

FlowCentric and MS Dynamics Ax Microsoft Certified Integration Whitepaper

The FlowCentric AX iDapter delivers standardised integration adapters between FlowCentric, through the FlowCentric Process Suite, and Microsoft Dynamics AX. The iDapter has been developed to achieve operative compatibility between automated FlowCentric processes (versions 3 and 4) and Microsoft Dynamics AX (versions 4.0 and 2009).

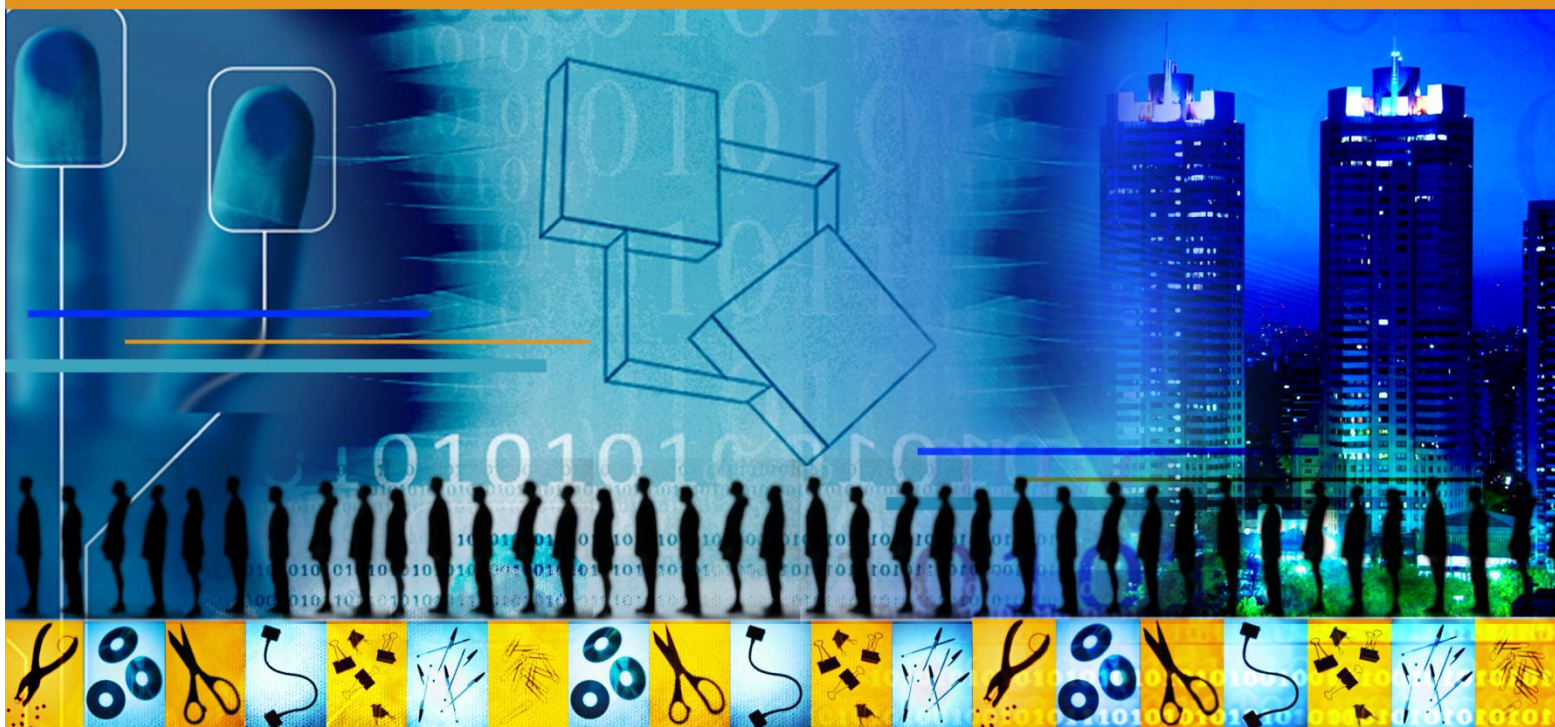




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INTRODUCTION

The FlowCentric AX iDapter delivers standardised integration adapters between FlowCentric, through the FlowCentric Process Suite, and Microsoft Dynamics AX. The iDapter has been developed to achieve operative compatibility between automated FlowCentric processes and Microsoft Dynamics AX (versions 4.0 and 2009). The iDapter is used to retrieve data from, and update data in Microsoft Dynamics AX through the objects or controls on a FlowCentric activity or web form.

