

Release Notes, QuickBooks SDK 5.0

11/08/05

Welcome to the QuickBooks Software Development Kit (SDK) Version 5.0. This software is designed for use with US editions of QuickBooks 2006 and QuickBooks Merchant Service. In addition, selected features of this software can be used with US editions of QuickBooks 2002, 2003, 2004, 2005, and QuickBooks Online Edition, and Canadian and UK editions of QuickBooks (2003 and later).

The system requirements for the QuickBooks SDK are the same as those for the version of QuickBooks that is running. QuickBooks 2006 will run on Windows 2000 and Windows XP, QuickBooks 2005 and 2004 will run on Microsoft Windows 98, 2000, Me, or XP operating systems. QuickBooks 2002 and 2003 will run on Windows NT, 98, 2000, Me, or XP operating systems. (The SDK does not run in unattended mode—that is, with automatic login—on Windows 98, First Edition; it does, however, run in unattended mode on Windows 98 Second Edition on QuickBooks 2005 and earlier.)

Table of Contents

- "Support for QuickBooks Products" (page 2)
- "Installation Instructions" (page 3)
- "Registering an Application for QuickBooks Online Edition" (page 3)
- "Importing the Correct Library" (page 4)
- "Migrating QBFC Applications to Version 5.0" (page 4)
- "New or Modified Files of Interest" (page 4)
- "Documentation" (page 5)
- "Tools" (page 5)
- "Samples" (page 6)
- "Using Remote Data Sharing (RDS)" (page 8)
- "Known Bugs and Workarounds" (page 9)
- "Bugs Fixed in This Release" (page 11)
- "If You Have Questions . . ." (page 12)
- "Summary of New or Changed Features" (page 13)

Support for QuickBooks Products

The following table of QuickBooks versions and supported qbXML and QBFC versions takes precedence over any other such tables in QB SDK documentation.

The following table lists the different versions of QuickBooks and the corresponding versions of the qbXML specifications that support them. (*Note:* QuickBooks Basic and the Canadian QuickBooks Easy Start Edition do not support the SDK.)

Version of QuickBooks	qbXML Specification Version
QuickBooks 2006 and Enterprise 6.0 (Using QBXMLRP2)	5.0, 4.1 4.0, 3.0, 2.1, 2.0, 1.1, 1.0
QuickBooks 2005 and Enterprise 5.0 (R5 and later) (using QBXMLRP2)	4.1, 4.0, 3.0, 2.1, 2.0, 1.1, 1.0
QuickBooks 2005 (and Enterprise 5.0) (using QBXMLRP2)	4.0, 3.0, 2.1, 2.0, 1.1, 1.0
QuickBooks 2004 (and Enterprise 4.0) (using QBXMLRP2)	3.0, 2.1, 2.0, 1.1, 1.0
QuickBooks 2003, Enterprise 3.0* (R7 and above) and all later versions of QuickBooks using QBXMLRP	2.1, 2.0, 1.1, 1.0
QuickBooks 2003 (and Enterprise 2.0)*	2.0, 1.1, 1.0
QuickBooks 2002 (R2 and above) (and Enterprise)*	1.1, 1.0
QuickBooks 2002 (R1)*	1.0
QuickBooks Online Edition (v. 11)	5.0, 4.1, 4.0, 3.0, 2.1, 2.0
QuickBooks 2005, Canadian and UK Editions (using QBXMLRP2)	CA3.0, CA2.0. UK3.0, UK2.0
QuickBooks 2005, Canadian and UK Editions (using QBXMLRP)	CA2.0. UK2.0
QuickBooks 2004, Canadian and UK Editions (using QBXMLRP2)	CA3.0, CA2.0. UK3.0, UK2.0
QuickBooks 2004, Canadian and UK Editions (using QBXMLRP)	CA2.0. UK2.0
QuickBooks 2003, Canadian and UK Editions*	CA2.0. UK 2.0
<small>*Earlier releases of QuickBooks will work with either version of the Request Processor (QBXMLRP2 or QBXMLRP). We recommend you upgrade existing applications to use QBXMLRP2. SDK 3.0 and greater features are available only with QBXMLRP2; in addition, this Request Processor solves some problems found in the older Request Processor.</small>	

The following table lists the different versions of the QuickBooks Foundation Class (QBFC) Library and the versions of the qbXML specification that support them.

