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FlexNet Manager® Suite

Using FlexNet Business Importer 2017 R2

Legal Information

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Introduction

This document covers direct use of the FlexNet Business Importer, a utility for importing data from common business sources into FlexNet Manager Suite. (The FlexNet Business Importer may also be triggered automatically by the Business Adapter Studio, the tool for building 'business adapters' that specify both the connections to external data sources, and the mapping of external to internal field names. The Business Adapter Studio is separately documented in the FlexNet Manager Suite 2017 R2 System Reference, and the content of this document is not required for running the FlexNet Business Importer in that manner, although it may well be helpful in advanced cases.)

Note: *The functionality of the FlexNet Business Importer is increased when it is executed on your central application server, where it has direct access to the compliance database. This possibility is available only for on-premises implementations of FlexNet Manager Suite, and is not available for cloud-based implementations. In both kinds of implementation, it is also operable in disconnected mode, running on an inventory beacon, where the import is saved to an intermediate file, automatically uploaded to the central application server, and imported into the compliance database.*

Examples of common business data include:

- Purchase records
- HR data, including organizational structures
- License data
- Contract information
- Publishers and suppliers.

Excluded from 'business data' is the software inventory gathered from the computers within your enterprise. This exclusion means, for example, that inventory `Evidence` and linked `Application` objects that result from inventory imports are not accessible through the FlexNet Business Importer.

Tip: *If you are seeking to import inventory details, there are other tools specific to that purposes:*

- *Built-in inventory adapters that form a standard part of the FlexNet Manager Suite*
- *Custom inventory adapters built through the Inventory Adapter Studio*
- *Import of inventory spreadsheets, either as a one-time import through the web interface of FlexNet Manager Suite, or as scheduled imports through an inventory beacon (see the Importing Inventory Spreadsheets and CSV Files chapter in the FlexNet Manager Suite System Reference PDF file, available through the title page fo the online help).*

For brevity through this document, the FlexNet Business Importer is simply called the Business Importer. Unless otherwise clarified, all discussion of 'adapters' in this document relate to business adapters (as distinct from inventory adapters).

The chapters of this document cover:

- Prerequisites for using the Business Importer, and its command-line options for running manually or through a scheduled task.
- The format or structure of the XML files that configure each business adapter.
- The content of a series of default CSV templates that, together with matching XML business adapter files, provide a starting point for editing your own business adapters.
- Tips and guidelines for working with different kinds of data sources.
- The data model that is available to the Business Importer (and therefore the Business Adapter Studio), together with its matching entities in the central operations databases for FlexNet Manager Suite. This data model permits access to only a subset of the complete database (for all details about the structure of the central database itself, see the companion volume *FlexNet Manager Suite Schema Reference*).

This document is for technically competent people who are hand-editing business adapters and executing the Business Importer directly from the command line. Such expert readers are comfortable with:

- Structured Query Langue (SQL)
- Running queries against tables and columns
- Reading schema documentation
- XML mark-up.

Warning: *All imports modify the FlexNet Manager Suite database. Incorrect settings for the Business Importer or in business adapters may result in deleting, modifying or overwriting important data. It is mandatory to back up target databases before executing the Business Importer with changed settings or a changed business adapter. This backup enables a rollback of the database to its original state, if the incoming data is corrupted or the Business Importer misconfigured. It is also highly recommended to test any modifications to an existing business adapter, or test a new business adapter, against a preproduction environment before moving it into production.*

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1

The FlexNet Business Importer

The FlexNet Business Importer is a command-line tool, also executed by the Business Adapter Studio, that imports data from a variety of sources through customizable business adapters into the central operations databases (specifically, the compliance database) of FlexNet Manager Suite.

The Business Importer focuses on the import of business-related data, such as purchases, contracts, organizational structures, asset registers, and the like.

This chapter identifies the requirements for running the Business Importer, together with all its command line options.

Prerequisites

Availability (Without Installation)

The Business Importer is available as a standard part of the product installation:

- It is installed on each inventory beacon, along with the Business Adapter Studio. The default location on each inventory beacon for the Business Importer executable is `C:\Program Files\Flexera Software\Inventory Beacon\DotNet\bin\MGSBI.exe`.
- For on-premises implementations only, the Business Importer is also available on the central application server for use where direct connection to the central compliance database is available. There are two possible locations:
  - If you have an inventory beacon co-installed on your application server, the Business Importer is available in the same path as shown above for all inventory beacons
  - If you do not have a co-installed inventory beacon, the default location is on the server hosting the batch server functionality, under `C:\Program Files (x86)\Flexera Software\FlexNet Manager Platform\DotNet\bin\MGSBI.exe`.

Because Business Importer is installed as standard, it does not require additional specific installation tasks.

In all cases, the complete Business Importer consists of:

- The executable, called `MGSBI.exe`
- A set of template XML files for you to modify as required
- This documentation, available as a PDF document linked through the title page of the online help for FlexNet Manager Suite.

Connections and Drivers

Connections can be considered in two directions:

- 'Downstream' from the Business Importer to the original data sources
- 'Upstream' from the Business Importer as it uploads the collected data to the central application server for FlexNet Manager Suite.

Downstream, it's obvious that the Business Importer requires connections to the source data it is to collect. Depending on the data source used, additional drivers may be required. For instance, if data is read from Oracle databases, the Oracle OLE-DB driver (delivered by Oracle as part of the Oracle client) must be present .

In contrast there are no special requirements needed 'upstream':

- In disconnected mode, where the Business Importer is running on an inventory beacon and cannot access the central compliance database, no drivers are required. When it is executed by the Business Adapter Studio, the Business Importer writes the collected data to a special staging file on the inventory beacon, where other automated processes upload it to the central application server, and subsequently import it into the compliance database.
- In connected mode, which (clearly) requires a SQL Server connection from the Business Importer instance to the database server hosting the central compliance database, there is no need to install any specific SQL Server tools or drivers. The Business Importer uses the Microsoft SQL OLE-DB driver provided as standard on appropriate Microsoft Windows Server operating systems.

Command Line for Business Importer

These options are available when the Business Importer is run from the command line.

Syntax:

Syntax

InstallationPath\ **`MGSBI.exe`** / *SwitchName*[= *Value*] [/ *SwitchName*[= *Value*] ...]

In normal use, exactly one of the following switches must be specified:

- `/Import`
- `/Query`
- `/Simulate`.

However, the `/Test` switch may be used alone, without requiring any of the above. The full set of switches is shown below.

Examples

In this example, the Business Importer is run in connected mode on the central application server of an on-premises installation. The adapter file is in the current directory. Logging details are specified in the adapter file. (Text is wrapped for documentation, and should be entered on a single line.)

```
"C:\Program Files\Flexera Software\Inventory Beacon\
DotNet\bin\MGSBI.exe"
     /ConfigFile="My Adapter.xml" /Import=Purchases
```

This example shows the Business Importer running on an inventory beacon in disconnected mode. The adapter file under test is in a subdirectory below the executable, and the output is redirected to an intermediate file for review.

```
cd C:\Program Files\Flexera Software\Inventory Beacon\
DotNet\bin\MGSBI.exe
     /ConfigFile=adapters\productionImports.xml
     /Import=EnterpGroups /Write="C:\temp\DataReview.xml"
```

Note: *This output file is not in a format suitable for upload directly to the central server in a cloud implementation. The upload format requires:*

- *An upload manifest*
- *A copy of the adapter XML file*
- *This data file.*

All must be zipped into a single archive for automatic upload, and this is not possible using the Business Importer alone. However, after reviewing the adapter's output with the command-line shown here, you could save the adapter XML file, and schedule its execution through the inventory beacon interface. The inventory beacon automatically provides the additional data and archiving for upload.

Options

The supported set of parameters and switches (in alphabetical order) is as follows.

Parameter/Switch	Switch Values	Details
`/?` or `/Help`		Displays a list of available parameters and related material.

Parameter/Switch	Switch Values	Details
`/ConfigFile=`	*`AdapterXMLFile`*	Specifies the path and file name of the adapter XML file that defines connection details and column mapping for the particular import. If the file path or file name contain any spaces, enclose the entire value in double quotation marks. If this switch is omitted, the Business Importer searches for a file called `MGSBI.XML`, in the same folder from which the Business Importer is executing. If a file name is defined without a path, the Business Importer looks in its execution folder; and relative paths are also relative to the execution folder. Where neither the switch nor the default file is present, or when the specified file cannot be found, execution terminates with an error.
`/Encrypt`		Encrypt all database connection strings found in the *`AdapterXMLFile`*, rewriting the XML file with the new values replacing the originals. This applies not only to the central compliance connection, but also to all other data source (Import) connections. This protects the connection information in case the adapter XML file is accessed by a hostile entity. Connection strings, once encrypted, cannot be decrypted for display in the XML file as plain text. If you need to update an encrypted connection string in the XML file, remove the encrypted content, and restore a plain text version of the connection string. Running the Business Importer again with this switch will re-encrypt the plain text connection strings in the XML file. Encryption uses AES cryptography, and the encryption key is specific to the computer on which the encryption is run. ***Important:*** *Adapter XML files containing encrypted connection strings cannot be used on any other computer except the one on which encryption is performed. Adapters must be encrypted separately on each computer on which they are used by the Business Importer.*

Parameter/Switch	Switch Values	Details
`/Import=` or `/Import`	*`ImportName`*	Collect data from the data source specified in *`ImportName`* within the *`AdapterXMLFile`*, and load it into the database for which (in connected mode) the connection string is also specified in the *`AdapterXMLFile`*. The import name is case-sensitive. The second form (`/Import`), without the equals sign or a name of an import, may only be used when there is a single import in the *`AdapterXMLFile`*. If this empty switch is used when the *`AdapterXMLFile`* specifies multiple imports, the import fails with an error. ***Tip:*** *Only a single import may be run from each command-line invocation.*
`/Log=`	One of: `Silent`, `Critical`, `Errors`, `Warnings`, `Information`, `Debug`, `Default`	Select the kind of logging that should be output to the console. • With **Silent**, no log file is written for this pass (even if a log file has been specified). • **Critical**, **Errors**, **Warnings**, **Information**, and **Debug** filter the logging so that nothing less severe is displayed. Listed here from highest to lowest priority, any setting lists entries of that level and *higher* priority. For example, if you set `/Log="Errors`, the log includes errors and critical messages. • **Default** (which is also the behavior when this switch is not specified) sets the level to **Information**, meaning that it displays **Information** and higher messages. Note that either the `/LogFile=` switch for the Business Importer must be specified, or the *`ImportName`* defined in the *`AdapterXMLFile`* must specify a log file, for a log file to be written.

