

# ECC Messaging, Mapping, and Logs

Welcome to ECC Messaging, Mapping, and Logs. By the end of this course...

You'll be aware of the two main types of messages involved in communication between ECC and ERP systems – Upload and Request – as well as some other messaging areas – Customer and Supplier Connect.

You'll also take a look at some ways in which messaging differs according to the ERP system involved.

You'll see how the Logs display what messaging is taking place, and how they can help in troubleshooting issues.

You'll also have a good foundation in how data mapping plays an important role in ECC implementation, including some useful examples and issues that come up.

## Objectives

- ECC Messaging
- Messaging Differences Between ERP Systems
- Sync Order
- Logs and Troubleshooting
- Basic Mapping
- Attributes and User Defined Fields
- Further Tips

## ECC Messaging

Messaging between ECC and the ERP system involves two fundamental types of messages: Upload Messages and Request Messages. In ECC, you'll find the messaging sections under Epicor > Configuration.

Upload messages involve sending data from the ERP system to ECC/Magento.

As data is changed in the ERP, messages are sent to ECC to update the sites

- Prices, products, customers, suppliers, addresses, contacts
- Site structure and exchange rates can all be synchronized with the ERP

Significant examples of this message type are: STK – product upload; STG – Product Group upload; and SGP – Link Products to Categories.

Let's use the STK message as an example. In ECC, under each message type, there's a number of settings and triggers which you can enable or disable. Notice the Overwritten on Update section. If these triggers are set to Yes (that's the default?), each time a data sync occurs that includes product data, the aspects that are set to Yes will update in ECC as well.

Now, with some customers, because of their ERP setup, there may be situations where it's a good idea to disable some setting or other. Why? Let's look at an example you might encounter:

Let's say the client has Kinetic for their ERP. Their parts are set up such that the Product Name is highly technical, which is not suitable for use as the product name on ECC, on a customer-facing website.

Therefore, they want to handle product naming for the website within ECC.

To achieve this, you disable the Product Name trigger in ECC. The initial sync of all data from Kinetic to ECC will include the product names. The client can then update the product names directly in ECC. And, with the Product Name trigger disabled, whenever product data syncs to ECC, the product name is NOT updated. So, the customer-facing names entered directly in ECC are retained.

Now, what about Request messages? These also end up with data transferring from the ERP system to ECC. However, they are triggered differently. In this case, ECC is basically sending a request to the ERP system, asking it to send certain data.

Let's look at an example:

When a customer is in ECC, and they add something to their shopping cart, ECC sends a BSV (Basket Value) request message to the ERP to retrieve (validate) stock, price and tax information.

Similarly, when a customer is browsing the site, searching for products, ECC sends MSQ messages (Stock Enquire Message) to the ERP system, which sends back information on product location, pricing and quantity breaks for the customer.

And when a customer clicks Place Order in ECC, a GOR message is sent to the ERP system, which returns the next available order number.

Upload and Request messages are not the only types of message you'll encounter. You'll also find other messages in Epicor > Configuration under Customer Connect and Supplier Connect.

Customer connect is B2B specific; B2C/guest customers do not have access to this.

It shows data related to the ERP account for all users for all data, including orders, quotes, payments, invoices, RMAs and shipments. For example, this will show all orders—those placed directly on the ERP and those originating from ECC.

A common message example is the CUOS message (Customer Order Search). ECC makes an API call directly to the ERP system, to get a list of customer orders. When the customer clicks on an order to see details, ECC sends a CUOD message to the ERP system to retrieve the order details.

Similarly, Supplier Connect enables suppliers to log in and see

- Parts lists
- Purchase order lists and detail
- Quotes, with the ability to amend prices and quantity breaks
- Invoice searches and details
- Supplier payments
- Account summary details

These are just a few examples of Upload and Request messages, and we've touched on Customer Connect and Supplier Connect as well. For more details on the various messages used by ECC, refer to the ECC Implementation Guide, which has a whole section devoted to messaging.

## **Messaging Differences Between ERP Systems**

Now, the ERP system you connect to makes a difference as to how exactly Upload messaging works.

First, let's look at Kinetic.

In Kinetic, you use the ECC Customer/Consumer Synchronization program to set up processes which push new data (for example, new customers or master parts) from Kinetic to ECC. \*it can also update data if it was changed in the ERP.

So, whenever a new customer or part is Web enabled, it is added to the IntQueOut table in the Kinetic database. And, whenever the ECC Synchronization task runs, Kinetic sends (or pushes) all the items in that table up to ECC/Magento.