<i>QBFC Library</i>	<i>qbXML Specification Version</i>
QBFC5 (including support for QuickBooks Online Edition and Canadian Editions of QuickBooks)	5.0, 4.1, 4.0, 3.0, 2.1, 2.0, 1.1, 1.0, CA3.0, CA2.0, UK3.0, UK2.0
QBFC4 (including support for QuickBooks Online Edition and Canadian Editions of QuickBooks)	4.0, 3.0, 2.1, 2.0, 1.1, 1.0, CA3.0, CA2.0
QBFC3 (including support for QuickBooks Online Edition and Canadian Editions of QuickBooks)	3.0, 2.1, 2.0, 1.1, 1.0
QBFC2_1 (including support for QuickBooks Online Edition)	2.1, 2.0, 1.1, 1.0
QBFC2	2.0, 1.1, 1.0
QBFC2CA	CA2.0
QBFC	1.1, 1.0

Installation Instructions

IMPORTANT

During SDK 5.0 installation, if the eBay SDK has previously been installed on your system, the SDK 5.0 installer may report a failure registering ebay.SDK.tlb. This error can safely be ignored and the installation will proceed normally.

To install the SDK using the installer, execute *QBSDK50.exe*. The installer also adds a menu (*Start>Programs>QuickBooks SDK 5.0>*) that provides convenient access to SDK tools, samples, and documentation (including the *Onscreen Reference*). You can also access the qbXML Validator and qbXML Test applications through the "Send To" context menu for files.

Registering an Application for QuickBooks Online Edition

Before an application can connect with QuickBooks Online Edition using the SDK, it must be registered with the Intuit Developer Network. To register your application and obtain an application ID, please follow the instructions in

Chapter 2 of the *QuickBooks SDK Programmer's Guide* and visit <http://appreg.quickbooks.com> to register your application.

Importing the Correct Library

For Visual C++ applications (if you are not using the QBFC Library), you need to import the library named *qbxmlrp2.dll*, which is installed in *C:\Program Files\Common Files\Intuit\QuickBooks*. For Visual Basic applications, select Project > References from within your VB project. Find "QBXMLRP2 1.0 Type Library" in the list and check the box next to it, then click OK. If you don't find the entry in the list, you can browse to it.

Migrating QBFC Applications to Version 5.0

If you want to use SDK 5.0 requests, you will need to change QBFC code to refer to the new QBFC Library. For example, in Visual Basic, replace "QBFC4Lib" with "QBFC5Lib."

If you update your application to use the SDK 5.0 spec, and you use the EmployeeAdd request and the EmployeePayrollInfo aggregate, you may need to revise your code slightly when adding data to the EmployeePayrollInfo aggregate. A new element (ClearEarnings) has been added to that aggregate.

See the *Developer's Guide for the QBFC Library* for additional tips on migrating QBFC applications to a new SDK version.

New or Modified Files of Interest

This release includes documentation, tools, and samples. The following files and directories may be of particular interest to you:

- This release includes .NET Primary Interop Assemblies (PIAs) for QBXMLRP2, QBFC5, QBFC4, QBFC3, and QBFC2.1. These assemblies are included in the redistributable installers and merge modules for each library. If you have previously built a local interop assembly for use with your .NET integrations, please be sure to update them to use the primary interop assemblies included with this release instead.
- *doc\qbxmlrps50.xml*
The sample file containing all qbXML requests and responses.
- *OSR\OnscreenRef*

The Onscreen Reference for SDK 5.0.

- **QBOE connector**
Installed in the Windows Program Files\common files\Intuit\QuickBooks directory. Provides transparent and easy connectivity to QuickBooks Online Edition. This plugin to the QBXMLRP2 request processor is redistributable via the following installer and merge modules: QBOEConnector.msm (merge module) and QBOEConnector_Installer.exe (installer).
- **Web Connector**
Installed in the Windows Program File\Common Files\Intuit\QuickBooks\QBWebConnector directory. This application is a go-between application that acts as a conduit passing requests and responses from web services to QuickBooks.

All new samples require QuickBooks 2006, the QBXMLRP2 Request Processor, and the QuickBooks 2006 sample product-based company file. The QBXMLRP2 Request Processor is installed in a variety of ways: automatically by QuickBooks 2006 and by the redistributable QBXMLRP2_Installer.exe installer and QBXMLRP2.msm merge module. The SDK also installs the request processor.

