

Tecsys Streamline Minimum Requirements

Release 2019.x, 2020.x, 2021.x & 2022.x

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Introduction

The specifications in this document are intended as a guideline when sizing servers for the Streamline 2019.x, 2020.x, 2021.x & 2022.x releases running the base modules. They do not include requirements for additional 3rd party products outside of what is required for Visual Streamline and each situation can be unique.

In addition to the below requirements an antivirus and backup solution will need to be put in place for the server(s).

The below specifications are intended for Streamline resource usage only.

Server Requirements

Up To 20 Users

- Intel 6 core Xeon Processor with Intel EM64T support @ 2.0 GHz (or faster)
- Minimum 32 GB of memory
- 6 x 300 GB SAS 15K RPM Hot Swap Drives (or larger) in RAID5 configuration with 1 designated as a Global Hot Spare
- Microsoft Windows Server 2012 R2 Standard Edition, Windows Server 2016 Standard Edition or Windows Server 2019 Standard Edition with latest service pack
- Windows Server and Remote Desktop Server Client Access Licenses (CALs), 1 each per user.
- Microsoft SQL Server 2016/2017/2019 Standard Edition with minimum 200 GB of free space.
- ***Please note SQL 2017 is not supported with Windows 2012 R2. See page 11.***
- ***Please note SQL 2019 is only supported on Windows 2019. See page 11.***
- Valid SQL Licensing (See Licensing Notes below.)
- Minimum Microsoft .Net Framework v4.6.1

20 To 50 Users

- 2 x Intel 6 core Xeon Processor with Intel EM64T support @ 2.0 GHz (or faster)
- Minimum 64 GB of memory
- 8 x 256 GB mixed-use/enterprise SSD drives (or larger) in RAID5 configuration with 1 designated as a Global Hot Spare
- Microsoft Windows Server 2012 R2 Standard Edition, Windows Server 2016 Standard Edition or Windows Server 2019 Standard Edition with latest service pack
- Windows Server and Remote Desktop Server Client Access Licenses (CALs), 1 each per user.
- Microsoft SQL Server 2016/2017/2019 Standard Edition with minimum 300 GB of free space.
- ***Please note SQL 2017 is not supported with Windows 2012 R2. See page 11.***
- ***Please note SQL 2019 is only supported on Windows 2019. See page 11.***
- Valid SQL Licensing (See Licensing Notes below.)
- Minimum Microsoft .Net Framework v4.6.1

Server Requirements Continued

Over 50 Users – Multiple Server Solution

SQL Server

- Intel 8 core Xeon Processor with Intel EM64T support @ 2.0 GHz (or faster)
- 64 GB of memory (or more)
- 8 x 256 GB mixed-use/enterprise SSD drives (or larger) in RAID5 configuration with 1 designated as a Global Hot Spare
- Microsoft Windows Server 2012 R2 Standard Edition, Windows Server 2016 Standard Edition or Windows Server 2019 Standard Edition with latest service pack
- Microsoft SQL Server 2016/2017/2019 Standard Edition with minimum 400 GB of free space.
- ***Please note SQL 2017 is not supported with Windows 2012 R2. See page 11.***
- ***Please note SQL 2019 is only supported on Windows 2019. See page 11.***
- Valid SQL Licensing (See Licensing Notes below.)
- Minimum Microsoft .Net Framework v4.6.1

Remote Desktop Server

- 2 x Intel 8 core Xeon Processor with Intel EM64T support @ 2.0 GHz (or faster)
- 48 GB of memory (or more)
- 8 x 256 GB mixed-use/enterprise SSD drives (or larger) in RAID5 configuration with 1 designated as a Global Hot Spare
- Microsoft Windows Server 2012 R2 Standard Edition, Windows Server 2016 Standard Edition or Windows Server 2019 Standard Edition with latest service pack
- Windows Server and Remote Desk Client Access Licenses (CALs), 1 each per user.
- Minimum Microsoft .Net Framework v4.6.1

Additional Requirements and Considerations

- For larger installs or heavy use of 3rd party applications, multiple terminal servers may be required.
- **Streamline 2019.x release no longer requires MS Outlook/Office licensing for the email module. Instead a SMTP service is used. Email accounts will need the ability to send through SMTP.**
- **Streamline 2019.x release now includes basic spreadsheet functionality making the purchase of Excel optional.**
- The Remote Desktop Server(s) must be setup as session based.
- Remote Desktop Collections needs to be setup so Tecsyst support can utilize the session shadow functionality.
- Microsoft UAC (User Account Control) must be disabled.
- Remote offices must be able to connect to head office VIA IPSEC tunnels over the internet. This requires static IP addresses at all locations.
- Remote access will be required for Streamline support staff to install and support Streamline. Some examples are MS VPN & Open VPN.
- The Streamline ECOM solution requires high speed/bandwidth internet connection with static IP address (required for data replication).
- All printers need to be IP based and support Windows Server 2012 R2/2016/2019.
- Workstations will all need the ability to connect to the Remote Desktop Server VIA RDP (remote desktop protocol).
- There are two options for faxing: Zetafax by Equisys and Internet Fax
- If using Zetafax, an analog phone line is required for the fax modem and the Server will require a COM port to attach an external fax modem to. Zetafax version 17.1 is required for Windows 2016 Server support.
- Exclusive use of an email account is required for Streamline use. We suggest something like: DoNotReply@yourcompany.com
- If SSRS (SQL Reporting Servers) is going to be used the server running the Streamline SQL instance cannot be a domain controller. With the release of SQL 2017 Microsoft no longer supports SSRS installation on a domain controller.

