

# SYSPRO Installer Overview

## *SYSPRO 8 Technical Article*

Last Published: March 2021



## SYSPRO Help and Reference

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# Contents

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<b>SYSPRO 8 Installer Overview .....</b>	<b>3</b>
SYSPRO Installer Introduction.....	3
SYSPRO 8 Products and Parameters .....	3
Additional software packages.....	4
<b>SYSPRO 8 Installer Design Considerations.....</b>	<b>5</b>
SYSPRO 8 Installer Design Principles.....	5
<b>SYSPRO 8 Installer Internet Access.....</b>	<b>9</b>
Installing the most recent products .....	9
Installing Mandatory Hotfixes.....	10
Uploading Installation Information .....	10
SYSPRO Installer latest version .....	10
SYSPRO Installer InfoZone Credentials .....	11
Local SYSPRO Deployment Service and SYSPRO Cloud-based Micro Services.....	13
SYSPRO Installer Internet Usage.....	13
<b>Further reading .....</b>	<b>15</b>



# SYSPRO 8 Installer Overview

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A modern ERP system is a sophisticated suite of software that can be installed and configured in many ways.

This includes running the product on a standalone laptop computer (for example, in sales, support and/or development environments) to an enterprise scale multi-tier on-premise or cloud environment.

Instead of a relatively simple AutoRun application that was used for SYSPRO 7 and prior versions (where the person installing the software was expected to select the appropriate application components and install them in the correct sequence) SYSPRO 8 has a new Installer application that simplifies this task. We will refer to the 'SYSPRO Installer' from here onwards.

The SYSPRO Installer uses InfoZone credentials to help manage the software availability, download on-demand the installation components, help manage hotfixes and other updates in a simple-to-use and consistent interface.

## **SYSPRO INSTALLER INTRODUCTION**


The SYSPRO Installer aims to simplify the complexity of installing SYSPRO in many different scenarios, ensuring that prerequisites are detected, dependent components are automatically pre-selected and installed, and only appropriate choices are presented and validated where possible.

This SYSPRO Installer is new for SYSPRO 8 and has been continually enhanced since the initial release of SYSPRO 8 in May 2018. The SYSPRO Installer automatically detects if there is a new version available and downloads the latest version so that the most up-to-date products and Installer features are available.

## **SYSPRO 8 PRODUCTS AND PARAMETERS**

The SYSPRO suite of applications are divided into separate products. Example products include: SYSPRO 8 Server, SYSPRO 8 Client, SYSPRO Avanti, e.net Communications Load Balancer, SYSPRO 8 Service Upgrade Manager, SYSPRO Reporting Host Server, etc.

Each product is a separate installation that consists of a Windows Installer (MSI) or Windows Executable (EXE). When launched, these provide a wizard that takes you through the process of configuring any parameters and then performing the actual installation, traditionally showing a status indicator during the installation process.



The product installations can be run silently by providing a parameter response file that contains the parameters that would have been prompted when running normally.

The SYSPRO Installer asks you for a list of products to be installed and guides you through the process of configuring the product parameters, providing appropriate defaults and validating your entries where possible. This is performed using a simple and consistent interface. Once ready to install, the SYSPRO Installer will run each product installation in the correct sequence by providing a correctly formatted response file.

## ADDITIONAL SOFTWARE PACKAGES

Some SYSPRO software components require unique installation and configuration, sometimes over-and-above the capability of the Windows Installer technology, and therefore have their own custom install logic. Alternatively, some components and their installations were not developed by the core SYSPRO development team and therefore use their own installation technology.

Therefore, there are two categories of additional software packages:

- **Additional Software Packages**

This refers to software that is included in the SYSPRO Installer, but which is handled with a separate user interface from the rest of the SYSPRO products.

*For example:* The SYSPRO Reporting Software server and client installations.

These software products can be accessed via the **Additional Software Packages** menu item when using the SYSPRO Installer.

- **AutoRuns**

This refers to software that must be installed using a separate custom installation (AutoRun).

*For example:* SYSPRO process Modelling and SYSPRO Manufacturing Operations Management.

These software products require the manual download of a separate AutoRun from a cloud-based content delivery system. You can then complete the software installation by running the AutoRun.

# SYSPRO 8 Installer Design Considerations

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When designing the SYSPRO Installer we listened to input from personnel who had experienced SYSPRO installations in many different environments.

