



Order Fulfillment Kit for Miva Merchant™

*An Extensible Order Fulfillment
Solution for Miva Merchant*

Product Manual



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Module Description

The Order Fulfillment Kit provides HTML customer invoices with file attachments for soft goods deliveries, custom generated license keys for software or other electronically distributed products, and an XML notification system for transmitting order data (and license keys) instantly to external locations or license servers.

The Order Fulfillment Kit helps storeowners automate the fulfillment processes. For the retailer of electronically distributed products or other products that require an on-demand license key, this module gives you the ability to provide (random or custom generated) license keys to your customer immediately upon the purchase of a downloadable product. Additionally, soft-goods products can be immediately sent to customers as file attachments of their HTML invoice, and the generated license keys can be transmitted to external license servers via XML. For the retailer of hard goods that must be packaged and shipped to the customer, this module turns a completed Miva Merchant invoice into an XML message and sends that message to a designated CGI application on an external web server allowing the order information to be immediately catalogued in a database for order fulfillment. Additionally, retailers can use this information for customer retention campaigns, historical data collection and data mining.

Key Benefits

- HTML email invoice with file attachments
 - Fully customizable HTML template for your customer order fulfillment email
 - Soft goods can be attached* to the order invoice or sent as individual emails
 - Email template uses the same DynamicTemplate Engine used in other CBS products
- License Key Generator with API
 - Creates keys immediately upon the payment of an order
 - Provides an API for custom licensing key generation
 - Example random key generator (with source) included
 - Keys can be listed in the email invoice underneath each product that requires a key
 - Keys can be sent separately to the customer in a second email
- Order detail notification via XML message
 - XML order details sent to any CGI application on external web server
 - Entire invoice can be sent as an XML message to an external server
 - Or optionally, only those products with license information are sent as an XML message to an external server
 - Fail-safe XML notification: In the event the external server cannot accept an XML message at time of sending (i.e. server is down) or the server rejects the XML message, a “fallback” email is sent to a designated employee with the XML and reason for failure.

*Note: Recommended maximum total email attachment size is approximately 500kB.



Once an XML message is sent to the storeowner's CGI application, this information can be used to insert the generated keys into an external license server, populate packing and shipping software, CRM software or other customer databases. Since it is delivered to the software as an XML message it can easily be imported into almost any software. For those stores with off-site fulfillment warehouses, this module allows order information to be instantaneously transferred to the warehouse systems.

The Order Fulfillment Kit is made up of the primary Miva Merchant fulfillment module and two optional components, a Custom License Generator and Custom XML Generator. The fulfillment module handles the HTML customer email including file attachments, generates keys via the optional Custom Key Generator (if installed), sends the generated keys to the customer either via email or as an attribute to the product in the invoice, and provides a standard XML messaging system with fail-safe fallback to a designated email address. One can optionally build a Custom Key Generator that plugs into the Order Fulfillment Kit to generate license keys according to any algorithm. The example provided by Copernicus is a Random Key Generator, but a custom algorithm can be substituted by customizing the example Custom Key Generator. One can also optionally install a modified XML generator in the event your XML CGI gateway cannot use the generated XML as provided.

Some storeowners may find that they need additional source-level customizations of this Kit for either the license key generation or the XML message creation. Therefore, Copernicus has additional options available for these storeowners:

Source-level Customizations to the Order Fulfillment Kit:

- Custom Key Generator built to your specifications by Copernicus: \$500 minimum
- Custom Key Generator or modifications for XML component provided by a Copernicus Designers Club member: quoted by CDC member



Theory of Operation

General Theory

Miva Merchant fulfillment modules provide the ability to perform special actions once an order is created in your store. These actions occur immediately after the payment processing has been accepted, and typically include actions such as sending notification emails to the storeowner and customer with a copy of the invoice. While these specific examples are common, there are many other common actions that can be performed. For example, many storeowners may need to notify external computer systems of the contents of the order, such as notifying a warehouse pack-and-ship system that the order has been placed. This fulfillment kit helps simplify the automation of such processes.

It is also common for software or soft goods vendors to provide instant delivery of goods purchased online. Some vendors may desire to deliver these goods immediately as an attachment of the order confirmation email; other vendors may desire to instead simply deliver a license key that allows one to activate a previously downloaded program. This system provides the vendor with both mechanisms, as well as the ability to notify an external license server of the sale immediately following payment confirmation.

Note: Vendors of goods that become immediately available to the customer, however, are at a higher risk for credit card fraud. When using the license key or email attachment fulfillment portions of this system, vendors should take care that the funds are captured immediately and that they have the necessary fraud protection systems in place to prevent delivery of goods as a result of fraudulent orders.

Module Theory

While the Order Fulfillment Kit provides many features to the Miva Merchant storeowner, only those necessary for a particular store need to be configured. For example, one may choose to utilize this module simply for the ability to send HTML customer receipts and attachments. Other storeowners may choose to utilize the license generation system, whereas yet other storeowners may take advantage of the XML notifications.

Modular and Customizable Fulfillment

The Order Fulfillment Kit is a modular system, where the standard Miva Merchant module handles the HTML & XML message creation and distribution as well as the standard fulfillment needs of license key generation (email generation, specifying products that use key generation, initial "salt" for each product key, etc) for soft goods. The actual license key generation is separate from the core distribution module. To create a custom licensing solution, you must write a small component that meets the Order Fulfillment Kit licensing API or have a developer create one for you. Further, the standard XML component can be replaced via a separate Miva Script program that meets the provided XML API. A sample "random key" license generator is supplied in the event you desire to use the system as-is, in which case you can use the XML



system to transmit these generated keys to your external license server. The Key Generation API is provided in Appendix B.

This modular system provides a robust mechanism for delivering custom license key generation systems without requiring core system changes for the unique needs of each customer. A random key generator with an optional prefix is included with the base system; thus, the storeowner does not need to invest in additional source-level programming. If a storeowner needs a specific key generation algorithm to satisfy his license generation requirements, Copernicus can develop that algorithm and it can be installed as the Custom Key Generator, so the storeowner can take advantage of the core system features provided by the Order Fulfillment Kit, plus use their custom key generation algorithm. If a storeowner needs a specific interaction between the XML message and the CGI application on the external server, the storeowner may modify the XML component or may turn to the professional assistance of a CDC member trained to make these modifications.

