

# **Integration Bridge for MSCRM**

## User Manual

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# INTEGRATION BRIDGE FOR MSCRM

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# INTEGRATION BRIDGE FOR MSCRM

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## overview

### Introduction

Integration Bridge from Nolan Computers provides an interface between a Front Office system and Great Plains Back Office

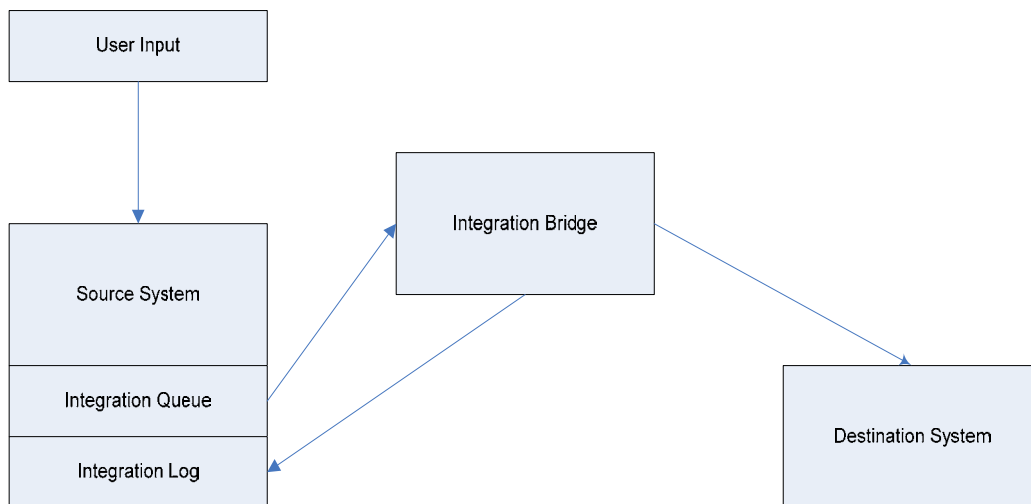
In this release, the supported Front Office system is Microsoft Customer Relationship Management (MSCRM)

Using the Integration Bridge, new accounts (customers) created in either front or back office will be created in the other system.

Once created, account data can be maintained in the front or back office, and changes will automatically be reproduced in the other system office.

### Process Flow

The diagram below gives an overall view of how the Integration Bridge captures updates in one system, and reproduces those changes in the other system.



As the basic process flow is the same whether integration data from Front Office to Back Office or vice versa, the diagram just shows 'source' and 'destination'.

When the user creates or amends data in the source system, server-side triggers on the source system capture the update and create an Integration record in the Integration Queue.

The Integration Bridge is continually watching the Integration Queues on both systems, so when a record is created in the queue the Integration Bridge will read the record and determine which process needs running.

The appropriate integration process is then started, which retrieves the data from the source system and copies it to the destination system, using the field mappings defined within the Integration Bridge configuration.

Integration activity (and success or failure) is recorded in the Integration Log.

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Integration Bridge currently supports the following integration processes:

New/Updated Accounts from front office to Customers in back office

New/Updated Customers from back office to Accounts in front office

New/Updated Account Addresses from front office to back office

New/Updated Customer Addresses from back office to front office

New/Updated Item from back office to Products in front office

New/Updated Item Pricing from back office to front office \*

New Sales Orders from front office to SOP Orders in back office

SOP Order Status updates from back office to front office

## **With Great Plain to MSCRM Sales Document Plugin**

SOP Orders from back office to Sales Orders in front office

SOP Invoices from back office to Invoices in front office

SOP Quotes from back office to Quotes in front office

\* Only Great Plains standard pricing is supported

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## installation procedures

### System Requirements

The Integration Bridge software should be installed on a workstation (or server) which has access to all the Front Office and Back Office servers (i.e. can log in to the SQL databases on the servers, and can access the MSCRM Web Server)

The Integration Bridge machine should be running Windows 2000 (Server or Workstation), Windows XP or Windows 2003

Other requirements are as follows:

Front Office Client installed (Microsoft CRM V1.20 or CRM V3.00)

Back Office Client installed (Great Plains v6.00, 7.00, 7.50 ,8.00 or 9.00) (this can be a separate machine if desired)

Microsoft .NET Framework (V1.1)

### System Components

The Integration Bridge software consists of six main components:

- Integration Bridge Configuration Console (Windows Application)
- Integration Bridge Windows Service
- Integration Bridge Callout Link is a COM+ Component (MSCRM V1.2) or .NET Assembly (MSCRM V3.00) supporting Microsoft CRM 'Callouts'
- Integration Bridge CRM Listener Windows Service
- SOP Import module for Great Plains
- SQL Triggers to capture activity in Great Plains

The Integration Bridge application is used to configure the integration processes and field mappings, real-time Integration Service activity can also be seen here. A log viewer with query tool is provided to allow Integration Logs to be interrogated.

The Integration Bridge Service actually runs the integration processes. Each Business Unit/Company mapping has its own instance of the service. All configuration of the services is done through the Integration Bridge application

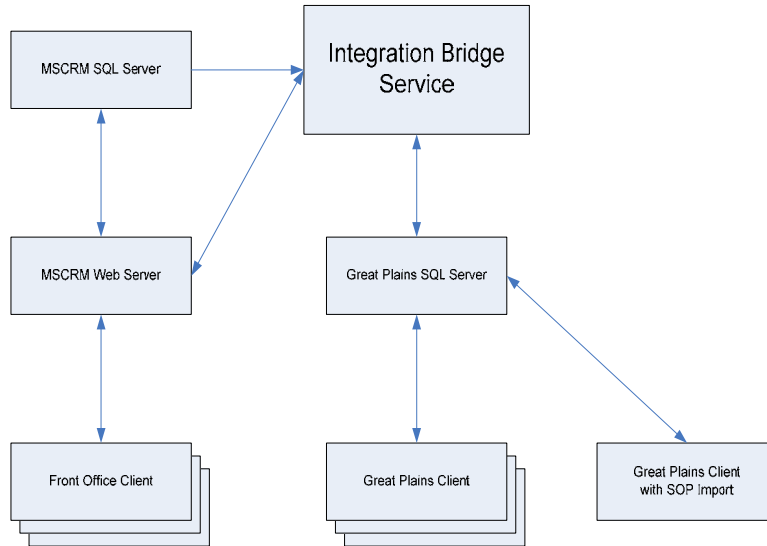
The Integration Bridge Callout Link component needs to be install on the MSCRM server, this is called by MSCRM when Database events happen. This passes these on to the Integration Bridge Listening service which actually logs them in the Integration Bridge Queue.

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## System Structure

The following diagram illustrates the relationship between the servers, clients and Integration Bridge components (see next page for notes):



The Integration Bridge software may be run on any one of the machines, provided it has access to the database servers.

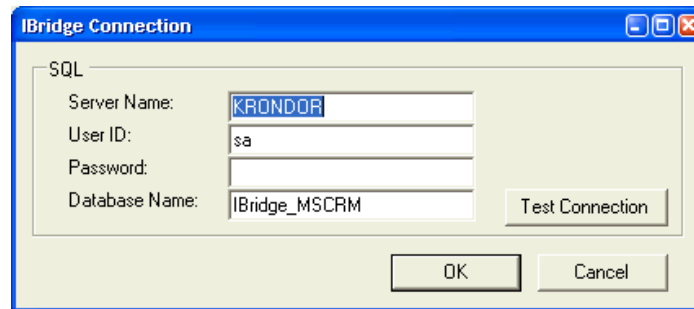
The servers can be independent or combined.

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## Installation of Integration Bridge

1. Run the provided install application, MSCRMIntegrationBridge.exe  
This will request a path to install to. The install process will then install the application files.
2. Start the Integration Bridge application – by default this is added to your program groups in a Nolan Computers folder.
3. As this is the first time the application has been started, it will indicate that SQL objects must be installed. The Integration Bridge requires a SQL server to install its Configuration Database to, this can be one of the MSCRM or Great Plains SQL servers or a separate server (It must be Microsoft SQL Server, using SQL Logins). Click 'Yes' to continue and it will automatically prompt for connection information.
4. Enter the SQL Server connection details in the following dialog



5. Once the connection information has been entered, click OK. Integration Bridge will then build it's Database and load the SQL Objects.
6. Once SQL objects have been created, a message will be displayed indicating installation is complete. If any errors are encountered during the installation, please double-check all the connection details

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## Installation of the Listening service and Callout link component

Both these component must be installed on the MSCRM Server, eg where the MSCRM services are running.

