB/s network to provide optimal performance.

PIC database server

The PIC database stores the data and processed documents. We do not recommend the use of network attached storage (NAS) devices.

The following table lists the minimum technical specifications required for PIC database servers.

Specification	Description
Hardware	As a minimum requirement, use a quad-core processor running at 3 GHz. Hardware requirements specified by respective DBMS vendors are necessary in addition to PIC-specific requirements. We recommend installing the database on a separate server.
Memory	Minimum 8 GB
Disk Space	Minimum 100 GB
Operating Systems	Microsoft Windows Server 2012 R2 We provide support for ODBC and web services as they relate to Microsoft Windows Server OS. However, you can use any server OS that allows database connectivity through ODBC and web services, such as REHL, AIX, and Solaris. A non-Windows server OS must provide the same level of functionality for ODBC and web services.
Software	Microsoft .NET Framework 4.5.2
DBMS	• Microsoft SQL Server 2008 R2, 2012 SP2 (Enterprise Edition recommended), or 2014 SP2 • Oracle 11g R2 or Oracle 12c If you use Oracle as a database, you must install an Oracle client on any workstation or server where PIC communicates with the database, such as when using PIC Designer or PIC Verifier.
Network	A 100 MB/s network, configured at full duplex or auto-negotiate. We recommend a 1 GB/s network to provide optimal performance.

PIC Web Verifier server

The following table lists the minimum technical specifications required for PIC Web Verifier servers.

Specification	Description
Hardware	We recommend installing PIC Web Verifier server on a dedicated server. Minimum hardware recommendations vary based on the number of concurrent supported users. As a minimum requirement, for 2-4 users, use a quad-core processor running at 3 GHz, plus 1 additional core for every 2 additional concurrent users.
Memory	Minimum 4 GB for 2-4 users plus 500 MB for each additional user
Disk Space	Minimum 50 GB Minimum 30 GB for the operating system

Specification	Description
Operating Systems	Microsoft Windows Server 2012 R2
Software	• Microsoft .NET Framework 4.5.2 • Internet Information Services (IIS)

About OCR performance

OCR is a processor-intensive task. To maximize performance, we recommend only one active Runtime Server OCR instance per CPU.

About virtual machines

Lexmark supports running PIC products on the named operating systems, regardless of whether the system runs in a virtual environment, such as VMWare, Microsoft Hyper-V or Amazon EC2. Unless otherwise noted in this document, we support specific operating systems, web server configurations, and web browsers – not hardware configurations. Virtual platforms operate on, and interact with, the hardware abstraction layer provided by the virtual platform vendor.

The virtual platform vendor supports a set of certified operating systems and hardware. Lexmark is not responsible for any interactions or issues that arise at the hardware or operating system level because of the virtual platform vendor.

In virtual environments, PIC supports virtualization but not paravirtualization.

About PIC client requirements

A PIC system includes several clients and a PIC server. The following sections provide the technical specifications for each client application.

PIC Designer

The PIC Designer client creates and maintains PIC projects and applications. Designer does not require a separate desktop system, and typically runs on the same machine as the PIC server.

The following table lists the minimum technical specifications required for this client.

Specification	Description
Hardware	As a minimum requirement, use a one-core processor running at 2.4 GHz. The required minimum screen resolution is 1024 x 768. We recommend 1280 x 1024 SVGA.
Operating	• Microsoft Windows 7

Specification	Description
Systems	• Microsoft Windows 10
Software	Microsoft .NET Framework 4.5.2
Network	A 100 MB/s network, configured at full duplex or auto-negotiate. We recommend a 1 GB/s network to provide optimal performance.
Memory	Minimum 1 GB in addition to the memory recommended for the operating system
Disk Space	Minimum 40 GB
DBMS	When using Oracle for the PIC DBMS, you must install a 32-bit Oracle client on every desktop that runs a PIC Designer client.

PIC Verifier

The PIC Verifier client is the quality assurance component of the PIC system. Verifier allows users to perform data verification, Advanced Verifier operations, and learn set management.

The following table lists the minimum technical specifications required for Verifier.

