Pre-installation: Upgrade

SYSPRO 8

Published: July 2023

SYSPRO™

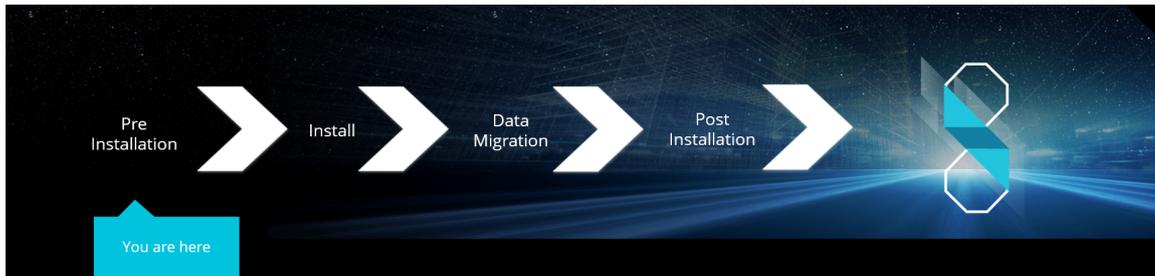# CONTENTS

Pre-installation: Upgrade

Pre-installation: Upgrade

Exploring

Where it fits in?

You are an existing SYSPRO user and are about to upgrade to **SYSPRO 8**.

Installation Types

There are a number of installation permutations that you can use. Some of the common scenarios include:

Standalone installation

The following is installed on the same machine:

- SYSPRO Application Server software
- Microsoft SQL Server software
- Data Client screens

> This type of installation is typically used for demonstration and/or development purposes.

2-tier installation: Client/Server

The SYSPRO client software resides on each client machine.

The following reside on the server:

- SYSPRO Application Server software
- Microsoft SQL Server software
- Data
- SYSPRO Communications Service (allowing clients to connect)

3-tier installation: Client/Server

The SYSPRO client software resides on each client machine.

The SYSPRO Application Server software resides on the dedicated SYSPRO server, together with the SYSPRO Communications Service (allowing clients to connect).

Microsoft SQL Server software and data reside on the dedicated database server.

> All credentials in this environment must be SQL Server Authentication.
>
> Windows Authentication is unable to move credentials across two levels of architecture (i.e. client to server and then server to database server).

Terminal Server installation

There are various configurations that could be used for a Terminal Server environment:

- It could act as a dedicated server. Instead of running the SYSPRO client software, you would run the standalone SYSPRO shortcut.

- It could act as a dedicated client machine where the SYSPRO client software is installed. The application may be published under terminal server providing a SYSPRO icon to each user's workstation. Clicking the icon runs the SYSPRO client.

- It could host both the client and server portions of the SYSPRO Software on the same machine. This provides a lockdown method of the SYSPRO working and data Files, giving users access via the client side software only.

Starting

Prerequisites

Minimum supported software

Ensure that you have reviewed and met the following system requirements before proceeding with your *SYSPRO 8* journey.

- **Microsoft .NET Framework 4.8**

  > If you intend on emailing from within SYSPRO (including *SYSPRO Reporting Services* Reports and Document Printing) and your email technology predates **Microsoft Office 365**, then **.NET Framework 3.5** may also be required.

- **Windows Installer 5.0**

  This results in all machines having the latest Windows updates.

- **Microsoft SQL Server 2012** onwards

- **Microsoft PIAs**

  Microsoft's Office Primary Interop Assemblies allow SYSPRO to integrate with line-of-business applications, such as **Microsoft Word**, **Microsoft Excel** and **Microsoft Outlook**.

  Coupled with *SYSPRO Office Integration* you can surface SYSPRO data inside **Microsoft Word** and **Microsoft Excel**.

  > Microsoft Outlook PIA's are required if you intend using the SYSPRO Email Client.

- **Java runtime**

  This is required if you use client-side printing.

