

Information and Intelligence

SYSPRO 8

Reference Guide

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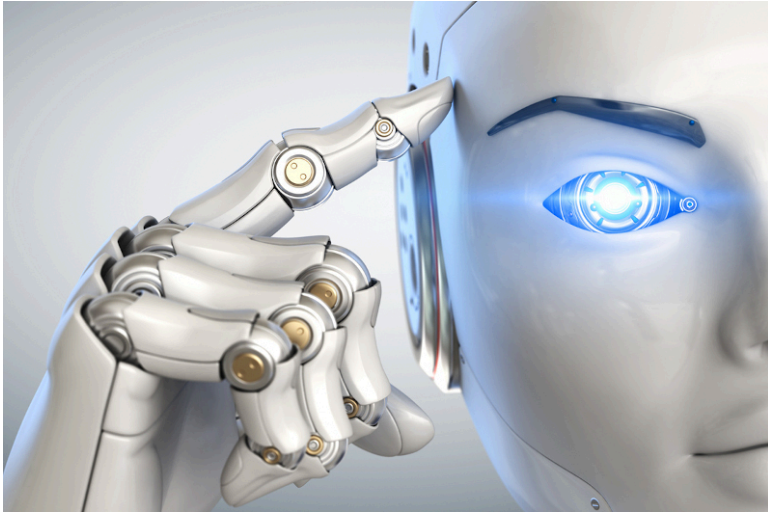
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Information and Intelligence

The following provides a summary of the features and functionality available in **SYSPRO 8**.



2023

Embedded Analytics: Big Data Connectors

SYSPRO Embedded Analytics enables the seamless blending of SYSPRO data with big data providers of cloud-based data stores.

This enhancement introduces the following additional data connectors:

- BigQuery
- Cloudera
- Couchbase
- Hive
- MongoDB
- Presto
- Amazon Redshift
- Amazon S3
- Spark SQL

Empowering organizations to use big-data and cloud-based data services (e.g. IoT data collection) and to leverage Embedded Analytics to blend and visualize processed data alongside SYSPRO data in one solution.

This offers organizations improved visualization capabilities for big data and access to cloud-based data sources. By allowing for the blending of data and visual analysis within key processes, you can improve decision-making supported by analysis, to drive a performance culture, and benefit from data-driven analytical capabilities.

Embedded Analytics: Feature Toggle

The **SYSPRO Embedded Analytics** feature provides analytical dashboards and visualization capabilities that help you manage core aspects of a business' operations, without needing third-party business intelligence solutions.

Administrators can now activate or deactivate Embedded Analytics (regardless of the configuration status) by using the new **EMBEDDED ANALYTICS ENABLED** setup option (*Setup Options > System Setup > Connectivity*).

This is useful if you need to disable the module for any reason as it allows you to easily toggle your use of the feature.

Embedded Analytics: Contextual Analytics

SYSPRO Embedded Analytics has been enhanced to provide automated filtering for contextual analytics within SYSPRO, allowing you to filter dashboards based on a key field within a SYSPRO program.

By deploying dashboards that automatically filter based on the key field, you gain access to enhanced analytical capabilities, facilitating data-driven decision-making within the specific area of SYSPRO you are working in.

This advancement brings benefits to various stakeholders (including system integrators, business analysts, CIOs, and system administrators) who now have access to improved analytical tools that streamline workflows and enhance decision-making processes.

Manual filtering is no longer necessary; instead, you can harness the power of dynamic filters that adapt to the specific context within SYSPRO. This ultimately lets you embrace precision-driven analysis and experience unprecedented real-time decision-making.

Embedded Analytics: Seamless Dashboard Migration Capabilities

SYSPRO Embedded Analytics has been enhanced to provide in-SYSPRO dashboard migration capabilities between SYSPRO instances. This reduces the complexity and errors associated with dashboard migration by eliminating manual processes and multiple steps involved in transferring dashboards, especially those with dependencies on Business Activity Queries.

The new **Embedded Analytics Export¹** and **Embedded Analytics Import²** programs let you seamlessly export your dashboards from one SYSPRO instance to another.