*Please Note: The core Order Fulfillment Kit module is named `custom_fulfillment.mv` or `.mvc`. This is the portion of the system that is to be installed as a Miva Merchant module through the Miva Admin. The Custom Key Generator component, (`custom_fulfillment_generator.mv` or `mvc`) is installed manually via FTP in the same directory (fulfillment directory) as the Order Fulfillment Kit module. To install a customized the XML component, this file is named `custom_fulfillment_xml.mv` or `.mvc`, and is installed manually via FTP in the same directory. Please review the installation instructions carefully for this software.

**Note: Prior to performing a Miva Merchant upgrade, users that have custom XML or key generators should copy these extra files to their Miva Merchant upgrade directories manually.

HTML Email Template

The Order Fulfillment Kit allows you to send your customer HTML formatted customer order confirmation emails. The contents of the email is generated using a fully customizable template; you may choose to modify any of the HTML tags as well as include your own headers and footers with links to images from your website.

When first installed and when the HTML email is enabled, the system pre-populates the HTML Email Template with a stock template. If you need to restore back to the original template supplied with the module, simply erase the entire template and click “update” in the module.

The template is written and processed using the DynamicTemplate Engine for Miva Merchant. The DynamicTemplate Engine is a software product developed by Copernicus to provide full screen template capabilities for Miva Merchant 4.00 and greater. It is the core component of both the OpenUI SuperMod for OpenUI stores, and the DynamicTemplate module for MMUI based stores. Full documentation of the template language can be found on the Copernicus website at: http://www.copernicusllc.com/products/mmui_templates/resources/



MIME File Attachments

The standard method of sending email attachments and HTML emails is to use the MIME formatting standard. This module produces MIME 1.0 compatible emails to send HTML emails to your customers as well as to attach your product distribution files to the email. When sending binary attachments, MIME specifies that the attachments should be base64 encoded prior to sending. Base64 encoding allows 8bit binary files to traverse through some older 7bit email servers without becoming corrupted or lost.

One of the limitations of the Miva Script language is that it does not provide any binary file handling utilities suitable for generating email attachments encoded in base64 format. Therefore, all of your email attachment files should be base64 encoded prior to sending them using this module. A small Win32 utility has been provided in the distribution for use to convert your attachments to base64 encoded format. Linux/Unix users should have a similar utility already available to them on their servers. The process of base64 encoding attachments prior to use is described in further detail in Appendix A.

Due to the way Miva Script sends email, large file attachments may cause the final invoice page to load slowly, or even timeout if the files are too large. It is recommended that you test the speed of the invoice page when using attachments and adjust the size of your attachments accordingly. Recommended maximum attachment file size is approximately 500kB, though this is highly dependent on server performance.

In order to speed up the file attachment delivery, this module caches your file attachments in a database so they are immediately available and ready to send when an order is created. If you ever need to change the attachment for a given product (the attachment needs to be updated), then you must edit that product in Miva Merchant in order to refresh the cached copy of the file.

The module will read the base64-encoded version of a file when you assign the attachment to the product in order to cache the file. This process can be time consuming, and occasionally very large attachments may cause a timeout in your Miva admin. In order for the module to cache your files, you may need to increase your server timeout when first configuring the product with the attachment. Note that once the file is cached, it will be read much faster during order delivery due to the caching mechanism. Thus, even if a file initial takes a long time to load into the cache, it may still be small enough for electronic delivery to your customers. Simply test a purchase of the product to determine if the invoice appears fast enough for your needs.

*Note: If your customers purchase multiple products each with attachments, the time it takes to send each one will be added together; therefore large purchases with many different large attachments may cause problems on slower servers.

*Note: A particular attachment is only sent once to a customer, even if they order multiple numbers of the same product, or multiple products each sending the same attachment file.



XML Gateway Notifications

The Order Fulfillment Kit provides an XML notification system that can be used to notify any external web application or CGI immediately upon order generation. The kit provides a default XML message and expects a specific XML response to consider the message as accepted; if the message is not accepted or the receiving host is inaccessible at the time the order is made, a fail-safe mechanism sends the contents of the XML message to a specified email address. In the event that you do not control the XML gateway (receiving server) and require a different XML specification, you may purchase an XML source kit to modify the message format, expected response, and fail-safe fallback action. Example XML Notification:

```
-----  
<?xml version="1.0" encoding="UTF-8"?>  
<Order Number="[number]" Date="[date]">  
<StoreCode>[Store Code]</StoreCode>  
<StoreKey>[Store Key]</StoreKey>  
<ShipFirstName>James</ShipFirstName>  
<ShipLastName>Harrell</ShipLastName>  
<ShipEmail>jharrell@copernicusllc.com</ShipEmail>  
<ShipCompany>CBS</ShipCompany>  
<ShipPhone>404-555-1212</ShipPhone>  
<ShipFax>404-555-2323</ShipFax>  
<ShipAddress>2545 Haddenham Lane</ShipAddress>  
<ShipCity>Smyrna</ShipCity>  
<ShipState>GA</ShipState>  
<ShipZip>30082</ShipZip>  
<ShipCountry>USA</ShipCountry>  
<BillFirstName>James</BillFirstName>  
<BillLastName>Harrell</BillLastName>  
<BillEmail>jharrell@copernicusllc.com</BillEmail>  
<BillCompany>CBS</BillCompany>  
<BillPhone>404-555-1212</BillPhone>  
<BillFax>404-555-2323</BillFax>  
<BillAddress>2545 Haddenham Lane</BillAddress>  
<BillCity>Smyrna</BillCity>  
<BillState>GA</BillState>  
<BillZip>30082</BillZip>  
<BillCountry>USA</BillCountry>  
  
<Product Name="[Name]" Code="[code]" Quantity="[qty]" Price="[price]"  
Weight="[weight]">  
  <Attribute AttrCode="[attrCode]" OptCode="[optCode]"  
Price="[price]" Data="[data]"/>  
  <Attribute AttrCode="[attrCode]" OptCode="[optCode]"  
Price="[price]" Data="[data]"/>  
  ...  
</Product>  
  ...  
</Order>  
-----
```