Documentation

This release includes two new documents. The QBSDK Programmer's Guide is a new document that replaces several previous documents, which are no longer included. (The Developer's Guide for QBOE , the Developer's Guide for QBFC, the Developer's Guide for QuickBooks, and the Concept Manual.) The Developer's Guide for QBMS documents the QBMS features in the SDK offering. All documents are available in both PDF and HTML. Along with the other major features in the SDK, the manuals and the *Onscreen Reference* can be conveniently accessed through the Start menu.

For best results, use Internet Explorer version 6 or higher to view the *Onscreen Reference*. If you use Netscape Navigator or Mozilla FireFox, for example, you may not be able to view all the information.

Tools

The **qbXML Validator** tool contains new functionality that allows you to verify qbXML requests that correspond to these combinations:

- qbxml 5.0, 4.1, 4.0, 3.0, 2.1, 2.0, 1.1, 1.0 for U.S. editions of QuickBooks
- qbxml 5.0, 4.1, 4.0, 3.0, 2.1, and 2.0 for QuickBooks Online Edition
- qbmsXML 1.0 for QuickBooks Merchant Service
- qbxml CA3.0 and CA2.0 for Canadian editions of QuickBooks
- - qbXML UK3.0 and UK2.0 for UK editions of QuickBooks

The Validator is installed automatically as part of the SDK installation.

The SDKTest application is located in the `\tools\SDKTest` folder. This useful development tool reads a qbXML request file, sends it to QuickBooks, and returns a response. The command line version of SDKTest is `samples\qbd\cpp\qbxml\sdktest\sdktest.exe`.

The file `tools\SDKTest\SDKTestPlus3.exe` is an enhanced version of SDKTest that uses QBXMLRP2 and allows the user to control every aspect of the connection to QuickBooks. It supports sending subscription request XML as well as data integration XML. The source code for this tool is in `samples\qbd\vb\qbxml\SDKTestPlus3`.

The file `tools\SubscriptionManager\SubView.exe` is a tool for viewing and removing application subscriptions from QuickBooks.

Samples

The Samples directory contains a *readme.html* (which can be accessed from *Start > Programs > QuickBooks SDK 5.0 > Samples*). This file lists each sample and provides links to open the project directory, the project itself, and the executable form of the application.

The SDK 5.0 installer verifies that the MSXML4.0SP2 API from Microsoft is installed on your system. If MSXML is not present, the SDK 5.0 installer will install it for you. This API is used by the SDK's Validator tool and several samples.

Downloading MSXML 4.0

If you want to run the sample applications on a system that does not have MSXML installed (for example, if you want to use Remote Data Sharing from

a system that does not have the SDK installed), you will need to install MSXML. In addition, if your application is dependent on MSXML Core Services, you will need to redistribute that software in your installer. The MSXML Core Services software is available from [Microsoft](#)

Building the C++ Samples

The `#import "qbxmlrp2.dll"` statement in the C++ samples allows these applications to use the COM interface supported by the QuickBooks SDK. This statement will cause an error when you are building the samples in Microsoft Visual Studio if the Include path is not set to include the location of this DLL. The DLL is installed with QuickBooks and resides in the QuickBooks common directory, currently defined as

C:\Program Files\Common Files\Intuit\QuickBooks. Add this directory to the Include path by choosing the Tools menu, Options command, and the Directories tab in Visual Studio.

UlandEventTest Samples

In order to build the EventHandler C++ sample, you will need to specify the QuickBooks executable path for the sample project. The method for doing this is different for Visual Studio 6.0 and Visual Studio .NET.

For Visual Studio 6.0, select "Options" from the "Tools" menu. Select the "Directories" tab and then select "Executable Files". Add the QuickBooks executable path to the list of directories here.

For Visual Studio .NET, select "Properties" from the "Project" menu. Under the "C/C++" options, select "General" and add the QuickBooks executable path to the "Additional Include Directories". Under the "MIDL" options, also select "General" and add the QB path to "Additional Include Directories".

All of these C++ samples also use *QBXMLRP2.DLL* in the QuickBooks "common" directory. The project files currently specify this path as *C:\Program Files\Common Files\Intuit\QuickBooks*. If this path is different on your machine, you will need to change it in the project files.

