

# Technical Specifications

## 1. Deployment Server

Components	Minimum Requirements	Recommended Requirements
Hard Disk	4 GB available	6 GB available
Operating System	<b>[Microsoft support ended January 2020]</b> Windows Server 2008 R2 SP1 (64 bit) ** <b>[Microsoft support ending October 2023]</b> Windows Server 2012, Windows Server 2012 R2 *** <b>[Recommended]</b> Windows Server 2016, or Windows Server 2019, or Windows Server 2022	
Other	Windows Installer 4.5 Setup will install the following software if it is not already installed: Microsoft .NET Framework 4.8 or 4.8.1	

\*For the recommended operating systems given above, the latest tested Service Pack is recommended.

\*\*Windows Server 2008 R2 End of Support by Microsoft - <https://support.microsoft.com/en-ca/help/4456235/end-of-support-for-windows-server-2008-and-windows-server-2008-r2>

\*\*\*Windows Server 2012 and 2012 R2 reaching end of support- <https://learn.microsoft.com/en-us/lifecycle/announcements/windows-server-2012-r2-end-of-support>

## 2. Database Server

It is strongly advised to host the Database Server and the Web Server in the same local area network in order to achieve optimum performance.

Components	Requirements
Database Management System	<b>[Microsoft support ended January 2022]</b> SQL Server 2008 R2 (Express, Standard and Enterprise Edition) ** <b>[Microsoft support ended July 12, 2022]</b> SQL Server 2012 (Express, Web, Standard and Enterprise Edition) *** <b>[Recommended]</b> SQL Server 2014 (Express, Web, Standard and Enterprise Edition) SQL Server 2016 (Express, Web, Standard and Enterprise Edition) SQL Server 2017 (Express, Web, Standard and Enterprise Edition) SQL Server 2019 (Express, Web, Standard and Enterprise Edition) SQL Server 2022 (Express, Web, Standard and Enterprise Edition)  <i>Note: SQL server should be set at "Case Insensitive" and "Dictionary Sort"            SQL Server FullText Search Service must be running as a pre-requisite for ServicePRO Search Engine Functionality</i>
Operating System	<b>[Microsoft support ended January 2020]</b> Windows Server 2008 R2 SP1 (64 bit) <b>[Microsoft support ending October 2023]</b> Windows Server 2012, Windows Server 2012 R2 <b>[Recommended]</b> Windows Server 2016, or Windows Server 2019, or Windows Server 2022
Other	Net BEUI, TCP/IP, IPX/SPX, SQL Server Full-Text Search Service

\*For the recommended operating systems and SQL Servers given above, the latest tested Service Pack is recommended.

\*\*Windows Server 2008 R2 End of Support by Microsoft - <https://support.microsoft.com/en-ca/help/4456235/end-of-support-for-windows-server-2008-and-windows-server-2008-r2>

\*\*\*Windows Server 2012 and 2012 R2 reaching end of support- <https://learn.microsoft.com/en-us/lifecycle/announcements/windows-server-2012-r2-end-of-support>

## 2.1 Database Server - Memory, Processor, Hard Disk

\*Recommended requirements in **red**

Components	5 or less Privileged Users	20 or less Privileged Users	70 or less Privileged Users	Up to 100 Privileged Users	100+ Privileged Users
RAM	8 GB	8 GB/ <b>16 GB</b>	16 GB/ <b>24 GB</b>	16 GB/ <b>32 GB</b>	32 GB
CPU	Dual Core 1.2 GHz	Dual Core 1.2 GHz / <b>2 GHz</b>	Quad Core 2 GHz / <b>3GHz</b>	2 Quad Core 2 GHz / <b>3GHz</b>	2 Quad Core 3GHz
Storage	100 GB - 500 GB	100 GB - 500 GB <b>Dedicated Drive for SQL Database</b>	500 GB – 1 TB <b>Dedicated Drive for SQL Database</b>	500 GB – 1 TB <b>Dedicated Drive for SQL Database</b>	500 GB – 1 TB Dedicated Drive for SQL Database
Internal Network	100 MBps	100 MBps/ <b>1 GBps</b>	1 GBps	1 GBps	1 GBps

