

e-Con for Dynamics NAV

User Manual

Project :	e-Con 4.1
Author:	Marijn van Poelje
Company	To-Increase B.V.
Date	November 25, 2008

Document Information

Document number	
Version	1
Status	Final
Title	e-Con for Dynamics NAV
Subject	User Manual
Author	Marijn van Poelje
Department	Development
Manager	Marijn van Poelje
Project	e-Con 4.1
Last saved	09/01/2006 14:53

Revision history

Version	Date	Status	Changes
1	09/01/2006	Final	Final version

© Copyright 2005 To-Increase B.V. All rights reserved.

The information in this document is subject to change without notice. No part of this document may be reproduced, stored or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of To-Increase B.V. To-Increase B.V. assumes no liability for any damages incurred, directly or indirectly, from any errors, omissions or discrepancies between the software and the information contained in this document

Table of Contents

Chapter 1	e-Con NAV Overview	4
1.1	Purpose of e-Con NAV Module	4
1.2	Tables.....	4
1.2.1	e-Con Studio.....	4
1.2.2	e-Con Project.....	4
1.2.2.1	Fields of the General Tab.....	5
1.2.2.2	Project Button.....	6
1.2.2.3	Model Button	6
1.2.3	Generic Models	6
1.2.3.1	Fields of the General Tab.....	7
1.2.3.2	Fields of the XML Tab	8
1.2.3.3	Model Button	10
1.2.3.4	Functions Button.....	13
1.2.4	Configure	17
1.2.5	Decision Matrices Pro.....	19
1.2.5.1	Matrix Button.....	20
1.2.5.2	Decision Matrices Pro Version.....	20
1.2.5.3	Version Button	21
1.2.5.4	Decision Matrices Pro Lines	21
1.2.5.5	Line Button.....	22
1.2.5.6	Decision Matrix Pro	22
1.2.5.7	Relation Button.....	24
1.2.5.8	Decision Matrix Pro Link Ext. (Additional Data F8).....	24
1.2.5.9	Functions Button.....	24
1.2.5.10	Decision Matrix Pro Ext. Data.....	25
1.2.5.11	Functions Button	26
1.2.6	Reports	26
1.2.7	Setup	27
1.2.7.1	E-Con Setup	27
1.2.7.2	e-Con NAS Handling (Navision Application Service)	30
1.2.7.3	Remote User Roles (for future use).....	34
1.2.7.4	Modelling	34
1.2.7.5	Repository	43
1.2.8	Periodic Activities	45
1.2.8.1	Batch Context Transition.....	45
1.2.8.2	Batch Modify Configurations.....	46
1.2.8.3	Batch Generate Matrix Options.....	47
1.2.8.4	Import/Export.....	47

Chapter 2	How to	50
2.1	How to Make Your Model Multilanguage Compatible	50
2.1.1	How to Set Up Multilanguage Functionality	50
2.1.2	How to Add Multilanguage Functionality to a Model.....	52
2.2	How to set up recovery	53
2.3	How to change the set up for e-Con	55
2.4	How to Set Up the NAS for e-Con.....	57
2.5	How to Import or Export Models	58
2.6	How to View Your Configurations	62
2.7	How to Start Up Your Model	63
2.8	How to Start Up the e-Con Studio	64
2.9	How to Set Up the Context-driven Functionality.....	67
2.9.1	Context	68
2.9.2	Context Transitions	70
2.9.3	How to Retrieve the Context Variable in e-Con.....	71
2.10	How to Set Up Decision Matrices.....	73
2.10.1	Overview	73
2.10.2	Setting up the Matrix	73
2.10.3	Adding additional data to a checked field in the matrix.....	77
2.10.4	Checking the default option in the matrix.....	79
2.10.5	Add the Relevant Business Rules.....	80
2.11	How to Add Environment Invocation.....	80
2.12	How to Batch Modify Configurations	82
2.13	How to synchronize my configurations against the latest model	85
2.14	How to save my model without leaving the UI (posting).....	87
Chapter 3	Troubleshooting	90
3.1	How to Solve Errors in the Data structure after configuration.....	90
3.2	Common Procedure for Resolving Errors	93
3.3	How to restore erroneous lines.	100
3.4	Tracing of XML	101
3.4.1	Tracing of request and response messages	101
3.4.2	Tracing of configuration XML.....	101
3.5	List with most common syntax errors	102
3.6	List with most common .Net compile errors.....	103

Chapter 1 e-Con NAV Overview

1.1 Purpose of e-Con NAV Module

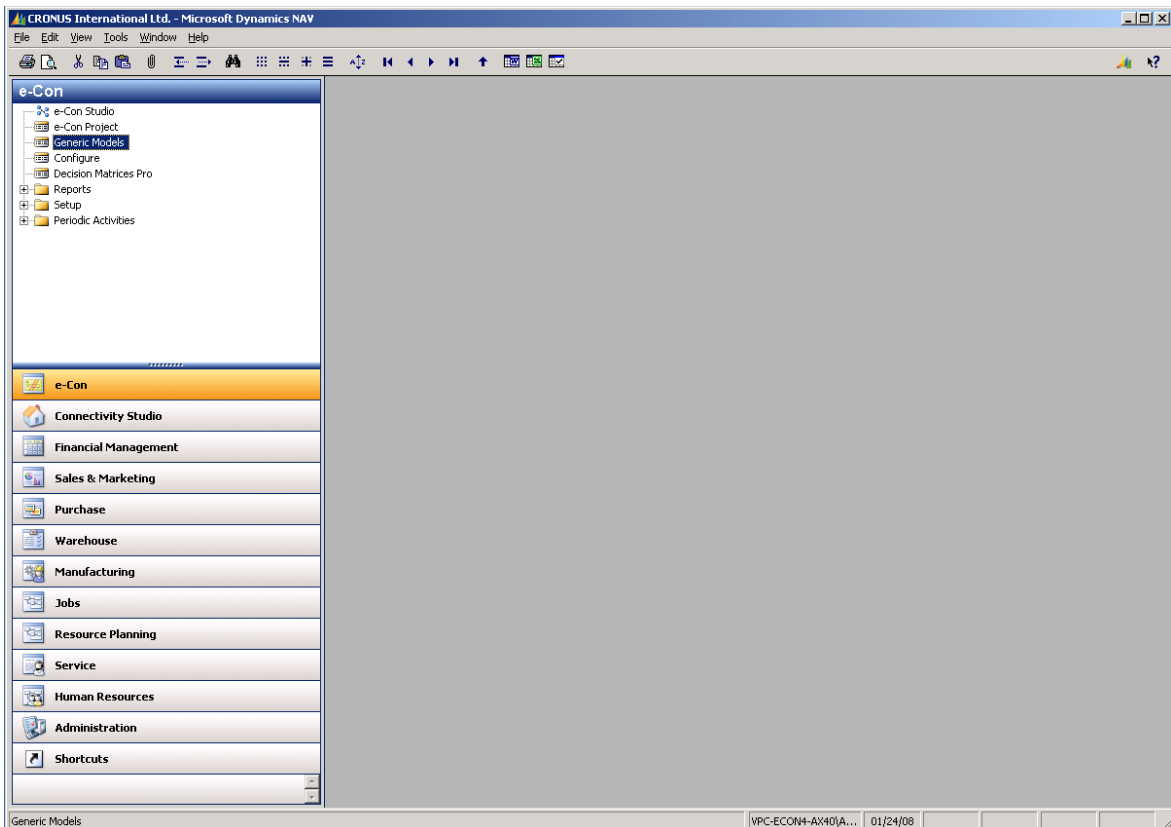
The purpose of the e-Con NAV is:

- e-Con repository for e-Con models and configurations
- to insert, modify or delete NAV database records based on the e-Con configurations
- connect the e-Con models to the business process

In fact, e-Con NAV is the Back End of e-Con.

1.2 Tables

This section describes all the tables and forms that are used in e-Con NAV.



1.2.1 e-Con Studio

This will startup e-Con studio with the environment settings used for the Dynamics NAV company.

Note: Maintaining models, structure and rules, is done in e-Con Studio not in e-Con NAV.

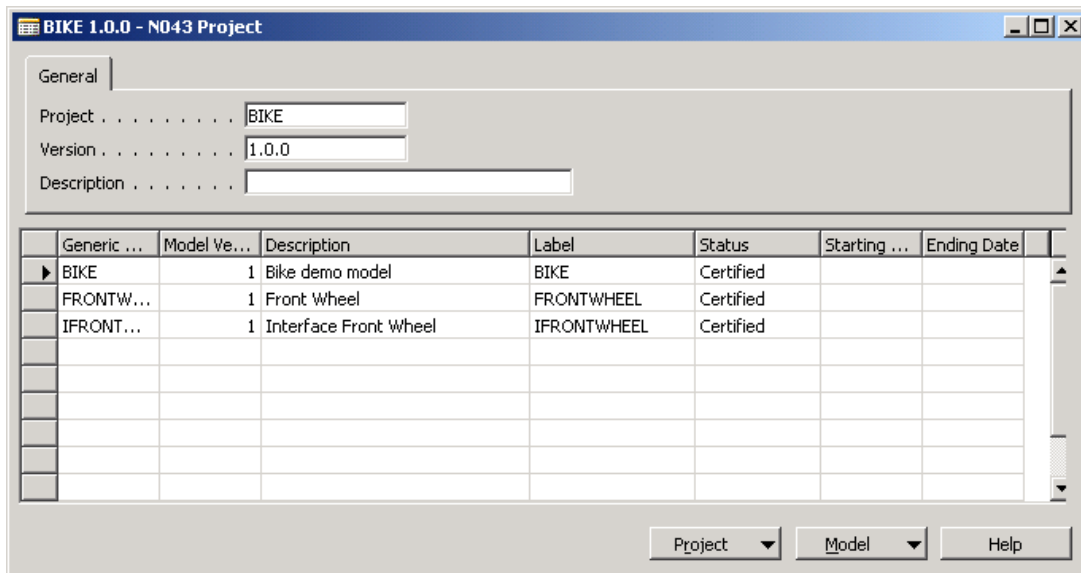
1.2.2 e-Con Project

e-Con Projects can be used to manage your models. Models and sub models can be tight together in a project.

Note: Creating and maintaining projects can be done both in e-Con NAV or in e-Con Studio.

Convenient tools are available in the projects like:

- Open e-Con studio for a project to maintain the models within the project.



1.2.2.1 Fields of the General Tab

Project

The Project name entered in e-Con Studio.

Version

The Project version entered in e-Con Studio.

Description

The description of the project. Not used !

Generic Model

Names of the models selected in e-Con Studio for the project.

Generic Model Version

Version of the model selected for the project.

Description

Description of the e-Con model selected within the project

Label

Version label of the e-Con model selected within the project

Status

Status of the e-Con model selected within the project

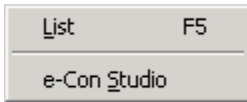
Starting date

Starting date of the e-Con model selected within the project

Ending date

Ending date of the e-Con model selected within the project

1.2.2.2 Project Button



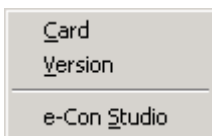
List

Will display a list of available e-Con projects. A project can be selected from here

e-Con Studio

Start e-Con Studio for this Project. e-Con Studio will be opened with the project and models available in the Project Explorer.

1.2.2.3 Model Button



Card

Will display the e-Con generic model card of the selected e-Con model.

Version

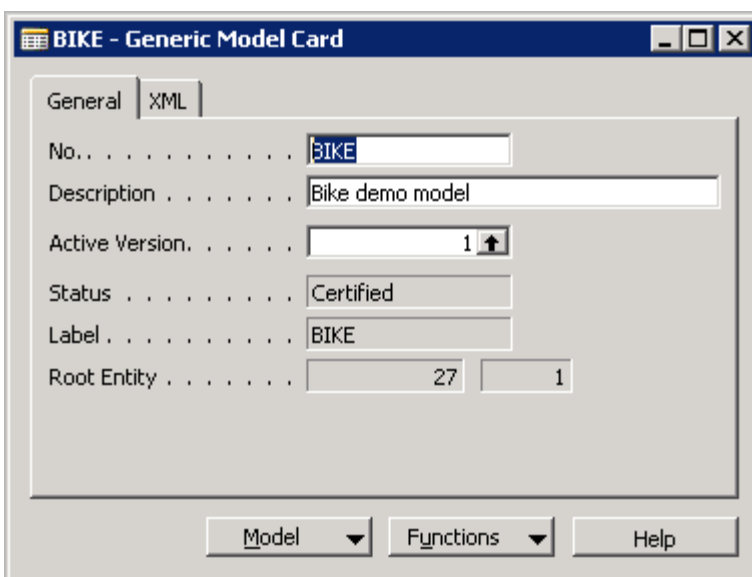
Will display the version list of the selected generic model.

e-Con Studio

Start e-Con Studio for of the selected model. e-Con Studio will be opened with the selected model.

1.2.3 Generic Models

The highest level of the structure is the generic model. On the Generic Model Card, the data for the generic model is visible. Note : Models are created and maintained in the e-Con studio.



1.2.3.1 Fields of the General Tab

No.

The name of the Generic Model entered in e-Con Studio.

Description

Description of the Generic Model entered in e-Con Studio as label for the Root entity.

Active Version

The active version of the Generic Model is the version that will be used when the model is used to configure. The version will become active after building the version in e-Con Studio for the model. A model can have different versions. This can be useful for maintenance of the model. An earlier version can still be active in a Live environment and a newer version can be active in the Development and Test environment. A model version can be exported to other environments.

Status

The status of the active version is shown. The status is updated when the model version is build in e-Con Studio. There are four different statuses:

New: (not used)

Under Development: With the status "Under Development" the model version cannot be used for configurations in NAV. In most cases this status will appear when the build of the model version in e-Con Studio is not successful. Proper error messages will be shown in the e-Con Studio Output pane.

Certified: When the status is "Certified" the model version can be used to create configurations in NAV. E.g. when the Key Value of the Root Entity is selected in the Sales Order line, the Front End is started. When the model version is build in e-Con Studio and no error messages are shown in the Output pane the status is changed to "Certified".

Examples of error messages:

- The TableId of the root Entity is empty. Please associate your model to a table.
- Relation Type of Member Relation X/X is not defined
- Field no. of Member Relation X/X does not exist.
- Link of Member Relation X/X is not defined.

Closed: This status is selected for the model version in NAV when a version has to be blocked for use. The model version cannot be used for configurations in NAV. The model version can still be opened in e-Con Studio and after build will be "Certified" again.

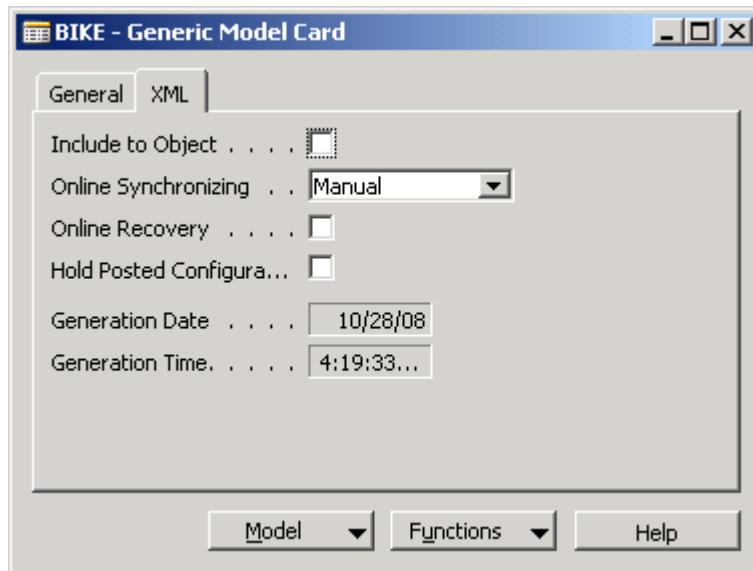
Label

This label is used as name of this Generic Model in the XML document. It is by default the same as the model name.

Root Entity

This is the first Entity of Generic Model version. In e-Con Studio the TableId for this entity is inserted. The line number is automatically created.

1.2.3.2 Fields of the XML Tab



Include to Object

When "Include to Object" is check-marked, the configured object of this generic model will be stored as a separate XML file object. This child object can be reconfigured independently of its parent object. For example, for an item main model on a BOM line of this item an "Include to Object" sub-model is used to configure a component item. Because of the "Include to Object" for the BOM line component a separate configuration is created. Therefore the component can be reconfigured without the main item. The relation between main item configuration and component item configuration will still be available. So changes to the component will be recognized when reconfiguring the main item configuration.

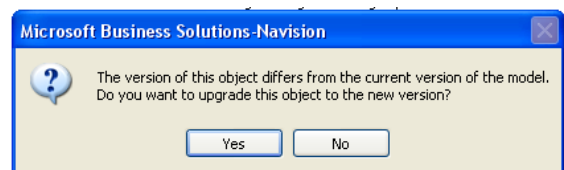
Online Synchronizing

The "online synchronizing" field has to do with the reconfiguration of an already configured object. When you reconfigure an object it will be synchronized with the active version of the base model. There are three ways of synchronizing:

Manual: When the flag 'Synchronize' of the configuration is check marked the configuration will be synchronized.

On Confirmation: You will be asked if you want to synchronize, no matter if the flag 'synchronize' is check marked.

Automatically: The object is always synchronized, no matter if the flag 'synchronize' is check marked.



For example:

On 23/03/01, a customer orders a series of 100 customer-specific bicycles at Cronus International. With the help of e-Con, a customer-specific Item with its customer-specific Bill of Material and Routing will be generated. On the 12th of April the same year, the customer again orders a series of 100 bicycles which are identical to the series ordered a few weeks before, except for the color. This time the customer wants a special color. So Cronus is searching for the item which had been generated a few weeks ago, and based on this item, a new item will be configured. If the "Online Synchronizing" field is check-marked, the already configured object will be merged with the current active model version before the user can reconfigure the object.

When the model is merged, all the data from the object that was already configured is imported to the newest model version and saved. Now all changes made to the base model are available in the reconfigured object.

Online Recovery

When processing a configuration an error can occur. With the option 'Online Recovery' the configuration is stored and can be reconfigured. In mean time it is possible to solve the problem. When starting the configuration again the stored configurations with errors will be showed and can be solved then.

Hold posted configurations (for future use)

Generation Date

Date the last active model version id build.

Generation Time

Time the last active model version id build.

1.2.3.3 Model Button

List	F5
Versions	
Interfaces	
Entities	
Variants	
Table Link	
Where-used	
Included Models	

List

This function under the "Model" button shows a list of all Generic Models. You can select another model in this screen, click "OK" and view it in the Generic Model Card.

Versions

This function shows a list of all versions of the current generic model.

Entities

This function displays the Entities of the active version of this Generic Model.

Variant

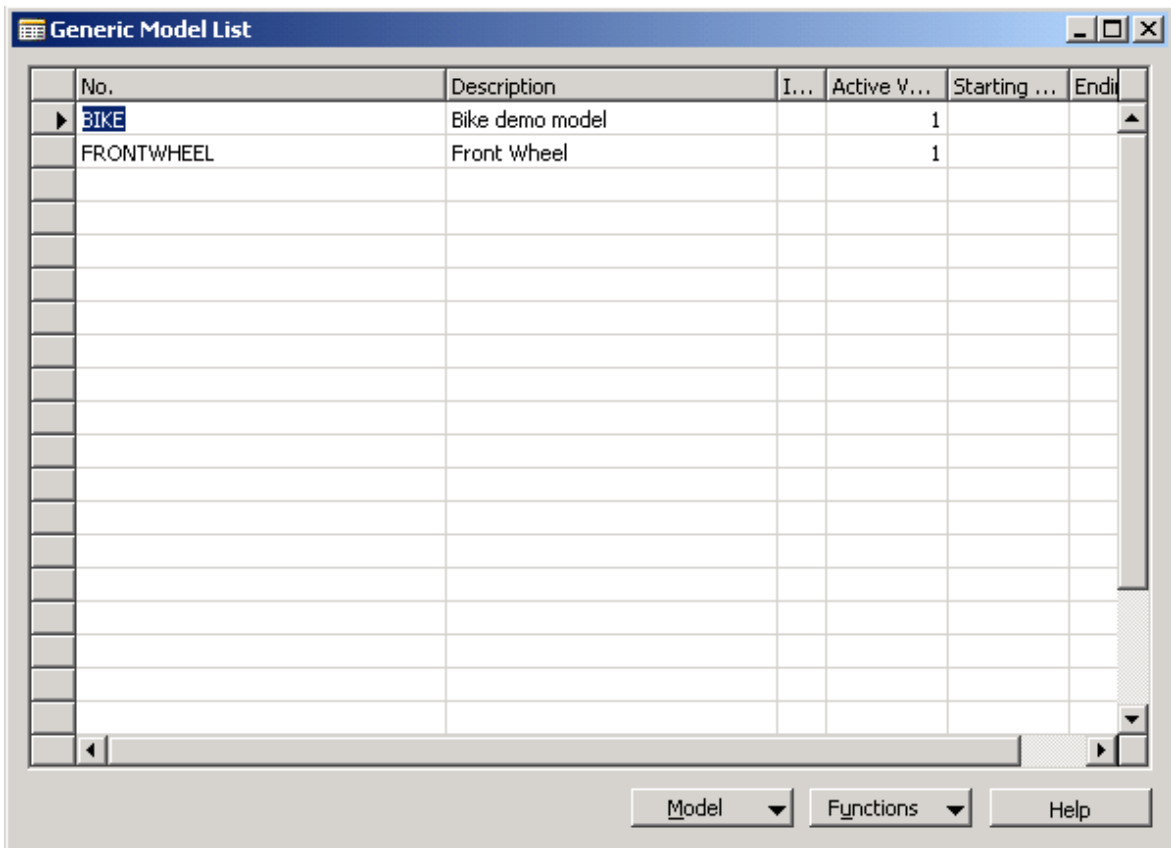
This function shows all the variants of the model which you are using in the Variant Configurator. For more information about the Variant Configurator is described in chapter 7 and 8.

Model table link

This opens the model table link setup for the current model. See chapter X for details on Model Table Link.

Where-used

With this function the models where this model is used in as sub-model are shown. Some model specific data can be consulted like versions, entities and configurations. Also some functions can be activated like configure. Following functions need extra explanation.



No.	Description	I...	Active V...	Starting ...	Endi...
BIKE	Bike demo model		1		
FRONTWHEEL	Front Wheel		1		

For example the Frontwheel model is used in the Bike model and the Frontwheel.

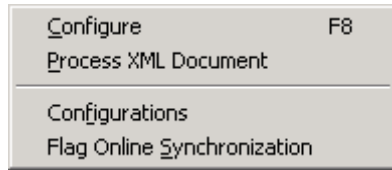
<i>No</i>	Name of the model
<i>Description</i>	Description of the model
<i>Active version</i>	Display the active version of the model
<i>Starting Date</i>	Start date when the model is valid
<i>Ending Date</i>	Until this date the model is valid

Model Button

<u>C</u> ard	Shift+F5
<u>V</u> ersions	
<u>E</u> ntities	

<i>Card</i>	This function goes to the Generic Model Card
<i>Versions</i>	This function goes to the versions of the selected model
<i>Entities</i>	This function shows the entities of the selected model version

Functions Button



Configure

This function start a new configuration base on the selected model version. The functionality is the same as in the Generic Model card.

Process XML document

With this function an existing XML object can be selected and will be used to insert data into the Dynamics NAV database. Same functionality as when use 'save' in the Front End. Useful with Offline configuration.

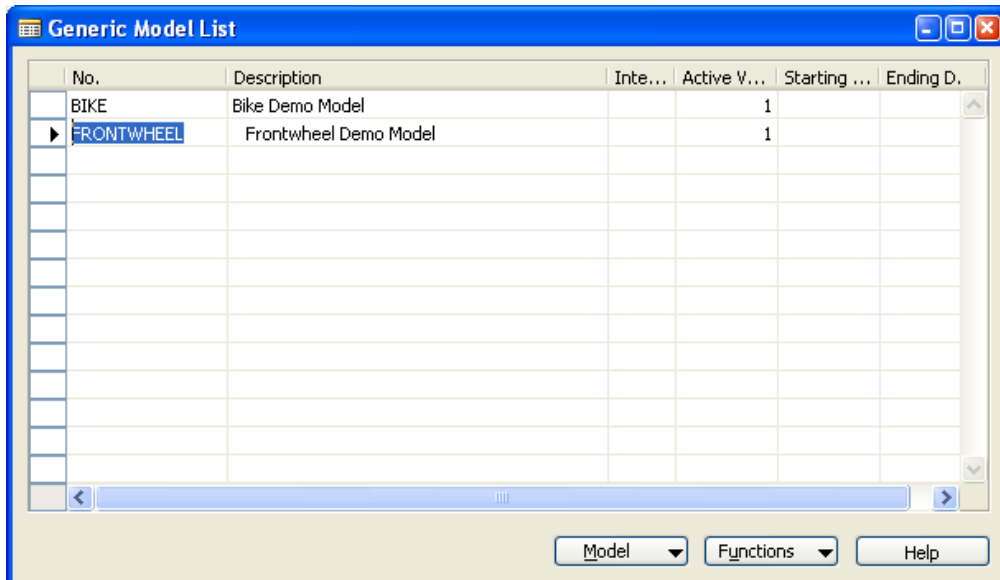
Configurations

This form displays the objects that have been configured from the Front End. Once the "Save" button is clicked in the Front End, this list will be updated.

Flag Online synchronization

With this function the Boolean field 'Synchronize' of the configurations of the selected model will be set to true. This means that when the configuration is reconfigured the object will be synchronized with the existing model version.

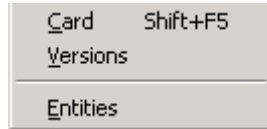
Included Models



This function displays the sub-models of the main model. For example the bike model consists out of Bike model and the Frontwheel.

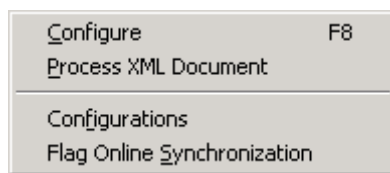
- No* Name of the model
- Description* Description of the model
- Active version* Display the active version of th model
- Starting Date* Start date when the model is valid
- Ending Date* Until this date the model is valid

Model Button



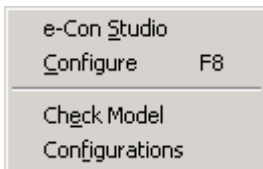
- Card* This function goes to the Generic Model Card
- Versions* This function goes to the versions of the selected model
- Entities* This function shows the entities of the selected model version

Functions Button



- Configure* This function start a new configuration base on the selected model version. The functionality is the same as in the Generic Model card.
- Process XML document* With this function an existing XML object can be selected and will be used to insert data into the Dynamics NAV database. Same functionality as when use 'save' in the Front End. Useful with Offline configuration.
- Configurations* This form displays the objects that have been configured from the Front End. Once the "Save" button is clicked in the Front End, this list will be updated.
- Flag Online synchronization* With this function the Boolean field 'Synchronize' of the configurations of the selected model will be set to true. This means that when the configuration is reconfigured the object will be synchronized with the existing model version.

1.2.3.4 Functions Button



e-Con Studio

This starts the e-Con Studio for the active version of this Generic Model to maintain the model.

Configure

This field contains an error code if there's a problem with a configuration.

User ID

The User ID of the user who has configured the object.

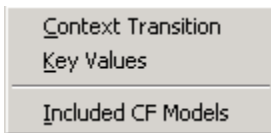
Last Date Modified

Contains the last processing date for the configured object.

Last Time Modified

Contains the last processing time for the configured object.

1.2.3.4.1 Model Button



Context Transitions

This form displays the context in which the object is configured.

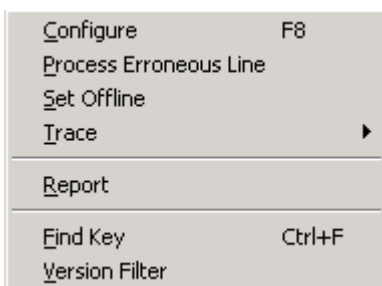
Key Values

For more information on Configured Model Key Values, see section 1.2.3.4.3

Included CF Models

Included configurations.

1.2.3.4.2 Functions Button



Configure

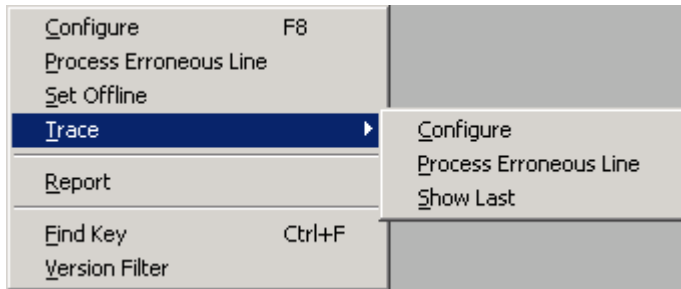
This activates the "Configure" option for the selected model.

Process Erroneous Line

This functionality process the configuration again into NAV. You can use this tool for example if you have made a configuration and you got an error (not filled in an item no) during the process to Dynamics NAV, just fill in an item no and process again.

Set Offline (for future use)

Trace



You can use this trace functionality to trace the 'processing steps' when a model will be processed to NAV.

- Configure* This activates the "Configure" option for the selected model and will generate a txt-file with the results to trace problems.
- Process Err. Line* Process the configuration again, now with the trace functionality
- Show last* Shows the last txt-file generated with de Trace – Configure function.

Report

This functionality generates an html- or word-report.

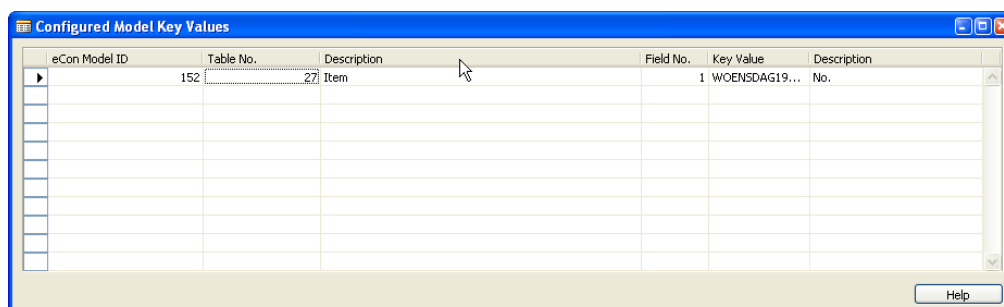
Find Key

This functionality searches the configuration which belongs to a key value. Select the key value and the accompanying configuration will be selected in the table.

Version Filter

Gather all the models with the same version as the selected version.