Known Problems in VB Sample Applications

The Visual Basic sample applications allow you to view a response from QuickBooks. If you try to view a response that is greater than 32K, you will receive an "Out of memory" error. This happens because the VB sample applications use a TextBox control, which has a 32K limit, rather than a RichTextBox control. In a Windows 98 or Windows Me environment, this can corrupt memory, and the application might not terminate properly.

There is a known issue (not related to qbXML) with the AddReceivePayment sample application. The MS Visual Studio application must be installed before you can run AddReceivePayment, or you will receive the following error message when you run the application: "Class not registered. You need the following file to be installed on your machine. MSSTDFMT.DLL."

Using Payroll Reports

If your application is accessing a company file that is currently signed up for a subscription to a payroll service, you can generate payroll reports and query PayrollNonWageItems.

To test this feature, you can use one of Intuit's sample company files (even though it will not be signed up for a subscription to a payroll service). Please be aware that QuickBooks will record an artificial creation date to any test data that you add to a sample company file.

Using Remote Data Sharing (RDS)

This release includes a redistributable version of Remote Data Sharing 3.0. RDS 3.0 works only for applications using QBXMLRP2. Please note that RDS 3.0 does not support event notification or user interface extensions.

Beginning with SDK 3.0, the Remote Data Sharing (RDS) server supports automatic login mode, also called *batch mode*. In this access mode, QuickBooks is installed but not running on the machine with the RDS server. Instead, the QuickBooks user authorizes the RDS server to log in automatically to the desired set of company files. Subsequently, remote applications can access any of these company files.

Applications using the older Request Processor (QBXMLRP) should use RDS 2.1.

Known Bugs and Workarounds

- QuickBooks 2006, Canadian editions
If a Canadian edition of QuickBooks 2006 is the only copy of QuickBooks installed on a machine, then applications built using the QuickBooks SDK cannot connect to it when QuickBooks is first installed .

Intuit Canada has released a fix to this problem. If the Update QuickBooks option in QuickBooks is configured for Automatic Update then the problem will be corrected automatically. Otherwise, a QuickBooks 2006 user can cause the problem to be corrected by doing the following:

Open QuickBooks 2006 (Canadian edition)

Choose the menu

File > Update Quickbooks...

In the "Update Quickbooks" window, click "Update now" then click on "Get Updates" button.

The correction consists of the following small files being downloaded and placed in the directory where QuickBooks 2006 (Canadian edition) was installed:

qbw32premieraccountant.exe
qbw32premiercontractor.exe
qbw32premiergeneric.exe
qbw32premiernonprofit.exe
qbw32premierprofessional.exe
qbw32premierretail.exe
qbw32premierwholesale.exe
qbw32pro.exe
qbw32simplestart.exe

- In SDK 5.0, if you perform a CustomerQuery that returns the ShipAddress from a QuickBooks 2006 company, performance can be slower than in previous releases. (The ShipAddress data is returned by default.) You can workaround this problem by using IncludeRetElement in the CustomerQuery to ask only for the data you need, and don't include the ShipAddress in the return data. You can get the ShipAddress from that customer later when or if you need it.
- The following is actually not a bug, but is worthy of note here all the same. QuickBooks Simple Start does not support multi-user mode. Accordingly, if an integrated application invokes BeginSession and specifies multi-user mode, the RequestProcessor will return error code 0x80040436, with the message "This application requires Multi User file access mode, but QuickBooks Simple Start does not support Multi User access." If the

application specifies "Do Not Care", they will get single-user mode when working with SimpleStart.