In addition, template dashboard packs offer pre-configured analytics experiences within SYSPRO. These dashboards are fully interactive workspaces that cater to specific roles within your organization, providing insights into the various aspects of your business:

Finance Dashboards

- Customer Analysis for Accounts Receivable
- Supplier Analysis for Accounts Payable
- Cashbook for Treasury Department
- Finance Manager
- General Ledger Analysis
- General Ledger Dimension Analysis

System Insight Dashboards

- System Utilization

Manufacturing Dashboards

- Job Status Board
- Production Capacity Board
- Production Throughput Analysis

Distribution Dashboards

- Inventory Management Analysis
- Inventory Management Operations
- Sales Analysis
- Sales Orderbook
- Supplier Performance

¹Program: SEAEXP

²Program: SEAIMP

- Supply Chain Analysis
- Supply Chain Operations
- WMS

Using the new migration capabilities, you can easily import the templates you require into all companies available within your SYSPRO environment.



The standard template dashboard packs (supplied by SYSPRO) are shipped with the product and stored within the `\Base\Samples` folder.

This enhanced dashboard migration capability provides improved administration efficiency, increased productivity and a simplified workflow, allowing you to focus on making informed decisions based on reliable data.

2022

Business Insight Tile Builder (Web UI Capability)

The programs typically associated with business insight tiles in the **SYSPRO Desktop** version are now also available in the **SYSPRO Web UI (Avanti)** version. This ensures that tiles can be created, maintained, imported and exported using both versions.

Embedded Analytics

The **SYSPRO Embedded Analytics** feature provides analytical dashboards and visualization capabilities that help you manage core aspects of the business's operations, without needing third-party business intelligence solutions.

As well as supplying you with a business management system that acts as a system of insight, it also empowers SYSPRO users to easily create, customize and deploy dashboards and visualizations anywhere in SYSPRO.

SYSPRO Embedded Analytics lets you transform your current data into visualizations and dashboards, providing decision making analysis to business users and functional roles.

The ability to turn data into powerful, insight-driven experiences dramatically reduces operating costs and increases your visibility of operations. It provides improved decision making and accelerates your time-to-value (without requiring additional development resources or specialist skills).

Application Designer

SYSPRO's **Application Designer** feature is a suite within the SYSPRO core application that partners and customers can use to create new applications for the SYSPRO platform. These applications can in turn be used by end-users to further customize and personalize the application (e.g. add custom form fields, customized panes, etc.).

The **Application Designer** is designed to reduce the complexity of coding by providing a simple interface to the SYSPRO core functionality. It inherits and harnesses all SYSPRO's underlying security, enrichment and flexibility, and leverages the comprehensive library of SYSPRO business logic, UI controls and event handlers.

It lets developers extend the enterprise by creating newly-imagined solutions in both the **SYSPRO Desktop** and **SYSPRO Web UI (Avanti)** versions, saving cost and time in building out new SYSPRO platform solutions, as well as improving productivity and story-boarding.

Business Activity Queries via SYSPRO OData Connector

SYSPRO OData now caters for access to SYSPRO-designed **Business Activity Queries** (i.e. SQL Database view objects prefixed with `bq_`). This extends your ability to retrieve data from a **Business Activity Queries** using the **SYSPRO OData Connector**.

You access **Business Activity Queries** directly from within the SYSPRO ODATA Connector endpoint. While the ODATA Connector URL conventions remain the same, the **Business Activity Queries** are now included in the list of SQL Objects to which you can connect or from which you can retrieve data.

Business Activity Query Import & Export Functions

The **Business Activity Queries** feature (released for the **SYSPRO Desktop** version in **SYSPRO 8 2021 R2**) is now available in the **SYSPRO Web UI (Avanti)** version. In addition, you can now export and import business activity queries in both versions.

The export and import functionality allows you to transfer your business activity queries to multiple SYSPRO instances without having to manually recreate them at each new site, or access SQL to create and manage custom data views.

This lets you develop and test your business activity queries in SYSPRO and then export them, for importing into your live production environment.