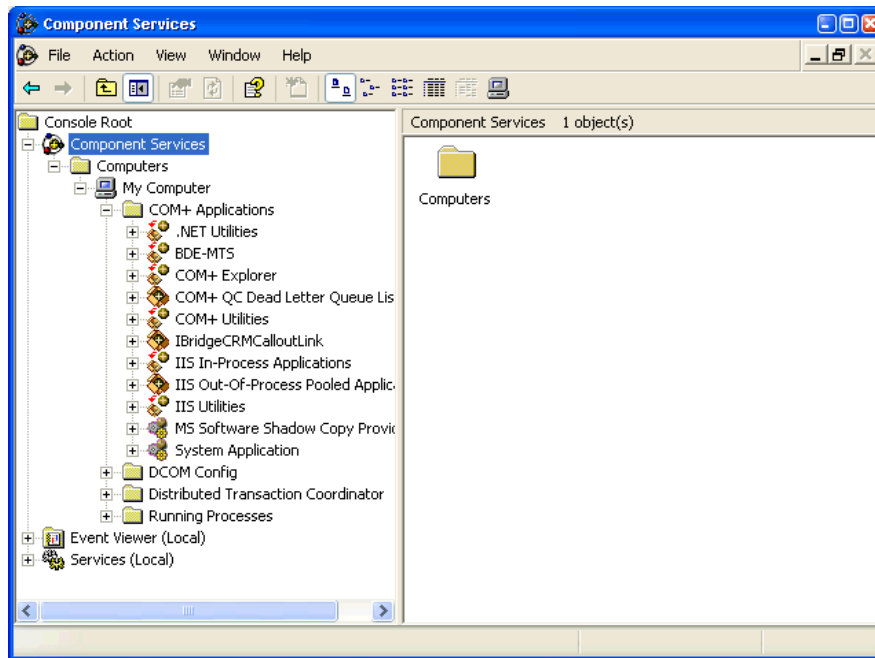
1. Run the provided install application, MSCRMIBridgeCRMLink.exe

This will request a path to install to. If you are installing to the same machine as Integration Bridge, install into the same directory as Integration Bridge.

The install process will then install the application files.

### For MSCRM V1.2 Only:

Once the install has completed it will register a new COM+ Component called *IBridgeCRMCalloutLink* To verify that these components are installed and working correctly, open Control Panel, Administrative Tools, Component Services.



*IBridgeCRMCalloutLink* should be listed under Component Services as above, to check it is correctly installed, right click on it and select 'Start'. If no errors are reported it is OK.

If the *IBridgeCRMCalloutLink* is not showing or will not start see Appendix C. For trouble shooting problems with the COM+ Component.

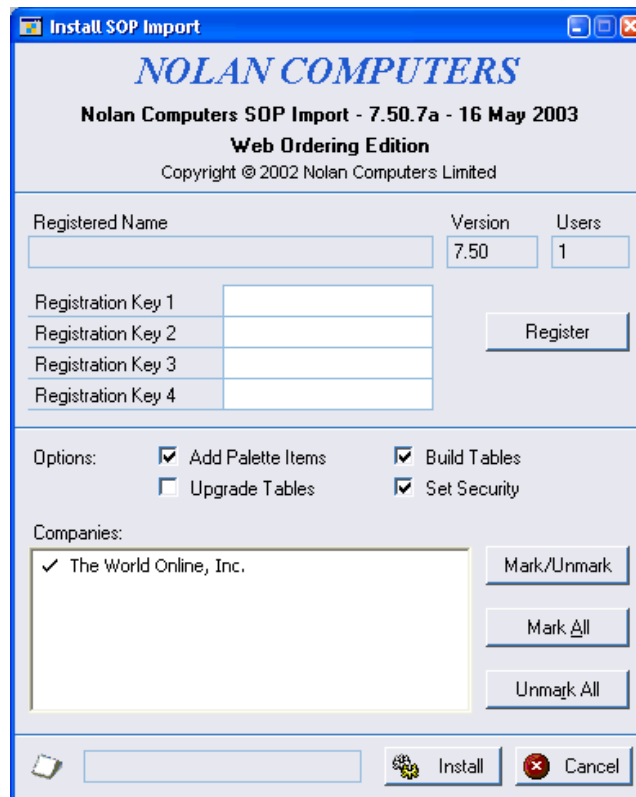
2. A new windows service called *IBridgeCRMListener* will also have been installed. This manages the 'Callout' activity from MSCRM and transfers events to the Integration Bridge queue.
3. **You must manually start this service with Service Manager. Control Panel >Administrative Tools > Services. Find the *IBridgeCRMListener*, set it's 'Startup type' to 'Automatic' and start the service.**

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## Installation of SOP Import

1. Run the provided install application, SOP\_Imp\_Web.exe  
This will request a path to install to, and then install the SOP Import module.
2. Start Great Plains. It will prompt you to Include New Code – click Yes to continue the install.
3. Login as the 'sa' user – the install window for SOP Import should automatically add itself to your Shortcut bar (Nolan Computers\Install SOP Import). If the window is not added to your shortcuts, add the following window manually:  
Nolan Computers SOP Import >> Company >> Install SOP Import
4. Open the Install SOP Import window.



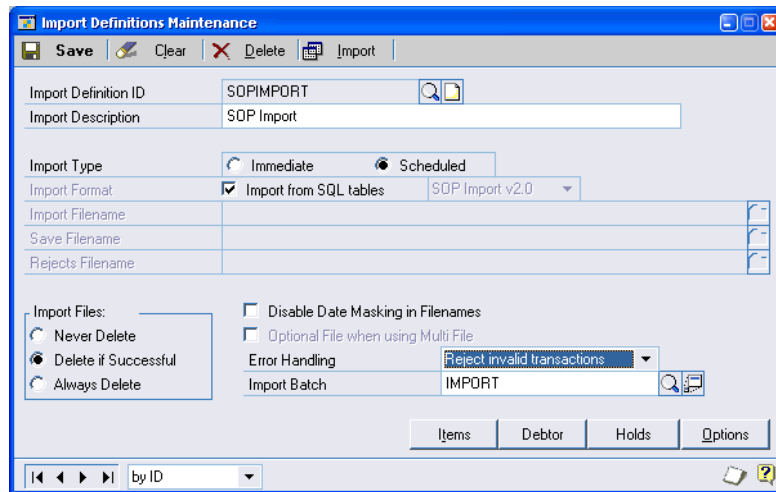
5. To register SOP Import, enter your **8 Digit Registration Keys** in the fields provided (You will have received these Registration Keys with your purchase of SOP Import). This is required to enable use of SOP Import in companies other than the lesson company The World Online, Inc.

**Note:** The registration keys may have a built in expiry date. This information is displayed at the bottom of the window (to the left of the Install button).

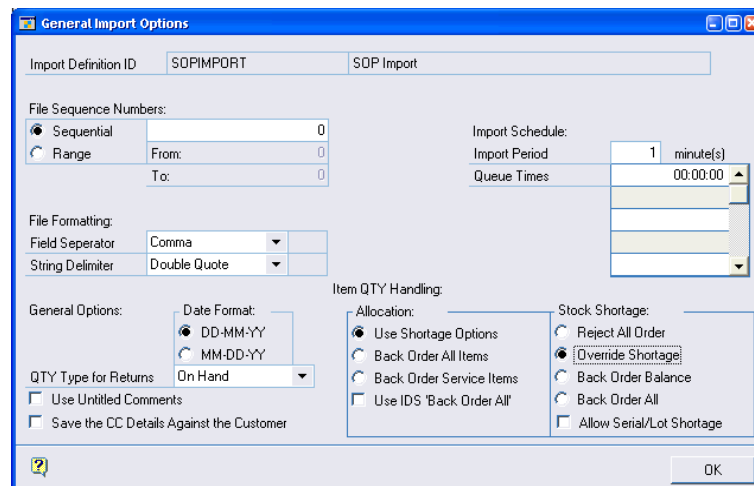
6. Click on the **Register Button**, you will receive a message indicating that the Registration was successful.

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- The **Add Palette Items** option determines if the install should automatically place entries for SOP Import into the appropriate palettes.
- Make sure the **Build Tables** option is ticked to create the tables on SQL, set permissions to them correctly and install stored procedures.
- Use the **Mark/Unmark, Mark All** and **Unmark All** buttons to mark all the companies to install SOP Import to. Finally, push the **Install** button.
- The Import Definition for Integration Bridge must now be created and configured. Open the Import Definitions window from Cards >> Sales >> SOP Import Maint.



- Enter an Import Definition ID and Description. Set the Import Type to Scheduled, and tick 'Import from SQL Tables'. Set the Import Files and Error Handling options as shown, and pick a Sales Batch to hold the imported orders.
- Click on the Options button to open the General Import Options window.