Microsoft Licensing Notes

Microsoft Windows Server

- Windows Server requires an activation license.
- You must have the appropriate number of Client Access Licenses or CALs.
- There are Named User CALs and Named Device CALs.
- A Device CAL covers only one workstation or device.
- A User CAL covers one specific user. These licenses are NOT concurrent.

Microsoft SQL Server

- MS SQL can be licensed with a SQL License AND SQL User or Device CALs.
- MS SQL can also be licensed with Core Licensing. (Minimum of 4 Core Licenses)
- When using SQL Core licensing on a physical server you must have enough licenses to cover all of the CPU cores
- Core and Runtime licensing does not require a license for SQL itself.
- The most cost-effective way of licensing MS SQL is with Tecsys SQL Runtime CALs.
- A SQL server instance licensed with Runtime licensing can only be used with software provided by the Runtime Licensing vendor, in this case Tecsys.

Microsoft Office

- Microsoft usually requires that there be an Outlook/Excel/Office license for each user on a Remote Desktop Server. For example, if the Remote Desktop Server is licensed for 50 users, then 50 Outlook/Excel/Office licenses are required.
- At present, there is an exception to the above rule when Outlook/Excel/Office is licensed for the workstations. For example, if 50 users have desktop licenses for Excel and only 5 of them want to run/extract reports from Streamline, then 5 additional Excel licenses can be purchased and installed on the Remote Desktop Server instead of the required 50.

Hard Disk Information

Although smaller installs have successfully used SATA hard drives, SAS 15K RPM Hot Swap drives are strongly recommended for servers. Both formats come in two physical sizes, 3.5 inch and 2.5 inch. 10K RPM 2.5-inch drives are only marginally slower than the 15K RPM 3.5 inch drives. (This is due to the smaller platter diameter.)

Both SATA and SAS drives use the same interface and at this point in time there are two different data transfer rates, 6 Gb/s and 12 Gb/s (Gigabits per second). The 12 Gb/s drives are more desirable but be aware that the RAID Controller, cables and drive cage must also support this speed.

SSD (Solid State Drive) Hard drives are much faster than traditional hard drives as they have no moving parts. They are basically non-volatile memory. There is one caveat however, SSD drives have a limited rewrite lifespan. The life expectancy of these drives is based on their type, Read Intensive, Mixed Use or Write intensive and the amount of free disk space. SSD drives have internal logic that helps to prevent overwriting. Instead of overwriting data, it writes the updated data to a new unused area and only overwrites areas as necessary. Having extra available space will affect the drive's longevity. Here is some information to help in choosing which type of SSD drive to buy:

Read Intensive (RI) should be the cheapest.

Mixed Use (MU) in the middle.

Write Intensive (WI) the most expensive.

These designations relate to the DWPD (Drive Writes per Day) that the drive is rated for. For ease of math, assuming a drive size of 1TB:

- A RI drive is usually rated at or below 1 DWPD, some as low as 0.3. Assuming it's 0.5, then that means the drive will not wear out if you write 500 GB ($1\text{TB} * 0.5$) to the drive, every day, for 5 years.
- A MU drive is between 1 and 10. A Common number for Intel SSDs is 3.0. So that means you can write 3 TB of data to that drive every single day for 5 years. A 1TB drive will not hold 3TB, so this means data you are writing is getting overwritten several times a day.
- A WI drive is ≥ 10 . HGST drives rated for 25 which means they can (assuming our mythical 1TB drive) write up to 25TB of data to them every single day for 5 years.

There may be warranty concerns as well with SSD drives. Here is a clip from an HP warranty: "Customer Self Repair (CSR) subject to maximum usage limitations. Maximum usage limit: This is the maximum amount of data that can be written to the drive. Drives that have reached this limit will not be eligible for warranty coverage."

Visual Streamline Compatibility Chart

Server / SQL	SQL 2016	SQL 2017	SQL 2019
Windows Server 2012	X	Not Supported	
Windows Server 2016	X	X	
Windows Server 2019	X	X	X

Streamline Handheld Module requires SQL 2016 as it needs to replicate with SQL 2012.