1.2.3.4.3 Configured Model Key Value



e-Con Model ID

E-Con will automatically create this value. It is a serial number.

Table No.

The table number where the configured object is stored.

Description

Description of the table name.

Field No.

Field number of the table that is used.

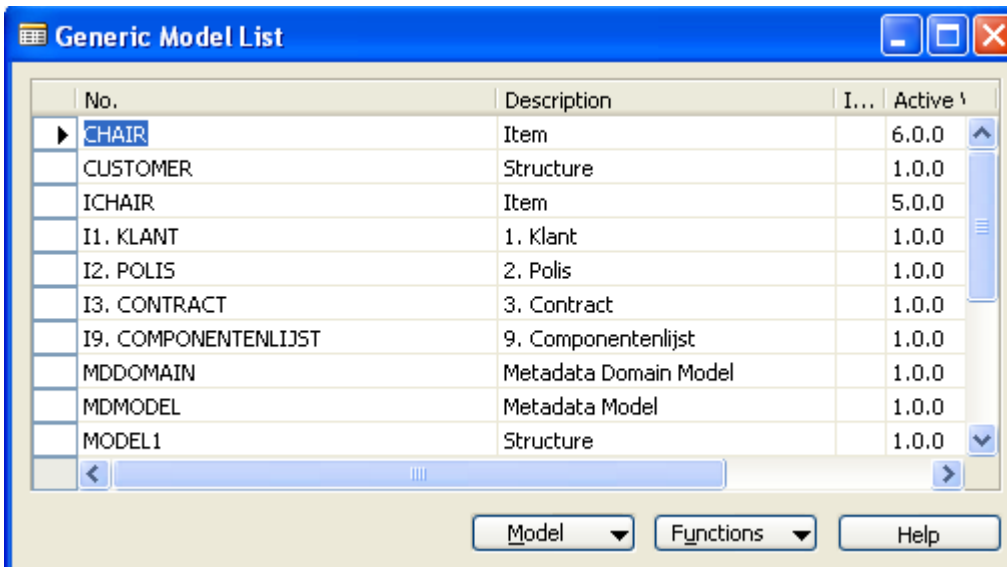
Key Value

Key Value of the configured object.

Description

Description of the configured object.

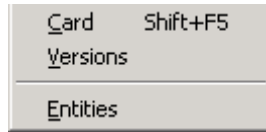
1.2.4 Configure



This function displays the models in a list.

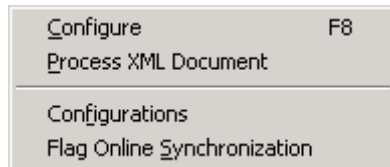
<i>No</i>	Name of the model
<i>Description</i>	Description of the model
<i>Active version</i>	Display the active version of th model
<i>Starting Date</i>	Start date when the model is valid
<i>Ending Date</i>	Until this date the model is valid

Model Button



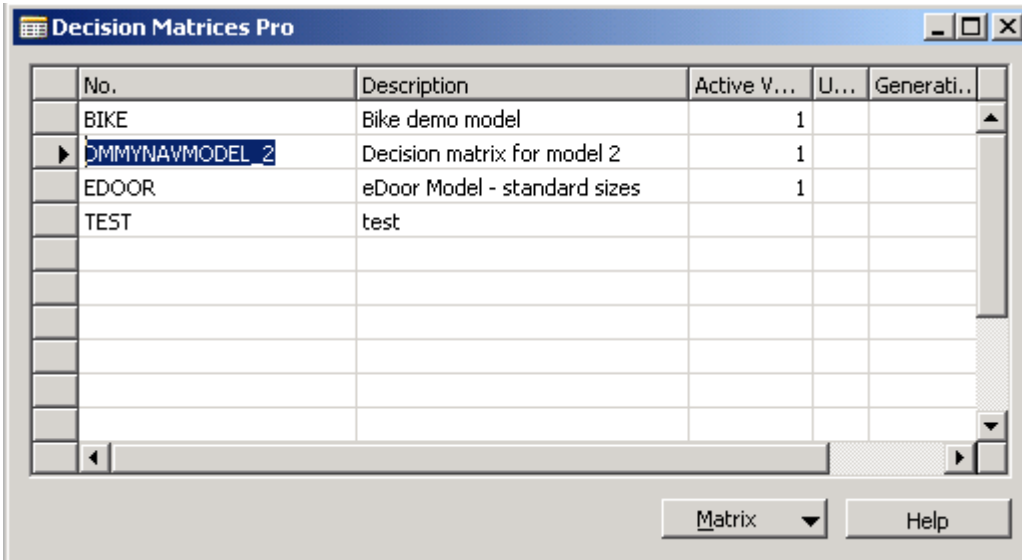
- Card* This function goes to the Generic Model Card
- Versions* This function goes to the versions of the selected model
- Entities* This function shows the entities of the selected model version

Functions Button



- Configure* This function start a new configuration base on the selected model version. The functionality is the same as in the Generic Model card.
- Process XML document* With this function an existing XML object can be selected and will be used to insert data into the Dynamics NAV database. Same functionality as when use 'save' in the Front End. Useful with Offline configuration.
- Configurations* This form displays the objects that have been configured from the Front End. Once the "Save" button is clicked in the Front End, this list will be updated.
- Flag Online synchronization* With this function the Boolean field 'Synchronize' of the configurations of the selected model will be set to true. This means that when the configuration is reconfigured the object will be synchronized with the existing model version.

1.2.5 Decision Matrices Pro



No.	Description	Active V...	U...	Generati..
BIKE	Bike demo model	1		
DMMYNAVMODEL 2	Decision matrix for model 2	1		
EDOOR	eDoor Model - standard sizes	1		
TEST	test			

Decision Matrices Pro can be available in depended from e-Con models. Therefore they should have a No., description etc.

No

The Decision Matrix No. Unique identifier from the decision matrix.

Description

Description of the decision Matrix

Active Version

The version that is active. From this field you can easily look up to all available version for the decision matrix and select the active one.

Use XML Data Source

Checkbox for whether this decision matrix is available in XML as well. This field is checked after executing the function Generate Data Source, however by manual checking this field the same function is executed.

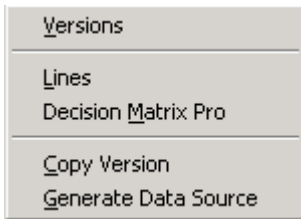
Generation data

Date of generation from XML file from the decision matrix. (Only filled up when the decision matrix is available in XML format)

Generation time

Date of generation from XML file from the decision matrix. (Only filled up when the decision matrix is available in XML format)

1.2.5.1 Matrix Button



Versions

Shows the versions available for the respective Decision Matrix

Lines

Show the lines available for the respective Decision Matrix. Lines represent the options available and shown up in the Decision Matrix.

Decision Matrix Pro

Shows the Decision Matrix in which interdependency between options can be set up.

Copy Version

Copy the current version of the Decision Matrix to another Decision Matrix or version. This is a very helpful function. When you want to make a few changes to a Decision Matrix, you do not need to build the complete Decision Matrix from scratch. Simply copy the Decision Matrix to a new version, or to a completely new Decision Matrix, and then make the necessary changes.

Generate Data Source

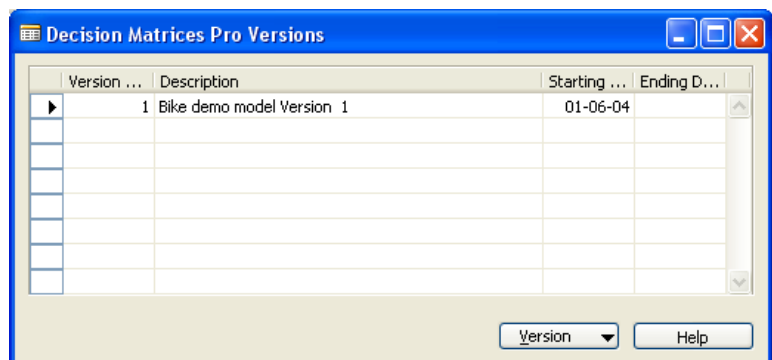
This function is used to export the selected decision matrix to a XML file. The XML file generated is stored in the folder Datasources in the eCon data folder.

1.2.5.2 Decision Matrices Pro Version

It is mandatory that you work with versions in the Decision Matrices Pro. Before you can build a decision matrix, you have to create an active version, by clicking the "Matrix" button and selecting "Versions" from the drop-down menu, or by clicking the lookup button in the "Active Version" field.

Version Code

The code of the version. You can use alphanumeric characters.



Description

Description corresponding with the version. You can enter a maximum of 30 characters, both numbers and letters. Use this description to distinguish the differences between the different versions.

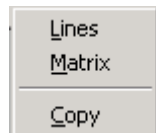
Starting Date

The starting date of the period in which the version is valid.

Ending Date

The ending date of the period in which the version is valid. A version can only be used for configuration while it is valid.

1.2.5.3 Version Button



Lines

Show the lines available for the respective version. Lines represent the options available and shown up in the Decision Matrix.

Matrix

Shows the Decision Matrix in which interdependency between options can be set up.

Copy

Copy the current version of the Decision Matrix to another Decision Matrix or version. This is a very helpful function. When you want to make a few changes to a Decision Matrix, you do not need to build the complete Decision Matrix from scratch. Simply copy the Decision Matrix to a new version, or to a completely new Decision Matrix, and then make the necessary changes.

1.2.5.4 Decision Matrices Pro Lines

The Decision Matrix Lines represent the options available in the decision matrix. The lines are in fact the rows and columns of the matrix.

Label

Label of the Decision Matrix Line

Description

Description of the label

Table No.

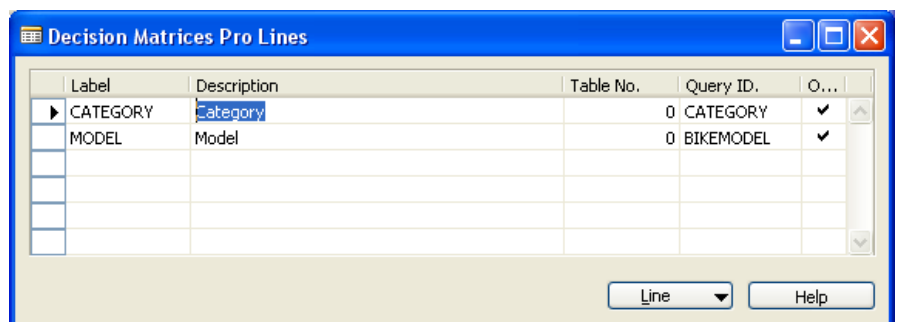


Table that is linked to the Matrix Line. The options shown in the matrix for this matrix line be retrieved from this table

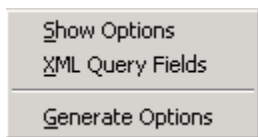
Query ID

Query that is applied to the Matrix Line to enter the Matrix Line options.

Options

This field is checked when there are options available for the Decision Matrix Line

1.2.5.5 Line Button



Show Options

Shows the options available for the Decision Matrix Line. First the options should be generated!

XML Query Fields

Shows the fields set up for the query. Those query fields makes only sense when the decision matrix is exported to an XML file. With the query fields can be set up which additional fields also have to be exported in the XML file. For example when price information have also be available just add the fields containing this information.

Generate Options

Generates options for the Decision Matrix Line, by executing the query linked to the Decision Matrix Line.

1.2.5.6 Decision Matrix Pro

The values along the axes are entered by the system. Those are the options in the Decision Matrix Lines. However, you can select the interdependency yourself.

BIKE 1 - Decision Matrix Pro (Not Editable)

Horizontal Filter

Value Filter

Line	Option Label	CATEGORY Citybike	CATEGORY Mountai...	CATEGORY Sportbike	CATEGORY Tourbike	MODEL Bahia	MODEL Extreme	MODEL Golfo	MODEL Instinct	MODEL Medeo	MODEL Playa
▶ CATEGORY	Citybike										
CATEGORY	Mountainbike						x		v		
CATEGORY	Sportbike							v			x
CATEGORY	Tourbike					v				x	
MODEL	Bahia				v						
MODEL	Extreme		x								
MODEL	Golfo			v							
MODEL	Instinct		v								
MODEL	Medeo				x						
MODEL	Playa			x							
MODEL	Popular	v									
MODEL	Torrente			v							
MODEL	Tranza	x									
MODEL	Ultimate		v								

Citybike

Relation Functions Help

When the input is switched to editable (see functions button) the checks can be made to determine the dependencies between the options.

There are normal checks possible shown as 'v' and special checks shown as 'x'. The 'x' selection can be interpreted by e-Con as the default combination.

The 'v' can be inserted via 'space' or 'v' and the 'x' via 'd' or 'x'.

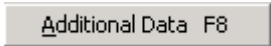
Horizontal Filter

To filter Decision Matrix Model lines on the x-axis.

Value Filter

To filter just one option of a Properties set on the x-axis.

1.2.5.7 Relation Button

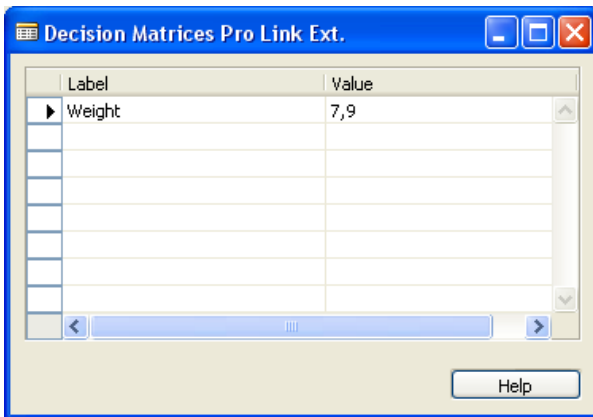


Additional Data:

Shows additional data linked to a selected and checked field in the matrix. This data can be retrieved in e-Con when the option in the matrix is selected in the e-Con Front End. (F8 performs the same action)

1.2.5.8 Decision Matrix Pro Link Ext. (Additional Data F8)

Linked to a field in the decision matrix additional data can be stored.



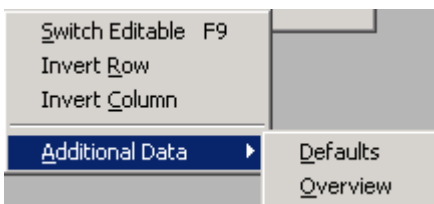
Label

Label belonging to the value. This label is used to select the value in the e-Con rules.

Value

Value belonging to the Label. It's possible to set up multiple labels and values linked to one field of the decision matrix.

1.2.5.9 Functions Button



Switch Editable

By executing this function the Decision Matrix can only be read and not be changed. This is very useful to prevent people to check or uncheck fields in the decision matrix by

accident. However when the decision matrix is not editable it is still possible to view or change the additional data. (F9 performs the same action)

Invert Row

To invert the selected Row in the matrix. All check-marked fields will be uncheck marked and the uncheck-marked fields will be check marked.

Invert Column

To invert the selected Column in the matrix. All check marked fields will be uncheck marked and the uncheck marked fields will be check marked.

Additional Data - Defaults

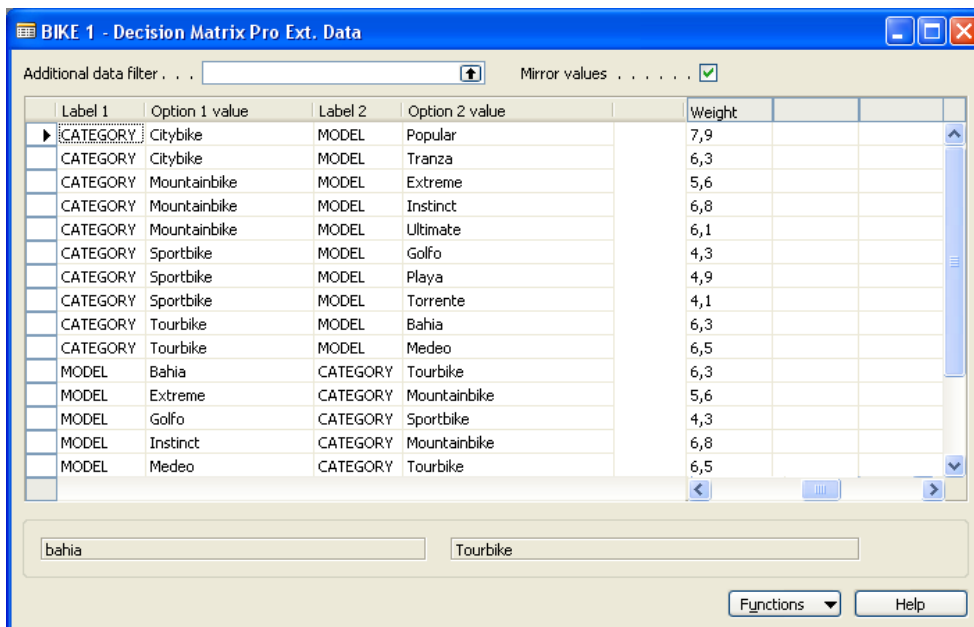
Show the default settings for the additional data. Default labels and values can set up here. For each checked field those default values will be added as additional data for that particular field of the decision matrix.

Additional Data - Overview

Displays an overview from all dependencies as available in the decision matrix and shows related additional data linked to a certain dependency.

1.2.5.10 Decision Matrix Pro Ext. Data

Overview from all the dependencies as available in the decision matrix and linked additional data.



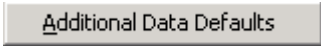
Additional Data Filter

To filter certain additional data to be displayed in this overview.

Mirror Values

Checked by default. When entering default data the value is automatically mirrored to the opposite quadrant of the decision matrix when this field is checked.

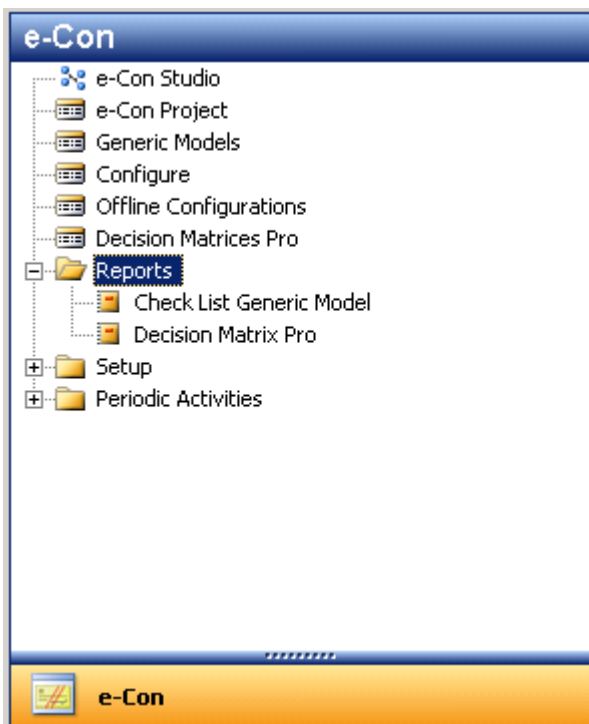
1.2.5.11 Functions Button



Additional Data Defaults

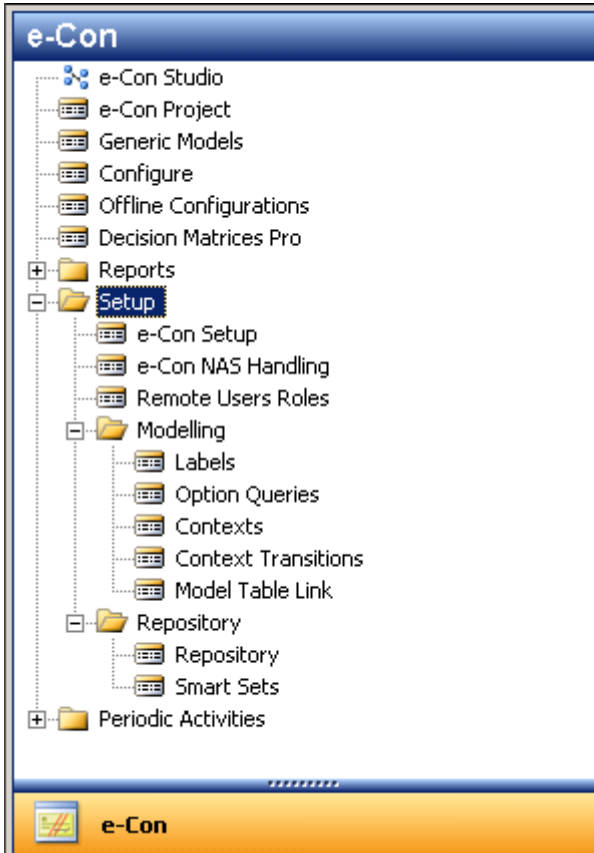
Show the default settings for the additional data. Default labels and values can set up here. For each checked field those default values will be added as additional data for that particular field of the decision matrix.

1.2.6 Reports



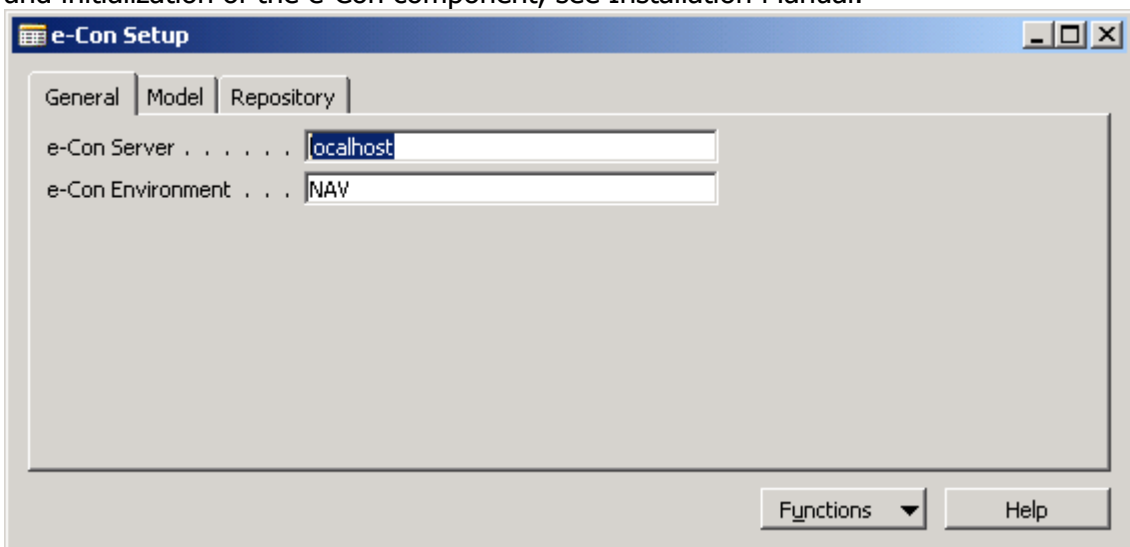
With the reports the model and decision matrix settings can be print out.

1.2.7 Setup



1.2.7.1 E-Con Setup

Before e-Con can be used the setup data has to be entered, this is done via registering and initialization of the e-Con component, see Installation Manual.



Tips & Tricks:

For a more detailed explanation of the e-Con Setup, see the Installation Manual on the product CD-ROM.

1.2.7.1.1 General Tab

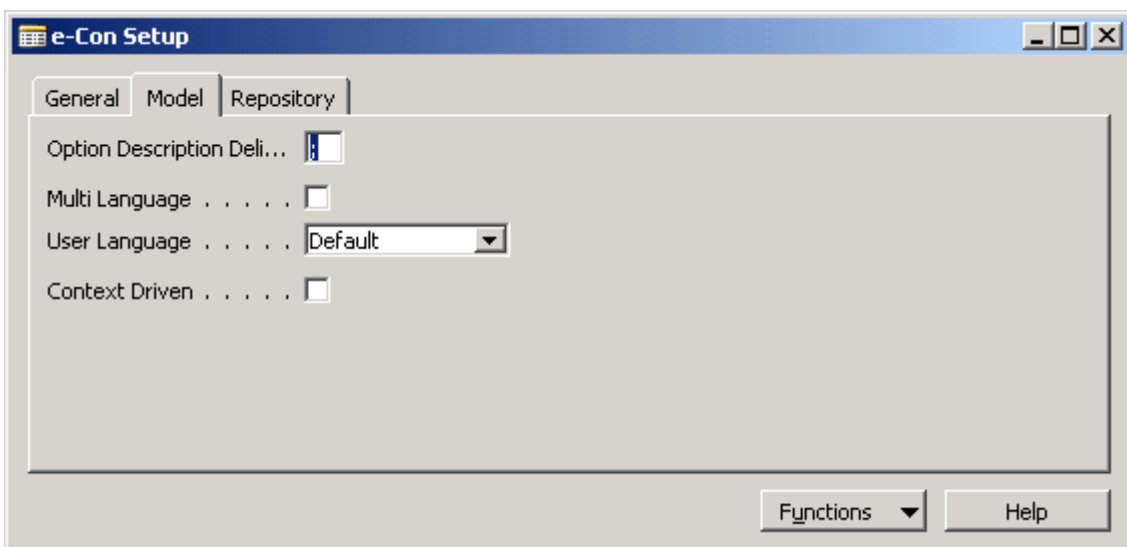
e-Con Server

The name of the e-Con server. This is the machine name of the e-Con server. Remark, this name should be part of the e-Con license.

e-Con Environment

Here you can choose the environment that you want to use for the NAV company. The environment contains the parameters that will be used for e-Con in the company, e.g. message queues. You can have different environments. (change/create new environments with Functions -> edit environment)

1.2.7.1.2 Model Tab



Option Description Delimiter

This field should be filled! Options can be linked to the properties via domains. The domain options are available in NAV to be used in decision tables. The symbol entered here is used as a separator between the id and label for the options. By default the Option Description Delimiter is a semicolon ";".

Multi Language

By clicking this field the multilingual functionality is activated. This functionality enables the possibility to display models in different languages.

User Language

A few options exists here that determines the behavior of the multilingual e-Con models, Next options are available:

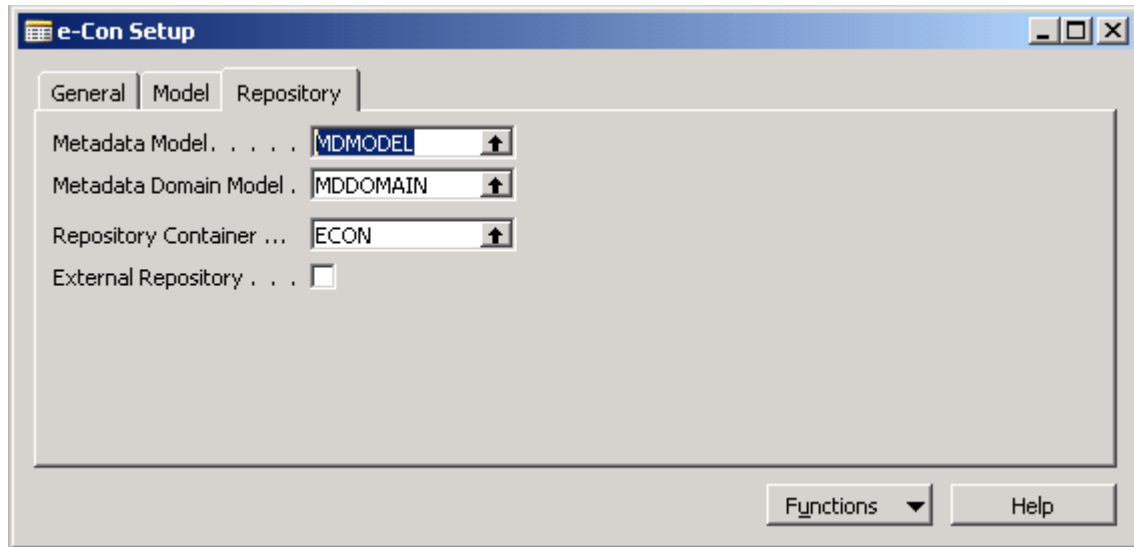
- Default -- The Front End language is always the default language from the model.
- Client -- The Front End language is always the language of the Dynamics NAV Client.
- Document -- The Front End language is always the language of the document. In the case of e-Con being started up from within a Sales Quote or Sales Order, this means that Front End language will be the language of the customer.

- To be selected -- The Front End language can be selected every time e-Con is started up

Context-driven

When this option is check-marked, it enables context transitions from the data structure to the database.

1.2.7.1.3 Repository Tab



In the e-Con studio all models and related elements are maintained like entities to be used in the model structure or for queries and domains with options used in the models. These elements should be stored in NAV, because NAV is the repository for e-Con by default.

Metadata Model

This field contains the model that will have all the custom created entities. By default this is the MDMODEL model. This model is not visible in the generic model card!

Metadata Domain Model

This field contains the model that will have all the domains created in e-Con studio. By default this is the MDDOMAIN model. This model is not visible in the generic model card!

Repository Container

ID to hold the blob files of the repository. (part N108 container)

External Repository

Activate Webservices for external repository via environment settings

1.2.7.1.4 Functions Button



Edit Environment

Use this button to edit or create a new environment. The parameters are detailed described in the manual e-Con Settings which is provided on the Product-CD

License

Show License

The e-Con license file is shown.

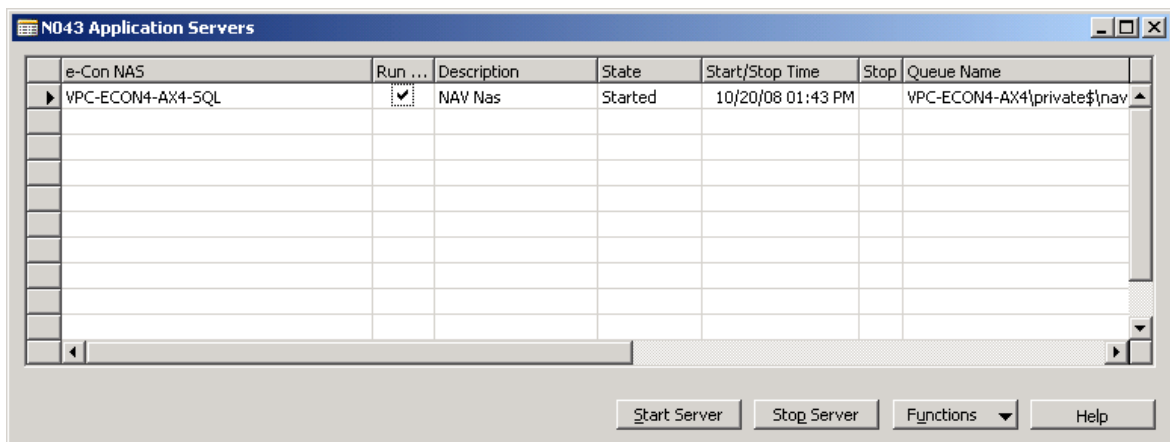
Check Connectors

Based on the e-Con license file the availability of NAV connectors and Dynamics NAV license is checked. (not used)

Create Folder Structure

Create the environment which you have specified in Environment Settings, e.g. datafolder.