Parameter/Switch	Switch Values	Details
/LogFile=	*LogFile*	Path and file name where an additional log file may be written. Alternatively, the <log/> element may be specified in the *AdapterXMLFile*. If both are omitted, no log file is written (there is no default). If different values are given in the command line and the *AdapterXMLFile*, both files are written. ***Tip:*** *This log file does not respect the setting in the /Log= command-line switch, and always* ***Information*** *and higher messages.*
/OperatorLogin=	*AccountName*	Used by FlexNet Manager Suite to create history records showing which operator made changes to which database elements.
/Query=	*ImportName*	Run the query specified in the import definition (in the *AdapterXMLFile*) against the data source and list the individual records on the console in CSV format. The case-sensitive import name is mandatory when this switch is used.
/Read=	*DataFilePathAndName*	Over-rides the connection details specified in the *ImportName* within the *AdapterXMLFile*, and instead the adapter reads data from the intermediate data file specified. This intermediate file format reflects the data structure defined in the import element *ImportName* in the *AdapterXMLFile*. This switch is for internal use in disconnected mode, where the Business Importer has written the data to the intermediate file on an inventory beacon, the intermediate file has been automatically uploaded to the central server, and now the Business Importer resumes the process by reading from the intermediate data file and continuing the import process.

Parameter/Switch	Switch Values	Details
`/Simulate=`	*ImportName*	Runs a full import (similar to the `/Import` switch), within a single database transaction. Afterwards, the transaction is rolled back so that nothing from the import persists. It outputs to the console a list of any data information messages, warnings, and errors, together with a summary count (per object type) of records matched, create, updated, deleted, and rejected. The case-sensitive import name is mandatory when this switch is used.
`/Test`	*ImportName*	Test the downstream connection to the data source. The case-sensitive *ImportName* is mandatory when this switch is used, and identifies which connection within the *AdapterXMLFile* is tested. Use the special case of `/Test=ManageSoft` to test the upstream connection to the FlexNet Manager Suite compliance database. ***Important:*** *This special case is available only for on-premises implementations.*
`/Write=`	*DataFilePathAndName*	Over-rides any upstream connection details specified in the *AdapterXMLFile* for the central compliance database, and instead the adapter writes collected data to the intermediate data file specified. This intermediate file format reflects the data structure defined in the import element *ImportName* in the *AdapterXMLFile*. This switch can be used either for testing, to inspect the data written; or on-premises implementations, it can be used in disconnected mode. The output file may be manually transferred to your central application server, and used with a command-line import there.

2

Adapter XML Files

The Business Importer is driven by XML files that adapt the data formats in the source to suit the target database (normally, the central FlexNet Manager Suite compliance database). Each of these XML files defines an 'adapter' that includes one or more 'imports', and specifies:

- Connection strings to source data, and (in connected mode) to the target database as well
- Queries required to fetch source data
- Data mapping between source and target.

Sample adapter files are installed by default on each inventory beacon at `C:\ProgramData\Flexera Software\Beacon\DDI`.

The format of the XML files is straight-forward, accepting only the following seven XML elements:

XML Element	Purpose
`root`	Required. Container element for all other elements.
`ManageSoft`	Required. Specifies details about the target account and (in connected mode) target database connections. Each adapter XML file must contain exactly one `<ManageSoft>` element.
`Imports`	Required. Container element for a list of `<Import>` elements.
`Import`	A functional adapter XML file must contain one or more `<Import>` elements. Each defines the connection to a data source, the database objects to be imported, and the logging required. Only one `Import` may be run at each command-line invocation.
`Log`	Optional. Defines the log files associated with each import. (A log file may also be defined in the command line for the Business Importer, described in Command Line for Business Importer.) This element is available by default for a business adapter running in connected mode on your central application server, and can be manually added for adapters running in disconnected mode on an inventory beacon.

XML Element	Purpose
`Object`	At least one `<Object>` element must be present as a child of each `<Import>` element. Contains one or more `Property` elements, and the processing rules associated with an object in the central compliance database.
`Property`	Defines the mapping of incoming data to a single property of a database `<Object>`.

The following sections cover these elements in detail.

root Element

This is the container for all the operational elements in the adapter XML file.

Example

```
<root>
    <ManageSoft ... />
    <Imports>
        ...
    </Imports>
</root>
```

Contains

Child	Comments
`ManageSoft`	Mandatory. Exactly one may exist in the adapter XML file. Must be the first child of `<root>`.
`Imports`	Mandatory. Exactly one may exist in the adapter XML file.

Contained by

Nothing. This is the root element defining the body of the XML document.

Supported attributes

None.

ManageSoft Element

This element contains all the information needed for connection to the central compliance database.

Examples

Running on the central application server in an on-premises implementation, using the database connection string specified in the registry, and executing separate updates without wrapping them in a single transaction for speed (as distinct from a single database transaction, where rollback is supported in the event of any failure to the updates):

```
<ManageSoft ConnectionType="ECM" RunInTransaction="False" />
```

In connected mode, when access is available to the central compliance database using Windows authentication, and the connection string has not been encrypted (the connection string attribute should be all on one line):

```
<ManageSoft AccountIsEncrypted="False"
    ConnectionString="Integrated Security=SSPI;Persist Security
Info=False;Initial Catalog=FNMP;
    Data Source=WIN2K8SRV2"/>
```

In disconnected mode, when the adapter is exercised on an inventory beacon with no access to the central compliance database:

```
<ManageSoft ConnectionType="Default" RunInTransaction="False" />
```

In connected mode, when access is available to the central compliance database but the connection string has been encrypted (which locks the adapter file to use on this same computer). The encrypted connection string has been shortened in this example for printing purposes.

```
  <ManageSoft ConnectionType="Specific"
      ConnectionString="1|2Y728ZndMMMpMwQMc...WikVzdsnJvxL"
      RunInTransaction="False" AccountIsEncrypted="True" />
```

Contains

`<ManageSoft />` is an empty element, containing no child elements. (See attributes listed below.)

Contained by

`<root>` is the parent.

Supported attributes

Attribute	Details
`AccountIsEncrypted`	Mandatory. Boolean: • `True` when the `ConnectionString` has been encrypted • `False` when the `ConnectionString` is interpreted as plain text. (Use this value also in disconnected mode.) For details about encrypting connection strings in an adapter XML file, see Command Line for Business Importer. ***Note:*** *The `AccountIsEncrypted` attribute is used by the Business Importer to determine whether the `ConnectionString` value is encrypted. Setting the value to false once the connection string has been encrypted results in a connection error when the Business Importer is run with this adapter file.* ***Tip:*** *To remove encryption, you must do all of the following three things:* • *Set `AccountIsEncrypted` to false.* • *Replace the encrypted string value for `ConnectionString` with a valid plain text version.* • *Repeat the plain text replacement for all other connection strings defined for each `<Import>` in the XML file. (The single use of the `/Encrypt` switch on the command line for the Business Importer also encrypts all `ConnectionString` values for each import object in the adapter XML file.)*

Attribute	Details

`ConnectionString`	Defines the OLE-DB connection string to the central compliance database. This value may be plain text (when `AccountIsEncrypted` is `False`), or may contain unreadable character data when the connection string has been encrypted (`AccountIsEncrypted` is `True`). For details about encrypting connection strings in an adapter XML file, see Command Line for Business Importer.
	The attribute is mandatory in connected mode (with access to the central compliance database) when `ConnectionType` is omitted or has the value `Specific`; and is forbidden in disconnected mode (where data must be written to an intermediate file on an inventory beacon for subsequent upload and import).
	The unencrypted form of the connection string value depends on which type of authentication is used to connect to the central SQL Server database:
	• For Windows authentication:
	`ConnectionString="Integrated Security=SSPI;Persist Security Info=False;Initial Catalog=databaseName;Data Source=SQLServerName"`
	• For SQL authentication:
	`ConnectionString="Password=SQLPassword;Persist Security Info=True;User ID=SQLAccount;Initial Catalog=databaseName;Data Source=SQLServerName"`
	In either case, substitute your values for the following placeholders as required:
	• *SQLServerName* — The server name or IP address (or dot for connection on the current server) of the SQL Server hosting the central compliance database. Using the server name requires that a DNS is accessible and operating, to resolve the server name.
	• *databaseName* — The name of the central compliance database. (In a default installation, this database name is commonly `FNMSCompliance`; or in an upgraded implementation, it may be `ManageSoft`.)
	• *SQLAccount* — The user name (or account) permitted access to the central compliance database.
	• *SQLPassword* — The password for the above account, needed to complete the credentials for accessing the compliance database.
	Tip: *If you do not wish to type in a value for `ConnectionString`, you can build a connection string using a UDL file. For more information, see Validating Connection Strings.*

Attribute	Details
`ConnectionType`	Optional. Defines the method for determining the connection. Valid values are: • `Default` or `Specific` — One of these synonyms is the only permitted value when the Business Importer is running on an inventory beacon in disconnected mode (`Default` may be best practice here, being easier to understand in the context). In this case, no `ConnectionString` can be provided, since there is no connection to the target database. For an on-premises implementation, when the adapter is running in connected mode on an application server, either of these values requires that the `ConnectionString` value is used to connect to SQL Server to access the operations databases. • `ECM` — The `ConnectionString` value is ignored, and connection is made using the details stored in the registry at `HKLM\SOFTWARE\ManageSoft Corp\ManageSoft\Reporter\CurrentVersion\DatabaseConnectionString`. This registry is only populated (and the `ECM` value is only valid) when the Business Importer is running on the central application server for FlexNet Manager Suite, in an on-premises implementation.
`RunInTransaction`	Optional. Boolean: • `True` — All imports run from this adapter XML file are wrapped as a single transaction in the central database. This allows for transaction roll-back in the event of any difficulties. • `False` — Data transactions (insert, update or delete) on the central compliance database are actioned individually. This reduces the risk of issues around table locking during business imports disrupting other processes. When this attribute is not specified, the default depends on where the adapter is running: • In an on-premises implementation when the Business Importer is running on the central application server, the default is `True`. • For adapters created in disconnected mode on an inventory beacon, `RunInTransaction` is set to false.

Imports Element

This is a simple container element for the `Import` elements within the adapter XML file.

Example

```
<Imports>
    <Import ... />
</Imports>
```

Contains

Child	Comments
`Import`	Mandatory. One or more `Import` elements are required.

Contained by

`<root>`.

Supported attributes

None.

Import Element

This defines downstream connection details, business rules, and data mapping for a particular data import.