### 2.1.1 Database Server Ideal Disk Configuration

For 50+ Privileged Users

Components	Requirements
Disk 1	200 GB (OS, SQL Binaries, Sys DB) RAID 1
Disk 2	200 GB SSD (TempDB)
Disk 3	500 GB (SQL Databases) RAID 10 (Allocation Unit Size - 64K)
Disk 4	500 GB (Attachments) SSD

### 2.1.2. Optimizing tempdb Performance

Microsoft recommends setting the tempdb Database as per the following article -

<https://docs.microsoft.com/en-us/sql/relational-databases/databases/tempdb-database?view=sql-server-ver15>

### 2.1.3. Support for SQL Transparent Data Encryption (TDE)

Currently the Stored Procedures and Functions in the ServicePRO Database are encrypted except for the data in the database.

Help Desk Technology has tested encrypting the data with Transparent Data Encryption (TDE) only which is built-in SQL Server since 2008 (enterprise edition).

For more information, please refer to the article from the link below:

<https://docs.microsoft.com/en-us/sql/relational-databases/security/encryption/transparent-data-encryption?view=sql-server-ver15>

### 3. Web Server

*\*Recommended requirements are in **red**.*

*It is strongly advised that the Database Server and the Web Server are hosted in the same local area network in order to achieve optimum performance.*

Components	Requirements
IIS	IIS 7.0 and above
Operating System	<p><b>[Microsoft support ended January 2020]</b> Windows Server 2008 R2 SP1 (64 bit) **</p> <p><b>[Microsoft support ending October 2023]</b> Windows Server 2012, Windows Server 2012 R2 ***</p> <p><b>[Recommended]</b> Windows Server 2016, or Windows Server 2019, or Windows Server 2022</p>
Display	1280 x 768 or higher resolution / <b>1920 x 1080 Resolution</b>
Display	<p>Window Installer 4.5</p> <p>Setup will install the following software if it is not already installed: Microsoft .NET Framework 4.8 or 4.8.1</p>

*\*For the recommended operating systems given above, the latest tested Service Pack is recommended.*

*\*\*Windows Server 2008 R2 End of Support by Microsoft - <https://support.microsoft.com/en-ca/help/4456235/end-of-support-for-windows-server-2008-and-windows-server-2008-r2>*

*\*\*\*Windows Server 2012 and 2012 R2 reaching end of support- <https://learn.microsoft.com/en-us/lifecycle/announcements/windows-server-2012-r2-end-of-support>*

#### 3.1 Server Memory, Processor, Hard Disk

*\*Recommended requirements are in **red***

Components	5 or less Privileged Users	20 or less Privileged Users	70 or less Privileged Users	100+ Privileged Users
RAM	4 GB	8 GB	16 GB	16 GB
CPU	Dual Core 1.5 GHz	Dual Core 1.5	QuadCore 2 GHz	2 QuadCore 2 GHz
Storage	3 GB available	5 GB available	10 GB available	10 GB available
Internal Network	100 MBps	100 MBps/ <b>1 GBps</b>	1 GBps	1 GBps

### 4. Special Case (Database & IIS on the same Server)

*When there are 5 or less Privileged Users, you can opt for having the Database and IIS on the same server.*

Components	Database & IIS
RAM	16 GB
CPU	Dual Core 2 GHz
Storage	100 GB - 500 GB (Dedicated drive for SQL Database)
Internal Network	1 GBps

## 5. Client System - OS, Processor, Browser Requirements

Components	Minimum Requirements	Recommended Requirements
Computer Processor	1.6 GHz Processor or higher (with 50% or less CPU usage)	2 GHz Dual Core Processor 3 GHz Single Core Processor or Higher (with 50% or less CPU usage in either case)
Memory	2 GB Ram or higher (needs to be available free for ServicePRO application usage)	8 GB Ram or higher (2 GB available free for ServicePRO application usage)
Hard Disk	200 MB available space on the system drive	200 MB available space on the system drive
Display	1280 x 760 resolution or higher	1920 x 1080 resolution or higher
OS/Desktop/Browser	Please refer to section 5.1 and subsections.	