1.2.7.2 e-Con NAS Handling (Navision Application Service)



All communication between e-Con studio or e-Con Frontend and NAV is done via a NAS. The NAS is checking a message queue for requests from e-Con, after executing the request the NAS will send a response message in the response queue. The settings for the NAS are taken from the environment settings available via e-Con Setup. See for details the Installation Manual on the product CD.

e-Con NAS

Name of the NAS, this name have to be the same name as the NAS services name (not the description). When you are using more than one 'Company' in the same database you have to install for each company a NAS.

Run On Client

For testing or when NAS is not available, a NAV client can act as NAS. When this box is checked and the Start Server button is clicked the NAV client will do the communication between NAV and e-Con using the same environment settings.

Description

Description for the NAS line. (not necessary to fill)

State

Shows the status of the NAS, the correct status is only displayed if you use the NAV buttons (Start Server and Stop Server) to start and stop the NAS. There are 2 statuses:

- Stopped The NAS is not running (or not correct)
- Started The NAS is running in the right way

Sometimes you have to select a state manual, for example if the NAS is already running and you want to stop the NAS (the state in the e-Con NAS Handling is already on stopped), you can select the state manual.

Start/Stop Time

Time when the NAS is stopped/started in NAV

Stop

By clicking this field the NAS will be stopped after processing of all current messages. This field will be filled when clicking the Stop Server button.

Queue name

The request queue to be used by this NAS is selected here from the Environment settings.

Queue Timeout (ms)

Used when the NAS is used in Run On Client mode !

It will determine how long the client is running to execute requests from the request queue and create responses in the response queue. When the Queue Timeout (ms) is ended it will wait a certain time (Timer Interval (ms)) before it will execute again. This will give the user the opportunity to do other activities in NAV with this client for instance startup e-Con studio. The client is not for 100% dedicated to e-Con communication. Typical value is 50. When it stays on 0 a default value is used.

Timer Interval (ms)

Used when the the NAS is used in Run On Client mode !

It determines the wait time for the client between the communications to the queues. Typical value is 500. When it stays on 0 a default value is used.

XML Input / Output logging

When this field is check marked the request and responses of the NAS will be stored as XML on the hard disk. This could be useful when you want to check the NAS. Using the

XML Input / Output logging has a negative effect on the performance. It's recommended to use this functionality just for testing purposes.

Log Directory

This field specifies the directory where the XML requests/responses are stored.

1.2.7.2.1 Start Server Button

Start Server

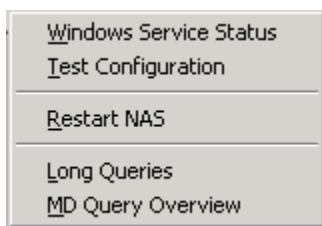
The selected NAS starts up. The status must be stopped before executing is allowed.

1.2.7.2.2 Stop Server Button

Stop Server

The selected NAS is immediately stopped. Messages in the queue will not be processed any more.

1.2.7.2.3 Functions Button

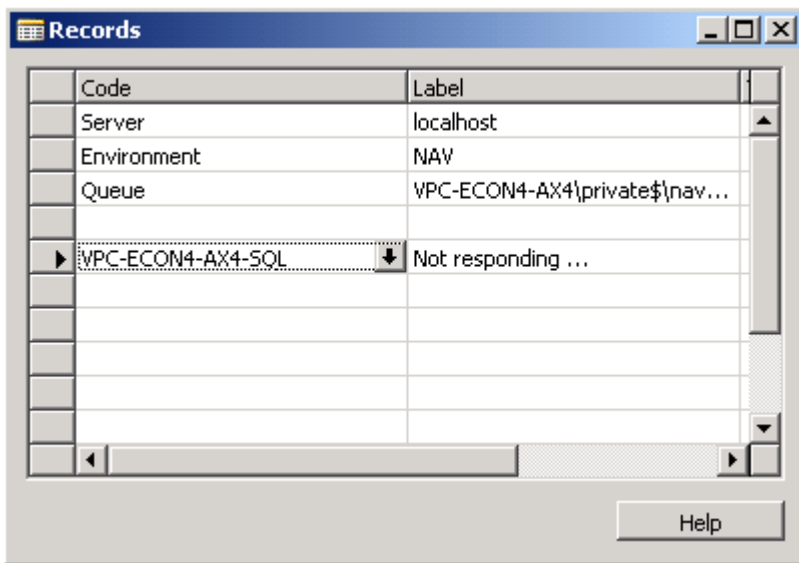


Windows Service Status

It will return the actual status of the Navision Application Server. This does not mean that it runs properly!

Test Configuration

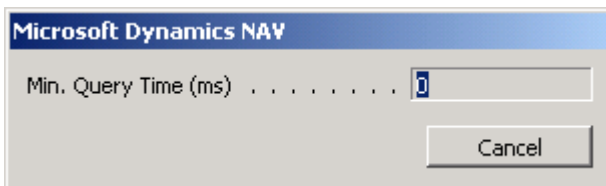
With this option the NAS configuration is tested. The output of the test is printed below.



Restart NAS

This will restart de Navision Application Server

Long Queries

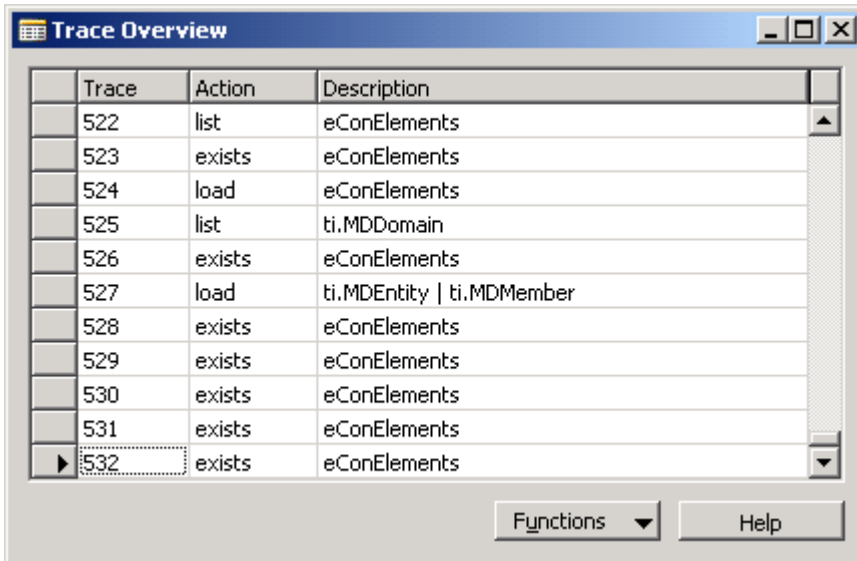


This option log's the response time for queries. Depending on the 'Min Query time' the system processes in the XML document the output of the dynamic queries.

NOTE: This option is only applicable when the option 'Input / Output logging' is switched on.

MD Query Overview

When the XML input / output logging is activated the logged Metadata (MD) queries can be checked here.



Trace	Action	Description
522	list	eConElements
523	exists	eConElements
524	load	eConElements
525	list	ti.MDDomain
526	exists	eConElements
527	load	ti.MDEntity ti.MDMember
528	exists	eConElements
529	exists	eConElements
530	exists	eConElements
531	exists	eConElements
532	exists	eConElements

Buttons: Functions (dropdown), Help

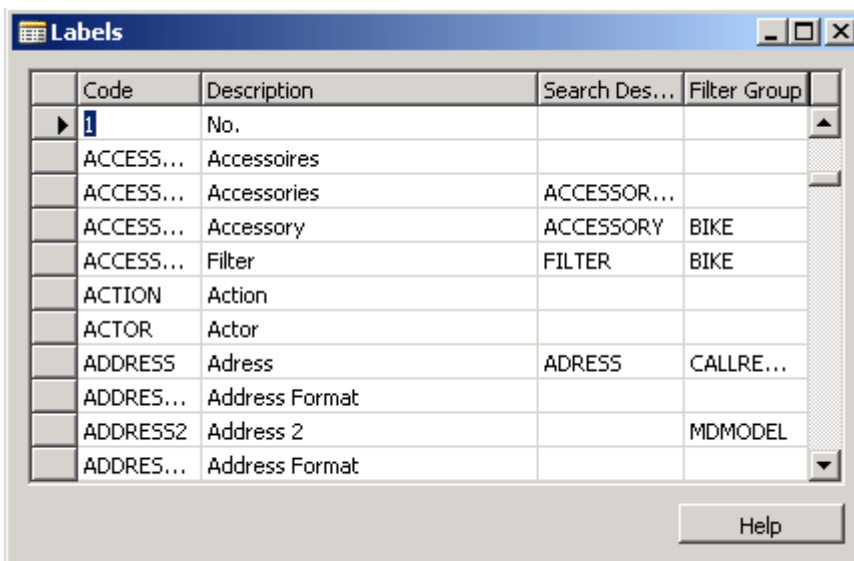
NOTE: This option is only applicable when the option 'Input / Output logging' is switched on.

1.2.7.3 Remote User Roles (for future use)

1.2.7.4 Modelling

1.2.7.4.1 Labels

In the e-Con studio ID's and labels are determined for the Properties and Entities. These ID's and labels are stored in this part of NAV. If needed manual labels can be added for use in Decision Tables.



Code	Description	Search Des...	Filter Group
1	No.		
ACCESS...	Accessoires		
ACCESS...	Accessories	ACCESSOR...	
ACCESS...	Accessory	ACCESSORY	BIKE
ACCESS...	Filter	FILTER	BIKE
ACTION	Action		
ACTOR	Actor		
ADDRESS	Adress	ADRESS	CALLRE...
ADDRES...	Address Format		
ADDRESS2	Address 2		MDMODEL
ADDRES...	Address Format		

Button: Help

Code

The ID of a label. This Code is used as an identification code (ID) when applying the rules in the e-Con Studio.

Description

Description of the label. In e-Con studio this is the label. This Description is shown at the Front End. Use a meaningful name that will make sense to the end user.

Search Description (not used)

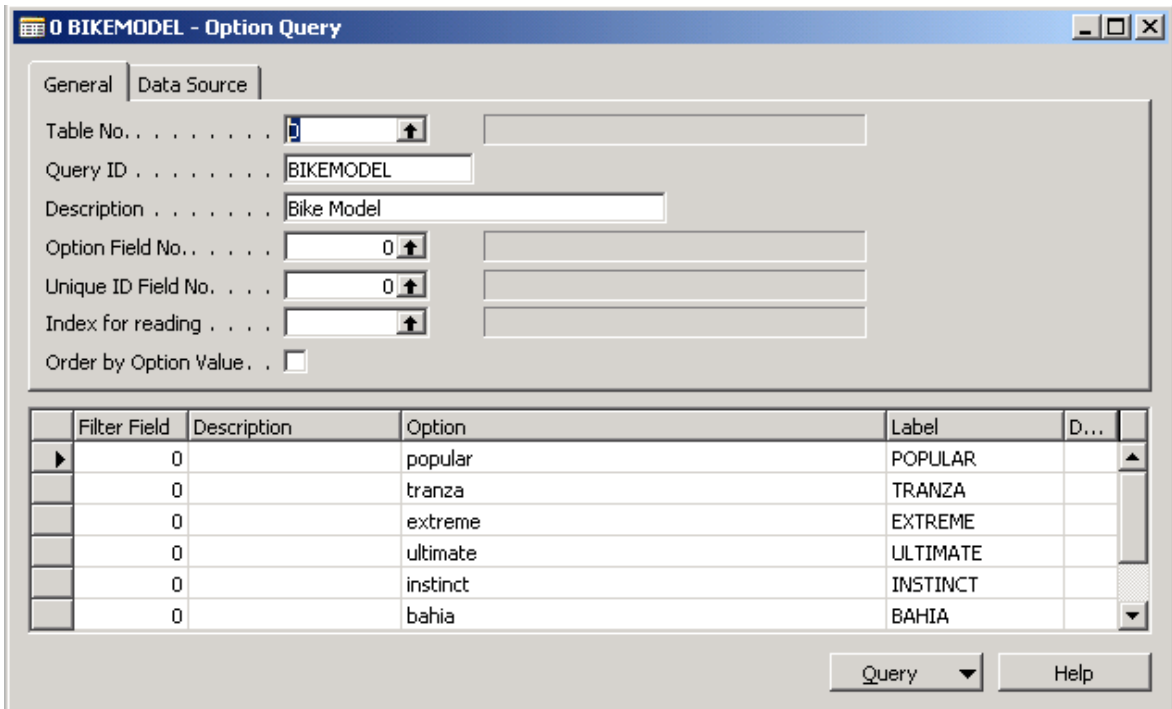
Filter Group (not used)

1.2.7.4.2 Option Queries

Option queries are typically created in e-Con studio via domains and if based on NAV tables a query entity. But it is still possible to create a query in NAV and then with the Copy to domain function create the domain for it.

In the form that pops up, a query can be created. Queries are used to select information from NAV tables or are just a list of options. The end user will then be able to choose from the values selected at the Front End. There are several types of queries:

- "Query" (static), this query is executed upon generating the data structure
- "Option Query", this query is used to display options for additional properties that are not included in the Dynamics NAV table.
- "Dynamic Query", this query is activated during configuration by an 'add query' rule in the e-Con Studio.



It's also possible to store the outcome of queries in a separate XML data source. This can offers advantages for offline use and increase of query performance.

For example, several items can be selected in a BOM line. The following query selects items from the Item table. Only items that start with the number "19" and with a description that starts with "Frame" can be selected. Here, the end user chooses from among the descriptions. The item 1900 is shown by default.

1.2.7.4.2.1 General Tab

Table No.

Number of the table to which the query refers. If you want to make a selection based on, for example, the Machine Centre table, select table 99000758 here. Leave this to 0 if the options are just a list not from a NAV table.

Query ID

The ID or label for the query. Choose a meaningful code with a maximum of 20 characters.

Description

The description for the query. Will be the label of the domain.

Option Field No.

This is the display field shown in the drop-down boxes of the Front End.

Unique ID Field No.

This field indicates which field from the primary key acts as the key to generation the option. This field makes only sense for queries applied to table with a primary key that exists of multiple fields. Orderby style will be used.

Index for Reading

The index used by execution of the query can be added here. The look up shows all available indexes for the particular table. One index can selected from here. Adding indexes will speed up the query.

Order by Option Value

Only applicable for queries based on Dynamics NAV tables. When this box is check-marked, the order of the option list as shown in the drop-down box of the Front -end is based on the Option Field No. Without this box check-marked the order of the option list is based on the primary key of the table.

Filter Field

In case of a query associated with a Dynamics NAV table, the table field from which the selection is made. If you want to make a selection based on the Posting Group of the items, enter the field that refers to the Posting Group. If you want to make a selection based on the item code, choose the field that refers to the item code. You can look up the table fields here.

In case of an 'option query' this filter field is not used.

Description

Description of the table field that is chosen as item field. The description is the Field Caption of the table field.

Option

In case of a query associated to a Dynamics NAV table this is the actual query. You can use the standard Dynamics NAV filter signs, like 7*, 12..34 etc. to filter the record entered in the Filter Field. A query can consist of more than one line.

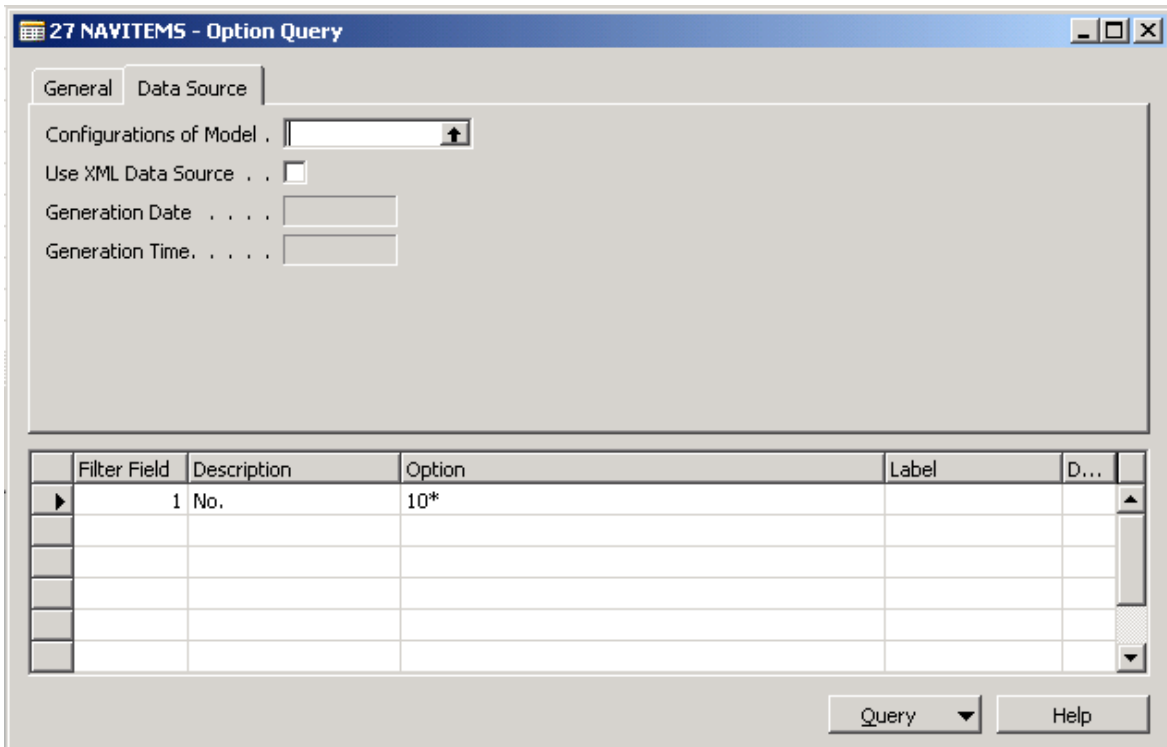
In case of an 'Option Query' the list of options can be listed here. Use the 'Option Description Delimiter' as filled up in the e-Con set up as the delimiter between option ID and option description. Standard this delimiter is the semicolon ";".

Label

This field is only used for the "Option Query". Instead of the description filled up in the Option it's also possible to add a label to that option. In that way the description of the label acts as the description of the option.

Default Value (not used)

1.2.7.4.2.2 Data Source Tab



As noticed it is also possible to store the outcome of a query in an external XML Data Source. It's even possible to generate an XML Data Source containing the configured objects of a Generic Model with user defined features. That makes it possible to check if a certain configuration already exists.

Configurations of Model

This field has to be filled up when a Data Source has to be build from former made configurations. Based on the model filled up here, the table filled up at the General Tab, a data source in XML format is build up. That data source is populated with the object id's and key values of the configurations of that particular model. Furthermore the data of the fields added in the option query lines are added as well.

Uses XML Data Source

Indicator if a XML Data Source is available from the query. Clicking this field will generate the data source as well.

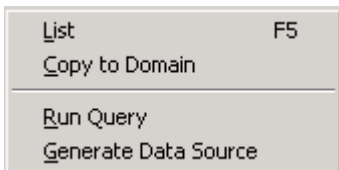
Generation Date

Last generation date of the data source

Generation Date

Last generation time of the data source

1.2.7.4.2.3 Query Button



List (F5)

Clicking the "Query" button, and then option "List", shows a list of all queries. To use a query for creating options with "Additional Property" member types, see section 5.2.10.

Copy to Domain

Will create the domain and query entity for the Option Query.

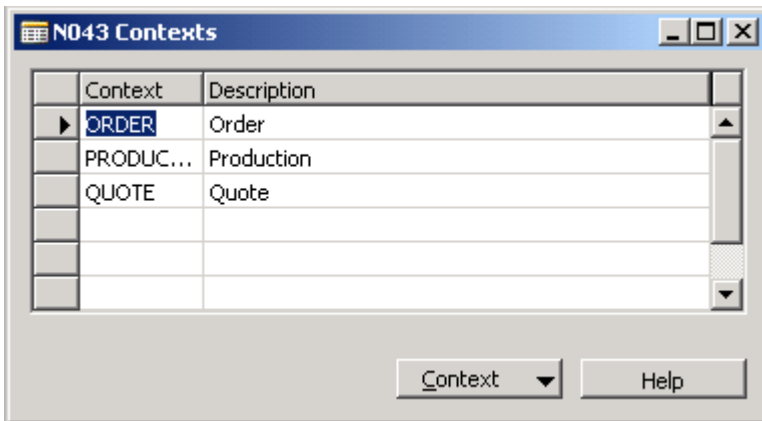
Run Query

Will show the outcome of the query.

Generate Data Source

By executing this function a XML Data Source is build for the query.

1.2.7.4.3 Context



Contexts

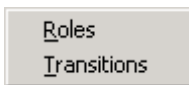
Code of the Context. There are 3 standard context codes supported:

- QUOTE
- ORDER
- PRODUCTION

Description

Description of the context

1.2.7.4.3.1 Context Button



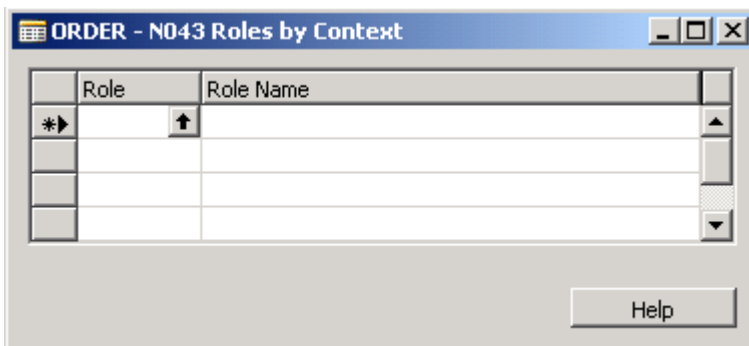
Roles

The role that's valid for the selected context

Transitions

Used to set up the context transitions

1.2.7.4.3.2 Roles by Context



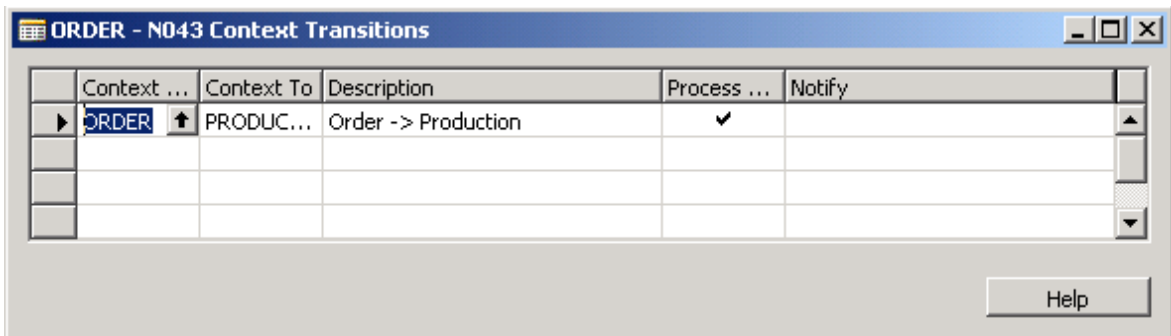
Role

ID of the role

Role Name

Name of the role (automatically entered by the system)

1.2.7.4.3.3 Context Transition



Context ...	Context To	Description	Process ...	Notify
ORDER	PRODUC...	Order -> Production	<input checked="" type="checkbox"/>	

Context From

The original context

Context To

The new context

Description

A description of the context transition

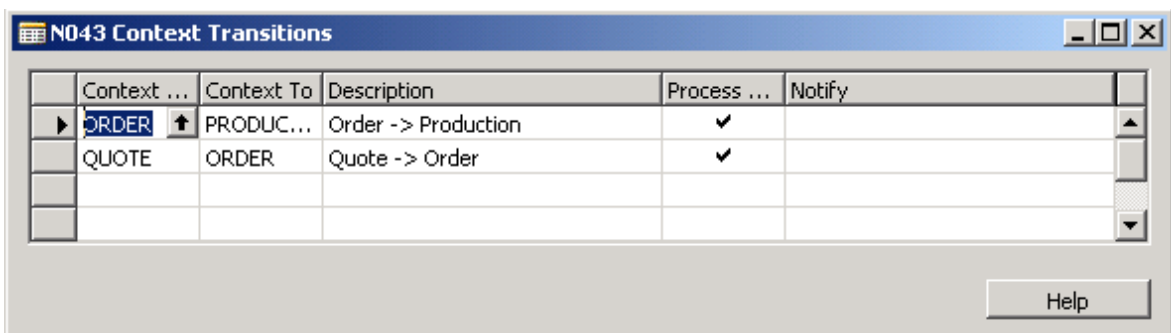
Process Automatically

This box must be check-marked if you want to process (also called "generate") your XML document automatically during the context transition

Notify

An email address can be filled in here; a notification will then be sent during the transition.

1.2.7.4.4 Context Transitions



Context ...	Context To	Description	Process ...	Notify
ORDER	PRODUC...	Order -> Production	<input checked="" type="checkbox"/>	
QUOTE	ORDER	Quote -> Order	<input checked="" type="checkbox"/>	

Context From

The original context

Context To

The new context

Description

A description of the context transition

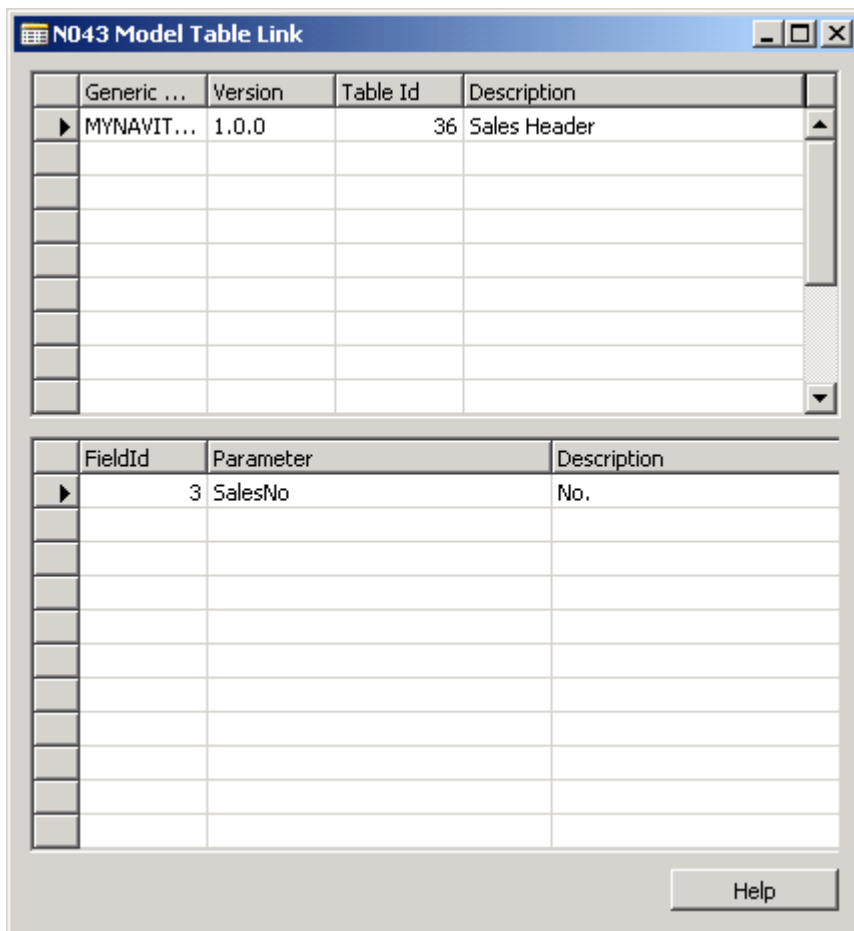
Process Automatically

This box must be check-marked if you want to process (also called "generate") your XML document automatically during the context transition

Notify

An email address can be filled in here; a notification will then be sent during the transition.

1.2.7.4.5 Model Table Link



When starting up a model from NAV it can be started from a table, e.g. Sales order. In some case it is important to have data from the sales order available for the configurations. For instance customer number or sales order number.

With the Model Table Link for every Model – version the data that should be available when configuring from out that table can be setup. The value of the selected field will be

available in the arguments file. With GetArg() function it can be read from that file were the parameter is the unique Id of the value in the arguments file, e.g. GetArg("SalesNo")

Generic Model

The ID of the model.

Version

The Version of the model. When a new version is added the Model Table Link data should also be copied or added.

Table Id

The table id from which the data should come. At the moment only table 27 (Items) and 36 (Sales header) are implemented, but by adding NAV code this can be extended. See example....

Description

Automatically filled when the Table id is selected.

FieldId

Field number from the selected Table.

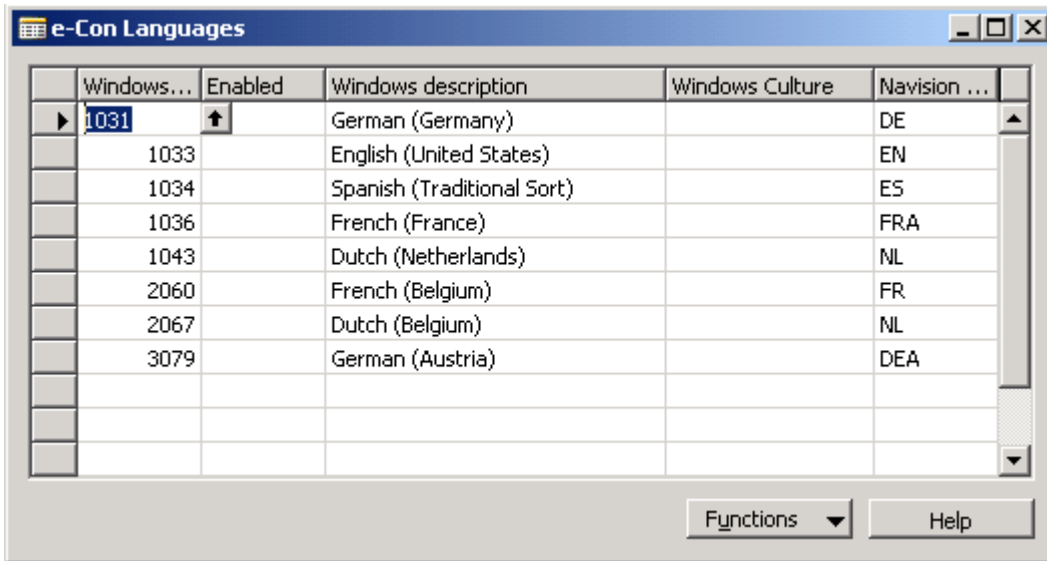
Parameter

The id given to the value of the field in the arguments file. Use GetArg() to read the data from the file.