Upon receipt (and possible validation of the provided StoreCode and StoreKey), the external CGI or application should respond with the following message. Any other response code will be viewed as a failed XML transaction, and the failsafe mechanism will cause an email to be generated to the specified address. If the response code is anything other than as specified, this response code will also be included in the fallback email:

```
-----  
<RESPONSE CODE="1">  
-----
```

Note: If you choose to override the default XML specification by modifying the XML source kit, your modified version of `custom_fulfillment_xml.mv` (or `mvc`) should be placed in the same module directory as your `custom_fulfillment.mv` (or `mvc`) file, usually:

Merchant2/4.xx/modules/fulfill

No extra files need to be installed to use the default XML notification; it is built into the core fulfillment module. The only reason to install `custom_fulfillment_xml.mv/mvc` is if you would like to modify either the generated XML, the expected successful result or the fail-safe fallback mechanism.

The external XML API is provided in Appendix C.



Module Installation and Upgrading

Domain Installation of Module

You must first install the module in your Miva Merchant domain. After that you will need to follow the steps for installing the module in the store for which you have purchased the license.

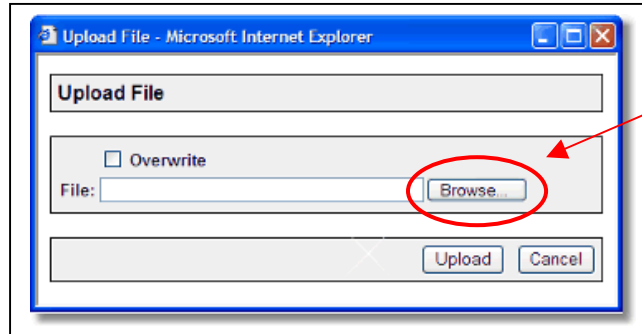
There are several Miva Merchant modules and supporting files included in this distribution. You should install the Order Fulfillment Kit module “custom_fulfillment.mvc” through the Miva Admin. Optionally, if you plan to use the Custom Key Generator to generate product license keys, you will need to also install the component named “custom_fulfillment_generator.mvc”. HOWEVER, this component cannot be installed via the Miva Admin. It must be FTP’d into the same directory on the web server as the Order Fulfillment Kit module. For instructions on how to FTP the Custom Key Generator into its proper place, please read the Custom Key Generator Installation Instructions included at the end of these installation instructions.

In order for this module to work properly, uncompiled stores must be running Miva Empresa 3.94 or higher and compiled stores must be running Miva Virtual Machine 4.10 or higher. Please check with your host to make sure your version is correct for this module.

Module Domain Installation

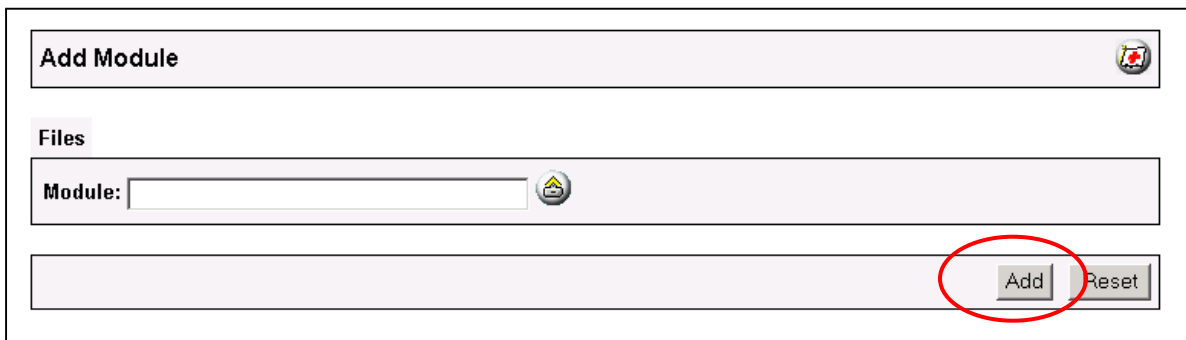
1. Go into the Miva admin (*admin.mv*)
2. Open the **Modules** branch
3. Click on the **Add Module** link and the screen pictured below will appear
4. Click the **Upload** button

The screenshot shows the 'Add Module' interface in the Miva Admin. It features a title bar with the text 'Add Module' and a small icon on the right. Below the title bar is a 'Files' section. In this section, there is a 'Module:' label followed by an empty text input field. To the right of the input field is a small icon of a folder with a plus sign, which is circled in red. A red arrow points from the text 'Upload Button' to this icon. At the bottom right of the form are two buttons: 'Add' and 'Reset'.



5. This is the **Browse** button

5. A Pop-Up window, like the one pictured below, appears and allows you to either **Browse** to find the module on your local drive or enter the filename of the module.
6. Press the **Upload** button
7. Once you press the Upload button, the Upload File PopUp box disappears and the Add Module box is again visible. Press the **Add** button
8. Now the module has been installed in the domain. Next you need to install the module in the store



7. This is the **Add** button



Store Installation of Module

1. Go to the Miva admin (*admin.mv*)
 2. Open the **Stores** branch
 3. Click on the arrow next to the store name
 4. Click on **Order Fulfillment Configuration**
 5. Check the checkbox next to the module name. (For this module it is *CBS – Order Fulfillment Kit*)
 6. Press the **Update** button at the bottom of the screen.
- 5. Click the checkbox next to the module name**

Order Fulfillment Configuration	
Modules	CBS - Custom Fulfillment Key Generator OpenUI Email Merchant Notification OpenUI Customer Order Confirmation Email
Assigned Module	
<input checked="" type="checkbox"/>	CBS - Custom Fulfillment Key Generator
<input type="checkbox"/>	Email Merchant Notification
<input type="checkbox"/>	Customer Order Confirmation Email

Update Reset

9. A PopUp box appears that looks like the picture below. Enter the *Order Fulfillment Kit* license key you got when you purchased the module license.
10. Read the *License Agreement*
11. Check the box next to **I ACCEPT THE TERMS AND CONDITIONS OF THE LICENSE AGREEMENT**
12. Press the **Update** button. Now you have successfully installed the module in the storefront and you are ready to use it!