Microsoft Edge WebView2 Browser Control

To provide a more responsive browser experience and improve the compatibility with third-party web-based solutions, the **SYSPRO Desktop** web browser capabilities have been enhanced to utilize the latest **Microsoft Edge** browser technologies. This allows for a rich and secure web browser experience within SYSPRO.

2021-R2

Enhanced SYSPRO Reporting Software

The ***SYSPRO Reporting Services*** architecture for printing and reporting (both client-side and server-side) has been upgraded to use **SAP Crystal Reports 2020**.

The advantages of this upgrade include:

- Faster installation time (depending on the hardware and software configuration).
- Reduced footprint on the reporting server installation (**SAP Crystal Reports Server 2020 SP2** is 64-bit).
- Faster start-up time for the Java server when using client-side reporting.
- Improved performance when previewing, printing and archiving documents (depending on the environment and hardware configuration).



Our internal testing has indicated an average of 50% reduction in processing time.

- Quicker processing times when previewing reports and documents using the native XML driver.
- Increased scalability lets you process reports with larger XML (depending on the complexity of the XML structure).

The install and use of the **SYSPRO Additional Reporting Software** is dependent on your installed version of SYSPRO 8:

- Additional Reporting Software 2013 (i.e. SAP Crystal Reports 2013):

Applies to **SYSPRO 8 2020 R1** and prior versions.



Due to SAP Crystal Reports 2013 having reached the end of its life cycle, the **Additional Reporting Software 2013** is no longer available for new installations from January 2024.

- Additional Reporting Software 2016 (i.e. SAP Crystal Reports 2016):

Applies to **SYSPRO 8 2020 R2**, **SYSPRO 8 2021 R1** and **SYSPRO 8 2021 R2**.



Due to SAP Crystal Reports 2016 having reached the end of its life cycle, the **Additional Reporting Software 2016** is no longer available for new installations from January 2024.

- Additional Reporting Software 2020 (i.e. SAP Crystal Reports 2020):

Applies to **SYSPRO 8 2021 R2** and later versions.



From January 2024, the **Additional Reporting Software 2020** is the only SAP Crystal Reports version available for new installations.

SYSPRO OData Connector

The **SYSPRO OData** feature lets you connect securely to SYSPRO data without direct SQL access and retrieve data for use by third-party applications. It is a future-proof technology that provides a RESTful API to the SYSPRO database and allows OData-compliant applications to query SYSPRO data in a standard and controlled manner.

Although it is available for both on-premise and cloud solutions, **SYSPRO OData** is the only mechanism available when applications need access to SYSPRO data in the **SYSPRO Cloud ERP** environment (the **SYSPRO Cloud ERP** platform doesn't allow direct database access by any application or personnel).



The **Data Connector - OData** module is currently in BETA status and the connection to **Microsoft SQL Server** is managed manually. The full feature and its functionality is scheduled for release in **SYSPRO 8 2021 R2**.

Accessibility

You can connect to the **SYSPRO OData Service** on an HTTPS endpoint and retrieve live data from the SYSPRO company and system-wide SQL databases (in that SYSPRO instance).

Security

SYSPRO OData is secured via a prerequisite SSL certificate on the endpoint. You can then use your predetermined SQL user credentials to access the underlying SYSPRO SQL table data.



For **SYSPRO Cloud ERP**, external access is then protected from attack and subject to intrusion detection.

Functionality

You can connect external third-party applications to the **SYSPRO OData Service** for analytics, reporting or triggering requirements. Scalability is supported by best practice guides.

Solution Use

A typical user would connect a product such as **Microsoft Excel** or **Tableau** to the **SYSPRO OData** solution, extract data for further analysis or presentation in a visualization tool, and set up schedules to refresh the data.

SYSPRO Business Activity Queries

SYSPRO Business Activity Queries provides a low-code dataset creation tool based on business logic that solves custom dataset requirements across a number of areas of enterprise reporting in SYSPRO.

