

SYSPRO Harmony

SYSPRO 8

Reference Guide

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SYSPRO Harmony

Exploring

Where does it fit in?

This program lets you configure and manage the ERP information you want to track within the product.

Harmony is a social ERP platform embedded in the SYSPRO product, and combines the following multitude of technologies into one application:

- Social Media
- Collaboration
- Machine Learning
- Cognitive Services
- Data Analytics

The Harmony platform allows users to collaborate and communicate inside the context of the SYSPRO ecosystem.

Then, using a combination of the data generated from these interactions, along with the vast company data generated by the SYSPRO product, it provides a single view and a more personalized working platform for the user, no matter where in SYSPRO they may be.

The benefits of using SYSPRO Harmony include:

- Requires no license - Harmony is a free module
- Drives user collaboration with social ERP conversations
- Follows information and surfaces to the user
- Provides 24/7 view of your company's operating status
- Simplifies complex technologies and business processes
- Enables faster decision making
- Data sentiment integration
- Alerts users on trending information
- Enables integration of SYSPRO data onto a messaging platform
- Enables trend analysis in conversations



Starting


Prerequisites

Prerequisites	Installation notes and considerations
SYSPRO 8 e.net Communications Load Balancer	This must be installed on the application server with SYSPRO 8 as only an active connection to this service is required.
Microsoft SQL Server 2012 or higher	
Microsoft .NET Framework 4.6	
Microsoft .NET Core 1.1.0 (Windows Server Hosting)	
IIS 7.0	Ensure that the CoreWebEngine and W3SVC features are installed.
SYSPRO Service Upgrade Manager	This service updates all the SYSPRO services automatically.
SYSPRO Rules Data Service	<p>This service monitors SQL transactions on the SYSPRO databases, as required by the Rules Engine.</p> <ul style="list-style-type: none">■ Ensure that the SOAP and REST port numbers match those configured in SYSPRO (<i>System Setup > E.Net Service Details</i>).■ You must restart this service manually once you have completed the SYSPRO configuration.■ We recommend that you install the service on the same server as SQL Server.

Prerequisites	Installation notes and considerations
SYSPRO Rules Engine Service	<p>This service queries all SQL transactions on the SYSPRO databases</p> <ul style="list-style-type: none"> ■ Ensure that the SOAP and REST port numbers match those configured in SYSPRO (<i>System Setup > E.Net Service Details</i>). ■ You must restart this service manually once you have completed the SYSPRO configuration. ■ We recommend that you install the service on the same server as SQL Server.
SYSPRO Harmony Service	This service processes all Harmony transactions.
SYSPRO Harmony API Service	This service provides an interface for Harmony integration and must be installed on a machine with Internet Information Services (IIS 7.0).

Configuring

Once you have concluded the installation process for all required components, you need to configure Harmony within SYSPRO itself:

1. Open the **System Setup** program and configure settings within the **Rules Engine / Harmony** tab.
2. Save and exit.
3. Restart SYSPRO.
4. Once you have completed the installation process, as well as the SYSPRO configuration, ensure that all of the newly-installed services are running, using the **Windows Services** program.
5. Load the **SYSPRO Harmony** program in SYSPRO.
A blank window is displayed as you need to enable web views for this program.
6. Select the **Design Web View** option from the  icon.
The **Design New View** message box is displayed.
Accept the default template and select **Save**.
You can also optionally configure your own template design.



Solving

Error messages

Connection error during installation of Rules Data Service - TCP Error code 10061:

Ensure that the **SYSPRO 8 e.net Communications Load Balancer** is installed and that the SOAP port number used during the install matches that of the **Load Balancer EndPoint** in the **Rules Data Service** install wizard.



Using

Data Mining Service






In order for Harmony to access all the information and transactions happening in SYSPRO, a data mining service was created.

This mining service monitors the SYSPRO database and its transaction log. It cleanses the data and then stores it in a relational database ready to be processed by Harmony and the Rules Based Engine.



This service can reside anywhere in the SYSPRO infrastructure, however we recommend that it is installed on the same server as the SQL Server.

In addition, 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

Emoji	Sentiment
	Very happy
	Happy
	Neutral
	Unhappy
	Very unhappy

News Feed

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 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* (i.e. conversation posts within the Harmony portal) 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.

Trend Surfacing

Most social media applications (like **Twitter** or **LinkedIn**) use intelligent machine learning algorithms to detect trends from the messages that are being posted, and then surface that information to the user according to their relevance. In a similar fashion, 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 will identify transactions happening on the SYSPRO database, identify the key fields on which the transactions are happening, and then perform trend detection and aggregation on this data. It will then present this information to the user in the form of a chart and 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 simple piece of functionality brings critical information to the forefront without you having to ask for it or consolidate reports across the different modules.

Rules Engine

The rules based engine works together with the data mining service and allows you to create complex triggers and perform actions without using SQL triggers.

Harmony also uses the rules based engine. If a user follows a particular item, a rule is automatically added to the engine and when the rule executes, a beat is posted to the Harmony database.