Description

Name of the selected field.

1.2.7.4.6 Languages



Windows...	Enabled	Windows description	Windows Culture	Navision ...
1031	↑	German (Germany)		DE
1033		English (United States)		EN
1034		Spanish (Traditional Sort)		ES
1036		French (France)		FRA
1043		Dutch (Netherlands)		NL
2060		French (Belgium)		FR
2067		Dutch (Belgium)		NL
3079		German (Austria)		DEA

For Multilanguage the mapping of NAV language with Windows language culture is needed. This can be setup here.

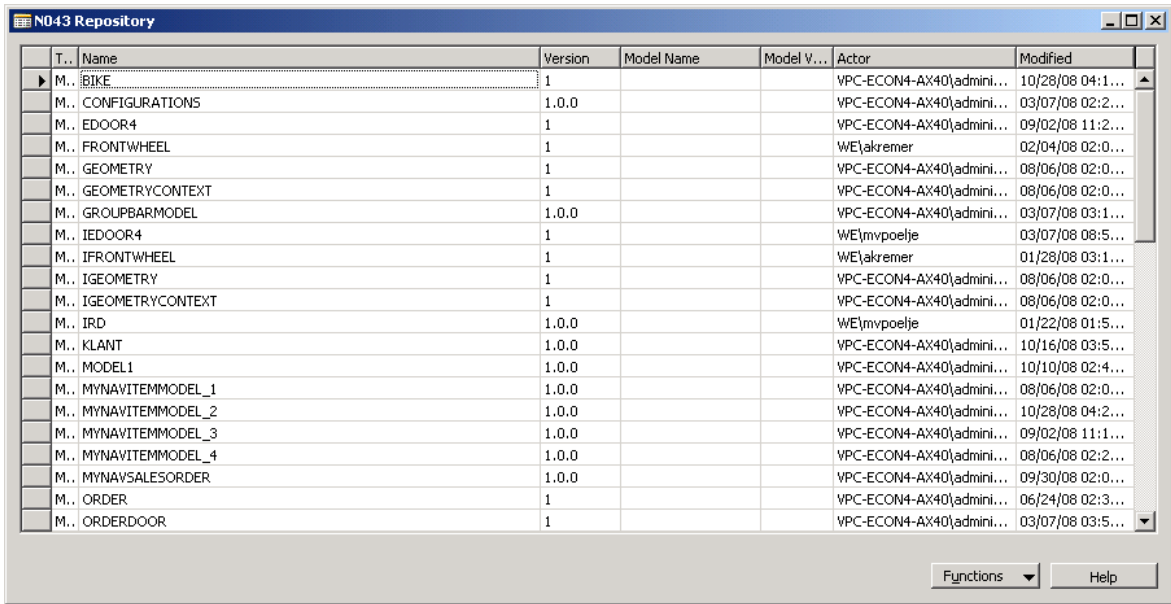
1.2.7.5 Repository

All e-Con model related data can be stored in NAV. This is by default the case. In that case NAV is called the repository for e-Con.

Stored are the models with the complete model structure as a BLOB file. Also configurations, projects, templates, etcetera are stored. If NAV is the repository a backup of the database will contain all applicable e-Con data. Except from images or other data sources like SQL or Excel (xml) which are not available in NAV.

Smart Sets are predetermined sets of data, e.g. models and tables, to be used in Smart Clients. The data is published to become available for Smart Clients.

1.2.7.5.1 Repository



T..	Name	Version	Model Name	Model V...	Actor	Modified
▶	BIKE	1			VPC-ECON4-AX40\admini...	10/28/08 04:1...
	CONFIGURATIONS	1.0.0			VPC-ECON4-AX40\admini...	03/07/08 02:2...
	EDOOR4	1			VPC-ECON4-AX40\admini...	09/02/08 11:2...
	FRONTWHEEL	1			WE\akremer	02/04/08 02:0...
	GEOMETRY	1			VPC-ECON4-AX40\admini...	08/06/08 02:0...
	GEOMETRYCONTEXT	1			VPC-ECON4-AX40\admini...	08/06/08 02:0...
	GROUPBARMODEL	1.0.0			VPC-ECON4-AX40\admini...	03/07/08 03:1...
	IEDOOR4	1			WE\mypoelje	03/07/08 08:5...
	IFRONTWHEEL	1			WE\akremer	01/28/08 03:1...
	IGEOMETRY	1			VPC-ECON4-AX40\admini...	08/06/08 02:0...
	IGEOMETRYCONTEXT	1			VPC-ECON4-AX40\admini...	08/06/08 02:0...
	IRD	1.0.0			WE\mypoelje	01/22/08 01:5...
	KLANT	1.0.0			VPC-ECON4-AX40\admini...	10/16/08 03:5...
	MODEL1	1.0.0			VPC-ECON4-AX40\admini...	10/10/08 02:4...
	MYNAVITEMMODEL_1	1.0.0			VPC-ECON4-AX40\admini...	08/06/08 02:0...
	MYNAVITEMMODEL_2	1.0.0			VPC-ECON4-AX40\admini...	10/28/08 04:2...
	MYNAVITEMMODEL_3	1.0.0			VPC-ECON4-AX40\admini...	09/02/08 11:1...
	MYNAVITEMMODEL_4	1.0.0			VPC-ECON4-AX40\admini...	08/06/08 02:2...
	MYNAVSALESORDER	1.0.0			VPC-ECON4-AX40\admini...	09/30/08 02:0...
	ORDER	1			VPC-ECON4-AX40\admini...	06/24/08 02:3...
	ORDERDOOR	1			VPC-ECON4-AX40\admini...	03/07/08 03:5...

Type

The type of data stored in this repository record.

Name

Name or Id of the stored data.

Version

Version of the model, report, project or translation.

Model Name

ID of the model used for the configuration. Only applicable for configurations.

Model Version

Version of the model used for the configuration. Only applicable for configurations.

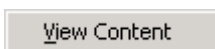
Actor

User creating the repository input.

Modified

Modification date and time for the repository input.

1.2.7.5.1.1 Functions

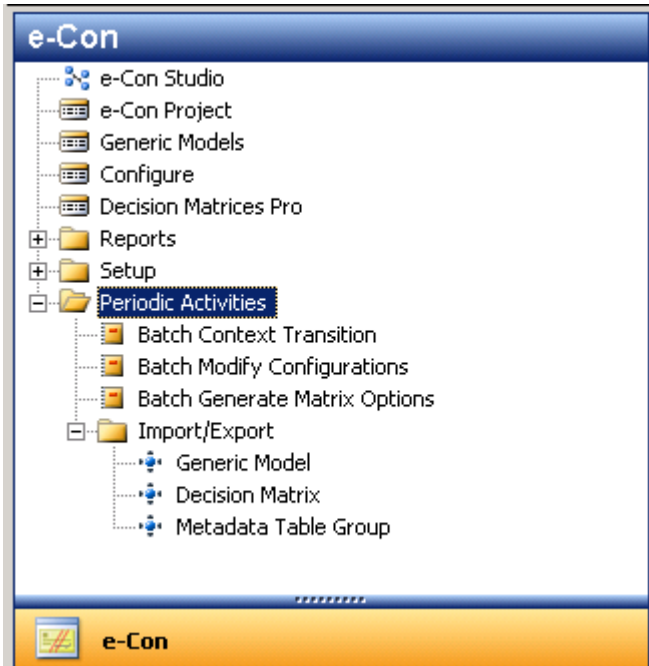


View Content

Will show the BLOB file content. This is the XML of e.g. the model or configuration.

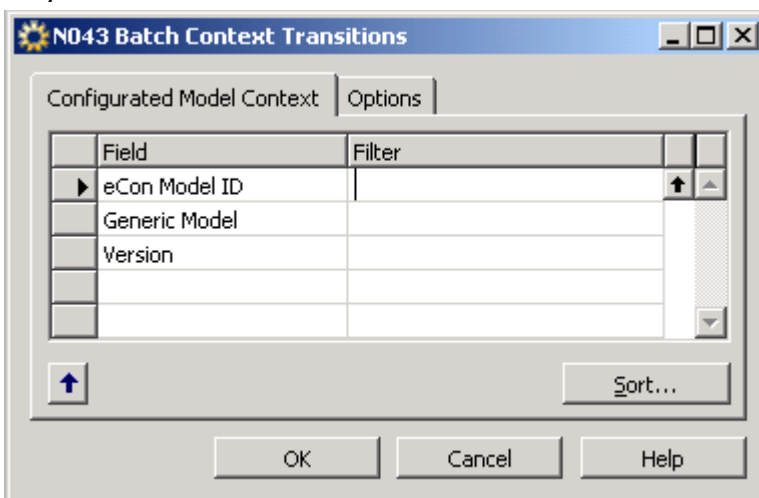
1.2.7.5.2 Smart Sets (for future use)

1.2.8 Periodic Activities



1.2.8.1 Batch Context Transition

A model can be used in a context, e.g. quote or order. Depending on this context the model can behave differently via rules. With this functionality existing configurations can be reconfigured with a change of context, so if that has influence on the behavior of rules they will be executed.



1.2.8.1.1 Configured Model Context tab

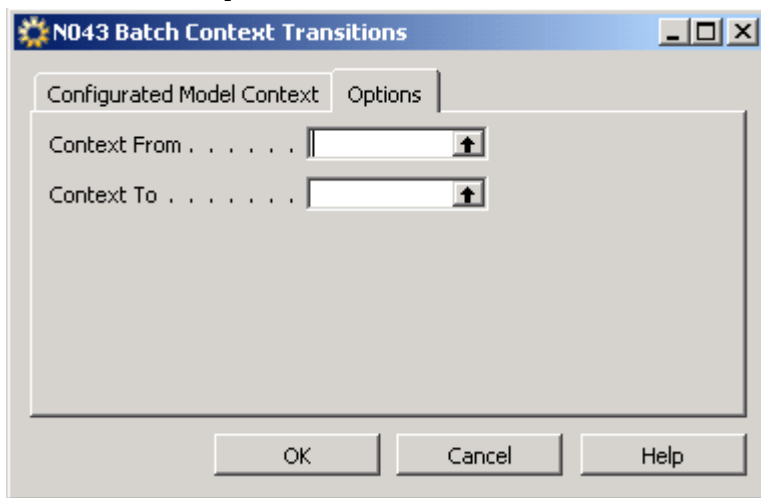
eCon Model ID

The configurations to be used in the function. Use NAV filtering.

Generic Model
ID of the model.

Version
Version of the model

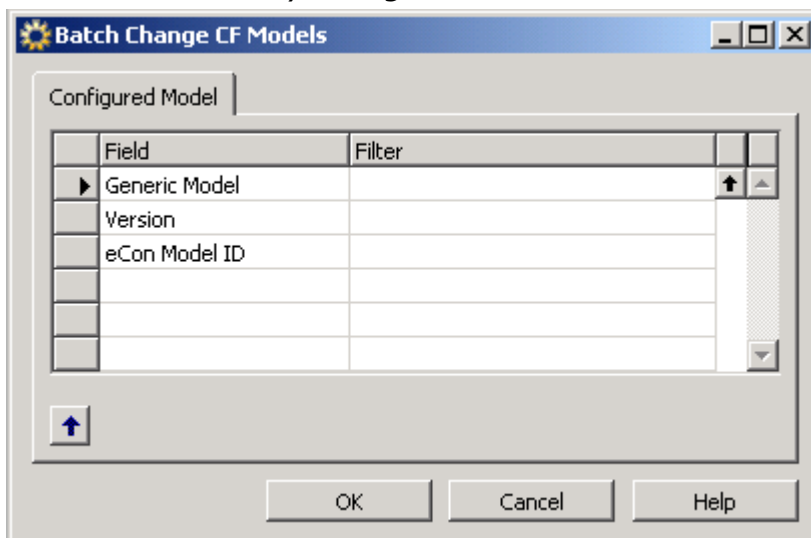
1.2.8.1.2 Options tab



Context From
Select the context the configuration is coming from, e.g. quote.

Context To
Select the context the configuration is going to, e.g. order.

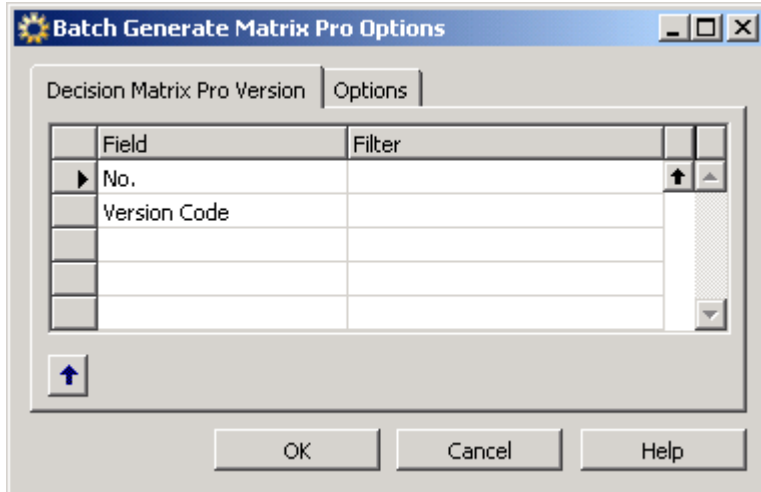
1.2.8.2 Batch Modify Configurations



See chapter How to Batch Modify Configurations.

1.2.8.3 Batch Generate Matrix Options

When new options are available for a decision table these options must be generated to become available for the decision table. This can be done at the decision table but with this functionality it can be done for all options.



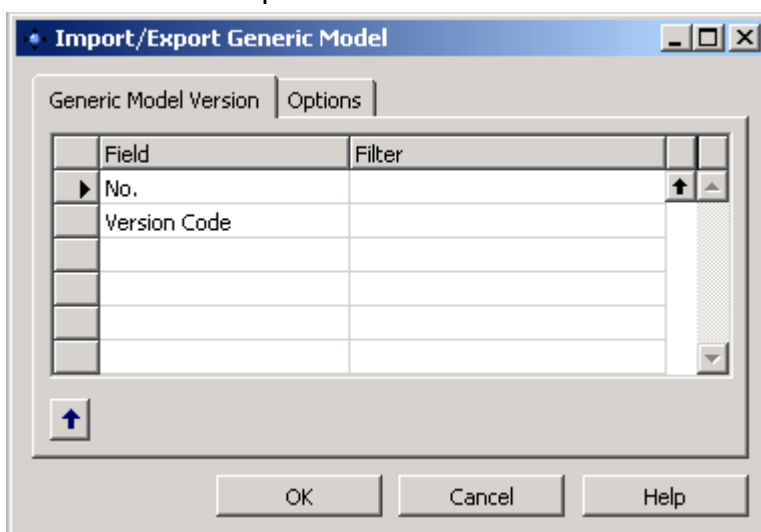
Select the decision matrix and version. Press OK to execute. With the option 'Generate datasource' the xml file(s) to be used as external datasource can be created aswell, if used !

1.2.8.4 Import/Export

1.2.8.4.1 Generic Model

From e-Con studio a model can be exported and imported into another environment. But domains are not exported and imported.

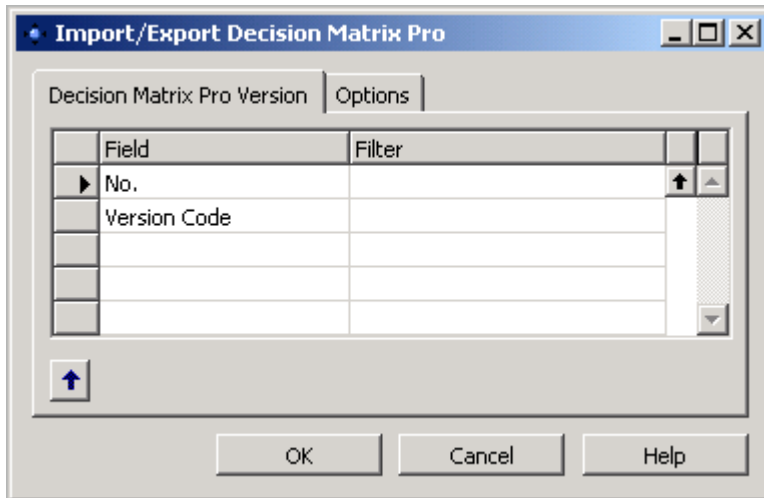
When a model is exported with this function from NAV the domains are also exported.



See chapter How to Import or Export your models.

1.2.8.4.2 Decision Matrix

Decision matrices (tables) are NAV data, they can only be exported and imported via NAV.



1.2.8.4.2.1 Decision Matrix Pro Version tab

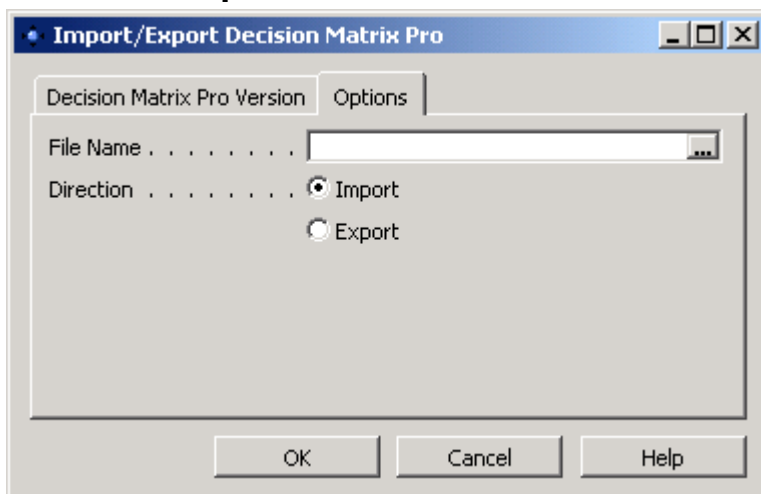
No.

Select the decision table to be exported. Only used for export.

Version Code

Select the version of the decision table to be exported. Only used for export.

1.2.8.4.2.2 Options tab



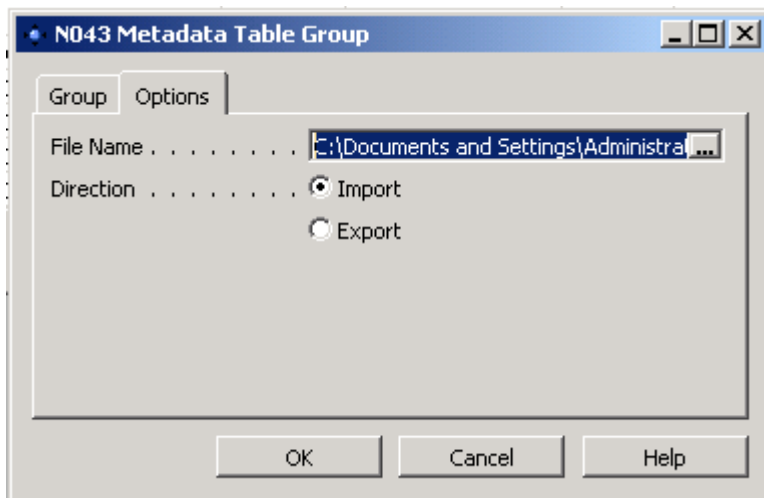
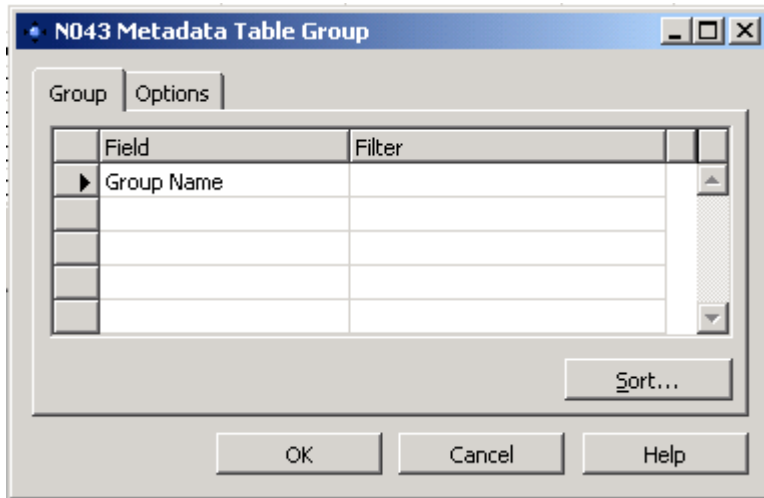
File Name

Create or select the file to be exported or imported.

Direction

Select the proper situation.

1.2.8.4.3 Metadata Table Group import



Chapter 2 How to

2.1 How to Make Your Model Multilanguage Compatible

e-Con supports Multilanguage functionality. This means that it is possible to work with different languages in e-Con, and the models support those different languages, too.

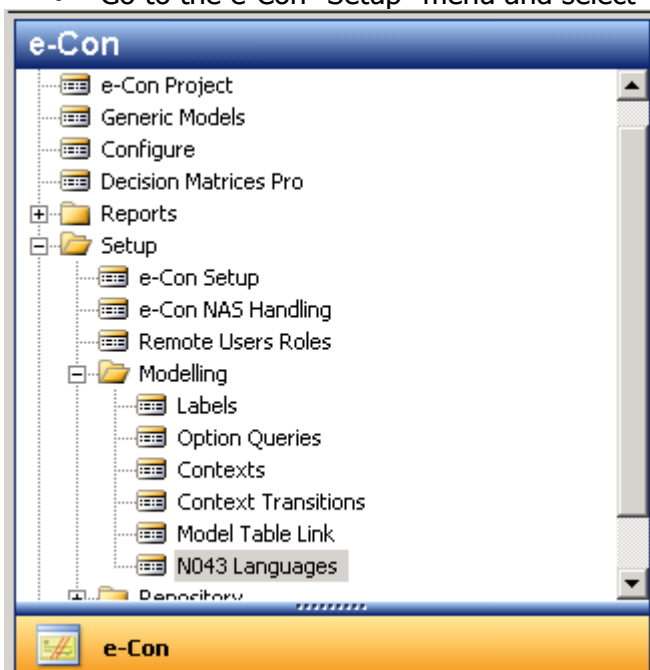
In the following sections, we describe how to set up Multilanguage functionality in e-Con, and how it can be added to your model. Note: the translations of the model elements like properties, options etcetera has to be done in the e-Con studio at translations per model.

2.1.1 How to Set Up Multilanguage Functionality

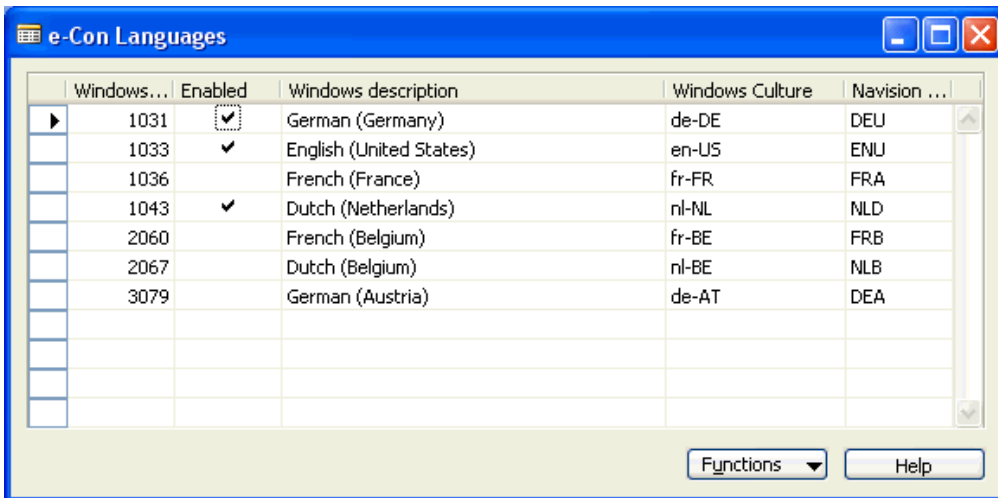
In this section, we take you through the steps needed to set up Multilanguage functionality.

The first step is to define the different languages you want to work with. This can be done in the e-Con Setup menu.

- Go to the e-Con "Setup" menu and select "e-Con Languages".



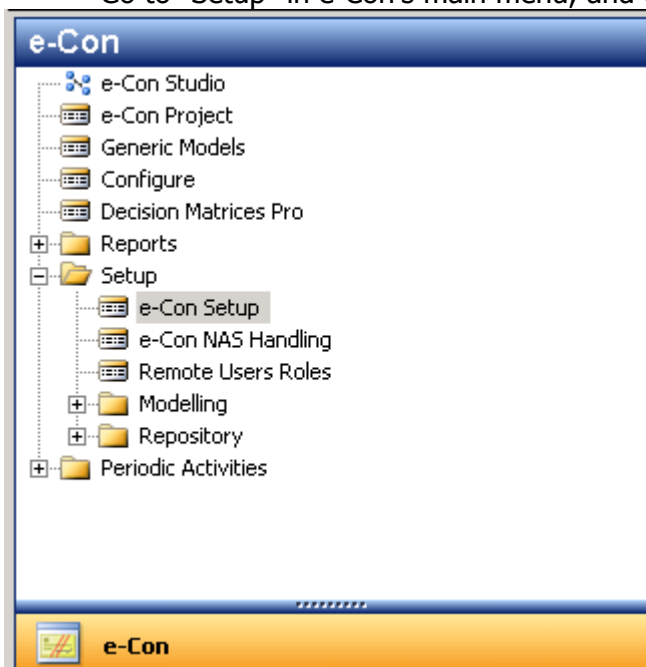
- The following screen will appear:



- The various languages to be used must be entered here. First, use the lookup button in the "Windows Language" column to select the desired language from the list. Then, check-mark the box "Enabled" in the e-Con Languages form, whereupon the "Windows description" field will be entered automatically. The to the "Windows Language" corresponding "Windows Culture" must be filled up as well. Finally, select the corresponding "NAV Language".

Now the different languages have been entered in e-Con, but other settings must also be filled in.

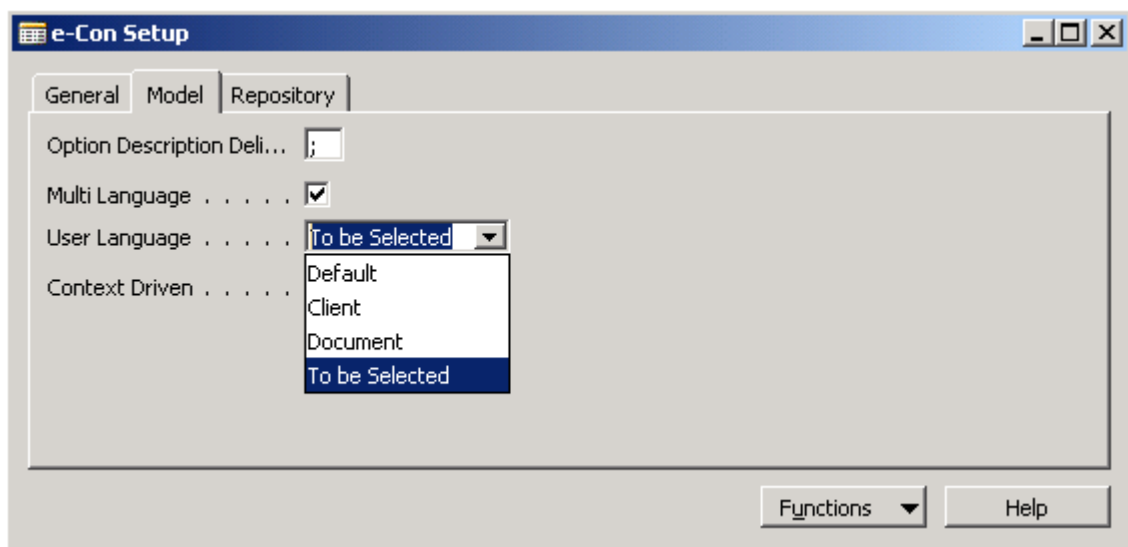
- Go to "Setup" in e-Con's main menu, and click on "e-Con Setup".



- Click on the "Model" tab. On this form, you will need to enter two fields, namely "Multi Language" and "User Language". When the "Multi Language" field is checked, it's an indication to e-Con that you want to work with Multilanguage Models.

You must enter one of the following four options in the "User Language" field, in order for e-Con to know which language to display in the Front End:

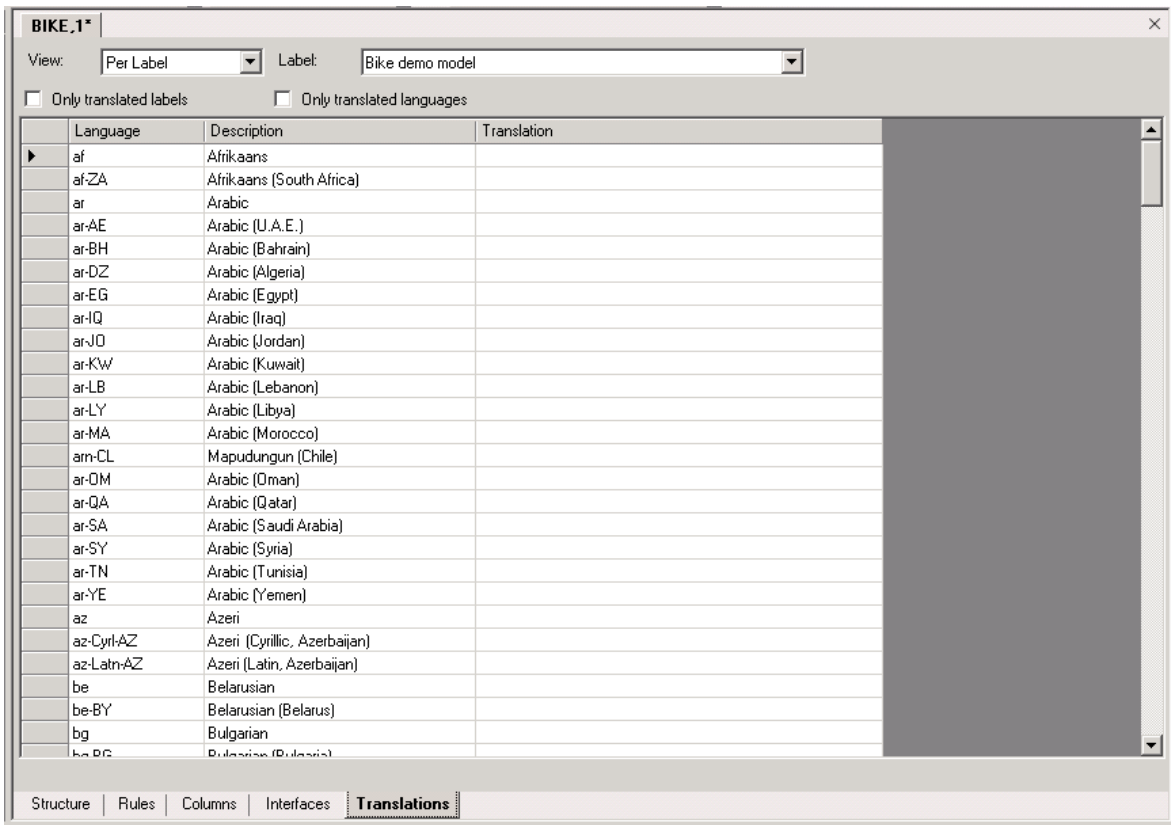
- Default -- The Front End language is always the default language in which your model is build.
- Client -- The Front End language is always the language of the Dynamics NAV Client.
- Document -- The Front End language is always the language of the document. In the case of e-Con being started up from within a Sales Quote or Sales Order, this means that Front End language will be the language of the customer.
- To be selected -- The Front End language can be selected every time e-Con is started up.



