

Technical Specifications

Deployment Server

1.

Components	Minimum Requirements	Recommended Requirements
Computer and Processor	1 GHz processor or higher	2 GHz Dual Core Processor or higher
Memory	2 GB Ram or higher	4 GB Ram or higher
Hard Disk	4 GB	4 GB
Display	1024x768 or higher resolution	1280x1024
Operating System	[Support Ending in Q1 2019] Windows Server 2008 R2 SP1 (64 bit) [Recommended] Windows Server 2012 or Windows Server 2012 R2 or Windows Server 2016 or Windows Server 2019	
Other	Windows Installer 4.5 Setup will install the following software if it is not already installed: .Net 4.7.2 Runtime	

*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>

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	SQL Server 2008 R2 (Express, Standard and Enterprise Edition) SQL Server 2012 (Express, Web, Standard and Enterprise Edition) 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) <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	[Support Ending in Q1 2019] Windows Server 2008 R2 SP1 (64 bit) [Recommended] Windows Server 2012 or Windows Server 2012 R2 or Windows Server 2016 or Windows Server 2019
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.

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2.1 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/ 16 GB	16 GB/ 24 GB	16 GB/ 32 GB	32 GB
CPU	Dual Core 1.2 GHz	Dual Core 1.2 GHz / 2 GHz	QuadCore 2 GHz / 3GHz	2 QuadCore 2 GHz / 3GHz	2 QuadCore 3GHz
Storage	500 GB	500 GB Dedicated Drive for SQL Database	1 TB Dedicated Drive for SQL Database	2 TB Dedicated Drive for SQL Database	2 TB Dedicated Drive for SQL Database
Internal Network	100 MBps	100 MBps/ 1 GBps	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	500 GB SSD (TempDB)
Disk 3	1 TB (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/previous-versions/sql/sql-server-2008-r2/ms175527\(v=sql.105\)](https://docs.microsoft.com/en-us/previous-versions/sql/sql-server-2008-r2/ms175527(v=sql.105))

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-2017>

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, 7.5, 8.0 and above
Operating System	[Support Ending in Q1 2019] Windows Server 2008 R2 SP1 (64 bit) [Recommended] Windows Server 2012 or Windows Server 2012 R2 or Windows Server 2016 or Windows Server 2019
Display	1280 x 768 or higher resolution / 1280 x 1024 Resolution
Display	Window Installer 4.5 Setup will install the following software if it is not already installed: .Net 4.7.2 Runtime

*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>

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	250 GB	250 GB	500 GB	500 GB
Internal Network	100 MBps	100 MBps/ 1 GBps	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	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)	4 GB Ram or higher (2 GB available free for ServicePRO application usage)
Hard Disk	2 GB Available space on the system drive	2 GB 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 is a windows desktop 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 10
2.	Windows 8.1 Desktop
3.	Windows 7 SP1
4.	Windows Server 2019
5.	Windows Server 2016
6.	Windows Server 2012 R2
7.	Windows Server 2012
8.	Windows Server 2008 R2 SP1

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

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Additionally, ServicePRO can be run in Internet Explorer 11 on the above operating systems with the following settings:

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

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	Internet Explorer 11, 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)

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

SL. Number	Operating System	Browser
1.	Windows	IE8+, 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)

* 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>) Microsoft Exchange 2010 SP2 Rollup 6 + 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 Impersonate role assignment on Exch 2007 Sp3

- Get-ExchangeServer | Add-ADPermission -User yourusername -extendedRights ms-Exch-EPI-Impersonation -InheritanceType none
- Get-MailboxDatabase | Add-ADPermission -User yourusername -extendedRights ms-Exch-EPI-May-Impersonate -InheritanceType none yourusername -> Account used to perform the synchronization
- You will also need to make sure that this account has permissions on all the User Mail Boxes & User Calendars.

7.2. Granting Impersonate role assignment on Exch 2010 Sp2

- New-ManagementRoleAssignment -Name:impersonationAssignmentName -Role:ApplicationImpersonation -User:yourusername yourusername -> Account used to perform the synchronization
- You will also need to make sure that this account has permissions on all the User Mail Boxes & User Calendars.