Several common issues were raised – these included:

- It was not clear the sequence in which the products should be installed.
- As each install did not know what else was being installed, prerequisites were sometimes not being tested, or the same parameters were prompted multiple times across installations.
- Often the installation media was out-of-date, missing significant improvements or bug fixes. This sometimes led to completing an installation and immediately performing a significant upgrade.
- There was no visibility to support personnel about what had been installed, what version of the installation had been used, or what options had been selected.
- When attempting to apply a bug fix using ‘Software Ports’ from the InfoZone, these ports included additional software – often leading to significant additional validation – specially on sites with strict acceptance criteria.

In addition, the SYSPRO development team had no visibility of common installation practices or scenarios, therefore they could only simplify or improve the process based on anecdotal input.

From this, a set of design principles was used when designing the SYSPRO Installer and Software deployment process.


## SYSPRO 8 INSTALLER DESIGN PRINCIPLES

The following points formed the design principles of the SYSPRO 8 Installer and Software Deployment process. We have introduced the solutions that satisfy these requirements.

### MULTIPLE GROUPS OF SERVERS

The SYSPRO Installer had to cater for defining several sets of SYSPRO installations for the same end-user.

For example, differentiating between a Live system that can consist of multiple servers and clients, and a Test system with their own separate servers and clients. Similarly, some end-users have a Disaster Recovery (DR) system which also has its own set of servers and clients.



The solution is to allow you to define one or more **Deployment Groups**.

Each Deployment Group can be named and managed separately. As you install products against a Deployment Group, the SYSPRO Installer can manage which products can be installed on multiple servers and which can only be installed on only one server in the group. It can help provide defaults when setting up installation parameters, such as supplying appropriate endpoint addresses to installed services.

Also, each Deployment Group has an associated software version. For example, you may have a Live environment using one SYSPRO version, while a Test environment is being used to verify a subsequent SYSPRO version. The SYSPRO Installer ensures that only appropriate product versions and hotfixes are selected for each Deployment Group.

## PRODUCT DEPENDENCIES

The SYSPRO Installer must be able to simplify installation of multiple products.

As there is a single SYSPRO Installer with a consistent interface, the installer logic ensures that if you have selected one product, that any dependent products are selected automatically and installed in the correct sequence.

This was not possible in prior installs, where each product installation was independent of each another.

## PRODUCT PARAMETERS MUST BE SIMPLE TO COMPLETE


Some products require parameters before they can be installed. This could be an endpoint, port, or other option. However, when installing many products, it can be difficult to know exactly what is expected to be entered during each product installation. Sometimes, once the product has been installed, it can be difficult to know how to correct the result of entering an incorrect parameter.

The SYSPRO Installer always provides a default value – in some cases this has been pre-determined based on prior selections – providing the most likely valid response. In many cases you can click-through the parameters, reviewing the values and confirming that they are appropriate.

## HOTFIXES, REPAIR AND UNINSTALL

We recognize that all software may need bug fixes and therefore must make the installation of these as simple as possible.

In addition, we must avoid the 'Port' problem with prior versions of SYSPRO, when we included additional software in each port – preventing you from just getting the fix you need.



In SYSPRO 8, bug fixes are deployed using Windows hotfix technology. Each hotfix is a single file (MSP) that contains the minimum software change required to rectify the problem – including any dependencies.

There are several advantages to this approach:

- Each hotfix contains only the software to fix the problem reported.
- You can uninstall the hotfix if required.
- You can use the Windows repair function to refresh the installed products, including hotfixes.
- Each hotfix is visible in Windows ‘Apps and Features’.

**Note:** In some cases, a bug fix may have a dependency on another change. In this case, the minimum changes are consolidated into a single hotfix (i.e. you are not forced to install multiple hotfixes).

## HOTFIX VISIBILITY AND MANDATORY HOTFIXES

Although quite rare, occasionally a bug fix is required to correct a more serious problem.

In the past, the SYSPRO support community (including the SYSPRO services teams) had no visibility about who had installed which versions of software, or which ports had been applied. In the event of a serious problem, our only answer was to send an Alert to the SYSPRO community about a potential problem. This occurred even if it affected only a few end-users.

One of the most important considerations for SYSPRO 8 was to ensure that we know who has installed which SYSPRO products, which versions of each product and which hotfixes have been applied.

This allows us to be proactive in the event of a hotfix being required at any site.

We also introduced the concept of **Mandatory Hotfixes**. This is a hotfix that we believe must be installed at every site.

