ATIPXpress

Recommended System Requirements

v11.11.0

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OPEXUSTECH.COM

ATIPXpress v11.11.0 Recommended System Requirements

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Contents

1 About This Manual

The purpose of this manual is to provide an overview of the environment required to set up to deploy the ATIPXpress (AX) application. This document introduces the recommended hardware and software required to begin the process of installing the application and related components. This document also offers basic networking recommendations to provide some performance gains.

Additionally, this manual provides recommendations for setting up an Azure ATIPXpress environment. You'll also find sections on Public Access Link (PAL) system requirements, Collaboration Portal requirements, and recommendations for using the Electronic Document Review (EDR) module.

2 ATIPXpress Recommended System Requirements

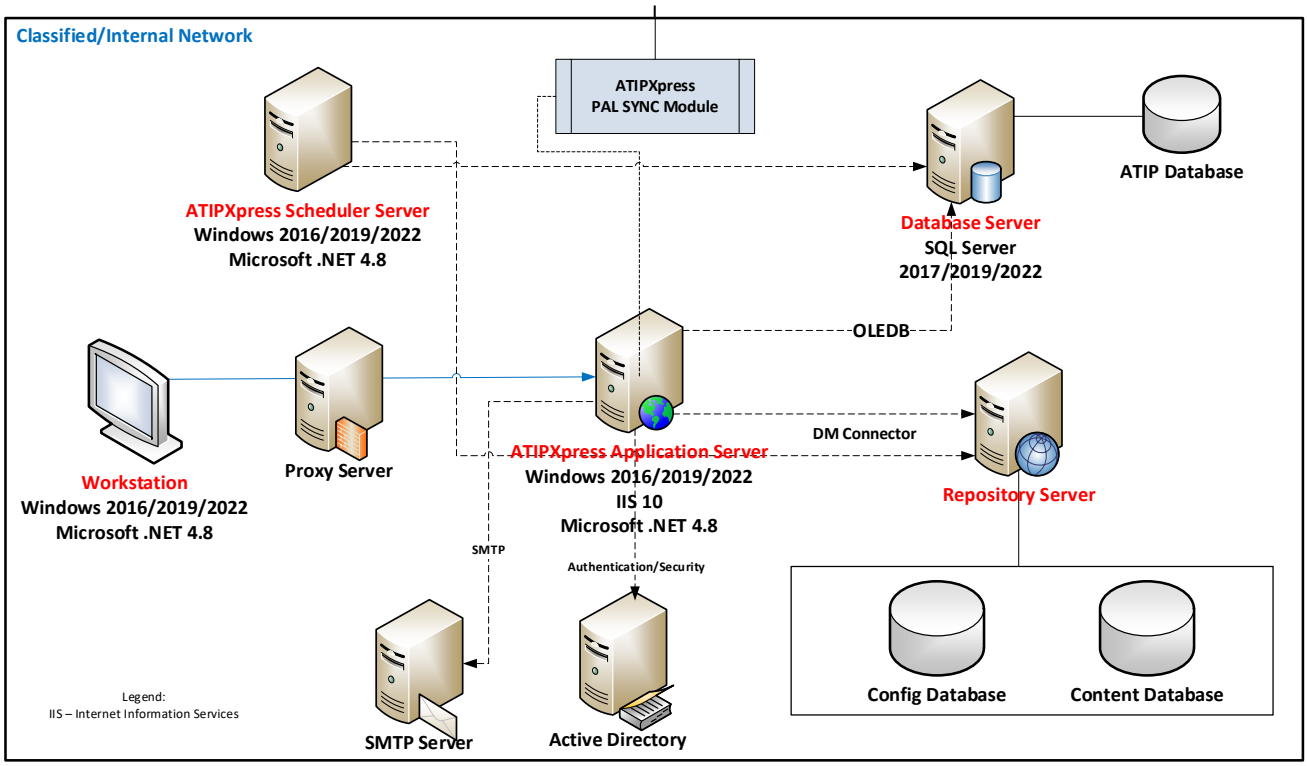
2.1 AX Requirements Overview

ATIPXpress is a Microsoft Internet Information Services (IIS) based web application running with a SQL Server (2017/2019/2022) backend database. ATIPXpress Server Suite includes the following server components:

- ATIPXpress Database Server: The AX database is installed on a SQL Database Server. The AX database stores and manages information related to requesters, requests, document data information, and the AX application configuration. The database includes Full Text search for indexing data.
- ATIPXpress Application Server: AX Web Application is an IIS (Internet Information Services) based Web application. The AX Web Application consists of .NET components and ASPX pages. The AX Web Application Server communicates with the AX Database Server through the .NET components.
- ATIPXpress Repository Server: ATIPXpress documents (original) and correspondence documents are stored on the respective repository server (File repository)
- ATIPXpress Scheduler Server: The ATIPXpress scheduler services does the following.
    - Delivers requested documents to the ATIP requester either through email or other selected methods.
    - Supports the full text search feature in AX. When documents or correspondence are added to AX, the text on the image pages is scanned, OCR'd, indexed and stored in the database by the service.
    - Allows users to schedule the running of a report and delivery of saved report criteria.
    - Synchronizes the AX Requester and Request Reading Room related information with the AX PAL Web Portal, which is accessible to the general public to make and track ATIP requests. This service is not used if an agency does not use the PAL Web Portal application.
    - Utilizes the AX Electronic Document Review (EDR) module to further speed and improve ATIP processing by reducing time spent searching and reviewing relevant documents.
- Optional Servers if modules are purchased:

- ATIPXpress EDR Server: ATIPXpress Electronic Document Review is a module that de-duplicates ingested data sources .This server helps further speed up and improve ATIP processing.
- ATIPXpress PAL Server: Public Access Link (PAL) Application is an IIS (Internet Information Services) based Web application. The PAL Application consists of .NET components and ASPX pages. The PAL Application Server communicates with the ATIPXpress and PAL Database Server through the .NET components.

The following diagram illustrates a high-level view of the ATIPXpress architecture:

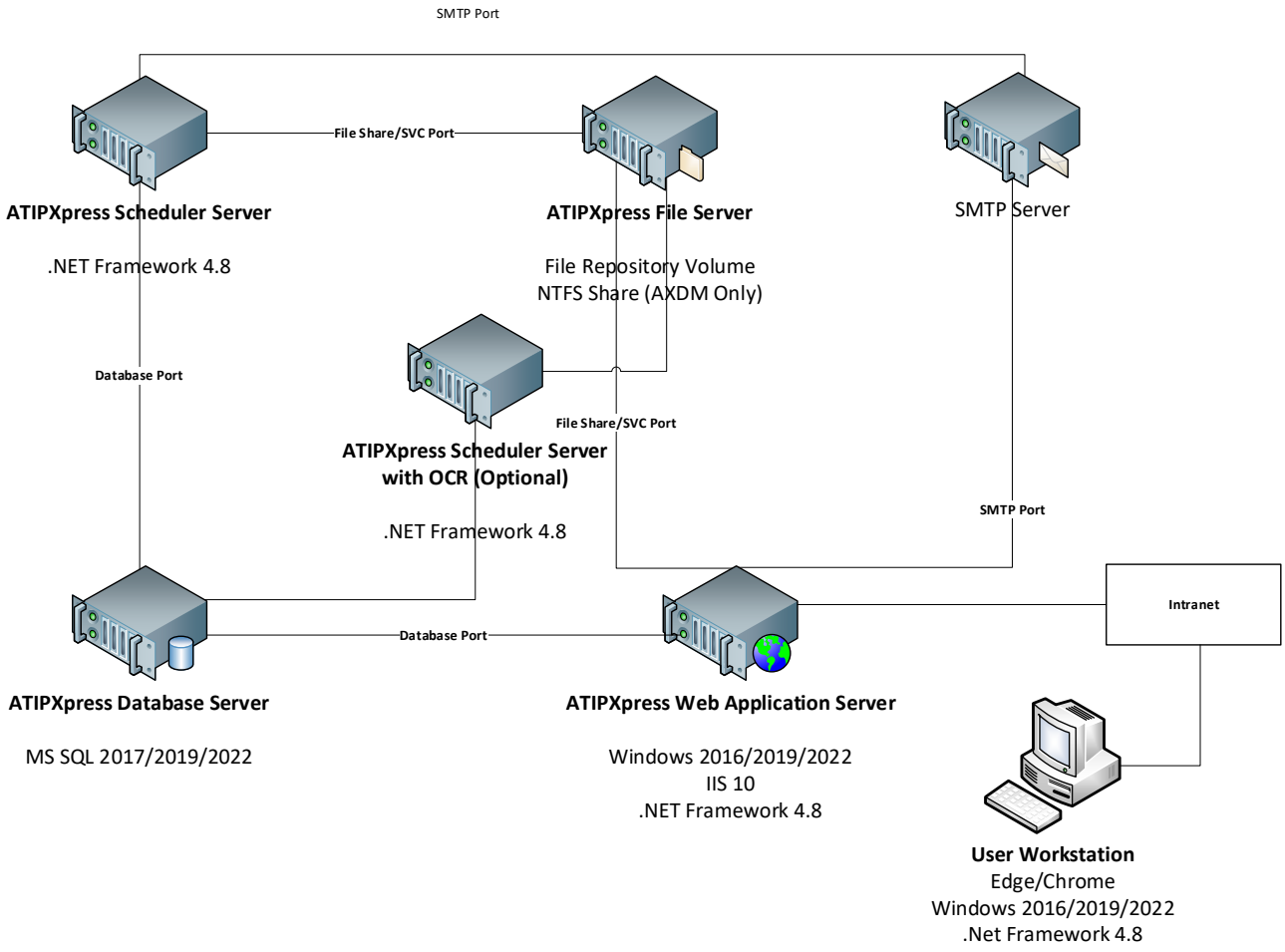


(!!) Note: The ATIPXpress application and all other components can be installed on a single server if the organization size and workload are minimal. However, it is highly recommended to house the database, application and scheduler on separate servers due to the high volume of processing required by the CPU.