### 5.1 Client System – OS, Desktop, Browser, Display Requirements

Components	End User Requirements	Support Technician Requirements
OS/Desktop/Browser	Please refer to “ServicePRO Web” section	Please refer to “ServicePRO” section
Display	1024 x 768 resolution or higher	1920 x 1080 resolution or higher

#### 5.1.1 ServicePRO

ServicePRO Desktop is a Windows application and does not require a browser to run. ServicePRO supports following operating systems (32-bit and 64-bit):

SL. Number	Operating System
1.	Windows 11
2.	Windows 10
3.	Windows 8.1 Desktop
4.	Windows Server 2022
5.	Windows Server 2019
6.	Windows Server 2016
7.	Windows Server 2012 R2 <b>[Microsoft support ending October 2023]</b>
8.	Windows Server 2012 <b>[Microsoft support ending October 2023]</b>

\*For the recommended operating systems given above, the latest tested Service Pack is recommended.

\*\*Windows Server 2008 R2 End of Support by Microsoft - <https://support.microsoft.com/en-ca/help/4456235/end-of-support-for-windows-server-2008-and-windows-server-2008-r2>

**Additionally, ServicePRO In-browser application can now be set to be run from Microsoft Edge browser by configuring your ServicePRO URL to load in Internet Explorer Mode [IE Mode]. Please refer to the steps detailed in the section 9.1 and 9.2.**

*Pre-requisites for running ServicePRO from Microsoft Edge browser in IE Mode - Following security settings under "Internet Options" [Please refer to the section 9.2 for the detailed steps]:*

1. Reset Security level for all zones to default level
2. Add the ServicePRO Web Portal URL to the Trusted Sites
3. Disable the Protected Mode for Trusted Sites

*After the configuration is done, when you browse to your ServicePRO URL from Microsoft Edge browser, it will load in IE mode for 30 days from the date you add the page to the Microsoft Edge browser settings. After the 30 days period, when the user browses to the ServicePRO URL, it prompts the user with an option to add the page back to the IE mode. And once the user says YES to that prompt, it loads the application in IE mode and continues to work.*

### 5.1.2. ServicePRO Web

#### 5.1.2.1. Client System – Desktop – Supported Operating System & Browser

*\*The plus (+) sign denotes browser versions above the stated are all compatible*

SL. Number	Operating System	Browser
1.	Windows	Microsoft Edge, Firefox 36.0+, Chrome 41.0+, Safari browser (for Windows) Version 5.0+
2.	MAC	Safari browser 8.0+ Chrome 41.0+, Firefox 36.0+

#### 5.1.2.2. Client System – Supported Mobile Devices

*\* The plus (+) sign denotes OS versions above the stated are all compatible*

SL. Number	Mobile Devices
1.	Apple IOS 4.0+
2.	Android 4.0+
3.	Blackberry 10.0+; Untested
4.	Windows Phone 8.0+

#### 5.1.3. End User Web Portal *(Legacy version – Reached End of Life from version 14.2.11.17)*

*\* The plus (+) sign denotes browser versions above the stated are all compatible*

SL. Number	Operating System	Browser
1.	Windows	Microsoft Edge, Firefox 3.6+, Chrome 12+, Safari browser for PC 5.0.3+, Opera Browser 11.0.1+
2.	MAC	Safari 4.0.5+, Firefox 3.6+, Chrome 12+
3.	Linux	Firefox 3.6+, Chrome 12+

#### 5.1.4. Mobile Portal *(Legacy version – Reached End of Life from version 14.2.11.17)*

*\* The plus (+) sign denotes OS versions above the stated are all compatible*

SL. Number	Mobile
1.	Apple IOS 4+
2.	Android 2.3+
3.	Blackberry 6+
4.	Windows Phone 7.5+

## 6. Mail Server

Email	Supported
Supported Email Server	Microsoft Exchange 2007 SP3 ( <i>Limitation: Embedded images will not work with ServicePRO's Calendar Synchronization from Outlook to ServicePRO.</i> ) <b>[Microsoft support ended April 2017]</b> Microsoft Exchange 2010 SP2 Rollup 6 + <b>[Microsoft support ended October 2020]</b> Microsoft Exchange 2013 Microsoft Exchange 2013 SP1 Microsoft Exchange Server 2016 Microsoft Exchange Server 2019 Office 365 - Microsoft Exchange Online
Supported Email Protocol	EWS, POP3/SMTP, IMAP/SMTP