There are two primary reasons for Mandatory Hotfixes:


1. Critical bug fix required – we believe that every site should have this fix.

*For example:* It could be due to potential data corruption or a security loophole.

2. Architectural enhancement

*For example:* It could be that several subsequent hotfixes require this code base and it saves having to include the change in many hotfixes (these are relatively rare, but part of the SYSPRO deployment design).





If you are using the SYSPRO Installer and one of the products that you have selected has a Mandatory Hotfix, the hotfix is installed automatically, without your input. Thus, as far as the installation is concerned, it is as if the fix had already been included in the software product.

If we detect that a site has installed the version of a SYSPRO product that requires a mandatory hotfix (and the hotfix has not yet been installed) we will send an email notification to the personnel who installed the software at the site. This allows us to be proactive in resolving serious issues.

Similarly, when an administrator logs into SYSPRO and a hotfix is available for the site, the SYSPRO menu ribbon bar enables the Hotfix button – as well as shows how many hotfixes are available. Clicking on the Hotfix button provides more details about the available hotfixes. The SYSPRO Installer is still required to apply the hotfix.

Lastly, if you have already applied the Mandatory Hotfix then we do not need to notify anyone, and no additional action is required.

The above solution means that only the minimum number of people necessary are affected by any problem and that they can be proactive due to appropriate notifications.

# SYSPRO 8 Installer Internet Access

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Some of the most important design considerations require internet access so that the SYSPRO Installer can ensure the following:

- The latest SYSPRO product versions are installed.
- Mandatory Hotfixes are silently installed when required.
- Information regarding installed products is uploaded so that notifications can be performed.
- The SYSPRO Installer itself is the latest available version.

## INSTALLING THE MOST RECENT PRODUCTS

In the past, the SYSPRO product installation media (DVD image) was out-of-date as soon as it was created. Subsequent bug fixes meant that as soon as you had installed the software you had to apply 'Ports' to get the software up-to-date. This was sometimes a significant effort and, if you failed to install the latest ports, your software would not behave as required.


When using the SYSPRO Installer, it downloads the latest product definition files (XML) – these describe products, versions, dependencies and parameters. These product definition files are very small and only take a few seconds to download. The SYSPRO Installer then allows you to select the products and parameters, automatically selecting any additional dependent products.

When you are ready to start the installation, you have two choices.

- Continue with the installation process.
  - This downloads the most recent version of each product from the cloud-based content delivery system to your local media folder.
- Manually copy pre-downloaded installation files to your local media folder.
  - This assumes that you have previously downloaded the latest product installation files (MSI and EXE) from the cloud-based content delivery system.
  - This option can be faster, as some of the installation files are quite large and (depending on your internet speed) can cause an unacceptable download time.

### **Important:**

The SYSPRO Installer always validates all installation files by comparing a checksum in the product definition files with the installation files being processed. This helps prevent the accidental use of an older installation file, or inadvertently installing files that contain malware. Similarly, the product definition files (XML) themselves contain their own checksum to ensure that they have not been corrupted or manipulated.



Once the installation files have been downloaded or copied to the media folder and they have been validated, the SYSPRO Installer runs each installation silently using the entered parameters.

## INSTALLING MANDATORY HOTFIXES

As described earlier, one of the design considerations for the SYSPRO Installer was to ensure that the latest version of products is installed.

This includes the SYSPRO Installer automatically detecting if there are Mandatory Hotfixes and applying them immediately after the product installation has completed.

The SYSPRO Installer (via the Local Deployment Service) connects to the SYSPRO Deployment Service to determine if there are any Mandatory Hotfixes for each product and automatically downloads and installs them. Typically, hotfixes are relatively small files – downloading and installing quickly.

**Note:** By default, all Hotfixes are installed for a new installation, however this can be disabled against each Deployment Group if required.

## UPLOADING INSTALLATION INFORMATION

Once the SYSPRO Installer has completed its installation it uploads a summary of the software installed, including a list of the products installed together with any hotfixes. Similarly, if any products and/or hotfixes are uninstalled this is also uploaded.

Most of the information uploaded to the SYSPRO Deployment Service is of a summary nature and is very small in size. This includes a list of each product, its version and each hotfix installed/uninstalled. The primary reason for this information upload is to be able to notify the personnel who ran the SYSPRO Installer when a hotfix becomes available.

