

SYSPRO Harmony

SYSPRO 8

Reference Guide

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SYSPRO Harmony

Exploring

Where it fits in?

SYSPRO Harmony is a collaborative, user-friendly social platform at the core of ERP that gives users a familiar interface through which to interact with the SYSPRO ecosystem and conduct their daily business.

The platform is embedded in the SYSPRO product and combines a number of technologies (e.g. Social Media, Collaboration, Machine Learning, Cognitive Services and Data Analytics) into one application:

News Feed

SYSPRO Harmony provides the equivalent of a news feed that's auto-populated by conversations with relevant information, based on key ERP components that you choose to follow.

Instead of needing to go into the system to retrieve pertinent information, the system intelligently pushes it to you.

Similarly, you can opt into following any other key information in SYSPRO (e.g. stock codes, suppliers, sales orders, etc.).

FOR EXAMPLE:

If you choose to follow the customer *Bayside Bikes*, your newsfeed will update every time there is an activity for that customer (e.g. when the customer's information has changed, or when a sales order has been created, or even when the customer has returned something).

In addition, some intelligent algorithms monitor the content that your peers follow (as well as what is trending in the database) and these insights are surfaced in your news feed.

Collaboration

The collaboration aspect of **SYSPRO Harmony** brings SYSPRO users together via a chat method (similar to that of **WhatsApp** or **Skype**). However, unlike traditional chats, Harmony allows users to bring the context of their ERP data into the conversation using social media techniques (e.g. # hashtags).

Harmony lets you post beats like you would on **Facebook** or **Twitter**. However, you have the added benefit of those beats being able to contain data context with the use of @ signs and # tags.

FOR EXAMPLE:

If you enter `#Customer abc. Balance`, Harmony returns that customer's balance immediately and enables you to beat about it.

Therefore, when collaborating, users have full and secure access to the data in their SYSPRO databases. This enables them to query information directly in the chat, such as stock information, sales order statuses, customer information, etc.

Users can *reply* and *like* messages that have been posted, thus elevating their importance or relevance.

Additionally, Harmony makes use of cloud-based cognitive services that detect conversation sentiment. It will detect if the conversation's sentiment is positive, negative or neutral, and indicate accordingly.

Sentiment integration

Data Sentiment enables a complete spectrum picture of customer opinion about your services or products for informed and strategic decision making. Visual cues (the equivalent of emoticons) help alert users by attaching sentiment to specific items.

Key notes attached to these items are detected to reveal the tone in terms of the state of an event, customer or component which tracks potential future issues regarding customer service and happiness before they arise.

Emoji	Sentiment
	Very happy
	Happy
	Neutral
	Unhappy
	Very unhappy

Trend Surfacing (Auto-Aggregation)

Most social media applications (like [Twitter](#) or [LinkedIn](#)) use intelligent machine learning algorithms to detect trends from the messages posted and then surfaces that information to the user according to relevance.



Similarly, Harmony uses predictive analytics to reveal trends that provide actionable insight. The difference is that not only does Harmony process machine learning and trend detection on conversations, it also processes these on the core SYSPRO database.

Harmony identifies transactions on the SYSPRO database, the key fields against which these transactions are being processed and then performs trend detection and aggregation on the data. It presents this information in chart form to reflect what is currently trending in the SYSPRO database.

FOR EXAMPLE:

A stock code could be used in a large number of sales orders, as well as some purchase orders and RMAs.

In this case, that stock code would be trending.

This highlights critical information without you having to request it or consolidate reports across the different modules.

Data Mining Service

The **SYSPRO 8 Rules Data Service** was created to allow *SYSPRO Harmony* to access all the information and transactions in SYSPRO.

This service monitors your SYSPRO transaction log in real time (e.g. inserts, updates or deletes) and extracts specific information required for current and active rules.

The data extracted is then persisted in the SYSPRO database, which enables the **SYSPRO 8 Rules Engine Service** to process the data without intervention so that it can execute the actions required by each configured rule.