## 7. Calendar Synchronization

### 7.1. Granting Application Impersonation role on Exchange 2013 or higher

<https://docs.microsoft.com/en-us/exchange/client-developer/exchange-web-services/how-to-configure-impersonation>

## 9. Screen Sharing Service

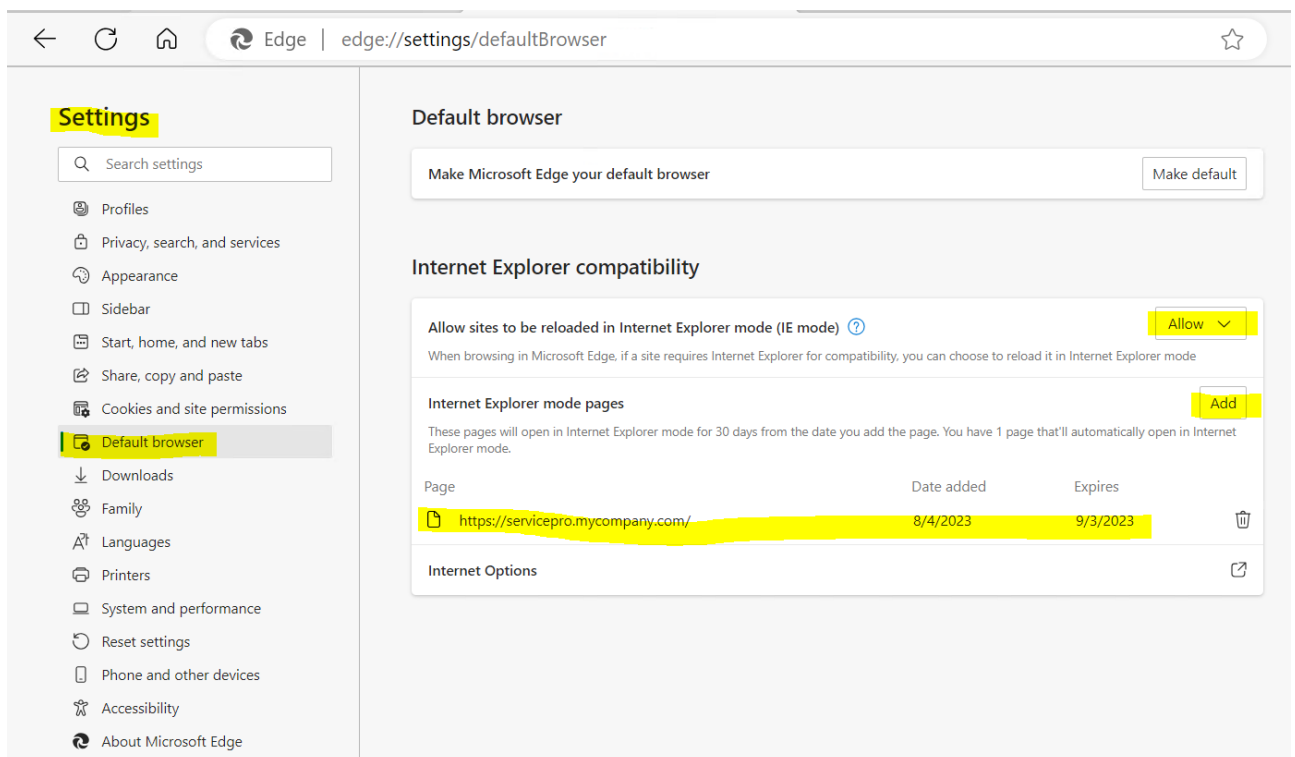
The port # that is used to configure Screen Sharing Service should be open in the server where the service is hosted [the default port than can be used is 5900].

## 9. Appendix

### 9.1. Steps to enable Internet Explorer mode on Microsoft Edge for running ServicePRO in Browser

**Note:** This topic is only applicable when the user intends to run ServicePRO from Microsoft Edge, in Internet Explorer Mode. These settings are not required if the user is running the ServicePRO Desktop application.