7. Enter the license key here

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BUSINESS SYSTEMS

CBS - [redacted] (v4.22)
Build Timestamp: 2003-01-08 23:48:53

Product Info | Documentation | Release Notes | More Products

Integrity: GOOD (268545)

License Key:

(Please note that you need ONE LICENSE FOR EACH STORE.)

License Agreement:
CORPORATE END USER LICENSE AGREEMENT

YOU SHOULD CAREFULLY READ ALL THE TERMS AND CONDITIONS OF THIS AGREEMENT PRIOR TO USING THE SOFTWARE. USE OF THE SOFTWARE INDICATES YOUR ACCEPTANCE OF THESE TERMS AND CONDITIONS. COPERNICUS BUSINESS SYSTEMS, LLC ("LICENSOR") IS WILLING TO LICENSE THE SOFTWARE TO YOU ONLY IF YOU ACCEPT THE TERMS AND CONDITIONS OF THIS LICENSE AGREEMENT. IF YOU DO NOT AGREE TO THESE TERMS AND CONDITIONS, ERASE ALL COPIES OF THE SOFTWARE, DOCUMENTATION AND ALL OTHER COMPONENTS OF THE SOFTWARE FROM YOUR COMPUTER'S MEMORY AND CERTIFY TO LICENSOR THAT YOU HAVE DONE SO WITHIN SEVEN (7) DAYS OF DOWNLOADING THE SOFTWARE.

1. Grant of License. Licensor hereby grants to you ("Customer") a non-exclusive, non-transferable license to use the Software solely in accordance with the terms of this Agreement. For the purposes of

I ACCEPT THE TERMS AND CONDITIONS OF THE LICENSE AGREEMENT

PURCHASE | PRODUCTS | PARTNERS | DOCS | SUPPORT | COMPANY

Copyright(C) 2003 - 2001 by Copernicus Business Systems, LLC.

Update | Reset

9. Accept the license agreement here

10. Press the Update button



Module Upgrading

Copernicus publishes updates to its modules when there are significant feature enhancements. Copernicus also published upgrades to its modules for clients who are moving from uncompiled Miva Merchant to compiled Miva Merchant. Both updates and upgrades are added to the storefront in the same way. Once you have saved the update or upgrade to your local hard drive, please follow these instructions to add them to your storefront.

*Note: Miva Merchant Upgrades – If you need to upgrade Miva Merchant while using this module, you should first copy the supporting files (custom_fulfillment_generator.mvc and/or custom_fulfillment_xml.mvc) to your Miva Merchant modules/fulfill directory prior to running the Miva Merchant upgrade.mvc.

Domain Module Upgrading

1. Go to the Miva admin. (*admin.mv*)
2. Open the **Modules** branch
3. Click on **CBS – Order Fulfillment Kit** module
4. Click on the **Files** link in the content area of the screen

4. Click on the Files link

The screenshot shows the 'Edit Module: CBS - Custom Fulfillment Key Generator' page in the Miva Merchant admin interface. The page has a title bar with the module name and a small icon. Below the title bar, there are two tabs: 'Information' and 'Files'. The 'Files' tab is circled in red, and a red arrow points to it from the text '4. Click on the Files link'. The main content area displays the following information:

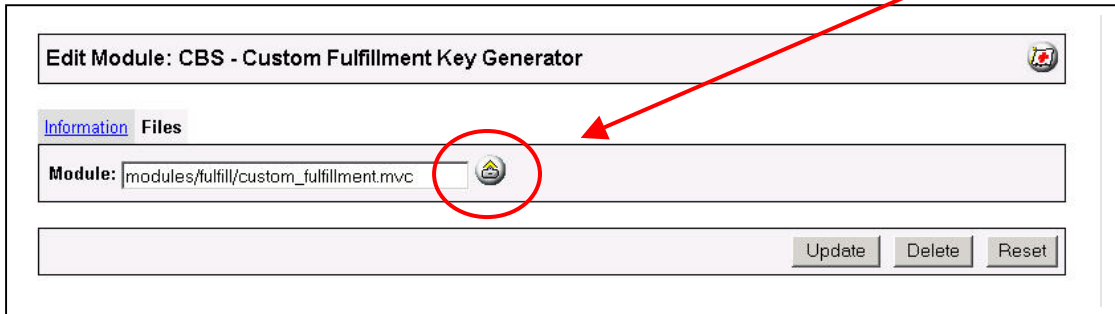
Type of Module:	Fulfillment
Code:	CBS-FULCUSTOM
Name:	CBS - Custom Fulfillment Key Generator
Provider:	Copernicus Business Systems, LLC -- http://www.cbstech.com/
Version:	4.53
Usage Count (Number of Stores):	1
	<input checked="" type="checkbox"/> Active

At the bottom of the page, there are three buttons: 'Update', 'Delete', and 'Reset'.

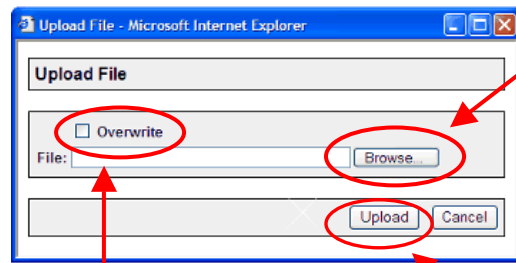


5. Click the **Upload** graphic button

5. Click on the Upload button



6. The Upload file PopUp box will appear. Check the **Overwrite** box so that the updated module will overwrite the old version.