- During SDK 5.0 installation, you may see a message informing you that the UI and eBay sample could not be installed. You can safely ignore and dismiss this message as it has no effect and the installation will proceed successfully.
- The bug mentioned in this workaround was fixed in SDK 4.0. However this workaround is included here for those applications that need to work with older QuickBooks versions for which the bug fix is not available. In previous versions of the SDK, if you send an InventoryAdjustmentAddReq with a ValueAdjustment that contains only a NewValue element, then the resulting QuantityDifference will incorrectly get set to "blank", which QuickBooks interprets as "1". The workaround for this is to include the NewQuantity element in the request, setting the value to the same as the previous quantity on hand for that inventory item.
- If you use DeliveryPolicy in both a DataEventSubscription and a UIEventSubscription, you could set one to DeliverAlways and the other to DeliverOnlyIfRunning. In that case, QB will cache your application's COM pointer if the first event for this application in a company file session is associated with the DeliverAlways policy.
- If a user installs a copy of Convertible QuickBooks 2006 but does not select one of the available editions (Premier, Accountant, Contractor edition, etc), and an SDK application is subsequently started, QuickBooks will prompt the user to select an edition. The application's call to BeginSession will fail while QuickBooks is being configured for the selected edition. The workaround is to have the user finish the process of selecting the desired edition and then restart the SDK application.
- QuickBooks Canada does not currently return values stored in the Company Data Extension fields. The bug affects QuickBooks Canada version 2004 and 2005.
- The order of some columns in reports may change in QuickBooks 2006. This is not a bug, just a heads-up: the SDK documentation has always warned about assuming any column order.

Bugs Fixed in This Release

- When setting an amount in an SDK mod request that had no decimal point, if the company file had the "Automatically place decimal point" preference turned on, the validation code would insert a decimal point (e.g., "1000" became "10.00"). This has been fixed.
- In certain situations warnings for TransactionQueryRq were not properly returned. This has been fixed as of QuickBooks 2005 R4.
- SDK subscription broke in QuickBooks 2005 for Windows 98 users. This is fixed beginning with QuickBooks 2005 R6.
- In the past, if you specified a RefNumberRangeFilter and gave a "ToRefNumber" of "A", you would get back records whose RefNumbers started with "A", such as "AAF001", "AF-CM-01", etc. This behavior was incorrect, as "AAF001" is NOT lexicographically less than "A". In QuickBooks 2006, the transaction queries will have the corrected behavior.
- Certain "seemingly random" behavior has been eliminated from the SDK because the style settings in QuickBooks no longer influence business logic behavior. This results in some of the following changes in behavior to the SDK:

-For estimate add, mod, and query, if the style has markup disabled, we now return the markup rate, and the rate correctly shows the unit price before markup

-On invoice add and mod, we now transfer all custom fields from items to line items, regardless of style settings. Previously, we only did this for each custom field that was enabled on the template.

- More than one SDK app was able to connect to the same company file in SU (single user) mode. This bug has been fixed.
- The line endings in the XML stream returned to the client were inconsistent. It was 0x0A (LF) for most lines, and 0x0D0A (CRLF) for multi-line fields from QB such as descriptions and notes. Now, we drop the CR if it encounters CRLF in the data.
- The SDK did not correctly return custom fields on the group line items. It was looking for custom fields on the "group end" line when it really should have been looking in the "group" line itself. This bug is now fixed. This may also impact transaction queries, as existing custom fields on the group line item will start showing up in query responses containing lines.
- Previously, in some editions of QuickBooks, if the logged in user lacks permissions to modify statement charges, the incorrect status Code was

returned. The correct code, 3260, is now returned.

- Previously, if you modified a PurchaseOrder transaction date (but not the due date or expected date), the due date and expected date would get updated if the UI template had these fields turned off. Because QuickBooks 2006 implements better UI/business logic separation, this dependency no longer exists. The due date now only gets updated if the user hasn't changed the date and it is either a new transaction or the terms have been set. The expected (ship) date only gets updated if the user hasn't changed the date and it is a new transaction
- Improved exception handling so that the SDK will always return a parser error if it fails to parse the input XML file. Previously, there were some cases where the SDK would return an Internal Error.

Future Considerations for UK/Canada Applications

- in the future we may provide a way for applications to make a single set of QuickBooks SDK calls that will work with U.S., Canadian and UK versions of QuickBooks. This may have the result that code written to work with current or past versions of Canadian or UK editions of QuickBooks (for example, dealing with sales tax and/or multi-currency support) may need to be rewritten for these future versions

Deprecation Policy

- You may notice that some items in the OSR are marked as deprecated. Deprecated items supported for the release in which they are deprecated, in the next major release they will be removed from the spec and their functionality will not be available.

If You Have Questions . . .

For IDN support, please visit <http://developer.intuit.com/support>.

For community support, visit <http://idnforums.intuit.com>.

Summary of New or Changed Features

This summary is divided into two parts. The first part provides an overview of the new features in QuickBooks SDK version 5.0. The second part provides a detailed listing of changes at the message and element level.

