RAPID IMPLEMENTATION

Microsoft Dynamics™ NAV*

Microsoft Dynamics NAV Rapid Implementation Methodology

White Paper

* Microsoft Dynamics NAV, formerly Microsoft Business Solutions–Navision

Date: January 25, 2006

www.microsoft.com/dynamics/nav

Microsoft Dynamics™

Table of Contents

1 Introduction

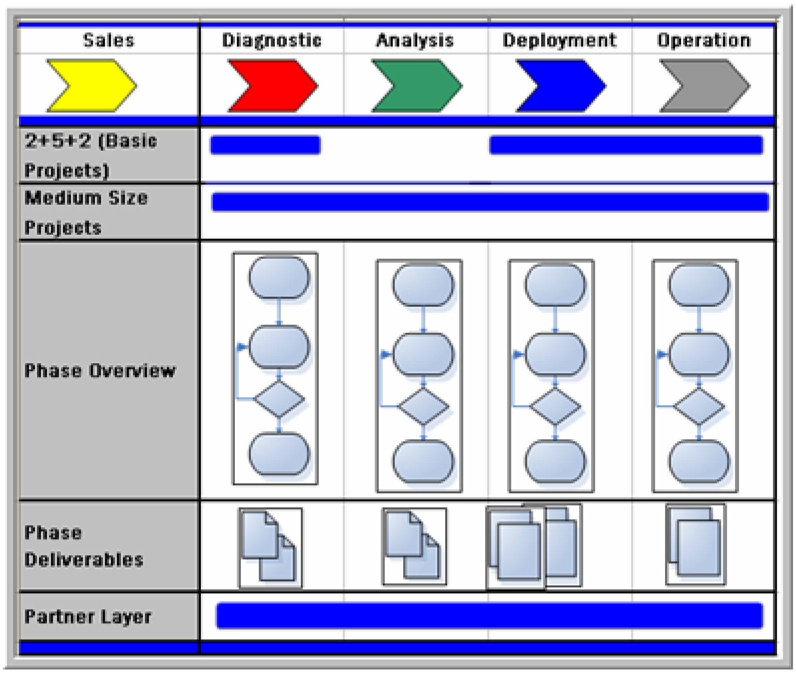
This white paper describes Microsoft Dynamics™ NAV Rapid Implementation Methodology (RIM). This methodology automates standard processes, speeds up implementation time, and drives the global sharing of best practice knowledge and solutions between Partners.

RIM addresses the issue of automating and simplifying recurrent processes in implementation projects, and helps to pinpoint the exact information needed to get implementations up and running more smoothly and quickly than ever before.

This white paper describes in detail the different components of RIM, and how they can be utilized in an implementation project. RIM is a phased based approach to implementation of an enterprise resource planning (ERP) system. RIM introduces the following phases in an implementation project:

- **Sales phase**
- **Diagnostic phase – finding out the customer's expectations about the project and defining the project scope**
- **Analysis phase – going into detail with the findings from the Diagnostic phase.**
- **Deployment – "Going live" with the system**
- **Operation – finalizing knowledge transfer**

RIM provides guidelines on how to breakdown each of these phases into activities, and defines the phase deliverables and how to add a partner specific layer.



Microsoft Dynamics NAV ERP implementation projects can be divided into three types:

1. Basic size projects
2. Medium size projects
3. Full size projects

Basic size projects have:

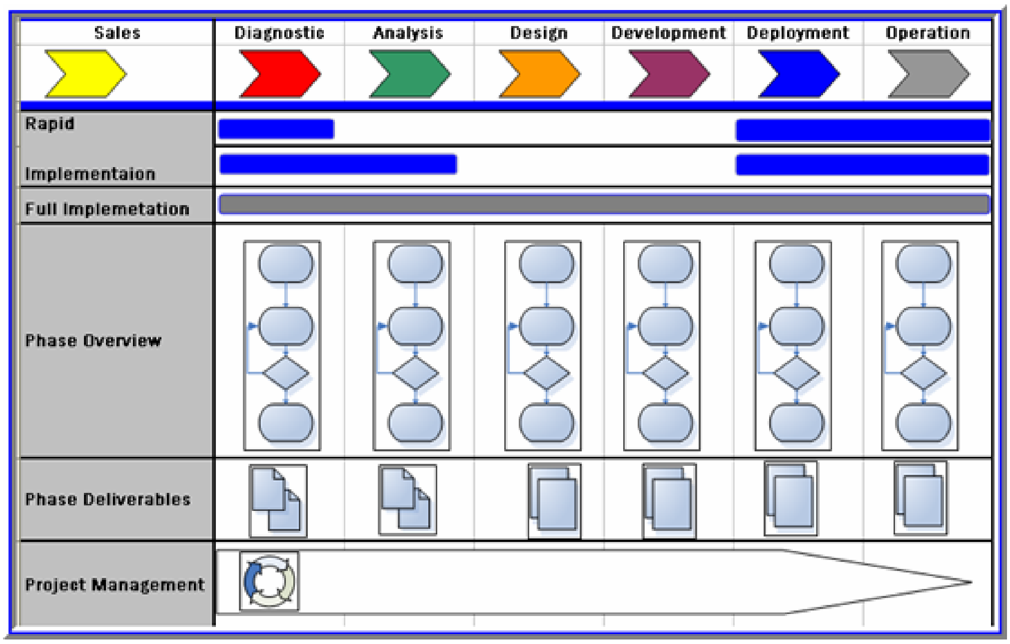
- **No customer specific features**
- **None or only a very limited number of customizations (reports and/or documents and some horizontal add-ons are not considered as customizations in this context)**
- **Customizations are simple (normally made by the Microsoft Dynamics NAV designers)**
- **Only one add-on solution necessary**
- **Not identified any system performance issues**
- **No interfaces to third-party sources**
- **No complex data migration processes – only a limited number of customer legacy data is migrated and mainly master data. The legacy data can be delivered in standard file format and is easy to access.**

Medium size projects have:

- **No customer specific features**
- **None or only a very limited number of customizations (reports and/or documents and some horizontal add-ons are not considered as customizations in this context)**
- **Customizations are simple (normally made by Microsoft Dynamics NAV designers, but can include C/AL code in separate objects)**
- **Identified critical business processes with the GAP/FIT analysis, so more Microsoft Dynamics NAV modules and multiple add-on solutions are needed**
- **Not identified any system performance issues**
- **Simple interfaces to third-party sources**
- **No complex data migration processes – only a limited number of customer legacy data is migrated and mainly master data**
- **The legacy data can be delivered in standard file format and is easy to access**

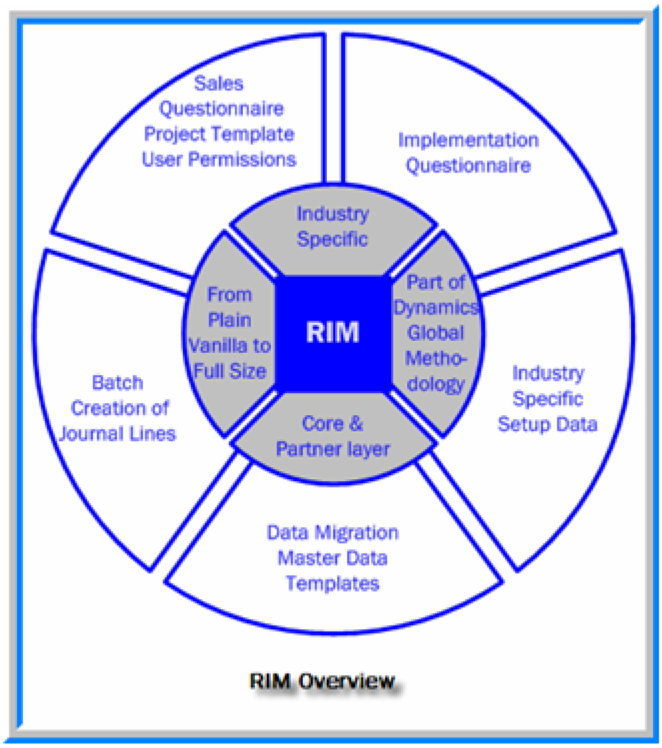
Full size projects have:

- **Customer specific features**
- **Complex customizations (also of Microsoft Dynamics NAV core objects)**
- **Interfaces to third-party sources**
- **Complicated infrastructure**
- **Complex data migration**
- **Large number of users**
- **Issues regarding system performance**



Rapid Implementation Methodology Overview

RIM is an integrated part of the overall methodology in Microsoft Dynamics NAV, formerly Microsoft Business Solutions–Navision. RIM consists of components designed to automate and simplify the recurrent processes in implementation projects.



This diagram illustrates the different components included in RIM that help improve the implementation process.

Industry Specific - RIM covers five core industry segments:

1. Food – Consumer Package Goods (CPG)
2. Machinery
3. Wholesale
4. Furniture
5. Electronics

Core & Partner Layer - the design makes it easy to include ISV or Add-On solutions in RIM.

From Basic to Full Size - RIM can be used in all three types of implementation projects: Basic size (2+5+2), Medium size and Full size.

All the RIM components are developed in cooperation with implementation specialists who have experience from many implementation projects in the selected industry segments, and the industry-specific data is based on anonymous customer data consolidated from real Microsoft Dynamics NAV implementation projects in four countries.

2 RIM Components

This section describes the components, specific to particular industries, that are included in RIM to help save time and trim the costs associated with implementations.

RIM contains the following components:

- **Industry-specific information (included in one XML-Document)**
  - **Implementation Questionnaire**
  - **Setup data**
  - **Master data templates**
- **Batch creation of journal lines**
- **Sales questionnaire**
- **Project template**
- **User permissions**

Implementation Questionnaire

The Implementation Questionnaire is a collection of industry-specific questions and suggested answers to update the contents of Microsoft Dynamics NAV setup tables (for example, tables 79, 98, 311, 312, 313, and so on).

The questionnaires help structure and document a detailed discussion about specific solutions. The information collected helps reduce the implementation workload by streamlining the repetitive tasks any implementation requires, such as setting up local address formats, posting of discounts, automatic cost postings, and number series. The questionnaire guides the user and the implementation consultant through the Microsoft Dynamics NAV setup requirements from a business perspective, to insure that the setup reflects the customer's business rules. The questionnaire can be presented as an Excel Workbook, so the user needs no prior Microsoft Dynamics NAV training to be able to work with the questionnaire.

When the questionnaire is finalized the answers are imported to Microsoft Dynamics NAV using an XML file (Excel is used as a user interface to the XML file), the answers are validated by Microsoft Dynamics NAV business logic during the import, and entries with errors are marked.
The implementer can:

- **Correct any errors**
- **Make a final validation of data based on their Microsoft Dynamics NAV knowledge and specific business knowledge, before the final update of the database ("Apply Data")**

In this way, a proper validation is secured before the final update of the system.