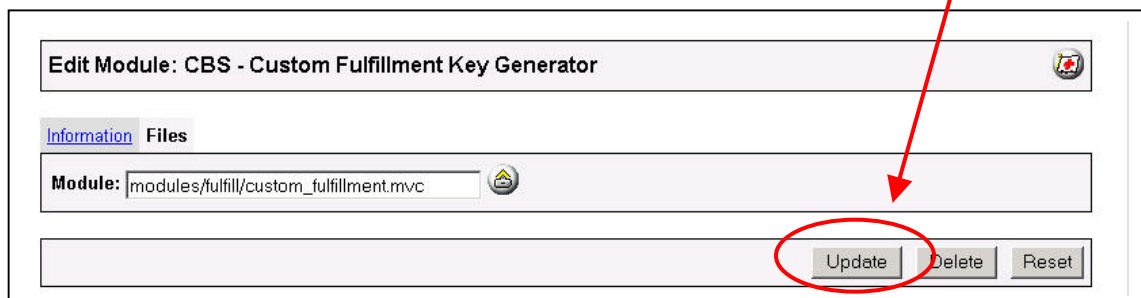
7. Click the Browse button to find the file.

6. Check the Overwrite checkbox

8. Press the Upload button

7. Enter the filename of the module on your local drive or use **Browse** to find the file.
8. Press the **Upload** button this will take you back to the “Files” screen.
9. Press the **Update** button and you are finished!

9. Press the Update button





Custom Key Generator Installation Instructions

These are special installation instructions only for the Custom Key Generator component (`custom_fulfillment_generator.mvc`). You only need to install this component if you want to create random license keys for products when they are purchased in your store or if you have had a custom fulfillment generator created for you. If Copernicus or another developer is developing a custom algorithm for license key generation for your store, you will need to install the custom script, which should also be named `custom_fulfillment_generator.mv` or `mvc`.

FTP this component (`custom_fulfillment_generator.mv` or `.mvc`) into the Fulfillment Modules directory of your web server. This is usually found at `Merchant2/4.xx/modules/fulfill` (although this path will be different depending on your versions of Miva merchant and your hosts preferences.) Once this component is available in your `modules/fulfill` directory, you will then be able to configure the Custom Key Generator parameters if the generator provides configuration options.

Custom XML Generator Installation Instructions

These are special instructions only for the Custom XML Generator component of the Order Fulfillment Kit (`custom_fulfillment_xml.mvc`). If you have modified the XML component source and have a customized version of the XML notification system, you will need to install this file into the same directory where the fulfillment module is installed (`Merchant2/4.xx/modules/fulfill`).

When this file exists in your `modules/fulfill` directory, the standard XML component of the module is overridden by the customized version you have installed.



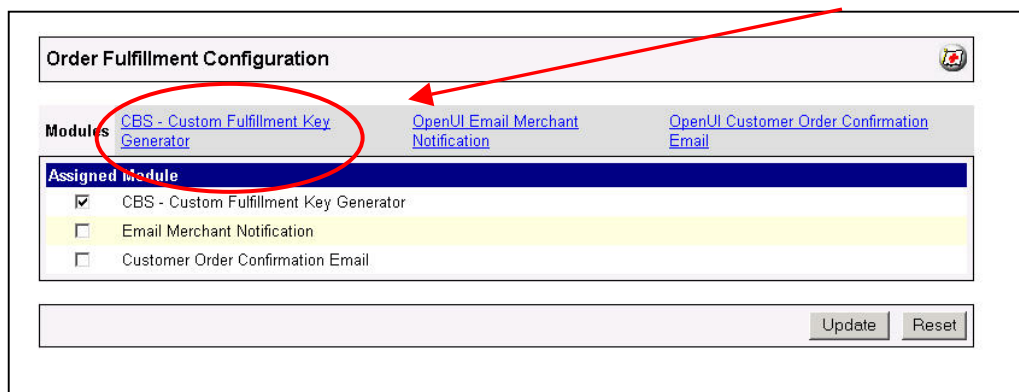
Module Usage

Module Configuration – Order Fulfillment Kit Tab

This module has many configurable options and allows you to setup the HTML Customer order notification email, email attachment configuration, XML Fulfillment and distribution as well as the license key distribution parameters for orders in the store. Therefore, once you have installed the module, you'll want to configure it here. The administrative interface for this module is located in the Order Fulfillment Configuration section of the Miva admin:

1. Go to the Miva admin (admin.mv)
2. Click the arrow next to **Stores**. This will open up all of the stores you have in this domain.
3. Click on the arrow next to the name of the store in which you have installed this module.
4. Click on the link “Order Fulfillment Configuration” and in the content area of the Miva admin, you will see all of the tabs specific to the modules installed in this section. It will look similar to the picture below.
5. Click on the CBS – Order Fulfillment Kit tab.

5. Click this tab to control the module configuration



*Note: Since the Custom Fulfillment Kit contains four major components and not all storeowners will utilize all of the features, each of the configuration sections of the module will “fold up” when not in use. Any settings made within these sections, however, will continue to be retained.



CBS – HTML Customer Notification Email

Initially after installation, the HTML Customer Notification Email is enabled, and a default configuration is created. You can modify the following parameters as shown below. If you decide not to use the HTML customer notification email, the configuration items for the email will no longer be displayed in your module configuration. When you re-enable the HTML email, the settings will once again be available.

HTML Customer Notification Email

HTML Customer Invoice:

Send Invoice to:

Email From:

Email Subject Line:

HTML Customer Invoice Template:

```
!! HTML Email Template
!!
!! Copernicus Business Systems, LLC
!! (Written for Miva Merchant v4.00+)
!! Copyright (c) 2004, 2003, 2002 Copernicus Business Systems, LLC.
!!
!! This file and the source codes contained herein are the property
!! of Copernicus Business Systems, LLC. Use of this file is restrict
!! the specific terms and conditions in the License Agreement associ
!! this file. Distribution of this file or portions of this file for
!! not covered by the License Agreement is not allowed without a wri
!! agreement signed by an officer of Copernicus Business Systems, LL
!!
!! Copernicus Business Systems, LLC
!! http://www.cbstech.com/
```

Note: To restore the default template, remove all text from the box above.