- **Microsoft IIS** (Internet Information Services) Version 6 onwards

- **Microsoft Windows 7 SP1** onwards (64-bit)

- **Microsoft Windows Server 2012** onwards

- **Microsoft Office 2016** onwards

  SYSPRO 8 integrates to the **Microsoft Office** suite, and both variants of **Microsoft Office 365** (locally-installed and cloud-based) are supported as standard.
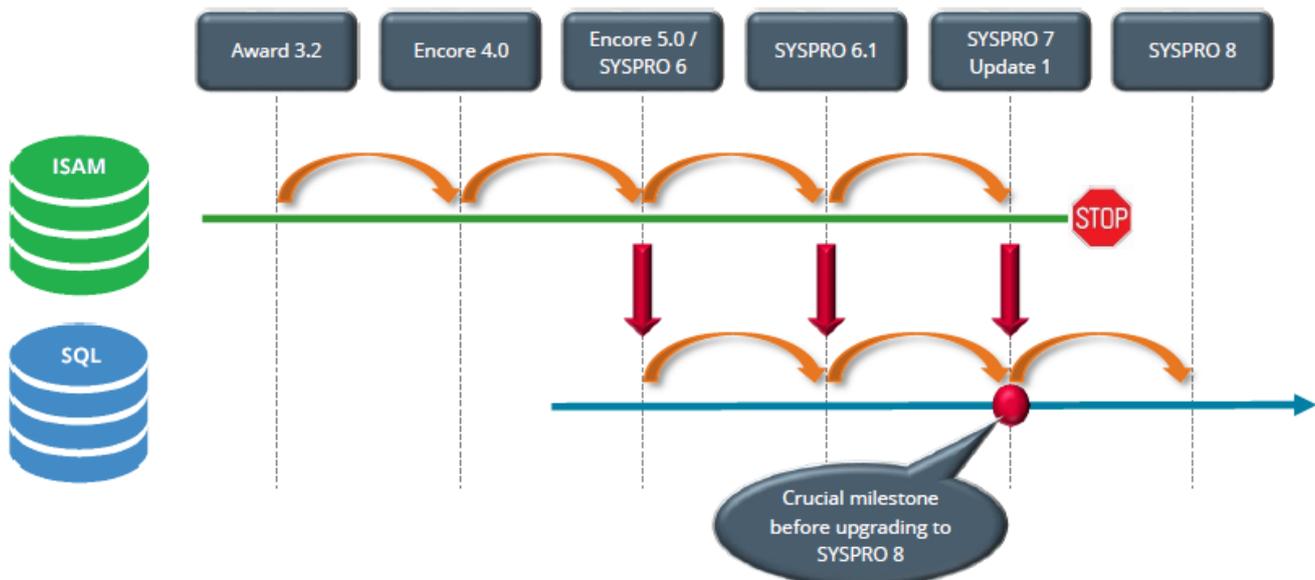
Upgrade Considerations

Upgrading to SYSPRO 8 from previous versions

You can upgrade to **SYSPRO 8** from any previous version of SYSPRO (including Encore and Award versions) but all upgrades need to be done in a systematic and version-by-version manner (as explained in the diagram and upgrade matrix below).

From the **Encore 5.0**/**SYSPRO 6.0** release, we introduced support for SQL databases and steadily moved the system from ISAM to SQL.

As **SYSPRO 8** is a SQL-only environment, it no longer uses any ISAM files. So, if your current SYSPRO version is still on ISAM, you have 2 options available:

- Update along the ISAM path until you reach **SYSPRO 7 Update 1** and then migrate to **SYSPRO 7 Update 1** SQL, before upgrading to **SYSPRO 8**.
- Migrate to SQL on any of the intermediate versions, before following the upgrade path to reach **SYSPRO 8**.

Sample scenario 1:

- If you are currently on **SYSPRO 6.1** SQL, you have to upgrade to **SYSPRO 7 Update 1** SQL before you can upgrade to **SYSPRO 8**.