Specification	Description
Hardware	As a minimum requirement, use a one core processor running at 2.4 GHz. The required minimum screen resolution is 1024 x 768. We recommend 1280 x 1024 SVGA.
Operating Systems	• Microsoft Windows 7 • Microsoft Windows 10
Software	Microsoft .NET Framework 4.5.2
Network	A 100 MB/s network, configured at full duplex or auto-negotiate. We recommend a 1 GB/s network to provide optimal performance.
Memory	Minimum 1 GB in addition to the memory recommended for the operating system.
Disk Space	Minimum 40 GB
DBMS	When using Oracle for the PIC DBMS, you must install a 32-bit Oracle client on every desktop that runs a PIC Verifier client.

About PIC Verifier clients using Citrix or Terminal Services

The PIC core applications are not designed to work with any specific desktop presentation platform. You can use third party products like Citrix and Microsoft Terminal Services. However, you are responsible for providing, configuring, and supporting the environment.

PIC Web Verifier client

PIC Web Verifier is the web-based version of the Verifier client, and does not require a separate workstation.

The following table lists the minimum technical specifications required for this client.

Specification	Description
Hardware	As a minimum requirement, use a dual-core processor running at 2.0 GHz. The required minimum screen resolution is 1024 x 768. We recommend 1280 x 1024 SVGA.
Operating Systems	• Microsoft Windows 7 • Microsoft Windows 10
Web Browsers	• Internet Explorer 11 • Google Chrome
Network	A 100 MB/s network, configured at full duplex or auto-negotiate. We recommend a 1 GB/s network to provide optimal performance.
Memory	Minimum 2 GB in addition to the memory recommended for the operating system
Disk Space	Minimum 40 GB

PIC RTS Remote Admin client

The PIC Remote Admin client manages the PIC Runtime Server (RTS). This client does not require a separate workstation. It typically runs on a PIC server or any network-accessible system where the Microsoft Management Console is available for the PIC RTS Remote Admin snap-in.

The following table lists the minimum technical specifications required for this client.

Specification	Description
Hardware	As a minimum requirement, use a one-core processor running at 2.4 GHz. The required minimum screen resolution is 1024 x 768. We recommend 1280 x 1024 SVGA.

Specification	Description
Operating Systems	• Microsoft Windows 7 • Microsoft Windows 10
Software	• Microsoft .NET Framework 4.5.2 • PIC RTS Remote Admin MMC Snap-in
Network	A 100 MB/s network, configured at full duplex or auto-negotiate. We recommend a 1 GB/s network to provide optimal performance.
Memory	Minimum 1 GB in addition to the memory recommended for the operating system.
Disk Space	Minimum 40 GB

Scripting component

PIC supports WinWrap version 9.0.0.56.

PIC development and test environments

In addition to the production server environment, we recommend a development and test environment. A typical development or test environment consists of a single server capable of processing up to 500 pages per day.

The following table lists the minimum technical specifications for a system that houses PIC server, PIC Web Verifier server, and PIC database server.

Specification	Description
Hardware	As a minimum requirement, use a quad-core processor running at 3 GHz.
Memory	Minimum 8 GB
Disk Space	Minimum 100 GB
Operating Systems	Microsoft Windows Server 2012 R2
Software	• Microsoft .NET Framework 4.5.2 • PIC RTS Remote Admin MMC snap-in • Internet Information Services (IIS)

Specification	Description
DBMS	• Microsoft SQL Server 2008 R2, 2012 SP2 (Enterprise Edition recommended), or 2014 SP2 • Oracle 11g R2 (32-bit) or 12c When using Oracle as a database, you must install an Oracle client on any workstation and server where PIC communicates with the database, for example, when using PIC Designer or PIC Verifier.

Supported email clients

The email service provided within PIC is compatible with the following email clients, but has limited future support. For a more robust system, we recommend using Perceptive Content with Mail Agent for this capability instead.

- Microsoft Outlook 2013 32-bit
- Microsoft Outlook 2010 32-bit

ABBYY FineReader

PIC is compatible with the following versions of ABBYY FineReader.

- ABBYY FineReader 11
- ABBYY FineReader 10

UI languages

The following table lists the available UI languages for each PIC application. This does not pertain to the PIC Verifier form itself. Localization support of the PIC Verifier form in other languages requires custom services.

Language	Designer	Verifier	Web Verifier
Chinese (Simplified)			Yes
Chinese (Traditional)			Yes
Danish			Yes
Dutch (Dansk)			Yes
English	Yes	Yes	Yes
Finnish (Suomi)			Yes
French		Yes	Yes

Language	Designer	Verifier	Web Verifier
German (Deutsch)	Yes	Yes	Yes
Italian			Yes
Japanese			Yes
Korean			Yes
Norwegian			Yes
Polish			Yes
Portuguese (Brazilian)			Yes
Romanian			Yes
Russian			Yes
Spanish			Yes
Swedish			Yes
Turkish			Yes

Capture for Invoices

Review the following topics if your installation includes Capture for Invoices.