- **HTML Customer Invoice:** This setting specifies whether or not you will send an HTML customer notification email. When set to “None”, this module will not send a full email invoice to the customer. When set to “Templated HTML Email, the customer will receive an HTML order notification email, in which case you should disable any other standard text notification email system you are using in order to prevent duplicates.
- **Send Invoice To:** This setting allows you to specify if the HTML order notification email should go to the billing address or the shipping address.
- **Email From:** This will initially be populated with the email address of the storeowner. You can change this so the email is sent from any other address.



- **Email Subject Line:** This will initially be populated with default text including your store name. You can modify it as shown above to contain tokens, for instance to display the order number in the email subject.
- **HTML Customer Invoice Template:** This is the HTML template that defines what the email will look like to your customer. It is written in the DynamicTemplate scripting language, which is used in all other template products that Copernicus publishes such as the OpenUI SuperMod for OpenUI based stores, and the DynamicTemplate Engine for MMUI based stores. The template contains text and tokens that generate the full HTML email. You can modify the template HTML to your liking. In the event you desire to start over with the standard HTML email template, simply delete all text from this box and click “Update” and the default email template will be restored. For more information on the DynamicTemplate HTML/Token markup language, please visit the Copernicus website.

Email Attachment Configuration

The next section specifies how email attachments are handled. Initially after installation, the first item will be set to “Attach to HTML Customer Invoice” and no other configuration items will be present as no further configuration is necessary and all attachments will be included in one email. When the selection is set to “Email Each Attachment Separately”, additional configuration items are available as displayed below. Note that the separate emails are not sent in HTML format, though the email subject line and email body may be tokenized.

The screenshot shows a dialog box titled "Email Attachment Configuration" with a blue header. It contains several fields for configuring email attachments:

- Send Distribution Files as Email Attachments:** A dropdown menu set to "Email Each Attachment Separately".
- Distribution File Email From:** A text box containing "jharrell@copernicusllc.com".
- Email Subject Line:** A text box containing "Product Distribution Attached".
- Email Body:** A large text area containing the text: "Thank you for your order. Your product distributions are attached."



- **Send Distribution Files as Email Attachments:** Options are No Attachments, Email Each Attachment Separately, and Attach to HTML Customer Invoice (all attachments in one email)

XML Gateway Notifications

Initially after installation, the XML notifications will be turned off, the “Send XML Fulfillment Notification” setting will say “No”, and the additional configuration items for the XML notification will not be present. To enable XML notifications, set the “Send XML Fulfillment Notification” setting to “Yes” and click update. The remainder of the configuration items will then appear.

XML Gateway Notifications	
Send XML Fulfillment Notification:	Yes ▾
Products for XML Fulfillment Notification:	Only Products w/Licenses ▾
XML Fulfillment URL:	<input type="text"/>
XML Fulfillment Password:	<input type="text"/>
XML Fulfillment Fallback To Email Address:	jharrell@copernicusllc.com
XML Fulfillment Fallback From Address:	jharrell@copernicusllc.com
XML Fulfillment Fallback CC Address:	<input type="text"/>
XML Fulfillment Fallback Email Title:	Failed XML Transaction

- **Send XML Fulfillment Notification:** Options are “Yes” and “No”. Yes enables the XML system.
- **Products for XML Fulfillment Notification:** Options are “All Products in Order” and “Only Products w/Licenses”. If you are using the fulfillment kit to notify an external license server of those licenses generated with this system, you may choose only to send the order information regarding the products in the order that have been assigned a license key. If you are using the fulfillment kit to notify a pack-and-ship computer in an external warehouse or to automate order fulfillment, you should choose to send the entire contents of the order via the XML interface. ***Note: In order to use the option to only send those products that have had a license generated, you must use the licensing option below to attach the key as an attribute to the product in the order.*



-
- **XML Fulfillment URL:** Specify the full URL of the host to which you wish to send the XML notification. The XML is sent via a web server call to an external CGI that you must provide. If you wish to ensure the order data is encrypted while in transit over the internet, make sure you use a “https” style URL instead of a “http” URL.
 - **XML Fulfillment Password:** The XML message contains the store code and optionally a password in the body of the message that can be used to validate that the message originated from your Miva Merchant store. If you utilize the password feature, make sure that you utilize a secure CGI URL (ie: https).
 - **XML Fulfillment Fallback To Email Address:** Specify the email address that should receive notifications of failed XML transactions. The email that is sent will contain the full XML message and an indication of the reason for failure. If you do not specify a fallback email address, no failsafe will be in place in the event of a failure during XML notification to the external server.
 - **XML Fulfillment Fallback From Address:** Specify the email address from which the XML failsafe message should originate.
 - **XML Fulfillment Fallback CC Address:** Optionally specify an additional email address that should be cc'd on all XML transaction failure notifications.
 - **XML Fulfillment Fallback Email Title:** Specify the title of the email that is sent in the event of an XML transaction failure.

License Key Generation Configuration – Standard Fields

If you have placed a “custom_fulfillment_generator.mvc” in the fulfillment modules directory (via FTP), your Order Fulfillment Kit is now able to generate license keys for your products. The following configuration items are available for your license generation system regardless of the type of key generator you have installed. Note that the email configuration items shown below are only available if you choose to send a secondary email to your customers containing the license keys.

The suggested method of sending keys to your customers is to use the option “attach keys as an attribute of the product”. This way the keys are immediately made available to the customer both on the Miva Merchant Invoice screen as well as automatically in any order fulfillment email*.

The configuration items shown below affect the global configuration of the license key generator. Keys will not be created for any products until those products have key generation enabled.

*Note: In order for license keys to be shown in other fulfillment modules such as the standard customer fulfillment email, the Custom License Generator *must run first* in the list of fulfillment modules. A separate utility is provided with this module that you can use to determine the order of modules in your store without needing to uninstall and reinstall modules or manually manipulate your store databases.