The following pages detail various server configurations based on the number of users. It is always best to consult with OPEXUS to review specific ATIPXpress requirements to determine the optimal server configuration to be utilized.

2.2 Server Configuration Scenarios

The following scenarios are to provide an idea of the layout and architecture of the ATIPXpress system.



2.2.1 1 to 20 Users Scenario – Single Server Configuration

The following table outlines the configuration requirements for organizations utilizing a single server for one to 20 users:

Component	Hardware	Operating System	Software Needed
Application	Core: 4 or more GHz: 2.5 or more RAM: 8 GB or more Hard disk: 250 GB or more	Windows 2016/2019/2022	Microsoft SQL server 2017/2019/2022 Microsoft .NET Framework 4.8 Microsoft IIS 10 (Web Server)
Database	Core: 4 or more GHz: 2.5 or more RAM: 8 GB or more Hard disk: 250 GB or more	Windows 2016/2019/2022	Microsoft SQL server 2017/2019/2022 Microsoft .NET Framework 4.8 Microsoft IIS 10 (Web Server)
Scheduler	Core: 4 or more GHz: 2.5 or more RAM: 8 GB or more Hard disk: 250 GB or more Core: 4 or more GHz: 2.5 or more RAM: 8 GB or more Hard disk: 250 GB or more	Windows 2016/2019/2022	Microsoft SQL server 2017/2019/2022 Microsoft .NET Framework 4.8 Microsoft IIS 10 (Web Server)

Component	Hardware	Operating System	Software Needed
Repository	Core: 4 or more GHz: 2.5 or more RAM: 8 GB or more Hard disk: 250 GB or more Core: 4 or more GHz: 2.5 or more RAM: 8 GB or more Hard disk: 250 GB or more	Windows 2016/2019/2022	Microsoft SQL server 2017/2019/2022 Microsoft .NET Framework 4.8 Microsoft IIS 10 (Web Server)

2.2.2 21 to 100 Users Scenario – Three Server Configuration

The following table outlines the configuration requirements for organizations utilizing three servers for 21 to 100 users:

Component	Hardware	Operating System	Software Needed
Application	Core: 4 or more GHz: 2.5 or more RAM: 8 GB or more Hard disk: 160 GB or more	Windows 2016/2019/2022	Microsoft SQL server 2017/2019/2022

Component	Hardware	Operating System	Software Needed
Database	Core: 4 or more GHz: 2.5 or more RAM: 8 GB or more Hard disk: 160 GB or more	Windows 2016/2019/2022	Microsoft SQL server 2017/2019/2022
Scheduler	Core: 4 or more GHz: 2.5 or more RAM: 8 GB or more Hard disk: 40 GB or more	Windows 2016/2019/2022	Microsoft .NET Framework 4.8
Repository*	N/A*	N/A*	N/A*

***(!!) Note: Documents can be stored on either the *Application* or *Scheduler* system.**

2.2.3 101 to 500 Users Scenario – Three Server Configuration

The following table outlines the configuration requirements for organizations utilizing three servers for 101 to 500 users:

Component	Hardware	Operating System	Software Needed
Application	Core: 8 or more GHz: 2.5 or more RAM: 8 GB or more Hard disk: 40 GB or more	Windows 2016/2019/2022	Microsoft .NET Framework 4.8 Microsoft IIS 10 (Web Server)
Database	Core: 4 or more GHz: 2.5 or more RAM: 16 GB or more Hard disk: 160 GB or more	Windows 2016/2019/2022	Microsoft SQL server 2017/2019/2022
Scheduler	Core: 8 or more GHz: 2.5 or more RAM: 16 GB or more Hard disk: 40 GB or more	Windows 2016/2019/2022	Microsoft .NET Framework 4.8
Repository*	N/A*	N/A*	N/A*

***(!!) Note: Documents can be stored on either the *Application* or *Scheduler* system.**

2.2.4 More than 500 Users Scenario – Four Server Configuration

The following table outlines the configuration requirements for organizations utilizing four servers for more than 500 users:

Component	Hardware	Operating System	Software Needed
Application	Core: 8 or more GHz: 2.5 or more RAM: 16 GB or more Hard disk: 40 GB or more	Windows Server 2016/2019/2022	Microsoft .NET Framework 4.8 Microsoft IIS 10 (Web Server)
Database	Core: 8 or more GHz: 2.5 or more RAM: 16 GB or more Hard disk: 160 GB or more	Windows Server 2016/2019/2022	Microsoft SQL server 2017/2019/2022

Component	Hardware	Operating System	Software Needed
Scheduler – Without OCR	Core: 8 or more GHz: 2.5 or more RAM: 16 GB or more Hard disk: 40 GB or more	Windows Server 2016/2019/2022	Microsoft .NET Framework 4.8
Scheduler – With OCR	Core: 4 or more GHz: 2.5 or more RAM: 8 GB or more Hard disk: 40 GB or more	Windows Server 2016/2019/2022	Microsoft .NET Framework 4.8
Repository*	N/A*	N/A*	N/A*

***(!!) Note: Documents can be stored on either the *Application* or *Scheduler* server.**

2.2.5 Additional Information

2.2.5.1 Application Server Notes

Please review the following notes regarding the Application Server prior to configuration:

- IIS is not installed or enabled by default in the Microsoft Windows Server operating system. To successfully install ATIPXpress, IIS must first be installed and enabled. For further details concerning those installations, contact the hardware and/or software vendor.
- HTTP Redirection feature must be installed for IIS.

- HTTP Activation must be installed as part of the .Net Framework installation.

2.2.5.2 Database Server Notes

ATIPXpress does not require a dedicated database server and can be set up on an existing database server.

2.2.5.3 Repository Server Notes

Please review the following notes regarding the Repository Server prior to configuration:

1. ATIPXpress File Server contains the following:
    a. Documents
    b. Correspondence Templates
    c. Downloaded Documents
    d. Electronic Reading Room Documents
    e. PNG Cache location
2. For image files (tiff and jpeg), the following table shows the minimum required disk space.
    a. If a document contains 20 pages (tiff or jpeg images), the minimum required hard disk space for storing the document is 4.5 MB.
    b. Similarly, if there are 1000 such documents (total 20,000 Pages), then the required hard disk space is 4.5 GB.
3. Page size is estimated at approximately 75 KB per TIFF (compressed) file. Page size may vary depending on the file size, image quality, and content.
4. For Correspondence Templates, Downloads Documents and Electronic Reading Room Documents, additional disk space is required when using the ATIPXpress application.
5. The ATIPXpress Repository Server can also be configured on the Application Server if the file server type is NTFS. Additional hard disk capacity may be required over time due to the accumulation of documents.

2.2.5.4 General Notes

Please review the following notes prior to configuration:

1. For ATIPXpress EDR processing, it is recommended to have a dedicated server.
2. As with any application, an increase in the number of records will result in the necessity of additional storage for the server's hard drive. Additionally, an increase in the number of concurrent users on a server will result in an increase of RAM required for that server.
3. Hard Disk capacity is dependent on the amount of data in the database and the number of documents stored in ATIPXpress Document Management (AXDM).