Example

```
<Import Name="Asset"
        Type="CSV"
        UsePhysicalTables="false"
        TraceField="AssetName"
        TraceAction="Rejected" TraceLifeTime="1 month"
        ConnectionString="Provider=Microsoft.Jet.OLEDB.4.0;Data Source=.\Data;Extended
Properties='text;HDR=Yes;FMT=CSVDelimited'"
        AccountIsEncrypted="False"
        Query="select * from [asset.csv]">
      <Log ... />
      <Object ... >
        ...
      </Object>
</Import>
```

Contains

Child	Comments
`Log`	Optional. Used to direct logging output for this `Import` to a specific destination. Alternatively, logging may be directed by a command-line switch for the Business Importer (see Command Line for Business Importer). Where both the command-line switch and the `Log` element exist, and direct output to different locations, both logs are written.
`Object`	Mandatory. Each `<Import>` must contain at least one database `<Object>` to which imported data is directed; and typically each will contain several `<Object>` elements. The ordering of the `Object` elements is important, as they are processed in the same order that they appear in the adapter XML file. Therefore (for example), if an adapter imports purchases that reference new vendors, it is important that the `Object` element for vendors appears earlier in its parent `Import` list than the `Object` element for the purchases. If this ordering is wrong, the overall processing may fail when a purchase (processed too early) fails to reference the vendor that has not yet been created.

Contained by

`Imports`.

Supported attributes

The large number of attributes available on the `Import` element are divided by their purpose, as follows:

- General purpose attributes
- ADSI specific attributes (Active Directory Service Interfaces are used to gather information from Active Directory)
- Text file handling
- Web service settings.

General purpose attributes

These attributes apply to all types of imported data.

Attribute	Details
`AccountIsEncrypted`	Mandatory. Boolean: • `True` when the `ConnectionString` to the downstream data source has been encrypted • `False` when the `ConnectionString` for this `Import` is interpreted as plain text. For details about encrypting connection strings in an adapter XML file, see Command Line for Business Importer. ***Note:*** *The `AccountIsEncrypted` attribute is used by the Business Importer to determine whether the `ConnectionString` value is encrypted. Setting the value to false once the connection string has been encrypted results in a connection error when the Business Importer is run with this adapter file.*
`BulkCopyBatchSize`	Optional. Sets the number of records transferred in a batch for the data loading to the temporary table (in connected mode) or intermediate data file on the inventory beacon (in disconnected mode). When the attribute is omitted, the default value is `1000`. Special value: • `0` — Load all data in a single batch.
`BulkCopyTimeOut`	Optional. Sets the number of seconds after which an incomplete data load to the temporary database table times out. When this attribute is omitted, the default value is `3600` (1 hour). This value may be increased for extra-large data sets.
`CleanUpControlCharOn`	Optional. A list of field names in the incoming data for which illegal characters (those with an ASCII value below 32) are removed and replaced with an underscore character. In typed data, the clean-up is applied only to text fields. If this attribute is omitted, no clean-up occurs. Notes for specifying the list: • Individual entries in this list must match column names returned by the query defined in `Query` attribute. • The list uses a semi-colon as a separator between column names. • The asterisk character (*) is supported as a wild card matching all text columns in the data set. • The caret character (^) is supported for specifying a single exception. Examples: • `CleanUpControlCharOn="*"` — Cleans up all text columns. • `CleanUpControlCharOn="*;^Name"` — Cleans up all text columns except the `Name` column

Attribute	Details
`ConnectionString`	Mandatory. Defines the connection string for the downstream data source. This value may be plain text (when `AccountIsEncrypted` is `False`), or may contain unreadable character data when the connection string has been encrypted (`AccountIsEncrypted` is `True`). For details about encrypting connection strings in an adapter XML file, see Command Line for Business Importer. This attribute is mandatory, but its format depends on the value of the `Type` attribute: each connection type has its own format for the connection string. For details, see ConnectionString Attribute.
`DataTableName`	Optional. Sets the name of the physical database table that first receives the external data during import. This value is used only when `UsePhysicalTable=true`. See the `UsePhysicalTable` attribute for more information.
`ManageSoftTimeOut`	Optional. An integer value to set the timeout used by the Business Importer for each SQL query run against the central destination database. Special value: • `0` — (Default value.) Do not set any timeout limit.
`Name`	Mandatory. Uniquely identifies the name of the import in the adapter XML file. Special characters and spaces should not be used.
`Query`	Mandatory. The query used against the downstream data source. The format of the query depends on the `Type` of this `Import`. If the `Type` is `XML`, the query must be a null string. For details, see Query Attribute.
`Signature`	Optional. Database objects in the central compliance database have history properties that track who created the record and who last updated it. The properties are set by this attribute. Two case-sensitive keywords are supported in this attribute's value: • `[IMPORT NAME]` — Causes the history properties to contain the value of the `Name` attribute for this `Import` element. • `[USER NAME]` — Causes the history to contain the Windows login name (in the format *`domainName\userName`*) of the account running the Business Importer. Plain text values may used as alternatives if you need special values. If this attribute is omitted, the default values used is `"[USER NAME] ([IMPORT NAME])"`.
`Timeout`	Optional. Integer value that sets the maximum time in seconds that the Business Importer waits for the external query to execute against the downstream data source. The following special values apply: • `-1` — (Default value.) Use the time out determined by the source data connection (such as a source database timeout). • `0` — No time out.

Attribute	Details
`TraceActions`	Optional. Set what action(s) will be recorded in the detailed log stored in the target database. Valid values are: • `Creation` • `Deletion` • `Update` • `Rejected`. You may use a comma-separated string to list multiple actions: `TraceActions="Creation,Deletion,Rejected"` If this parameter is omitted, no actions are recorded in the tracing (even though `TraceField` is declared). Both settings are required if you wish to generate detailed tracing of actions in `ECMImportLog_Detail`. (Independently, the trace of which import has run is recorded in `ECMImportLog_Summary`, and the objects updated, inserted, and deleted are logged in `ECMImportLog_Object`. For more information about this detailed logging, see Detailed Tracing.)
`TraceField`	Optional. Identifies the input data property that is used to fill the description field in the detailed actions log stored in the target database (for more information about this detailed logging, see Detailed Tracing). Valid values are: • A simple string value, being the best identifying field name from the incoming data set • A fragment of an SQL statement that combined multiple columns, such as `TraceField="ColumnA + ' - ' + convert(varchar, ColumnB)"` ***Tip:*** *For an adapter running in connected mode on the application server, this field is set to the appropriate natural key for the chosen object. For business adapters in disconnected mode on the inventory beacon, the field is blank for you to populate.*
`TraceLifeTime`	Deprecated from release 2015 R2. The lifetime of tracing records is now set through the web interface for FlexNet Manager Suite (navigate to the system menu (▼ in the top right corner) > **System Settings**, select the **Inventory** tab, and scroll down to the **Activity logs** section). The default value is 30 days. ***Note:*** *Trace records can multiply very quickly, blowing out the size of the target database. It is strongly recommended that where tracing is used, you specify the shortest convenient time for the tracing records to persist, consistent with your required business processes.*

Attribute	Details
`Type`	Mandatory. Specifies the kind of data source from which data is being imported. Valid values are: • `SqlServer` • `Oracle` • `Excel` • `CSV` • `OleDB` • `ADSI` • `ODBC` • `WebService` • `XML`.
`UsePhysicalTable`	Optional. Boolean: • `true` — External data is stored as a physical table in the database during import. Use this when you anticipate large data sets for this import. The physical table is created with the name specified in the `DataTableName` attribute if present, and is otherwise named `ECMImport_`*`ImportName`* (where *`ImportName`* is the value of the `Name` attribute of this `Import` element). ***Note:*** *The table is dropped and re-created each time the import is run.* • `false` (the default) — External data is stored as a temporary table in computer memory. The name of the temporary table is `#ECMImport_`*`ImportName`*. (The `DataTableName` attribute is ignored in this case.)

Attributes governing imports from Active Directory

Use these attributes to control collection of data using the Active Directory Service Interfaces. Note that where applicable, the same attributes may be used to control data gathering from other services, such as Novell eDirectory.

Attribute	Details
`PageSize`	Mandatory for eDirectory users (and otherwise ignored). An integer value to set the page size in a paged search. The default value is 0, which means do not do a paged search. If you are using Novell eDirectory, the `PageSize` attribute must be set to `-1`: `PageSize="-1"` Otherwise, paged searches are not yet supported by the Business Importer. Reserved for future development.
`ClientTimeout`	Optional. An integer value to set the number of seconds that the Business Importer waits for the server to return results. Special value: • `-1` — (Default value.) Wait indefinitely — no time out.
`Path`	Optional. When this attribute is not specified, the default is an empty string. Specifies the path to the desired object within the hierarchy of the directory service, and may vary according to the directory services in use. Example: `LDAP://CN=Users,DC=dsprovider,DC=nttest,DC=microsoft,DC=com`

`PropertiesToLoad` (synonym `Properties`)	Mandatory. A comma-separated list of properties to load from the directory service. Example:
	`PropertiesToLoad="distinguishedname,sn,cn,givenname"`
	Tip: *Either form of the attribute name may be used. This is equivalent to the above example:*
	`Properties="distinguishedname,sn,cn,givenname"`

`ReferralChasing`	Optional. Sets whether and how referrals to other servers are pursued. Valid values are: • `None` — Never chase the referred-to server. • `Subordinate` — Chase only referrals that are in a subordinate naming context in a directory tree. • `External` — (Default value.) Chase external referrals that are outside the directory tree. • `All` — chase referrals of either the subordinate or external type.

Attribute	Details
SearchScope	Optional. Sets the scope of the search. Available values: • Base — limits the search to the base object. Only one object is returned. • OneLevel — Search the immediate child objects of the base object, excluding the base object. • SubTree — (Default value.) Search the whole sub-tree, including the base object and all its child objects.
ServerPageTimeLimit	Reserved for future development. An integer value to set the number of seconds the server searches for an individual page result. The default value is (-1) which means to wait indefinitely. Paged searches are not yet supported by the Business Importer.
ServerTimeLimit	Optional. Sets the maximum number of seconds the server spends searching. Special value: • -1 — (Default value.) The server-determined default is enforced (for Active Directory, this is 120 seconds).
SizeLimit	Optional. An integer value to set the maximum number of objects the server returns in a search result. Special value: • 0 — (Default value.) The server-determined default is enforced (for Active Directory, this is 1000 entries).

Attributes for handling text files

Together, these attributes control how many lines from the start of a text file should be discarded in order to arrive at the data.

Attribute	Details
FileName	Required in order to skip any rows (if the next attribute is included). Sets the name of the text file in which to apply the RowsToSkip attribute, and should be identical to the one used in the Query attribute.
RowsToSkip	Optional. An integer value to set the number of rows to delete from the beginning of the text file identified with the FileName attribute.

Attributes for handling web service queries

Together, these attributes control the handling of SOAP requests.

Attribute	Details
SOAPHeaderValues	Optional. A string containing the values to include in the web service request header. The values must be formatted as name/value pairs, separated by a semi-colon, as follows: `SOAPHeaderValues="Name1=Value1;Name2=Value2…"`
SOAPXMLElement	Optional. A string containing the name of the element to be read in the web service response. If this attribute is not included, the data is read from the Body element (if it exists) or from the name of the web service method (if specified as such in the Query attribute, with the string "Result" added at the end).