1. Close all the Microsoft Edge instances currently open.
2. Open the Microsoft Edge browser.
3. Click the **Settings and More (ellipsis)** button on the top-right corner.
4. Select the **Settings** option.
5. Click on **Default browser**.
6. Under the **Internet Explorer compatibility** section, turn on the **Allow sites to be reloaded in Internet Explorer mode (IE Mode)** by selecting **Allow** in the drop down.
7. Under **Internet Explorer mode page** section, click on the **Add** button, and add your ServicePRO URL
8. Restart the browser to affect the settings. Close all the Microsoft Edge instances that are open on your computer.
9. Re-open Microsoft Edge to verify that all above settings have taken effect

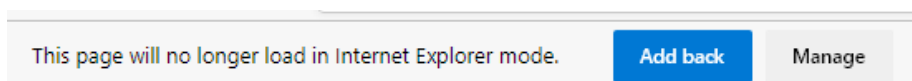


The screenshot shows the Microsoft Edge settings page at `edge://settings/defaultBrowser`. The left sidebar shows the 'Settings' menu with 'Default browser' selected. The main content area is divided into two sections:

- Default browser:** A toggle switch for 'Make Microsoft Edge your default browser' is currently off. A 'Make default' button is visible.
- Internet Explorer compatibility:**
  - The toggle for 'Allow sites to be reloaded in Internet Explorer mode (IE mode)' is turned on, with a dropdown menu set to 'Allow'.
  - Below this, there is a section for 'Internet Explorer mode pages'. It states: 'These pages will open in Internet Explorer mode for 30 days from the date you add the page. You have 1 page that'll automatically open in Internet Explorer mode.'
  - A table lists the added pages:

Page	Date added	Expires	
<a href="https://servicepro.mycompany.com/">https://servicepro.mycompany.com/</a>	8/4/2023	9/3/2023	
  - At the bottom of this section is an 'Add' button and an 'Internet Options' link.

**Note:** Below is the prompt shown to the user while browsing to the ServicePRO URL from Microsoft Edge after 30 days. The user can click on “Add back” button to continue run ServicePRO in IE Mode on Edge.



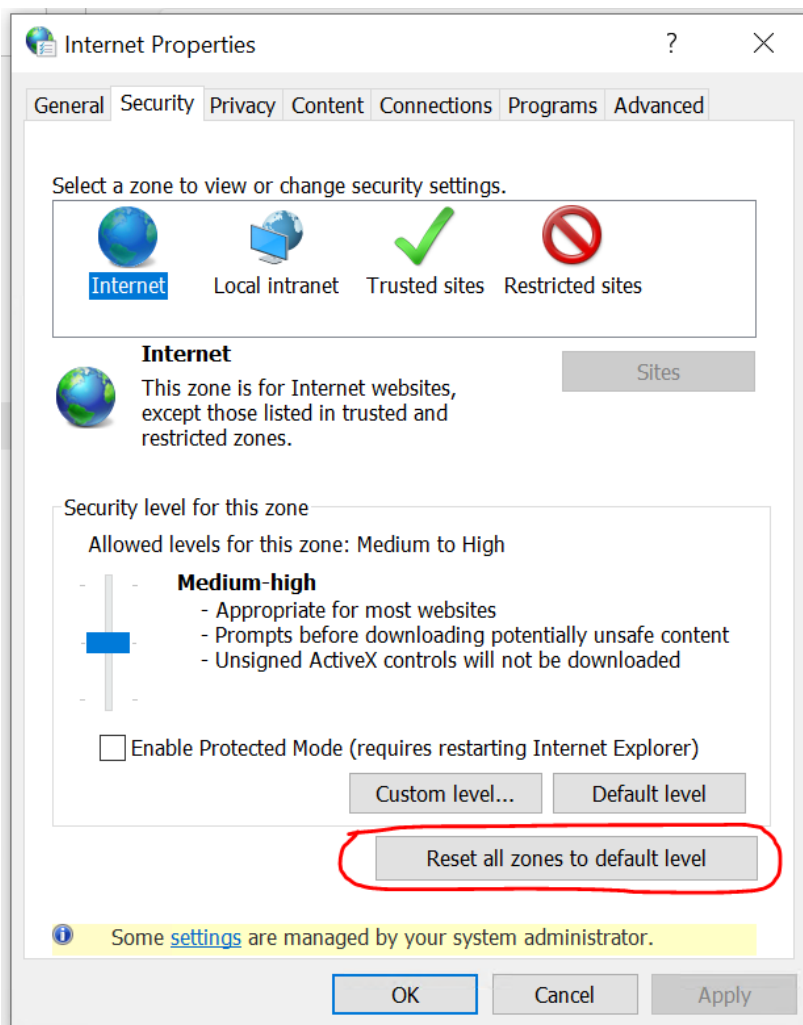
The screenshot shows a notification prompt with the text: 'This page will no longer load in Internet Explorer mode.' To the right of the text are two buttons: a blue 'Add back' button and a grey 'Manage' button.