These include:

- Business insight tiles
- Crystal Sub Reports
- Artificial Intelligence and Machine Learning Dataset Inputs
- Business Intelligence Tools
- SYSPRO Report Writer (via the Data Dictionary)
- SYSPRO OData Custom Datasets

SYSPRO Business Activity Queries are SQL views that are created in the relevant company databases and (because they are defined in SYSPRO) are recognized as data sources. They provide a view into the business data commonly used during the typical business management process. The queries are built and secured in the core ERP system and then surfaced to users via their enterprise reporting and connectivity solutions.

Benefits:

- Reduced risk of inappropriate access to SYSPRO data.
- Increased flexibility of creating custom linked data, including custom form fields.
- SQL views no longer need to be created outside of SYSPRO (i.e. using a tool like Microsoft SQL Server Management Studio).
- Less reliance on custom SQL objects for data access (for both reporting and integrations).
- Reduced need for SQL knowledge in creating custom datasets.

Business Insights Tile Builder

The **Insight Tile Definition** program simplifies designing, verifying and deploying business insight tiles. New tiles are easily created with the revised program which supports regular text, line and bar chart tiles.

Existing and standard SYSPRO tiles can be copied and subsequently changed. The **Insight Tile Definition** program integrates with the new **Business Activity Query Builder** program to allow easy access to custom SQL views.

SRS Import Report Template

This functionality lets SYSPRO administrators import customized report templates into SYSPRO Reporting Services from any location (i.e. local disk or external hard drive). Previously, this involved a lengthy process of manually copying the relevant report templates in to a specific directory.

Customized report templates are created using the SAP Crystal Reports designer and imported into the **SrsReporting** table of the system-wide database.

**2021-R1**

Tax totals for SRS sales order documentation

The **Tax totals for SRS sales order documentation** feature (exclusive to SYSPRO Reporting Services) is designed to comply with the Canadian and US legislation that requires tax total amounts to be shown on sales order documentation. All calculations relating to order and line totals in **Sales Order Entry** and **Point of Sale Entry** are performed using a 3rd party tax system.

Totals you can add when using a 3rd party tax system include:

- Canadian GST and PST
- US State, County and City tax

This feature is available once you have enabled the **APPLY USA 3RD PARTY TAX IN SALES ORDERS** setup option (*Setup Options > Tax > Sales and Use Tax*).

2020-R2

SRS Document Printing in SYSPRO Avanti

Document printing in ***SYSPRO Web UI (Avanti)*** has been simplified with the addition of new format setup programs that let you view the SRS document options.

You can now define format templates for SRS document printing in ***SYSPRO Web UI (Avanti)*** :

- AP Check Format for SRS
- AR Permanent Entries Format for SRS
- AR Statement Format for SRS
- AR Discount Cr Dr Notes Format
- AR Dunning Letter Format for SRS
- Cash Book Remittance Format for SRS
- Inventory Document Format for SRS
- Purchase Order Format for SRS
- Inspection Document Format for SRS
- Quotation Document Format for SRS
- RMA Document Format for SRS
- SO Document Format for SRS
- Factory Documentation Format for SRS
- WIP Inspection Document Format for SRS

SYSPRO Reporting Services Upgrade

From ***SYSPRO 8 2020 R2***, you'll be upgraded to use ***SAP Crystal Reports 2016 SP8*** as the reporting technology for both server-side and client-side reporting. The upgrade is mandatory for server-side reporting and optional if you are using client-side reporting.

This means that when using server-side reporting, part of the upgrade process involves uninstalling ***SAP Crystal Reports 2013*** from your server and installing the later ***SAP Crystal Reports 2016 SP8*** version. You should be aware that the uninstall and install process can take a significant time because of the complexity of the Crystal Reports product (some customers have reported this taking 2 or more hours).

When using client-side reporting, your clients can remain on the existing Crystal Reports version and upgrade to ***SAP Crystal Reports 2016 SP8*** later when required (i.e. they can continue to produce reports using the previous Crystal Reports version).

Server-side Reporting

SYSPRO Reporting Services for server-side reporting now uses the following from ***SYSPRO 8 2020 R2***:

- SAP Crystal Reports Server 2016 SP8
- SAP BusinessObjects BI platform .NET SDK Redistributable 64bit 4.2 SP8
- SYSPRO 8 Reporting Host Service (64bit)



The ***SYSPRO Reporting Services*** upgrade is mandatory if you are using server-side reporting.