License and Key Generation	
Attach License Key as Attribute to Product:	Yes ▾
Send Separate Email With License Keys:	Yes ▾
License Key Email From:	<input type="text" value="jharrell@copernicusllc.com"/>
Email Subject Line:	<input type="text" value="Online Order License Keys"/>
Email Header (Before License Keys):	<input type="text" value="Thank you for your order. Your product license keys are:"/> <input type="text"/>
Email Footer (After License Keys):	<input type="text"/>

- **Attach License Key as Attribute to Product:** When set to “Yes”, the license key generated by your key generator will be added into the customer invoice for each licensed product. The key (or keys if the quantity is greater than one) will appear as attributes of the product in the order invoice. When set to “No”, you *must* use the option to send the keys to the customer in a separate email or they will never receive the keys.
- **Send Separate Email With License Keys:** If this option is chosen, a second email will be sent to the customer’s shipping address that contains all of the license keys for the order. When this option is chosen the next four configuration items are also available. When this option is not chosen, the following four configuration items will be hidden.
- **License Key Email From:** Specify the “from” address for the email containing the license keys. This may originally default to the storeowner’s address.
- **Email Subject Line:** Specify the title of the email. This may contain tokens.
- **Email Header (Before License Keys):** Specify any header text you wish to appear in the license key email. This (and the footer) text may contain tokens.
- **Email Footer (After License Keys):** Specify any footer text you wish to appear.



License Key Generation Configuration – Custom Fields

The license generator that you have installed for your Order Fulfillment Kit may have special configuration parameters specific to the key generator. Please consult your developer for information on any configuration items that appear below the line that displays the name of the key generator you have installed. The following example shows the configuration items specific to the Random Key Generator supplied with this module.

Fulfillment Module Key Generator:	<i>Random Key Generator</i>
Key Prefix:	<input type="text"/>
Key Length:	<input type="text"/>

Random Key Generator: The Random Key Generator is an example generator supplied with this module, though it can easily be used for production systems. It simply generates a random key with a specified prefix. If you utilize the XML component to send the generated keys to your license server, then this example truly is usable in a production system.

- **Key Prefix:** A character sequence that will be the first letters of all keys generated.
- **Key Length:** Specify any number less than 10. Determines the length of the random number generated after the Key Prefix.



XML and Custom Key Fulfillment (Edit Product)

By default, no products are configured for key generation or file attachments. You must manually configure each product for which you want a license key generated or an attachment sent upon checkout. This allows the module to work in a mixed-use store where some products require key generation or email attachments while others do not.

Product [Images](#) [Related Products](#) [Attributes](#) [Upsold Products](#)
[Miva Marketplace](#) [Titles](#) [Headers & Footers](#) [CBS - Random Key Generator](#)

Product Code:

Product Name:

Price:

Cost:

Weight:

Description:

Taxable
 Active

License Key Fulfillment License Generation Enabled

Soft Goods File Attachment

For products that have attachments, insert the name of the attachment here (without the .b64 extension)

For products that require license key generation, check this box and click update.

After checking the box to enable license generation and clicking update, another tab will appear for the product. This tab will be named after the custom key generator you have installed. In this tab you can configure the product-specific key “salt” test the key generation algorithm.



File Attachment Configuration

As discussed in the theory section of this document, file attachments require preprocessing when used with Miva Script. Your file attachments should be first base64 encoded (as described in Appendix A), should have the suffix .b64, and should be FTP'd to your mivadata directory. For example, in the product configuration view pictured above, the initial distribution file is named CBS-SUPSHIPPING.zip. This file has been converted to a base64-encoded file using the utility in the distribution named b64encode.exe. The final filename of the base64-encoded zip file is CBS-SUPSHIPPING.zip.b64. This file was FTP'd into the mivadata directory. Finally, to cause this product to send the file CBS-SUPSHIPPING.zip as a file attachment, the **original** file name is inserted into Soft Goods File Attachment box. *Do not include the .b64 suffix when inserting the filename in this box. The filename in this box will be the name of the attachment file when your customers receive the email, thus it should be named after the original distribution file.*

Once you click "Update", the module will *add* the ".b64" extension to the file automatically, and will search for the file named "CBS-SUPSHIPPING.zip.b64" in your mivadata directory. If this file does not exist, the module will return an error. If it does exist, the base64-encoded file will be processed into the module cache. *This may take some time- do not interrupt the update; otherwise the file attachment may not work properly.* If the update times out and you receive an error indicating the file is too big to be used as an attachment, you can either reduce the size of the attachment or increase your server timeout. Remember, the cache processing time is much longer than it actually takes to send the attachment, so just because you need to increase the timeout on the server does *not necessarily* mean the file is too big to be used as an attachment.

Note: The maximum file size that can be used as an attachment with this system varies based on your server performance. However, as a rule of thumb, you should not send attachments that exceed a total of approximately 500kB using this system. Results will vary.

Note 2: Since the module caches the file attachments in order to speed up the delivery of the goods to your customers, if you ever need to update the attachment file for a product you must go into the product and click update again. The module will compare the file sizes of the base64-encoded file; if they differ, the file will be re-loaded into the cache. Simply updating the base64-encoded file in your mivadata directory is not sufficient to update the file sent with the product.



License Key Fulfillment Configuration

When using the example key generator, the tab is named "CBS - Random Key Generator". However, if you have installed a different key generator, the tab name and configuration items may be different. Click on this tab to configure the product specific key options. These will differ for your specific generator; however the following options are always available:

- **Key Salt Value:** This is a value that can be used by your specific key generator as a starting point for key generation. The default is the product code. (note: not all key generators will use this; however it is provided as most do require some form of product-specific private key in order to generate distinct codes based on the product)
- **Check Box to Generate Test Key:** When this box is checked and the update button is clicked, the key generator will create a valid key for the product based on test data. Note: If the key is based on dynamic or order-based information, the key generator module will provide input boxes in order for you to provide the necessary values for key generation.

To run a test to see if the license system is functioning properly, select the check box to generate a test key and click update. The test key should appear towards the bottom of the screen.