8. 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].

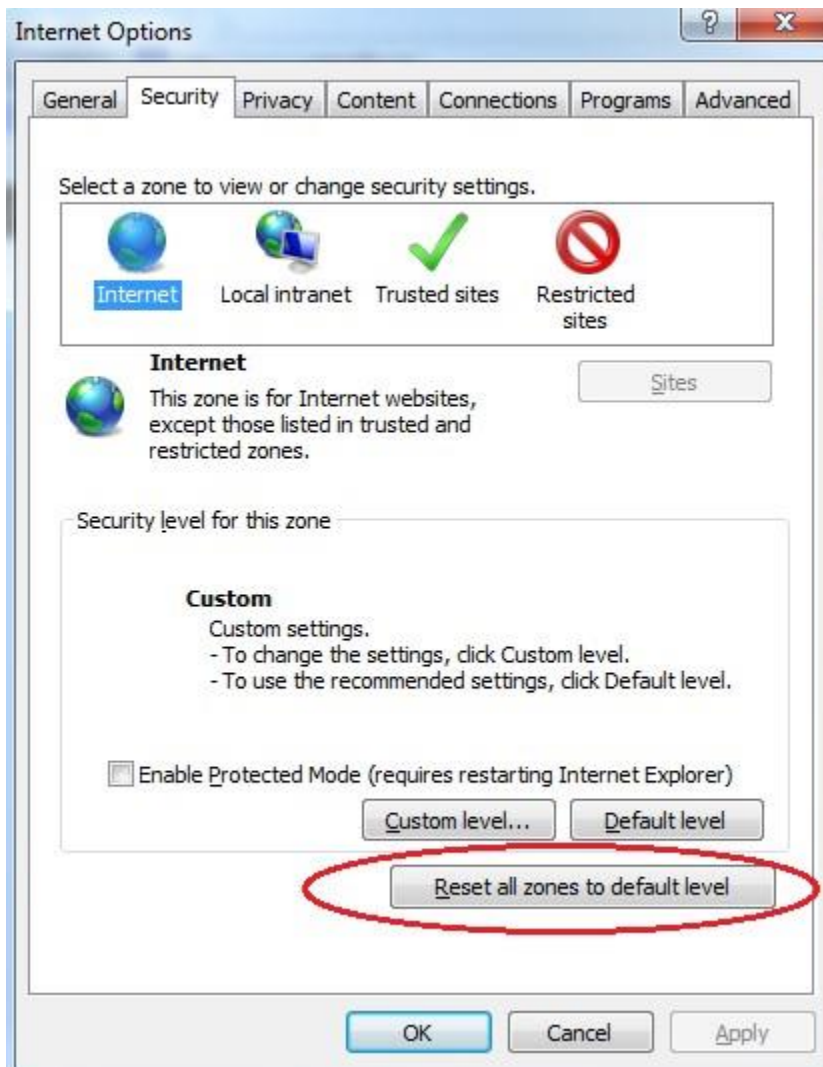
9. Appendix

9.1. Internet Explorer Prerequisites while running ServicePRO in Browser

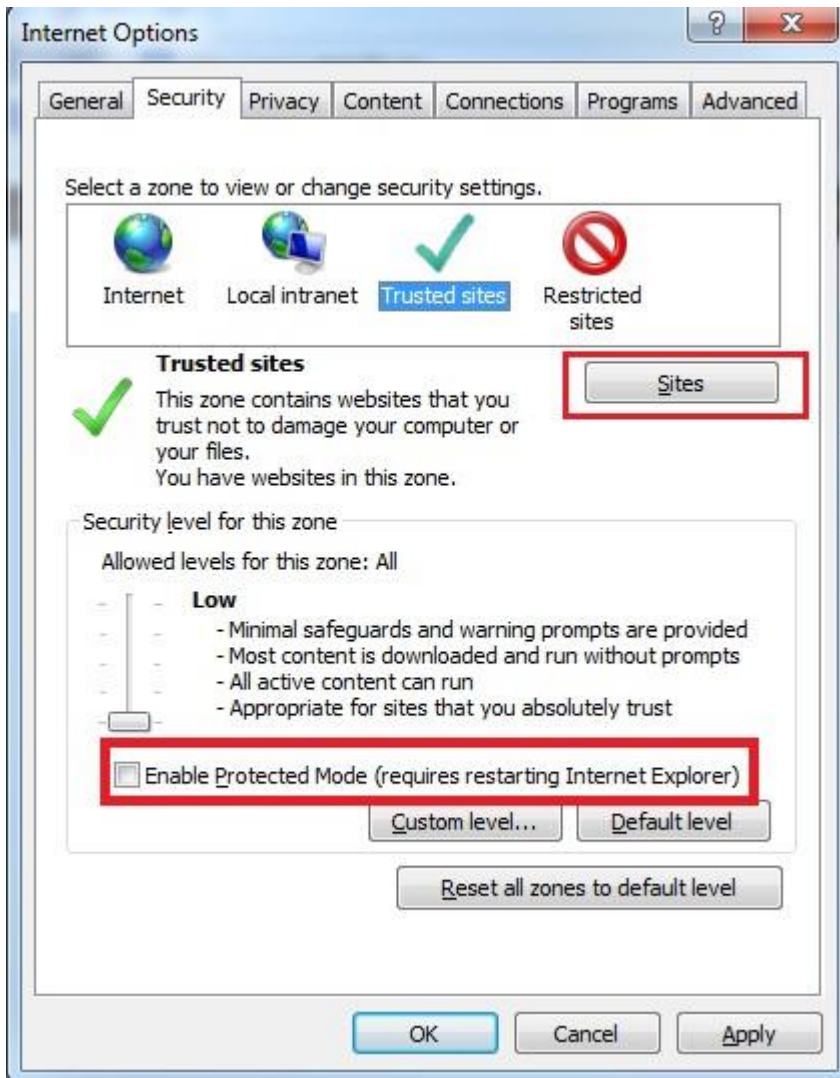
When you need to copy and paste rich text features, such as image, table or formatting, from an email or a document into a Memo, you must ensure that certain Internet Explorer Options are set.

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