Please note that the upgrade process can take some time.

Client-side Reporting

The changes to SYSPRO Reporting Services for client-side reporting from ***SYSPRO 8 2020 R2*** are as follows:

- The Report Designer has been upgraded to use SAP Crystal Reports 2016 SP 8.
- The new client runtime used is SAP BusinessObjects BI platform .NET SDK Redistributable 32bit 4.2 SP8.
- The updated SYSPRO 8 Reporting Components that are installed include the native xml driver and necessary Java runtime.



The ***SYSPRO Reporting Services*** upgrade is optional if you are using client-side reporting. Therefore, existing customers do not need to roll out the upgrade to all client machines at the same time.

2020-R1

Artificial Intelligence and Machine Learning improvements

The **AI administrator** program was expanded to include an **importance** gauge for AI projects.

The **Feature importance** graph (displayed below the **Model information**) displays a score for each SQL column in the AI project, indicating which data affects the predicted value the most.

This graph and a link to the corresponding data is also displayed when selecting an AI tile in **SYSPRO Web UI (Avanti)**.



Existing trained projects must be retrained to recreate the compact model to include the feature importance.

Trial Balance Totals

The suite of GL Trial Balance programs now includes summary totals for the current financial period according to the defined GL accounts. This is displayed in the final page of the report in a **Company totals - Summary for current period** page.

This feature includes the following programs:

- GL Trial Balance
- GL Trial Balance for Excel
- GL Trial Balance by Group

This report also displays an account type breakdown at the end of each group defined for ledger codes (if you are generating the report for a current period or year-to-date).

**2019-R2**

Optimized SRS Document Printing performance

There is a new **Optimize print** option available from within the **Maintain SRS Document Templates¹** program.

In a server-side environment, this option lets you print documents as soon as the data becomes available as well as archiving the documents at the same time.

Although this dual capability of printing and archiving applies to both single and batch modes, the performance benefit is more visible when printing in batch mode.

Document Batch Printing

When you enable the **Optimize print** option and are batch printing in a server-side environment, the XML file that is generated for each batch is now only generated once, resulting in improved performance (i.e. a document can be sent to the print queue as soon as the data is extracted and the previous document has completed).

Using the Document Printing API architecture, this XML file is now generated from the core program instead of the applicable document printing program (e.g. **AR Statement Print**) and is then sent to the **SYSPRO 8 Reporting Host Service** to produce the document.

Document Archiving

When you enable the **Optimize print** option and are printing in a server-side environment that requires document archiving, the process is now simplified by combining the process of printing and archiving (i.e. you don't need to split your archiving into multiple batches).

¹Program: SRSPM2

Document types

When you enable the **Optimize print** option, it applies only to the following document types:

- A/R Statement Print
- Purchase Orders – Foreign
- Purchase Orders – Local
- Quotation - Multiple Column
- Quotation - Multiple Line
- Quotation – Single
- Delivery note
- Dispatch note
- Invoice
- Order acknowledgment
- Factory Documentation



The **Optimize print** option is only applicable when the following grouping options for a document template are disabled:

- Spool multiple documents as a single job
- Group by email address
- Group by contact information

Artificial Intelligence and Machine Learning

Versioning and Status Support

The **Administration UI** program within **SYSPRO Web UI (Avanti)** has been enhanced to allow you to :

- Activate a selected project that you require to be used for all predictions.
- De-activate active projects when they are not required.
- Delete a de-activated project that is no longer required.

Download and Import projects

The **Administration UI** program within **SYSPRO Web UI (Avanti)** has been enhanced to allow you to download and import projects (i.e. you can now download a selected project in the project tree list using the browser and import it at another site).

This is particularly helpful when a SYSPRO partner builds a project off-site as they can now easily import it to the customer's machine.

Gauges Infrastructure (KPI Integration)

For regression models, AI tiles can now use gauges to display a predicted value, indicating whether it is positive or negative (tile type: **MLGauge**).