The Implementation Questionnaire (in XML or Excel format) serves as a valuable and understandable documentation of the setup decisions.

Industry-Specific Setup Data

A study of a number of implementation projects has shown that some setup tables in Microsoft Dynamics NAV contain a lot of common data for companies in the same industry segment.

The industry-specific setup data in RIM is a repository for such common data, created by industry specialists with experience from many implementation projects. Reusing common data saves implementation time and makes a more industry-specific setup possible.

Master Data Templates

To optimally use Microsoft Dynamics NAV, you need valid information in the master data records. A study of implementation projects has shown that, in many cases, it is possible to sort a company's master data into some main groups. For example, Customers and Vendors can be grouped into:

- **Domestic, EU, U.S., and Other Export Markets groups**

And Items can be grouped into:

- **Finished Goods, Semi-Manufactured Articles, and Raw Material groups**

To address this issue, RIM includes industry-specific Master Data Templates as part of an XML document. The templates contain the following elements:

- **Common mandatory Microsoft Dynamics NAV fields for a selected group of master data (for example, Customers, EU)**
- **Default values for the contents of the fields**
- **The possibility to add comments**

RIM contains five versions of predefined templates for each predefined master data type: Contacts, Customers, Vendors, and Items. If required, a Master Data Template can be expanded with other fields than the mandatory fields, and new Master Data Templates can be created for other master data types than the four that are predefined.

Using Master Data Templates

Nearly all implementation projects face the task of migrating customer's legacy master data and the templates included in RIM can be used to facilitate this data migration. Instead of building a specific function to transfer master data for only one, single project, RIM makes it possible to only have to transfer a limited amount of information, as illustrated in the following example.

For example, in Table 18, you can select customer master data by selecting general information fields such as: Name, Address, Postcode, and City; and communications fields, such as: Phone, Fax, E-mail, and Homepage.
You can then link to the master data template called "Domestic Customer," which contains mandatory information for that customer group. You then apply the data to the database and the program transfers customer master data ready for use.

The master templates also make it easier to create specific master data to train end-users.

Master data templates can also be used in daily operations. If the functionality is implemented, you only have to enter, for example, the item description, (the program provides the item number automatically – depending on the setup) and then apply the appropriate template; and the mandatory fields are correctly copied from the template to the actual master data record.

Partners can easily apply the master data template functionality to any master data table in Microsoft Dynamics NAV.

Batch Creation of Journal Lines [1)]

In some Plain Vanilla implementation projects there are only a limited number of postings included in the opening balances.

---

[1] In core Microsoft Dynamics NAV this functionality can only be used from the General Journal and the Item Journal. Full use requires that the Standard Journal functionality (SP1) is implemented.

The Batch Creation of Journal Lines functionality allows you to create a number of journal lines with predefined information, so the user only has to enter a few pieces of missing information (for example, amounts).

For example, in the scenario where you create an opening balance for “Open Customer Invoices” per invoice, you can:

- **Filter on customer information to select the customer information**
- **Select options such as document type, posting date, and document date (calculation of invoice due date)**
- **Select other information such as dimensions or customer group from a Standard Journal**
- **Enter the invoice amount**
- **Post the journal**

Project Template

The purpose of the Project Template is for Partners to use it as a starting point for planning individual customer implementation projects. The template has been developed by Microsoft Partners based on extensive real-life experience and best practices and helps ensure that every part of an implementation is clearly understood before the process begins. The template clearly defines work groups and tasks for Basic and Medium Size implementation projects and it documents what the preconditions and post conditions are. It helps define the specific scope of an implementation and provides a mechanism for keeping implementations running smoothly and efficiently. The template can easily be expanded with work groups and tasks for an individual project.

Predefined User Permissions [2)]

The predefined Microsoft Dynamics NAV user permissions cover the permission necessary to carry out work for seven archetypes of users in Microsoft Dynamics NAV.
The selected archetypes are:

1. Production Manager
2. Shipping & Receiving Clerk
3. Order Entry Clerk
4. Purchasing Agent
5. Accountant
6. Accounts Receivables Clerk
7. Accounts Payable Clerk

These predefined user permissions are based on research in a number of companies.

To adjust user permissions in an implementation project it is a good idea to use the User Right Setup tool (released on the Navision Tools CD, Microsoft Dynamics NAV 4.0 and later).

[2] The predefined Microsoft Dynamics NAV user permissions cover only core functionality and do not include any local Microsoft Dynamics NAV functionality.

3 The Partner Layer

This section describes the process to create a RIM Partner Layer.

The RIM Partner Layer makes it possible to include ISV and/or Add-On solutions in the automated and simplified RIM implementation process and it helps to drive a global sharing of knowledge and solutions between Partners.

Preconditions

The following preconditions are necessary before you can create a RIM Partner Layer:

1. RIM objects must be imported to a database that contains the vertical solution objects.
2. A folder for XML documents must be created.
3. The Navigation Pane must be updated or, alternatively, run the RIM forms directly from the Object Designer.
4. A new Microsoft Dynamics NAV company (one company per industry segment) must be created.
5. The XML documents containing data for the industry segment must be imported.

Further details of how to do these steps are described in the Rapid Implementation Methodology User Guide and Start-Up Guide.

In the Migration Overview window (form 8614) you can see an overview of the imported data from the core version XML files.

TableID	Table Name	No. of Migration ...	Migration Errors	No. of Records	Fields Included	Imported Date Time
3	Payment Terms	0	No	29	Yes	08-11-05 13:56
4	Currency	0	No	47	Yes	08-11-05 13:56
5	Finance Charge Terms	0	No	4	Yes	08-11-05 13:56
6	Customer Price Group	0	No	4	Yes	08-11-05 13:56
8	Language	0	No	46	Yes	08-11-05 13:56
9	Country	0	No	51	Yes	08-11-05 13:56
10	Shipment Method	0	No	22	Yes	08-11-05 13:56
42	Rounding Method	0	No	21	Yes	08-11-05 13:56
79	Company Information	0	No	1	Yes	08-11-05 13:56

The core version contains the following elements:

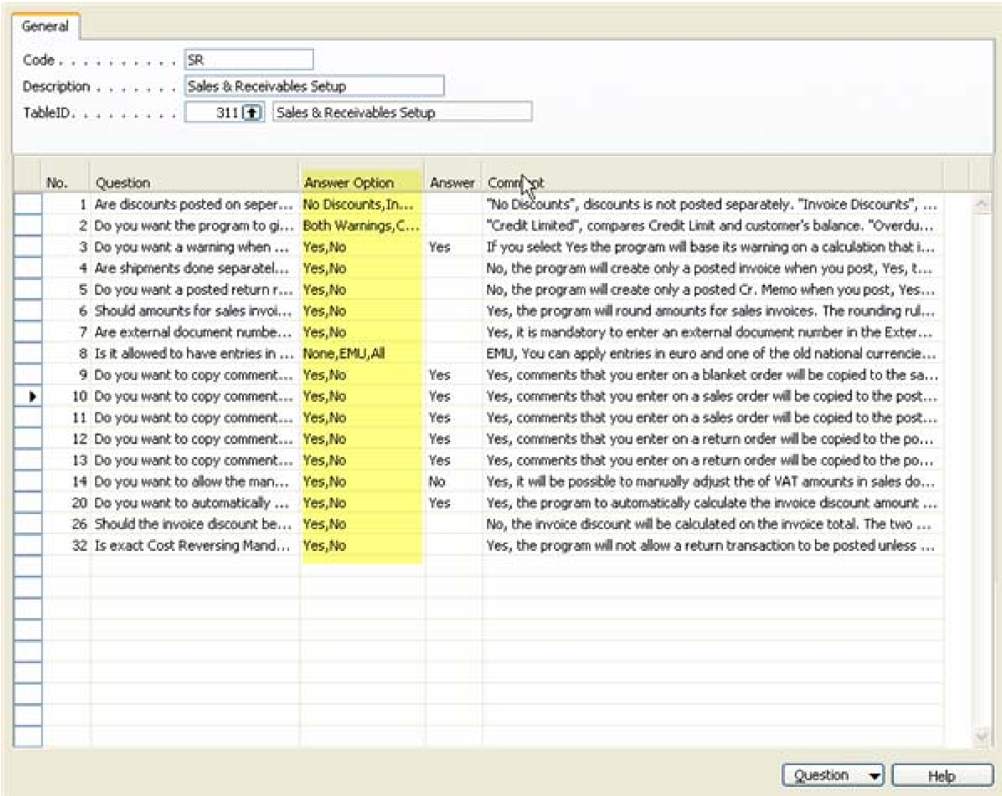
1. Setup Questionnaire (Table ID: 8610, 8611, and 8612)
2. Setup tables (Table ID: 79, 98, 311, 312, 313, 5079, 5603, 5769, 5911, and 99000765)
3. Master Data Templates (Table ID: 8618 and 8619)
4. Setup data

Note that all Microsoft Dynamics NAV master data tables can be included in the Migration Overview window, and this means it is possible to export selected fields to either XML documents or Excel Worksheets for all these tables.

Setup Questionnaire

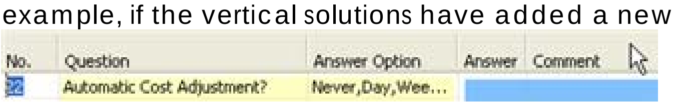
The Setup Questionnaire links a field in the related setup table to a business related question, answer, and comment. The purpose of the Setup Questionnaire is to guide the user through a number of setup decisions that they can take following a short introduction to the product but prior to any end-user training.

In the following screen shot, you can see the Setup Questionnaire for Sales and Receivables (Table 311). Note that you do not need to change the answer options in the Answer Option field (highlighted). These options are automatically updated from the setup table field options.



Updating an Existing Questionnaire

By clicking Question, Update Questions, it is possible to create new question lines containing fields from the related setup table that are not included in the present questionnaire (for example, if the vertical solutions have added a new field to a core setup table).