## SYSPRO INSTALLER LATEST VERSION

The SYSPRO Installer is being improved from time-to-time, including supporting additional products and being enhanced based on feedback from the SYSPRO community.

The SYSPRO Installer always first checks if you are using the latest version of the installer. If not, the latest version is downloaded from the cloud-based content delivery system and you are then required to use the newly downloaded version.

This process also means that, if you have any version of the SYSPRO Installer, you don't need to worry about whether you have the latest version – just running it ensures that you are using the latest installer software.

## SYSPRO INSTALLER INFOZONE CREDENTIALS

The SYSPRO InfoZone (available at [www.syspro.com](http://www.syspro.com)) is the central resource that everyone in the SYSPRO community can use to learn about the software. This includes a host of content including access to the SYSPRO Learning Channel, product forums, new product news, technical and other documentation and should be a primary go-to place to keep up your product awareness.

InfoZone users are categorized as follows:

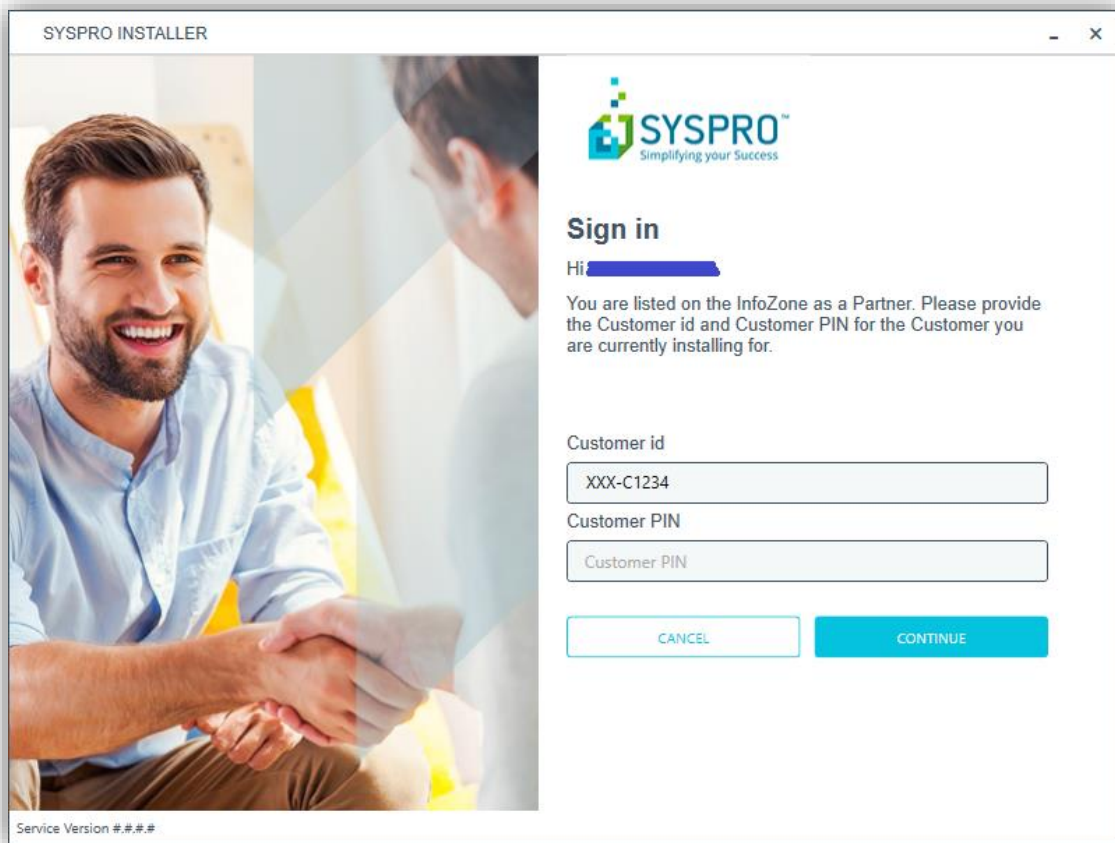
- **Customer**  
Personnel working for an end-user who has general access to InfoZone content (they do not have access to product installation or hotfixes).
- **Super-user**  
Personnel working for an end-user who has the authority to install and update SYSPRO software as required. The name 'super-user' comes from some operating systems where a super-user is a special account with system administrator privileges.
- **Partner**  
Personnel working for a SYSPRO partner.
- **SYSPRO Personnel**  
Personnel working for any one of the world-wide SYSPRO companies.