2.3 Client Workstation

The table below outlines the minimum requirements for the Client Workstation:

Component	Requirements
Hardware	Intel Dual Core, 2.3 GHz processor or higher 4 GB RAM or higher 80 GB or higher
Screen Resolution	1024 x 768 or higher
Operating System	Windows 2016/2019/2022
Software	MS Edge/Google Chrome Microsoft .NET Framework 4.8

(!!) Notes:

- **The Client workstation should have Microsoft Windows 2016/2019/2022 installed.**
- **ATIPXpress does not support RTF and WPD formats as Correspondence Editors.**

Below are additional requirements for Client Workstations configured for the Zero Footprint Viewer:

Component	Requirements
Operating System	Windows 2016/2019/2022
Software	Microsoft .NET Framework 4.8 MS Edge/Google Chrome

Component	Requirements
Screen Resolutions	1920x1080, 1680x1050, 1600x1200, 1440x900, 1400x1050, 1280x1024, 1280x960, 1280x800, or 1152x864

(!!) Notes:

- **Consult the software vendor for additional information concerning the Zero Foot Print Viewer.**
- **Documents with WPD and RTF file formats are not supported.**

2.4 Scanning Workstation

The table below outlines the minimum requirements for the ATIPXpress Scanning Workstation:

Component	Requirements
Hardware	Intel Dual Core, 2.3 GHz processor or higher 4 GB RAM or higher 80 GB or higher
Operating System	Windows 2016/2019/2022
Software	MS Edge/Google Chrome Microsoft .NET Framework 4.8
Scanner	Scanner should support TWAIN Drivers and have a minimal optical resolution of 300dpi.

(!!) Note: Please consult with the hardware and/or software vendor for further details regarding a specific scanning device.

3 Azure System Recommendations

3.1 Azure Server Environment Recommendations

The following subsections describe the recommended server environment for ATIPXpress (AX) Azure Deployment, as well as the AX Public Access Link (PAL) Azure Environment.

3.1.1 Recommendations for ATIPXpress Server Environment

The following table lists the recommended server components, including Virtual Machine (VM), database (DB), etc. for the ATIPXpress App Server environment.

See section 2 of this document for a diagram of the proposed deployment architecture for an ATIP system in Azure GovCloud.

Component	Recommendation
Application Server	▪ Install Windows VM (version 2016 or higher) with IIS 10.0 ▪ Install ATIPXpress Application Server on the windows VM
Database Server	▪ SQL Server database using Azure SQL DB (PaaS) ▪ Version 2017/2019/2022
File Storage	▪ Install Windows VM (version 2016 or higher) and enable File Share (using UNC path) ▪ ATIPXpress folders/files can be shared so that other servers can access it using UNC path
Scheduler Servers (EDR, OCR, DDS, Sync)	▪ Install Windows VM (version 2016 or higher) and install ATIPXpress Scheduler Services for each of these service server instances

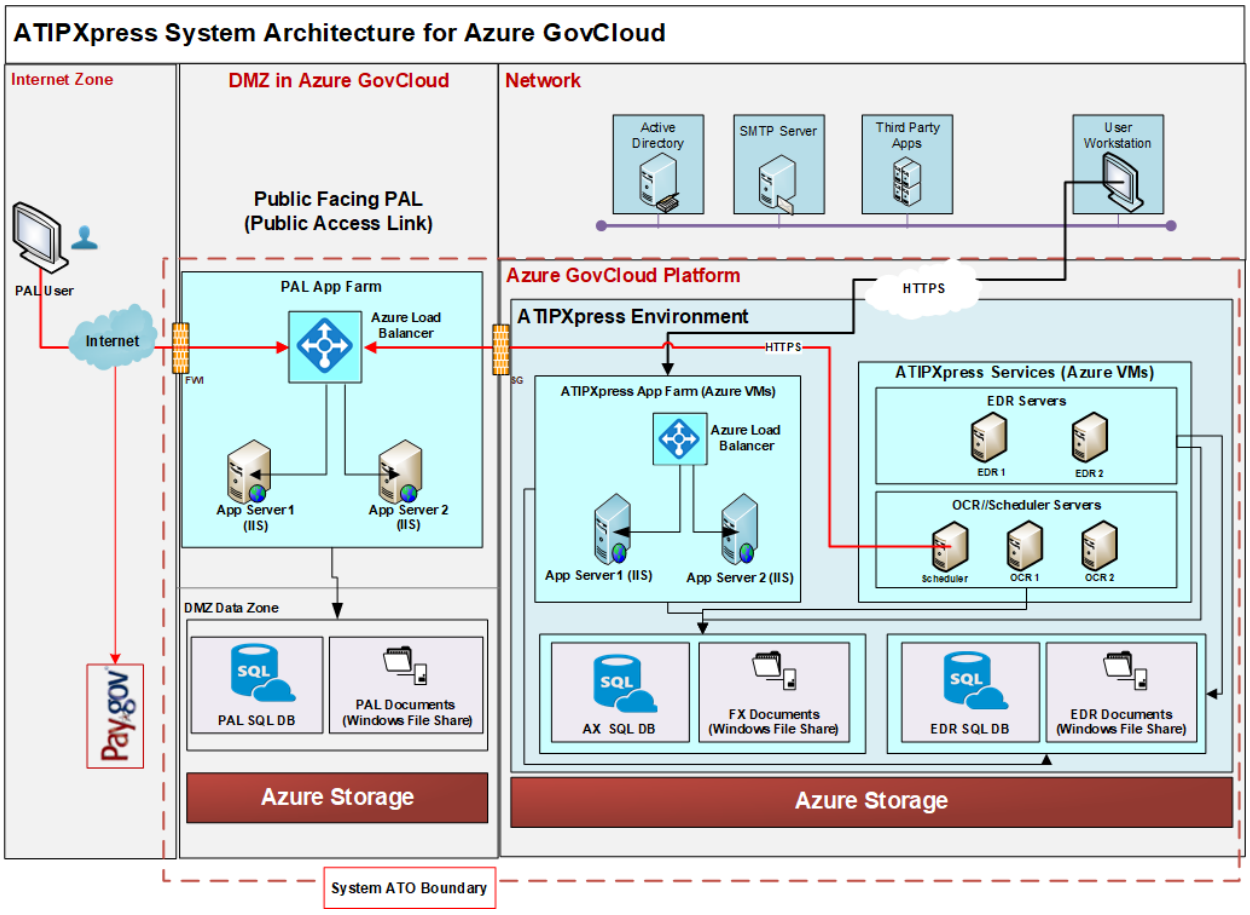
3.1.2 Recommendations for PAL Server Environment

The following table lists the recommended server components (VM, DB, etc.) for the ATIPXpress PAL App Server environment.

Component	Recommendation
Application Server	▪ Install Windows VM (version 2016 or higher) with IIS 10.0 ▪ Install ATIPXpress Application Server on the windows VM
Database Server	▪ SQL Server database using Azure SQL DB (PaaS) ▪ Version 2017, 2019, and 2022
File Storage	▪ Install Windows VM (version 2016 or higher) and enable File Share (using UNC path)

3.2 Architecture Diagram from Deployment in Azure GovCloud

The following architecture diagram depicts the proposed AX system deployment in an Azure GovCloud cloud environment. Service server instances can be added or removed per the performance and scalability requirements. This diagram includes the optional Electronic Document Review (EDR) Services deployment.



4 EDR Hardware & Software Requirements

The ATIPXpress Electronic Document Review (EDR) module is an add-on to the ATIPXpress application. The purpose of this manual is to provide a brief overview of the potential architecture scenarios and recommended systems requirements necessary to run the EDR module in conjunction with the ATIPXpress application.