ConnectionString Attribute

For each Import, the format for the ConnectionString attribute depends on the Type attribute.

Each Import element has a ConnectionString attribute that defines an OLE-DB connection from the adapter to the external data source. However, the format of the ConnectionString attribute depends on the Type attribute of the Import element, which declares the type of data source to which the adapter connects for this particular import.

Note: *The Business Importer is a 32-bit application, and 32-bit OLE-DB connection strings must be used on 64-bit operating systems.*

Tip: *For guidelines about building and validating a connection string, see Validating Connection Strings.*

The following table shows, for each Type of data source that the import may use, the different format and attribute values for the ConnectionString.

Type attribute of Import	ConnectionString attribute of Import
ADSI	ADSI is used for directory data import, such as from Active Directory or eDirectory. Acceptable formats for ConnectionString when using this data source are: • If the Business Importer is currently running as an account known to the domain, the ConnectionString may be left empty (in which case, the current account credentials are used) • When authentication needs to be specified, use `Login=AcctName;Password=AcctPwd`

Type attribute of Import	ConnectionString attribute of Import

CSV	This import Type may be used both for files with delimited values (as in a true comma-separate value file), or for text files with fixed-length values.
	• For delimited columns, the format is:
	`Provider=Microsoft.Jet.OLEDB.4.0; Data Source=FilePathOnly; Extended Properties='text;HDR=Yes;FMT=Delimited'`
	where
	◦ *FilePathOnly* contains the path to the text file, but not the file name. (The file name is defined in the Query attribute of the Import element.)
	◦ HDR defines whether the first row (paragraph) of the file contains field/column names. When HDR=Yes, the first row is interpreted as the column names. When HDR=No, the field names are automatically assigned as F1, F2, ... F*n*.
	◦ FMT sets the delimiter. Valid values are:
	▪ Delimited (default) uses the Format setting taken from the following registry key:
	• For a 32-bit operating system:
	`HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Jet\4.0\Engines\Text`
	• For a 64-bit operating system:
	`HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Jet\4.0\Engines\Text`
	Format may have any of the following values (same values for the connection string or in the registry).
	▪ Delimited(;) for values separated by semi-colons (;). Alternatively, any other character except the double quotation mark can be specified in the parentheses, including a space. This custom character becomes the separator.
	▪ CSVDelimited for standard comma-separated values files.
	▪ TabDelimited for values separated by the tab character.
	• For fixed length columns, the format is:
	`Provider=Microsoft.Jet.OLEDB.4.0;Data Source=FilePathOnly; Extended Properties='text;HDR=Yes;FMT=Fixed'`

Type attribute of Import	ConnectionString attribute of Import
	In all cases, to specify the properties of each column in the imported file, use a schema.ini file (see Editing a Schema.ini File).

Excel	The format depends on which version of spreadsheet files you are importing.
	• For xls files, the format is:
	`Provider=Microsoft.Jet.OLEDB.4.0;Data Source=*FullPathAndFileName*; Extended Properties=Excel 8.0;HDR=Yes`
	• For xlsx, xlsb, or xlsm files, the format is:
	`Provider=Microsoft.ACE.OLEDB.12.0;Data Source=*FullPathAndFileName*; Extended Properties=Excel 12.0 Xml;HDR=Yes;IMEX=1`
	Where, in both cases:
	• HDR defines whether the first row of the spreadsheet contains column names. When HDR=Yes, the first row is interpreted as the column names. When HDR=No, the column names are automatically assigned as F1, F2, ... F*n*.
	• IMEX=1 is the safe way to retrieve data from mixed data columns.
	Refer to Working With Excel Files for additional information.

ODBC	ODBC is a generic driver than can be used in conjunction with the "Microsoft OLE-DB Driver for ODBC Drivers". The connection string varies according to the driver used. This example is for a connection to an Excel file using a test DSN: `DSN=test;DriverId=790;FIL=excel 8.0;MaxBufferSize=2048;PageTimeout=5;`
OleDB	OleDB is a generic driver that can be used with a variety of databases, such as Microsoft Access, Ingres, Paradox, and others. The prerequisite is that the corresponding OLE-DB driver has been installed and configured on the computer where the import is run. Example for Microsoft Access: `Provider=Microsoft.Jet.OLEDB.4.0;Data Source=*PathAndFilenameOf.mdbFile*`

Type attribute of Import	ConnectionString attribute of Import

Oracle	Oracle connections require the installation of an Oracle client provided by Oracle Corporation. The Oracle client should install the OLE-DB driver for Oracle. The format is:
	`Password=Password;User ID=Account;Data Source=OracleDataSourceName;`
	`Persist Security Info=True`
	Tip: *Do not include the provider in this connection string.*

SqlServer	The format depends on the authentication model.
	• For a database using Windows Authentication:
	`Integrated Security=SSPI;Persist Security Info=False;`
	`Initial Catalog=DatabaseName;Data Source=ServerName`
	Tip: *If the instance of SQL Server is not the default, append the instance name with a backslash separator:*
	`Data Source=ServerName\InstanceName`
	• For a database using SQL Server authentication:
	`Password=Password;Persist Security Info=True;User ID=Account;`
	`Initial Catalog=DatabaseName;Data Source=ServerName`
	Tip: *Do not include the provider in this connection string.*

WebService	Web services can be called using a SOAP request. The connection string must contain the URL and, if authentication is needed, the credentials:
	`URL=WebServiceURI`
	Or, with credentials:
	`URL=WebServiceURI; Login=Account;Password=Password`

Type attribute of Import	ConnectionString attribute of Import

XML	Allows for import of XML files. The connection string must contain the path and name of the XML file:
	`Path\FileName`
	Enclosing quotation marks are mandatory when the values include white space, and otherwise optional. Example:
	`"C:\temp\Data.xml"`

Query Attribute

Some drivers require special formats for the Query attribute of the Import element.

When the Import element is connecting to a database, the Query attribute must contain a valid SQL statement for the target database.

For other values of the import Type, the drivers may require a specific syntax. These special cases are shown in the table below.

Type (driver)	Query description
ADSI	ADSI queries follow the LDAP syntax for a search filter: • The string must be enclosed in parenthesis • Expressions can use the relation operators <, <=, =, >=, > and the compound operators & and |. For example, to return all objects of category 'user', and class 'person', with a non-blank email address: `(&(objectCategory=user)(objectClass=person)(mail=*))`

CSV (text file)	The syntax is:
	`select * from FileName`
	Example:
	`select * from Asset.csv`
	Do not include the path to the file in the query (the path is specified in the connection string for this Type of import).

Type (driver)	Query description

Excel	The default query (case insensitive) is:
	`select * from NameOfWorksheet`
	Example:
	`Select * from [Sheet1$]`
	In addition, Excel supports field enumeration and functions such `MID` or `ABS`.

WebService	The query may be either: • The name of the method to be called • The full SOAP request to the web service.
XML	No queries are supported.

Detailed Tracing

Highly detailed logging can be written to the database for individual imports. This is especially useful during development and testing.

In addition to the logging controlled by the `Log` element, you can set up detailed tracing for the operation of each `Import` element independently. This is done using the `TraceActions`, `TraceField`, and `TraceLifeTime` attributes of the `Import` element.

Three separate tables are populated in the database:

- To trace each import at a summary level, a record is created in the `ECMImportLog_Summary` table each time the Business Importer is started in import or simulation mode.
- To trace the objects included in the import, a record is created in the `ECMImportLog_Object` for each object included in the import (except for the `Custom` object).
- To track individual actions, a record is created in the `ECMImportLog_Detail` table for each action of the type(s) identified in the `TraceAction` attribute of the `Import` element.

Tip: *Tracing can rapidly increase the number of records stored in the database. Be sure to set the `TraceLifeTime` attribute of the `Import` element to the minimum timespan consistent with your debugging needs.*

Details of each of the tracing records are listed in the tables below.

Tracing Imports (Summary)

A record is created in the `ECMImportLog_Summary` table each time the Business Importer is started in import or simulation mode. Each row contains the following information:

Column	Description
ImportID	Unique identifier for each record.
ImportName	The Name attribute of the import.
ImportType	The Type attribute of the import (SqlServer, Oracle, CSV, and so on).
Action	Import or Simulation.
StartDate	The date and time the import was started (database date and time).
EndDate	The date and time when the import finished (database date and time).
Status	Values: • 1 indicates success • 0 indicates that the Business Importer did not complete its task.
Processed	The number of records processed from the data source.
Rejected	The number of records rejected from the data source. The same record can be rejected for multiple reasons, but will be counted only once.

Tracing Objects

A record is created in the ECMImportLog_Object for each object included in the import (except for the Custom object). Each row contains the following information:

Column	Description
ImportObjectID	Unique identifier for each record.
ImportID	Reference to the ECMImportLog_Summary table.
ObjectName	The name of the object as specified in the XML.
ObjectType	The type of the object.
StartDate	The date and time the import of this object was started (database date and time).
EndDate	The date and time when the import of this object finished (database date and time).
Processed	The number of records for this object processed from the data source.
Rejected	The number of records for this object rejected from the data source. The same record can be rejected for multiple reasons, but will be counted only once.
Matched	The number of records for this object matched between the data source and the compliance database.
Updated	The total number of records for this object updated in the compliance database.

Column	Description
Created	The total number of records for this object created in the compliance database.
Deleted	The total number of records for this object deleted from the compliance database.

Tracing Records

A record is created in the ECMImportLog_Detail table for each action of the type(s) identified in the TraceAction attribute of the Import element. The TraceAction attribute specifies whether the creation, updating, rejection, or deletion of individual records needs to be tracked in the database logging.

Note: *A limited set of database entities are not tracked in the ECMImportLog_Detail table. There are primarily relationships between objects. For example, the license allocation object cannot be logged in this way.*

Each row contains the following information:

Column	Description
ImportDetailID	Unique identifier for each record.
ImportID	Reference to the ECMImportLog_Summary table.
RecordNumber	ID of the record considered.
Action	Creation, Deletion, Update, or Rejected.
MGSRecordKey	ID of the record in the FlexNet Manager Suite compliance database.
ImportObjectID	Reference to the ECMImportLog_Object table.
RecordDescription	To more clearly identify the individual record, this column populated as defined by the TraceField attribute of the Import element. The value of the TraceField attribute can be a simple column name (the content of that column for this individual record is copied here); or it can be a combination of columns included in a SQL statement, such as: `ColumnA + ' - ' + convert(varchar, ColumnB)`
Message	This column contains the reasons for discarding records.

Object Element

The `Object` element defines one object in the central compliance database that is created or updated by an `Import`.