The information extracted includes before and after values (e.g. if a stock code's description is changed from 'Bike' to 'Mountain Bike', both values are stored).

This is useful with regard to *delete-type* transactions as you have access to the whole record deleted, not just the key.

SYSPRO Rules Engine

The **SYSPRO 8 Rules Engine Service** works with the **SYSPRO 8 Rules Data Service** allowing you to create complex triggers and perform actions without using SQL triggers.

This service processes the data extracted by the **SYSPRO 8 Rules Data Service** after monitoring the SYSPRO transaction log.

The service is responsible for:

- 
- Processing each log entry relayed by the **SYSPRO 8 Rules Data Service** service.
 - Gathering the required data and calculating the additional values required.
 - Evaluating sets of conditional statements.
 - Executing all actions required per rule.

SYSPRO Harmony uses the **SYSPRO Rules Engine** automatically in that, if a user follows a particular item, a rule is added to the engine. Then, when the rule executes, a beat is posted to the Harmony database.

A set of sample rules are supplied by default with the **SYSPRO Rules Engine**. So as soon as you have installed the components, Harmony can start tracking and conveying information based on these default rules.

Navigation

The programs related to this feature are accessed from the **Program List** pane of the SYSPRO menu:

- *Program List > SYSPRO Harmony*

Terminology

Beat

A conversation post within the SYSPRO Harmony platform.

Rule

Rules consist of conditions and actions.

A condition is evaluated and (if true) the **SYSPRO Rules Engine** initiates the defined actions.

Rule Action

Actions are executed when the conditions of a rule are met.

FOR EXAMPLE:

These actions range from displaying a Harmony message, to creating a log file in a specific location, or tracking the history of a specific database column.



Starting

Prerequisites

Technology

The following technology prerequisites are applicable to using this feature:

- Microsoft SQL Server 2012 or higher
- SYSPRO Harmony Service
- SYSPRO Harmony API Service
- SYSPRO 8 Rules Data Service
- SYSPRO 8 Rules Engine Service

Configuring

The following setup options must be configured to use this feature:

System Setup

SYSPRO Ribbon bar > Setup > General Setup

Rules Engine/Harmony

- Rules Engine options
 - Active company list
- Harmony options
 - Active company list
 - Harmony API service address
 - Harmony service address
- Harmony database connection
 - Authentication
 - SQL Server name
 - Login
 - Password
- Harmony purge options
- Harmony data visibility