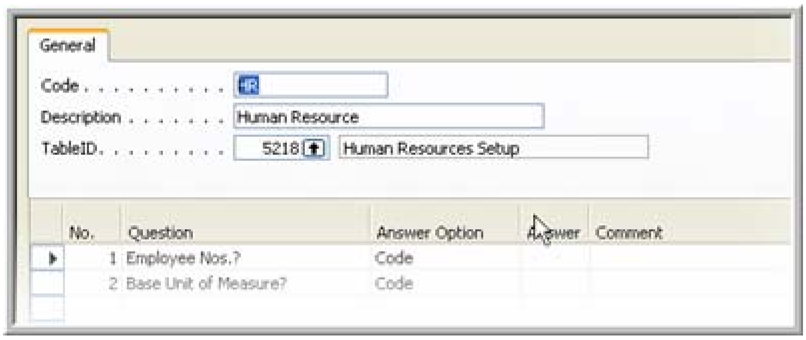


The information will appear in the question lines with a question number, the question, which is the same as the field name followed by a question mark, and the valid options for the setup field.
It is now possible to:

1. Re-word the question so that users can relate it to their business
2. If relevant, enter a default answer (industry specific)
3. Add a comment to clarify the question and a possible answer for the user
4. Delete unused question lines

New Setup Questionnaires

If a vertical solution includes setup tables not included in core Microsoft Dynamics NAV, you can create a new questionnaire header per table and link the header to the database table in question.



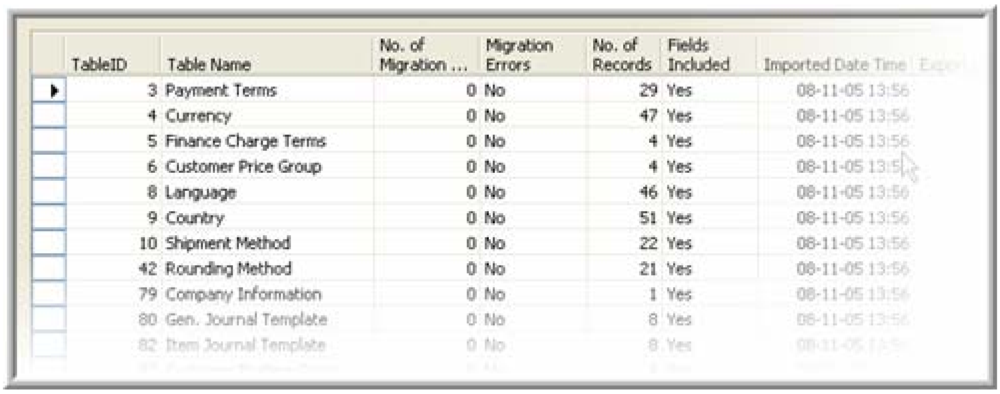
By clicking Question, Update Questions, you can create the questionnaire lines and the information appears in the lines with a question number, the question, which is the same as the field name followed by a question mark, and the valid options for the setup field.

It is now possible to:

1. Re-word the question so that users can relate it to their business
2. If relevant, enter a default answer (industry specific)
3. Add a comment to clarify the question and a possible answer for the user
4. Delete unused question lines

Setup Data

The contents of the setup data repository can be found in the Migration Overview window after importing.



TableID	Table Name	No. of Migration ...	Migration Errors	No. of Records	Fields Included	Imported Date Time
3	Payment Terms	0	No	29	Yes	08-11-05 13:56
4	Currency	0	No	47	Yes	08-11-05 13:56
5	Finance Charge Terms	0	No	4	Yes	08-11-05 13:56
6	Customer Price Group	0	No	4	Yes	08-11-05 13:5
8	Language	0	No	46	Yes	08-11-05 13:56
9	Country	0	No	51	Yes	08-11-05 13:56
10	Shipment Method	0	No	22	Yes	08-11-05 13:56
42	Rounding Method	0	No	21	Yes	08-11-05 13:56
79	Company Information	0	No	1	Yes	08-11-05 13:56
80	Gen. Journal Template	0	No	8	Yes	08-11-05 13:56
82	Item Journal Template	0	No	8	Yes	[illegible]

Existing Core Microsoft Dynamics NAV Tables

In some situations, it is a good idea to add, change, or delete contents from core Microsoft Dynamics NAV tables, for example, in the case of local or industry-specific payments terms or finance charge terms. Using RIM, you can add new entries to a table, edit existing core Microsoft Dynamics NAV entries, and also delete entries.

If you make changes to General Business and Product posting groups, you must make sure that the changes are implemented throughout the whole hierarchy of posting groups and in the master data templates as well.

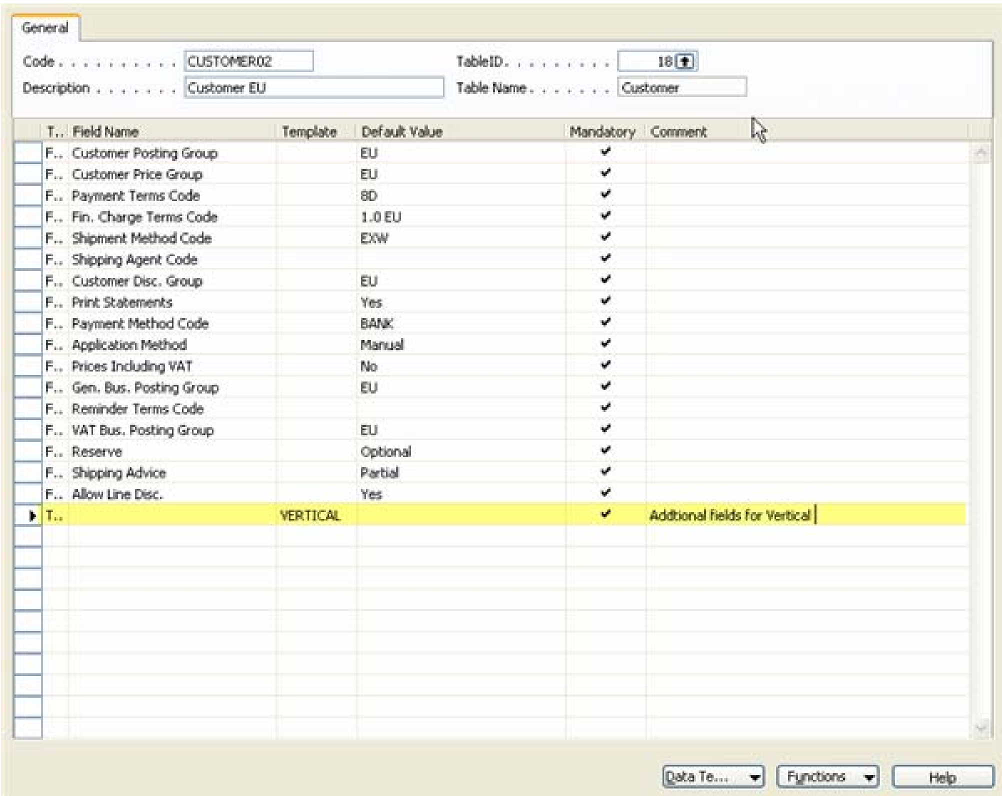
If you make changes to General Business and Product VAT Posting (for example, change or add the local VAT percentages) you must make sure that the changes are implemented throughout the whole hierarchy of VAT posting groups and in master data templates as well.

New Tables

If the vertical includes setup data tables not included in core Microsoft Dynamics NAV then you can create a new line per table in the Migration Overview form and add the database table in question, and then in the table you can add data, or import data from an XML or Excel file.

Master Data Templates

If the vertical solution contains either additional information to the five master data types covered by the RIM master data templates or new master data types, then this information can be added. To add information to an existing master data template, follow the following steps:



T..	Field Name	Template	Default Value	Mandatory	Comment
F..	Customer Posting Group		EU	✔	
F..	Customer Price Group		EU	✔	
F..	Payment Terms Code		8D	✔	
F..	Fin. Charge Terms Code		1.0 EU	✔	
F..	Shipment Method Code		EXW	✔	
F..	Shipping Agent Code			✔	
F..	Customer Disc. Group		EU	✔	
F..	Print Statements		Yes	✔	
F..	Payment Method Code		BANK	✔	
F..	Application Method		Manual	✔	
F..	Prices Including VAT		No	✔	
F..	Gen. Bus. Posting Group		EU	✔	
F..	Reminder Terms Code			✔	
F..	VAT Bus. Posting Group		EU	✔	
F..	Reserve		Optional	✔	
F..	Shipping Advice		Partial	✔	
F..	Allow Line Disc.		Yes	✔	
T..		VERTICAL		✔	Addtional fields for Vertical

You can add a new line (of type "field") to the master data template in the form. It is possible to include:

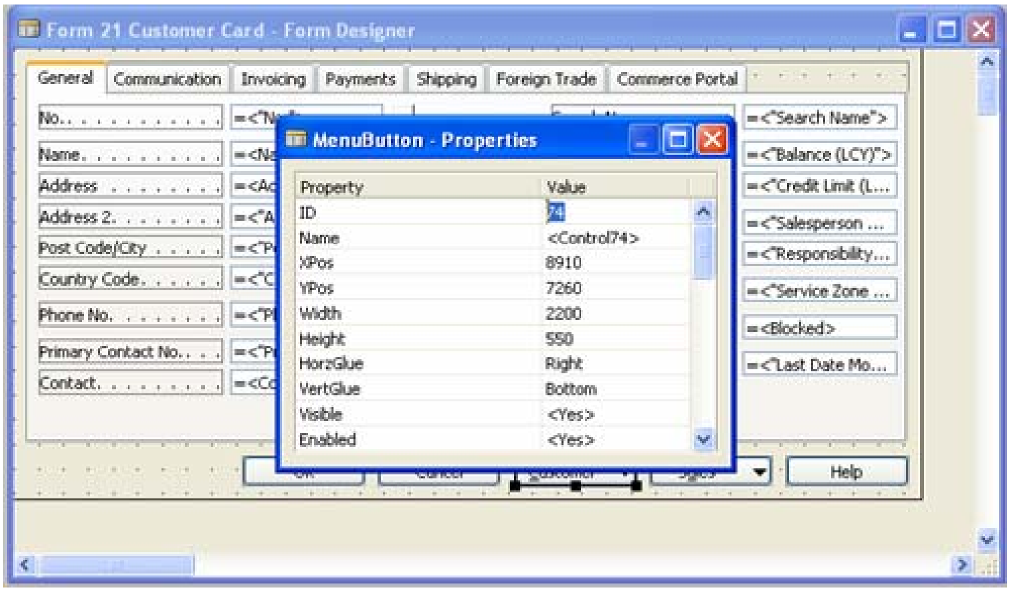
- **A field from the base table**
- **A default value**
- **A checkmark to indicate if the field is mandatory (note that a checkmark in the Mandatory field is for information only)**
- **A comment**

You can also create a new master data template containing all the vertical information and create a new master data template line of the type “Template” and link the new master data template to the line, including a comment about what the contents are.
Using this method, there is a clear distinction between core and vertical solution fields.