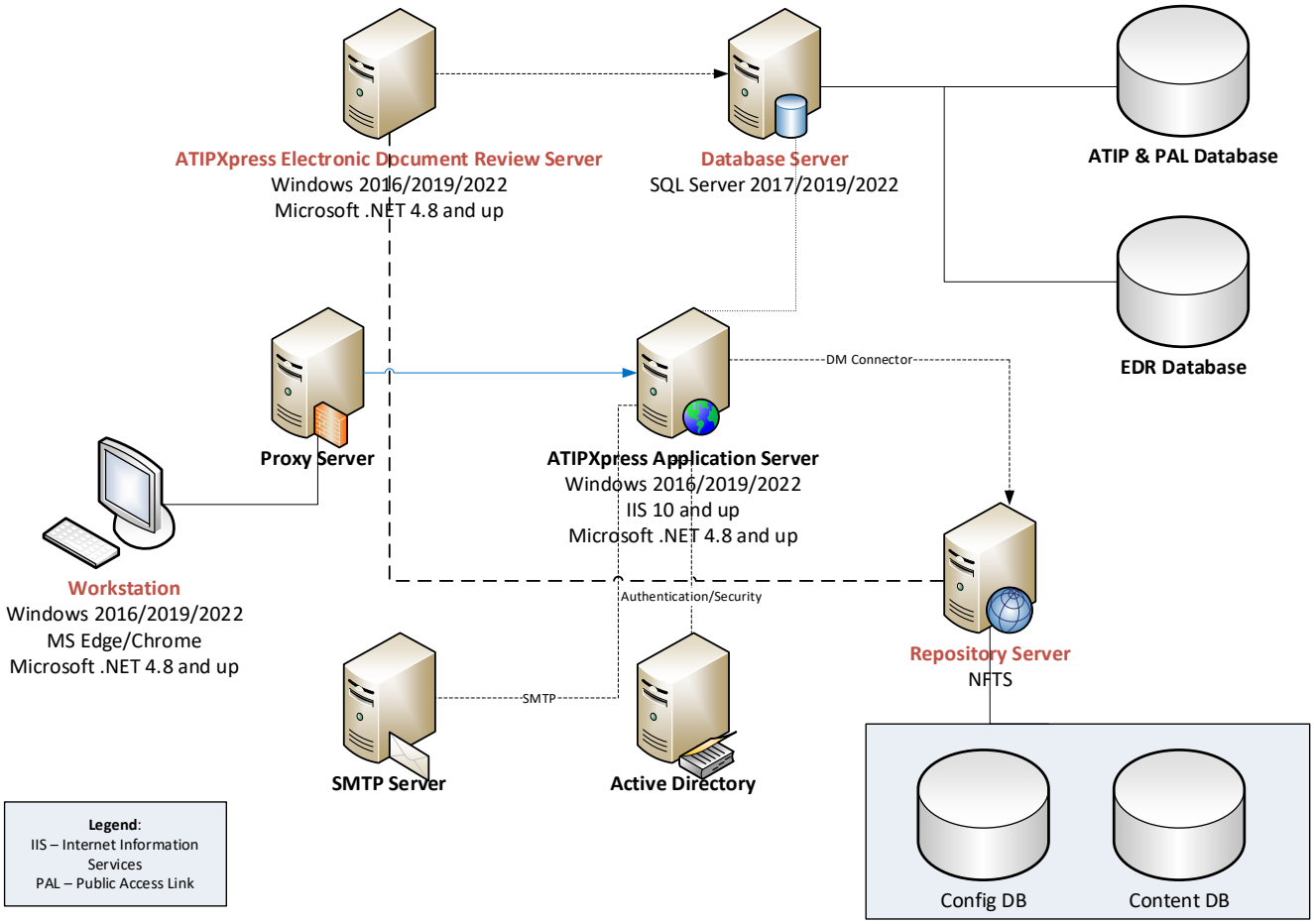
- ATIPXpress is an IIS (10.0) based web application running with a SQL Server (2017, 2019, and 2022).
- The ATIPXpress Repository Server stores the ATIPXpress documents (original) and correspondence document on the respective repository server.
- The ATIPXpress Electronic Document Review module is integrated within the ATIPXpress Application Server.
- The ATIPXpress Electronic Document Review Service is required to process the Electronic Document Review jobs and is installed on one or more separate servers.
- The ATIPXpress Database Server stores and manages information related to requesters, requests, document data information, and the ATIPXpress application configuration. This server can be used to host one or more separate ATIPXpress Electronic Document Review databases.

4.1 EDR Advisory

ATIPXpress Electronic Document Review processes large data sets, which will result in increased CPU, RAM, disk and network utilization, potentially over extended periods of time (hours). OPEXUS strongly recommends the Scenario 2 (advanced) described in the next section to minimize the impact of EDR processing on the performance of the ATIPXpress application. Additionally, exceeding the recommend requirements listed will also increase performance of EDR processing. ATIPXpress EDR Recommended System Requirements Page 4 of 10.

4.2 Scenario 1 (Simple)

This scenario displays the minimal hardware required and is suitable for EDR environments where only one EDR request is processed at a time with up to 1 GB or 5,000 documents. The scenario features a single ATIPXpress Electronic Document Review Service server with the ATIPXpress Electronic Document Review database as a separate database on the same database server used by the ATIPXpress application.



The minimum system requirements are detailed below:

4.2.1 ATIPXpress Electronic Document Review Service Server

Type	Requirements
Hardware	Core 2.50 GHz 8 GB RAM 80 GB or higher hard disk drive (see notes below). Hard drive must be 7200 RPM or faster 1000 MB Ethernet (NIC)
Operating System	Windows 2016, 2019, and 2022 32- or 62-bit operating systems are supported

Type	Requirements
Software	Microsoft .NET Framework 4.8 ATIPXpress Scheduler Service with EDR Service Feature

(!!) Note: Additional hard disk drive space is required on the drive that contains the Windows Temp folder, typically the C: drive, equal to the maximum size of the documents for any EDR request. The space used will become available again after the EDR request has been processed. For example, if a user wishes to perform Electronic Document Review on a 1 GB set of documents, the ATIPXpress Electronic Document Review Service Server must have at least 1 GB of hard disk space available.

4.2.2 ATIPXpress EDR Database Server

Type	Requirements
Hardware	8 Core 2.50 GHz 16 GB RAM 150 GB or higher hard disk drive (see notes below) Hard Drives to be 7200 rpm or faster 1000 MB Ethernet (NIC)
Operating System	Windows 2016, 2019, and 2022 32-bit and 64-bit Database Engines are supported
Software	Microsoft SQL Server 2017, 2019, and 2022

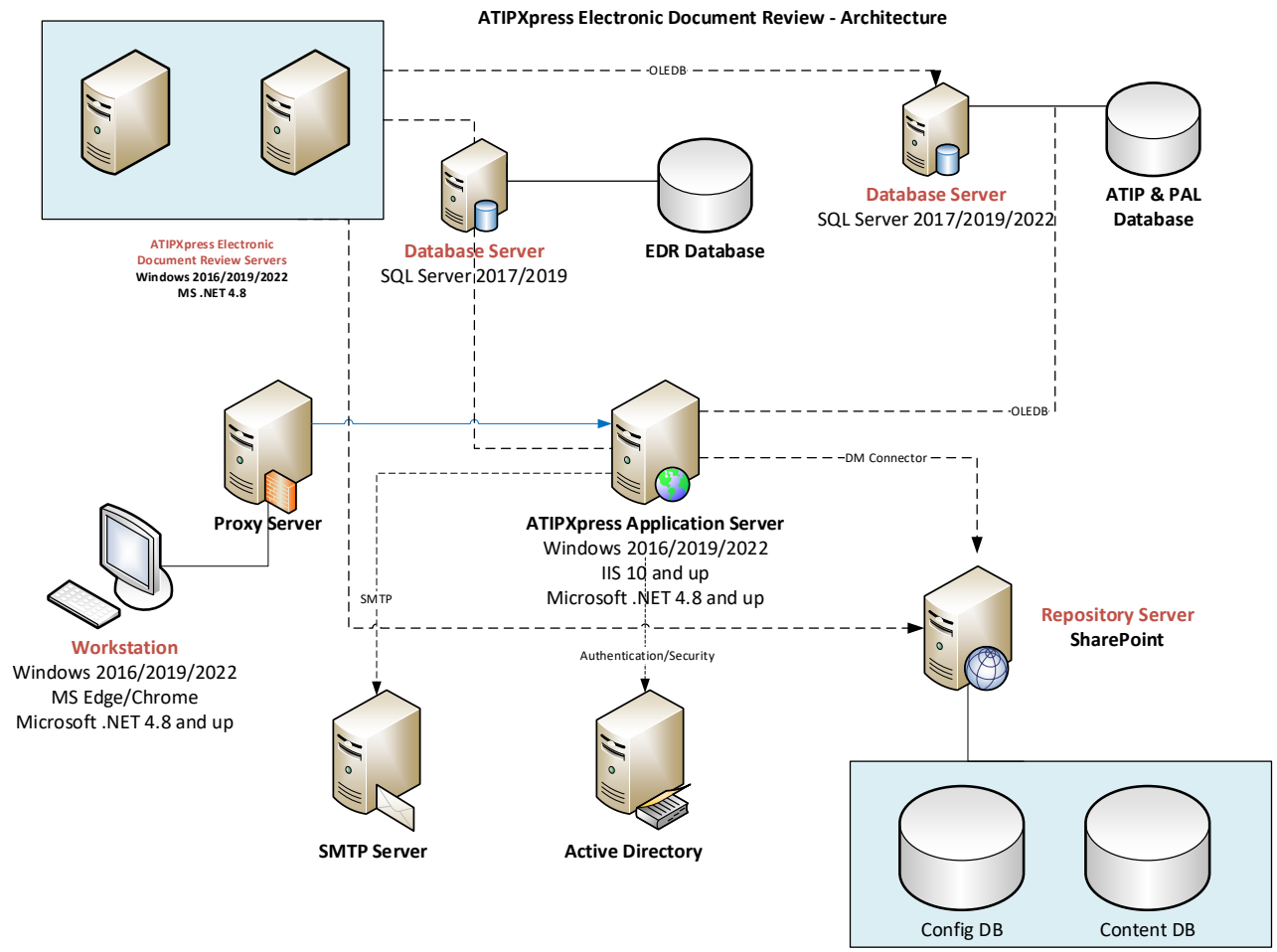
(!!) Notes:

- **The ATIPXpress Electronic Document Review database(s) are installed on the existing ATIPXpress Database Server.**

- **For SQL Server databases:**
  - **Microsoft SQL Server supports only the Microsoft Windows operating system (2016, 2019, and 2022). Please refer to the database server system requirements specified by the manufacturer.**
  - **Additional hard disk drive space is required; 25 MB of space should be allocated per each 10 MB ingested.**

4.3 Scenario 2 (Advanced)

This scenario displays the hardware required for higher performance and is suitable for EDR environments where multiple EDR requests (or requests with more than 1 GB or 5,000 documents) are processed at a time. This scenario features multiple ATIPXpress Electronic Document Review Service servers with the ATIPXpress Electronic Document Review database on a separate database server than the one used by the ATIPXpress application.