Every `Import` element contains at least one, and possibly several, `Object` elements. In turn, an `Object` element contains many `Property` elements that map the incoming data values to the properties of the database object within the compliance database of FlexNet Manager Suite.

The ordering of the `Object` elements is important, as they are processed in the same order that they appear in the adapter XML file. Therefore (for example), if an adapter imports purchases that reference new vendors, it is important that the `Object` element for vendors appears earlier in its parent `Import` list than the `Object` element for the purchases. If this ordering is wrong, the overall processing may fail when a purchase (processed too early) fails to reference the vendor that has not yet been created.

With multiple `Object` elements in an import, it is critical that their `Name` attributes are unique. Other than the requirement for uniqueness, the `Name` is an arbitrary value to assist your understanding of the incoming data. The mapping to the destination database objects is done by the mandatory `Type` attribute.

Example

```
<Object
   Name="MachineRoomAsset1"
   Type="Asset"
   Output="RefAssetID"
   Create="true"
   Update="true"
   UpdateRule="AddToExistingRecords"
   CustomComputerMatching=""
   <Property...>
     ...
   </Property> ...
</Object>
```

Contains

Child	Comments
`Property`	Mandatory. Identifies a single property of an object in the central compliance database, maps a data source column to this property, and specifies appropriate business rules governing the data.

Contained by

`Import`.

Supported attributes

Attributes of the `Object` element are divided into:

- Those applying in general to all objects
- Additional attributes specific to the import of custom objects.

General purpose attributes

These attributes apply to all `Object` elements.

Attribute	Details
`Name`	Mandatory. Uniquely identify the imported object in the XML file. Special characters and spaces should not be used.
`Type`	Mandatory. Specifies the compliance database object affected by the import. The value must be an exact match for one of the values listed in Object Type Attribute.
`Output`	Mandatory. Specify a column name (which must be unique across *all* objects within the current `Import`) which is added to the object definition to include the ID of each record of this `Object` that is created, updated, or looked up in the central operations databases (specifically, the). When objects need to reference one another, they use the ID contained in this variable.
`Create`	Mandatory. Boolean. Where the incoming data does not match an existing database object of the declared `Type`: • `true` means that a new record of the same type is created • `false` means that the incoming record is rejected as unmatched.
`Update`	Mandatory. Boolean. Where the incoming data matches an existing database object of the declared `Type`: • `true` means the existing record is updated with the incoming values • `false` means that the incoming record is rejected as already existing.
`UpdateRule`	Optional. Sets the behavior for updating relationships between this object and other related objects in the compliance database (based on matching key property values). Rules are specific to each relationship, and are listed in UpdateRule Attribute. Only one update rule may be specified for each object.

Attribute	Details

`CustomComputerMatching`	Mandatory if the import object is an asset (and otherwise ignored). This attribute allows you to disable or replace the logic that links newly-created assets with existing inventory devices already in the compliance database. Available values:
	• An empty string means that the built-in logic will be executed:
	`CustomComputerMatching=""`
	• A string of only spaces means that the built-in logic will be disabled:
	`CustomComputerMatching="  "`
	• You may provide the name of a stored procedure, or a raw SQL statement, that will link newly-created assets with existing inventory devices. For further information and examples, see Customizing the Asset-Device Linkage.

Attributes specific to custom objects

These additional attributes should also be considered when you are directly manipulating the compliance database.

Attribute	Details
`QueryType`	Optional. Specifies how the central compliance database should be updated. Possible values are: • `Text` (the default) means that the `Query` property contains a raw SQL statement to execute. • `StoredProcedure` means that the `Query` property contains the name of a stored procedure to be executed on the central compliance database.
`Query`	Mandatory (for custom objects). Depending on the setting for `QueryType`, the `Query` contains either: • A raw SQL statement to execute • The name of a stored procedure to be executed on the central compliance database.
`Timeout`	Mandatory (for custom objects). An integer value to set the timeout in seconds, when running a custom query.

Attribute	Details
SendLogIdAsParam	Optional. Supported only for on-premises implementations, and only for adapters that are running on the central application server. Applicable only when QueryType="StoredProcedure". Boolean: • false (the default) means that no log ID is passed as a parameter to the stored procedure. • true allows your stored procedure to log details under the current log ID. When SendLogIdAsParam=true, a @FinImporterLogID parameter in your stored procedure is given the value of the current log ID in the FinImporterLog table of the database (which is automatically maintained by the Business Importer, and not described in the standard product schema).

Object Type Attribute

The database objects accessible through the Business Importer.

Each Import element includes one or more Object elements for import into the central compliance database. Each Object element is related to a database object through its Type attribute.

Tip: *In several cases, an imported Object may insert new values into the related database table (identified through its Type attribute). However, for the Type values below that are marked with an asterisk (*), inserting new values is only supported for single tenant on-premises implementations; and is not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.*

The Type attribute must exactly match one of the following values:

- AcquisitionMode*
- Asset
- AssetComplianceStatus*
- AssetStatus*
- AssetType*

Note: *For presentation in the web interface of FlexNet Manager Suite (on-premises implementations only), new asset types inherit their XML template screen definitions from the Workstation asset type. They do not require a link to an inventory device (computer); but this requirement can be enforced by setting the managed property to 1.*

- AssetWarrantyType
- Category
- ChargeBackPeriodType*

- ComplianceComputerConnection
- ComplianceDomain
- ComplianceResponsibility
- Computer
- ComputerChassisType*
- ComputerInventorySourceType*
- ComputerRole*
- ComputerStatus*
- ComputerType

Note: *No new computer types can be created in the central compliance database using the Business Importer.*

- Contract
- ContractAsset
- ContractLicense
- ContractPeriodType*
- ContractStatus*
- ContractType*

Note: *New contract types (on-premises implementations only) inherit their XML template screen definitions from the* `General` *contract type.*

- CorporateUnit
- CostCenter
- Currency
- CurrencyRate
- CurrencyRateSnapshot
- Custom (for details, see Custom Objects)
- DepreciationMethod*
- Document
- EndOfLifeReason
- LeaseEndReason*

- LeasePeriodType*
- License
- LicenseComplianceStatus
- LicenseDuration*
- LicenseStatus*
- LicenseType*

Note: *New software license types (on-premises implementations only) inherit their XML template screen definitions from the* `Enterprise` *software license type. By default, new software license types are treated as the* `Volume` *license type.*

- LicenseWarrantyType*
- Location
- PaymentSchedule
- PaymentScheduleAsset
- PaymentScheduleCategory*
- PaymentScheduleDetail
- PaymentScheduleDetailStatus*
- PaymentScheduleLicense
- PaymentScheduleTerm*
- PaymentScheduleType*
- PeriodType*
- Publisher
- PuchaseOrderType*
- PurchaseOrder
- PurchaseOrderDetailType*
- PurchaseOrderLine
- PurchaseOrderLineAsset
- PurchaseOrderLineLicense
- PurchaseOrderStatus*
- ResponsabilityType*

- ShippingMethod*
- SoftwareLicenseAllocation
- SoftwareLicenseAllocationStatus*
- SoftwareLicenseKey
- SoftwareLicenseKeyType*
- TermAndCondition
- TermAndConditionType*
- User
- UserStatus
- UserSuffix
- UserTitle
- Vendor

UpdateRule Attribute

The update rule controls how relationships with other objects are managed during the import.

As well as the basic objects in the central compliance database, there are many relationships between them. The Business Importer allows you to manage what happens to the links between database objects, especially when objects referenced by the links are no longer present in the incoming data from the data source. For example, suppose that a user disappears from a regularly-imported list of employees. Should the system check whether that user was linked to any contract records in a particular role, and if so remove the link?

Two settings apply to all object relationships, and the remaining values are variants applying to specific relationships. Use the values appropriate to the object you are importing. For example, suppose your import includes license objects and contract objects, and you wish to remove links (previously imported) when instances of either object are not matched in either the imported data or the existing database records:

- For the license object, set `UpdateRule="RemoveExtraContractsFromLicenses"`
- On the contract object, set `UpdateRule="RemoveExtraLicensesFromContracts"`.

In the following tables, any value wrapped for documentation should be entered as a single unbroken string.

Common to all relationships

`UpdateRule` value	Description
`AddToExistingRecords`	This setting means that the import never deletes any existing relationships. New links between objects are added where required and permitted. ***Note:*** *This is the default behavior when the* `UpdateRule` *is omitted.*
`RejectDuplicateRecord`	Normally, duplicate records in the source data are ignored (that is, the first instance is processed, and matching subsequent instances are ignored). This value of the `UpdateRule` changes behavior so that, rather than being ignored, duplicate records are rejected. As a result, they are logged. You can use the logs to analyse and remove the duplicates at the source.

Contract - Asset relationships

`UpdateRule` value	Description
`RemoveExtraAssetsFromContracts`	Removes asset links from contracts where assets were not found in the incoming data.
`RemoveExtraContractsFromAssets`	Removes contract links from assets where contracts were not found in the incoming data.
`RemoveExtraLinks AssetsContracts`	For contracts and assets in the incoming data (from this adapter only), this setting clears any recorded links that are not also included in the incoming data (that is, repeated since the previous import from this source).

Contract - License relationships

`UpdateRule` value	Description
`RemoveExtraLicenses FromContracts`	Removes license links from contracts where licenses were not found in the incoming data.
`RemoveExtraContracts FromLicenses`	Removes contract links from licenses where contracts were not found in the incoming data.
`RemoveExtraLinks LicensesContracts`	For contracts and licenses in the incoming data, this setting clears all links that are not also included in the incoming data.

Purchase - License relationships

While the web interface for FlexNet Manager Suite focuses on individual purchase records, the terminology used in the Business Importer tends to focus more on the purchase orders that contain one or more purchases. Here, each individual purchase is often referred to as a 'purchase order line'.

`UpdateRule` value	Description
`RemoveExtraLicensesFromPurchaseOrders`	Removes license links from purchases, where licenses were not found in the incoming data.
`RemoveExtraPurchaseOrdersFromLicenses`	Removes purchase links from licenses, where purchases were not found in the incoming data.
`RemoveExtraLinksPurchaseOrdersLicenses`	For purchases and licenses in the incoming data, this setting clears all links that are not also included in the incoming data.

Purchase - Asset relationships

While the web interface for FlexNet Manager Suite focuses on individual purchase records, the terminology used in the Business Importer tends to focus more on the purchase orders that contain one or more purchases. Here, each individual purchase is often referred to as a 'purchase order line'.

`UpdateRule` value	Description
`RemoveExtraAssetsFromPurchaseOrders`	Removes asset links from purchases, where assets were not found in the incoming data.
`RemoveExtraPurchaseOrdersFromAssets`	Removes purchase links from assets, where purchases were not found in the incoming data.
`RemoveExtraLinksPurchaseOrdersAssets`	For purchases and assets in the incoming data, this setting clears all links that are not also included in the incoming data.