At this point, all settings necessary for the Multilanguage functionality have been set up. What remains is for us to add Multilanguage functionality to our specific models.

2.1.2 How to Add Multilanguage Functionality to a Model

In the e-Con studio per model element the translations should be added. Open the model in the e-Con studio and go per model element to the translation tab.



The view on the translations can be changed.

- Per label then all languages are shown or only languages that are already translated for.
- Per language then all model ID's to be translated are shown.

2.2 How to set up recovery

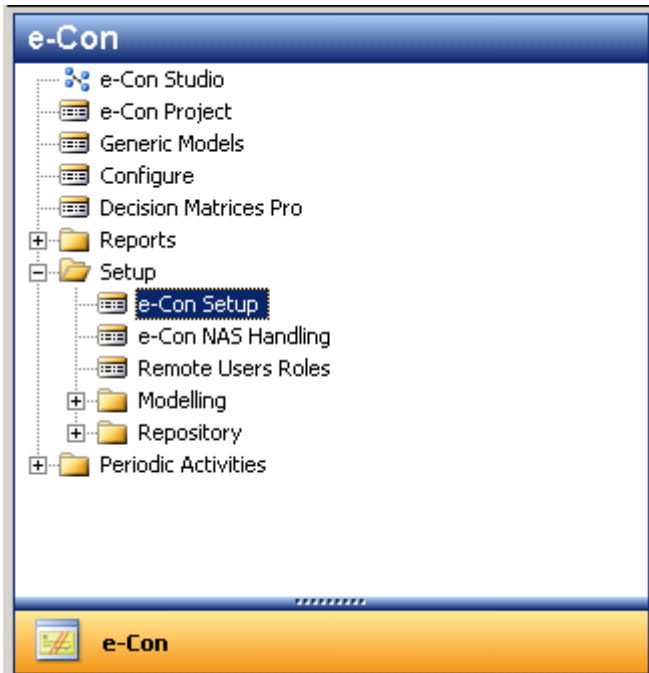
Configurations with errors can be recovered. Meaning that erroneous configurations are shown to the user when recovering is activated. The user get always his erroneous configurations displayed when he wants to use the particular model. Selecting one of the erroneous configuration will open them. The normal process can take place afterwards. Recovery can be activated per model.

- Select the generic model from where the recovery must be activated.
- Select the tab page 'XML' and check the field 'Online recovery'.

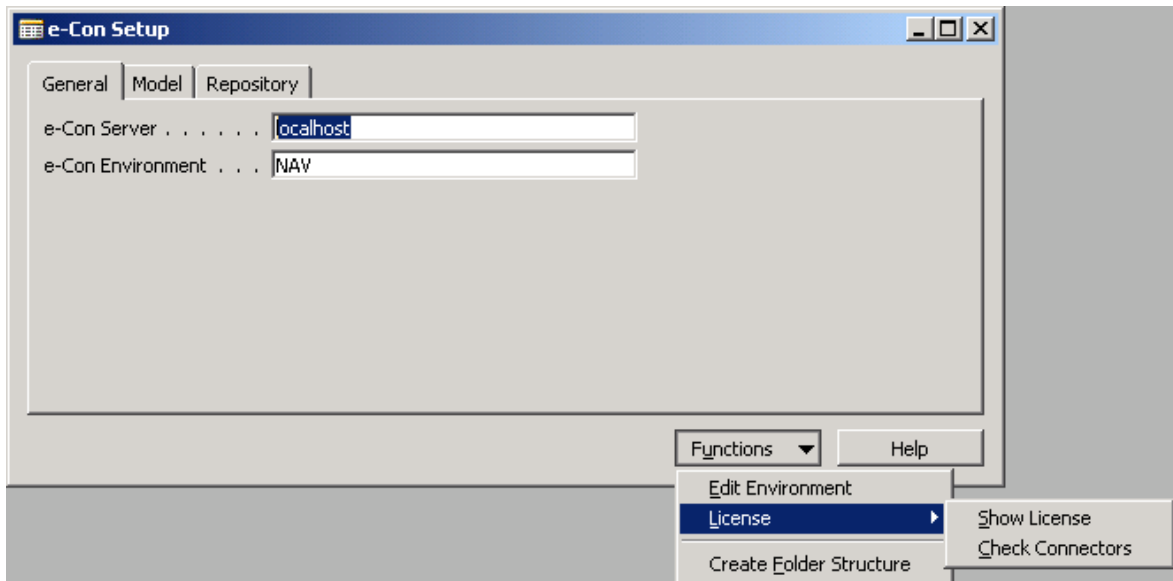
2.3 How to change the set up for e-Con

By going to "Setup" in e-Con's Main Menu and clicking on "e-Con Setup" option, you can alter or check the default installation settings. Note : see e-Con 4.1 - MS Dynamics NAV Integration - Installation Manual for details on the initial set up of e-Con in Dynamics NAV.

- Go to "Setup" in e-Con's Main Menu and click on the "e-Con Setup" option.



The following form will open:

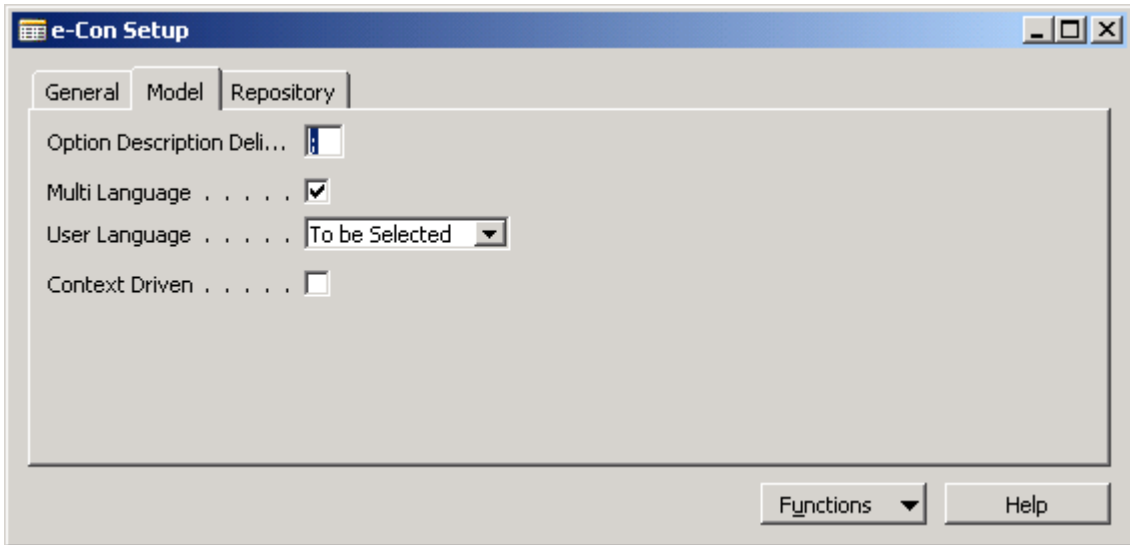


- When a new environment is needed just type in a new e-Con Environment and open the Functions – Edit Environment. Make the changes in the environment settings, most common changes are data folder and messages queues in the connection string. Note: different environment most times also need a different NAS.
- Activate the "Create Folder Structure" option to generate the folders as required for e-Con. These folders are generated on the file system for the data store as set up in the selected environment.
- Activate the "Edit Environment" option to show all the e-Con settings for the environment as selected in the field e-Con Environment. Make the changes needed, data store, default buttons etc. (Read more about all the environment settings in the "Settings" document).

General tab

- Make sure that the right e-Con server is specified. The e-Con server is the machine on which the e-Con server installation is done. The name of the server must equal to the name as specified in the e-Con license.
- Make sure that the right environment is specified. Environments should be set up different for different companies within a database and for the test, model and live environment.

Model Tab



- If you want to use Multilanguage functionality, you can set the "Default Language" and the "User Language"
- Check-mark "Context Driven" to activate this functionality

Tips& Tricks:

Read every detail about the set up of e-Con in the 'e-Con 4.1 - MS Dynamics NAV Integration - Installation Manual'.

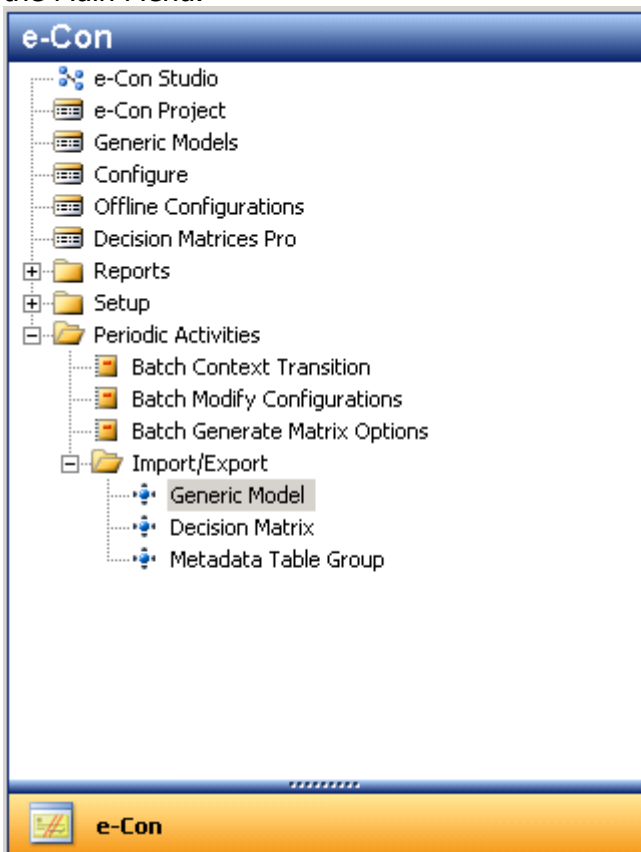
2.4 How to Set Up the NAS for e-Con

See e-Con 4.1 - MS Dynamics NAV Integration - Installation Manual.

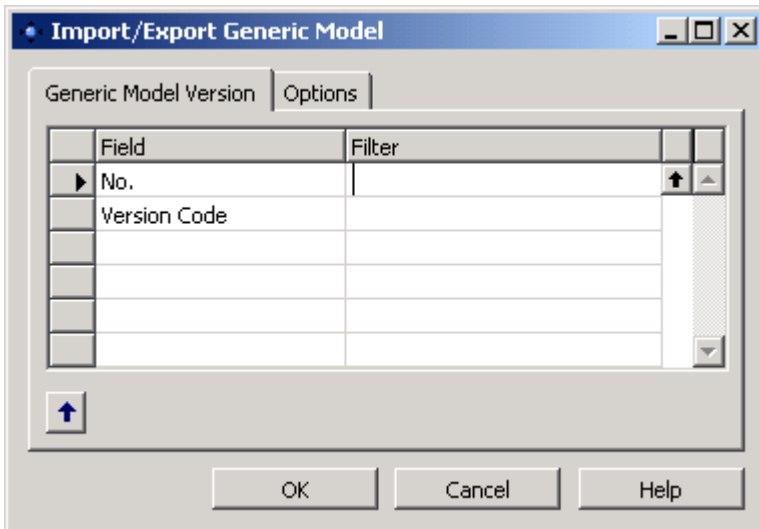
2.5 How to Import or Export Models

With e-Con, you can import and export models. Most commonly this is done via e-Con studio, but it is also possible to do it via NAV.

Go to the "Import/Export Generic Model" option under the "Periodic Activities" menu in the Main Menu.



The following screen will appear:

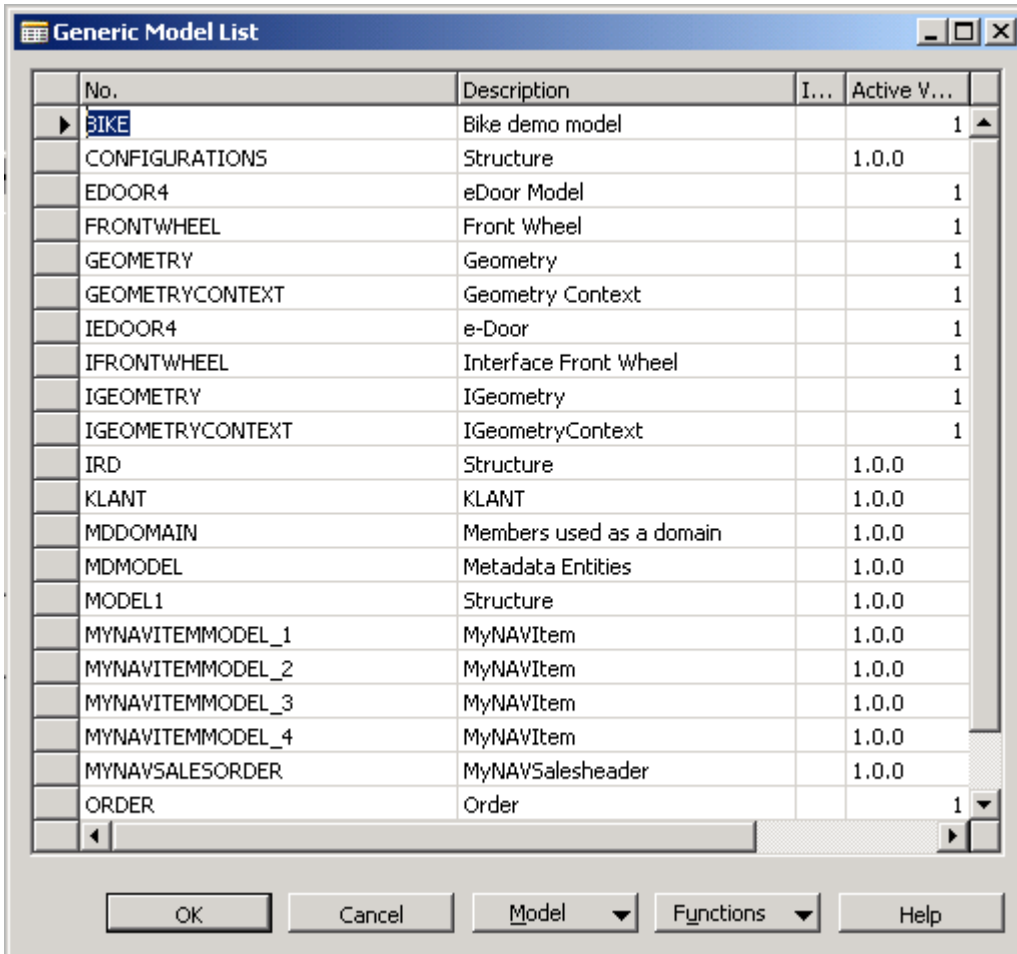


Fields on the "Generic Model Version" tab:

On the "Generic Model Version" tab, you can set the filter parameters for the model you want to export.

No.

In this field, you can look up the model you want to select in the filter. Use the lookup button to activate the following form:



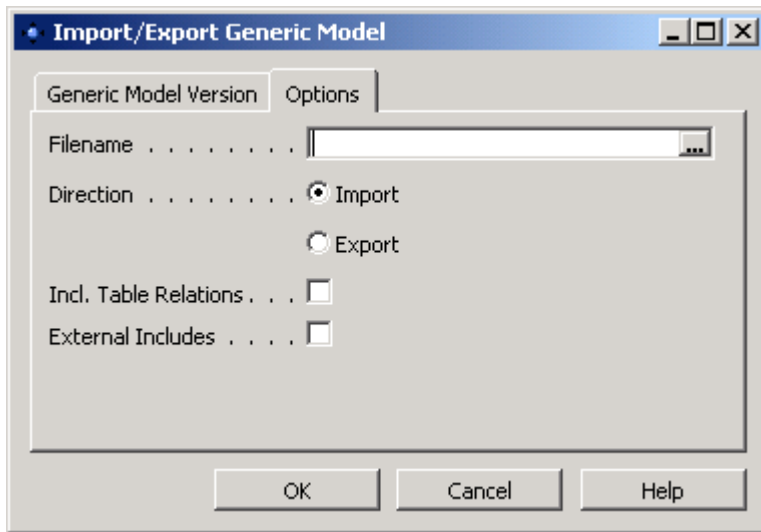
No.	Description	I...	Active V...
BIKE	Bike demo model		1
CONFIGURATIONS	Structure		1.0.0
EDOOR4	eDoor Model		1
FRONTWHEEL	Front Wheel		1
GEOMETRY	Geometry		1
GEOMETRYCONTEXT	Geometry Context		1
IEDOOR4	e-Door		1
IFRONTWHEEL	Interface Front Wheel		1
IGEOMETRY	IGeometry		1
IGEOMETRYCONTEXT	IGeometryContext		1
IRD	Structure		1.0.0
KLANT	KLANT		1.0.0
MDDOMAIN	Members used as a domain		1.0.0
MDMODEL	Metadata Entities		1.0.0
MODEL1	Structure		1.0.0
MYNAVITEMMODEL_1	MyNAVItem		1.0.0
MYNAVITEMMODEL_2	MyNAVItem		1.0.0
MYNAVITEMMODEL_3	MyNAVItem		1.0.0
MYNAVITEMMODEL_4	MyNAVItem		1.0.0
MYNAVSALORDER	MyNAVSalesheader		1.0.0
ORDER	Order		1

Version Code

You can define the version of the selected model. Only the defined version will be exported.

Fields on the "Options" tab:

On the "Options" tab, you can select the file that you want to import or export.



Filename

Use the browse button (indicated by three dots: ...) to select the path for export or to select the file you want to import.

Direction

Select "Import" to import a model. Select "Export" to export a model.

Incl. Table Relations

Select this option to include the Table Relations used in the model you will import or export. These table relations will be imported or exported from the field property defaults

External Includes

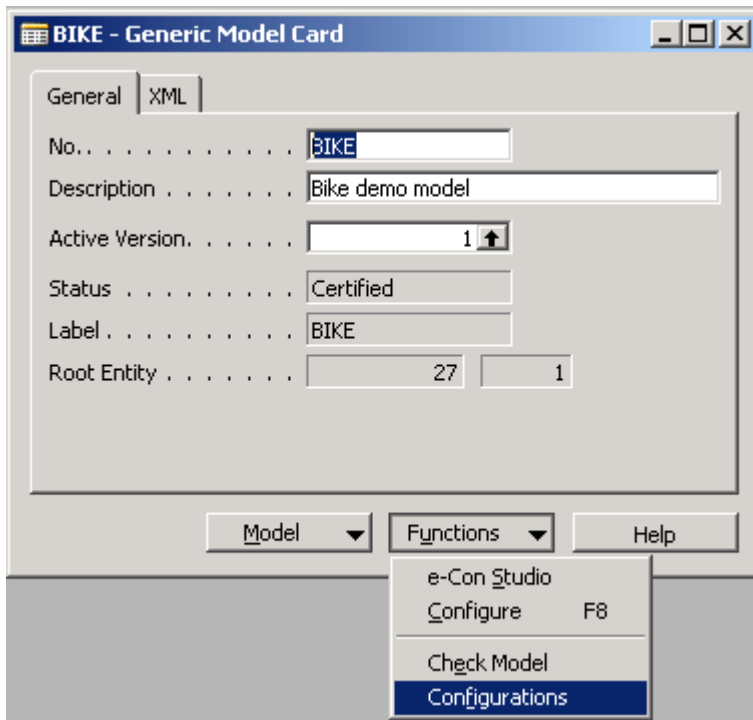
Select this option to include the External Included Models (Models that are not available in Dynamics NAV but only as XML files) in the export or import.

Tips & Tricks:

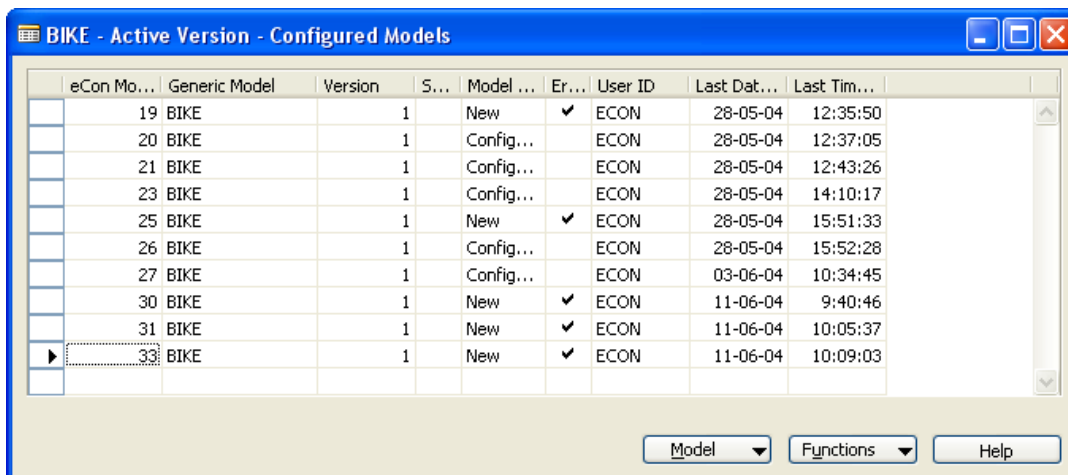
By exporting a submodel the interface model is automatically exported as well

2.6 How to View Your Configurations

You can view the configurations generated using e-Con.



- In the Generic Model Card, go to the "Functions" button and activate "Configurations".



The following form will open:

e-Con Model ID

Automatically generated ID

Generic Model

Name of the model which generated the configuration.

Version

Number of the version used.

Synchronize

Tick this field if the configuration must be synchronized with the latest model by a reconfigure action.

Model Status

Status of the model.

Error

Error messages will be displayed here.

User ID

User who generated the configuration.

Last Date Modified

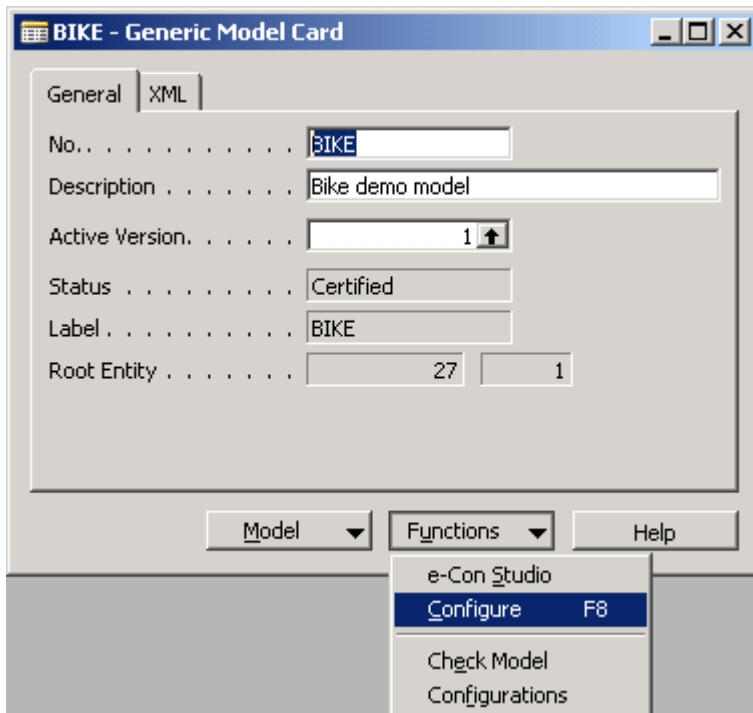
Date when the latest changes were made to the model.

Last Time Modified

Time when the latest changes were made to the model.

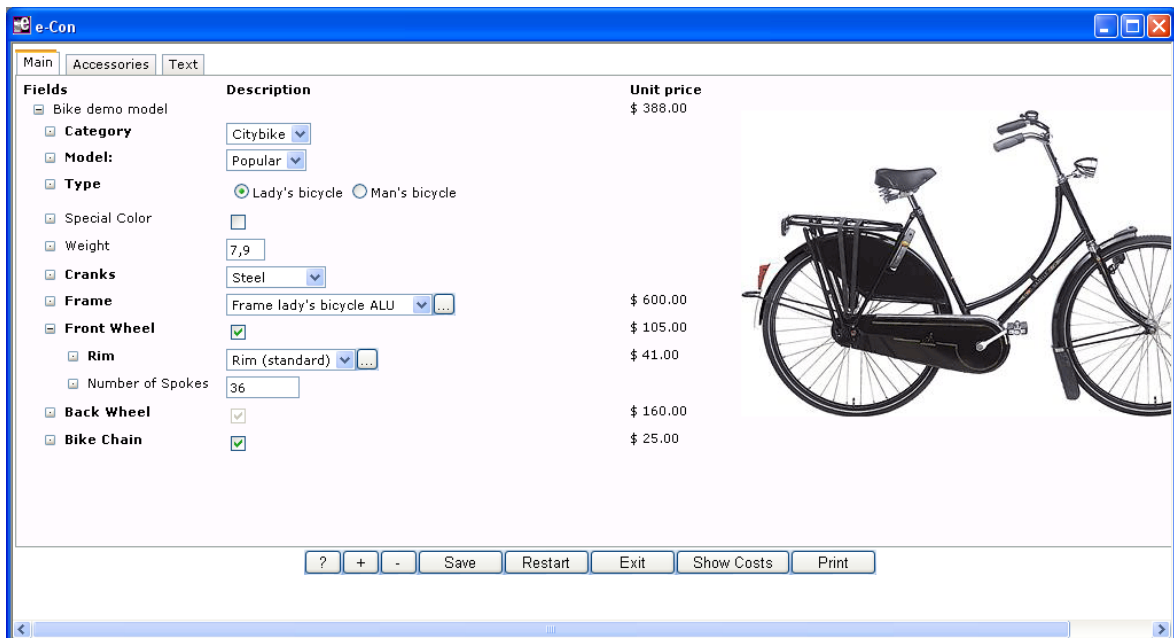
2.7 How to Start Up Your Model

- Select the desired model on the Generic Model Card



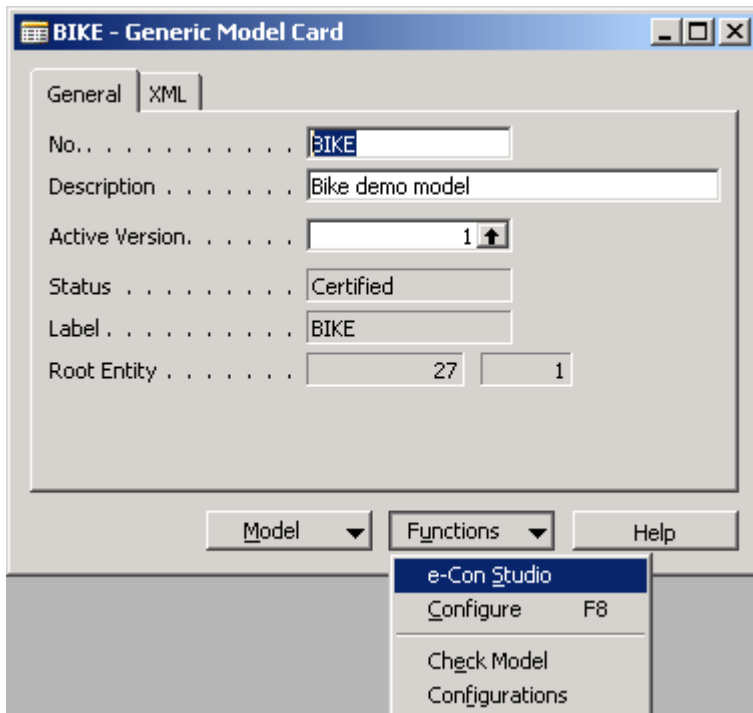
- Click the "Functions" button on the Generic Model Card and select the "Configure" option. Or simply press the F8 key on your keyboard.