4.3.1 ATIPXpress Electronic Document Review Service Server

The recommended system requirements are detailed below:

Type	Requirements
Hardware	4 Core Intel Xeon E5-2640 2.50 GHz 8 GB RAM 80 GB or higher hard disk drive(see notes below) Hard Drives to be 7200 rpm or faster 1000 MB Ethernet (NIC)
Operating System	Windows 2016, 2019, and 2022 32-bit and 64-bit Database Engines are supported
Software	Microsoft .NET Framework 4.8 ATIPXpress Scheduler Service with EDR Service Feature

(!!) Notes:

- **Multiple ATIPXpress Electronic Document Review Service Servers improve performance**
- **For SQL Server configurations Client software installation is not required.**
- **Additional hard disk drive space is required on the drive that contains the Windows Temp folder, typically the C: drive, equal to the maximum size of the documents for any EDR request. The space used will become available again after the EDR request has been processed.**
    - **For example, if a user wishes to perform Electronic Document Review on 1 GB set of documents, the ATIPXpress Electronic Document Review Service Server must have at least 1 GB of hard disk space available.**

4.3.2 ATIPXpress Database Server

The recommended system requirements are detailed below:

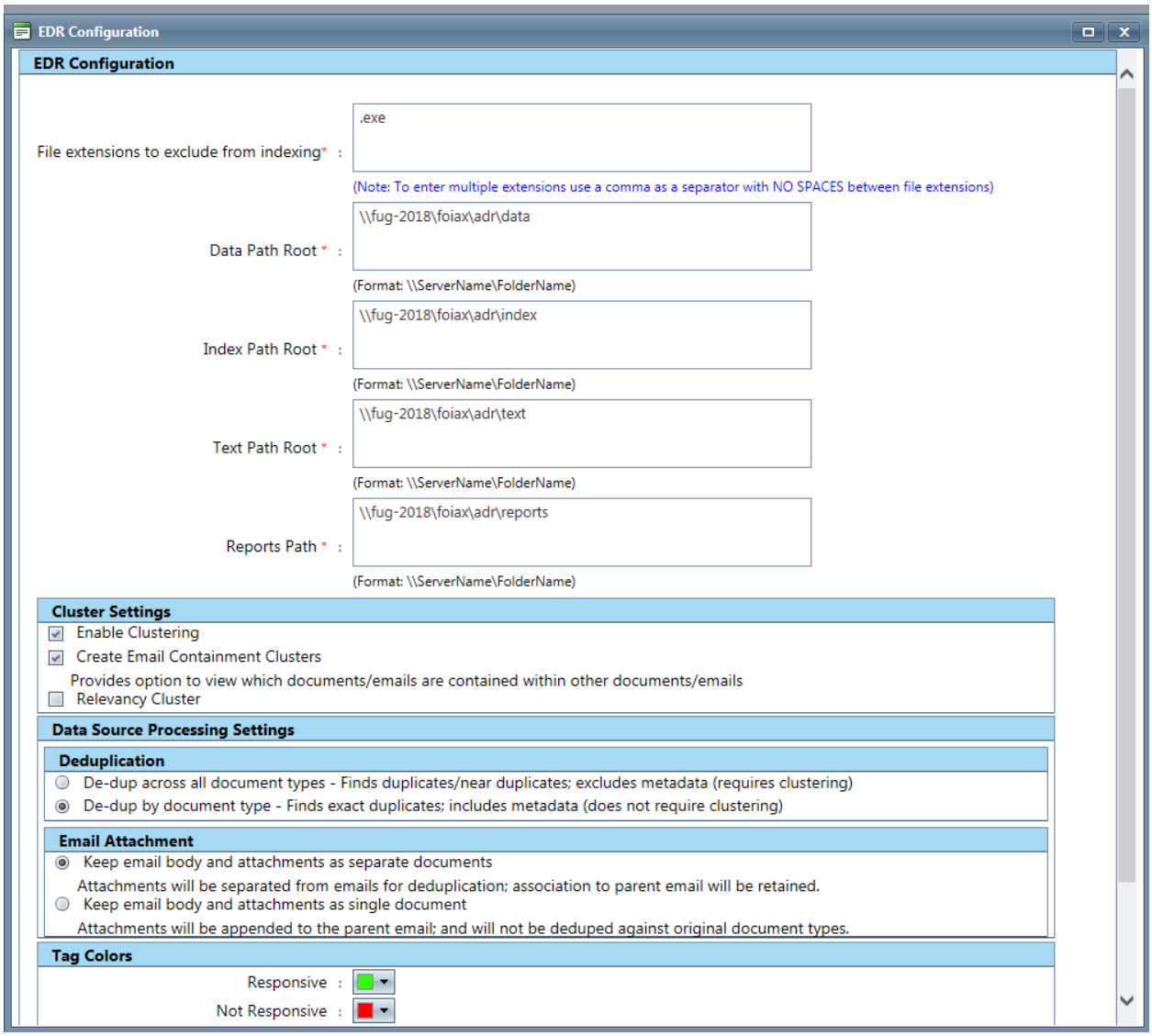
Type	Requirements
Hardware	4 Core Intel Xeon E5-2640 2.50 GHz 8GB RAM 150 GB or higher hard disk drive(see notes below) Hard Drives to be 7200 rpm or faster 1000 MB Ethernet (NIC)
Operating System	Windows 2016, 2019, and 2022 32-bit and 64-bit Database Engines are supported
Software	Microsoft SQL Server 2017, 2019, and 2022

(!!) Notes:

- **The ATIPXpress Electronic Document Review database(s) are installed on the existing ATIPXpress Database Server.**
- **For SQL Server databases: Microsoft SQL Server supports only the Microsoft Windows operating system (2016, 2019, and 2022). Please refer to the database server system requirements specified by the manufacturer.**
- **Additional hard disk drive space is required; 20 MB of space should be allocated per each 10,000 documents reviewed.**

4.4 Additional Hard Disk Storage Considerations

The EDR Configuration options in the ATIPXpress application enable the system to store EDR-related files in specified locations. Access this page via **Administration > Electronic Document Review > EDR Configuration**:



The following are the additional hard disk drive storage considerations for three of the destinations:

- Data Path Root

    - If the path is on the same server as the ATIPXpress Electronic Document Review Service Server, additional hard disk drive space is required equal to double the maximum size of the documents for any EDR request.
        - For example, if a user wishes to perform Electronic Document Review on 1 GB set of documents, the ATIPXpress Electronic Document Review Service Server must have at least 2 GB of hard disk space available (1 GB to hold the request documents and 1 GB for the working files generated). The 1 GB of space for the working files will become available again after the EDR request has been processed.
- Index Path Root
    - Allocate 500 MB of space per 1 GB in a request.
    - The disk space used will continue to increase after each request has been processed.
- Text Path Root
    - Allocate 500 MB of space per 1 GB in a request.
    - The disk space used will continue to increase after each request has been processed.
- Reports Path
    - Allocate an equal amount of space as the size of the documents that are exported.
    - The disk space used will continue to increase after each export.