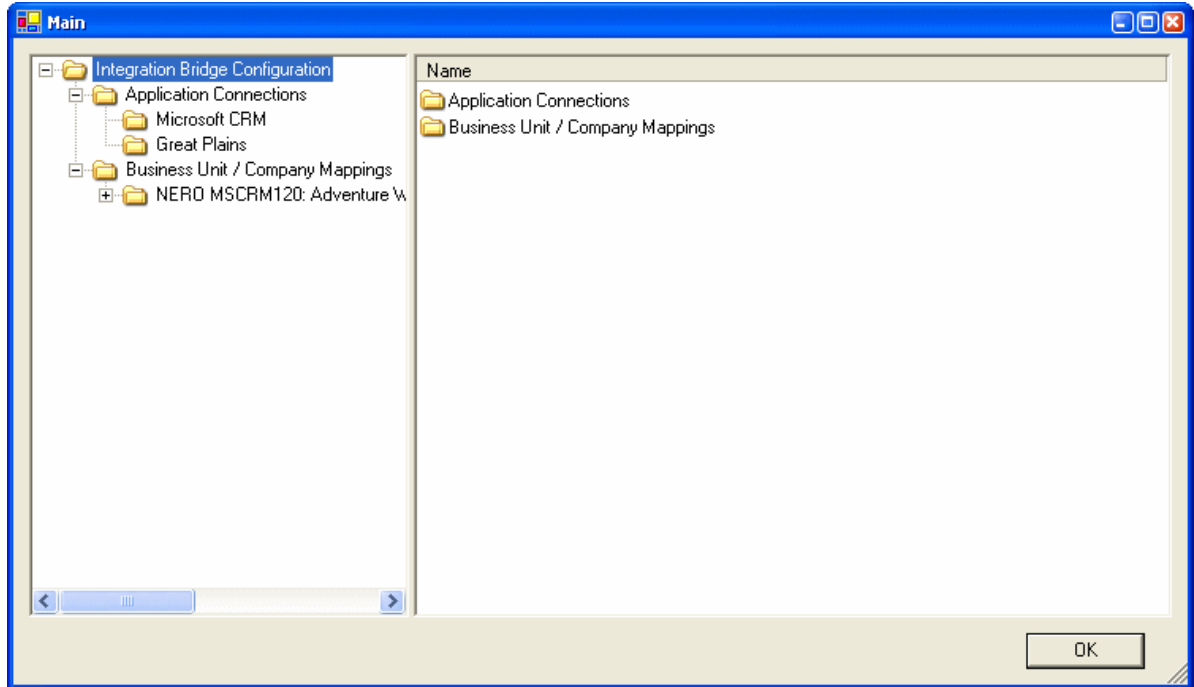
- Set the other settings as shown, and pick your preferred Stock Shortage option (although Reject All Order is not recommended for Integration Bridge). Click OK to save these settings and return to the Import Definitions window.
- Click Save to save the import definition.

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## integration bridge configuration

Integration Bridge allows integration between multiple MSCRM Deployments with multiple Business Units and Multiple Great Plains Servers with multiple Companies. You must define at least one mapping between a MSCRM Business Unit and Great Plains company for the Integration to run. To access the configuration screens select

Setup->Integration Configuration



The first step is to define connections to the MSCRM and Great Plains servers.

### **Application Connections > Microsoft CRM**

Right click on the right hand side of the window for the available actions. You can use this selection to Add, Edit and Delete Connections to MSCRM Servers.

Note: You cannot delete a MSCRM Connection which has a Business Unit mapped to a Great Plains company, you must first delete the Business Unit/Company Mapping.

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To add a new connection, select Add from the menu.

Configure Microsoft CRM Connection

Connection Name: VSCRM1 MSCRM

MSCRM Web Server Name: VSCRM1

MSCRM Virtual Directory: MSCRMservices

SQL Connection

Security:  SQL Login  Trusted Login (Windows)

Server Name: VSCRM1

User ID: sa

Password:

Database Name: Microsoft\_CRM\_MSCRM Test Connection

MSCRM Login User Mode:  Direct Create  Assign To

'Assign To' Mode (Global Server and User Setup)

CRM User Name: IBridge User

NT User Name: ibridge

NT Domain: vscrm1 domain

NT Password:

OK Cancel

Enter a Connection Name, through the rest of the configuration process this connection will be referred to using this name.

Enter the MSCRM Web Server you wish this Integration to processed through, this is the URL you use to run MSCRM without the Http section. eg. If you use http://VSCRM1 then it would be VSCRM1.

In Server Name enter the name of the MSCRM SQL Server.

If you are using trusted login to the SQL server, eg window authentication you will not need to enter a user id and password.

If you are using SQL Login to the SQL server the login you provide you must ensure it has rights to access the MSCRM and METABASE databases, as Integration Bridge reads the METABASE database to find out the definition of the MSCRM Objects.

You can then use the Test Connection button, to check the connection information is valid.

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Integration Bridge supports 2 different Modes for Login to the Microsoft CRM Server:

'Direct Create' In this mode a separate MSCRM User is required for EACH BusinessUnit/Company mapping, the user must be a member of the BusinessUnit mapped and no 'real' user or process can use this user in CRM. NOTE: This means a MSCRM License will be used up on each user.

Records created by Integration Bridge will be creating using this user, so will acquire the users Business Unit. This mode is slightly quicker at creating records as no additional processing is required after the record has been create.

'Assign To' In this mode one user is used to login to MSCRM, all the BusinessUnit/Company mapping use this same user. This user requires a MSCRM License, and no 'real' user or process can use this user in CRM. NOTE: This means only 1 MSCRM License is required.

Records created by Integration Bridge will be created by the Integration Bridge user, but will be immediately Assign to the user selected at the mapped Business Unit level. Any user who belongs to the mapped Business Unit can be used for this. They will own all records created by Integration Bridge.

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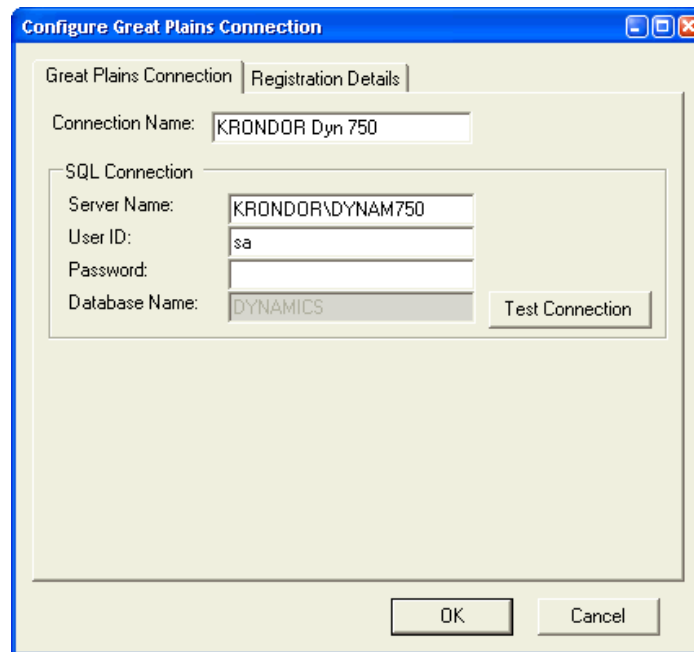
## Application Connections > Great Plains

Right click on the right hand side of the window for the available actions. You can use this selection to Add, Edit and Delete Connections to Great Plains Servers

Note: You cannot delete a Great Plains Connection which has a Company mapped to a MSCRM Business Unit, you must first delete the Business Unit/Company Mapping.

In this window you can define new Great Plains Server connections, edit existing connection and delete connections.

To add a new connection, click on the Add button.



Enter a Connection Name, through the rest of the configuration process this connection will be referred to using this name.

The User ID provided should have rights to create objects on the Great Plains SQL Server.

The test connection button will attempt to connect to the SQL server using the connection information provided, before leaving this window ensure the connection information is correct by using this button.

The Registration Details tab will display the current registration information and the fields for entry of the registration keys. Without valid registration keys Integration Bridge will only operate with the Great Plains lesson company, The World Online.

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## Business Unit / Company Mappings

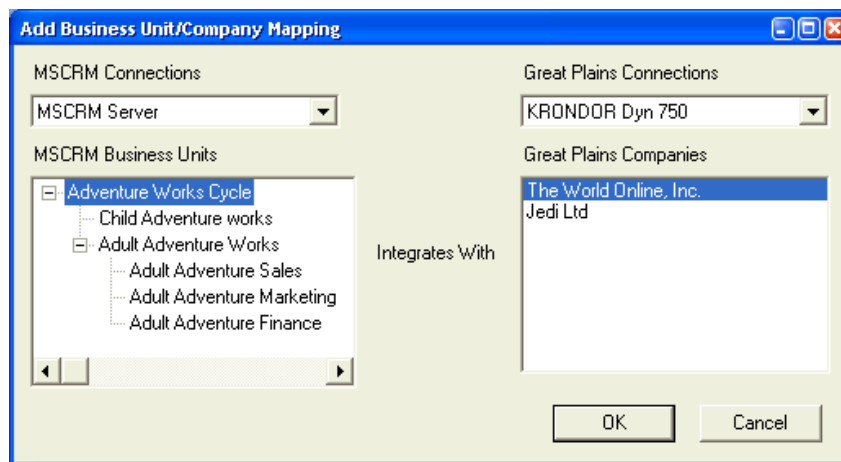
Use this selection to setup MSCRM Business Unit to Great Plains Company mappings.

