System Requirements

2020 | Manufacturing Operations Management

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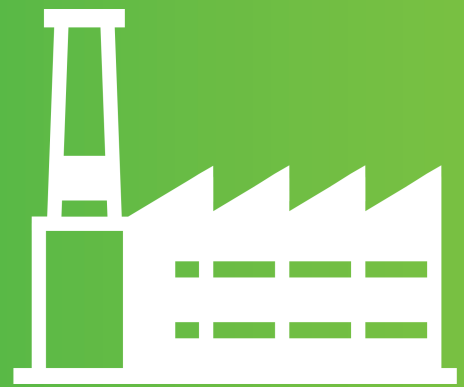
SYSPRO™ LearnIt

Contents

Purpose

This document explains the minimum hardware and software requirements for SYSPRO MOM software only. The document refers to MOM Version 2020. Please remember to take into consideration any specific hardware and software requirements for your SYSPRO ERP application, when calculating overall system requirements. It's common for SYSPRO MOM to co-exist on the same servers that host your SYSPRO ERP application.

SYSPRO MOM is not supplied with client access licenses for operating systems or licenses for database management systems (DBMS). These must be purchased separately. This document is provided as a guideline only and SYSPRO MOM cannot guarantee the accuracy of any information presented after the date of publication. SYSPRO MOM makes no warranties, express, implied or statutory, as to the information in this document.

Components

SYSPRO MOM is a hybrid product combining web based and desktop applications to provide the best possible customer and user experience.

MOM - Manufacturing Operations Management

SYSPRO mom is a web-based application used in production and hosted on Internet Information Services. Unlike SYSPRO aps, which is a tool deployed to just planners within the organization, an instance of SYSPRO mom is required per SYSPRO ERP company. Meaning if you have a production company and need to deploy a test instance, two installs of SYSPRO mom are required.

APS - Advanced Planning & Scheduling

SYSPRO aps is a desktop client application used by planners. The application is typically deployed to a PC or via Remote Desktop Services/Citrix in multi user environments where centralized deployment of the application is required. SYSPRO aps supports multi companies and only one installation of SYSPRO aps is required.

API - Application Program Interface

SYSPRO api is web-based application program providing connectivity to SYSPRO ERP and third-party applications. Only one installation of SYSPRO api is required as multi company support is provided. This application should be made available to system administrators and to any user that will maintain the integration between your SYSPRO ERP application and SYSPRO MOM.
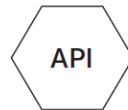
MES = MOM + APS + API providing connectivity to ERP, WMS, SPC, QMS and other software