Edit Product: Product 2

[Product](#) [Images](#) [Related Products](#) [Attributes](#) [Upsold Products](#)
[OpenUI™ Titles](#) [Headers & Footers](#) [OpenAttributes™](#) [CBS - Payment SuperMod™](#) [CBS - Shipping SuperMod™](#)

CBS - Random Key Generator

COPERNICUS™ BUSINESS SYSTEMS **CBS - Custom Fulfillment Key Generator (v4.53)**
Build Timestamp: 2003-10-28 14:21:14

Product Info | Documentation | Release Notes | Updates | More Products

Key: TRIAL | Module Integrity: GOOD (233113)

Key Salt Value:

Check Box to Generate Test Key:

PURCHASE | PRODUCTS | PARTNERS | DOCS | SUPPORT | COMPANY
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Appendix A – Preparing base64 Encoded Attachments

Since the Miva Script language does not provide the necessary binary file utilities to generate MIME compatible attachment files automatically, your attachments must be prepared ahead of time in order for your store to be able to send them as attachments to your customers. Internet email attachments are generally sent in “base64” encoded format. While it is generally not necessary for *you* to understand this formatting, it is necessary for your attachment files to be available in this format prior to using them as attachments.

Once the attachment file is prepared, the extension “.b64” will be added to the file name. For example, if an attachment is named “copernicus.pdf”, the base64 encoded file will then be named “copernicus.pdf.b64”. Once prepared, the file should be FTP’d to your mivadata directory.

We have provided a Win32 utility to convert your attachment files to base64-encoded format. Unix/Linux users may already have a base64 encoder program available on their servers.

Unix: Place the file attachment in your mivadata directory, or transfer the encoded file to your mivadata directory after you perform the following encoding. This example encodes the file “filename.ext” as a base64 encoded file and names it “filename.ext.b64”:

```
mimencode filename.ext > filename.ext.b64
```

Win32: A small base64 encode utility for Win32 is included in the distribution named b64encode.exe. Place this application in the root directory of your “c” drive (or any other preferred location) for use on your Win32 computer. This utility performs the necessary base64 encoding as shown in the following example. This example encodes the file “filename.ext” as a base64 encoded file and names it “filename.ext.b64”:

```
c:\path\to\b64encode filename.ext
```



Appendix B: External Key Generator API

The Order Fulfillment Kit can be customized to your precise license generation system by using a custom key generator. The custom key generator is a standalone Miva Script program that has the following functions defined. If you use Miva Merchant 4.00-4.13, the program should be named `custom_fulfillment_generator.mv`. If you use Miva Merchant 4.14+, the program should be compiled and named `custom_fulfillment_generator.mvc`. Once this file is placed on your web server in the same directory as the fulfillment modules, it will be available to your Order Fulfillment Kit for license generation. Your external fulfillment generator must provide the following functions:

External Key Generator API – Required Functions

fulfillmentGenerator_Name()

Returns the name of the generator, ex: “Random Key Generator”

fulfillmentGenerator_Store_Content()

Displays the store configuration content for the key generator in the Order Fulfillment Kit configuration tab of the store. Return 1 on success.

fulfillmentGenerator_Product_Content(product_id)

Displays the product configuration content for the key generator in the custom key generator tab of the product configuration. Return 1 on success.

fulfillmentGenerator_loadProductFields(product_id)

Called by the Order Fulfillment Kit when loading product specific configuration data in the product configuration screen.

fulfillmentGenerator_hideProductFields(product_id)

Called by the Order Fulfillment Kit when hiding product specific configuration data in the product configuration screen (while not on the key generator tab).

fulfillmentGenerator_ProductUpdate(product_id)

Called by the Order Fulfillment Kit when updating a product configuration. No return value is checked, so this update must be able to fail gracefully.

fulfillmentGenerator_varlist()

Returns a comma separated list of global configuration variable names for the generator.

fulfillmentGenerator_setDefaults()

Called during generator initial installation. The key generator should set default values for all global configuration variables of the generator.



fulfillmentGenerator_TestFields

Used to display any HTML or input variables required to successfully run a key generation test. This is displayed on the product key generation configuration tab beneath the checkbox for generating a test key.

fulfillmentGenerator_generateKey

Generates and returns a single key for the current Order Item. Will be called as many times as the quantity of the current line item (so only generate one key per call). Also called during generation of test keys.

fulfillmentGenerator_keyMessage

Returns a message (for each key) to be added to the additional customer key email if the secondary email delivery mechanism is used. If this function does not return text for the email, the standard entry is used, ex:

```
Product: [product name]  
License Key: [key]
```



Appendix C: XML Generator API

The Order Fulfillment Kit can be customized to your precise XML specifications by using a custom XML generator. The custom XML generator is a standalone Miva Script program that has the following function defined. If you use Miva Merchant 4.00-4.13, the program should be named `custom_fulfillment_xml.mv`. If you use Miva Merchant 4.14+, the program should be compiled and named `custom_fulfillment_xml.mvc`. Once this file is placed on your web server in the same directory as the fulfillment modules, it will be available to your Order Fulfillment Kit to notify your external CGI or other web server application of your orders immediately as they are generated. Your external XML generator must provide the following function:

External XML Generator – Required Functions

SendXML(url,allprds)

The sole function required by the external XML generator. The purpose of this function is to:

1. Scroll through the current order items one at a time
2. Generate the XML for the order notification to your specifications
3. Send the XML to the external URL
4. Validate the reply from the external system to your specifications
5. Provide the failsafe fallback email notification if desired

The example generator provided in the XML source kit should be used as the basis for your external XML generator and can be customized to your needs.

Appendix D – Supplemental Module

An additional module is supplied with the Order Fulfillment Kit named the Module Organizer (`module_organizer.mv` or `.mvc`). This module can be used to reorganize the order in which various modules in your store are called. Once installed in the domain, it can be accessed as a store wizard module in each of the stores in your domain.

Miva Merchant runs most modules, including fulfillment modules, in last-in-first-out (LIFO) order. In the event you install another fulfillment module after installing the Order Fulfillment Kit, you may need to use this small utility to ensure the Order Fulfillment Kit runs before all other fulfillment modules. This way the license keys that are added as attributes to the products in the order will appear in all other fulfillment modules that run after the Order Fulfillment Kit. This module may also be useful to assist in resolving conflicts between other modules due to the order in which they are run.

If you are not comfortable using this utility or do not understand the implications of module ordering, please consult a Miva Merchant developer for assistance in using this utility.



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