- Supported languages
- Compatibility
- Network port usage

Supported languages

Language	1006*	1007*	2.X
Bulgarian	Yes	Yes	2.1+
Chinese (Simplified)		1007D+	2.1+

Language	1006*	1007*	2.X
Czech	Yes	Yes	2.1+
Danish	Yes	Yes	2.1+
Dutch	Yes	Yes	2.1+
English	Yes	Yes	2.1+
Estonian	Yes	Yes	2.1+
Finnish	Yes	Yes	2.1+
French	Yes	Yes	2.1+
German	Yes	Yes	2.1+
Greek	Yes	Yes	2.1+
Hungarian	Yes	Yes	2.1+
Italian	Yes	Yes	2.1+
Japanese		1007D+	2.1+
Korean		1007E+	2.1+
Latvian	Yes	Yes	2.1+
Lithuanian	Yes	Yes	2.1+
Norwegian	Yes	Yes	2.1+
Polish	Yes	Yes	2.1+
Portuguese	Yes	Yes	2.1+
Portuguese (Brazilian)	Yes	Yes	2.1+
Romanian	Yes	Yes	2.1+
Russian	Yes	Yes	2.1+

Language	1006*	1007*	2.X
Slovak	Yes	Yes	2.1+
Slovenian	Yes	Yes	2.1+
Spanish	Yes	Yes	2.1+
Swedish	Yes	Yes	2.1+
Thai		1007F+	2.3+
Turkish	Yes	Yes	2.1+

Compatibility

The following table lists the PIC versions compatible with Capture for Invoices.

Capture for Invoices Releases	5.5	5.5.1	5.5.2	5.5.3	5.7	5.8
1006D	Yes	Yes	Yes	Yes		
1007B	Yes	Yes	Yes	Yes		
1007C & 1007CA	Yes	Yes	Yes	Yes		
1007D			Yes	Yes		
1007E, F, G				Yes	Yes	Yes
2.1		Yes	Yes	Yes		
2.2			Yes	Yes		
2.3				Yes	Yes	
2.4, 2.5, 2.6, 2.7, and 2.8				Yes	Yes	Yes

ERP integration

Capture for Invoices versions 1007x and 2.x support SAP ECC 6.0.

Network port usage

PIC and its related products use specific network ports as part of the default implementation. If needed, you can modify port assignments. The following table lists the Internet Assigned Number Authority (IANA) for networking protocols. It is possible that your networking group has changed ports for LDAP, SMTP, POP3, or for database traffic to meet your organization's security requirements.

Note: For integrations with ERP solutions, consult with your Lexmark representative for information on the ports that PIC requires and uses.

Port	Usage
110	RTS - incoming email (POP3)
50607	RTS - instances
3000	ABBYY FineReader 10 Network License Manager
3011	ABBYY FineReader 11 Network License Manager
1433	Microsoft SQL Server database
1521	Oracle database

About firewalls

PIC requires a non-encapsulated LAN environment without firewalls or other traffic-filtering devices.

Considerations for PIC

When sizing the hardware for a production environment, consider the following factors.

- Input volume: The number of documents and pages to process on a daily basis.
- Completion time: The time required from scanning the document in to the time required to exporting the document out of the system.
- Complexity of input documents: Includes single or multi-page TIFF, scanning resolution, document size, number of OCR pages per document.
- Output requirements: Includes data extraction, validation, export, and number of documents processed per day.
- Complexity of workflow customization: This includes, but is not limited to scripting.

- Third-party software integration requirements: Includes third-party software such as Oracle, Oracle Financials, JD Edwards, SAP, Microsoft Dynamics, Lawson, and ECM and CRM systems.
- Disaster recovery: Includes backup, fault tolerance and up time.
- Room for growth: Includes increasing input and output and other system requirements.
- Number of concurrent users: Includes the number of users for PIC Verifier and PIC Web Verifier.
- Batch retention time: Retention time for a batch of documents in the system after export.
- Number of projects: Number of PIC projects per country and per solution.
- Installed components: Other components such as Visibility or databases. For a production environment, we recommend to install these software products on separate servers.
- Network: Network operating system platform and network environment.