5 PAL Recommended System Requirements

5.1 About PAL

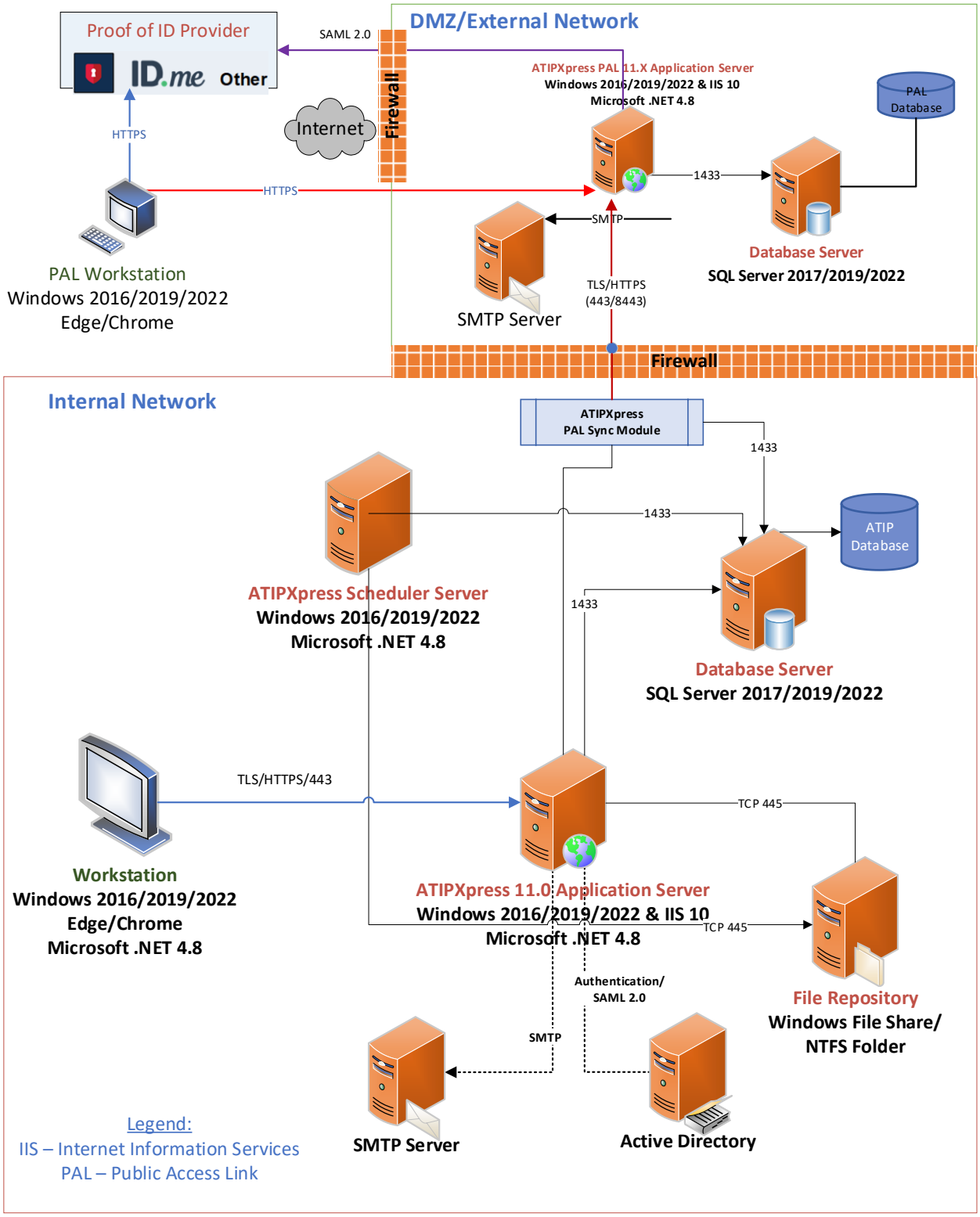
The purpose of this section is to provide an overview of the environment you will need to set up to deploy the Public Access Link (PAL) application for ATIPXpress. This document also introduces recommended hardware, software, and basic networking configuration(s) you will need to begin the PAL installation process.

ATIPXpress PAL facilitates the submission of Freedom of Information Act (ATIP) requests over the internet and allows information to be published to an Electronic Reading Room. The ATIPXpress PAL server suite includes the following:

- PAL - ATIPXpress Database Server: The ATIPXpress PAL database server is required to create and manage the ATIPXpress PAL database, which is used to store data including information related to requesters, requests, lookup information, and configuration data. This data is stored in database tables.
- PAL - ATIPXpress Application Server: The ATIPXpress PAL Application server is a Web application. The ATIPXpress PAL Application Server consists of .NET components and ASPX pages, and communicates with the database server through the .NET components.
- PAL - ATIPXpress File Server: The ATIPXpress PAL documents (Electronic Reading Room and Downloaded documents from ATIPXpress) will be stored in these File Server folders.

The AX-PAL Architecture is illustrated in the figure below.

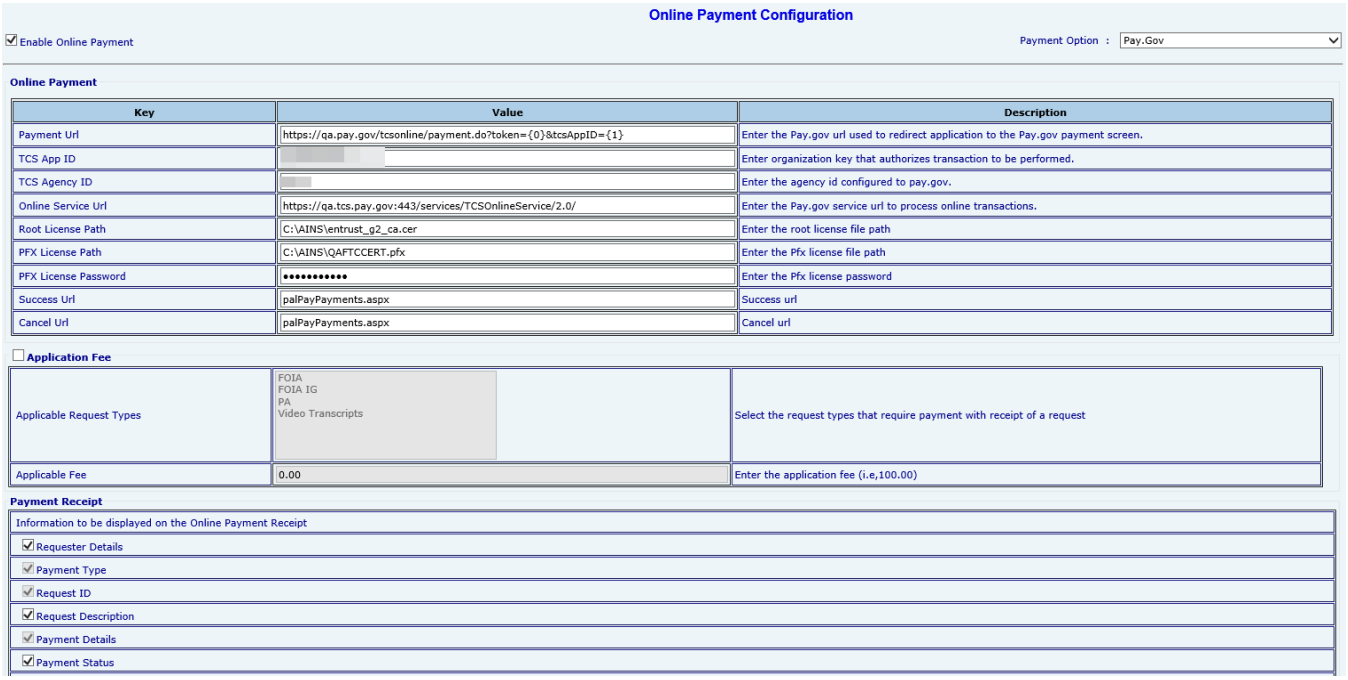
ATIPXpress PAL Deployment Architecture



5.1.1 Pay.gov Additional Configuration Information

Pay.Gov requires additional configuration beyond standard AX and PAL Configuration. The following subsections contain:

- **Pay.Gov Configuration**: This subsection contains information regarding Online Payment Configuration, PAL Status Notifications, Email Template Configuration.
- **Payment and Refunds**: Consult this subsection for information about rendering payments and issuing refunds within AX.
- **Payment Information**: This subsection provides guidance on viewing the payment information for payments that have been rendered.
- **Refund Using Pay.gov**: Consult this subsection for instructions on how to issue a refund using Pay.gov.
- **Testing**: This subsection provides instructions on how to test payments after application configuration.



5.2 System Requirements

The PAL System requirements are detailed in the subsections below.

5.2.1 PAL Database Server

The table below details the minimum requirements for the PAL Database server:

Type	Requirements
Hardware	▪ 4 Core Processor ▪ 4 Gigabytes (GB) Random Access Memory (RAM) ▪ 160 GB Hard drive (7200 rpm or faster)
Operating System	Windows Server 2016/2019/2022 with the latest service packs
Software	Microsoft SQL server 2017/2019/2022 with latest service packs

5.2.2 PAL Application Server

The table below details the minimum requirements for the PAL Application server:

Type	Requirements
Hardware	▪ 4 Core Processor ▪ 4 GB RAM ▪ 80 GB Hard drive (7200 rpm or faster)
Operating System	Windows Server 2016/2019/2022 with the latest service packs
Software	▪ Microsoft .NET Framework 4.8 or later ▪ Internet Information Service 7.5/8.5/10

(!!) Notes:

- **IIS is not installed or enabled by default in the server operating system. In order to successfully install PAL you must first install and enable IIS.**
- **Additionally, Windows Search Service must be enabled to perform content searches of documents located in the PAL Reading Room.**

5.2.3 PAL File Server

The table below details the minimum requirements for the PAL File Server:

Type	Requirements
Hardware	▪ 4 Core Processor ▪ 4 GB RAM ▪ 60 - 160 GB Hard drive (7200 rpm or faster)
Operating System	Windows Server 2016/2019/2022 with the latest service packs
Volume	▪ If documents are to reside on a server other than the ATIPXpress PAL Application server, a share must be setup between the ATIPXpress PAL application and file servers.