1. Close all the Internet Explorer instances currently open.
2. Open only one Internet Explorer Window.
3. Go to the **Internet Options**.
4. Select the **Security** tab.
5. Click on **Reset All zones to default level**.

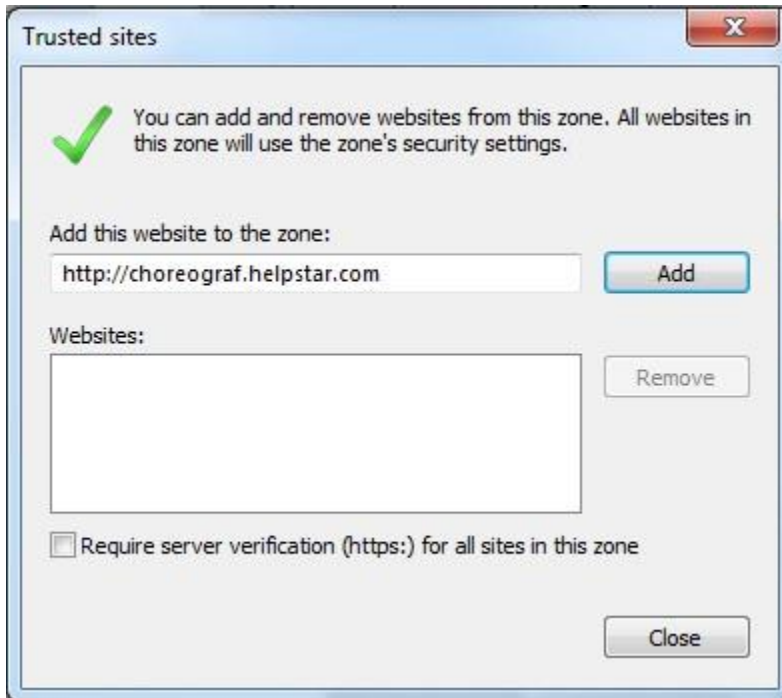


6. Click on the **OK** button to close the Internet Options.
7. Open the **Internet Options** again and go to **Security** tab.
8. Select **Trusted Sites**, and uncheck **Enable Protected mode**.
9. Click on **Sites**.