Note: The new features listed below apply to QBOE only if explicitly stated.

Part One: Features New or Changed in SDK 5.0

Several highlights of this release have already been described in these Release Notes. These highlights include

- New support for QuickBooks Simple Start edition
- New support for CreditCard Refund (ARRefundCreditCard Add/Query)
- New support for credit card payment data in SalesReceiptAdd and ReceivePaymentAdd requests
- New support for BuildAssembly: BuildAssemblyAdd/Mod/Query
- New support for SalesReceiptMod: you can now modify SalesReceipts
- New query iterator functionality that makes it easy to walk through a large amount of returned query data, in “chunk” sizes that you specify.
- We’ve made a major SDK performance improvement for custom fields on line items by adding DataExt to InvoiceLineAdd and InvoiceLineGroupAdd, and similar changes to EstimateAdd, SalesOrderAdd, PurchaseOrderAdd, SalesReceiptAdd, and CreditMemoAdd. Previously, if you wanted to add say, an invoice with 100 line items, each with 2 custom fields, the result was one InvoiceAddRq, followed by 200 DataExtAddRq requests! Now, you can do the equivalent operation in ONE InvoiceAddRq. (Notice that only custom data works this way: you cannot use private data for Txn line items, since private data line item data is not returned in the responses.
- A new QBAuthPreferences method (PutAuthFlags) that specifies which QuickBooks editions your application supports.
- Filtering on RefNum has been improved: you no longer need to use RefNumCaseSensitive to improve query times on non-numeric ref nums: however, you can continue to use the RefNumCaseSensitive tag and you may want to use it for instances where you need case sensitivity.

Part Two: What Changed in SDK 5.0

The following sections contain details on new request and response messages as well as on new and changed elements within response aggregates. See the updated *Onscreen Reference* for complete listings of all messages. Also see the example file *qbxmlops50.xml*.

Table 1: New Requests/Responses in SDK 5.0

Request	Category
ARRefundCreditCardAdd	Transaction
ARRefundCreditCardQuery	Transaction
BuildAssemblyAdd	Transaction
BuildAssemblyMod	Transaction
BuildAssemblyQuery	Transaction
ItemAssembliesCanBuildQuery	Query
SalesReceiptMod	Transaction

Table 2: Elements Added/Changed in Requests in SDK 5.0

The following items are not listed in the tables because they are almost universal and would obscure other important changes if they were listed separately:

- The iterator, iteratorID, and iteratorRemainingCount attributes have been added to nearly all query requests

Request	Element Added or Changed	Category
Vendor, Customer, Employee, OtherName	Email field maximum characters is increased from 99 to 1023	List
EmployeeAdd	Added the ClearEarnings field. Added it to the Ret, where it will appear only if it was used in the Add.	List
Invoice, Estimate, SalesOrder, SalesReceipt, CreditMemo, and PurchaseOrder Add requests	Added the DataExt aggregate.	Txn

Table 3: Elements Added to Responses and Response Aggregates in SDK 5.0

Response/Resp. Aggregate	Element Added	Category
TBD		

Table 4: Enumeration Changes in SDK 5.0

Enum Type	Enum Value Added	Category
ColType	QuantityOnPendingBuild LatestOrPriorState	Reports
TxnType TxnTypeFilter TxnDelType TxnVoidType TxnEventType	ARRefundCreditCard	Request
TxnDataExtType AssignToObject RemoveFromObject	ARRefundCreditCard	Request
IncludeColumn	LatestOrPriorState	Request
TxnDataExtType AssignToObject RemoveFromObject	ARRefundCreditCard	Request

Table 5: Summary of Changes to Reports in SDK 5.0

Change	Report or Filter Type
QuantityOnPendingBuild column is added	Inventory Stock Status by Vendors

Previously Deprecated Features or Features No Longer Supported

IsUsingTimeDataToCreatePaychecks is not allowed for SDK 5.0 since it was deprecated in 4.0. Any 5.0 request using it will return a parse error. Older

requests should behave as they did before - receive a deprecated warning but continue to work. The `IsUsingTimeDataToCreatePaychecks` tag was removed from `EmployeePayrollInfo` and `EmployeePayrollInfoMod`.

`Suffix`, `Mobile`, and `Pager` were removed from `OtherNameAdd`, `OtherNameMod`, and `OtherNameRet`.