Adding a New Master Data Template
To add a new master data template, either for a new master data type or master data template line template, do the following:

1. Create a new master data template header and link to the database table
2. Create a new master data template line of the type “field”
3. Select the corresponding field from the base table
4. Enter, if relevant, a default value
5. Insert a checkmark to indicate if the field is mandatory (note that a checkmark in the Mandatory field in for information only)
6. Add a comment

If a new master data template is to be used in daily operations from a master data record, you must add a Function button on the relevant form.



Partner-Specific XML Files

When the ISV–Add-On specific data is added, the contents can be exported from the Migration Overview window (form 8614) to a Partner-specific XML file that can be used for future customer implementation projects and knowledge transfer to other Partners.
It is recommended that:

- **One XML file per industry segment (company) is created**
- **XML file format is used to store data in (not Excel file format)**

4 Preparing an Implementation Project

This section describes the issues to consider when planning an implementation project.

Adjusting the Industry-Specific Setup Data to the Customer License

The import of the industry-specific setup data from the XML files will, in the core version, create entries in approximately 67 tables. It is therefore important to ensure that each customer's Microsoft Dynamics NAV license covers all the tables that are updated by RIM (for more details, see the RIM User Guide).
The implementation team needs to validate that the customer license covers all setup tables before the actual Microsoft Dynamics NAV customer license is installed, otherwise it will cause a lot of extra work later.

Chart of Accounts

The Chart of Accounts can come from different sources:

a) Migration of the customer's legacy Chart of Accounts
b) Introducing Standard Chart of Accounts for an industry segment
c) Using statutory Chart of Accounts

If the Chart of Accounts comes from source a) described above, the same process of migration of other types of master data applies. For sources b) and c) described above, the Chart of Accounts can be a part of the Partner Layer and can be imported using the Migration Overview window.

Accounting Period

The setup of Accounting Periods is done using the Create Fiscal Year batch job. Before the batch job can be run, the number and length of the accounting periods in the new fiscal year must be defined. There must be at least one accounting period, and the shortest possible period is one day.

Posting Setup

When the migration of master data is finished, including the Chart of Accounts, the next step to make the setup operational is to create a link between the posting groups and the Chart of Accounts, as shown in the following table:

Posting Groups	Posting Setup Table Where Links are Created
General Posting Groups	table 252
Inventory Posting Groups	table 5813
VAT Posting Groups	table 325
Job Posting Groups	table 208
Customer Posting Groups	table 92
Vendor Posting Groups	table 93
Fixed Assets Posting Groups	table 5606
Bank Account Posting Groups	table 277

The correct posting group codes and names are updated on the master data (for example, all customer master data contains the selected posting group) so the last step in the process is to allocate the correct General Ledger Account number.

The following example shows two methods of updating the General Posting Group table 252.

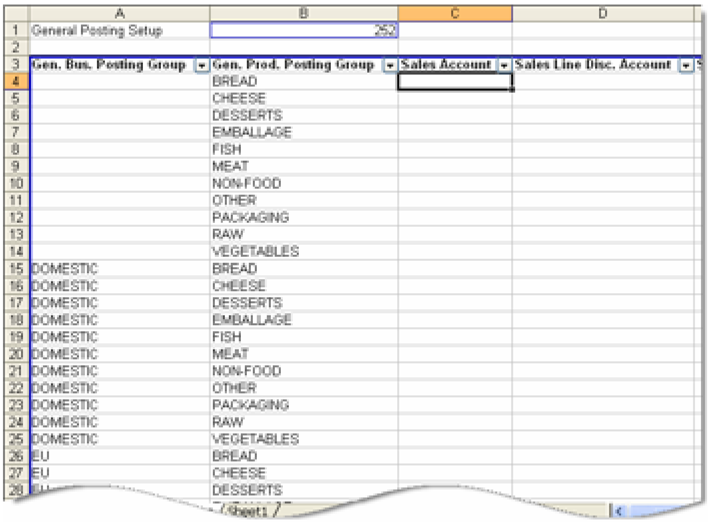
Method 1

From the Migration Overview window, the table contents can be exported to an Excel Worksheet. The end user or the implementation team can use Excel to input the General Ledger Accounts numbers.

TableID	Table Name	No. of Migration ...	Migration Errors	No. of Records	Fields Included	Imported Date Time	Exported Date Time	Commen
252	neral Posting Setup	0	No	55	Yes		30-11-05 15:32	

Migration Overview Window

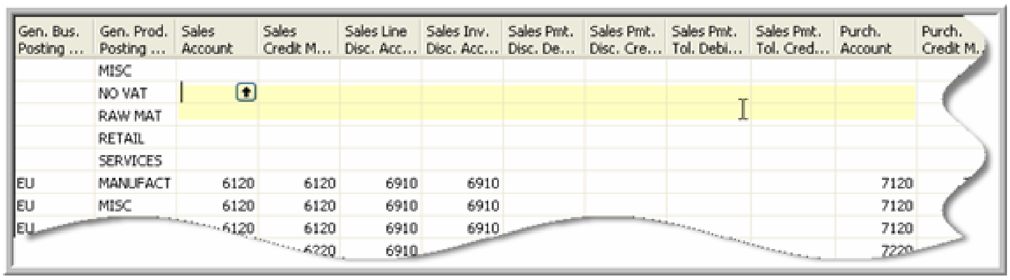
When the Excel Worksheet is finished, it is imported to Microsoft Dynamics NAV, validated, and the values are applied to the database.



	A	B	C	D
1	General Posting Setup	252		
2				
3	Gen. Bus. Posting Group	Gen. Prod. Posting Group	Sales Account	Sales Line Disc. Account
4		BREAD		
5		CHEESE		
6		DESSERTS		
7		EMBALLAGE		
8		FISH		
9		MEAT		
10		NON-FOOD		
11		OTHER		
12		PACKAGING		
13		RAW		
14		VEGETABLES		
15	DOMESTIC	BREAD		
16	DOMESTIC	CHEESE		
17	DOMESTIC	DESSERTS		
18	DOMESTIC	EMBALLAGE		
19	DOMESTIC	FISH		
20	DOMESTIC	MEAT		
21	DOMESTIC	NON-FOOD		
22	DOMESTIC	OTHER		
23	DOMESTIC	PACKAGING		
24	DOMESTIC	RAW		
25	DOMESTIC	VEGETABLES		
26	EU	BREAD		
27	EU	CHEESE		
28	EU	DESSERTS		

Method 2

The alternative method is to update the table directly in Microsoft Dynamics NAV. In table 252, you can use the lookup or function key F6. The contents of the field can be copied to the next row using function key F8.



Gen. Bus. Posting ...	Gen. Prod. Posting ...	Sales Account	Sales Credit M...	Sales Line Disc. Acc...	Sales Inv. Disc. Acc...	Sales Pmt. Disc. De...	Sales Pmt. Disc. Cre...	Sales Pmt. Tol. Debi...	Sales Pmt. Tol. Cred...	Purch. Account	Purch. Credit M...
	MISC										
	NO VAT										
	RAW MAT										
	RETAIL										
	SERVICES										
EU	MANUFACT	6120	6120	6910	6910					7120	
EU	MISC	6120	6120	6910	6910					7120	
EU		6120	6120	6910	6910					7120	
			6220	6910						7220	

Table 252

Method 2 is the most secure because the validation is done immediately, but both methods require only that the end-user knows the correct General Ledger Accounts numbers. Users do not need to know the Posting Group hierarchy and how they are linked to different master data types.

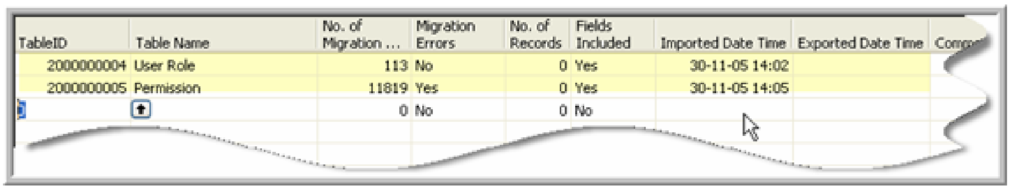
User Setup

It is possible to import Microsoft Dynamics NAV User Permissions for seven predefined roles:

1. Production Manager
2. Shipping & Receiving
3. Order Entry Clerk
4. Purchasing Agent
5. Accounting Manager
6. Accounts Receivable Clerk
7. Accounts Payable Clerk

The User Permissions cover the core activities for the roles (note that the predefined core activities only cover core Microsoft Dynamics NAV).

To import the permissions, in the Migration Overview window, select table 200000004, User Role and table 200000005 Permission.



TableID	Table Name	No. of Migration ...	Migration Errors	No. of Records	Fields Included	Imported Date Time	Exported Date Time	Comm...
200000004	User Role	113	No	0	Yes	30-11-05 14:02		
200000005	Permission	11819	Yes	0	Yes	30-11-05 14:05		
		0	No	0	No			

Select all the fields and import the XML file "Permissions" and apply roles and permissions to the database.

After importing the XML file, use the User Rights Setup tool (an existing Microsoft Dynamics NAV tool aimed at administrators who work with the setup and maintenance of roles and permissions in the Microsoft Dynamics NAV database) to adjust the predefined roles and permissions to the actual customer installation and allocate the user to one or more roles.

Data Cleaning

When the training is completed and the customer is ready to "go live," you can use the Data Cleaning function (form 8600 and code unit 8604) to delete all training data in the posting tables. You can run the form from the Object Designer (note that this function requires a Partner license.)

All the data in the following tables will be deleted by the Data Cleaning function:

Table ID
17- 21- 25-32- 45-46- 86- 87
110 -111- 112- 113- 114- 115- 120- 121- 122-123- 124- 125- 169
203-238-239-240-241-254-272-275-276-281-297-298
300-304- 305- 339- 379 -380
405
5601- 5617
5772 -5773
5802 -5810- 5832

After the data cleaning, reset the Number Series manually.

5 Data Migration

This section describes how to optimally use Microsoft Dynamics NAV RIM in the data migration process.

Guidelines for how to plan the data migration process can be found in section 6 of this white paper and in the RIM Project Template. In addition, the RIM User Guide describes in detail how to use the RIM components.

The process of migrating customer legacy data is a vital part of nearly all implementation projects. The process can be divided into two major areas:

- **Master data**
- **Ledger entries**

Besides the final migration of the customer legacy data in the Deploy Phase, a limited number of legacy data (mainly master data) can be valuable in end-user training. (This is because users can better relate to their own items or customers instead of more general demo data, for example, bicycles.) Even in GAP/FIT Analysis, customer-specific master data can be valuable.