The iDapter is initiated or *called* using the FlowCentric Web Services and Script Editor in the Process Suite. Drag-and-drop sample scripts make it easy to initiate the adapter, and retrieve data from and send data to Microsoft Dynamics AX. The sample scripts are populated through XML schema files that are generated for a specific AX instance. This makes the iDapter extremely flexible since it is accessible from anywhere in a FlowCentric process, and includes all standard and custom tables and fields in AX.

This whitepaper discusses the iDapter's abilities to create, update and delete many of the business entities and objects in Microsoft Dynamics AX. The update and create methods available through the iDapter allows the ERP consultant or process owner to specify all, or only some of the fields available in an object or business entity to be populated or updated. This ensures full integration capabilities between the two systems. These methods adhere to the underlying business and validation rules in Dynamics AX, and return a Boolean value indicating success or failure of any integration instruction or request. A method called RetrieveInfoLog allows the consultant to take proactive action in the case of failure. This method is specified under utilities in the Session Object, and returns a list of errors, warnings and informational messages returned from Dynamics AX. In addition to this, the provided data extract functionality enables consultants to retrieve single records and fields, or all data from a specified AX table.

After being initiated, the iDapter logs on to Microsoft Dynamics AX using one of two authentication models. These models will be discussed in more detail later in this whitepaper. All data is validated against the business rules and validation criteria's configured in the FlowCentric process before it is sent to Dynamics AX. When the data is sent to AX, it is validated again against all standard and custom configured AX rules and criteria. This "double validation" approach ensures the integrity, validity, and accuracy of any data entries made into the ERP system.

The list of available business entities in the iDapter will expand in future, and clients will be informed of any new entities and functionality as and when it becomes available.

Apart from the iDapter, the following utilities, methods and functions form part of the complete integration solution:

- **Session Object** – Provides login and logout functionality
- **Retrieve Info Log Method** - Retrieves errors, warnings and information messages returned by AX
- **Clear Info Log Method** – Clears the information log



INTEGRATION ARCHITECTURE

The integration architecture consists out of the following listed components, and these components are shown in relation to one another in *Figure 1* below.

- **Microsoft Dynamics AX** – the application and the SQL server database
- **FlowCentric Process Suite** – specifically the Web Services and Script Editor
- **iDapter DLL Library**

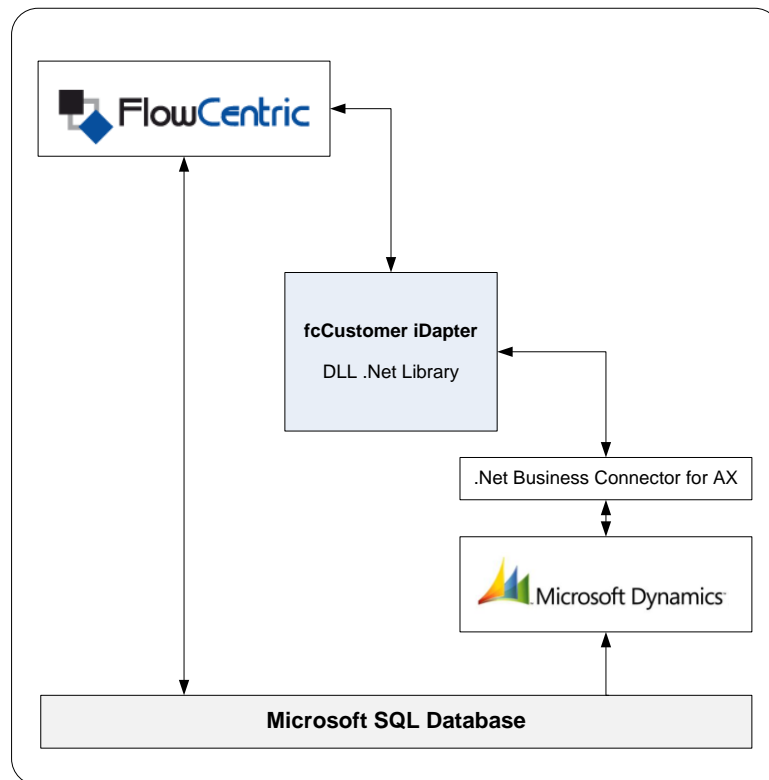


Figure 1: Overview of the Integration Architecture

The DLL Library is referenced through the iDapter drag-and-drop scripts, and provides the following:

- Interface to Microsoft Dynamics AX
- Exposes AX classes and tables (data)
- Provides CRUD (Create, read, update and delete) functionality



THE AX iDAPTER AUTHENTICATION MODELS

After being initiated, the iDapter logs on to Microsoft Dynamics AX using one of two authentication models.