Right click on the right hand side of the window for the available actions.

You can use this selection to Add and Delete mappings. The properties of a Mapping provides access to the integrations (including field mappings) for existing mappings. You can also edit the MSCRM Login Details for a mapping.

To add a new mappings select Add from the context menu.

In this window you can define a new link between a MSCRM Business Unit and a Great Plains Company.



The MSCRM connections appear in the drop down list in the top left corner and Great Plains connections in the top right corner.

Select a MSCRM Business Unit from the left hand panel and a Great Plains company from the right hand panel.

E.g.: If you selected 'Adventure Works Cycle' and 'The World Online, Inc.' and clicked OK to add this mapping it would mean that records entered against the 'Adventure Works Cycle' Business Unit and all its child Business Units in MSCRM would be integrated with 'The World Online, Inc.' Company in Great Plains.

**NOTE:** Although any record from the Business Unit or its child Business Units will be integrated to Great Plains, when records are created in MSCRM they will be created belonging to the mapped Business Unit

Any number of mappings can be setup in this window however the mapping is one-to-one therefore a Business Unit (And its list of child Business Units) or Company can only be mapped once. Parent Business Units of mapped Units cannot be mapped either.

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When you select OK from this window, you will be prompted for additional information for the MSCRM Information for this mapping,

The screenshot shows a dialog box titled "Login Details for Business Unit". It is divided into two main sections. The first section is titled "Business Unit (Child 1) Login for 'Direct Create'" and contains the following fields: "MSCRM Web Server Name" (text input), "MSCRM Virtual Directory" (text input with "MSCRMServices" entered), "CRM User Name" (dropdown menu), "NT User Name" (text input), "NT Domain" (text input), and "NT Password" (text input). The second section is titled "Business Unit (Child 1) User for 'Assign To'" and contains a "CRM User Name" dropdown menu. At the bottom of the dialog are "OK" and "Cancel" buttons.

## Login Mode (Direct Create)

In this mode a different user is required for each mapped Business Unit, the CRM Web server is also defined at this point.

Enter the Name Web Server you wish this Integration to be processed though, this is the URL you use to run MSCRM without the Http section. eg. If you use `http://VSCRM1` then it would be VSCRM1.

Because the Business Unit a record belongs to in MSCRM is based on the Business Unit of the User which owns it. You must enter a user who is part of the Business Unit that was mapped, the MSCRM User Name dropdown contains a list of these. This user must be reserved for Integration Bridge, no real user must use this. As this is how Integration Bridge determines if an update to a record was by a user or itself, updates by the Integration Bridge user are ignored.

You must enter the password for this user too. This information is used by the Integration Service to login to the MSCRM Server as if it was that user.

## Login Mode (Assign To)

In this mode a global user is used to create the record, it is then immediately Assign to the user selected here. Only users belong to the mapped Business Unit are available, and one MUST be specified.

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## **Multiple Mapped Business Unit/Companies**

Where multiple Business Units/Companies are mapped, the impact of 'Assigning' MSCRM record to users in different Business Units must be considered. Because the Business Unit that a record belongs to is based on the Business Unit of the User which owns it. Assigning a record alters its Business Unit.

eg. For the following situation

User A in Business Unit A is mapped to Great Plains Company A.

User B in Business Unit B is mapped to Great Plains Company B.

If a MSCRM record belonging to User A was Assigned to User B, it's Business Unit would change and Integration Bridge would now Integrate it with Great Plains Company B. This can cause data linking problems as the Link to Great Plains Company A would be forgotten in favour of the new link!

Once all the information has been entered click OK.

By Default all the Integrations are enabled, the Great Plains SQL Triggers required to track changes to the data will be loaded on Great Plains.

Integration processes and field mappings are specific to each Business Unit/Company mapping created.

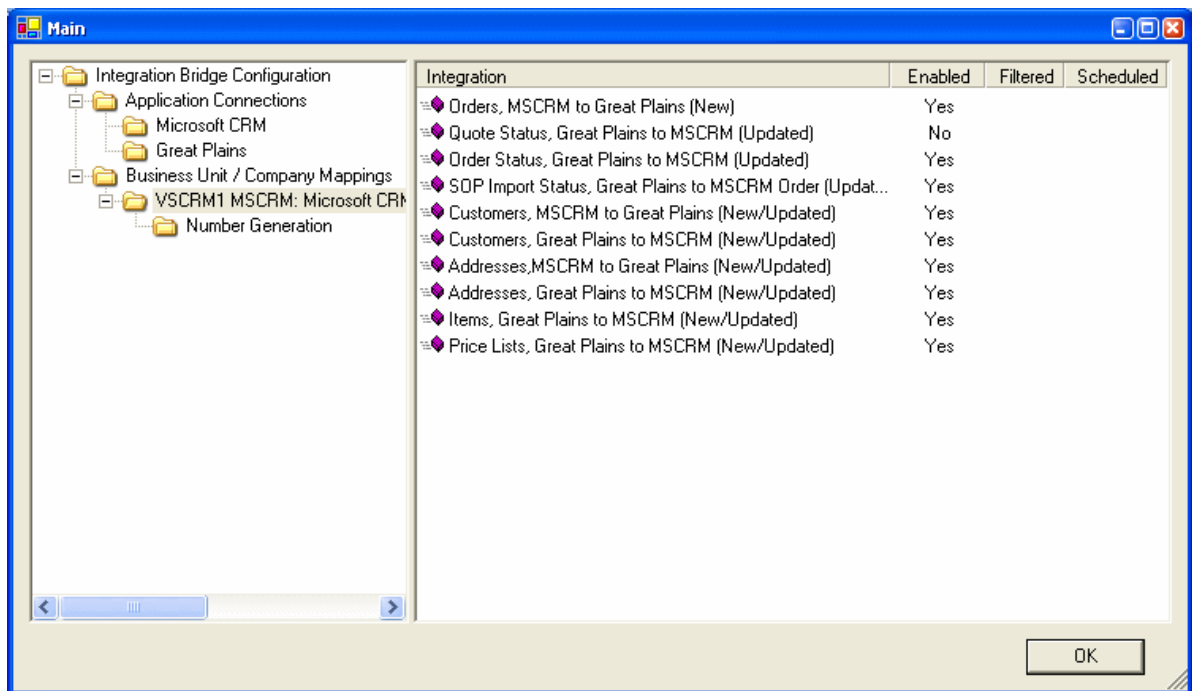
# INTEGRATION BRIDGE FOR MSCRM

## Integration Properties

Right click on the Integrations in right hand side of the window for the available actions.

You can use this section to:

- Enable/Disable Integrations.
- Enable/Disable Filters and Edit Filter scripts
- Enable/Disable Scheduling for integrations and alter Schedule settings
- Edit Field Mappings
- Edit Integration Event Scripts
- Edit Filter Scripts
- Edit Integration Triggers for certain MSCRM Integrations
- Edit Properties of Integrations with further options



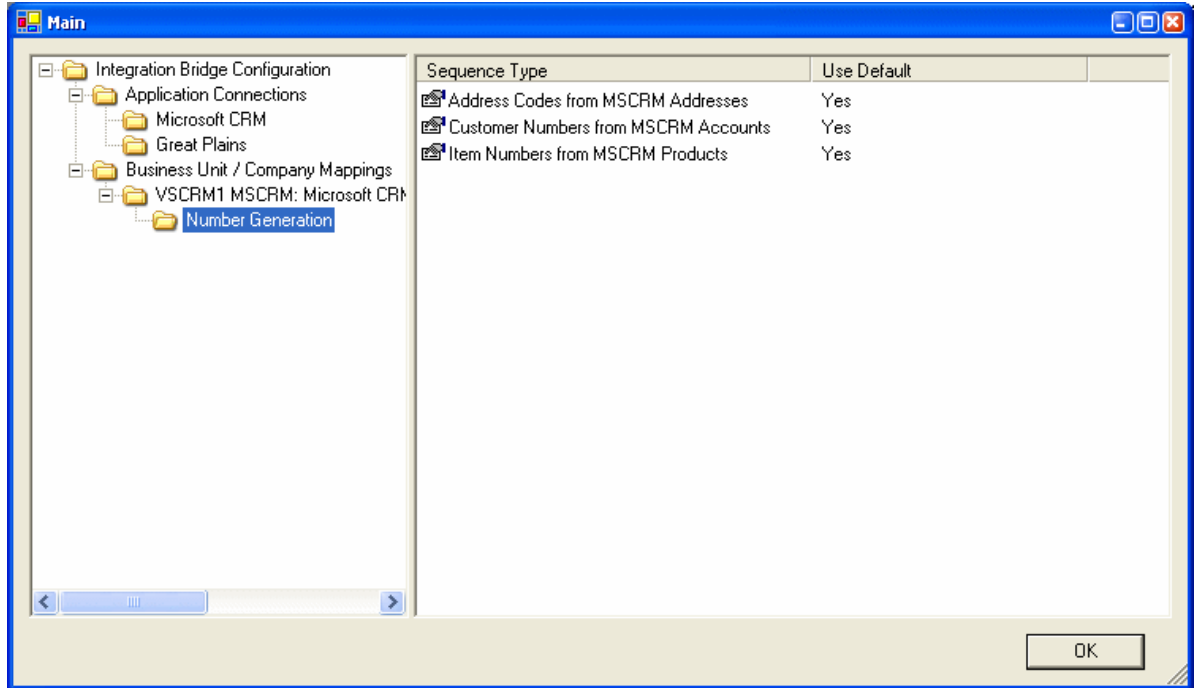
The available integrations are displayed in the scrolling window.