When using the SYSPRO Installer you must provide your InfoZone credentials. This allows the application to verify that you have the authority to install SYSPRO products and provides contact details so that the SYSPRO Deployment Service can notify you if a site (where you have installed software) requires a hotfix. This could be a Mandatory Hotfix or a Customer-specific hotfix, where a customer has reported a specific issue and the hotfix to correct the issue is available.

Note that Partners and SYSPRO Personnel may use the SYSPRO Installer to install products at multiple end-user sites. Whereas super-users may only install software for the account code to which they are registered on the InfoZone.

If you are using the SYSPRO Installer as a Partner, or SYSPRO Personnel and are installing the SYSPRO product for your own use, you must use your company's account information. If you are installing the SYSPRO product on behalf of an end-user at their site, you must use the end-user's account information.

The SYSPRO Installer prompts for the **Customer id** and **Customer PIN**, as follows:



These are included in the license definition file (`License.XML`) as shown in the following hypothetical fragment:

```

<Region>USA</Region>
<CustomerCode>S1234</CustomerCode>
<CustomerName>SYSPRO Internal Usage</CustomerName>
<Site>1</Site>
<System>SYSPRO 8 SQL</System>
<Class>ID</Class>
<PreactorGrpPlnBrd>1</PreactorGrpPlnBrd>
<PreactorFinSch>1</PreactorFinSch>
<PreactorAdvSch>1</PreactorAdvSch>
<Reference>000198151</Reference>
<CustomerId>USA-S1234</CustomerId>
<CustomerPin>123-456</CustomerPin>

```

Simply enter the entries from the `<CustomerId>` and `<CustomerPin>` XML values.

## LOCAL SYSPRO DEPLOYMENT SERVICE AND SYSPRO CLOUD-BASED MICRO SERVICES

The SYSPRO Deployment Service is a local Windows service that runs on one of the end-user's servers and handles communication to and from the SYSPRO Installer. In addition, it communicates with the SYSPRO cloud-based micro services when required.

The SYSPRO cloud-based micro services are a collection of Azure functions that provide a content delivery system to record product installation information and ensure that SYSPRO products and hotfixes are downloaded from the region closest to the user.

**Important:** All communication between the Local SYSPRO Deployment Service and the SYSPRO cloud-based micro services is encrypted and includes a checksum to guarantee that the information is always accurate and cannot be intercepted.

## SYSPRO INSTALLER INTERNET USAGE

The SYSPRO Installer communicates with the Local Deployment Service to manage the installation process. It is the Local Deployment Service that communicates externally to the SYSPRO Deployment Service to query available products and hotfixes and to record product installation so that we can notify you in the event of a hotfix being required.

The Local Deployment Service should be installed on a server that has access to the internet – this could be on any server on your network configuration. Some sites use the same server used to download anti-malware definition files as they will also require internet access.


**Note:** It is not necessary for the Local Deployment Service to have 24x7 internet connectivity.

If you want to limit internet connectivity to the Local Deployment Service, then you only need to enable the connectivity just prior to using the SYSPRO Installer and for about 12 hours after you have finished with the installation.

The reason for the time range is that the Local Deployment Service communicates with the SYSPRO Deployment Service approximately every 6 hours to see if there are any hotfixes requiring attention by the end-user and to synchronize information about installed products and hotfixes.

Each of these synchronization activities passes a very small amount of data. By allowing the Local Deployment Service internet access for at least 12 hours after the SYSPRO Installer was last used, it ensures that this synchronization has taken place.

Failure to complete the synchronization could lead to you not being notified in the event of a serious error or security issue.



Once the synchronization has completed (even if you limit internet access to the Local Deployment Service) we will still notify you of hotfixes required (Mandatory or Customer-specific) by email. However, the Hotfix button on the SYSPRO menu is not enabled in the event of a relevant Hotfix being available (i.e. the Hotfix button on the SYSPRO menu is only refreshed when the Local Deployment Service has internet access).



## Further reading

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Additional information about the SYSPRO Installer is available from the *SYSPRO Help > RESOURCES > Install Guides*.

This has explanations that detail the process of using the SYSPRO Installer, including:

- Defining Deployment Groups
- Selecting and installing SYSPRO products and defining their parameters
- Searching for and applying hotfixes
- Installing additional software packages
- Upgrading from one release to another
- Diagrams to help you understand the architecture





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