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



Although currently you cannot add, maintain or delete rules, SYSPRO is developing a new interface to enable this functionality.

Rule Description	Trigger Description
Stock code selling price change	Update on <code>InvPrice</code>
Limited promotion within 5% from expiring	Update on <code>TpmPromotionLimit</code> , below 5% of Promotion limit (<code>TpmPromotion</code>)
After Inventory movement	Insert on <code>InvMovements</code>
Customer set to on hold	Update on <code>ArCustomer</code> , <code>CustomerOnHold</code> flag changed to <code>Y</code>
Supplier set to on hold	Update on <code>ApSupplier</code> , <code>OnHold</code> flag changed to <code>Y</code>
New sales order created	Insert on <code>SorMaster</code>
New line added to sales order	Insert in <code>SorDetail</code>
Stock code added to warehouse	Insert in <code>InvWarehouse</code>
New RMA created	Insert in <code>RmaMaster</code>
New line added to RMA	Insert in <code>RmaDetail</code>
New job created for customer	Insert in <code>WipMaster</code> , where <code>Customer</code> not = " "
AP payment cycle completed	Change to <code>ApPayRunHdr</code> , <code>PaymentRunStatus</code> = "C"
New asset added	Insert in <code>AssetMaster</code>
An asset changed	Update to <code>AssetMaster</code>

Rule Description	Trigger Description
An asset deleted	Delete on <code>AssetMaster</code>
After Cashbook deposit	Insert in <code>CshJnl</code> , <code>EntryType = "D"</code>
After Cashbook withdrawal	Any SYSPRO table change
Customer within 10% of credit limit	Update to <code>ArCustomerBal</code> , sum on balances within 10% of Credit limit (<code>ArCustomer</code>)
Job deleted without customer	Delete on <code>WipMaster</code> , <code>Customer = " "</code>
GL period change	Update to <code>GenControl</code> , <code>GlPeriod</code> changed
AP Invoice verification difference greater than 10%	Insert on <code>GrnPriceVariance</code> , calculation on difference is greater than 10%
New supplier added	Insert on <code>ApSupplier</code>
Supplier delivery received late	Insert on <code>PorHistReceipt</code> , <code>DateReceived</code> greater than <code>LineDueDate</code>
Supplier delivery received short	Update on <code>PorMasterDetail</code> , <code>MReceivedQty</code> less than <code>MOrderQuantity</code>
New job created without a customer	Insert in <code>WipMaster</code> , <code>Customer = " "</code>
PO delivery rejected at receiving	Insert in <code>PorScrapRejectIns</code> , <code>ScrapRejectFlag = "R"</code>
Over issue to a job	Update to <code>WipJobAllMat</code> , <code>QtyIssued</code> greater than calculated required quantity
Stock issued to job	Update to <code>WipJobAllMat</code> , <code>QtyIssued</code> increased
Stock rejected at inspection	Update to <code>WipInspect</code> , <code>QtyScrapped</code> increased
Stock rejected at receiving	Insert in <code>PorScrapRejectIns</code> , <code>ScrapRejectFlag = "S"</code>
RMA line received	Update to <code>RmaDetail</code> , <code>LineStatus = 9</code>
Stock code added	Insert in <code>InvMaster</code>
Bin added for stock code	Insert in <code>InvMultBin</code>
Stock take posting complete	Update to <code>InvWhControl</code> , <code>StockTakeFlag = "N"</code> and <code>StockTakeUpdate = " "</code>
BOM added	Insert in <code>BomParentInfo</code>
Job deleted	Delete on <code>WipMaster</code> , <code>Customer not = " "</code>

Rule Description	Trigger Description
Job received late	Update to WipMaster, Complete = "Y" and JobDeliveryDate greater than ActCompleteDate
Job received short with a customer	Update to WipMaster, Complete = "Y" and QtyToMake greater than QtyManufactured
Delivery note printed	Update to SorMaster, DeliveryNote changed
Dispatch note released for invoicing	Update to MdnMaster, DispatchNoteStatus = "7"
POD confirmed for SO delivery	Update to ArInvoice, ProofOfDelivery = "Y"
Price override at invoicing	Insert in SorChanges, Price not = NewPrice
Contact details changed	Update to CrmContact
Delivery is short	Insert in MdnDetail, OrigBoSoUom not = "0"
Lost sales order line	Insert in SorLostSales
New promotion added	Insert in TpmPromotion
Job received late without a customer	Update to WipMaster, Complete = "Y" and JobDeliveryDate > ActCompleteDate
Job received short	Update to WipMaster, Complete = "Y" and QtyToMake > QtyManufactured
Track History on ArCustomer.OutstOrdVal	Update to ArCustomer, OutstOrdVal changed
Track History, Rough order value estimate	Update to SorMaster, End order completed
Track History on ArCustomerBal.CurrentBalance1	Update to ArCustomerBal, CurrentBalance1 changed



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