Configuration

In the example below, components of SYSPRO are installed on a separate Web and SQL Server. SYSPRO mom and SYSPRO api are installed on the Web Server and the databases required by these components reside on the SQL Server. SYSPRO may co-exist on either the same web server that hosts your ERP application or on a separate dedicated SYSPRO MOM web server. The databases for SYSPRO MOM must however be deployed to the same SQL instance as your SYSPRO ERP application. SYSPRO supports both Hyper-V and VMWare virtualized. platforms.
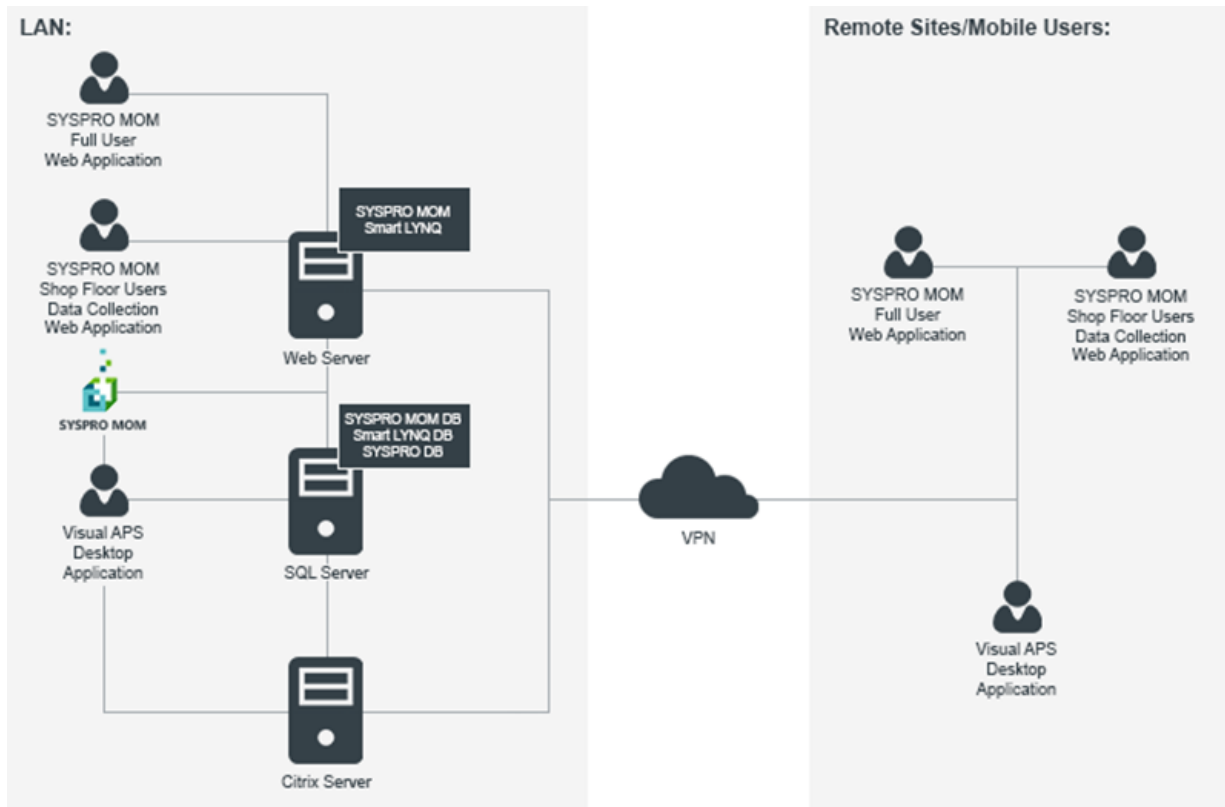
You may optionally choose to install SYSPRO aps on a dedicated Application Server instead of on the user's PC. The application server should not host Microsoft SQL Server or Internet Information Services due to performance concerns. The application server will require a certain amount of RAM to be set aside for the operating system, leaving the rest for client sessions. SYSPRO aps is processor intensive therefore a dedicated processor (core) for each SYSPRO aps session is recommended.

This type of setup is suitable for organizations where performance and security of the application is an important consideration.

Minimum Server Hardware Requirements

SQL Server

The following hardware requirements should be considered for production environments.

Hardware requirements				
Company Size	Users	RAM	Cores (virtual)	Cores (physical)
Small	1 to 10	8GB	2 to 4	1 processor
Medium	11 to 100	16GB	4 to 6	2 processors
Large	100+	24GB	6 to 8	2 processors

Database sized by component			
Component	SQL Database(s)	Initial DB Size	Growth Expectations
SYSPRO aps	No separate database. SYSPRO aps tables are stored in the SYSPRO ERP database.	N/A	Minimal change to table sizes
SYSPRO mom	4 databases • Data • Config • Logic • Statistic	400MB	The data and logic databases will increase significantly from their initial size. The percentage of growth is dependant upon the volume of data tracked. Minimal change to the config database size.
SYSPRO api	1 database	100MB	Minimal change to database size

SQL Disk and Database Configuration

SYSPRO mom maintains separate databases for the application logic, application, application configuration and application statistics.

> **Note:** Remember to include in any disk capacity calculations adequate space for storing transaction logs, incremental and full SQL backups as required.