Sample scenario 2:

- If you are currently on *SYSPRO 6.1* ISAM, you could do either of the following:
  - Upgrade to *SYSPRO 7 Update 1* (ISAM) > Migrate to *SYSPRO 7 Update 1* (SQL) > Upgrade to *SYSPRO 8*.
  - Migrate to *SYSPRO 6.1* (SQL) > Upgrade to *SYSPRO 7 Update 1* (SQL) > Upgrade to *SYSPRO 8*.

SYSPRO upgrade matrix

The following tables provide you with the sequence of upgrade steps required in order to reach *SYSPRO 8*, depending on your current SYSPRO version and choice of migration point:

- Migrate to SQL from ISAM before following the upgrade path:

Current SYSPRO Version	Steps to Upgrade to SYSPRO 8					
	Upgrade to Encore 4.0	Upgrade to SYSPRO 6	Migrate data to SQL	Upgrade to SYSPRO 6.1	Upgrade to SYSPRO 7 Upd 1	Upgrade to SYSPRO 8
Award 3.2 or prior	1	2	3	4	5	6
Encore 4.0		1	2	3	4	5
SYSPRO 6 ISAM			1	2	3	4
SYSPRO 6 SQL				1	2	3
SYSPRO 6.1 ISAM			1		2	3
SYSPRO 6.1 SQL					1	2
SYSPRO 7 Upd 1 ISAM			1			2
SYSPRO 7 Upd 1 SQL						1

- Follow the upgrade path to *SYSPRO 7 Update 1* (ISAM), before migrating to SQL:

	Steps to Upgrade to SYSPRO 8					
Current SYSPRO Version	Upgrade to Encore 4.0	Upgrade to SYSPRO 6	Upgrade to SYSPRO 6.1	Upgrade to SYSPRO 7 Upd 1	Migrate data to SQL	Upgrade to SYSPRO 8
Award 3.2 or prior	1	2	3	4	5	6
Encore 4.0		1	2	3	4	5
SYSPRO 6 ISAM			1	2	3	4
SYSPRO 6 SQL			1	2		3
SYSPRO 6.1 ISAM				1	2	3
SYSPRO 6.1 SQL				1		2
SYSPRO 7 Upd 1 ISAM					1	2
SYSPRO 7 Upd 1 SQL						1

Restrictions and Limits

- You cannot run the **SYSPRO Installer Application** on a machine for which *Federal Information Processing Standard* (FIPS) has been enabled.

Solving

FAQs

What happens to my legacy files when upgrading to SYSPRO 8?

When you upgrade from *SYSPRO 7 Update 1* to *SYSPRO 8* (using the **SYSPRO Installer Application**) the process is as follows:

1. *SYSPRO 7 Update 1* installation files are removed.

    > There may be some files left behind after this process because of new files added through ports, or third party developer files.

2. The *SYSPRO 8* installation process checks whether there are any remaining legacy files.

    If any are found, they are moved to a newly-created archived folder (`Archived_SYSPRO7Files`).

3. The following folders are added to the archived folder in the *SYSPRO 8* install location:

    - `\Programs">\Programs`
    - `\Screens`
    - `\Base\Bin`
    - `\Base\UI">\Base\UI`

Using

SYSPRO 8 Readiness Check

The **SYSPRO 8 Readiness Check** program is a diagnostic program that you run on your **SYSPRO 7 Update 1** SQL database(s) to identify any issues that may cause the conversion process to fail. It verifies your system environment and company databases to ensure that the conversion to **SYSPRO 8** is as simple as possible.

If you are currently running **SYSPRO 7 Update 1** (ISAM) you can (on a separate environment) migrate your data to **SYSPRO 7 Update 1** (SQL) and then run the **SYSPRO 8 Readiness Check**.