The e-Con Front End will be activated:

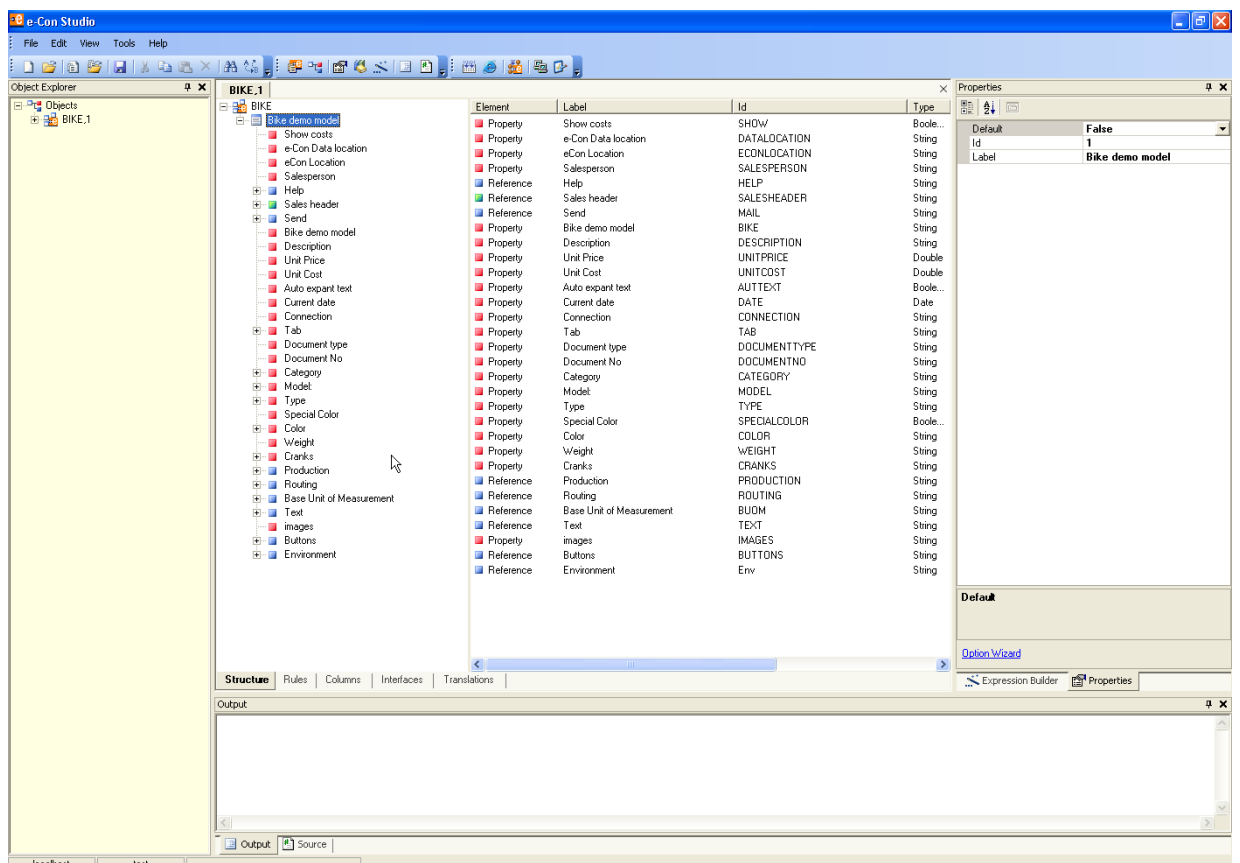


2.8 How to Start Up the e-Con Studio

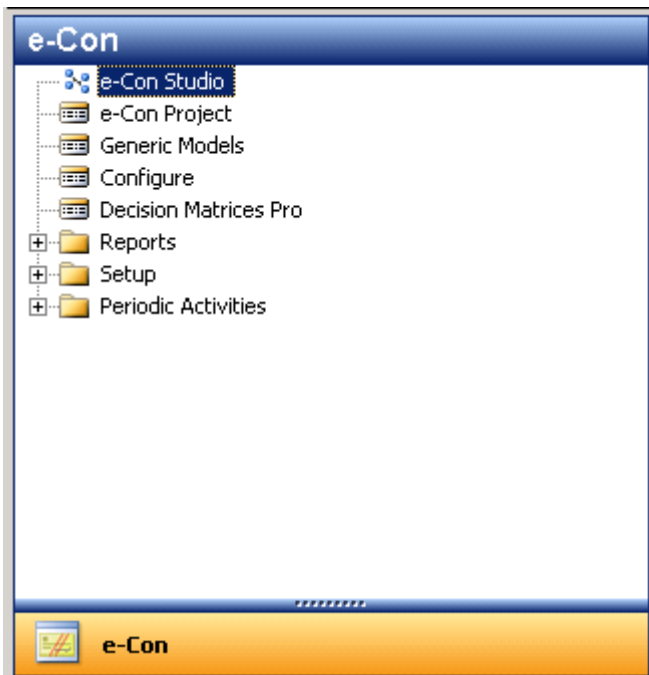
With the Studio, you can alter the data structure and add rules, among other things.



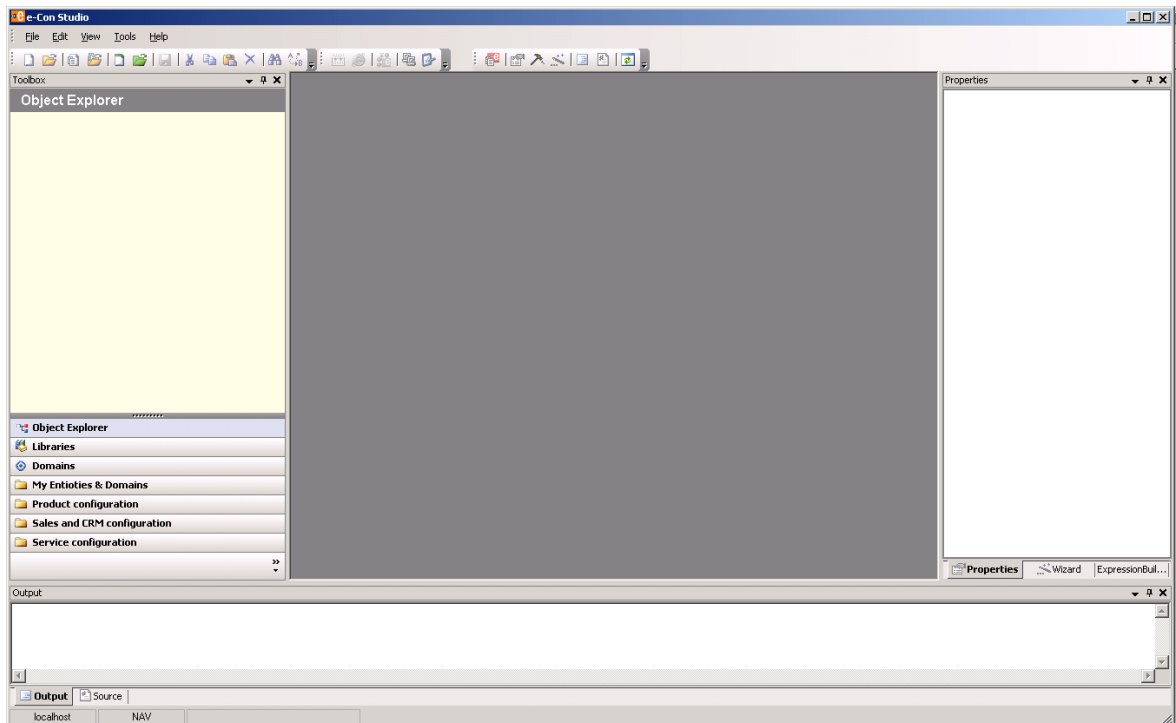
- Select the desired model on the Generic Model Card.
- Click the "Functions" button on the Generic Model Card and select the "e-Con Studio" option.
- E-Con studio will be opened with the generic model in the view



OR



- E-Con studio will be opened empty. Next in the e-Con studio the model should be selected.



2.9 How to Set Up the Context-driven Functionality

With the Context-driven functionality, you can cause the behavior of e-Con to vary depending on e-Con's context. The word "context" is used here to mean the environment or process from which e-Con is started up.

Three basic contexts are supported:

- Quote: e-Con is started up from a Sales Quote, or the configured object is stored in a Sales Quote.
- Order: e-Con is started up from a Sales Order, or the configured object is stored in a Sales Order.
- Production: The configured object is used in a Production Order.

Of course it's possible to add more contexts, customized to fit your needs. Just contact your retailer or consult the Developer Guide for more information.

Furthermore it's possible to call up e-Con automatically during a context transition. Two standard transition contexts are included that are fully integrated with Dynamics NAV:

- Transition from Quote to Order
- Transition from Order to Production

When the standard Dynamics NAV "make-order" or "Create Prod.order" functions are executed, e-Con can be automatically called up.

The "Make Order" function can be found in the Sales Quote. The "Create Prod.order" function can be found in the Sales Order Planning.

During execution of these functions, the XML document will be generated again, and this in turn executes the rules that are triggered by the change of context.

Before we explain how to set it up, we will first give you an example of the context-driven functionality. Our example is based on the Bike demo model.

In the Bike demo model, there are three contexts from which to start up e-Con: Quote, Order and Production. Depending on which of these contexts e-Con starts up in, the model will act as follows:

Quote: In the Quote context, the Production BOM and Routing *are not* saved in the Dynamics NAV Back End.

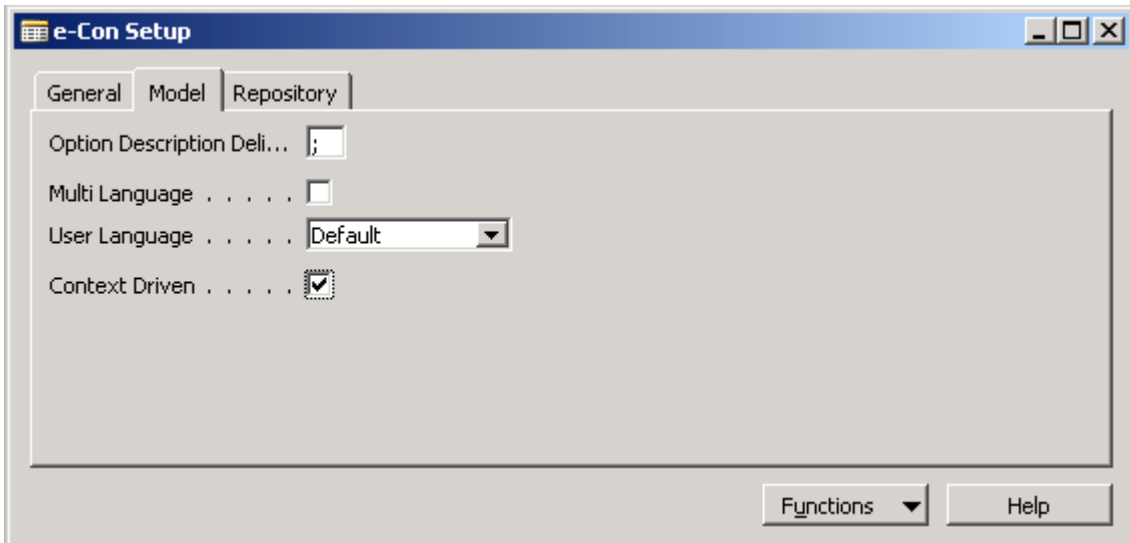
Order: In the Order context, the Production BOM and Routing *are* saved in the Dynamics NAV Back End.

Production: In the Production context, it is no longer possible to change the category, model or type. It is possible, however, to add more customized routing steps.

So depending on the context, different sets of rules are executed.

The following sections cover how to set up those contexts in Dynamics NAV.

We will also describe how you can retrieve this type of context information in e-Con.

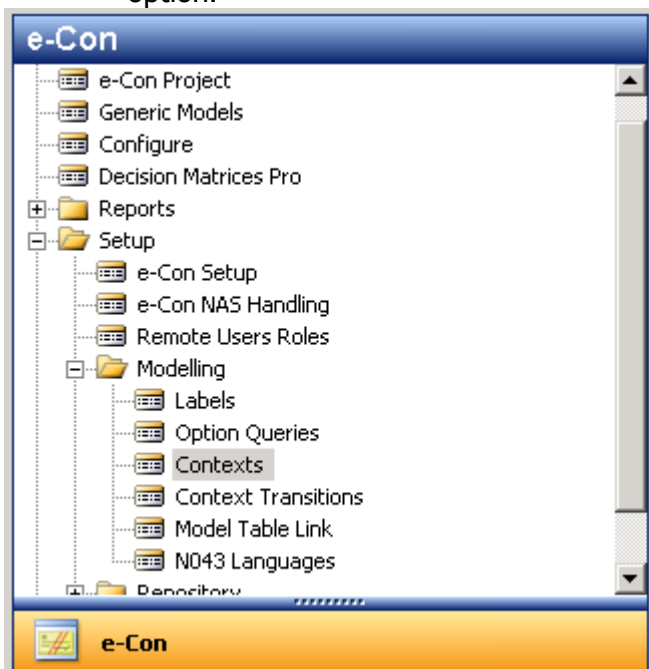


But first we have to activate the context functionality in the e-Con Setup. Go to the "Setup" menu, and select "e-Con Setup". Choose the "Model" tab and check-mark the field labeled "Context Driven".

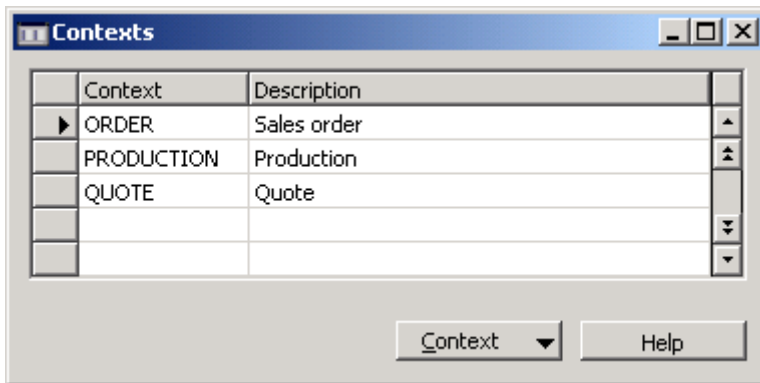
2.9.1 Context

To make the Context-driven functionality available, you first have to define the various contexts you want to use. This involves the following steps:

- Go to "Setup" on e-Con's main menu "Modelling" and select the "Context" option.

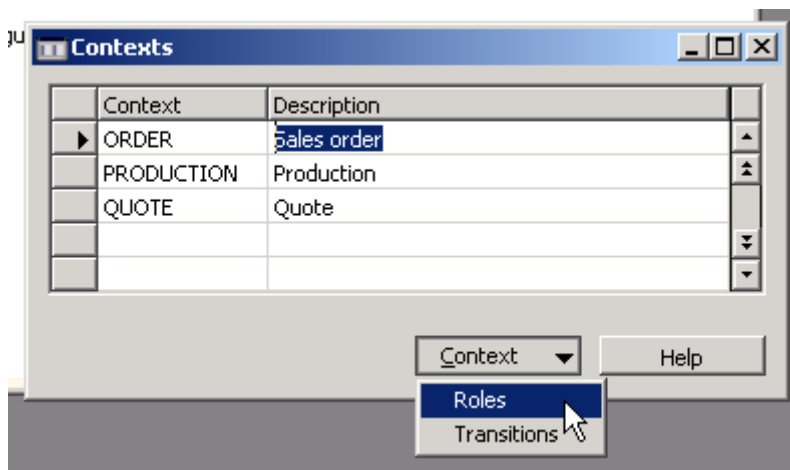


- In the form that opens, the various contexts can be set up. Enter a name and description for each context. In this example, three contexts are set up: Order, Production, and Quote.

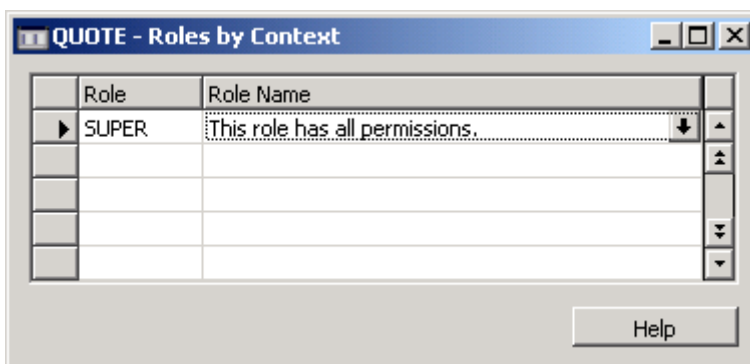


- Next, you will need to link user roles to the contexts. This means determining which user roles are authorized to start up e-Con from each respective context. So if a user attempts to start up e-Con from, say, the Sales Order ("ORDER" context), but you've not authorized them to do so, e-Con will not start up.

To designate user roles, select a context, then click the "Context" button. Select the "Roles" option, and proceed to add the roles you wish to authorize to start up e-Con from the given context.



The "Roles by Context" form will open for the Context you've selected (in this case, the "QUOTE" Context):

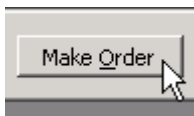


- Close the forms to save the role authorizations.

2.9.2 Context Transitions

Now you've set up the Contexts in e-Con. Next, we must set up the Transitions. In this section, we will go through the set-up procedure for two transitions: the transition from Quote to Order and from Order to Production.

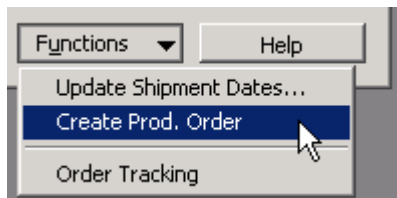
Those context transitions are triggered by the standard Dynamics NAV functions, "Make Order" and "Create Prod. Order". The "Make Order" function can be found in the Sales



Quote form. This function transforms the Quote into an Order, thus changing the context from "Quote" to "Order".

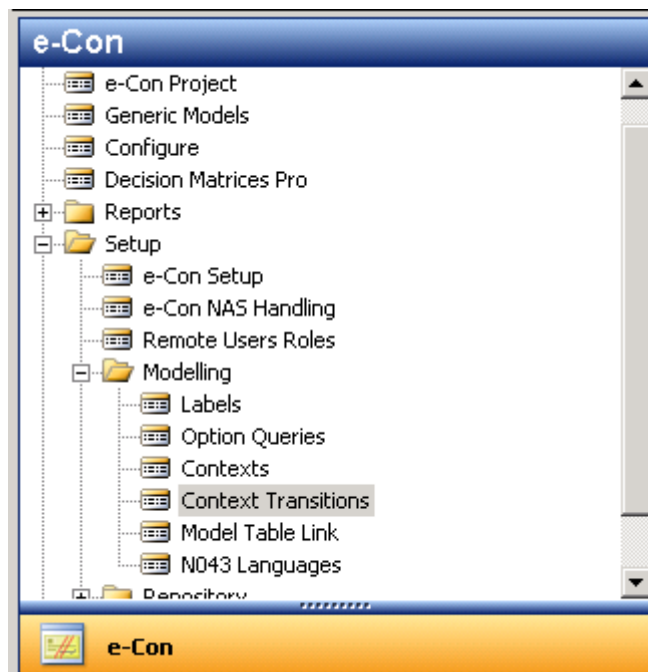
The "Create Prod. Order" function can be found in the Sales Order Planning form. This function generates a Production Order from the item at the Sales Order line, thus

changing the context from "Order" to "Production".



Follow the steps below to set up the Transitions:

- Go to "Setup" in e-Con's main menu "Modelling" and select the "Context Transitions" option.



- The "Context From" and "Context To" fields must be entered. When the "Process Automatically" field is check-marked, e-Con will automatically be called up during the Context Transition. In the "Notify" field, an e-mail address can be entered. During the Context Transition, a notification e-mail (which includes a hyperlink to the relevant Sales Order) will be sent to the address entered here.

The screenshot shows the 'Context Transitions' dialog box. It contains a table with the following data:

Context ...	Context To	Description	Process ...	Notify
ORDER	PRODUC...	Order -> Production	<input checked="" type="checkbox"/>	info@eCon.com
QUOTE	ORDER	Quote -> Order	<input checked="" type="checkbox"/>	info@eCon.com

At the bottom right of the dialog box, there is a 'Help' button.

- Close the forms to save the Context Transition set-up.

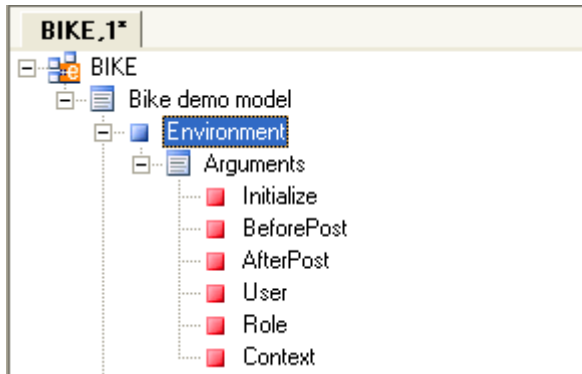
2.9.3 How to Retrieve the Context Variable in e-Con

Now that the Context-driven functionality is fully set-up, we will explain how to retrieve the Context in e-Con.

In most cases, you will want some of the rules to be executed in a particular context. To make this happen, you must know the Context name, and include it in the rule you want to execute.

Information on the context is always included in the XML document. Upon generating the data structure, an additional Entity called "Environment", some Entity members, and "Context" is added to the XML data structure.

If you start the e-Con Studio and click on "Structure" to expand it, you will see an Entity called "Environment" that is not found in the Dynamics NAV data structure.



The members of this Entity are added without any value to the datastructure. To give them the right values the GetArg function must be used in a rule in the studio.

For example, in a rule for the Bike demo model:

Id:	Fill Environment Variables
Label:	Fill Environment Variables
Condition:	<pre>1 GetArg("Context") <> ""</pre>
Implication:	<pre>1 Env.User = GetArg("User"); 2 Env.Role = GetArg("Role"); 3 Env.Context = GetArg("Context")</pre>

This rule fills the members "User" "Role" and "Context" from the entity "Env".

These environment members can be used in rules as you can see in the example here under:

Id:	Category, Model and Type fixed
Label:	Category, Model and Type fixed
Condition:	<pre>1 Env.Context == "PRODUCTION"</pre>
Implication:	<pre>1 CATEGORY@style.readonly = "true"; 2 MODEL@style.readonly = "true"; 3 TYPE@style.readonly = "true"</pre>

This rule states that if the "Context" is "Production", then the Category, Model, and Type are not editable (the style readonly became true). This means that once the context is "Production", these values (Category, Model, and Type) can no longer be changed.

2.10 How to Set Up Decision Matrices

This section describes step by step how to set up a Decision Matrix Pro. Instructions for setting up the matrix, followed by an explanation of the business rules needed.

2.10.1 Overview

You can use Decision Matrices to indicate an interdependency between member options in your model. In many cases, certain options are not possible for a given Model. "Options" in this case may mean other Options (like Color or Type) as well as Items.

It's also possible to lay out such interdependencies in the business rules. However, these interdependencies may change frequently, and changing your business rules frequently is not ideal. In addition, it is often Sales Representatives, Assortment Control staff or Product Control employees who need to make these changes, and they are usually not authorized to alter the business rules.

So instead, e-Con makes use of easy-to-use Decision Matrices. By check-marking fields in these Matrices, employees can easily make the necessary changes in interdependencies among Entity members. And they need only make use of a few existing business rules to consult the matrix.

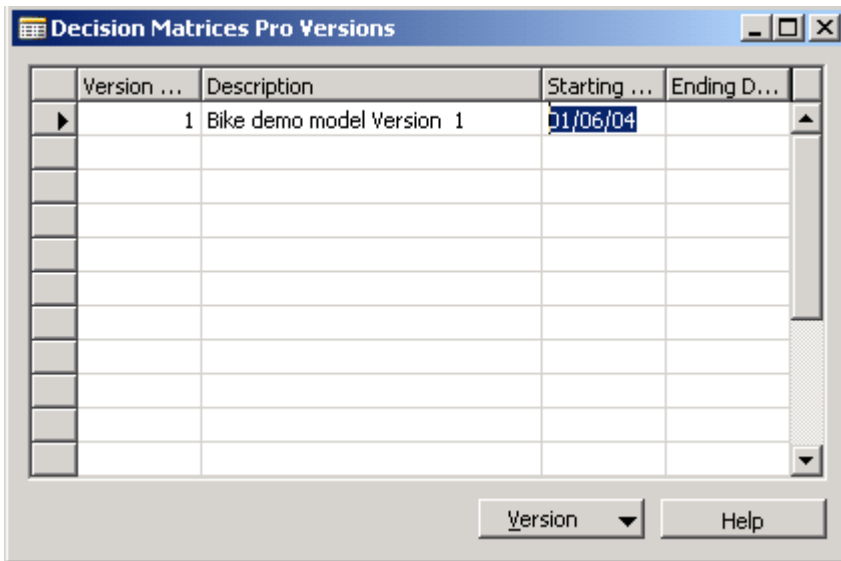
2.10.2 Setting up the Matrix

This section covers setting up a Decision Matrix Pro in Dynamics NAV. As an example we want to set up interdependency between a computer model and monitors. This is a part of the demo model Computer where such a dependency is supported by a Decision Matrix Pro as well. The monitors are stored in table 27, a table with a single field primary key. Computer model is an option query and not stored in any table within Dynamics NAV.

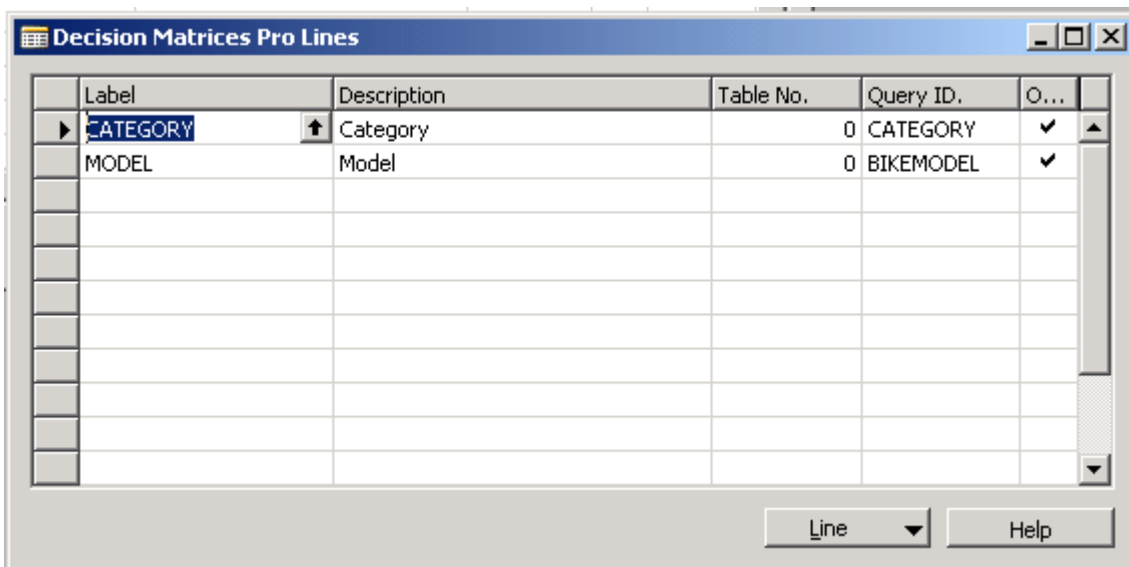
Furthermore a section is added how to set up additional data linked to a checked field in the decision matrix.

Now we will move on to setting up a Decision Matrix Pro in Dynamics NAV.

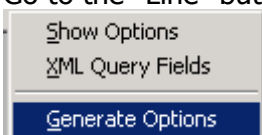
- First select "Decision Matrices Pro" in the set up menu of e-Con.



- Go to the "Matrix" button and select "Lines". The form for setting up decision matrix lines appears. Those matrix lines represent the rows and columns of the matrix. You must enter a Label, Table No., and Query ID here. Enter a zero ("0") for the Table Number when you want to set up a matrix line with options that aren't related to any Dynamics NAV table. Otherwise, just enter the number of the relevant Dynamics NAV table. You may also add a Query ID. This Query will fill in the line with the correct options.



- Go to the "Line" button and select "Generate Options".

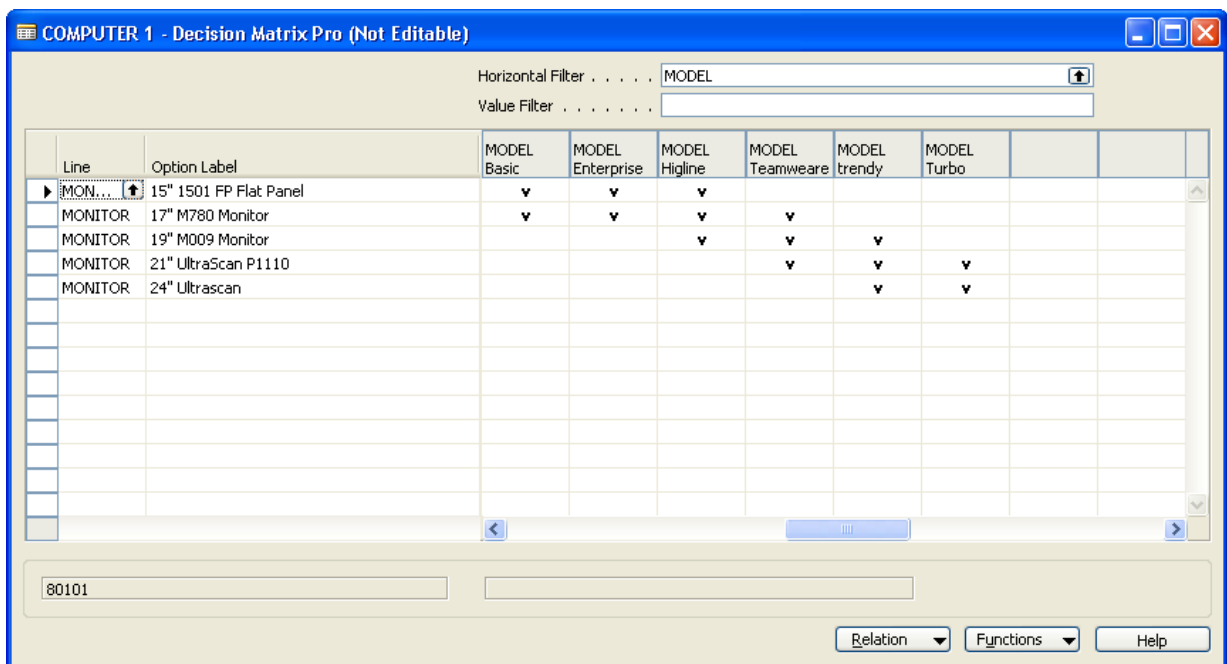


With this function, the Query entered will be executed and the options will be added to the Matrix Lines. You can check this by going to the "Line" button and clicking on "Option List". All Properties set Options will be shown.

Notice that after executing the function "Generate Options" the field "Options" in the decision matrix line form is checked.

- The Decision Matrix Lines and options have now been defined. What remains is setting up the interdependencies between both sets of information. To do this, we use a matrix. We can then use simple check-mark fields in the matrix to indicate the relevant interdependencies.
- From the "Decision Matrices Pro" form, go to the "Matrix" button and select the "Decision Matrix Pro" option.

The matrix looks like this:



The Decision Matrix Lines and options are found along the x-axis (horizontal) as well as along the y-axis (vertical) of the matrix.

It's also possible to filter a Matrix Line on the x-axis using the Horizontal Filter, and it's even possible to filter just one "value" (one column, in effect) using the Value Filter.

A particular Decision Matrix Line on the y-axis can easily be filtered by using the standard Field Filter function of Dynamics NAV.

- In the matrix, simply check-mark the interdependency you want to indicate. Check marking can be done by clicking the spacebar. For example, take a look at the Matrix shown above. For each bell, the possible variants are check-marked.

Notice that it doesn't matter whether you select model at the x-axis and the monitors at the y-axis (fig.1) or the opposite: monitors at the x-axis and models at the y axis (fig.2). By closing the form the checked fields will be automatically mirrored in the opposite part of the matrix.

