Microsoft® Navision Axapta®

MorphX Development Suite is Microsoft Navision Axapta's multipurpose toolbox for developing ERP applications. It enables system administrators and programmers to add new functionality and modify existing functionality quickly and with limited coding.

Key Benefits:

- Partner, customer and user-friendly development environment
- Original Axapta installation never lost
- Short time and low costs associated with upgrades and modifications

Microsoft Navision Axapta MorphX

The development environment in Microsoft Navision Axapta is called MorphX Development Suite. It is referred to as an **I**ntegrated **D**evelopment **E**nvironment, or IDE, because it integrates several different functions such as designing, editing, compiling and debugging within one common environment.

Axapta is flexible and easy to modify on many levels. Typically, it is only necessary to modify a single parameter for the entire system to inherit a change. If you change the length of a database field from ten characters to twenty, this will automatically be reflected throughout the application where the field is displayed.

The concept of inheritance is central to the system. Higher levels automatically inherit definitions made at lower levels in the system.

IntelliMorph

IntelliMorph is a technology that makes it simple and easy to modify forms and reports. For example, IntelliMorph makes it possible for users to hide and show fields on forms, move fields between tab pages and even add new fields to forms. Individual users can safely and swiftly rearrange fields to best suit their individual work preferences without having to modify the form through the Application Object Tree (AOT).

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In the Application Object Tree, the developer can create new application objects by using drag-and-drop and setting properties. To make the developer's job easier and faster, the system has auto settings for all application object properties. IntelliMorph will ensure a consistent and well-arranged display of the application so all the developer needs to specify is the structure of the user interface. IntelliMorph also ensures that your custom applications have the Windows XP look and feel.

With IntelliMorph you can quickly implement design changes to different forms and reports. Field labels can be modified without disturbing field data or underlying business logic. If you switch languages on an invoice form, IntelliMorph automatically resizes the field labels to fit the words.

The layer structure

Axapta is designed with a unique layer structure that controls the updates and modifications made in the application. The layer structure is a powerful tool with enormous flexibility. The standard Axapta applications are stored in the core, which is controlled and maintained by Microsoft Business Solutions. Country-specific, industry-specific and customer-specific modifications are then created and stored in the layers surrounding the core applications. The outermost layer is where the individual end user can store personal modifications, for example report layout.

Layer description:

SYS:	System:	Core application
GLS:	Global Solutions:	Externally developed solutions
DIS:	Distributor:	Local Microsoft Navision Axapta solutions
LOS:	Local Solutions:	Local partner solutions
BUS:	Business Solutions:	Partner generic solutions
VAR:	Value added Reseller:	Customer specific modifications
CUS:	Customer:	Company generic modifications made by the administrator
USR:	End User:	End user modifications

The objects in the standard implementation can never be changed or deleted. When partners or users make changes to the application, the modified objects are stored in different files. This means that the standard version of Axapta does not change, but the objects will be copied to a higher level in the layer structure where the modifications will be executed. So the partner and the customer always have the possibility of comparing or even reverting to the standard version before the modification.

For example, when a user wants to print a report, the kernel will check the outermost layer for a version of the requested report. If the report is not found in this

layer, the kernel will proceed to the next layer until the report is located. If no changes have been made to the reports, it will be found in the SYS or GLS layer.

Labels

Axapta does not contain any context information at all, only a reference to a file containing the context (called a Label file).

In a database table, a field named *CompanyName* and another one called *ZipCode* indicate the kind of data the fields contain. To make the references more logical and specific for your business, you can choose to display a different text in the user interface such as “Company name” and “Postal code”. You change the reference by defining a label for each of your database fields. In Axapta, no texts are defined in the source code. Instead, interface elements refer to entries in language-specific text files, called label files.

You can define your own label files – and in this case, if you want to support multiple languages, you just need to translate the label file (no source code involved) for Axapta to support that language.

Languages

As Axapta is designed with labels, switching to another language is simple and requires no coding. Before starting Axapta, simply change the language code to the language you wish to use. When you re-open Axapta, it will be in the language you chose. The language choice is controlled for each session so if you have an English session open, you can start a Spanish session at the same time for easy communication with users familiar with the Spanish version.