Data Backup

Step	Description
1. Re-index ISAM files	To ensure that the backup files are as clean as possible, you can choose to re-index your ISAM files prior to creating a backup of the SYSPRO folders.
2. Verify database integrity	Prior to any backups, it is recommended that you verify the database integrity by running the **SQL Server Diagnostic** program and selecting to view tables, indexes and columns.
	This ensures that any issues detected by the **SQL Server Diagnostic** program can be resolved prior to creating the backup.
3. Backup of SQL Server databases	Using Microsoft's **SQL Server Management Studio** or backup tool of your choice, ensure that you backup all of your SYSPRO databases, including system-wide and company specific databases, etc.
	Also ensure that any third party databases, which in any way are related to SYSPRO, are also backed up.
4. Backup of SYSPRO folders	As a precautionary measure, ensure to create a backup of all files and folders that contain data, or customization of any type, before proceeding with the installation.
	This includes the following folders that contain ISAM files that will be migrated to SQL during the data migration process:
	- WORK
	- DATA
	Ensure that the backup can be restored in the event of any problems encountered during the conversion process.

Pre Installation Checks

As part of your preparation for upgrading to *SYSPRO 8*, please ensure the following:

Step	Description
1.	Confirm your SYSPRO companies have been migrated to SQL: If you are upgrading from *SYSPRO 7 Update 1* and your company data has been migrated to SQL, then you can migrate directly to *SYSPRO 8*. If you are on any prior releases you have to upgrade version-by-version until you reach *SYSPRO 7 Update 1*. All company data needs to be in SQL before you can upgrade to *SYSPRO 8*.
2.	Ensure that you have access to a SYSPRO Administrator user name and password (e.g. ADMIN).
3.	Ensure that you have access to a SQL Server Administrative user name and password (e.g. 'sa'). This user must have the following administrative permissions enabled: - Create and Drop entities (such as databases, tables, columns, etc.) for all SYSPRO databases - Issue BULK INSERT statements.
4.	Confirm you have a valid SYSPRO license: Ensure that you have valid licenses for the software you will be installing. In particular, ensure that your new *SYSPRO 8* license is valid for the modules you will be using.
5.	Run financial checks on your existing *SYSPRO 7 Update 1* system: - Ensure all pending transactions are posted to General Ledger. - Ensure all modules are in the same period. - Run a **Balance** function in all modules and retain reports for balancing purposes after the installation. - Print distribution reports and retain reports for reference purposes after the installation. - Print the **At a Glance** information for all modules. This can be used to confirm balances once you have completed the installation and conversion.
6.	Log out all users (i.e. SYSPRO operators and e.net users).

Step	Description
7.	Stop all SYSPRO services. ⬜ This step is only required if you are upgrading to *SYSPRO 8* and not running parallel to *SYSPRO 7 Update 1*.
8.	Check port numbers assigned to services: As part of the installation process for existing sites, a number of services will need to be reinstalled. During the installation you have the option to either assign new ports or use the existing *SYSPRO 7 Update 1* ports. Reasons why you would select to use the *SYSPRO 7 Update 1* ports include: ■ *SYSPRO 8* services can reuse the assigned firewall rules ■ *SYSPRO 8* Clients can connect to the same SYSPRO Communication Endpoint to save time ■ SRS Printing will just work as it will use the same port number. When these services are reinstalled, you will need to review any connection issues as the new default port numbers might have changed (e.g. either reinstate the original port number or update the configuration of any calling applications to reflect the new port number).
9.	Verify third party products to ensure that the product or application is available and compatible with *SYSPRO 8*. In addition, ensure that you have the appropriate installation and licensing information required (particularly relating to *SYSPRO 8*).
10.	Disable SYSPRO users from logging into each company, until after installation and migration is complete.

Customization

SYSPRO 8 Windows Client Interface

The vast majority of Customization and Power Tailoring will work unchanged after migrating to *SYSPRO 8*. However, as the scope for customization is vast and could have been developed in a 'non-version independent' way, we recommend that your customizations are tested post migration to *SYSPRO 8*.