However, with P21 and Eclipse, it is the SYN requests in ECC that call the data upload from the ERP into ECC. i.e. P21 and Eclipse do not push data up "by themselves".

It's also worth noting that ERP systems differ in terms of which messages they support.

For example, among Request messages, you'll only find the DDA (Delivery Date Availability) message with Eclipse installations.

In terms of Customer Connect messaging, you'll only use the CUCS (Customer Service Calls Search) message with Kinetic.

Among Upload messages, there's a few noteworthy examples. The CUPG Update Product Group Lists message is used to sync product lists restricted to certain customers. But this only applies in P21.

The CCCN Upload Customer Contracts and CURP Upload Customer Restricted Purchase messages are also only available for P21 installations.

Even more significant is the subject of Categories, as they are called in ECC/Magento. In Kinetic, for example, they are Product Groups; in P21 you set them up in Item Category Maintenance.

The STG message handles the upload of product groups.

In Kinetic, only one level of product groups is possible. In contrast, both Eclipse and P21 allow multi-tier categories, and these hierarchies are supported in ECC as well.

In some installations, clients opt not to upload product categories and their mappings from the ERP system to ECC. Instead, they handle categories solely in ECC. Set this up under Catalog > Categories.

In this case, you'll need to disable the STG and SGP upload messages, which are responsible for uploading product category information from the ERP system to ECC

## Sync Order

It's worth taking a moment to look at the order in which messages sync (or should sync!)

In ECC, when you run a SYN request, you can select particular areas to sync, or you can select Advanced to drill down to individual messages, and select just those you want to sync right now.

Let's take the example of Customers. If you select this area, the sync will automatically upload the associated message types in the "correct" order. i.e CUS Customer Upload first, then CAD Customer Address, then CUCO Upload Customer Connect Users (by the way, this last message comes under Customer Connect).

If you want to sync customers and their associated data by individual messages instead, be mindful of the need to do it in the correct order.

Likewise, let's look at Products and Product Categories. If you run the Products sync, the STK Product Upload message comes before the STG Product Group Upload, and only after that comes the SGP Link Product to Category Upload, which associates the products with their category. There's a logical progression here, so be aware of that when uploading individual messages.

## Logs and Troubleshooting

We know that, whenever a data sync occurs, messages pass between the ERP system and ECC.

Whether you're performing the initial data sync, or the system is up and running and syncing at regular intervals, in the ECC/Magento back-end, go to Epicor > Log to see what messaging has taken place, and whether or not it was successful.

If errors occur, Click on the item to see the actual xml message. You can inspect the logs for the error code and description, which can assist you in troubleshooting.

Given the quantities of data involved, it can help to filter by message Type. And if you're troubleshooting, you can limit the results to those with an error.

You'll also see an error code in the log.

It's not as simple as saying that each error code corresponds to one single issue with a single solution. Nevertheless, these codes may help point you in the right direction, along with the error Description.

If you want to see a list of the various error codes, go to Epicor > Configuration > Request Messages. Expand the GOR message, and in the Error Actions section, when you activate the Send Admin Email trigger, the Restrict Email by Error Code field displays a list of error codes.

## Basic Mapping

You set the basic data mapping in ECC during the Quick Start setup. This is covered in the ECC Install Guides and in the ECC Foundations Certification. Be aware that you will also find all these Quick Start mappings under Epicor > Mapping. You can select the mapping area from the drop-down list – for example, the mappings under the Payment type are the same mappings you set up in the Quick Start Checkout Settings.

## Attributes and User-Defined Fields

Depending on individual customer requirements, there may be cases where special data mapping is the best solution.

We're going to look at data mapping that enables you to set up user-defined fields in the ERP system, and sync these fields & data into ECC, and use them as either an attribute, or as a user-defined field.

Let's look at an example with parts in Kinetic. You create a user-defined field in Kinetic to represent the part's color.

You set up a mapping template for part syncing (via the STK message). In the template, you mark the color field as an Attribute.

All this means you can specify the color in the part record, and when the data syncs to ECC via the STK message, this color attribute is included.