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## Number Generation

When the Integration Bridge creates new Customers, Items and Addresses in Great Plains you can control how it builds the Unique numbers for each of these records.



Each of the record types has a default which the Integration Bridge will use if no specific function is provided

For Customers

Great Plains Customer Number is the first 8 non-space, capitalised characters from the Account Name field + a 4 digit Unique Number

For Addresses

Great Plain Address Code is the ADDRESS + a 4 digit Unique Number

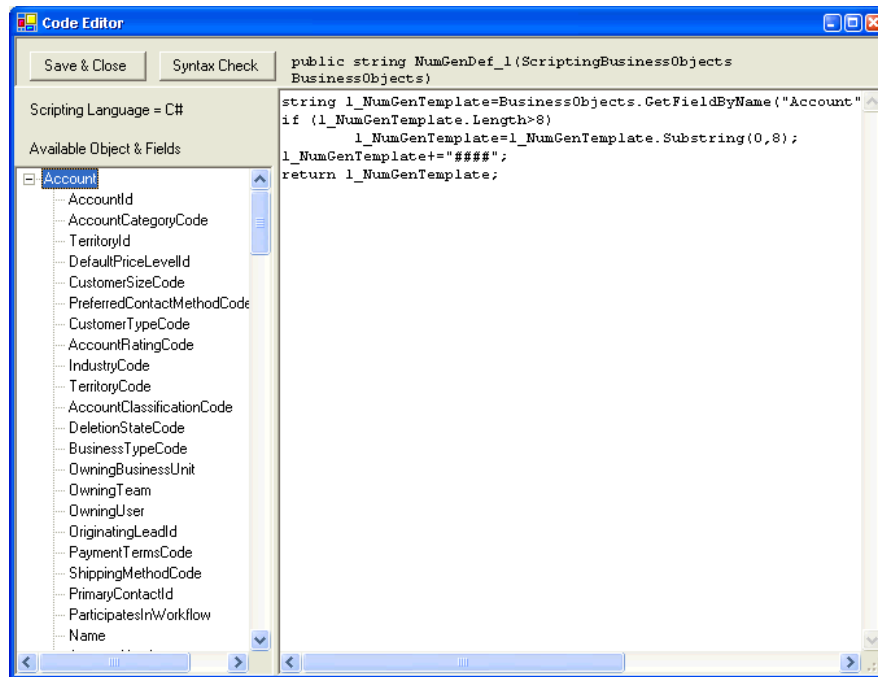
For Items

Great Plains Item Number is the first 8 non-space, capitalised characters from the Product Name field + a 4 digit Unique Number

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If you wish to change these right click on the item and select 'Custom' from the context menu. A new option will then be available in the context menu to edit the script. (The code editor window will open). This window allows you to write a C# Script function to make a template which Integration Bridge uses to build the Key Field Number. Integration Bridge will automatically fill the code window with the C# code for the default behaviour.



If you enter the following code

```
return BusinessObjects.GetFieldName("Account","Name")+"####"
```

The function built by Integration Bridge using this would be

```
public string NumGenDef_1(ScriptingBusinessObjects BusinessObjects)
{
    return BusinessObjects.GetFieldName("Account","Name")+"####";
}
```

The function must return a string in the form 'XXXXXX####' where 'X' represents constant characters and # will be replaced by the Integration Bridge with the next unique number. If the result does not have any # in it, or all the combinations are already in use, Integration Bridge attempts to create the record using just the constant – this may however be a duplicate of a record already on the system and will result in the integration failing.

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The 'Available Objects and fields' section at the top of the window shows you which BusinessObjects will be available when the Integration Bridge is running the Number Generation code. By expanding them you can see the fields within each object. If you double click on a field it will insert the code required to retrieve that field at the current cursor position.

Additionally, the following code may be used to retrieve at runtime the database name of the back office company being integrated to:

```
BusinessObjects.DynCompDatabase();
```

For example, the script:

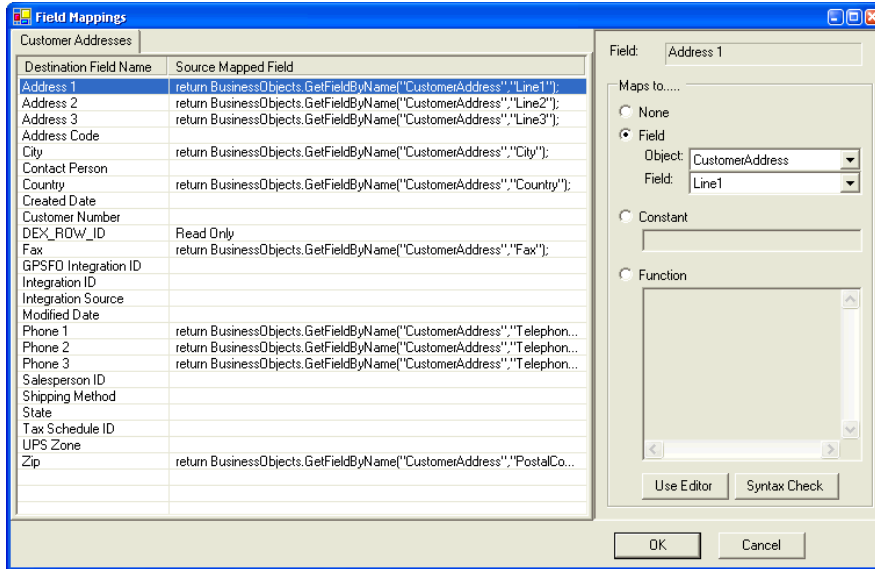
```
BusinessObjects.DynCompDatabase() + "####";
```

Would return a customer number in the form 'TWO0001' when integrating to The World Online.

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## Field Mappings

To alter the way in which fields are mapped between the MSCRM and Great Plains Objects select 'Edit Field Mappings' from the context menu on Integrations. The example below is for the MSCRM Address to Great Plains Address process.



The field mappings window shows the destination fields in the scrolling list on the left of the window, together with any currently defined mapping. Where multiple destination records are available (e.g. order headers and order lines), tabs at the top of the window allow you to switch between them.

Selecting a row in the list will populate the fields on the right with any current mapping, and allow you to enter or edit the mapping for the field. When mapping a field, the source data can be 'None' (no value is provided for the destination field), a source field, a constant value or a calculated expression (function).

If you select the 'Field' option, the Table drop down list will show the available source tables (or MSCRM Objects) that a value may be read from. Once you have selected the source table, the Field drop down list shows the available fields within that table. Select a field to complete the mapping.

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The 'Function' option allows you to combine fields, with other fields or constant values. For example, when setting a field on a MSCRM object, you may wish to use all two field from Great Plains. This would be entered as follows:

```
return BusinessObjects.GetFieldByName("Customer Master","Field 1")+  
BusinessObjects.GetFieldByName("Customer Master","Field 2");
```

This option uses *c#* to evaluate the expression, so any code entered must be *c#* compliant, values can be returned from a function by using the **return** key word.