The use of VBScripts to customize the user interface will work, as long as the appropriate parameters and variables were used.

Calling business objects using the standard **CallBo** function will also work unchanged.

SYSPRO Avanti

Many of the VBScript and e.net customization, and other Power Tailoring Customization, will work unchanged in the *SYSPRO Web UI (Avanti)* interface.

However, if the customizations incorporated components specifically developed for the .NET framework (such as a .NET user control) this will not automatically work in the *SYSPRO Web UI (Avanti)* interface as it makes use of HTML5 and JavaScript - languages specific to a web UI instead of a windows client UI.

> In all cases where you intend to use both interfaces, it is recommended that the customizations are tested in both user interfaces.

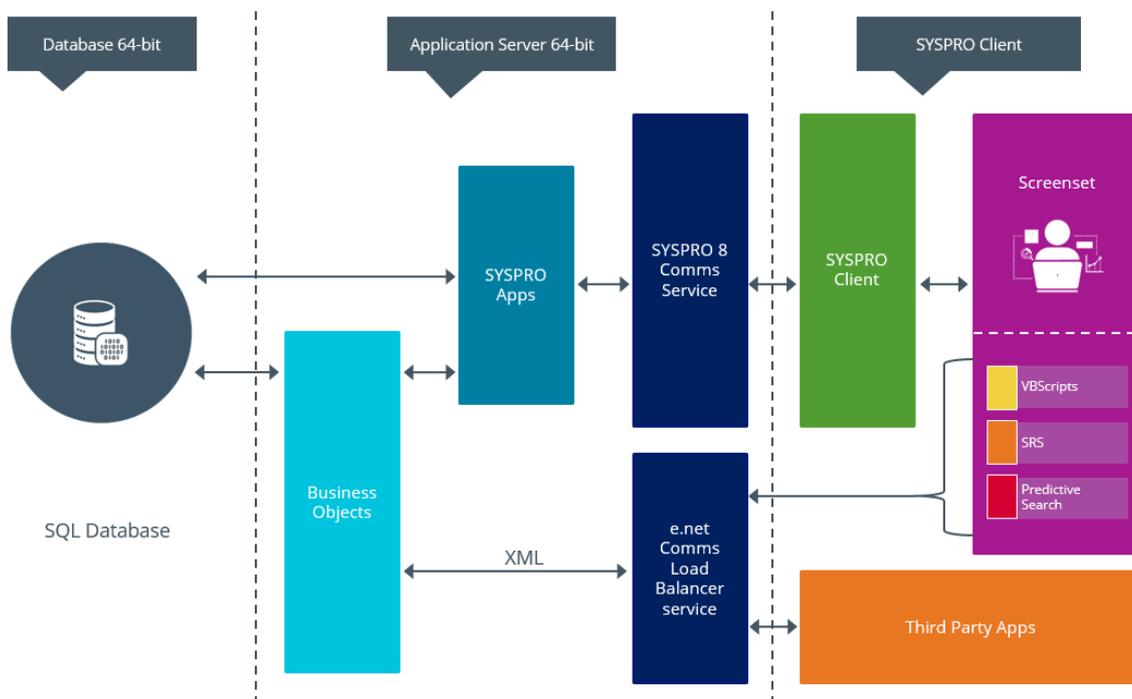# SYSPRO 8 Considerations
Architecture

Architecture enhancements

Various improvements have been made to the architecture of *SYSPRO 8* to future-proof the product and plan for innovative development.

e.net Communication Load Balancer service

As *SYSPRO 8* strives towards sophisticated simplicity, we have enhanced how the client-server and e.net environments work:

- The **SYSPRO 8 Communications Service** is used for client-server communications, as this is a faster, more secure, 64-bit and firewall-friendly communication method.