## 9.2. Prerequisite Internet Options while running ServicePRO from Microsoft Edge Browser, in IE Mode

When you need to copy and paste rich text features, such as image, table or formatting, from an email or a document into a Memo, you must ensure that certain Internet Options are set.

**Note:** *This topic is only applicable when the user intends to run ServicePRO from Microsoft Edge, in Internet Explorer Mode.* These settings are not required if the user is running the ServicePRO Desktop application.

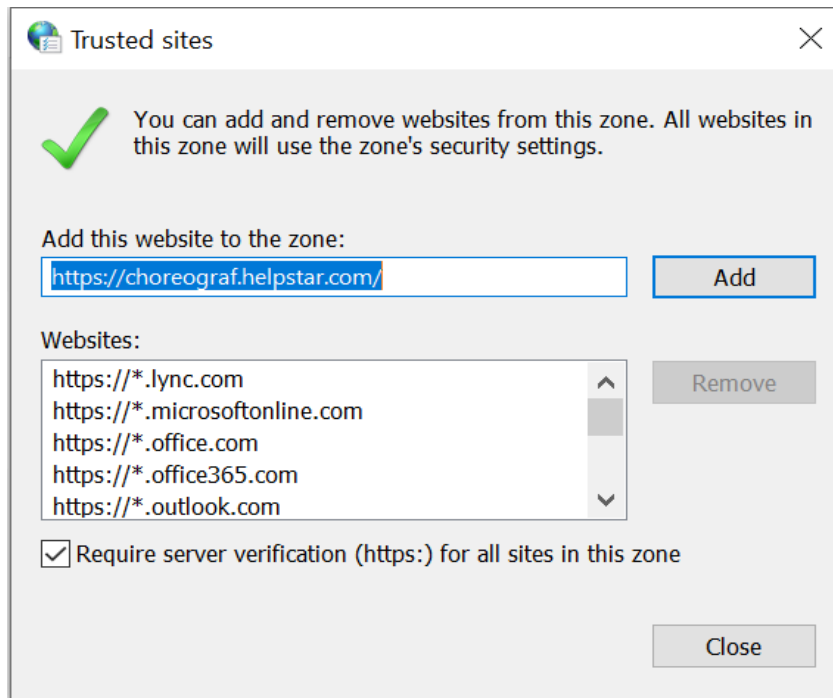
1. Close all the Microsoft Edge instances currently open.
2. Open the Microsoft Edge browser.
3. Click the **Settings and More (ellipsis)** button on the top-right corner.
4. Select the **Settings** option.
5. Click on **Default browser**.
6. Under the **Internet Explorer compatibility** section, click on the button beside **Internet Options**.
7. Select the **Security** tab.
8. Click on **Reset All zones to default level**.





9. Click on the **OK** button to close the Internet Options.
10. Open the **Internet Options** again and go to **Security** tab.
11. Select **Trusted Sites**, and uncheck **Enable Protected mode**.
12. Click on **Sites**.
13. Add the ServicePRO Portal URL to the Trusted Sites.

**NOTE:** If you click Require server verification (https:) for all sites in this zone, then you must use https://



14. Click Add. The website is now in the list of websites for the zone's security settings.
15. Click **Close**.
16. Click on the **Apply** button in the **Internet Options** window.
17. Select **OK** in the security prompt that is shown.
18. Then, click on **OK** button in the **Internet Options** window.
19. Restart the browser to affect the settings. Close all the Microsoft Edge instances that are open on your computer.
20. Re-open Microsoft Edge to verify that all above settings have taken effect.

### ***9.3. SSL Support in ServicePRO***

ServicePRO can use SSL to transmit data back and forth between the client and IIS server when configured in the IIS. All connections from the application will use SSL on both ends, thus ensuring a secure connection.