You can use the **Insight Tile Definition** program (core SYSPRO) to define a KPI for your tile. **SYSPRO Web UI (Avanti)** will use this KPI to render the AI tiles.

Anomaly Detection

The following anomaly project samples have been added to the **Administration UI** program in **SYSPRO Web UI (Avanti)**:

- Purchase Order Line Anomaly
- Sales Order Line Anomaly

Business Scenario Expansion

Additional sample business scenarios are now available using predictive and exception machine learning and artificial intelligence:

- PO receipting process and scrap
- Predicted supplier performance
- LCT expected delivery
- Chance of a machine producing a fault
- Sales of stock codes by location
- Payment of invoices by customer
- Lost sales reason predicted

**2019-R1**

Security Settings Dashboard

Configuring security and ensuring consistency across various operators is a complex process that typically involves a number of programs.

SYSPRO's **Security Settings Dashboard** program lets SYSPRO administrators query operator security settings within a single program.

Benefits:

- Query and view security information.
- Verify which operators have access (and how the access is configured) to various securable entities.
- View possible program conflicts.
- Amend security configuration in related programs via smart links.

**2018-R2**

Insight Tile KPI Definition

Additional improvements have been made to the business insights feature:

- Simple and flexible warning and critical threshold definition.
- Color and/or Icon override when thresholds reached or exceeded.
- Operator, Role, Company and System-wide KPI definition.
- Definition provides single view of all KPIs.

AI and Machine Learning

Machine learning forms part of the ***SYSPRO Artificial Intelligence*** module. It uses specific algorithms and statistics to examine historical data. The program then uses the data patterns to reveal trends and predict future outcomes, benefiting management by presenting the big business picture.

Although these predictions require minimal human intervention, they rely heavily on the data quality and the attributes of the SQL statement. Reliable predictions will support business processes and improve decision making by learning from past experiences.

2018-R1

Business Insights

Business insight tiles (also called insight tiles or just tiles) are essentially SQL scripts displayed in a tile format within a SYSPRO web view. These tiles are context-driven and let you act instantly on events, facilitating informed business decisions and sound business behavior.

They are an individual employee performance management tool for all levels of engagement, providing an intuitive, real-time view of performance against KPIs, goals and targets.

The **Insight Tile Definition** program lets you create and deploy business insight tiles. You can define specific thresholds for targets or key performance indicators (KPIs) and highlight these values on business insight tiles.

KPIs on tiles can be used to highlight values approaching or exceeding pre-determined objectives or thresholds. This lets you proactively keep an eye on approaching targets. These targets could be a certain value, company-wide goal or a specific target agreed for a person or a role within the organization.

Tiles can be added to the main SYSPRO menu to surface company information (e.g. the `total backorders for the company`) or they can be added to specific programs and provide the key field as a context (e.g. the `total backorders for a customer`).

Additionally, when you click on a Business Insight tile, you can drill down to more detailed information displayed in a list view that derives its context from the specific tile measurement parameters.

You can also create administration insights (e.g. failed transactions, users logged in, etc).

Benefits:

- Accelerate turnaround time and drive throughput by streamlining the actions and activities that occur between one task and the next.
- Increase decision-making capability with increased visibility into operational performance of the company by individual and department across the entire operation to determine where you are successful and where you need to improve.
- Measure and improve performance by assigning standard, or tailoring specific, key performance indicators and metrics designed with the ability to immediately action work-to-lists - converting KPIs into meaningful improvement.
- Empower the workforce to meet goals and targets by assigning insights in an intuitive, self-explanatory, easy-to-use interface, aligned with critical business drivers and work-to-lists to be actioned

Open Reporting API

The **Open Reporting API** lets developers and external applications call SYSPRO to run and distribute documents directly in the external application.

Leveraging the SYSPRO Reporting Service Server infrastructure, developers can query the SYSPRO database and produce the required documents which are added to the print queue from where they can be viewed, executed and managed. Developers can access the document via the document queue for further automation (a destination code indicates the origin of the queue item).



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