- Specific client components (e.g. VBScript, SRS, Predictive search, etc.) use the **SYSPRO 8 e.net Communications Load Balancer** service to call the relevant business objects.

  This is a more secure, scalable, robust, 64-bit method of running e.net business objects.

- All third party apps access SYSPRO via the **SYSPRO 8 e.net Communications Load Balancer** service.

Web Views

Prior to **SYSPRO 8 2019 R1**, any customized web view by operator or role surfaced in both SYSPRO and **SYSPRO Web UI (Avanti)**.

From **SYSPRO 8 2019 R1** onwards you must explicitly state whether a web view is targeted for SYSPRO or **SYSPRO Web UI (Avanti)**.

Because any pre-existing web view is assumed to be for **SYSPRO Web UI (Avanti)**, if you want existing SYSPRO web views to appear in later versions of SYSPRO, you must rename the `.JSON` file to include a `_SYSPRO` extension (e.g. `UX_OperatorCode_ProgramLZ_SYSPRO.JSON`).

The `.JSON` file resides in your `\Base\Settings` folder (or the `Role_xxx` folder if the user interface is configured by role).

You can also rename the file using the **Save as** function from within the **Visual Designer**[1]. You will be prompted to indicate the type of web view you want to save (i.e. **Avanti** or **SYSPRO Client**).

Document Flow Manager

SYSPRO 8 includes major architectural changes to **Document Flow Manager** (DFM). These include:

- Services installs
- Re-architected .Net Services
- Using Microsoft SQL Server for message queuing
- Improved user-interfaces for all DFM applications

[1]Program: IMPFRZ

SQL Server authentication

Description of change:	The options for connecting to SQL Server has changed.
	In *SYSPRO 7 Update 1*, the **System Setup** program provided 3 options:
	■ SQL authentication (Operator login+pass)
	■ SQL authentication (ADMIN login+pass)
	■ Windows authentication
	In *SYSPRO 8*, this has been simplified to 2 options:
	■ SQL authentication
	The **SQL Server standard user information** entries are used by default.
	■ Windows authentication
	SYSPRO 8 also lets override this at operator level (using the **Operator Maintenance** program - which has new options allowing specific operators to have their own SQL Server user name and passwords).
Reason:	Simplified system setup and the ability for customers to trace SQL Server usage by SQL login.

VBScripts to use CallBo function rather than 'enetguid' variable

Description of change:	When creating a VBScript in *SYSPRO 7 Update 1* and prior versions, a special variable named `enetguid` was available. This legacy variable was required in older VBScripts to invoke an e.net business object.
	This logic was superseded several versions ago, by allowing you to use the simpler **CallBo** function call to invoke e.net business objects.
	So, if you have previously used the `enetguid` variable, you need to recode your VBScript to use the **CallBo** function.
Reason:	Simpler process.

Business Objects

Custom Form Query

Description of change:	From *SYSPRO 8* onwards, only authorized operators will be able to run direct calls to the **COM Custom Form Query** (COMQFM) business object. However, operators who run calls to this business object via another business object (e.g. INVQRY - **Inventory Query**) are unaffected.
Reason:	Improved security.

Custom COBOL applications

The following IMPACT.INI entries are **obsolete** for *SYSPRO 8*

> Values in square brackets **[ ]** indicate the names when running in development mode:

- IMPPRG=

  For *SYSPRO 8* there are fixed locations for 32-bit and 64-bit programs:
  - \Programs [\PRG]
  - \Programs64 [\PRG64]

- IMPGUI=

  For *SYSPRO 8* there are fixed locations for client screensets:
  - \Screens [\GUI]

- CUSPRG=

  For *SYSPRO 8* there are fixed locations for custom 32-bit and 64-bit programs:
  - \Plugin\CustomPrograms
  - \Plugin\CustomPrograms64

  CUS*.IMP files previously located in the custom program folder are now located in:
  - \Plugin\CustomStore

- CUSGUI=

  For *SYSPRO 8* there are now fixed locations for custom client screensets:
  - \Plugin\CustomScreens

Technologies and features no longer supported in SYSPRO 8

In addition to focusing on SQL Server for improved scalability and availability and future-proofing your systems, *SYSPRO 8* is also about simplifying the system where possible. For this reason, some options have been simplified and/or removed as part of this process. In all cases the options that remain provide for improved scalability, performance, availability and/or security.