Payment schedule - Asset relationships

`UpdateRule` value	Description
`RemoveExtraAssetsFromPaymentSchedules`	Removes asset links from payment schedules, where assets were not found in the incoming data.
`RemoveExtraPaymentSchedulesFromAssets`	Removes payment schedule links from assets, where payment schedules were not found in the incoming data.
`RemoveExtraLinksPaymentSchedulesAssets`	For payment schedules and assets in the incoming data, this setting clears all links that are not also included in the incoming data.

Payment schedule - License relationships

UpdateRule value	Description
RemoveExtraLicenses FromPaymentSchedules	Removes license links from payment schedules where licenses were not found in the incoming data.
RemoveExtraPaymentSchedules FromLicenses	Removes payment schedule links from licenses where payment schedules were not found in the incoming data.
RemoveExtraLinks PaymentSchedulesLicenses	For payment schedules and licenses in the incoming data, this setting clears all links that are not also included in the incoming data.

User - Contract relationships

UpdateRule value	Description
RemoveExtraUsers FromContracts	Removes user links from contracts where users were not found in the incoming data.
RemoveExtraContracts FromUsers	Removes contract links from users, where contracts were not found in the incoming data.
RemoveExtraLinks ContractsUsers	For users and contracts in the incoming data, this setting clears all links that are not also included in the incoming data.

License allocation - Computer relationships

Individual license entitlements can be allocated to specific inventory devices (computers).

UpdateRule value	Description
RemoveExtraLicenseAllocation FromComputer	Removes license allocations links from inventory devices, where licenses were not found in the incoming data.
RemoveExtraComputerFrom LicenseAllocation	Removes inventory device links from license allocations, where the inventory devices were not found in the incoming data.
RemoveExtraLink ComputerLicenseAllocation	For licenses and inventory devices in the incoming data, this setting clears all links that are not also included in the incoming data.

Custom Objects

Within an `Import`, you can include an `Object` of `Type="Custom"`. These custom objects are used to run SQL stored procedures, or raw SQL statements, against the central compliance database when customizations are needed. Using either method, the SQL statements are exercised within the same transaction as the data import. The choice between using a stored procedure or a direct SQL statement is set by the `QueryType` attribute:

```
QueryType="StoredProcedure"
```

or

```
QueryType="Text"
```

This example shows how to exercise a stored procedure as part of your import transaction:

```
<Object
   Name="ClearGroupExComments"
   Type="Custom"
   QueryType="StoredProcedure"
   Query="MyStoreProcedure">
</Object>
```

Custom objects are not automatically logged as part of the detailed tracing available in the database log (see Detailed Tracing). However, you can provide your own logging, using the one special keyword supported within the SQL:

Keyword	Description
`[LOG_IMPORT_ID]`	Returns the current value of the `ImportID` column in the `ECMImportLog_Summary` table.

The following example shows writing a log entry into the `ECMImportLog_Object` table, providing a foreign key into the `ECMImportLog_Summary` table. For details about these tables, see Detailed Tracing.

```
<Object
   Name="ClearGroupExComments"
   Type="Custom"
   Query="Insert into ECMImportLog_Object([ImportID], [ObjectName],
          [StartDate], [EndDate], [ObjectType], [Status])
          values ([LOG_IMPORT_ID], 'My Custom Object',
          getdate(), getdate(),'Custom', 1)">
</Object>
```

Localization of New Values

Most static string values in the compliance database support translation. These static values usually populate enumerated lists, such as a list of asset types, or the possible values of asset status.

The translation mechanism uses three database tables:

- `ComplianceResourceString` gives each string using a unique string ID, and provides the default content for the string if no localized versions are found.
- `ComplianceCultureType` lists the available culture types for which localizations are available.
- `ResourceStringCultureType` stores all required translations of a string identified by a string ID and the culture type.

When your `Import` defined for an `Object` requires new values in such lists (for example, creating a new asset type or a new asset status), a unique string ID is automatically created by the Business Importer and the base record is created in the `ComplianceResourceString` table, using the imported new value as the default.

In order that anyone using the web interface for FlexNet Manager Suite in another language is not left with a blank where the new value should be, the same value is also written into all available culture types as the 'translated' values within each culture. This is simply a placeholder, and is unlikely to be the final desired value for each of your supported culture types. If you need to display a localized value for your new static string in the web interface of FlexNet Manager Suite, ensure that the appropriate localized version(s) are also edited in the `ResourceStringCultureType` table. For example:

- Suppose you import a new asset status value of `Under repair`.
- Immediately after import, this value is displayed in all cultures. An operator using a French presentation currently sees `Under repair`.
- Using SQL Server Management Studio, you open `ResourceStringCultureType` and edit the corresponding string for `fr-FR` from `Under repair` to `En réparation`.
- From this edit onwards, an operator using a French presentation sees `En réparation`.

Note: *When searching the database for existing records, the match is performed using the translation(s) found in the `ResourceStringCultureType` table.*

Data Synchronizing Rules

Within FlexNet Manager Suite, there are business rules that can be set to manage data updates across related objects. The Business Importer honors the settings of the following rules, as at the time of each import. The business rules are available on various tabs in the **Systems Settings** page of the web interface for FlexNet Manager Suite:

- Synchronize enterprise groups in device and asset properties (**Assets** tab)
- Synchronize enterprise groups in asset and sub asset properties (**Assets** tab)
- Synchronize enterprise groups in user and device properties (**Inventory** tab).

Property Element

For each database object, there are a number of properties; and these elements map the incoming details to the correct destination properties.

Each `Property` element maps a column of source data to a single property (or column) of an object in the central compliance database for FlexNet Manager Suite. Each `Property` also contains business rules to manage the processing needed to convert from the data source to the destination database.

Example

```
<Property
        Name="Serial Number"
        Type="serialnumber"
        Update="Always"
        Value="SerialNo"
        ValueType="Field Value"
        UseForMatching="True">
</Property>
```

Contains

No child elements: `Property` is an empty XML element, using only its attributes.

Contained by

`Object`.

Supported attributes

Attribute	Details
`DataType`	Optional, but required when `IsCustomField=true`. It declares the data type of the custom property so that the data is correctly parsed. Valid values are: • `int` • `date` • `numeric` • `boolean` • `string` (default). ***Tip:*** *For standard (non-custom) properties, the data type, format, and precision for each destination property is automatically read from the compliance database schema.*

Attribute	Details

`FieldMask`	Identifies any constant prefix and/or suffix on values in the incoming property records that do not exist in the target database. When the Business Importer assesses incoming records for matches in the target database, it first augments the target key value with the additional data in the field mask, and then assesses the match.
	The formats for declaring this value are:
	`FieldMask="'prefix'+ [targetColumnName] + 'suffix'"`
	`FieldMask="'prefix'+ [targetColumnName]"`
	`FieldMask="[targetColumnName] + 'suffix'"`
	Notes:
	• In general, the value replacing *targetColumnName* will be the same as the value of the `Type` attribute — the name of the target column in the target database.
	• This column name must be enclosed in literal square brackets, indicating "value of".
	• The *prefix* and *suffix* placeholders can be replaced with any text string.
	• The plus sign (+) is required for string concatenation. White space around this operator is optional.
	For example, suppose your source data includes location names with a constant prefix `Locn-`, so that the source data represents Australia as `Locn-Australia`. However, in the target central operations databases, the locations do not have this superfluous prefix, and there the location is simply called `Australia`. Without some intervention, the source data could never update records in the target database, because the values are not matched. To solve this, declare:
	`FieldMask="'Locn-'+[groupcn]"`
	This mask concatenates the fixed prefix with each value of the `groupcn` column in the target database, and the combination is tested against the incoming data. Therefore, the incoming record `Locn-Australia` is matched by the evaluated `FieldMask` of `Locn-Australia`, and the Business Importer now knows to update the entry for the `Australia` location in the target database.

Attribute	Details
`Format`	Declares the format of date/time values (when `DataType="date"`) and numeric values (when `DataType="numeric"`). These are formats identified for the source data, allowing the Business Importer to convert to the format required for storing in the target database. The following references may assist: • For standard date/time formats: https://msdn.microsoft.com/en-us/library/az4se3k1.aspx • For custom date/time formats: https://msdn.microsoft.com/en-us/library/8kb3ddd4.aspx • Decimal number formats: https://msdn.microsoft.com/en-us/library/d8ztz0sa%28v=vs.110%29.aspx • Integer formats: https://msdn.microsoft.com/en-us/library/8wch342y%28v=vs.110%29.aspx

Attribute	Details
`IsCustomField`	Optional. Boolean: • `true` means that this property is a custom property added to the compliance database • `false` (the default) means that the property is a standard one documented in the *FlexNet Manager Suite Schema Reference* PDF file. See also the `DataType` attribute. For more details on these attributes, see Custom Properties. **Note:** *The automatic creation of custom properties defined in the adapter XML file is supported only for on-premises implementations when the adapter is running on the central application server (and not supported on inventory beacons where the adapter runs in disconnected mode). However, once a custom property exists in the operations databases, any adapter can add values to the custom property.* Custom properties are only available for the following objects in the compliance database: • Application • Asset • Computer • Contract • Purchases (Purchase Order header and lines) • Software License • User For more about customization, see the *FlexNet Manager Suite System Reference* PDF file.

Attribute	Details

MatchingMask	Supported only for on-premises implementations where the adapter is running on the central application server (and specifically not permitted for adapters running on inventory beacons). Except when dealing with properties of enterprise groups, this is required when MatchingMode="like", for which it declares the pattern used to find matching records. The value of the property in the incoming data stream is represented as the special placeholder [value] (with the square brackets).
	The MatchingMask attribute uses standard SQL syntax to declare a pattern to match. The exact syntax varies, depending on the value of the ValueType property. For example, to match a record that 'contains' the incoming value (with other possible content), the two syntax examples are:
	• For ValueType="Fixed Value":
	`MatchingMask="%[value]%"`
	• For ValueType="SQL Value" or ValueType="Field Value":
	`MatchingMask="'%' + [value] + '%'"`
	Example: The following XML looks up assets (in the compliance database) by serial number based on a partial match:
	`<ObjectName="asset" Type="asset" Output="assetoutid">`
	`<Property`
	`Type="SerialNo"`
	`Name="SerialNo"`
	`Value="SerialNumber"`
	`ValueType="FieldValue"`
	`UseForMatching="True"`
	`MatchingMask="%[value]%"`
	`MatchingMode ="like"/>`
	…
	`</Object>`

MatchingMode	Optional. Specifies how this property will be matched against the existing data in the central compliance database. Available values: • = (the equals sign) (default). Matches must be exact. (MatchingMask is ignored.) • like allows the use of a matching mask, declared in the MatchingMask attribute. ***Tip:*** *The MatchingMask attribute is not required in the special case of properties of enterprise groups.*

Attribute	Details
`Name`	Mandatory. This is the friendly name of the property. The attribute is exclusively used in the adapter XML file, and need not match either incoming or target columns names (for which see `Value` and `Type` respectively).
`OnMissingFieldValue`	Optional. This attribute dictates the behavior of the Business Importer when this clash occurs: • The adapter XML file defines an incoming column name (declared in `Value` when `ValueType="FieldValue"`) • The source data does not include a column of the same name. Support values are: • Empty string, not declared, or given any value other than the following two: TheBusiness Importer raises an error to highlight that you have mapped a source column that does not exist to a target column. • `Discard Property` means that records for the incoming instances of the object are created and updated, but the missing property is silently ignored. • `Discard Object` means that no instances of the object are created in the target database. For example, suppose you have the following `Property` on a location `Object` in your adapter XML file: `<Property Name="Name" Type="groupcn" OnMissingFieldValue="Discard Object" Update="Never" Value="Loaction" ValueType="FieldValue" UseForMatching="True" RegExSplit="/" />` The combination of `ValueType="FieldValue"` and `Value="Loaction"` tell the Business Importer to map input from the `Loaction` column into the target database. However, if the source data does not share the same typographical error, and instead has a column called `Location`, the proposed column name cannot be found. Now `OnMissingFieldValue="Discard Object"` means that no locations will be imported, because the entire object is discarded based on the failure to find the key field. The fix, of course, is to correct the error in the adpater XML file.