Axapta help system

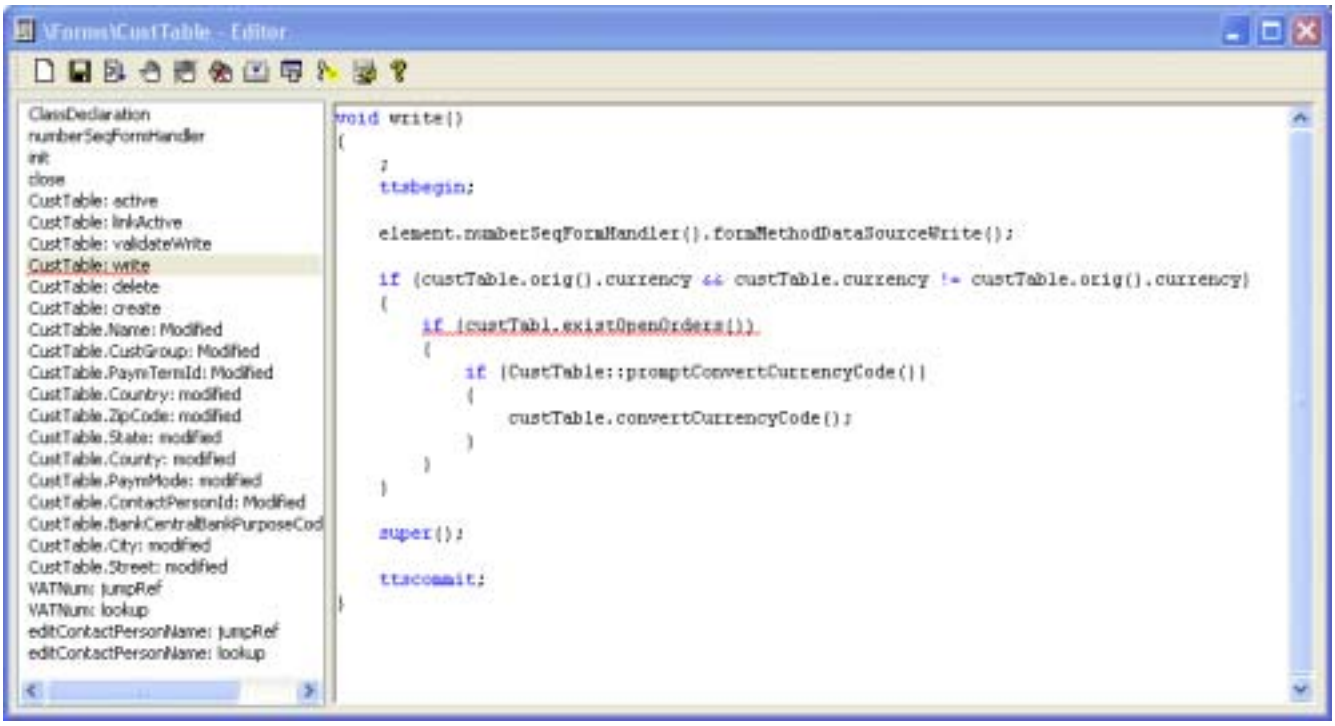
The online Help in Axapta is HTML based. The help context can be modified by using a built-in HTML editor. Every field, form, and report contains a link to a help page. All help pages are treated as separate “objects”. This gives an advantage during upgrade because you only have to upgrade the modified pages. To modify the help text, open up a help page by using F1 and click Edit in the top right hand corner. This will open the same help page in the help editor where text style and URL-links can be modified. The help page in the editor can be viewed in normal, HTML or preview mode.

The X++ editor

The X++ Editor in Axapta makes it possible for you to easily incorporate modifications with little need for coding. Methods can be copied from one element to another simply by using the drag-and-drop function.

Axapta offers different functions to facilitate easy coding and provide you with information about your options. When writing method calls, the tool tip displays parameter information with the current parameter highlighted. And when specifying a class

instance, a selection box will appear displaying all available methods for the specific class. For information about a method, pressing Ctrl+Space will open an editor with the method specification. If you are in doubt about the content of a label, you can highlight the label, right-click it and select Lookup label/text.



The X++ editor

For quick and efficient coding, you can syntax check even while you are typing. Errors in the code will automatically be highlighted so you can instantly see and correct mistakes. You can attach your own X++ code to various objects in the system such as forms, classes, reports, queries, and also to individual tables in the database.

The X++ debugger

The debugger in Axapta is a tool for programmers that makes it possible for you to verify a specific area of the source code. With the debugger, the programmer can quickly see the result of his job without having to run a complete test. The debugger makes it possible to execute one line of source code at a time. The debugger can be activated at any time without recompiling the source code.

By inserting a breakpoint, the program execution is halted at the breakpoint. This gives the programmer a chance to validate data. The result can be seen in the picture below. To toggle a breakpoint, press F9. This will highlight the line. Only the person who has activated the debugger is affected. Press F9 on the highlighted line to switch off the debugger.

The debugger allows for seamless debugging across the client/server boundary and also for debugging in the Axapta Business Connector client. Furthermore, it allows the programmer to specify watches, change variable values, jump to previous positions in the call stack and see variable values at that point.

COM and ActiveX

Axapta is Component Object Model (COM) enabled. This feature interacts easily with other programs. From within Axapta, you can use COM to interact with 3rd party vendor objects, e.g. you can use the printing facilities of MS Word.

Using ActiveX components is very easy in Axapta. When adding a new control to a form, it is possible to select the option ActiveX. This will open a list with all registered ActiveX components on the computer. After inserting the ActiveX control you have access to all methods supplied by the component, and you even get full parameter info in the X++ editor.

You can also use Axapta from other programs by instantiating the Axapta Business Connector. The Business Connector acts as an Axapta client - but without a user interface. This enables you to use data from Axapta in other programs, e.g. you can use the list of customers from within MS Word.

Web development the easy way

Development for the web is integrated into the IDE, hence a web solution will use the same data and business logic as a normal GUI client. For most applications, creating a web version is easy – with little work involved.

Contact your partner

To learn more about Microsoft Navision Axapta, contact your local Navision Solution Center. They have the expertise necessary to meet your specific business needs.

About Microsoft Business Solutions

Microsoft Business Solutions, which includes the businesses of Great Plains®, Microsoft bCentral™ and Navision a/s, offers a wide range of business applications designed to help small and midmarket businesses become more connected with customers, employees, partners and suppliers. Microsoft Business Solutions' applications automate end-to-end business processes across financials, distribution,

project accounting, electronic commerce, human resources and payroll, manufacturing, supply chain management, business intelligence, sales and marketing management, and customer service and support. More information about Microsoft Business Solutions can be found at:

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