Master Data

To migrate customer legacy master data, the following process is recommended:

1. Check that the agreed legacy data is available in the agreed data format and that there is accessibility to the data.
2. Ensure that the necessary predefined and possible additional master data templates in each category are available and updated (the predefined master data templates are: Contacts, Customer, Vendor, and Item).
3. Determine which fields to transfer from the legacy system for each master data type.
4. Update the Migration Overview window with the master type table ID and update the field selection for exporting to XML or Excel for each master data table.
5. Establish a folder structure in a secure migration environment with restricted access to the information, to avoid information disclosure.
6. Export the table with the selected fields to an Excel worksheet (or XML document). Create one worksheet per master data type in the predefined folder in the migration environment.
7. It can sometimes be a good idea, depending on the actual amount of data, to create subfolders relating to a master data template. For example, the customer master data folder can be split into the following subfolders:
   - **Customer Domestic**
   - **Customer EU**
   - **Customer FOREIGN**
   - **Customer US**
8. Import the data from the legacy system to the Excel Worksheet for the relevant master data folder or subfolder (or XML document) and fill in the Excel worksheet or merge the legacy data (see the User Guide for details).
9. Perform an interim data audit of the Excel worksheet. Use the filter function to identity data that is out of range, for example, customer or item number.
10. Import the Excel files (or XML document) and together with the customer perform a data audit of the imported data before finally applying the data to the database.

Exceptions

Migration of Items

To get the correct unit of measure, the migration of items requires a different sequence of updating compared to other types of master data.

An item can have three units of measure:

1) Base Unit of Measure (the unit in which the item is held on inventory)
2) Sales Unit of Measure (conversion that the program uses if the item is sold in different lot sizes than defined in the Base Unit of Measure)
3) Purchase Unit of Measure (conversion that the program uses if the item is purchased in different lot sizes than defined in the Base Unit of Measure)

Recommended Sequence for Migrating Items:

1) Table 204, Unit of Measure, is updated when the new company is created, as a part of the Industry-Specific Setup Data.
2) Import the selected fields from the legacy item data, for example, number and description, and link them to an appropriate master data template and apply items. Note that none of the Unit of Measure fields (Base-, Sales-, and Purchase Unit of Measure) should be included in the master data template).
3) Create a scenario for updating table 5404 and export the table to Excel.

	A	B	C
1	Item Unit of I	5404	
2			
3	**Item No.**	**Code**	**Qty. per Unit of Measure**
4	70000	PCS	1
5	70001	PCS	1
6	70002	PCS	1
7	70003	PCS	1
8	70010	PCS	1
9	70011	PCS	1
10	70040	PCS	1
11	70041	PCS	1
12	70041	PKG	10
13	70041	PLT	1
14			

Table 5404

Table 5404 contains the link between an item, Unit of Measure code, and Qty. per Unit of Measure. This means that if items have different values in the Base Unit of Measure, Sales Unit of Measure, and Purchase Unit of Measure fields, there must be three entries in the table.

The field code in table 5404 is validated against valid Unit of Measure codes in table 204:

1) Import the Excel file and update table 5404.
2) Create an Excel file containing the fields from the Item table (table 27).

	A	B	C	D
1	Item	27		
2				
3	**No.**	**Base Unit of Measure**	**Sales Unit of Measure**	**Purch. Unit of Measure**
4	70000	PCS	PCS	PCS
5	70001	PCS	PCS	PCS
6	70002	PCS	PCS	PCS
7	70003	PCS	PCS	PCS
8	70010	PCS	PCS	PCS
9	70011	PCS	PCS	PCS
10	70040	PCS	PCS	PCS
11	70041	PCS	PCS	PCS
12				

Item Table 27

3) Import the Excel file and update table 27. The Items have the correct Unit of Measure.

The Chart of Accounts
The migration of the Chart of Accounts follows the same process as for the other types of master data, but it is a good idea to create a master data template for Income Statement Accounts (P/L Accounts) and one for Balance Sheet Accounts, in both cases the Account Type is equal to Posting.

Accounts of the other account types: Begin to total; End Total; and Total are created in Microsoft Dynamics NAV after import of the Accounts of type Posting.

Ledger Entries

The migration of ledger entries can be divided into the following scenarios:

Scenario #1
When the customer has a large number of entries to be migrated in different areas (such as customer, vendor, items, and open sales- and purchase orders), data ports and XML ports are normally used.

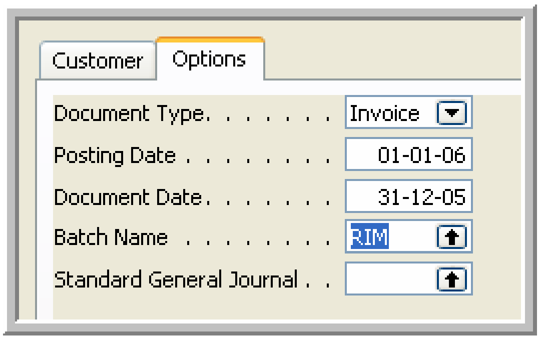
Note the following fundamental rule for migration of entries:

> **All modules in Microsoft Dynamics NAV have a ledger table, which is the primary accounting table for that module. Never write an interface directly to such a ledger table, always input data to a Journal and then use the posting code units for that journal to actually post entries through the Journal.**

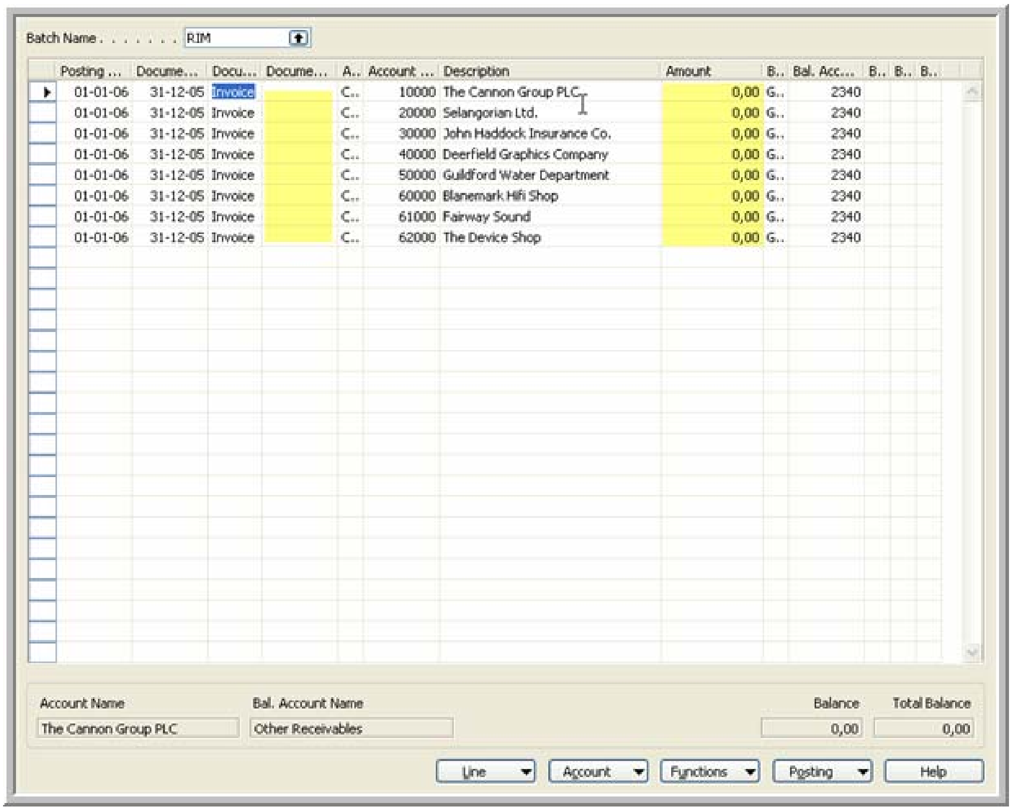
The C/AL Programming guide describes which code units are used. For example, General Ledger Journal uses Code unit 11, 12, and 13 and the Item Journal uses Code unit 21, 22, and 23.

Scenario # 2
When the customer wants to create the Opening Balances and therefore only have to input a limited number of data, the Batch Creation of Journal Lines in RIM can be used.

Using the Batch Creation of Journal Lines function, you can create a number of journal lines with predefined information (see section 2 of this white paper for more details). Only a limited amount of information has to be entered (for example, for Open Customer Invoices, all information, except the remaining amount and document number can be created automatically.



Report 8614 Create Customer Journal Lines

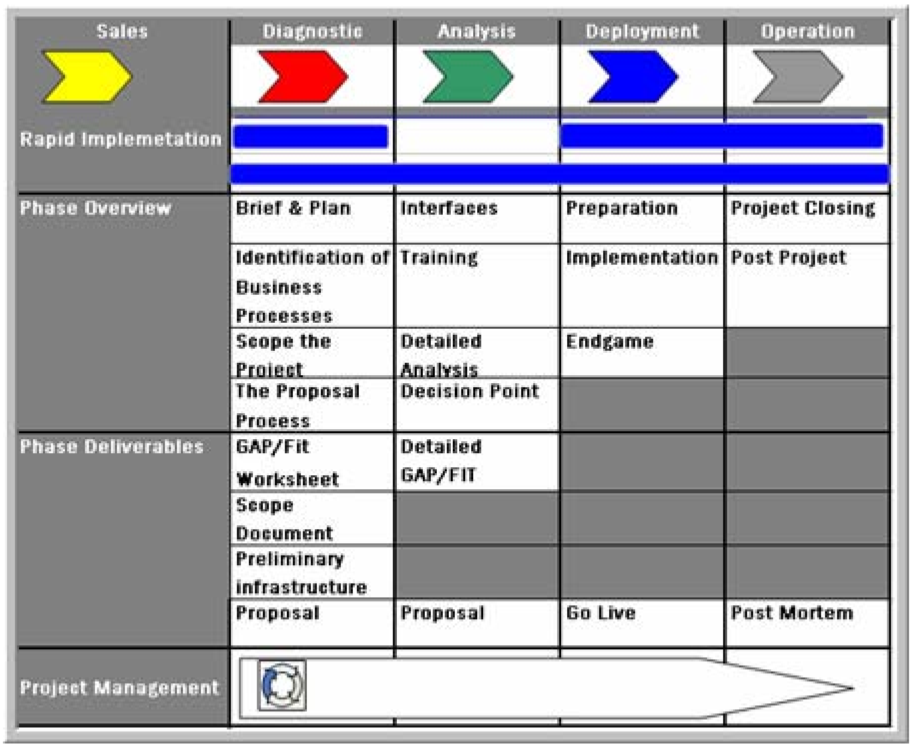


In the screenshot above, you can see that only the Document Number and Amount fields (highlighted) have to be filled in.