Attribute	Details
`RegexOption`	Optional. Specifies the regex options applying to the `RegexString` attribute. Supported values are: • `Cultureinvariant` specifies that cultural differences in matching methods are ignored. • `Ecmascript` specifies that ECMAScript compliant behavior is enabled for the expression. (ECMAScript is Javascript compliant with the ECMA-262 standard.) • `Ignorecase` specifies case-insensitive matching. • `Ignorepatternwhitespace` specifies that unescaped white space is excluded from the pattern. • `Multiline` specifies multi-line mode. • `Rightoleft` specifies that the search moves from right to left instead of left to right. • `Singleline` specifies single line mode. • `None` (default) means that no options are used.

`RegexOrder`	Optional. May only be used with the `GroupCN` property of enterprise groups; and is used in conjunction with the `RegexSplit` attribute. This `RegexOrder` attribute declares whether the compound string of enterprise groups reads from parent down to child (leaf node last), or from child up to parent (leaf node first). It supports the following values:
	• `Regular` (default) means the parent-to-child values are read from left to right. A `GroupCN` value ordered this way might be:
	`USA/Boston/100 North Washington`
	• `Reverse` means the values are read leaf node first, with parents to the right. A `GroupCN` value ordered this way might be:
	`100 North Washington/Boston/USA`

Attribute	Details
RegexReplace	Optional. Specifies one or more characters or strings in the incoming values for the current Property that are to be replaced by the corresponding value(s) declared in the RegexReplaceBy attribute. (The RegexReplace and RegexReplaceBy attributes must be considered as a pair.) • To specify multiple strings to replace, separate them with either a comma (,) or hash (#) character. • The number of separate strings in this RegexReplace attribute must match the number in the RegexReplaceBy attribute (any extra values in either one are ignored). • Spaces are significant, and are included in the pattern matching. (Don't leave extra spaces around the separator characters.) • With multiple strings, order is correlated between these two attributes (the first target string becomes the first replacement, and so on). Example: `RegexReplace = "Microsoft Corp.,Microsoft Corporation,Adobe Inc."`
RegexReplaceBy	Optional, but required when RegexReplace is used. Specifies one or more characters or strings used to replace the corresponding value(s) declared in the RegexReplace attribute. (The RegexReplace and RegexReplaceBy attributes must be considered as a pair.) • To specify multiple replacement strings, separate them with either a comma (,) or hash (#) character. • The number of separate strings in this RegexReplaceBy attribute must match the number in the RegexReplace attribute (any extra values in either one are ignored). • Spaces are significant, and are included in the replacement text. (Don't leave extra spaces around the separator characters.) • With multiple strings, order is correlated between these two attributes (the first replacement substitutes for the first target string, and so on). Example: `RegexReplaceBy = "Microsoft,Microsoft,Adobe"` When you combine the examples given for both attributes in the processing of this Property (such as the name of a vendor), all instances of either “Microsoft Corp.” or “Microsoft Corporation” are standardized to “Microsoft”, and all instances of “Adobe Inc.” are standardized to “Adobe”.

Attribute	Details

RegexSplit	Optional. Specifies the character on which to split the incoming property into separate values. May only be used with the GroupCN property of enterprise groups. The GroupCN values may contain an entire path through the tree of enterprise groups in a single column (imported as one Property). For example, a location may be specified as the following path:
	`USA/Boston/100 North Washington`
	The goal is to spit this path into separate location entities, organized in parent/child relationships to form a tree. The RegexSplit attribute specifies the character separator (in this example, the forward slash) used to split the GroupCN values into multiple database entities.
	The above example value can be entered as separate locations in the compliance database, with the correct parent-child linkages, using the following XML:
	`<Object Name="Location" Type="Location" Output="locationoutid" Create="True" ><Property Type="GroupCN" Name="Name" Update="Never" Value="LocationFullPath" ValueType="FieldValue" UseForMatching="True" Regexsplit="/" /><Property Type="GroupExID" Name="Parent ID" Update="Never" Value="locationoutid" ValueType="FieldValue" UseForMatching="True" UseNullValueForMatching="removeproperty"/></Object>`

RegexString	Optional. Sets the regular expression applied to incoming values of this property. Matched data is extracted and included in the import, while those parts of values that were unmatched are discarded. If there is no match found in an incoming value of this property, the output is am empty string. Processing of the regular expression may be modified by the value of RegexOption.

Attribute	Details
Type	Mandatory. The type uniquely identifies the property within the object in the compliance database, and must be an exact match for the name of an existing database column. Details of the compliance database schema are available in the *FlexNet Manager Suite Schema Reference* PDF file. Custom properties are supported on relevant objects (see `IsCustomField`). ***Important:*** *Do not set the `Type` attribute equal to the database ID of the enclosing object. (For example, if this is a property of an `Asset` object, do not set the `Type` attribute to `AssetID`.) Database IDs cannot be directly referenced, set, or updated by the Business Importer. Pointing this attribute to a database ID will produce erratic results and likely crashes of the Business Importer.*

Attribute	Details

`Update`	Optional. Sets the business rule for updating the property if there is already a value in the central compliance database. Possible settings:
	• `Always` (default) means that any new incoming value always overwrites the existing value. This includes incoming blanks or nulls removing pre-existing values in the compliance database. (To prevent the latter, use `Do Not Blank` instead.)
	`[Any new value] >> [Any existing value] = [New value]`
	• `Never` means any existing value in the compliance database is preserved, and any new incoming value is ignored. This might be used, for example, when you only want to look up a property, without updating it.
	`[Any new value] >> [Any existing value] = [Existing value]`
	• `If Blank` means that value is updated only when the operations databases has this column blank (null value). However, if the database already contains a value here, it is preserved, and the incoming value ignored.
	`[Any new value] >> [Any existing value] = [Existing value]`
	`[Any new value] >> [Blank value] = [New value]`
	• `Do Not Blank` means the property in the target database will be updated except when the incoming value is empty. An incoming null leaves any existing value in the compliance database intact.
	`[Any new value] >> [Any existing value] = [New value]`
	`[Blank value] >> [Any existing value] = [Existing value]`
	Note: *Most properties in the supplied adapter XML files (for both disconnected mode on inventory beacons, and for connected mode on the central application server of an on-premises implementation) are set to `Do Not Blank` to prevent accidental removal of existing data when the adapter is used. The exceptions to this general principle are:*
	• *The `Property` element has `UseForMatching="true"`, or*
	• *The parent `Object` element has `Create="false"` and `Update="false"`.*

Attribute	Details
`UseForMatching`	Optional. Boolean: • `false` (default) means this property plays no part in matching incoming data with existing records in the compliance database. • `true` means this property (perhaps in conjunction with others) acts as a key for retrieving existing records.
`UseNullValue ForMatching`	Optional. Sets the business rule to apply when the value is empty or null and `UseForMatching=true`. Note that this is not a Boolean. Possible values are: • `True` means the null value will be used for matching, and corresponding records with a null or empty value for this property will be returned. • `False` (default) means the incoming record containing the empty or null value is rejected. • `Ignore` means the lookup is performed without this property. This requires the use of multiple properties for matching, and the values of the other matching keys are used. • `RemoveProperty` is a synonym for `Ignore`.
`Value`	Mandatory. Defines the value of the property to be written into the compliance database. Depending on the value of the `ValueType` attribute, the `Value` may be: • A literal value • The name of the column in the source data that includes the appropriate value • The `Output` attribute from a preceding `Object` in the current `Import` • A fragment of SQL (optionally including columns from the data source) that defines the value. ***Note:*** *If `ValueType="Field Value"` and the `Value` attribute is empty, the property is ignored during the import.*

Attribute	Details
ValueType	Optional. Determines how the Value attribute for the Property should be interpreted: • Field Value (default): in this case the Value attribute contains either of: ◦ The name of a column from the initial query (either a column name in a CSV or XLSX source file, or if the data is a result of an SQL query, the SQL column name) ◦ The value of the Output attribute of one of the preceding Object elements in the current Import. For example, suppose that an update to a location Object had an Output attribute set to locationoutid, which saves the ID of the affected record. This can now be written as a Value for a Property on a different Object, creating a foreign key to that location record. • Fixed Value: the Value attribute contains the value itself. This may be a value-by-reference, where the Value attribute specifies a reserved name in square brackets, such as [TODAY] (which inserts the current date/time), or [ROWNUMBER] (which inserts the number of the current row in the incoming data stream). • SQL Value: the Value attribute contains an SQL expression that, when run on the source database, returns the value. This fragment may include a column from the data source.

Custom Properties

Two attributes of Property are critical to the creation and use of custom properties through the Business Importer:

- IsCustomField=true is required.
- The Type attribute contains the name or description of the custom property. When adding new values to a custom property previously defined, the ComplianceCultureType table is searched for a matching value for the Type attribute (a match then identifies the database storage for the custom property). This search is initially conducted according to the local culture setting on the central application server. If there is no match found in the localized strings for that culture, a search is made using the default culture (en-US). If no match for the Type value is found, the custom property is new, and is automatically created in the compliance database. (For more details about localization tables, see Localization of New Values.)