(!!) Notes:

- **ATIPXpress PAL File server uses NT File System (NTFS) for file storage.**
- **ATIPXpress PAL File server contains the following:**
    - **Delivered (sanitized) documents**
    - **Electronic Reading Room Documents**

5.2.4 Client Workstation

The table below details the minimum requirements for the Client Workstation:

Type	Requirements
Monitor	17”: with 1024x768 resolution or greater

Type	Requirements
Web Browser	▪ Microsoft Edge ▪ Google Chrome ▪ Firefox ▪ Mobile/Tablet

5.2.5 Virtualization Server

The table below details the minimum requirements for a virtualized server:

Type	Requirements
Configuration	▪ 4 processor ▪ 4 GB RAM ▪ 40 GB disk
Operating System	Windows Server 2016/2019/2022 with the latest service packs
Software	Microsoft .NET Framework 4.8 or later with latest service packs

(!!) Note: Based upon the agency's environment, this server may require additional RAM or hard disk space and may include additional software applications not mentioned in this manual.

5.3 Server Configuration Scenarios

While there are numerous possible server configurations, not all can be listed here. The following scenarios are provided to give you an idea of the layout and architecture of the PAL system. Your environment may differ.

As with any application, an increase in the number of records and data on the system will result in additional storage requirements for the server's hard drive. Additionally, an increase in the number of concurrent users on a server will result in an increase of RAM required for that server. For further information concerning additional memory or hard disk space for any server, please consult with your hardware and/or software vendor.

(!!) Notes:

- **Hard Disk capacity is dependent on the amount of data in the database and the amount of documents stored in the PAL Reading Room.**
- **The Users columns below represents the maximum capacity for concurrent users with the given amount of RAM. If you project a higher number of potential concurrent users in your PAL environment, an appropriate amount of RAM is required. If the max concurrent users goes above the thresholds defined below, end users may experience slowdown and site performance issues.**
- **Oracle Servers are no longer supported. Only SQL Server 2017/2019/2022 and Windows Server 2016/2019/2022 are supported.**

5.3.1 Scenario 1 (Any # of Users, 2 Servers)

The first scenario contains any number of users, and utilizes two servers.

- ATIPXpress PAL Database server
- ATIPXpress PAL Application server and File server in one system

Server	Users	Processor (CPU)	RAM	Hard Disk Capacity
Database	50	4 Core Processor	2 GB	80 GB
Database	100	4 Core Processor	4 GB	80 GB
Database	250	4 Core Processor	8 GB	80 GB
Application & Repository	50	4 Core Processor	4 GB	80 GB
Application & Repository	100	4 Core Processor	4 GB	80 GB
Application & Repository	250	4 Core Processor	8 GB	80 GB

5.3.2 Scenario 2 (Any # of Users, 1 Server)

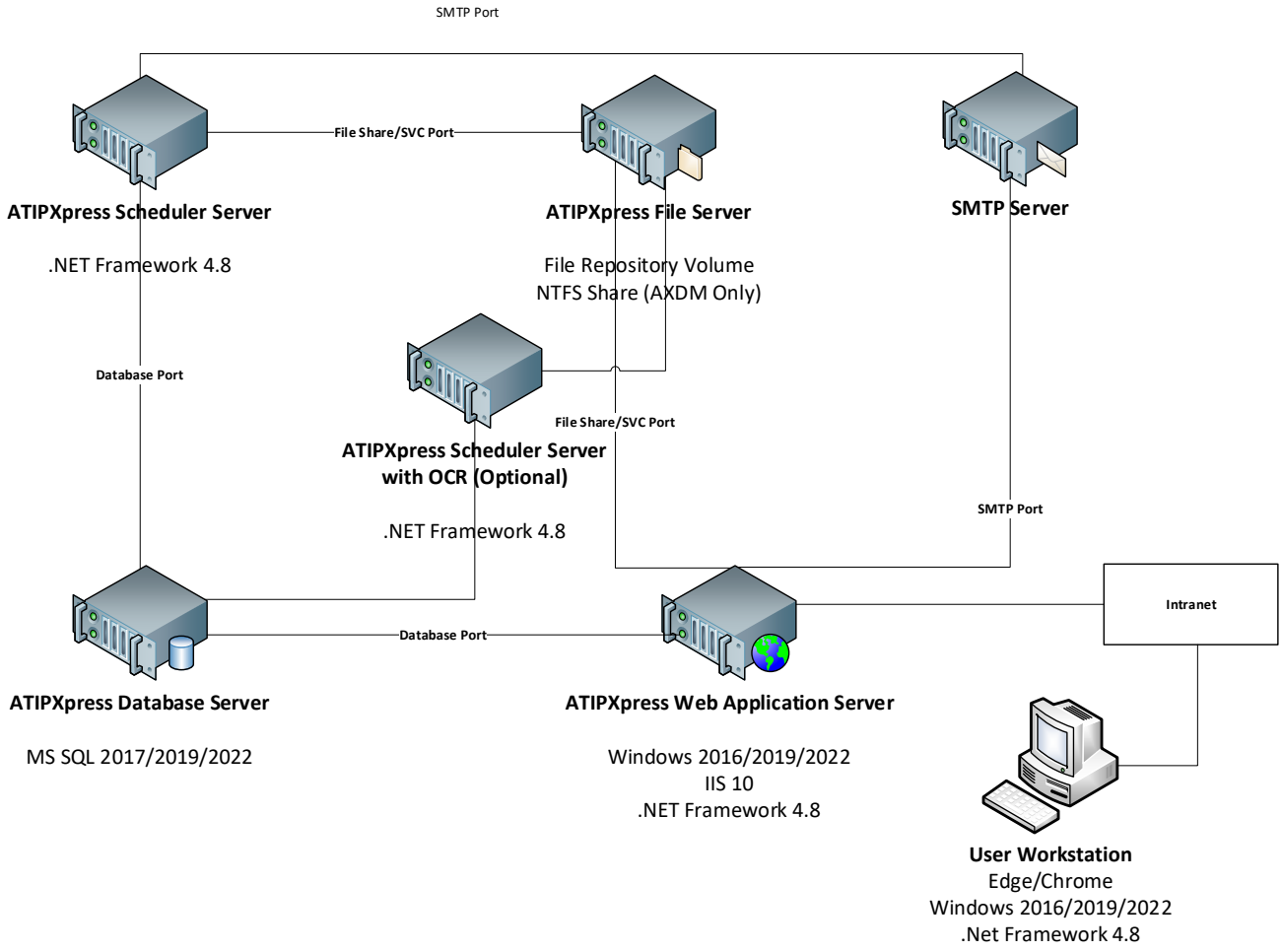
The second scenario contains any number of users, and utilizes one server:

- ATIPXpress PAL Database server, Application server and File server in one system

Server	Users	Processor (CPU)	RAM	Hard Disk Capacity
Database, Application & Repository	50	4 Core Processor	4 GB	80 GB
Database, Application & Repository	100	4 Core Processor	8 GB	80 GB
Database, Application & Repository	250	4 Core Processor	16 GB	80 GB

5.3.3 Server Configuration Diagram

The AX PAL server configuration is illustrated in the following diagram:


SMTP Port
File Share/SVC Port
ATIPXpress Scheduler Server
.NET Framework 4.8
ATIPXpress File Server
File Repository Volume
NTFS Share (AXDM Only)
SMTP Server
Database Port
File Share/SVC Port
ATIPXpress Scheduler Server
with OCR (Optional)
.NET Framework 4.8
SMTP Port
Intranet
Database Port
ATIPXpress Database Server
MS SQL 2017/2019/2022
ATIPXpress Web Application Server
Windows 2016/2019/2022
IIS 10
.NET Framework 4.8
User Workstation
Edge/Chrome
Windows 2016/2019/2022
.Net Framework 4.8

6 Collaboration Portal Requirements

The purpose of this section is to provide an overview of the environment you will need to set up to deploy the Collaboration Portal for ATIPXpress. This document also introduces recommended hardware, software, and basic networking configuration(s) you will need to begin the Collaboration Portal installation process.