Note: At runtime, the expression entered is inserted into a script generated by the application, as shown below:

```
public string FieldMapping(ScriptingBusinessObject BusinessObjects)  
{  
    <expression goes here>  
}
```

So, providing an expression of 'return 123.45;' would produce the code:

```
public string FieldMapping(ScriptingBusinessObject BusinessObjects)  
{  
    return 123.45;  
}
```

This does mean that expressions can be more complex if required, to handle conditional values or extended calculations, e.g.:

```
Public string FieldMapping(ScriptingBusinessObject BusinessObjects)  
{  
    string l_Result="Active";  
    if (BusinessObjects.GetFieldByName("Customer Master","Inactive")==="1")  
        l_Result="Inactive";  
    return l_Result;  
}
```

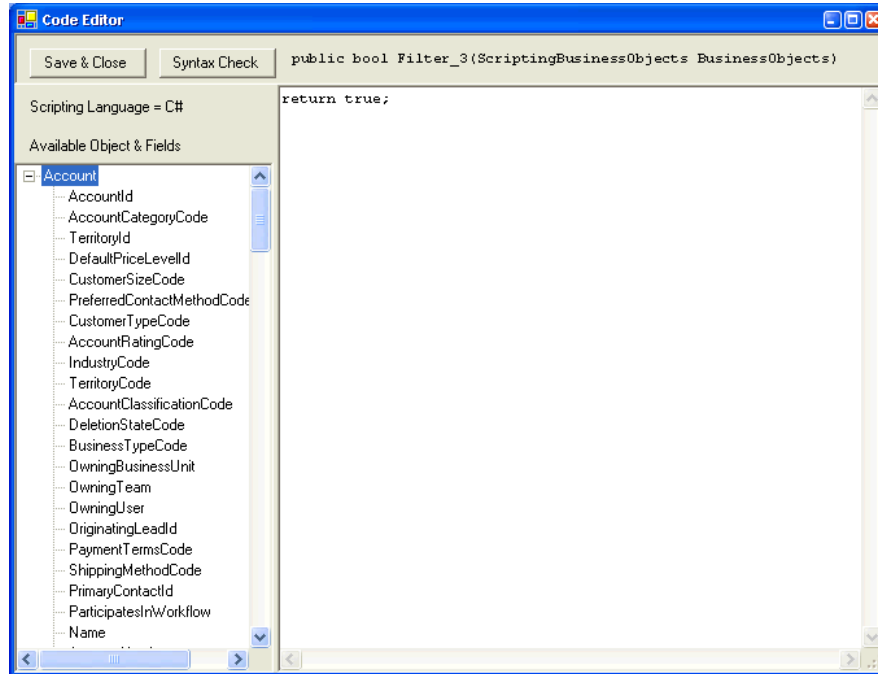
(You would only enter the bold text in the expression field.)

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## Record Filters

To alter the filters for an Integration select 'Edit Filter' from the context menu on an Integration. The Filter editing window will open. NOTE: For a filter to take effect you must Enable the filter against the Integration too.



The expression entered should be in a form such that the result is a Boolean True or False. E.g.

```
return (BusinessObjects.GetFieldByName("Account", "Name")=="Fred");
```

Would mean that only accounts with a name of 'Fred' would be integrated.

To allow easier entry of the expression you can use the 'Available Objects and fields' tree view at the top of the window, double clicking on a field will enter code for that Object and Field at the current insertion point in the Function Edit box.

You can use the Syntax check to do a quick check of the code to ensure it is legal C# code.

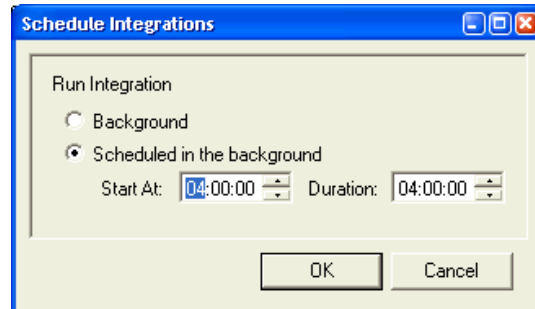
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## Scheduling Integrations and Background

To alter the schedule for an Integration select 'Edit Schedule' from the context menu on an Integration. The Schedule editing window will open. NOTE: For a schedule to take effect you must Enable the schedule against the Integration too.

If you mark an Integration as scheduled, records found in the main queue for the integration will be moved to the schedule queue. This is a background Integration queue which runs concurrently with the normal queues. If the Integration has a schedule the Integration Bridge will only integrate records of that type between the times specified in the window below.



To run all the time in the background queue set the radio box to background, to schedule an integration to only run between certain times click the 'Schedule in the background'. Then enter the Start At and Duration.

This schedule feature is generally intended to be used with Integration Types which don't require immediate replication on the other system and would otherwise tie up the Integration Bridge when it could be doing other more important integrations. E.g. Price List integration could be scheduled to run at night in the background. Meaning that large updates of the Price List data would not stop Order Integration from proceeding as normal, then at night when there is no order activity the Integration Bridge can do the pricing update.

Warning: Do not schedule integrations which other integrations depend upon, e.g. Don't set customer Integration to be background and address integration as normal, as this could mean that the Customer record would be moved to the background queue and the address record be processed first which would fail because the customer was not integrated.

# INTEGRATION BRIDGE FOR MSCRM

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## Publishing your configuration to the MSCRM Listening Service

Once your configuration is complete, you must publish the configuration so the MSCRM Listening Service can use it.

From the setup menu, select 'Publish Config', select the MSCRM connection you want to publish the configuration for and click OK.

The configuration will be transferred to the Listening Service on the selected MSCRM Server (NOTE: The listening Service **MUST BE** running).

Once the Listening Service has verified the configuration it will register the callouts required for the active Integrations with MSCRM. For these callout Links to become active, MSCRM requires you restart the IIS service on the CRM Server.

You can do by running IISRESET from the command console on the CRM Server.

If you change which integrations are active or change the trigger field or value you will need to republish your configuration. Integration Bridge will prompt you when you have made a configuration change that requires publishing.

# INTEGRATION BRIDGE FOR MSCRM

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## running the integration processes

### Starting the Processes

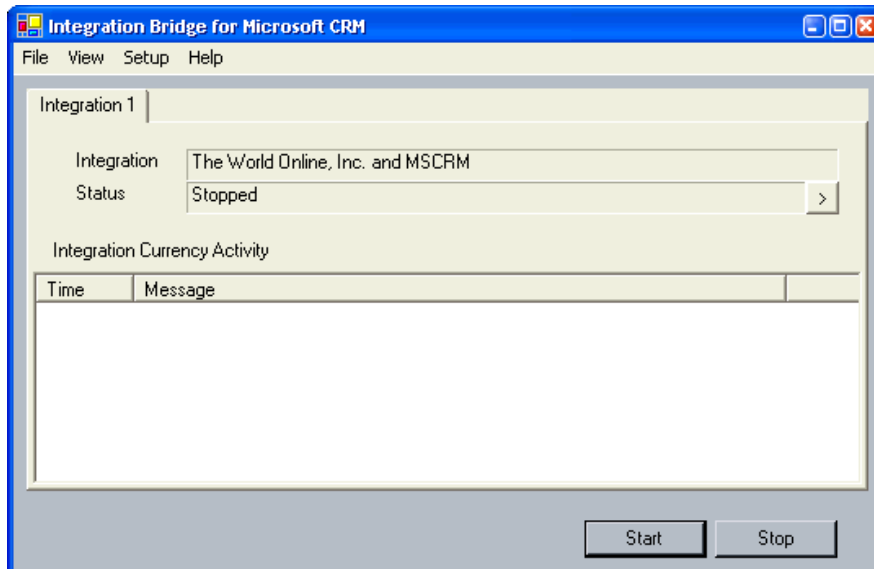
Ensure the Great Plains client is running, and start the SOP Import process:

1. Select SOP Import from Sales Routines.
2. Select your Import Definition ID.
3. Click the Import button – it should prompt you to run the import ‘Timed’ or ‘Once Only’ – select ‘Timed’.
4. It should then prompt you to run ‘Recurring’ or ‘Scheduled’ – select ‘Recurring’.

The SOP Import process is now running. To stop the import process, close the SOP Import window.

Ensure the MSCRM Listening Service is running, on the MSCRM (Web) Service.

Run the Integration Bridge application, it should look similar to the picture below



The Integration Bridge Console uses Windows NT Services to manage the Integration of records. This has the advantage that they can run without the machine being logged in and can take advantage of multiple processors making the Integration Bridge more scalable. The services can continue integrating records without the Integration Bridge console application running.

# INTEGRATION BRIDGE FOR MSCRM

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You will get a tab for each BusinessUnit/Company Mapping you have setup, these tabs represent the Services which will run the Integrations. There is one instance of the service per tab eg. If you have 2 Business Unit/Company mappings setup, there will be 2 Instances of the Integration service (As they are separate processes this means they can take advantage of multi processor machines). The Service Status label shows the current status of the service e.g. Not installed, Stopped, Running. You can use the expansion menu at the end of the label to Start, Stop, Install and Uninstall individual services or the Start All and Stop All button which will apply the action to all integration services.

In addition to the Integration Service tabs, you will also get a tab for each MSCRM Server. This can be used to see the status of the Listening Service running on that machine. (You cannot directly start or stop the Listening service from here, you must use the Window Service Manager on the MSCRM Server)

Once an Business Unit/Company Mapping has been created, Integration Bridge will install a service to manage that Integration; as well as starting stopping Integrations from the Integration bridge Application, you can use Windows service manager.