6 Using RIM in Implementation Projects

This section describes the phases, workgroups, and tasks in Basic and Medium Sized implementation projects, and explains how to optimally use Microsoft Dynamics NAV RIM in these types of projects.

Basic (2+5+2) and Medium Size implementation projects normally include the phases, activities (grouped), and phase deliverables shown below.



The Sales Phase is technically a part of Sales Methodology, but it is important that the Sales Phase is tightly integrated with the implementation process, allowing for a smooth, quick transition of knowledge from the sales team to the presales and implementation teams.

Sales Phase

The purpose of the Sales Phase is to make contact with the potential customers and to:

- **Qualify the prospect to ensure there is a high level fit with the product and assess that there is adequate budget available to purchase and implement the total solution**
- **Understand the goals the customer has for a new system**
- **Define the sales process and refine relationships with the prospect**

Pre-Sales Phase

The Pre-Sales phase is a crucial phase in the Sales Phase in which specific requirements are gathered, the total solution is proposed, and often demonstrated. The solution presented in this phase is representative of the final implemented solution and is a pre-cursor to the final purchase decision.

In the Technical Pre-Sales phase, functionality fit and gaps between the product and the requirements are identified. In this phase:

- **The prospect is technically qualified, which means that a total solution is possible with the solution proposed**
- **The solution is developed at a conceptual level with core product, ISV add-ons, and customizations**
- **Functionality expectations are clarified with the customer**

Steps in Pre-Sales Phase:

- **Plan pre-sales with Partner - Define the pre-sales team, define and transfer knowledge of customer requirements to the sales team and discuss team roles and responsibilities**
- **Pre-sales transfer with the customer - Transfer knowledge of the total solution from the pre-sales resource(s) to the customer purchasing the total solution**

Steps in the Sales Phase:

- **Prospecting - Identify prospective customers by defining the market segments in which to engage**
- **Introduction Meeting - Initial introductions providing a blueprint of the sales process and when initial expectations are set**
- **General Requirements Gathering - Meeting(s) with key groups of personnel to better understand the prospect's new system requirements**

The Diagnostic Phase

The Diagnostic Phase is a high level requirements analysis and is one of the most important phases in an ERP implementation project. With proper planning, identification of business processes, and scoping, the project has a much higher chance of being successful. The following sections describe in more detail the workgroups and tasks in this phase.

Brief and Plan Workgroup

This workgroup involves the following tasks:

- **Opportunity briefing**
- **Diagnostic briefing**
- **Update of the diagnostic plan**

Opportunity Briefing

Opportunity briefing is a formal knowledge transfer from the Sales team to the Implementation team.

The briefing includes the business and opportunity assessment for this particular customer. It includes items such as:

- **Signed contracts**
- **Degree of risks**
- **Customer profile**
- **Decision criteria used**
- **Proposed solution**
- **Business proposition**
- **Competitors**
- **Organizational alignment**
- **Critical success factors**

The implementation team should confirm that the project can be built on the proposed solution, and be hooked into the right people within the customer organization.

Diagnostic Briefing

The diagnostic briefing gives an outline of the Pre-Analysis Phase, describes the length of the engagement, the resources required, and the details of the deliverables to be provided.
In this activity, the Pre-Analysis proposal is prepared and made ready for presentation to the customer for acceptance. It proposes that the Partner performs a pre-analysis that results in a high-level requirements analysis, an impact analysis, and a scope of the project.

Update of the Diagnostic Plan

The final task in this workgroup is the task of updating the diagnostic plan. This is based on feedback from the customer, after they have seen the presentation.

Identification of Business Processes Workgroup

This workgroup involves the following tasks:

- **Identification all business processes**
- **High-level GAP/FIT analysis of all business processes**
- **Consideration of third-party solutions**
- **Evaluation of business processes GAP/FIT**

Identifying Business Processes

All the customer business processes must be identified and scoped for the project prior to identifying the Business Critical Processes.

The use analysis must include at least the top three Business Critical Processes. These are simply processes, chosen for their significance to the customer. They might cover the areas the customer has particularly highlighted when they were looking for a system.

The Business Critical Processes can be analyzed and described in more detail during the Analysis Phase. These are the processes that will form the basis for the GAP/FIT analysis and, based on these processes, an estimate of the amount of customization needed will be made.

The Business Critical Processes are selected by walking through the business process list, and selecting the three (or more) critical processes that seem to be the most important for the customer.

High-level GAP/FIT Analysis

The second task in this workgroup, the high-level GAP/FIT analysis, is the process of identifying the gaps between Microsoft Dynamics NAV and the processes needed by the customer to perform their business. This is best done in a workshop by actually trying to perform the activity in Microsoft Dynamics NAV. For each activity, the workshop participants must decide to what extent Microsoft Dynamics NAV fulfills the business needs (described in the business critical processes) that the company have.

Every discrepancy between the business support needed and the functionality offered must be identified as a “GAP” and every gap must be described in the GAP/FIT worksheet accordingly.

While walking through Microsoft Dynamics NAV, the revised, and now optimized, business processes must be documented. You can use the Implementation Questionnaire to note specific requirements for setting parameters, in case this is necessary to achieve adequate support for business processes.

For every activity walked through, you should discuss and agree with the customer the documents that should be used as input to the particular activity or produced as output from the activity. This is a simple yet effective way of maximizing the probability that the implementation team remembers to include all relevant documents.

For each gap identified, a decision has to be taken by the implementation team. The team can decide, following discussions and agreement with the customer on the best alternative: to change the particular activity so that it can be accommodated in Microsoft Dynamics NAV; to consider third-party solutions; or to customize Microsoft Dynamics NAV so that the program accommodates the activity in question.

When the high-level GAP/FIT analysis is complete, the need for third-party solutions or major customizations for the areas of the business processes have been identified. Future business processes have also been sketched and documented.

Considering Third-Party Solutions

The third task in this workgroup, considering third-party solutions, is done to identify possible vertical or horizontal add-on solutions containing functionality that will close any identified gaps.

The following considerations should be taken into account to evaluate the impact on the solution concept:

- **Overlap with Microsoft Dynamics NAV functionality**
- **Actual version released of the add-on versus Microsoft Dynamics NAV**
- **Update frequency for new versions of the add-on**
- **How to upgrade to new versions of Microsoft Dynamics NAV**
- **The possibilities for support of the add-on after the implementation**

In addition, if more than one vertical or horizontal add-on solution is identified, consider:

- **Whether the functionality in the add-ons overlaps each other or even is in conflict with each other**
- **Whether the data model conflicts with either Microsoft Dynamics NAV and/or the other add-ons**

The result of these considerations must be documented and added to the GAP/FIT worksheet.

Evaluation of Business Processes GAP/FIT

The GAP/FIT worksheet forms the foundation for the evaluation of the business processes. The outcome of this evaluation determines whether a project can be categorized as either a “reasonable risk” project and then the team can continue with the tasks in the next workgroup (Scope the Project), or whether the project is “high risk.” If the project is evaluated as being “high risk,” the team must continue with the tasks in either the High Risk Pre-Analysis Proposal workgroup or the Detailed Analysis/Detailed GAP/FIT Analysis workgroup in the Analysis Phase.

Scope the Project Workgroup

This workgroup involves the following tasks:

- **Business process scoping**
- **Preliminary infrastructure analysis**
- **Determining the project type**
- **Project planning**

Business Process Scoping

The purpose of the task of business process scoping is to establish, together with the customer, a common starting point for the project and to ensure that all stakeholders have the same view of what business processes and interfaces to other systems will be included in the final proposal.

The Business Process Scope document must contain a clear identification of all business processes, categorized into one of the following categories:

- **Business processes in scope**
- **The parts, if any, of business processes in scope that will not be covered by the solution and the reason why**
- **Interfaces to other systems in scope**
- **Business processes out-of-scope, and the reason why they are out-of-scope**
- **Interfaces to other system out-of-scope, and why they are out-of-scope**

It is important to use industry-specific term, if possible, to make it easy for the customer to get an overview and clear understanding of the scope.

If the project is categorized as "high risk" but the customer hasn't agreed to an in-depth analysis of selected critical business processes, it is important to use experience from previous projects and/or industry-specific knowledge to describe which parts of the critical business process are in scope and those parts that will not be covered the proposed solution.

If a business process in one of the categories is created, a detailed GAP/FIT analysis document and reference to the document must be included in the Business Scope Document.

Preliminary infrastructure analysis

The next task in the workgroup, analyzing the preliminary infrastructure, is done to get an overview over the customer's IT infrastructure and to gather information about, for example:

- **Type of operation system (existing and/or preferred)**
- **Number of concurrent users**
- **Amount of data per time unit (for example, sales and purchase order lines)**
- **Locations and departments that are in scope and type of connections**
- **Remote connections**
- **Interface to/from Microsoft Dynamics NAV to third-party source**
- **Data migration (legacy data to be migrated, data formats, accessibility to data, and who is responsible for the legacy data's availability in the right formats)**
- **Locations and departments that are out-of-scope and the reason why they are out-of-scope**
- **Any possible plans for significant changes in the infrastructure (and budget for changes in the infrastructure)**

The findings of this preliminary analysis are then evaluated against the system requirements and other key indicators for Microsoft Dynamics NAV and the add-on(s) if available.

If the result of the evaluation indicates it is a complex solution with a high risk of realizing performance problems when the solution goes "live" at the customer's, then additional time should be included in the calculated time for a performance test and/or for fine-tuning the program during the implementation.

If the evaluation leads to the conclusion that there is a "performance show-stopper" with no possible workaround, stop the project giving the customer an explanation and suggesting another Microsoft product.

Determining Project Type

The next task in the workgroup, determining the project type, defines what process to follow to meet the customer's implementation expectations. As described earlier in this document, there are three project types: Basic (2+5+2); Medium Size; and Full Size. Refer to section 1 in this white paper for more details about project types.

Project Planning

The final task in this workgroup is Project Planning. The purpose of this task is to create a Project Plan that can be used as input to the proposal. The plan should contain the following:

a) Estimated time and cost
b) Project schedule
c) Allocated resources
d) Risk and issue assessment

a) Estimated time and cost
Estimates provide information for calculation of the budget estimate and identify the resources needed to perform the work. If the project is categorized as "high risk" and the customer didn't accept the proposal for a detailed GAP/FIT analysis, use a conservative estimate. Break down the estimated time required to complete tasks by area and calculate how much time there will be required for completion of each component of the project. The plan should include time estimates for design, development, testing, and project management

b) Project schedule
The project schedule provides the basis for the customer to verify timelines and for the project team to produce a constrained master plan form, which can validate proposed budgets and resources.

c) Allocated resources
Allocating resources involves skills and knowledge transfer and possibly planning the team structure.

d) Risk and issue assessment
Risk assessment includes the following:

- **Risk identification - a list of project risks and the conditions and consequences of each of the risks**
- **Risk analysis - the assessment of any risks**
- **Risk plan - actions that will prevent the risks**
- **Risk priorities - the top risks the project should focus on**

Proposal to the Customer Workgroup

The Proposal is a key document in every implementation project because it outlines and presents the solutions that will be implemented, and the conditions for the implementation. The contents of a Proposal can be determined by a Request for Proposal (RFP) document. The Proposal must be a clear and understandable document for the customer but also for the implementation team. It is important that the document makes it possible to track possible future changes to the solution and/or the conditions. (Be aware that a Proposal can contain legal implications.)