In ECC, you can track this attribute on the product, and you can display this color attribute in the part detail on the website front end. Before you sync data, you need to set up the Attribute mapping on the ECC side:

There are various options for what to do with the attribute. Go to Epicor > Mapping, and select ERP Attributes from the drop-down. This is a specific mapping type for handling attributes. Click Add Mapping. The Input Type is significant here. If you just want the attribute to show, you can set this to Text. But you might want to enable users to filter by this attribute, in which case you can set the Input Type to Dropdown, and flag the attribute as

Filterable in the Use in Layered Navigation field. You also need to set “Use in Search Results Layered Navigation” to Yes. On the front-end website, this attribute will display as a drop-down filter option. Once the Attribute mapping is set up, you can run the Kinetic Part sync.

Now, back in the mapping template in Kinetic, you can also choose to keep the Attribute check box clear. In this case, the sync will send the field to ECC as a user-defined field.

For example, the user-defined field in the ERP might house the part description you want to show on the website, because the standard description is too technical and not suitable as a customer-facing description. In this case, the data will not display under the part details like it did for the Attribute. Instead, in the Epicor > Mapping section in ECC, you select Data Mapping in the drop-down, and you map the user-defined field to a standard field. So, in our example, the web description for the part overrides the standard part description. Another useful example comes from P21. This is a standard issue that needs to be resolved one way or another. In P21, the product SKU (product ID) is also used as the Product Name. As you can imagine, this is usually not suitable for display on a customer-facing website.

Therefore, the popular way to resolve this is as follows:

In P21, you create a User-Defined field for the Product Name.

Then, in ECC > Mapping, use the Data Mapping section to map this P21 user-defined field to the Product Name field in ECC. This enables the client to handle all the naming within their ERP system, and sync it all across to ECC.

## Further Tips

Let's touch on a few tips related to data mapping.

One issue that sometimes catches our customers is a simple one. Let's say a customer adds a new shipping method in ECC/Magento, under Shipping Methods.

It's important to remember that you also need to map this item.

So, let's say you enter a new shipping method in ECC/Magento called UPS Ground. In their ERP system, this ship via code has the ID “UPSG”.

So, in the Quick Start - Checkout Settings, under Shipping Method Mapping, you need to map the ERP Code UPSG to the Shipping Method UPS Ground.

This is a simple step that might be overlooked, and the same principle applies to all sorts of different records, such as shipping methods, payment methods, countries, currencies, languages, and so on.

During the testing phase, what if a customer wants to refresh their testing site with up-to-date data from their production ERP system? Imagine that the original sync for testing was done a couple of months ago? In that case, the test data will be a bit “stale”. For example, in the meantime, they have added new customers, new items, and so on. Therefore, the customer will likely want to have a fresh copy of their production data put into their test environment.

In order to do this, specific steps are required.

In ECC, go to System > Clear Data.

Here you can clear all the data. Then, when the customer has refreshed their ERP test environment with the latest data from their production environment, you can go ahead and sync data to ECC again.

This only applies to the testing environment; you would NOT do this in the live environment.

Note: The Clear Data option comes with a warning! For example, if data has been imported to ECC/Magento via Silk scripts, or data imports – data not in the ERP system, you would lose these imports if you ran the Clear Data option.

Therefore, the customer should run data syncs to realign data, and not Clear data unless they are certain it won't affect other areas of the site. If they are copying down their ERP live system to an ERP test system, they should also copy down ECC Live to ECC Test.

The behavior of ship to's is important.

A customer/contact can have one or more delivery addresses (Ship To) associated with their account.

One can be the default, but they can select an alternative at checkout.

In the back end, you can go to Customers > All Customers, select a customer and go to Addresses to view the addresses for customer contacts.

Note: Kinetic requires special Ship To setup, as it does NOT support “Ship to the billing address”.

So, under Epicor > Configuration, Networking and General, you’ll find Address Settings. Here you have to set Force Address Types to Yes.

This means that when a customer checks out, they can only select invoice addresses for billing, and delivery addresses for shipping.

And ... one last tip:

If a successful connection between ECC and the ERP system has not been made yet, you will NOT be able to access any of the Quick Start menus except the General tab!

## Recap

In this course we’ve looked at messaging – Request and Upload messages, as well as touching on Customer Connect and Supplier Connect messaging as well.

We’ve also looked at the different ways in which the various ERP systems communicate, and how some messages may be unique to a particular ERP system.

We then touched on the order of syncing for certain messages, before moving onto the logs, and how they help determine the status of messages, and aid in troubleshooting messaging problems.

Finally, we turned to mapping, and how the basic mapping is carried out during the Quickstart setup, but we saw how the ERP Attributes and Data Mapping elements can be used to tailor the ECC solution to the particular requirements of certain customers.

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