Unless you can tolerate any downtime, you should add protection to your servers against unexpected drive failures by using RAID. Hardware RAID implementations are always preferred over software RAID implementations. RAID 0 (disk striping without parity) offers optimal read/write performance, but if a drive fails, IIS/SQL won't be able to continue operation until the drive is replaced and its contents are restored from backup. Because of this, RAID 0 isn't the recommended choice. RAID 1 (disk mirroring) creates duplicate copies of data on separate physical drives, allowing the server to remain operational when a drive fails, and even while the RAID controller rebuilds a replacement drive in a failed mirror. RAID 5 (disk striping with parity) offers good protection against single-drive failure but has poor write performance. RAID 1+0 (disk stripping and mirroring with parity) offers the best level of performance and protection.

For the best network throughput, all servers should be configured with a 1GB Network Interface.

> **Note:** Hardware requirements for both the Database and Web Server should be periodically reviewed to ensure SYSPRO's response times are within acceptable levels for your organization. To maintain read/write times it is recommended that Microsoft SQL Server Database Maintenance plans are configured to rebuild and reorganize data on a regular basis.

Supported editions of Microsoft SQL Server	
Database Management System (DBMS)	Supported Versions
Microsoft SQL Server (Standard & Enterprise Editions)	2008 R2 2012 2014 2016 2017 2019

Web Server

Hardware requirements				
No. of SYSPRO MOM Instances	RAM	Cores (virtual)	Cores (physical)	Hard Disk*
1 to 2	4GB - 8GB	2 to 4	1 processor	2GB
3 to 4	8GB - 16GB	2 to 4	1 processor	4GB
5+	4GB Per Instance	2 to 4	2 processors	5GB+

*Allow 1GB of Disk Space per SYSPRO MOM instance and add any additional space requirements for storing attachments in the document library.

Software Requirements	
Software	Requirements
Operating Systems	• Windows 7 • Windows 8 • Windows 10 • Windows Server 2008 R2 • Windows Server 2012 • Windows Server 2012 R2 • Windows Server 2016 • Windows Server 2019 • Microsoft .NET Framework 4.8 is required for API and MOM • Microsoft .NET Framework 3.5 SP1 is required for APS
Internet Information Services	• IIS 7.0 +
Browser	• Microsoft Edge • Google Chrome
Optional Software	SSL Certificate

Minimum Client Requirements

SYSPRO mom

Hardware	Requirements
Device	PC Laptop Tablet PC iPad
Screen Resolution/Size	10" screen minimum for tablet devices FHD resolution or higher
CPU	Intel i5 or equivalent
RAM	2GB
Network	100MB/1GB Network Interface
Optional Hardware	High quality touchscreen device ISO, VESA wall mounting devices
Operating System	Android and iOS Windows 7 Windows 8 Windows 10
Browser	Microsoft Edge Google Chrome

SYSPRO aps

SYSPRO aps	
Hardware	**Requirements**
Device	PC Laptop Server
Screen Resolution/Size	21" - 24" screen FHD screen resolution or higher
CPU	Intel i5 or equivalent 2-4 Virtual Cores or 1 physical processor
RAM	8GB
Network	100MB/1GB Network Interface
Operating System	Windows 7 Windows 8 Windows 10

SYSPRO aps	
Hardware	**Requirements**
	Windows Server 2008 R2
	Windows Server 2012
	Windows Server 2012 R2
	Windows Server 2016
	Windows Server 2019
Disk Space	1GB

Supplying additional cores will provide faster performance of the application. SYSPRO aps uses Random Access Memory (RAM) to temporarily store data whilst processing. The amount of memory required is based on the amount of data to process. You should consider 4GB/8GB RAM per SYSPRO aps session depending on the complexity of scheduling requirements and volume of data.

System Requirements - Factory Automation

Minimum Hardware and Software Requirements - OPC Server	
Hardware	**Requirements**
Device	Industrial Fanless PC Mounting: VESA or wall brackets
CPU	Intel i3 or equivalent
RAM	4GB and above
Operating System	Windows Server 2008 R2 Windows Server 2012 Windows Server 2012 R2 Windows Server 2016 Windows Server 2019
Ports and Connectivity	2Gb LAN ports 2 COM ports (RS-232/422/485) 4 USB ports
Audio jacks: line-out, mic-in	2 HDMI ports 1 VGA port