1. **Windows Authentication** – the current user in FlowCentric is a valid user in AX, and the iDapter logs on to MS Dynamics AX using that user’s credentials.
2. **System User** - the iDapter logs on to Microsoft Dynamics AX with a user that is specified within the process’ business rules script. The specified user is a valid user in AX.

This approach to handling the authentication in AX means that no extra “integration” users are required in AX, which significantly lowers the number of concurrent users.

MICROSOFT DYNAMICS AX OBJECTS/BUSINESS ENTITIES

The iDapter currently makes the following objects/business entities available:

- Purchase Order Header & Lines
- Sales Order Header & Lines
- Inventory & Inventory Modules
- Customers
- Vendors
- Customer Payment Journals
- Movement Journals
- Trade Agreements

The iDapter makes create, update, delete and retrieve (one or multiple records) functionality for all of the above objects available.



INTEGRATION FUNCTIONALITY IN FLOWCENTRIC

After installing the AX iDapter, additional features become available in the FlowCentric Web Services and Script Editor.

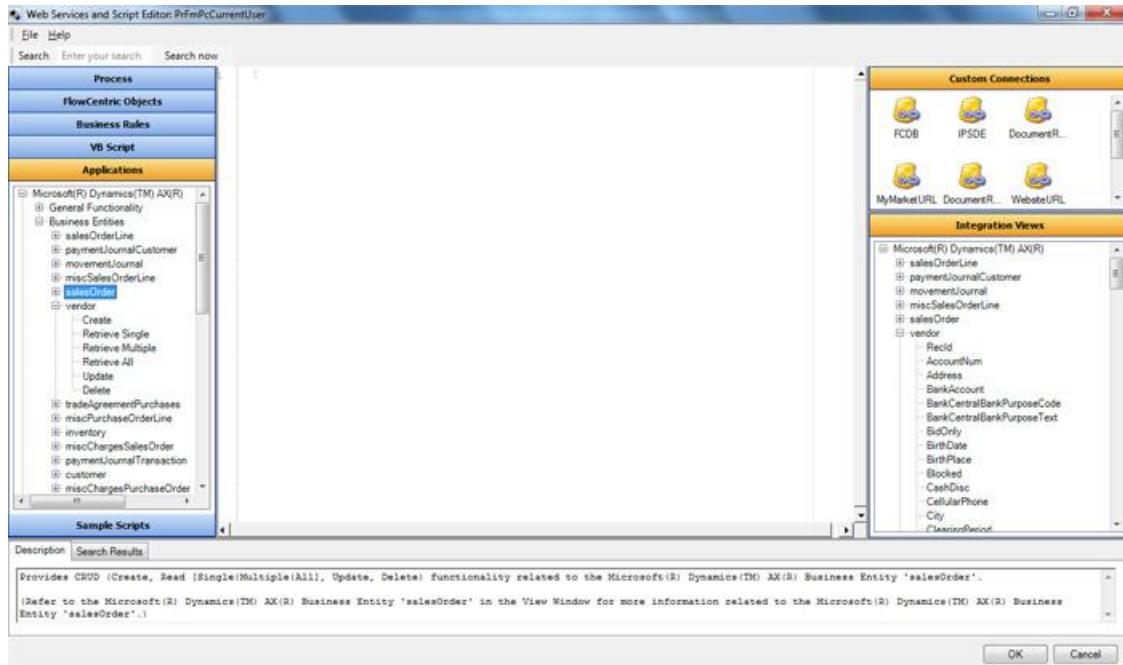


Figure 2: The AX iDapter in the FlowCentric Web Services and Script Editor

The Applications panel on the left contains a list of all the Microsoft Dynamics AX objects or business entities that are made available through the iDapter. When expanded, samples scripts providing CRUD (Create, Retrieve, Update, Delete) functionality for that entity can be dragged-and-dropped into the FlowCentric script.

A list of all the available objects or business entities, with their associated fields is displayed on the right in the Integration Views panel. This view is extremely useful when creating CRUD scripts for the available business entities.

At the bottom of the Web Services and Script Editor window, the Description panel displays detailed information about the selected object or business entity in either the Applications panel or the Integration Views panel.

All FlowCentric objects or controls can contain scripts, and the iDapter integration scripts are available to all the controls in all the steps of the process. This makes the process integration into Microsoft Dynamics AX very flexible and easy to use.



CONCLUSION

The AX iDapter offers comprehensive integration capabilities between FlowCentric and Microsoft Dynamics AX. Integration is achieved through easy to use interfaces, and is consistent with other functionality available in both FlowCentric and Microsoft Dynamics AX.

The benefits of utilising the FlowCentric AX iDapter include:

- A standardised integration mechanism
- Compatibility with future versions of Dynamics AX and FlowCentric
- Sound and scalable architecture
- It's a supported solution
- Non-proprietary integration