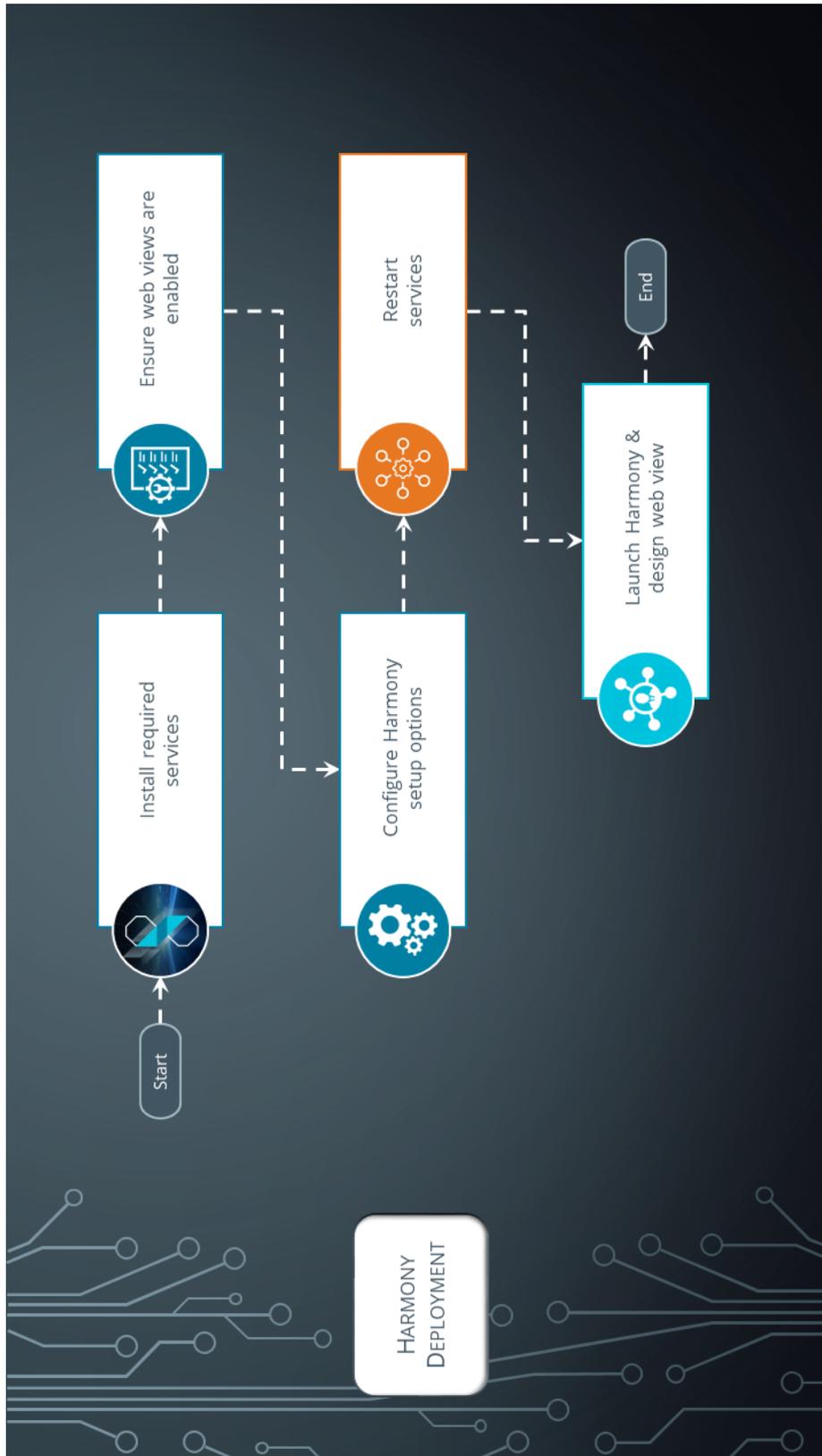
Security

You can secure this feature by implementing a range of controls against the affected programs. Although not all these controls are applicable to each feature, they include the following:

- You can restrict operator access to *activities* within a program (configured using the **Operator Maintenance** program).
- You can restrict operator access to the *fields* within a program (configured using the **Operator Maintenance** program).
- You can restrict operator access to *functions* within a program using passwords (configured using the **Password Definition** program). When defined, the password must be entered before you can access the function.
- You can restrict access to the eSignature *transactions* within a program at operator, group, role or company level (configured using the **eSignature Setup** program). Electronic Signatures provide security access, transaction logging and event triggering that gives you greater control over your system changes.
- You can restrict operator access to *programs* by assigning them to groups and applying access control against the group (configured using the **Operator Groups** program).
- You can restrict operator access to *programs* by assigning them to roles and applying access control against the role (configured using the **Role Management** program).



Using





Deploying

The following steps cover how to implement **SYSPRO Harmony**:

1. Using the **SYSPRO Installer** application, install the required services:
 - SYSPRO Harmony Service
 - SYSPRO Harmony API Service
 - SYSPRO 8 Rules Data Service
 - SYSPRO 8 Rules Engine Service

In addition, ensure that the **SYSPRO 8 e.net Communications Load Balancer** service is installed and that you have configured the **SERVER NAME**, **SOAP PORT** and **REST PORT** details against the **E.Net Service Details** tab of the **System Setup** program.

2. In SYSPRO, open the **System-wide Personalization** program and ensure that the **ENABLE MINIMALIST USER INTERFACE** option is enabled.
3. Open the **System Setup** program and configure the required settings on the **Rules Engine/Harmony** tab:
 - Rules Engine options
 - Harmony options
 - Harmony database connection
 - Harmony purge options
 - Harmony data visibility
4. Save your changes and exit the program.
5. Restart SYSPRO.
6. Using the **Windows Services** program, ensure that all of the newly-installed services are running.
7. In SYSPRO, open the **SYSPRO Harmony** program.