Possible Contents of a Proposal

Executive Summary:

- **Brief description of the proposal appropriate for a customer executive audience**
- **Include key milestones and dates**

Business Opportunity:

- **Describe the customer's background situation and expectations of the project (to demonstrate understanding of the customer's business and environment)**
- **Solution benefits – describe the solution value proposition**
- **Why [Partner Name]? Describe why the customer should chose the particular Partner for the implementation**

Solution Overview:

- **Present how the implementation team plan to address the customer's expectations, project goals, and objectives**

Proposed Solution:

- **Summary of the Project Scope – list of scope items described in the Scope Document and approved by the customer**

Project Timeline:

- **Project schedule - the schedule provides the basis for the customer to verify timelines**

Project Organization:

- **Roles and responsibilities – including knowledge, skills, abilities, and team structure**

Project Management Approach:

- **Specification of project management responsibilities for the project**
- **Communication plan**
- **Issue management procedure**
- **Change control**

Pricing:

- **Statement regarding a fixed price or an estimate based on time and materials**

Project Assumptions:
Describe key assumptions made with respect to the scoping, approach, estimating, and pricing. The assumptions can include, but are not limited to, statements regarding:

- **Schedule, timeline, and cost**
- **Customer performance**
- **Customer or third-party provided information**
- **Infrastructure or application functionality**
- **Data migration**
- **Timely decision-making by customer**
- **Dependencies**

Managing the Proposal Process

The process leading to the customer's acceptance of the Proposal can be complicated and have its ups and downs; both the sales team and implementation team are normally involved in the process.

The Proposal itself can go through many changes and can exist in several different versions. Therefore, it is important to keep track of all changes through all versions and be absolutely sure which version is the valid one.

The process can have different exit scenarios:

1. The customer accepts the Proposal, signs an agreement (contract) and the project can move to the next phase and be started.

2. The customer wants changes to the Proposal, these changes are negotiated, and the outcome of the negotiation is an agreement to sign a contract based on the original Proposal + Agreed Changes.
3. It is agreed to improve the foundation for an agreement (contract) by carrying out a more detailed analysis in the Analysis Phase of the project before final acceptance of an agreement (contract). The reason for such an analysis can be because of a number of gaps in the critical business processes.
4. The customer wants changes to the Proposal and these changes are not negotiable and not acceptable. The project is stopped but it is always a good idea to get the customer to sign off on a Post Mortem[3] of the Pre-Analysis in order to find out and learn from reasons the project was stopped.

The Analysis Phase

The purpose of the Analysis Phase is to break down the scope from the Pre-Analysis Phase into more detail by analyzing areas such as:

- **GAP/FIT**
- **Functional Requirements**
- **Data Migration**
- **Infrastructure**

The analysis leads to:

- **Detailed scope for the rest of the project**
- **Document containing interface requirements**
- **Decision to bring additional ISV Solution and/or modules**
- **Functional requirements and test plans**

Based on these documents a Proposal (agreement and contract) is accepted by the customer.

For the Basic and Medium Size types of projects, selected activities can be carried out in this phase in order to get more detailed information. This is to improve the foundation for the final customer acceptance of the Diagnostic Proposal, before the project can move forward to the Deployment Phase.

The following sections describe the workgroups and tasks in the Analysis Phase.

Planning Workgroup

This workgroup involves the following tasks:

- **Update the project plan - Update or make a Project Plan and Schedule for the activities in the Analysis Phase.**
- **Define training - Identify the needs for training the customer's key-users before the start of the detailed analysis activities, and decide to what extent the use of customer specific data is necessary for the training and the analysis activities.**
- **Create environment - Install Microsoft Dynamics NAV in a "sandbox" environment. To be able to train the key-users and carry out the detailed analysis, the sandbox must contain the system modules described the Pre-Analysis Proposal.**

Training Workgroup

This workgroup involves the task of training key-users. Training of the customer's key-users in the program modules that are included in the detailed analysis is very important. The result of training must be that the key-users understand how Microsoft Dynamics NAV works and can

[3] This can be a checklist

combine this with their knowledge of the business processes when there are discussions about either changing a business process or customizing the program.

Detailed Analysis Workgroup

This workgroup involves the following tasks:

- **Detailed GAP/FIT analysis**
- **Detailed scoping**
- **Update of business model**

Detailed GAP/FIT Analysis

The Detailed GAP/FIT Analysis must include all the identified gaps found in the High-Level GAP/FIT Analysis in the Pre-Analysis phase, as well as business processes not included in that analysis.

This detailed analysis is done in a workshop, focusing on how to close any gaps and on business processes not included in an analysis, before trying to perform the activity in Microsoft Dynamics NAV. It is a good idea to use master data (customers and items), which the key-users are familiar with in the workshop, instead of using standard demo data.

For each activity, the workshop participants must decide whether to close an identified gap by changing the business process or to write a Functional Requirement, describing the missing functionality in Microsoft Dynamics NAV, including the need for print outs or documents.

The exit criteria for the Detailed GAP/FIT analysis are that all identified gaps are closed by one of the above mentioned actions. Future business processes have been sketched and documented but are still not a part of the actual scope.

Detailed Scoping

The task of Detailed Scoping involves going through all functional requirements identified in the Detailed GAP/FIT Analysis workshop and making a final decision to keep them in scope or not. Before a decision can be made, an estimate of time and materials is normally required.

Update Business Model

The final task in this workgroup, updating the business model, ensures that any decisions made during the Detailed GAP/FIT Analysis workshop to revise or optimize business processes are documented in the company's Business Model. The same must be done if any Functional Requirements are scoped in the detailed scoping activity.

Decision Point Workgroup

This workgroup involves the following tasks:

- **Evaluate ISV solution and/or additional modules**
- **Describe functional requirements**
- **Update project plan**

Evaluate ISV Solution

The first task in this workgroup is to evaluate if some or all of the decided functional requirements can be met by adding an ISV Solution (add-on solution) to the proposed solution, or alternatively if the requirements can be met by adding more Microsoft Dynamics NAV modules. It could also be necessary to do both.

Describe Functional Requirements

The next task is to describe the scoped functional requirements at an appropriate level of detail so that they can be taken forward to the Design Phase or to the customization activity in the Deploy Phase.

Updating Project Plan

The Project Plan must be updated with the decisions made in the Analysis Phase because the plan is important input to the Proposal for the Remaining Project.

Contractual Decisions Workgroup

This workgroup involves the following tasks:

- **Creating a proposal for the remaining project**
- **Customer sign off**

Proposal for the Remaining Project

The Proposal for the Remaining Project can be an updated version of the proposal from the Pre-Analysis Phase, or a new proposal based on the decisions made in the Analysis Phase.

Customer Sign Off

The task of getting the customer to sign off on the project is the last task in the Contractual Decisions Workgroup and is necessary to finalize the agreement (contract) with the customer for the rest of the project. The activity can have different exit scenarios:

1. The customer accepts the Proposal, signs an agreement (contract) and the project can move to the next phase and be started.
2. The customer wants changes to the Proposal, these changes are negotiated, and the outcome of the negotiation is an agreement to sign a contract based on the original Proposal + Agreed Changes.
3. The customer wants changes to the Proposal and these changes are not negotiable and not acceptable. The project is stopped, but it is always a good idea to get the customer to sign off on a Post Mortem[4] of the Pre-Analysis in order to find out and learn from reasons the project was stopped.

The Deployment Phase

The Deployment Phase is often described as the “turnover to the new system” or the “Go Live” phase. A successful Deployment Phase depends largely on the work done in the previous phases (the Sales Phase, the Diagnostic Phase, and possibly the Analysis Phase).

The content of the Deployment Phase is usually product specific, because different Microsoft Dynamics products are implemented in different customer segments, and have different guidelines and tools to support the implementation. But all the product specific guidelines and tools derive from the Microsoft Dynamics Implementation Methodology.

The Microsoft Dynamics NAV Deployment phase is based on the 2+5+2 concept, with additional areas such as Manufacturing and Warehouse, and activities such as:

- **Developing and finalizing the agreed customization**
- **Creating and finalizing agreed print outs and documents**

The following sections describe the workgroups and tasks in the Deploy Phase.

[4] This can be a checklist

Preparation Workgroup

This workgroup involves the following tasks:

- **Planning**
- **Installation**
- **Implementation Questionnaire**
- **Company setup**

Planning

The task of planning in the Deployment Phase involves preparing the actual implementation and includes tasks such as:

- **Knowledge transfer from the sales team to the implementation team, updates concerning the customer, agreements (contracts), scope, and updates from the activities in the Analysis Phase.**
- **Meeting the customer. If the project has moved from the Pre-Analysis Phase directly to the Deploy Phase this is the opening meeting, and the outcome of such a meeting must be that the customer is aware of the next steps and has a full overview over the process and their own involvement in it.**
- **Additional meetings if Microsoft Dynamics NAV modules, such as Manufacturing and Warehouse, are included in the implementation process.**
- **Project planning – a plan of what to do.**
- **Scheduling – deciding on dates.**

Installation

The installation task in the Deployment Phase involves installing Microsoft Dynamics NAV client and database on a server that the customer has made available. Depending on the agreement, the installation is either a sandbox installation or the production system. The installation is done according to the Microsoft Dynamics NAV Installation Guide. The server and clients must meet the system requirements for the relevant Microsoft Dynamics NAV version.

Implementation Questionnaire

The Implementation Questionnaire is given to ensure that the actual Microsoft Dynamics NAV setup matches the business processes. The Implementation Questionnaire is prepared by creating an Excel workbook containing the particular questions for the application areas to be implemented.

The implementation team introduces the Implementation Questionnaire to the customer team, and the customer can fill out the questionnaire alone before reviewing the result or the questionnaire can be completed together with the implementation team. When the Implementation Questionnaire is finalized, it is reviewed by the implementation team and the customer.