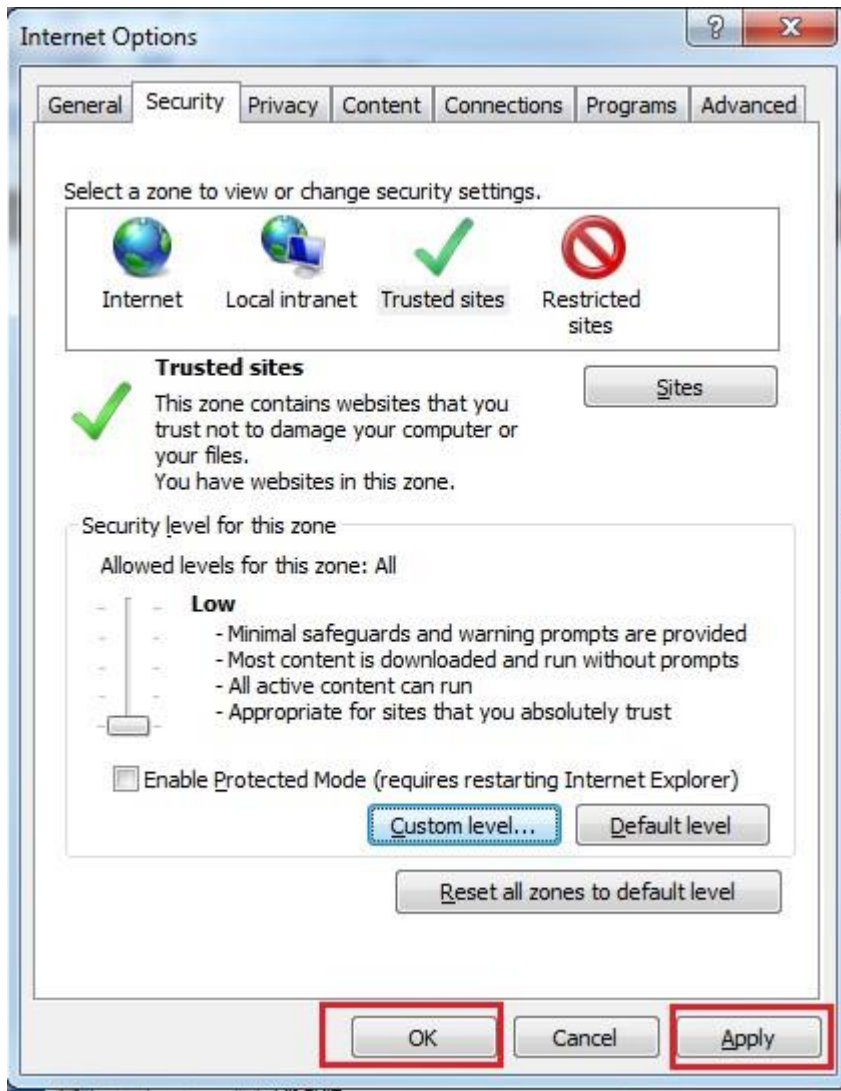


10. Add the ServicePRO Portal URL to the Trusted Sites.

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



11. Click **Add**. The website is now in the list of websites for the zone's security settings.
12. Click **Close**.
13. Click on the **Apply** button in the **Internet Options** window.
14. Select **OK** in the security prompt that is shown.
15. Then, click on **OK** button in the **Internet Options** window.



16. Restart Internet Explorer: Close all the Internet Explorer instances that are open on your computer.
17. Re-open to verify that all above settings have taken effect.

9.2. 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.