Each Integration Service tab has a current activity window which will show the current activity of that service. For Integrations it will show integration of records and any errors encountered.

When you start a service from Integration Bridge or Windows Service manager, if it takes too long or fails to startup it will write a description of the problem to the Windows Application Event Log.

Technical Note: As each Business Unit/Company mapping is a separate service each one has its own connection to MSCRM, this means that it takes approx 20-30 Meg of memory per service. Therefore more mapped companies requires more memory.

# INTEGRATION BRIDGE FOR MSCRM

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## Triggering the Processes

Once the Integration Bridge Services and SOP Import are running, changes to the supported data objects will cause the integration processing to occur. However, when a user is entering data, they may save the record before data entry is complete, so you do not want the data to be integrated to the other system immediately.

Similarly, you may require an approval process of new accounts or orders in front office before they are transferred to the back office system.

To allow for this, each of the integration processes from the front office system (to back office) has a built in 'trigger action', and will only process data once that trigger action has occurred. These trigger actions are summarised below:

### Accounts (Customers)

Trigger when a record is saved

### Addresses

Trigger when a record is saved, or the first time the owning Account (Customer) is integrated

### Orders

Trigger once the order has had its Shipping Method set to a non-blank value. Note: This is default behaviour and triggering field and value can be changed in the configuration.

### Items and Price Lists

Trigger when a record is saved

For example, a user may start entering order details into front office. They can complete the order entry, or leave it unfinished, and nothing will be integrated. Once the order has been finalised, they then set the triggering field and Integration Bridge will then process the order and create it in the back office.

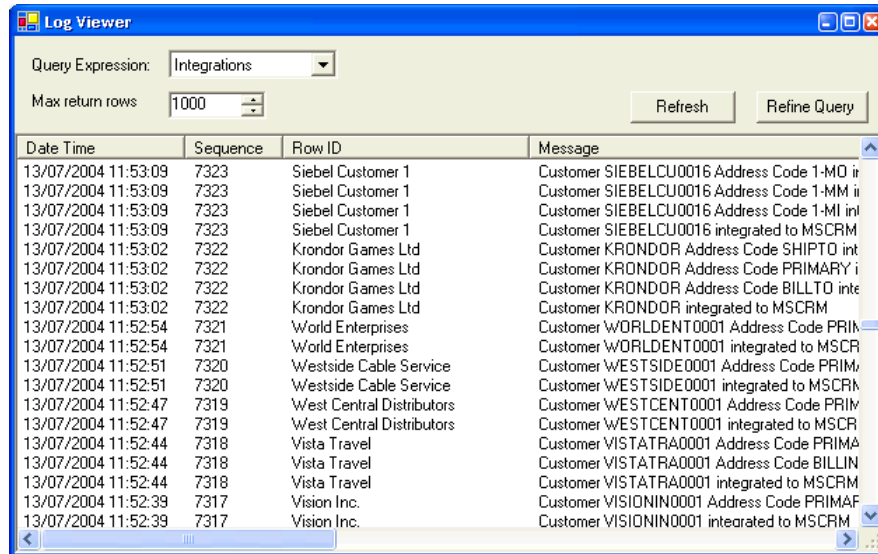
# INTEGRATION BRIDGE FOR MSCRM

## Monitoring Activity – Log Viewer

Whilst the Integration Bridge Integration Services are running, Each integration process is also logged into an activity table, as are any errors encountered.

This history can be viewed in the LogViewer. You can start this application by going to the View menu in Integration Bridge and selecting Logs.

When the application opens it default to a view of all the log information for the last 2 days.



The screenshot shows the Log Viewer application window. At the top, there is a 'Query Expression' dropdown menu set to 'Integrations' and a 'Max return rows' spinner set to '1000'. There are 'Refresh' and 'Refine Query' buttons. Below this is a table with the following columns: Date Time, Sequence, Row ID, and Message. The table contains 17 rows of log entries, each representing an integration process for a specific customer.

Date Time	Sequence	Row ID	Message
13/07/2004 11:53:09	7323	Siebel Customer 1	Customer SIEBELCU0016 Address Code 1-MO in
13/07/2004 11:53:09	7323	Siebel Customer 1	Customer SIEBELCU0016 Address Code 1-MM i
13/07/2004 11:53:09	7323	Siebel Customer 1	Customer SIEBELCU0016 Address Code 1-MI in
13/07/2004 11:53:09	7323	Siebel Customer 1	Customer SIEBELCU0016 integrated to MSCRM
13/07/2004 11:53:02	7322	Krondor Games Ltd	Customer KRONDOR Address Code SHIPTO int
13/07/2004 11:53:02	7322	Krondor Games Ltd	Customer KRONDOR Address Code PRIMARY i
13/07/2004 11:53:02	7322	Krondor Games Ltd	Customer KRONDOR Address Code BILLTO inte
13/07/2004 11:53:02	7322	Krondor Games Ltd	Customer KRONDOR integrated to MSCRM
13/07/2004 11:52:54	7321	World Enterprises	Customer WORLDENT0001 Address Code PRIM
13/07/2004 11:52:54	7321	World Enterprises	Customer WORLDENT0001 integrated to MSCR
13/07/2004 11:52:51	7320	Westside Cable Service	Customer WESTSIDE0001 Address Code PRIM
13/07/2004 11:52:51	7320	Westside Cable Service	Customer WESTSIDE0001 integrated to MSCRM
13/07/2004 11:52:47	7319	West Central Distributors	Customer WESTCENT0001 Address Code PRIL
13/07/2004 11:52:47	7319	West Central Distributors	Customer WESTCENT0001 integrated to MSCR
13/07/2004 11:52:44	7318	Vista Travel	Customer VISTATRA0001 Address Code PRIM
13/07/2004 11:52:44	7318	Vista Travel	Customer VISTATRA0001 Address Code BILLIN
13/07/2004 11:52:44	7318	Vista Travel	Customer VISTATRA0001 integrated to MSCRM
13/07/2004 11:52:39	7317	Vision Inc.	Customer VISIONIN0001 Address Code PRIMAF
13/07/2004 11:52:39	7317	Vision Inc.	Customer VISIONIN0001 integrated to MSCRM

To make it easier to use the log effectively you can build queries to only show only the information you require.

# INTEGRATION BRIDGE FOR MSCRM

To make a new query drop down the Query Expression Combo Box and select '(new)'

The screenshot shows the 'Query Definition' dialog box. The 'Query Name' field is set to 'Integrations'. The 'Date/Time' section is checked, with 'From' set to '1 Month Ago' and 'To' set to 'Today', both with date pickers set to '01/01/1900'. The 'Integration Status' section is unchecked, with a list of checkboxes for 'Information', 'In Progress', 'Awaiting Completion', 'Success', 'NoAction', and 'Error'. The 'Integration Process' section is unchecked, with a list of checkboxes for various processes like 'Orders, MSCRM to Great Plains (New)'. The 'OK', 'Cancel', and 'Delete' buttons are at the bottom.

To activate a query section tick the associated box and enter details for the query.

## Query Name

This is the name for the query you are building – this will appear in the Query Expression field on the main window once the Query has been saved.

## Query Description

A brief description of the Query.

## Date/Time

This can filter the Date and Time that messages are logged, if the 'between' field is blank then it is assumed to be everything up to the end date. If the 'and' field is left blank then it is assumed to be everything from the start date onwards. To have an open ended range blank out the second date.

## Record Description

Use this to filter the data to only show Integration Events for specific records. When an Integration Event happens Integration Bridge assigns a value to this field related to the Integration event. E.g. for Customer it is the Customer Name. Therefore to only show Integrations for a single customer enter the Customer Name in this field. You don't need to specify the entire customer name, 'NERO' would be enough to get all customers which have the word 'NERO' in their name. Note: If your SQL Server has a 'case sensitive' sort order then this filter will be 'case sensitive' too.

## Message Text

Integration Bridge puts a Description of the processes it performed for an individual integration event in this field. There may be several of these for an individual Integration event. This field works in a similar manner as the Record Identifier, eg. you can enter partial values.

# INTEGRATION BRIDGE FOR MSCRM

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## Source System

Two options are available, MSCRM and Great Plains. This will restrict the record to only show integration events in one direction e.g. Ones originating from one side.

## Integration Status

Each integration event is assigned a status as it is being processed and once it is complete.

'In Progress' indicated Integration Bridge to still working on this event.

'Waiting Completion' indicates the Integration Bridge is waiting for another process before it continues the integration. Orders are put into this state until SOP Import has imported them, they are then moved to success or error.

'Successful' indicates the integration event was successful, Message text will contain a description of the steps Integration Bridge performed to complete the Integration.

'Error' indicates there was a problem with the integration, Message text will contain a description of the problems encountered. Generally this means the Integration Event did not get saved on the other system.