Company Setup

The task of setting up a company is the final task in the Preparation Workgroup.
To create a company in Microsoft Dynamics NAV:

1. Import the industry-specific setup data from the setup data repository (XML files).
2. Review that the imported setup data is covered by the customer's actual Microsoft Dynamics NAV license.
3. In the Migration Overview window, control that all the data is successfully imported.
4. Import the answers from the reviewed Implementation Questionnaire.
5. Make the final validation of the imported answers from the Implementation Questionnaire.
6. Apply the imported answers from the Implementation Questionnaire to the database.

7. Import the Roles and Permissions covering core Microsoft Dynamics NAV granules (this step is optional). The User Rights Tool can be used to adjust the core Microsoft Dynamics NAV Roles and Permissions to the actual customer installation.

Implementation Workgroup

This workgroup involves the following tasks:

- **Data migration**
- **Print outs and documents**
- **End-user training**
- **Customization**

Data Migration

The task of data migration in the Deployment Phase is to migrate the legacy data for the project that was identified in the Diagnostic Phase and/or the Analysis Phase.

Pre-conditions for data migration:

- **Each data type to be migrated must be identifiable**
- **The data type is included in the agreed scope**
- **A design document with the following contents is available:**
    a. Description of the legacy data contents
    b. The data format the legacy data will be delivered in
    c. The accessibility of the data (location and timeframe)
    d. Person responsible for the legacy data being available in the agreed location, in the right data format, and at the agreed time
    e. The design of the import routine
    f. The part of the legacy data to be imported

Remember that valuable customer data is moved from one environment to another. When planning the data migration process it is important to uncover possible outside threats, such as:

- **Tampering with data**
- **Information disclosure**

These threats can be categorized using STRIDE, an acronym derived from the six threat categories described in the following table.

Category	Action
Spoofing identity Spoofing threats allow an attacker to pose as another user or allow a rogue server to pose as valid.	Normally not a threat in an implementation project.
Tampering with data Data tampering involves malicious modification of data.	The customer performs a data audit of the imported data either in an import file or before the final application of data to the database.
Repudiation Repudiation threats are associated with users who deny performing action without other parties having any way to prove otherwise.	Normally not a threat in an Implementation project.
Information disclosure Information disclosure threats involve the exposure of information to individuals who are not supposed to have access to it.	If information is exported from a customer legacy system it may be temporarily stored as XML or Excel files. Plan to set up a safe environment and make it possible to control who has access to files.
Denials of service Denials of service attacks deny service to valid users.	Normally not a threat in an implementation project.
Elevation of privilege Un unprivileged user gains privileged access.	Review the user permissions to the system as a planned part of the system acceptance test.

STRIDE Categorization

To migrate data:

1. Check that the agreed legacy data is available in the agreed data format and that there is accessibility to the data.
2. Establish a folder structure in a secure migration environment with limited access to the information to avoid tampering with data and Information disclosure.
3. Import the data from the legacy system.
4. Perform, together with the customer representative, a data audit of the imported data.

Print Outs and Documents

The task of designing and creating print outs and documents (reports) that were identified in the GAP/FIT analysis is the next task in the Deploy Phase. Each report must be:

- **Included in the agreed scope**
- **Able to be separately identified**
- **Described as Report Layout**

The customer must approve the Report Layout.

End-user Training

End-User training can be executed using different approaches, such as group training classes, 1:1 training, or train-the-trainer.

Guidelines:

1. Define training classes
2. Establish dates and names of the participants for each training class
3. Ensure that the customer has the decision-making authority
4. Ensure there are training facilities available
5. Ensure training material is available
6. Make sure class participants know about the date, time, location, and any possible preconditions of the course
7. Follow up that the required participants actually participated in the training

Customization

The customizations of Microsoft Dynamics NAV that were identified in the Diagnostic Phase and/or Analysis Phase are now made during the Deployment Phase of the project. Each customization must be:

- **Included in the agreed scope**
- **Able to be separately identified**
- **Described in a Design Document (which the customer approves)**

The Design document describes, besides the design of the feature, also the rationale for the customization, and the consequences for upgrading the code in connection with new releases of core Microsoft Dynamics NAV code.

<u>Customization with C/SIDE</u>

The C/AL Programming Guide and The Application Designers Guide (on the Microsoft Dynamics NAV product CD) is an introduction to working with C/SIDE. To minimize later upgrade and migration work, the following sections highlight some issues concerning some C/SIDE objects.

Tables

If a requirement includes a need for change of the data model, consider the following:

- **It is not advisable to copy existing tables to implement new functionality because it is necessary to modify Forms, Reports, and Codeunits with reference to that table to make sure that the application still functions**
- **If you change OptionString properties on fields, leave room for core Microsoft Dynamics NAV to add new options in future releases by adding an "empty" option value in the option string before the customer-specific option values**
- **Keys and indexes (performance starts at the data model)**

Forms

The Microsoft Dynamics NAV Form Designer is an excellent tool for rapidly designing new forms, so consider building smaller componentized forms instead of changing existing forms, in order to minimize the upgrade work. Having built smaller componentized forms, it is possible to upgrade the parts independently and it is not necessary to consider the interaction between information.

Consider the following best practice concerning Reports to minimize upgrade and migration work:

- **If it is necessary to add business logic (C/AL code) to a Report, consider adding the business logic in a codeunit and use the Report as the "presentation" layer. By separating the business logic from the Report, it is possible for parts of the code to access the code in the code unit and even make a call through the Application Server.**

Data Ports / XML Ports
When importing and exporting data to and from third-party sources, data ports make it possible to work with traditional fixed format and delimited data and XML ports make it possible to work with XML.

Codeunits
Consider the following best practices concerning codeunits to minimize upgrade and migration work and to simplify development work:

- **Avoid using code that will stop processes and require waiting for user input (functions such as CONFIRM and STRMENU).**
- **Consider making new Codeunits instead of changing existing ones. If the code needs to be referenced in a core Codeunit (for example Codeunit 80, Sales-Post) reference the new Codeunit with a variable and pass the relevant variables (as Ref variables) to work with. This has the advantage that only limited code has to be inserted in a core Codeunit.**

Menu System
The Navigation Pane provides users with a way to find customizations that have been done in the project. If you have added new functionality with the customization, create a new menu item to appear on the list of functionality. Alternatively, if the customization is adding to existing core modules, add this to an existing menu structure.

Endgame Workgroup

This workgroup involves the following tasks:

- **Customer acceptance test**
- **"Go Live," resolve issues**

Customer Acceptance Test

When the customization is complete, it is time to bring the completed database or the individual objects to the customer site, together with some test data.

Set up as a local database and give the end-users a short introduction to what has been customized, and then turn them lose on it for testing. (The users participating in the test must have been through user training before performing the test.)

Do not install the test version on the customer's server; also note that the testing must be done with the customer's license, so that problems with the license will be discovered before "Go-Live."

Issues may be found in the acceptance test. If so, review them to make sure they are really problems with the program rather than a change in requirements. Do not accept a change in requirements as a bug. Make sure that all valid bugs are logged.

Once the issues have been resolved, let the users perform further testing. Finally, get the customer to sign off on completion of the work and proceed to the next task in the endgame.

Go-Live, Resolve Issues

The project is not considered complete until the customer has given a final approval. However, this is due once all setup processes are signed off, all customizations are approved, and all bugs are resolved.

Operating Phase

The Operating Phase of the Implementation Project encompasses the final activities that are performed before moving back into the Sales Phase. Pending items are closed and, most importantly, the customer satisfaction with the project is measured and documented in a Post Mortem.

The activities in this phase are on-going activities performed after the project is closed and throughout any future involvement with the customer.

The Operating Phase can, in some scenarios, be followed by an Optimize Phase (normally in Full Size Implementation Projects) but for most Basic and Medium Size Projects the customer is signing up for on-going technical support, and to receive on-going account support.

The following sections describe the workgroups and tasks in the Operating Phase.

Project Closing Workgroup

This workgroup involves the following tasks:

- **Clear pending items**
- **Finalizing documentation and knowledge transfer**
- **Post mortem**
- **Technical support - project**

Pending Items

In the Operate Phase, open or pending items from the Deploy Phase must be cleared. These items are normally mainly administrative and do not inhibit the effectiveness of the total solution.

Finalize Documentation and Knowledge Transfer

All documentation about the project must be finalized and the transfer of information completed as part of the Project Closing workgroup.

Post Mortem

A post mortem of the project is undertaken to get essential feedback about the implementation process, both from the customer and the implementation team.

Questions to ask:

- **What did we do right?**
- **What did we do wrong?**
- **Did we meet the customer's expectations?**
- **Are we learning lessons again that we thought we'd learned years ago?**

Technical Support - Project

Activities in this phase are related to the support of the new system during an agreed period after the solution has "gone-live."

Post Project Workgroup

This workgroup involves the following tasks:

- **Technical support - post project**
- **Responsibilities transfer – account support**

Technical Support - Post Project

Activities in this phase are related to the maintenance and support of the new system and monitoring the customer's future needs due to growth and business developments.

Responsibility Transfer - Account Support

Once the project is completed, the customer might have a list of improvements to be implemented in a second project. The support of a customer in the "Customer for Life" program requires that the on-going management responsibilities of the customer are transferred from the implementation team to the sales support team.

Conclusion

Microsoft Dynamics NAV RIM reduces the implementation cycle and decreases the risks involved in a project (making them more transparent) by automating and simplifying recurrent processes and by introducing a phased based approach.

RIM also utilizes better use of resources by freeing up experienced consultants to do work that adds value to the customer, and increasing the opportunities for collaboration with other Partners. Finally, and perhaps most importantly, RIM helps to increase customer satisfaction.

The information contained in this document represents the current view of Microsoft Corporation on the issues discussed as of the date of publication. Because Microsoft must respond to changing market conditions, this document should not be interpreted to be a commitment on the part of Microsoft, and Microsoft cannot guarantee the accuracy of any information presented after the date of publication.

This White Paper is for informational purposes only. MICROSOFT MAKES NO WARRANTIES, EXPRESS, IMPLIED, OR STATUTORY, AS TO THE INFORMATION IN THIS DOCUMENT.

Complying with all applicable copyright laws is the responsibility of the user. Without limiting the rights under copyright, no part of this document may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without the express written permission of Microsoft Corporation.

Microsoft may have patents, patent applications, trademarks, copyrights, or other intellectual property rights covering subject matter in this document. Except as expressly provided in any written license agreement from Microsoft, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property.

© 2006 Microsoft Corporation. All rights reserved.
Microsoft, The Microsoft Dynamics Logo, and Excel, are either registered trademarks or trademarks of Microsoft Corporation or Microsoft Business Solutions ApS in the United States and/or other countries. Microsoft Business Solutions ApS is a subsidiary of Microsoft Corporation.