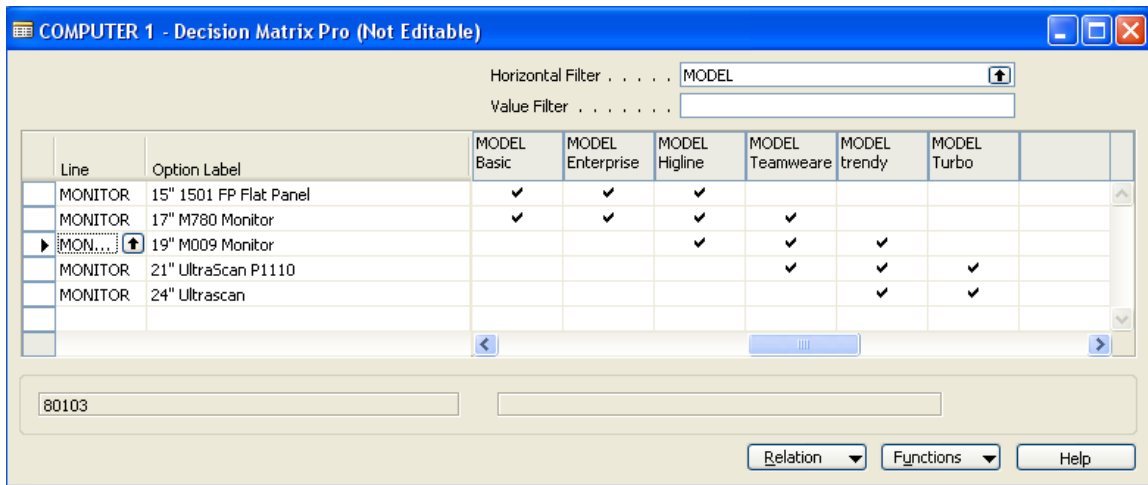


Fig.1

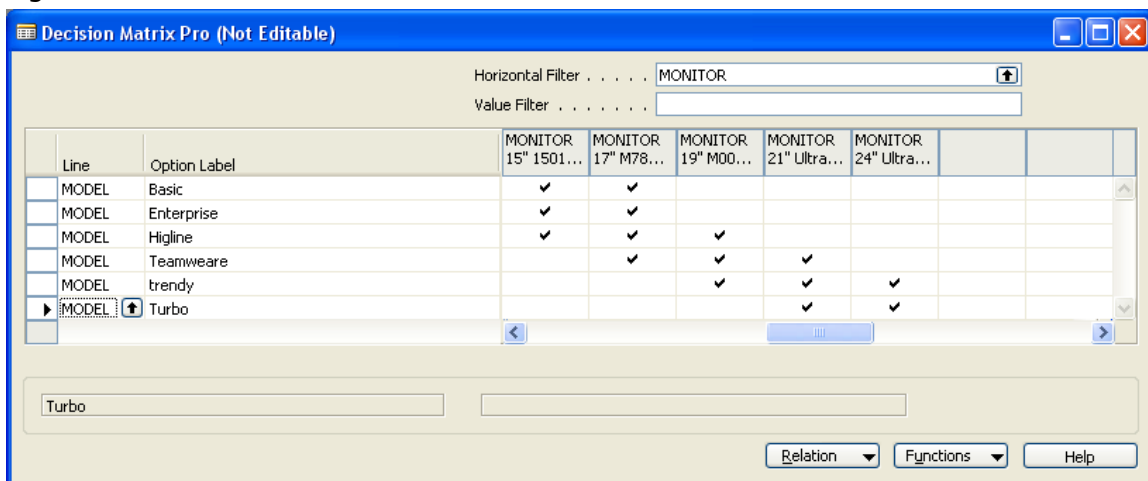


Fig.2

- This was the final step in Dynamics NAV. Close all forms to save the information entered, and return to the Generic Model Card

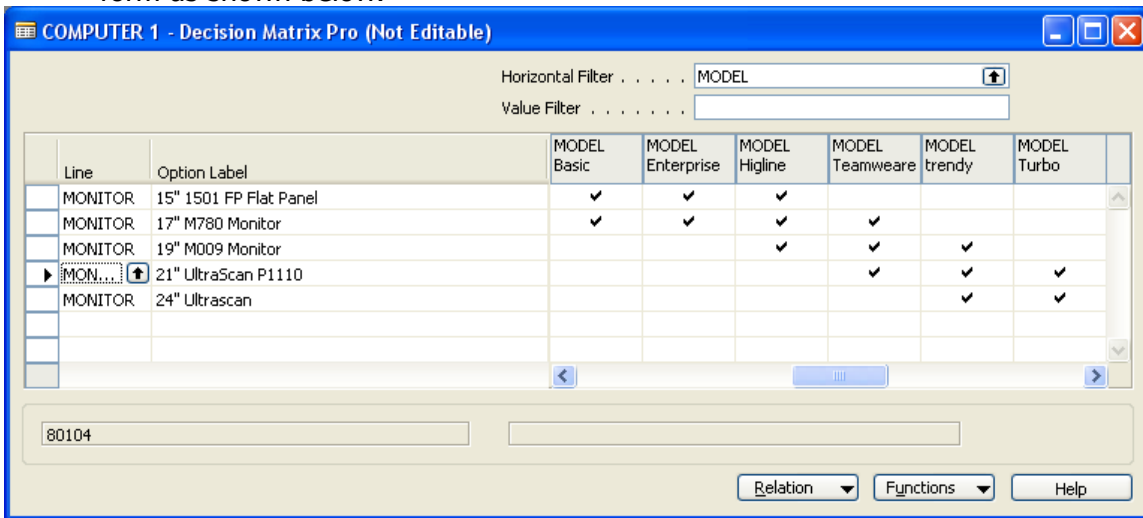
Tips & tricks:

For a thorough understanding of this functionality and an appreciation of its power, we recommend you import the Computer demo model and run it. Pay special attention to the relevant Decision Matrices.

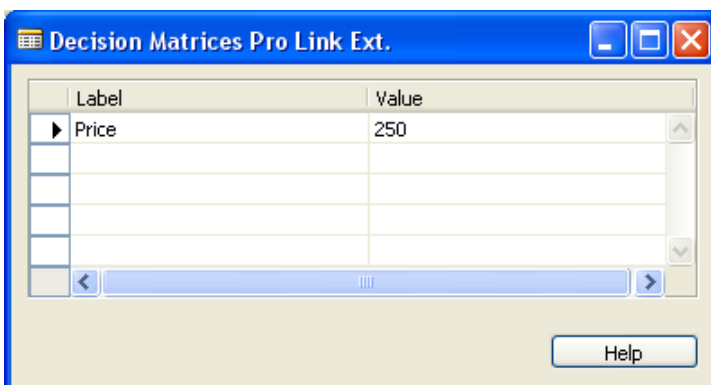
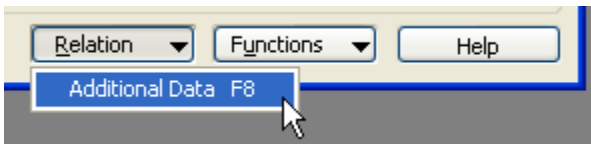
2.10.3 Adding additional data to a checked field in the matrix

In this section we describe how additional data can be added to a checked field in the decision matrix. This functionality offers you the possibility to add data to options available in the decision matrix. As an example: It's possible to add the prices for all the monitors in combination with the computer model for. That means that the price for monitor vary depending on the computer model the monitor belongs to.

- Select the Decision Matrix Pro as set up in the former step. And select the Matrix form as shown below.



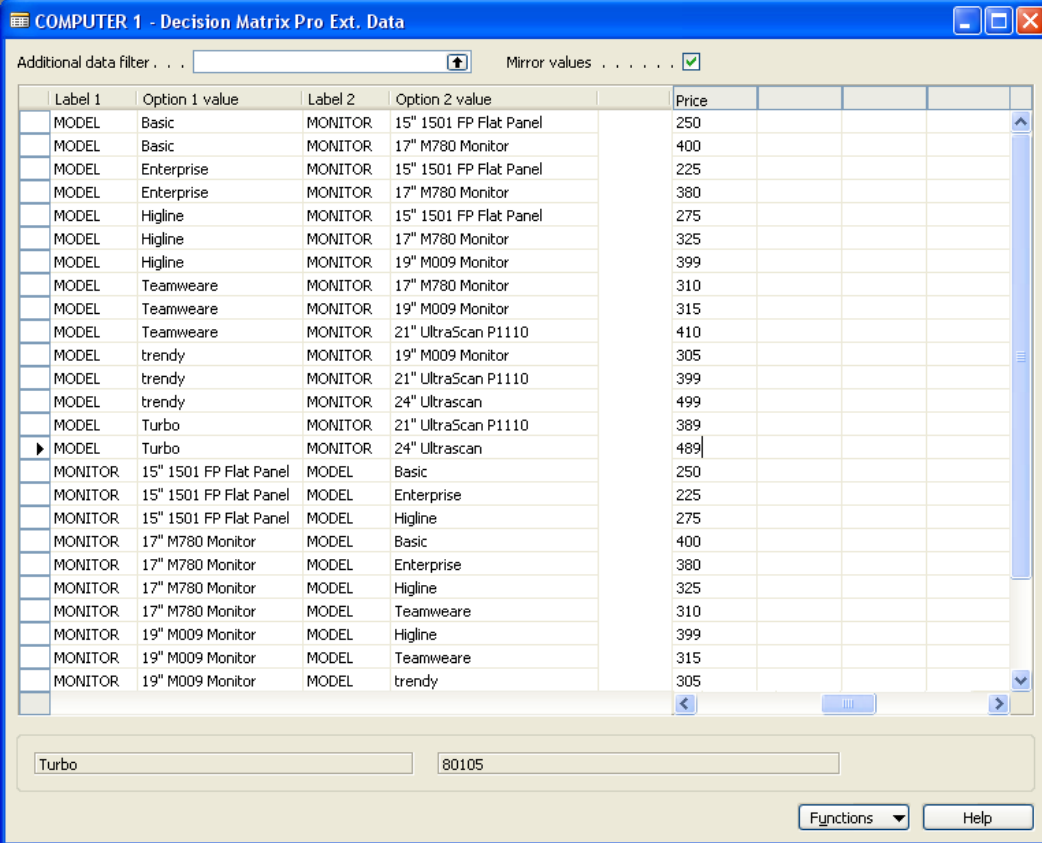
- Select a checked field in the decision matrix where additional data is wanted and select "Additional Data" under the "Relation" button. It's also possible to press F8 instead.
- In the form that appears fills up a label and value. This data is unique linked to the checked field in the matrix. The label of the value is important because that label is used in the business rules to get this value in eCon.



Tips & Tricks:

To assure that always the same labels are used for the additional data in a decision matrix, use the Additional Data Defaults. This function can be found under the "Functions" button in the Decision Matrix Pro. When additional data is entered those defaults always appear.

There is an overview screen available where additional data can be very easy entered. Select "Additional Data – Overview" in the "Functions" menu to enter this screen.



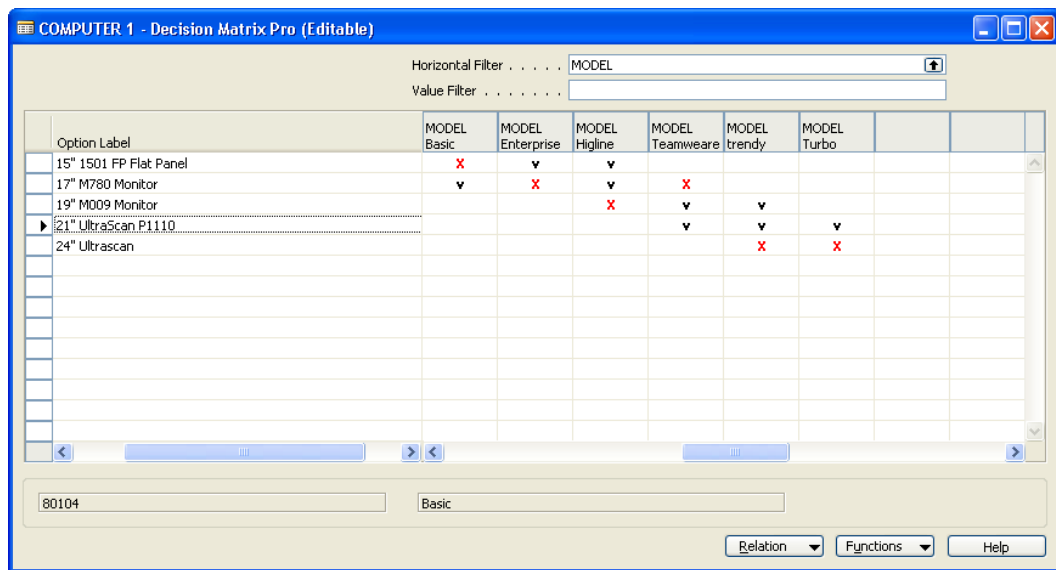
Label 1	Option 1 value	Label 2	Option 2 value	Price
MODEL	Basic	MONITOR	15" 1501 FP Flat Panel	250
MODEL	Basic	MONITOR	17" M780 Monitor	400
MODEL	Enterprise	MONITOR	15" 1501 FP Flat Panel	225
MODEL	Enterprise	MONITOR	17" M780 Monitor	380
MODEL	Higline	MONITOR	15" 1501 FP Flat Panel	275
MODEL	Higline	MONITOR	17" M780 Monitor	325
MODEL	Higline	MONITOR	19" M009 Monitor	399
MODEL	Teamweare	MONITOR	17" M780 Monitor	310
MODEL	Teamweare	MONITOR	19" M009 Monitor	315
MODEL	Teamweare	MONITOR	21" UltraScan P1110	410
MODEL	trendy	MONITOR	19" M009 Monitor	305
MODEL	trendy	MONITOR	21" UltraScan P1110	399
MODEL	trendy	MONITOR	24" Ultrascan	499
MODEL	Turbo	MONITOR	21" UltraScan P1110	389
MODEL	Turbo	MONITOR	24" Ultrascan	489
MONITOR	15" 1501 FP Flat Panel	MODEL	Basic	250
MONITOR	15" 1501 FP Flat Panel	MODEL	Enterprise	225
MONITOR	15" 1501 FP Flat Panel	MODEL	Higline	275
MONITOR	17" M780 Monitor	MODEL	Basic	400
MONITOR	17" M780 Monitor	MODEL	Enterprise	380
MONITOR	17" M780 Monitor	MODEL	Higline	325
MONITOR	17" M780 Monitor	MODEL	Teamweare	310
MONITOR	19" M009 Monitor	MODEL	Higline	399
MONITOR	19" M009 Monitor	MODEL	Teamweare	315
MONITOR	19" M009 Monitor	MODEL	trendy	305

2.10.4 Checking the default option in the matrix.

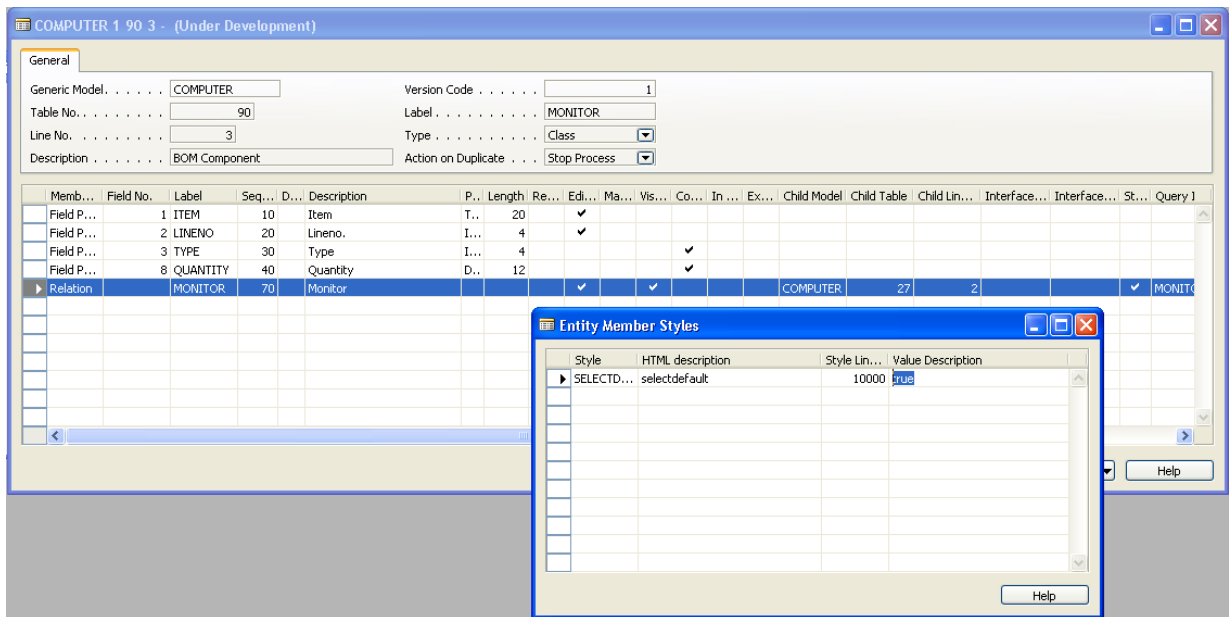
In the Decision Matrix valid options can be checked. Besides that the default option for a particular row can be checked as well.

Two steps are required to add this default behavior to the matrix functionality.

Select the decision matrix pro and check for each row the default option by entering the letter 'd' instead of clicking the space bar. Defaults are indicated with a red cross. See the example below:



Add a new style to the property representing the Monitors. In this case the property 'MONITOR.MONITOR'. The style to be added is: 'selectdefault' with value 'true'.



2.10.5 Add the Relevant Business Rules

In e-Con studio this NAV data can be queried via query functions. With the external data wizard these rules can be set up. Note : changes made in Decision Tables or added Decision tables are updated via the NAS in the wizard of e-Con studio.

2.11 How to Add Environment Invocation

It's possible to add conditions in e-Con related to the environment in which e-Con itself is operating. In this way, the environment in which e-Con operates can influence the behavior of e-Con. (The term "environment" is used here to comprise a whole host of variables, some of which are listed in this section).

For example,

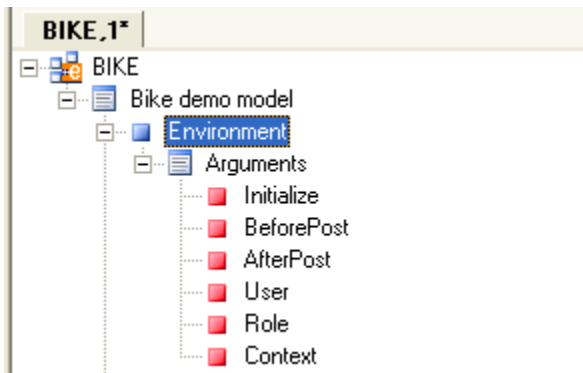
- You can determine that some members cannot be edited in e-Con, unless e-Con is operated by particular users.
- You can determine that e-Con prices are calculated and displayed, but only for particular user roles.

The standard environment variables are listed below. This list may of course be expanded; for more information, contact your retailer or consult the Developer Guide.

Standard environment variables:

- Initialize
- User (User who is using e-Con)
- Role (Role of user who is using e-Con)
- Context (Context out of which e-Con is started up)

All those variables are in fact members of a Property. This Property is called "Environment" and is automatically added to each XML document. If you open a model in the e-Con Studio and click on the Data Structure to expand it, you can see the "Environment" property listed.



Note that this property is not added in the Dynamics NAV Data Structure. (That's because it's automatically added to each XML document).

If you expand the property "Environment" in the Studio, all members are shown. These are the environment variables.

You can use these variables in your rules in just the same way as 'normal' members. Use the drag and drop function of your mouse to drag the member out of the "Environment" property and put it in your rule.

For example:

Id:	Default bike model for user 'econ'
Label:	Default bike model for user 'econ'
Condition:	<pre>1 Env.User == "ECON"</pre>
Implication:	<pre>1 MODEL@default = "medeo"</pre>

The above rule establishes that when the user is "ECON", the default value of MODEL is "medeo".

2.12 How to Batch Modify Configurations

You can find this functionality under Periodic Activities – Batch Modify Configurations.

With this periodic activity it is possible to modify (reconfigure) existing configurations in a batch and add changes to the configuration.

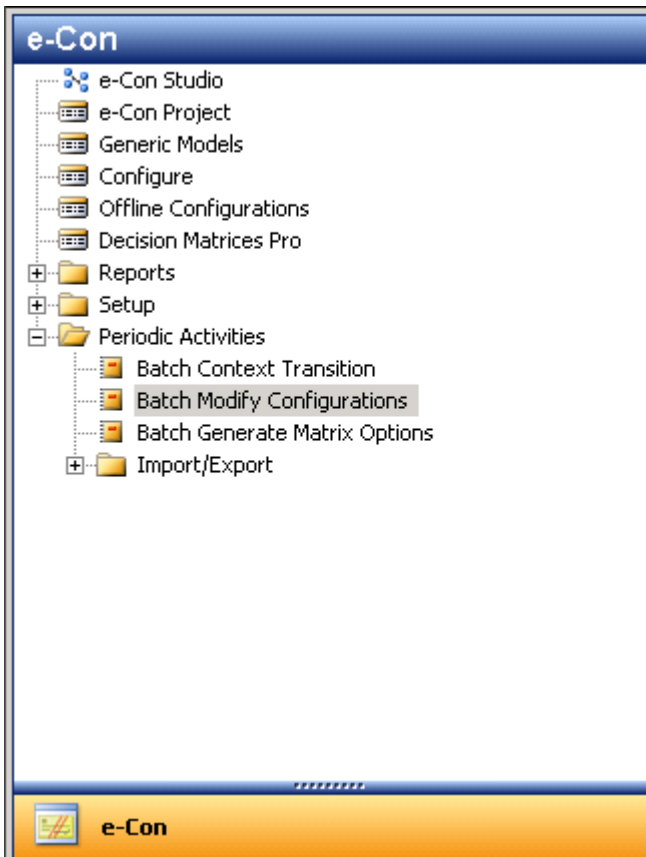
For example:

The Bike color 'Mother of Pearl' is no longer available. In some configurations 'Mother of Pearl' must be replaced by 'Metallic Lacquer'. This can be done with this function.

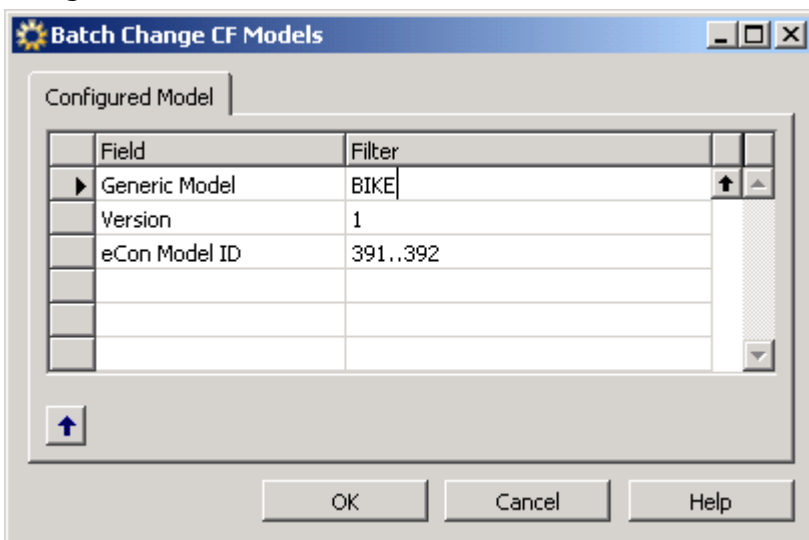
Tips and Tricks:

If the new value was not available in the model before, the configurations must be synchronized first. This can be done with the online synchronize on the Generic Model card on automatically.

Go to Periodic Activities – Batch Modify Configurations.

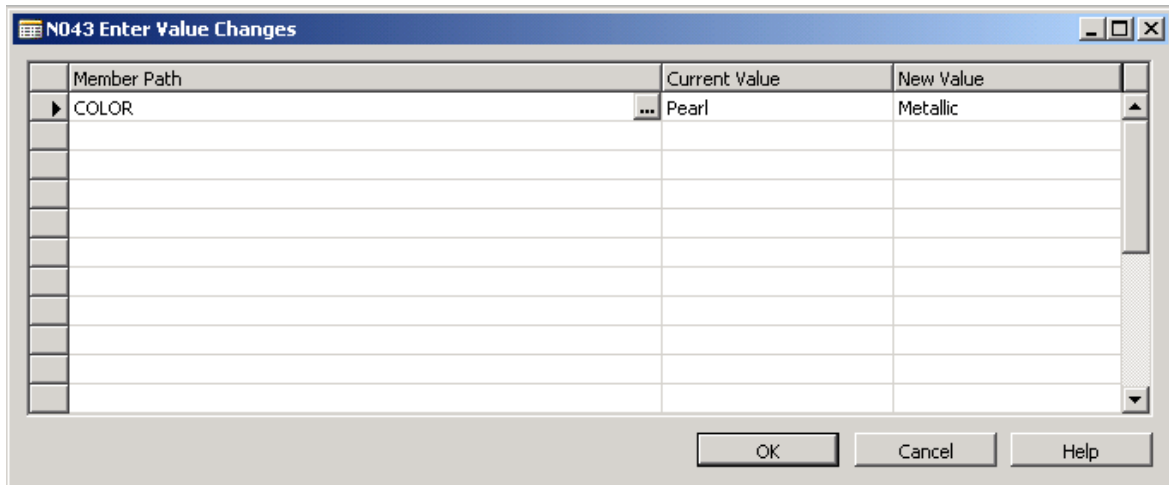


Fill in the Generic Model and the Version, last is only necessary if the version differs from the active version. Fill in the eCon Model ID's of the configurations which must be changed.



If the configurations must be synchronized with the latest version activate online synchronize on the Generic Model card.

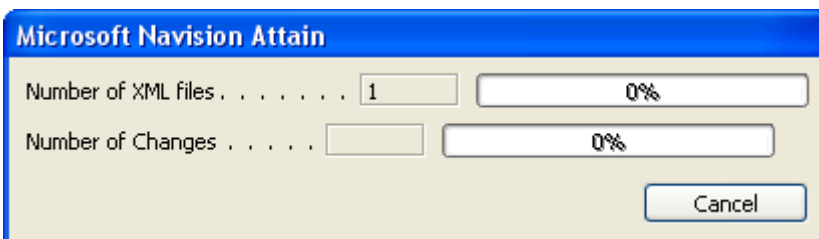
Then click OK. The next form will be opened.



Tips and Tricks:

If a change of the value of an entity member also means that the value another entity member has to change both entity members must be selected and appropriate values given. The normal Front End functionality is not active! Therefore this Batch Modify Configurations functionality is not an end-user tool! Rules will be executed, but only if there is a change of an input value !

If all the necessary entity members are selected and values are filled click OK and the configurations will be reconfigured. Some status bars will show the progress.

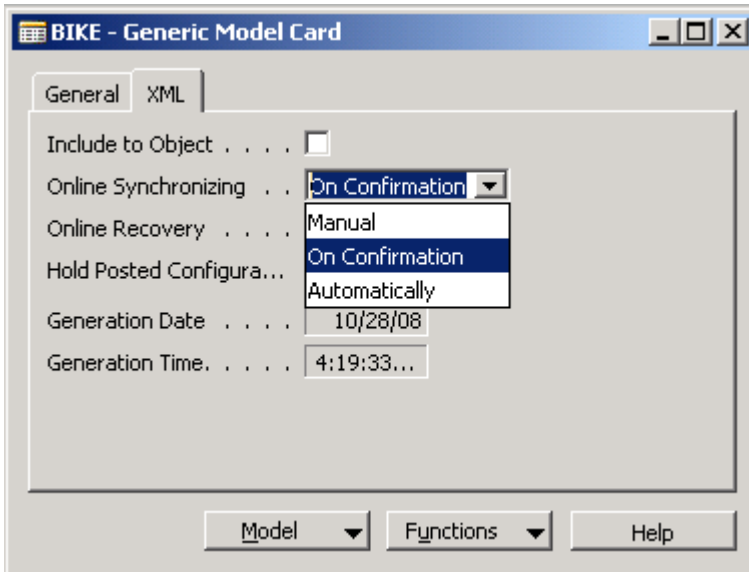


2.13 How to synchronize my configurations against the latest model

During the life cycle of a model many changes, upgrades and extensions of a model take place. Sometimes it's required to update existing configurations with these latest model changes, sometimes it's not. Such an update is called "Synchronization" in e-Con terms. There are different ways how synchronisation can take place. The section explains the different possibilities in this area.

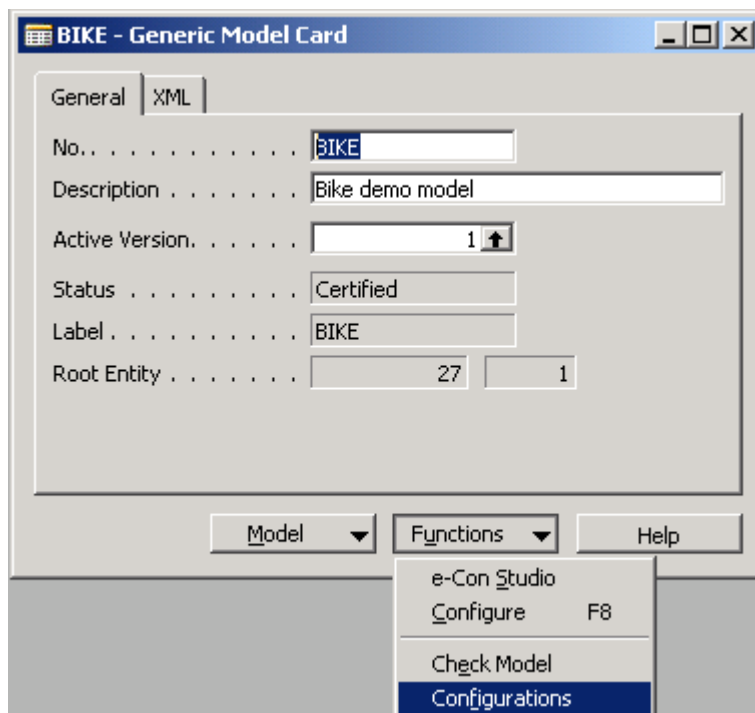
A controlled synchronisation can only take place when changes are done in a controlled way via versions. Changes made to a model without adding a new version are **always** synchronized during reconfiguration. In other words, changes made to the active version are always applied to an existing configuration during the reconfigure process.

When changes are done via a versioning procedure, each change or set of changes is a new model version, a certain set up of synchronization can be done. This set up can primarily be done on the generic model card. At the tab page "XML" a field "online synchronization" exists. This field determines how the model will act when the version of the configuration differ from the active version of the model.