> The **SYSPRO 8 Readiness Check** program (run from within *SYSPRO 7 Update 1*) performs a number of validation checks when determining if your system is ready to be upgraded and will advise on some of the technologies that are no longer supported.

SQL Connections

Removed:	Connecting to Microsoft SQL Server using an ODBC DSN
Reason:	Prevents setup requirements and resulting issues with native ODBC drivers
Replaced by:	SQL Server connection strings
	Already the preferred option in *SYSPRO 7 Update 1*.

Custom Form data format

Removed:	Support for a single table storing all custom form data
Reason:	Poor scalability, poor data accessibility and poor performance as data grows
Replaced by:	Separate tables per master table
	Already the preferred option in *SYSPRO 7 Update 1*.

Client-Server communication technology

Removed:	Client-server communication using legacy CCI technology
Reason:	Inappropriate port handling over a firewall, and poor resilience when reduced network stability

---

Replaced by:	**SYSPRO 8 Communications Service** using Microsoft WCF technology
	Already the preferred option in *SYSPRO 7 Update 1*.

Web-based applications

Removed:	Web-based applications using the legacy HTML interface
Reason:	Very limited functionality and no customization available, based on legacy technologies
Replaced by:	*SYSPRO Espresso* mobile solutions provides functionality available in the web-based applications, is highly customizable, provides off-line functionality, etc.

SAP Crystal 2008

Removed:	Support for SAP Crystal 2008
Reason:	Crystal 2008 is no longer supported by the OEM vendor
Replaced by:	The new version to use is SAP Crystal 2013
	From *SYSPRO 8 2020 R2*, server-side reporting requires **SAP Crystal Reports 2016**.

ISAM

Removed:	Support for ISAM data format
Reason:	Lower performance, increased file system usage, poor data integrity, etc.
Replaced by:	Microsoft SQL Server provides enterprise-strength Data Integrity, Security, Scalability, Availability, Simplicity and Performance that can be accessed by all popular querying and reporting tools.

Preactor integration

Removed:	Preactor integration is no longer supported in *SYSPRO 8*.
Replaced by:	*SYSPRO's Manufacturing Operations Management (SYSPRO MOM)* is a complete solution for manufacturing companies that includes: ■ Scheduling ■ Planning ■ Equipment ■ Employees ■ Dashboards

Encore.dll via e.net Communications Service

> For more information, please read the **SYSPRO e.net Solutions** article.

Removed:	Direct calls to `Encore.dll` are no longer available.
Reason:	Directly referencing `Encore.dll` using COM/DCOM limits applications to 32-bit as well as SYSPRO's future expandability. In addition, any third party applications referencing the SYSPRO DLL's directly make it difficult for SYSPRO to easily enhance the system without requiring each third party application to also be changed. > Web Services are still supported, so developers who have previously used Web Services will work unchanged.

Replaced by:	Using the **SYSPRO 8 e.net Communications Load Balancer** service de-couples applications from the e.net 64-bit library and provides excellent scalability and performance.
	Additional benefits:
	■ No limitation of being tied to a specific technology (e.g. 32-bit, etc.)
	■ The system is more robust as any failures don't prevent the system from continuing on the other threads.
	■ The system is multi-threaded and has a significantly improved performance under load.
	■ Third party applications can reside on any server/computer that has access to the endpoint.

Where to from here?

■ Your next step is to install *SYSPRO 8* together with the required software components.

SYSPRO

www.syspro.com