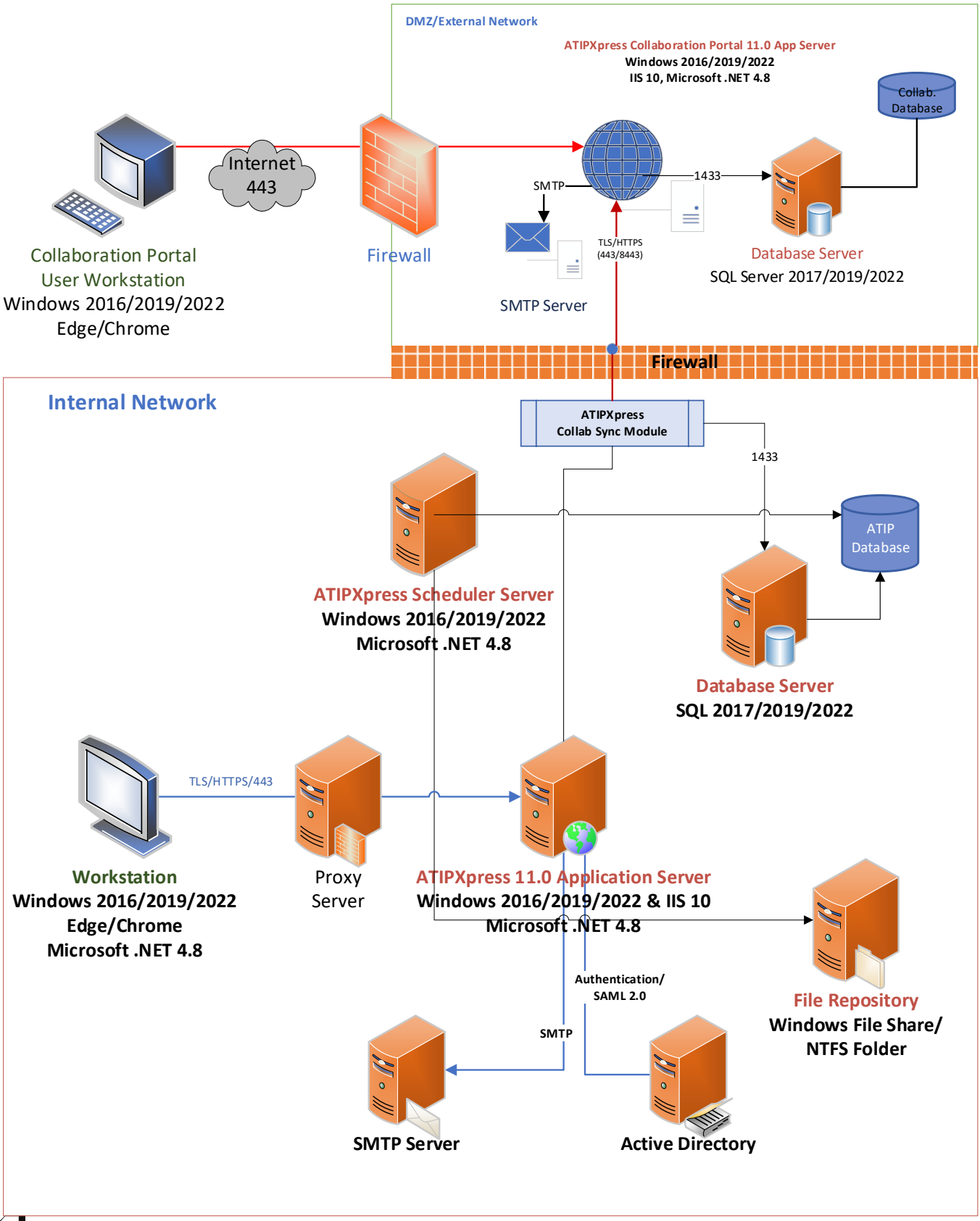
6.1 About the Collaboration Portal

ATIPXpress Collaboration Portal provides a platform for ATIPXpress users to work together on requests with others outside their ATIPXpress environment. The ATIPXpress Collaboration Portal server suite includes the following:

- ATIPXpress Collaboration Database Server: The ATIPXpress Collaboration database server is required to create and manage the ATIPXpress Collaboration database, which is used to store data including information related to requesters, requests, lookup information, and configuration data. This data is stored in database tables.
- ATIPXpress Collaboration Application Server: The ATIPXpress Collaboration Application server is a Web application. The ATIPXpress Collaboration Application Server consists of .NET components and ASPX pages and communicates with the database server through the .NET components.
- ATIPXpress Collaboration File Server: The ATIPXpress Collaboration documents will be stored in these File Server folders.

The Collaboration Portal Architecture is illustrated in the figure below.

ATIPXpress with Collaboration Portal Deployment Architecture



6.2 Collaboration Portal System Requirements

The Collaboration Portal system requirements are detailed in the subsections below.

6.2.1 Collaboration Database Server

The table below details the minimum requirements for the Collaboration Database server:

Type	Requirements
Hardware	▪ 4 Core Processor ▪ 4 Gigabytes (GB) Random Access Memory (RAM) ▪ 160 GB Hard drive (7200 rpm or faster)
Operating System	Windows Server 2016/2019/2022 with the latest service packs
Software	Microsoft SQL server 2017/2019/2022 with latest service packs

6.2.2 Collaboration Application Server

The table below details the minimum requirements for the Collaboration Application server:

Type	Requirements
Hardware	▪ 4 Core Processor ▪ 4 GB RAM ▪ 80 GB Hard drive (7200 rpm or faster)
Operating System	Windows Server 2016/2019/2022 with the latest service packs
Software	▪ Microsoft .NET Framework 4.8 or later ▪ Internet Information Service 10

(!!) Notes:

- **IIS is not installed or enabled by default in the server operating system. In order to successfully install Collaboration you must first install and enable IIS.**

6.2.3 Collaboration File Server

The table below details the minimum requirements for the Collaboration File Server:

Type	Requirements
Hardware	▪ 4 Core Processor ▪ 4 GB RAM ▪ 60 - 160 GB Hard drive (7200 rpm or faster)
Operating System	Windows Server 2016/2019/2022 with the latest service packs
Volume	If documents are to reside on a server other than the ATIPXpress Collaboration application server, a share must be setup between the ATIPXpress Collaboration application and file servers.

(!!) Notes:

- **ATIPXpress Collaboration File server uses NT File System (NTFS) for file storage.**
  - **ATIPXpress Collaboration File server contains the following:**
    - **Collaboration documents**

6.2.4 Client Workstation

The table below details the minimum requirements for the Client Workstation:

Type	Requirements
Monitor	17”: with 1024x768 resolution or greater
Web Browser	▪ Google Chrome ▪ MS Edge

6.2.5 Virtualization Server

The table below details the minimum requirements for a virtualized server:

Type	Requirements
Configuration	▪ 4 processor ▪ 4 GB RAM ▪ 40 GB disk
Operating System	Windows Server 2016/2019/2022 with the latest service packs
Software	Microsoft .NET Framework 4.8 or later with latest service packs

(!!) Note: Based upon the agency's environment, this server may require additional RAM or hard disk space and may include additional software applications not mentioned in this manual.

6.3 Collaboration Server Configuration Scenarios

While there are numerous possible server configurations, not all can be listed here. The following scenarios are provided to give you an idea of the layout and architecture of the Collaboration system. Your environment may differ.

As with any application, an increase in the amount of records and data on the system will result in additional storage requirements for the server's hard drive. Additionally, an increase in the amount of concurrent users on a server will result in an increase of RAM required for that server. For further information concerning additional memory or hard disk space for any server, please consult with your hardware and/or software vendor.

(!!) Notes:

- **Hard Disk capacity is dependent on the amount of data in the database.**
  - **The Users columns below represents the maximum capacity for concurrent users with the given amount of RAM. If you project a higher number of potential concurrent users in your Collaboration environment, an appropriate amount of RAM is required. If the max concurrent users goes above the thresholds defined below, end users may experience slowdown and site performance issues.**

- **Oracle Servers are no longer supported. Only SQL Server 2017/2019/2022 and Windows Server 2016/2019/2022 are supported.**

6.3.1 Scenario 1 (Any # of Users, 2 Servers)

The first scenario contains any number of users, and utilizes two servers.

- ATIPXpress Collaboration Database server
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Database	250	4 Core Processor	8 GB	80 GB
Application & Repository	50	4 Core Processor	4 GB	80 GB
Application & Repository	100	4 Core Processor	4 GB	80 GB
Application & Repository	250	4 Core Processor	8 GB	80 GB

6.3.2 Scenario 2 (Any # of Users, 1 Server)

The second scenario contains any number of users, and utilizes one server:

- ATIPXpress Collaboration Database server, Application server and File server in one system

Server	Users	Processor (CPU)	RAM	Hard Disk Capacity
Database, Application & Repository	50	4 Core Processor	4 GB	80 GB
Database, Application & Repository	100	4 Core Processor	8 GB	80 GB
Database, Application & Repository	250	4 Core Processor	16 GB	80 GB