A blank window is displayed as you need to enable web views for this program:

- a. Select the **Design Web View** option from the  icon.

The **Design New View** message box is displayed.

- b. Accept the default template and select **Save**.

You can also optionally configure your own template design.

You are now ready to begin using **SYSPRO Harmony**.



Sample Rules

The following Sample Rules are available from the **Rules Administrator** program in **SYSPRO Avanti** (located under **SYSPRO Templates**).

You can use these as is, or as templates to customize to your specific requirements.

AP payment cycle (Harmony)

Description	Notify when a payment cycle is run.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

AR Invoice Late Payment Predicted

Description	Notify when a late invoice payment is predicted for a customer.
Actions	<ul style="list-style-type: none">Post Harmony BeatSend Avanti Notification
Sample AI Model	<code>CustomerInvoicePayDays</code>

Asset added (Harmony)

Description	Notify when a new asset is added.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Asset changed (Harmony)

Description	Notify when an asset is changed.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None



Asset deleted (Harmony)

Description	Notify when an asset is deleted.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Cash Book deposit (Harmony)

Description	Notify when a deposit is made to cash book.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Cash Book withdrawal (Harmony)

Description	Notify when a withdrawal is made from Cash Book.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Credit limit (Harmony)

Description	Notify when a customer falls within 10% of their defined credit limit.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Customer on hold (Harmony)

Description	Notify when a customer is placed on hold.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None



Customer order value change (Harmony)

Description	Notify when a defined customer's outstanding order value changes.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Delivery note printed (Harmony)

Description	Notify when a delivery note is printed.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Delivery received late (Harmony)

Description	Notify when a delivery is received late.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Detail line added to RMA (Harmony)

Description	Notify when a new detail line is added to an RMA.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Dispatch note released for invoicing (Harmony)

Description	Notify when a dispatch note is released for invoicing.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None



GL account added (Harmony)

Description	Notify when a new general ledger account is added.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

GL Period Change (Harmony)

Description	Notify when a change is made to the defined GL Period.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Harmony Beat for everything (Harmony)

Description	Notify on every transaction that occurs.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Harmony for all changes to database (Harmony)

Description	Notify on all changes made to the database.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Invoice 10% difference (Harmony)

Description	Notify when there is more than a 10% difference on an invoice payment.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None



Job deleted for no customer (Harmony)

Description	Notify when a job with no customer defined is deleted.
Actions	■ Post Harmony Beat
Sample AI Model	None

Job deleted (Harmony)

Description	Notify when a job is deleted.
Actions	■ Post Harmony Beat
Sample AI Model	None

Job received late for no customer (Harmony)

Description	Notify when a job with no customer defined is received late.
Actions	■ Post Harmony Beat
Sample AI Model	None

Job received late (Harmony)

Description	Notify when a job is received late.
Actions	■ Post Harmony Beat
Sample AI Model	None

Job received short for no customer (Harmony)

Description	Notify when a job with no customer defined is short-received.
Actions	■ Post Harmony Beat
Sample AI Model	None



Job received short (Harmony)

Description	Notify when a job is short-received.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

LCT shipment might arrive late

Description	Notify if a shipment's arrival is potentially more than 10 days late.
Actions	<ul style="list-style-type: none">Post Harmony BeatSend Avanti Notification
Sample AI Model	LctDaysLate .