Three possibilities exists here:

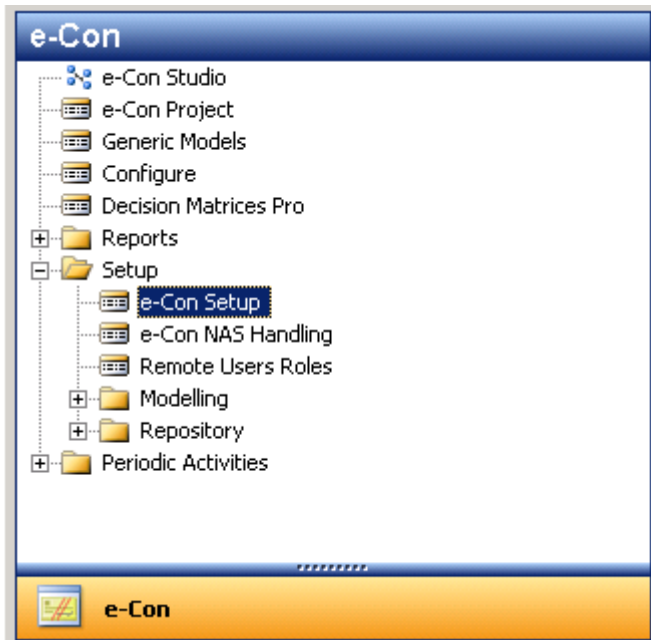
- Manual: The configuration is only synchronized with the active version of the model when the field "Synchronize" for that particular configuration is true. This "Synchronize" field is located in the "Configured Models" table. This table can be displayed by the function "Configurations" from the "Functions" menu available at the Generic Model Card.



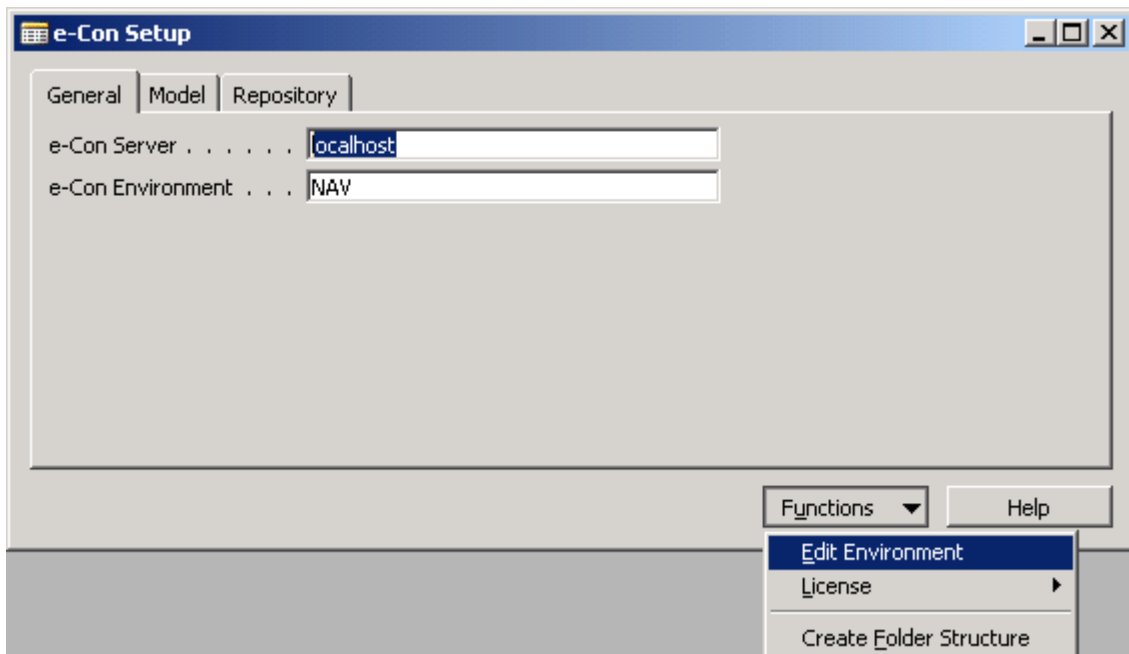
The field "Synchronize" can be checked here for each configuration needed to update.

Adding a Post button to the UI.

- Select the 'e-Con Set Up' menu options from the 'Set Up' menu from e-Con.



- Select 'Edit Environment' from the 'functions' button.



- Add the letter 'Q' or 'X' to the buttons field. Every character here represents a button. The 'Q' represents the Post button the 'X' represents the Post and Exit button.

UI Settings
Buttons

Adding Env.BeforePost structure element to the model



Adding rules to control the object ID.

The object ID is the number which the configuration and XML file becomes after the save or post action. There are some special functions to control the number (object id) to assign to the posted configuration.

Furthermore two environment variable exist 'Env.BeforePost' and 'Env.AfterPost'. The 'BeforePost' becomes true just before the post action, the 'AfterPost' becomes true after the post action. These environment variables allows to trigger and execute rules just before and or after the posting from a configuration.

- Enter a rule to retrieve an new object number. This can be done with the function `CallStringFunction(CONNECTION;"GetObjectID")`
- Enter a rule to assign this Object number to the document to be saved. This can be done with the function `SetArg("saveas"; OBJECTID)`

Example from the Sales Order Demo model.

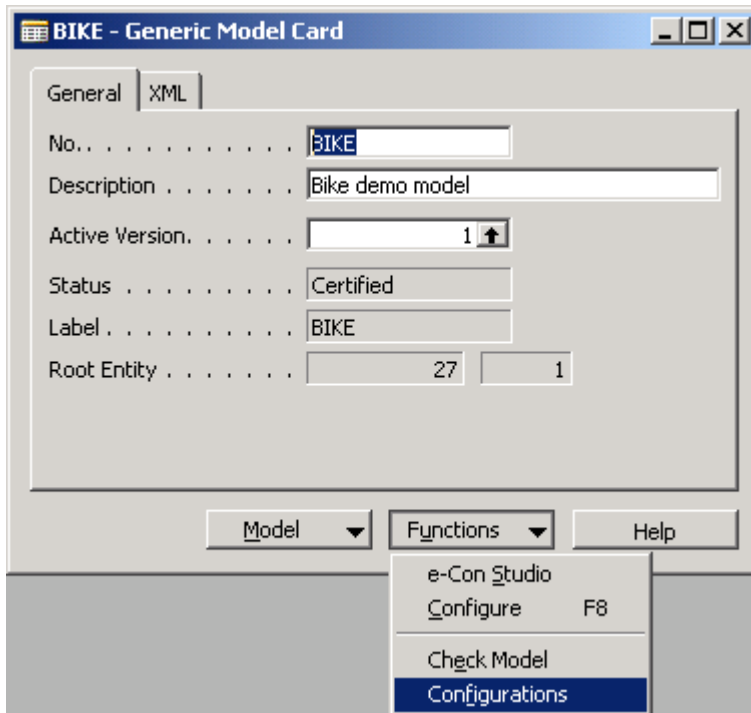
Id:	Get New Object ID after post action
Label:	Get New Object ID after post action
Condition:	<code>1 Env.BeforePost</code>
Implication:	<code>1 OBJECTID = CallStringFunction(CONNECTION;"GetObjectID"); 2 Env.BeforePost = not(SetArg("saveas"; OBJECTID))</code>

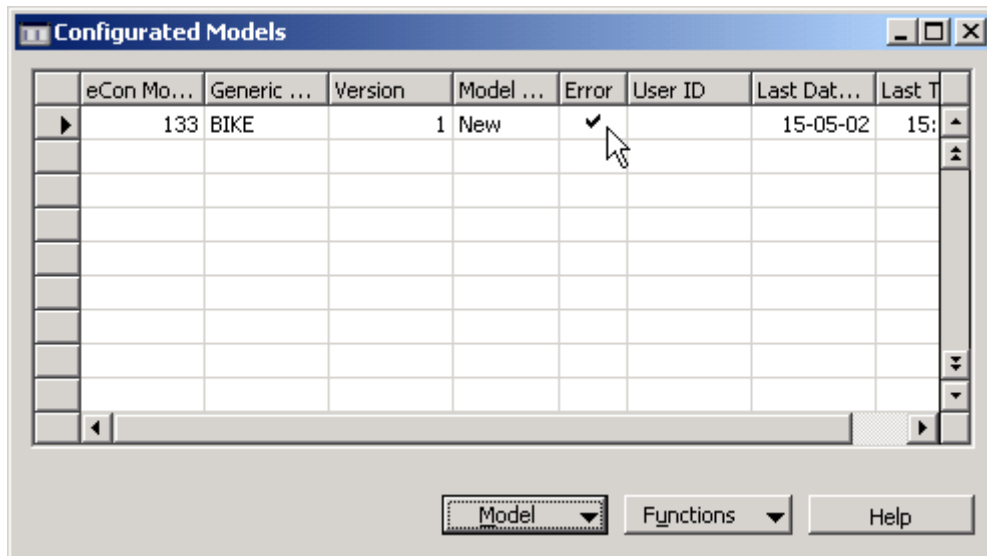
Chapter 3 Troubleshooting

This chapter explains how to address error messages. First, we discuss the quickest ways to address commonly occurring error messages, like "There are errors in the rules." Unfortunately, sometimes other sorts of errors also occur, like "Loop detected" or simply a model not performing as you expected. In the second section of this chapter, we will outline a procedure for addressing these other types of errors.

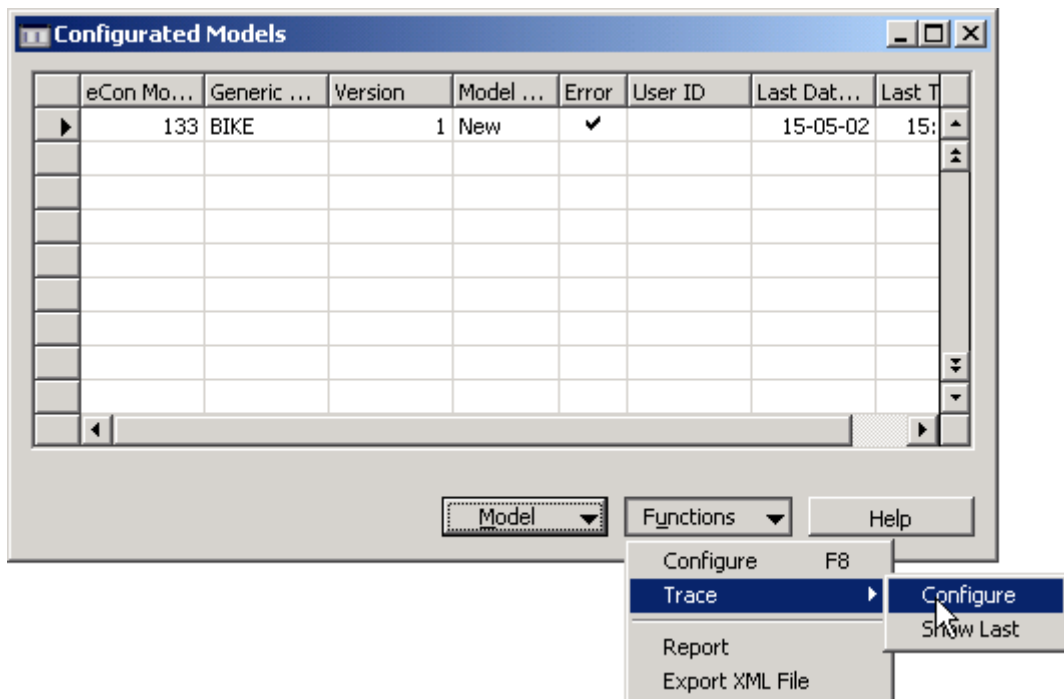
3.1 How to Solve Errors in the Data structure after configuration

When there are errors it is shown in the Configured Models list.





With Functions – Trace – Configure, the configuration can be configured again. With Function – Trace – Show Last, a txt file with the data structure is shown. This is helpful to find the errors.



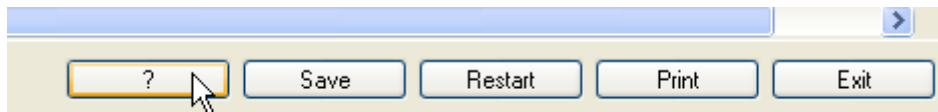
3.2 Common Procedure for Resolving Errors

In this section, we will outline a procedure for addressing errors. Sometimes the error message "Loop detected" appears or a model simply does not perform as you expected. It's often difficult to determine what's causing the problem, especially when you're dealing with a large or detailed model.

Tips & Tricks:

The error message "Loop detected" occurs when e-Con finds a loop in the rules. For example: The implication "A = A + 1" will cause this error message to appear. The rules engine is declarative, which means that every time "A" is changed, this rule will be executed. But executing this rule causes A to be changed, causing the rule to be executed, causing a change in A...and so on. e-Con detects this loop in the rules and provides the error message "Loop detected".

There is a helpful function to understand what happens in the model. Sometimes your model does not give an expected outcome or behavior. With the aid of the "?" button (How and Why) in the Front-end you can check how a certain value is calculated. You can also understand which rule(s) the member takes its value from.



How it works:

When the "?" button is clicked the cursor changed to a hand. This hand can be moved to a field in the front end.



A right mouse click at the field in the UI offers you the next screen:

e-Con 3.0 Explanation Facility			
Engine context	BIKE	Member context	BIKE
Member	Weight	Label	Weight
Value	6,3	Type	String
Length	10	Index	-1
Default		Previous	7,9
Filter		Fieldfilter	
Attributes	P-*RSV	Style	readonly:true;cols:3;format:{0} Kg
Table ID		Field ID	
Rules			
Active Rule	Retrieve weight from Matrix		
Condition	CATEGORY <> "" and MODEL <> ""		
Implication	WEIGHT = GetStringMatrixCell(CONNECTION; "BIKE" ; "Weight"; "CATEGORY" ; "="; CATEGORY; "MODEL" ; "="; MODEL);		
Rule context	BIKE		
Select member	<input type="text" value="Weight"/>		<input type="button" value="Go"/>
Context	<input checked="" type="radio"/> Member <input type="radio"/> Rule <input type="radio"/> Engine		
Expression	<input type="text"/>		<input type="button" value="Evaluate"/> <input type="button" value="Clear"/>
Result	<input type="text"/>		

In this screen the next fields are available:

Engine Context:

The parent model running.

Member Context:

The (sub)model the member is located.

Member

The member of the model the How & Why function is applied to. Actually the member from the UI field selected.

Label

The label from the selected member.

Value

The value from the selected member

Type

Type from the selected member

Length

Length from the selected member

Index

Index from the selected member. Actually this only make sense when the member is part of an array (so called repeatable entity). When the member is not part of an array the value is always '-1'.

Default

The default value from the selected member. When there is no default value set for the member this field is empty.

Previous

The previous value from the selected member .

Filter

The Filter applied to the member.

Attributes

The attributes applied to the member.

Style

The styles applied to the selected member.

Table id

The table id from the related table from Dynamics NAV (Only applicable for field properties)

Field Id

The eventually field id from the related field from Dynamics NAV (Only applicable for field properties)

Rules

Where used from the member. The where used are the rule numbers where the member is used in.

Active Rule

The rule(s) description involved in the calculation from this field

Condition

The condition from the active rule

Implication

The implication from the active rule

Rule Context

The (sub) model in which the rule is executed.

Select member

The member analyzed. It's possible to key in a member from the model to be analyzed as well.

Context

Three possibilities to select from:

- Member:
- Rule:
- Engine:

Expression

A rule expression can be entered here.

Result

The result from the above typed expression. This is calculated after clicking the activate button

Button 'Go'

To analyze the member entered in the 'Select Member' field.

Button 'Evaluate'

To calculate the expression as keyed in the 'Expression' field

Button 'Clear'

To clear the 'how and why content'. All fields will be blanked.

Member Model Path:

The path in the data structure to the selected member.

Rule Model Path:

The location of the rule where the value derives from. This is especially useful when there are sub models. This path locate in which model the rule is available.

Condition:

The condition of the rule where the value derives from.

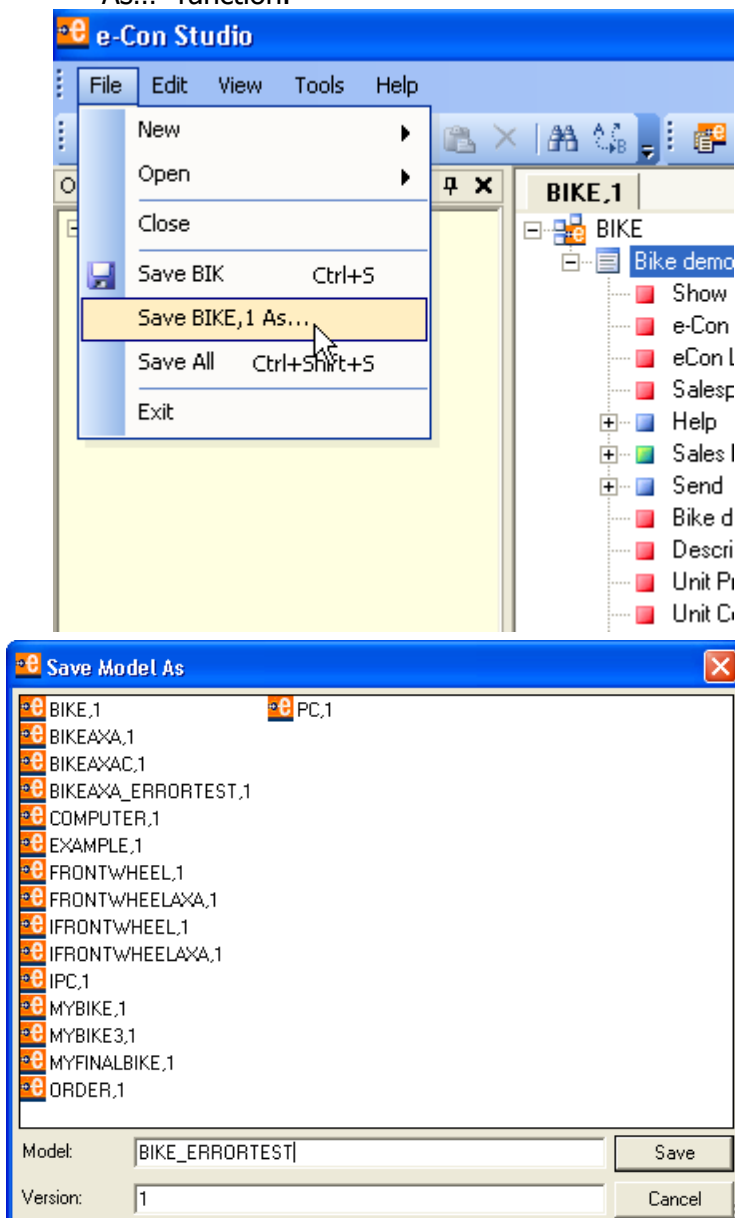
Implication:

The implication of the rule where the value derives from.

Below, we provide step-by-step instructions for the quickest way to find the cause of error messages. The Bike demo model is used in our example.

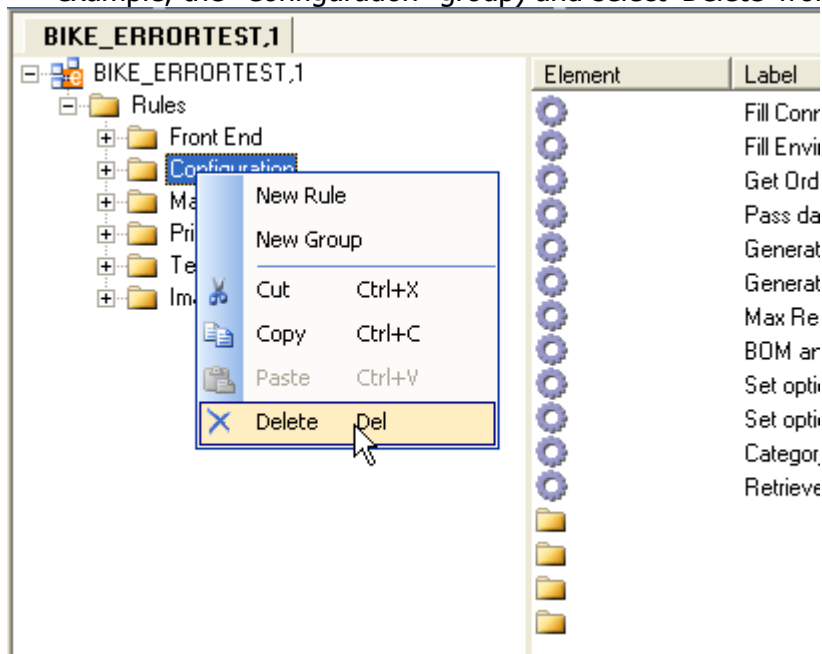
Below, we provide step-by-step instructions for the quickest way to find the cause of error messages. The Bike demo model is used in our example.

1. Start the e-Con Studio in the relevant model.
2. Save your model to another file. For example, a file called "BIKE_ERRORTEST". To do this, go to the "File" menu at the top of the Studio, and select the "Save ..., As..." function.

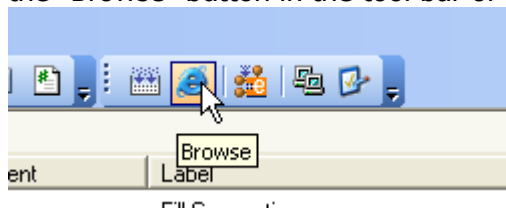


3. Now that we have made a copy of our model and its rules, we can use this copy to search for the rule causing the error message.

4. Delete the first rule group in your model. To do this, select the group (in our example, the "Configuration" group) and select 'Delete' from the context menu.



5. Check the results by using the "Browse" function to view your model. You will find the "Browse" button in the tool bar of the e-Con Studio.



Now there are two possible scenarios:

- a. The error message still occurs. Now you can be certain that the rule causing the error is *not* located in the deleted group (here, the "Configuration" group). Continue with step 6.
 - b. There are no errors found. Now you can be certain that the rule causing the error *is indeed* located in the deleted group (here, the "Configuration" group). Proceed to step 7.
6. Delete the next group of rules. Again, check the results by using the "Browse" function to view your model. Continue with subsequent groups until the error message no longer appears. At that point, you can be certain that the rule causing the error is located in the last group you deleted.
 7. Go to the "File" menu and select the "Open" function.
 8. Select the original BIKEAXA model and repeat steps 1 and 2. This ends up in a BIKEAXA_ERRORTTEST model which is an exact copy of the BIKEAXA model
 9. Now that we know in which Group the rule causing the error is found, the next step is to identify which particular Rule is causing the error. This is done in much the same way as identifying the group.
 10. Click on the relevant group in the folder tree to expand it.

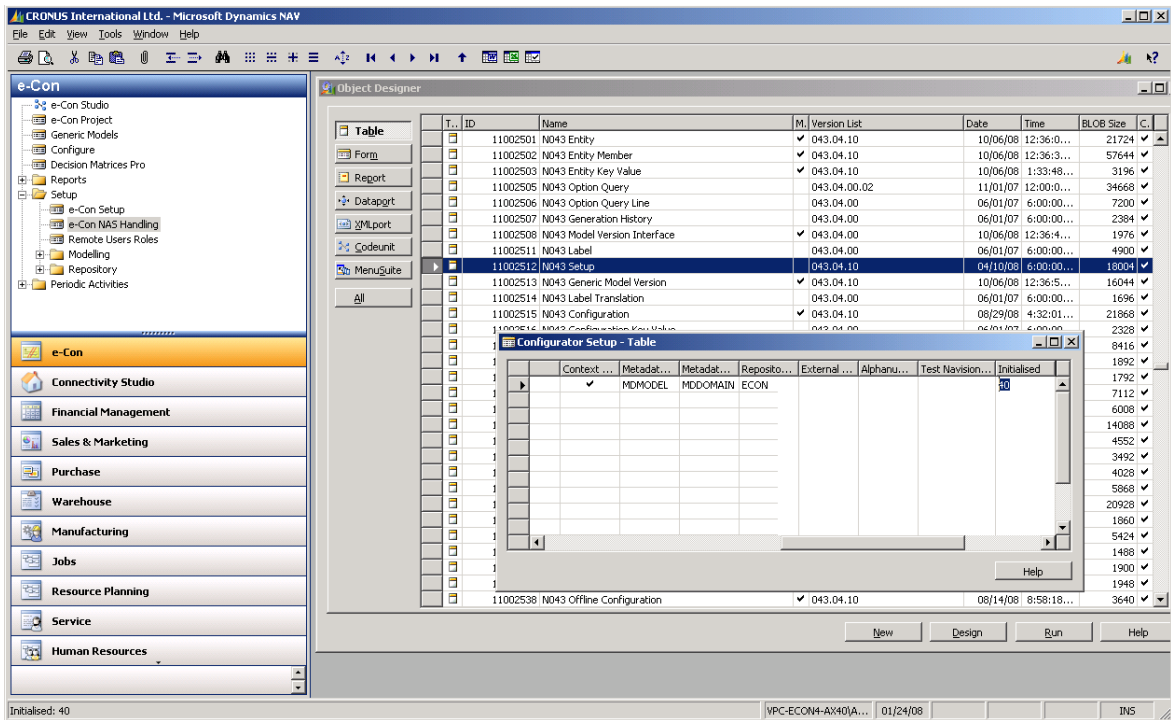
11. Delete the first rule in the group and check the results by using the "Browse" function to view your model.
Again, there are two possible scenarios:
 - a. The error message still occurs. Now you can be certain that the rule causing the error *cannot* be the rule you have deleted. Continue with step 13.
 - b. There are no errors found. Now you can be certain that the rule causing the error *is indeed* the one you just deleted. Proceed to step 14.
12. Delete the next rule. Again, check the results by using the "Browse" function to view your model. Continue with subsequent rules until the error message no longer appears. At that point, you can be certain that the rule causing the error is the last rule you deleted.
13. Now that we know which Rule is causing the error, we can return to our original model (not the copy). To do so, go to the "File" menu and select the "Open" function. Select the original model (in our example, this would be the file named "BIKE.XML", and NOT the copy we made for testing purposes called "BIKE_ERRORTTEST.XML").
14. The final step is to select the rule you now know contains the error and figure out what the problem is.

Tips & Tricks:

Sometimes it's impossible to select an option for a member. You can select an option, but the field will be cleared once you leave the field of the member. This is almost always caused by using a double equal sign in a rule instead of a single equal sign. In effect, you have made an assignment or a default assignment for the member. The single equal sign should be used to indicate an assignment, while the double one indicates a comparison.

3.3 How to restore erroneous lines.

It could happen that the processing of the configuration (xml object) in Dynamics NAV fails. The configuration is saved as an xml file at the file system, however processing in Dynamics NAV fails for some reason. This is of course indicated by a warning message but besides that the "error" field is checked for that particular configuration. By selecting the "Configurations" function from the "Functions" menu for a particular e-Con model an overview is displayed from all configurations. One of the columns shown here is the "error" field. That field is checked for configurations that are not right processed in the back end.



Now when a model is used to configure some XML files are created.

- Arguments file
- Change document
- Full xml

3.5 List with most common syntax errors

The most common error descriptions that may appear during compilation of the e-Con rules are listed in the table below. Possible causes are also provided.

Error Description	Possible Cause
Implication expected	You added an unnecessary semicolon ";" after the last implication in the rule.
Variable expected	You forgot to enter a variable in, for example, an assignment.
"(" expected	You forgot an open parenthesis "(".
")" expected	You forgot a closed parenthesis ")"
";" expected	You forgot to add a semicolon ";" after an implication, in spite of the fact that there is another implication in the rule.
Undefined member .. (the member concerned is noted instead of the dots):	You made a typo in the member name, or the member has been changed, or the member is no longer available in the data structure.
Undefined attribute .. (the attribute concerned is noted instead of the dots):	You made a typo in the attribute name.

Member of attribute .. is undefined (the attribute concerned is noted instead of the dots):	You made a typp in the member of the relevant attribute or the member is changed or no longer available in the data structure.
Undefined function .. (the function concerned is noted instead of the dots):	You made a type mistake in the function.
Unexpected symbol:	You made a typo in the rule.
"else" expected:	The if-then-else structure isn't set up correctly; you most likely forgot the "else" statement.
"then" expected:	The if-then-else structure isn't set up correctly; you most likely forgot the "then" statement.
"end" expected:	The if-then-else structure isn't set up correctly; you most likely forgot the "end if" at the end.
"if" expected:	The if-then-else structure isn't set up correctly; you most likely forgot the "end if" at the end.
"#" expected:	You forgot the number sign "#" in the declaration of the array.
Index variable "#.." not declared (the variable concerned is noted instead of the dots):.	You used an array in an implication, but forgot to define this array in the implication concerned.
Attribute .. is read-only (the attribute concerned is noted instead of the dots):	Some attributes are read-only. In a rule, an assignment is applied to a member with a read-only attribute.

3.6 List with most common .Net compile errors

The most common error descriptions that may appear during compilation of the e-Con model to the .Net run time assembly are listed in the table below. Possible causes are also provided.

Compile Error Description	Possible Cause
Cannot implicitly convert type 'int' to 'string'	A type mismatch between two properties. Probably a comparison or assignment is done between properties from an unequal type. (This error can, of course, also happen for other data types)
Type of conditional expression can't be determined because there is no implicit conversion between 'int' and 'bool'	A type mismatch between a function and property or value. Mostly this error occurs when the MsgBox(<string>) function is used. MsgBox("String") <> 1

	instead from only MsgBox("String") will solve this error.
Cannot implicitly convert type 'eCon.Base.EConCollection' to 'string'	A type mismatch between two properties, a string value can not be assigned are compared with a property used to store options. (<member>@options = "string" or <member> = {} both will generated this compiler error)
The best overloaded method match for 'eCon.Data.Functions.GetOptions(eCon.Interfaces.IEConClass, string, bool, string, string, params object[])' has some invalid arguments	The data type from one of the arguments of the function isn't correct. The number of the argument is shown in the next compile error.
Argument '3': cannot convert from 'string' to 'bool'	This message follows always the former messages. This error indicates that the data type from the argument from the function is not valid.
Operator '>' cannot be applied to operands of type 'string' and 'string'	Operators can not be applied to a string value. Convert the string first to a double or long before comparing can take place.
Unreachable code detected	It's just a warning and it can be ignored.
Could not write to output file '....' The process cannot access the file because it is being used by another process. '	This mainly happens when the interface model or a sub model is generated. The dll from the interface is still used after ending the configuration process. Close and reopen the Dynamics NAV client to solve this problem.
'...Interface0' does not contain a definition for '<property>'	The "<property>" as specified in the error message, is a property from a sub model and used in the current model. This property is missing in the interface for that particular model.