This is a Multi-Select field, you can select multiple options by Ctrl clicking on them or Shift click to select a range

# INTEGRATION BRIDGE FOR MSCRM

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## **MSCRM Business Unit**

In a multi business Unit environment you can use this to only show integration events for a specific MSCRM Business Unit.

This is a Multi-Select field, you can select multiple options by Ctrl clicking on them or Shift click to select a range

## **Great Plains Company**

In a multi company environment you can use this to only show integration events for a specific Great Plains Company.

This is a Multi-Select field, you can select multiple options by Ctrl clicking on them or Shift click to select a range

## **Integration Process**

These are the Integration processes which the Integration Bridge supports, you can elect to only show Integration Events for a single Integration Process. E.g. Only show Customers, MSCRM to Great Plains. Or customers both ways.

Once you have defined you query, select OK to save the changes and refresh the main view. You can alter a query by selecting it and clicking on the Refine Query button.

Refresh view will rerun a query and update the main view.

You can clear down the log by clicking the Cleardown Log Button. This will clear down all the records in the current query.

Export log allows the current view to be written to a CSV file suitable for import into Excel etc.

# INTEGRATION BRIDGE FOR MSCRM

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## appendix a: document statistics

Document Owner: **Peter Boniface**

File Location: **\\Doc\Integration Bridge - User Manual.doc**

Current Version Date: **04 February 2004**

Revision Summary:

<b>Date</b>	<b>Author of Revision</b>	<b>Summary</b>
07/08/2001	Peter Boniface	Original
04/02/2004	Neil Peacock	Updates for MSCRM and Integration Bridge V1.10
20/01/05	Neil Peacock	Updates for V1.10q, (Login Mode)
10/10/05	Neil Peacock	Updates for IBridge V2.00, MSCRM V3.00 and Great Plains V9.00

# INTEGRATION BRIDGE FOR MSCRM

## appendix b: default field mappings

### MSCRM Accounts to Great Plains Customers

Great Plains		MSCRM
Customer MSTR.Customer Class	=	"MSCRMCUST"
Customer MSTR.Customer Name	=	Account.Name

### Great Plains Customers to MSCRM Accounts

MSCRM		Great Plains
Account.Address1_City	=	Customer MSTR.City
Account.Address1_Country	=	Customer MSTR.Country
Account.Address1_County	=	Customer MSTR.State
Account.Address1_Fax	=	Customer MSTR.Fax
Account.Address1_Line1	=	Customer MSTR.Address 1
Account.Address1_Line2	=	Customer MSTR.Address 2
Account.Address1_Line3	=	Customer MSTR.Address 3
Account.Address1_Name	=	Customer MSTR.Customer Name
Account.Address1_PostalCode	=	Customer MSTR.Zip
Account.Address1_StateOrProvince	=	Customer MSTR.State
Account.Address1_Telephone1	=	Customer MSTR.Phone 1
Account.Address1_Telephone2	=	Customer MSTR.Phone 2
Account.Address1_Telephone3	=	Customer MSTR.Phone 3
Account.Name	=	Customer MSTR.Customer Name

### Address, MSCRM to Great Plains

Great Plains		MSCRM
CustomerAddress.Address 1	=	CustomerAddress.Line1
CustomerAddress.Address 2	=	CustomerAddress.Line2
CustomerAddress.Address 3	=	CustomerAddress.Line3
CustomerAddress.City	=	CustomerAddress.City
CustomerAddress.Country	=	CustomerAddress.Country
CustomerAddress.Fax	=	CustomerAddress.Fax
CustomerAddress.Phone 1	=	CustomerAddress.Telephone1
CustomerAddress.Phone 2	=	CustomerAddress.Telephone2
CustomerAddress.Phone 3	=	CustomerAddress.Telephone3
CustomerAddress.Zip	=	CustomerAddress.PostCode

### Address, Great Plains to MSCRM

MSCRM		Great Plains
CustomerAddress.Address 1	=	CustomerAddress.Line1
CustomerAddress.Address 2	=	CustomerAddress.Line2
CustomerAddress.Address 3	=	CustomerAddress.Line3
CustomerAddress.City	=	CustomerAddress.City
CustomerAddress.Country	=	CustomerAddress.Country
CustomerAddress.Fax	=	CustomerAddress.Fax

# INTEGRATION BRIDGE FOR MSCRM

CustomerAddress.Phone 1	=	CustomerAddress.Telephone1
CustomerAddress.Phone 2	=	CustomerAddress.Telephone2
CustomerAddress.Phone 3	=	CustomerAddress.Telephone3
CustomerAddress.Zip	=	CustomerAddress.PostCode

## Great Plains Items to MSCRM Products

MSCRM		Great Plains
Product.DefaultUoMId	=	Selects UOfM from MSCRM where the name matches the Great Plains UOfM
Product.DefaultUoMScheduleId	=	Selects UOfMSchedule from MSCRM where the name matches the Great Plains UOfMSchedule
Product.Description	=	Item MSTR.Item Generic Description
Product.Name	=	Item MSTR.Item Description
Product.ProductNumber	=	Item MSTR.Item Number
Product.QuantityDecial	=	"0"
Product.Price	=	"1"

## Great Plains Pricing to MSCRM

MSCRM		Great Plains
PriceLevel.Name	=	Item Price List.CurrencyID+"."+Item Price List.PriceLevel
ProductPriceLevel.PricingMethodCode	=	"1"
ProductPriceLevel.QuantitySellingCode	=	"1"
ProductPriceLevel.UoMId	=	Selects UOfM from MSCRM where the name matches the Great Plains Price List UOfM
ProductPriceLevel.UoMScheduleId	=	Selects UOfMSchedule from MSCRM where the name matches the Great Plains Price List UOfMSchedule

## MSCRM Sales Orders to Great Plains SOP Orders

Great Plains		MSCRM
SOP Header.Customer Number	=	Linked Accounts Customer MSTR.Customer Number
SOP Header.SOP Type	=	"2"
SOP Line.Item Number	=	Linked Products Item MSTR.Item Number
SOP Line.QTY	=	SalesOrderDetail.Quantity
Unit of Measure	=	SalesOrderDetail.UoMIdName
Unit Price	=	SalesOrderDetail.PricePerUnit

## Great Plains Order Status update to MSCRM

MSCRM		Great Plains
SalesOrder.Description	=	Result of ncGetOrderStatus Stored Proc

# INTEGRATION BRIDGE FOR MSCRM

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## appendix c: trouble shooting

### **IBridgeCRMCallout COM+ Component (MSCRM V1.20)**

To register the COM+ Component manually, goto the Integration Bridge directory and run the Register.bat, this will register the COM+ Component and the Listening Service

**An error occurred whilst processing the last operation. The server process could not be started because the configured identity is incorrect. Check the username and password, or similar error.**

Change the account under which the Service will run. Right click the IBridgeCRMCalloutLink and display the properties. Choose the Identity tab and change it to us 'This user' specifying the User as Administrator with the relevant password.

**Install fails with 'Cannot build Database' or 'Cannot build table' or similar error.**

Check the connection information you have entered for the Integration Bridge connection. Ensure the user you used has right to build tables etc. if still a problem use 'sa' user.

**Service won't start but does not report any errors to the screen**

If the Integration Service fails to start from either Integration Bridge or from the Windows Service Manager, you can look in the Windows Application Event Log, it will have written an entry to indicate why it failed. It may instruct you to look at the Integration Bridge log for the error, if so you can use the log viewer to find the error.

**An Integration is turned on but no records are being transferred**

Check that the integration is not scheduled, if it is then Integration Bridge has moved the Integration of that record to the Scheduled queue and will only process between the times specified.

Check that the integration does not have a filter set against it, if it does check that the record you are trying to integrate is not being filtered out by the filter scripts, temporarily turn off filtering to rule this out.

Check that the MSCRM User IBridge is using to log into MSCRM is not the user who is triggering events, Integration Bridge will ignore updates caused by the MSCRM Integration Bridge user!

Check to ensure you have published the Configuration to the Listening Server and done a IISRESET on the MSCRM Server. MSCRM will not trigger events until the IISRESET has been performed.

**What triggers are loaded on the Great Plain database for Integrations?**

The following SQL can be used to get a current list of Integration Bridge triggers on the database, run this in the Great Plains Company database

```
select tables.name,sysobjects.name from sysobjects
join sysobjects tables on tables.id=sysobjects.parent_obj
where sysobjects.name like 'ncTrigDynMSCRM%'
order by tables.name
```

# INTEGRATION BRIDGE FOR MSCRM

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**When trying to publish the IBridge configuration, you receive an error saying the service cannot be contacted**

Check to ensure the Listening Service is actually running on the MSCRM Server (Check to ensure it's startup type is Automatic). If the service starts up, but then stops check in the Application Log for errors.