Limited promotion 5% from expiring (Harmony)

Description	Notify if a promotion is close to expiring.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Line received on RMA (Harmony)

Description	Notify when an RMA line is received.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

New bin added (Harmony)

Description	Notify when a new bin is added.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None



New BOM added (Harmony)

Description	Notify when a new bill of material is added.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

New job created for no customer (Harmony)

Description	Notify when a new job is created with no customer defined against the job.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

New job created (Harmony)

Description	Notify when a new job is created.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

New lost sale (Harmony)

Description	Notify when a sale is lost.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

New movement (Harmony)

Description	Notify when there is a new movement.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None



New RMA created (Harmony)

Description	Notify when a new RMA is created.
Actions	<ul style="list-style-type: none">■ Post Harmony Beat
Sample AI Model	None

New sales order (Harmony)

Description	Notify when a new sales order is loaded.
Actions	<ul style="list-style-type: none">■ Post Harmony Beat
Sample AI Model	None

New stock code added

Description	Notify when a new stock code is added to the inventory list.
Actions	<ul style="list-style-type: none">■ Post Harmony Beat■ Send Bot Message■ Send Avanti Notification
Sample AI Model	None

New stock code added (Harmony)

Description	Notify whenever a new stock code is added.
Actions	<ul style="list-style-type: none">■ Post Harmony Beat
Sample AI Model	None

Over issue to a job (Harmony)

Description	Notify when there is an over issue to a job.
Actions	<ul style="list-style-type: none">■ Post Harmony Beat
Sample AI Model	None



Price change on sales order (Harmony)

Description	Notify when there is a price change on a sales order.
Actions	■ Post Harmony Beat
Sample AI Model	None

Purchase order receipt rej at receiving (Harmony)

Description	Notify when a purchase order receipt is rejected during the receiving process.
Actions	■ Post Harmony Beat
Sample AI Model	None

Sales order line added (Harmony)

Description	Notify when a new sales order line is added.
Actions	■ Post Harmony Beat
Sample AI Model	None

Stock code added warehouse allocation (Harmony)

Description	Notify when a new stock code is added to a defined warehouse.
Actions	■ Post Harmony Beat
Sample AI Model	None

Stock code price change (Harmony)

Description	Notify when the price of a stock code changes.
Actions	■ Post Harmony Beat
Sample AI Model	None



Stock issued to job (Harmony)

Description	Notify when stock is issued to a job.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Stock scrapped at receiving (Harmony)

Description	Notify if stock received from a supplier is scrapped during the receipt process.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Stock take completed (Harmony)

Description	Notify when a stock take is completed for a defined warehouse.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Supplier added (Harmony)

Description	Notify when a new supplier is added.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None

Supplier delivery received short (Harmony)

Description	Notify if a supplier's delivery is short-received.
Actions	<ul style="list-style-type: none">Post Harmony Beat
Sample AI Model	None



Supplier on hold (Harmony)

Description	Notify if a supplier is placed on hold.
Actions	<ul style="list-style-type: none">■ Post Harmony Beat
Sample AI Model	None

When contact details changed (Harmony)

Description	Notify if contact details are changed and includes what the new details are.
Actions	<ul style="list-style-type: none">■ Post Harmony Beat
Sample AI Model	None

When delivery will be short delivered (Harmony)

Description	Notify if an expected delivery will be short-supplied.
Actions	<ul style="list-style-type: none">■ Post Harmony Beat
Sample AI Model	None

When new promotion added (Harmony)

Description	Notify when a new promotion is added.
Actions	<ul style="list-style-type: none">■ Post Harmony Beat
Sample AI Model	None

When POD captured for delivery (Harmony)

Description	Notify when a proof of delivery is captured.
Actions	<ul style="list-style-type: none">■ Post Harmony Beat
Sample AI Model	None



WIP after stock scrapped at inspection (Harmony)

Description	Notify if stock is scrapped during an inspection process.
Actions	<ul style="list-style-type: none">■ Post Harmony Beat
Sample AI Model	None

WIP Material Cost

Description	Notify when the actual material cost exceeds the expected material cost.
Actions	<ul style="list-style-type: none">■ Post Harmony Beat■ Send Bot Message■ Send Espresso Notification■ Send Avanti Notification
Sample AI Model	None



Affected Programs

The following indicates areas in the product that may be affected by implementing this feature:

SYSPRO Harmony

This program lets you configure and manage the ERP information that you want to track within SYSPRO using SYSPRO Harmony.



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