Note: *An attribute DataType is now deprecated, as custom property values are stored internally as strings in the operations databases.*

Custom properties are only available for the following objects in the compliance database:

- Application

- Asset
- Computer
- Contract
- Purchases (Purchase Order header and lines)
- Software License
- User

For example, suppose that the incoming data stream includes a `WarrantyStartDate` column, intended to be a custom property of an Asset object in the compliance database. There, the custom property is to be called `AssetStartOfWarrantyDate`. Here is an example definition of this property in the XML:

```
<Property
    Name="CustomAssetStartOfWarrantyDate"
    IsCustomField="true"
    Type="AssetStartOfWarrantyDate"
    Update="IfBlank"
    Value="WarrantyStartDate"
    ValueType="Field Value"
    UseForMatching="False" />
```

Log Element

The log element is used to create log files tracing the activity of the Business Importer. This element is available by default for a business adapter running in connected mode on your central application server, and can be manually added for adapters running in disconnected mode on an inventory beacon. When added in disconnected mode (perhaps using the Business Adapter Studio to specify the logging), the log contains only query-to-query information, and naturally excludes any data about server-side database actions.

Example

This example creates a log, using the date, time, and import name for the file name:

```
<Log
    Name ="NewLog"
    Output="file"
    Loglevel="warnings"
    filename="[DATE][TIME][IMPORT NAME].log.txt">
</Log>
```

Contains

No further elements: `<Log />` is an empty XML element, relying entirely on its attributes.

Contained by

`Import`.

Supported attributes

Attribute	Details
`Name`	Mandatory. This is the friendly name of the log element.
`Output`	Mandatory. Sets the destination of the log. Possible values are: • `Console` means send the log output to the console. • `File` means save the log to a file on the disk (see `FileName` attribute).
`Content`	Mandatory. Sets the content of the log. Valid values are: • `Detailed` means information for each object is logged according to the `LogLevel` specified. • `Summary` means a summary for each object is output at the end of the import. • `All` provides a combination of the `Summary` and `Detailed` log.
`FileName`	Optional. Sets the name (and optionally, the path) of the log file. This attribute supports UNC or a relative file path (relative to the directory where the Business Importer is executing). `FileName` can be dynamically created using keywords. Valid keywords are: • `[DATE]` is replaced by the date the import was started (formatted as yyyymmdd). • `[TIME]` is replaced by the time the import was started (formatted as `hhmmss`). • `[IMPORT NAME]` is replaced by the value of the `Name` attribute of the `Import` element containing this `Log`. If `Output="File"` but the `FileName` is not specified, the default is to write the log file in the directory where the Business Importer is executing, with the name `MBI.log.txt`.

Attribute	Details
`LogLevel`	Sets the logging level to control logging output. Enabling logging at a given level, also enables logging at all higher levels. Valid values (organized from highest to lowest) are: • `Silent` • `Critical` • `Errors` • `Warnings` • `Information` • `Debug`.

More detailed tracing (written to the database) is also available for each import: see Detailed Tracing.

3

FlexNet Data Domain Interface (DDI)

The FlexNet DDI is simply a set of standard and predefined business adapters that can be used to import data into the central compliance database of FlexNet Manager Suite. They can also be used as starting points for developing your own custom business adapters. This set of standard adapters is maintained over time by Flexera Software for compatibility with future releases of FlexNet Manager Suite.

Each consists of a sample XML file to configure the adapter, along with a matching CSV file that shows the compatible set of properties for each object.

By populating the sample CSV files with data, you can use these adapters as delivered, or you can customize them to meet specific needs. If you are customizing the adapters, keep copies of the originals and document your changes, since new versions of FlexNet Manager Suite may require additional work to migrate your customizations to the latest versions of the adapters released with FlexNet Manager Suite.

The DDI described in the chapter is for use on the central application server of an on-premises implementation of FlexNet Manager Suite. A similar set (allowing for disconnected operation) is installed automatically on each inventory beacon.

Installation and Set-Up

The details for the DDIs are slightly different in disconnected mode, running on an inventory beacon, and (for on-premises implementations only) running on connected mode on your central application server.

Disconnected mode on an inventory beacon

No installation or set up is required. The DDIs are installed (along with the Business Importer and the Business Adapter Studio) as a default part of the installation of the FlexNet Beacon software on the inventory beacon. The files are stored in the following directories:

Directory	Notes
`C:\ProgramData\Flexera Software\Beacon\DDI`	The adapter XML files for your use or customization

Directory	Notes
`C:\ProgramData\Flexera Software\Beacon\ExampleCSV`	Example CSV files matching the above adapter XML files.

In disconnected mode, you cannot use any SQL statements in your business adapter. The example adapter files in the above folder are for use in disconnected mode on your inventory beacons, and do not support connected mode access to your compliance database.

Connected mode on the application server

Connected mode allows greater flexibility, in that you can include SQL statements in your adapter.

You may wish to install the Business Adapter Studio on your application server, for which see the chapter *Installing a Free-Standing Studio* in the *Installing FlexNet Manager Suite 2017 R2 on Premises* PDF file.

The DDIs are installed by default on your application server. The default location of the DDI files is `C:\ProgramData\Flexera Software\Beacon\Master\DDI`. (If you have a larger implementation with separate servers, this path is on your batch server.)

The DDIs rely on CSV (Comma Separated Values) example files that are installed by default in `C:\ProgramData\Flexera Software\Beacon\ExampleCSV` on the same server. It is good practice to keep these templates unedited, as master copies.

Each DDI addresses a specific object in the central compliance database for FlexNet Manager Suite, and each uses a separate CSV file:

Database object	DDI Name	CSV File
Asset	Asset	`Asset.csv`
Business Unit	BusinessUnit	`BusinessUnit.csv`
Category	Category	`Category.csv`
Contract	Contract	`Contract.csv`
Cost Center	CostCenter	`CostCenter.csv`
License	License	`License.csv`
Location	Location	`Location.csv`
Purchase Order	PurchaseOrder	`PurchaseOrder.csv`
Software License Key	SoftwareLicenseKey	`SoftwareLicenseKey.csv`
Term and Condition (for contracts)	TermAndCondition	`TermAndCondition.csv`
User	User	`User.csv`
Vendor	Vendor	`Vendor.csv`

The Business Importer is also installed by default (its path is shown below as *InstBIDir*). Once in use, the Business Importer creates additional child directories as described below. File and directory names are not case sensitive:

Directory	Notes
InstBIDir	Location of the Business Importer executable (MGSBI.exe). The default value is C:\Program Files (x86)\Flexera Software\Inventory Beacon\DotNet\bin\. ***Tip:*** *The following recommended folders should be created manually for by the Business Importer when run in connected mode on the central application server (or batch server).*
InstBIDir\Log	Location of the log files generated by imports using custom adapters and CSV files.
InstBIDir\Data	Location of the CSV files that are ready to import, after they have been populated with data. As you populate a CSV file with data ready to import, save it into this *InstalledBIDir*\Data directory.
InstBIDir\Templates\DDI	Location of the template DDI files (adaptor XML files). ***Tip:*** *You may create this folder and store unmodified XML adapter files here, if you wish. It is good practice to keep these templates unedited, as master copies. Edited and operational XML files move to the InstBIDir directory, alongside the Business Importer executable (MGSBI.exe).*
InstBIDir\Templates\ ExampleCSV	Location of the matching CSV templates. ***Tip:*** *You may create this folder and copy the example CSV files here manually, if you wish. It is good practice to keep these templates unedited, as master copies. Edited and populated CSV files move to the ..\..\Data directory.*

Using the DDIs

The description of the CSV files for each DDI is provided in the following sections. In each listing, the value(s) marked as **Key** are used for matching incoming data against existing records in the compliance database. In this format, the files are for use on the application server of an on-premises implementation.

Each DDI contains a large number of properties, the most commonly used for each database object. Some properties of the corresponding database objects are not represented. The chapter on documents the full data model available to the Business Importer, including the mapping of each property to the objects and properties

in the compliance database. You can also find more details about the compliance database tables and properties in the separate *FlexNet Manager Suite Schema Reference* PDF file.

Custom properties have not been added to the DDIs.

Each input CSV file must contain, at a minimum, the key properties used for matching objects in the compliance database, and the properties listed as mandatory. All the other properties are optional.

The properties can be set in any order within the input file.

If currencies are used, all amounts in a single CSV import file must be in the same currency, applying the same exchange rate snapshot against the default currency configured in FlexNet Manager Suite.

For handling of dates, see Entering Dates in the CSV Templates.

Keep in mind that the web interface for FlexNet Manager Suite focuses on individual purchases; but the database stores these in purchase order lines, and has separate records for the purchase orders (headers) themselves. If purchase orders are to be imported, the DDIs as supplied assume the standard configuration where FlexNet Manager Suite is configured to automatically calculate the PO totals.

Any DDI can be customized. However, keep in mind that each release of FlexNet Manager Suite republishes the DDIs, with or without changes to suit the new version. For this reason, your customization process should include saving a separate copy of the original template (so that you can check the latest release against your version to identify any factory-made changes); as well as storing a backup copy of your customized DDI that cannot be over-written during a product upgrade. You may then need to restore your customizations into the new version of the product.

Before running any DDI, check the connection string in the corresponding XML file. By default, the connection string is set to run against database called `FNMP` on a local SQL Server. If the DDI is run from a remote machine, or if the database name is not the default, edit the XML files and adjust the values to the local configuration.

You can run any DDI once from the command line, or you can use Windows Scheduler to automate the data import at regular intervals. For details of the command line interface, see Command Line for Business Importer. In summary, to run any DDI, change into the installation directory where the Business Importer executes, and use a command line like the following:

```
MGSBI.exe /ConfigFile=XMLFileName /Import=ImportName
```

For example, to import a CSV file to update the Location enterprise groups:

```
MGSBI.exe /ConfigFile=location.xml /Import=Location
```

Entering Dates in the CSV Templates

In handling imports of CSV files, FlexNet Business Importer uses the default .NET data parsing algorithm. This uses the current culture setting (Regional Settings) for the account running the Business Importer on the application server doing the import to determine acceptable date/tiem formats.

This means that you can enter dates in CSV templates using the normal format in which dates are entered in the FlexNet Manager Suite web interface.

If in doubt, use what .NET calls the `UniversalSortableDateTimePattern`:

```
YYYY-MM-DD
YYYY-MM-DD HH:mm:ssZ
```

Examples:

```
2016-03-28
2017-09-21 11:14:00Z
2018-11-03 23:00:00Z
```

For information only, other formats in U.S. English that are acceptable for .NET and usable for data entry in FlexNet Manager Suite include:

Name	Format / Example
FullDateTimePattern	`dddd, MMMM dd, yyyy h:mm:ss tt` Example: `Monday, May 28, 2017 11:35:00 AM`
LongDatePattern	`dddd, MMMM dd, yyyy h:mm:ss tt` Example: `Monday, May 28, 2017 11:35:00 AM`
RFC1123Pattern	`ddd, dd MMM yyyy HH:mm:ss GMT` Example: `Mon, 28 May 2016 11:35:00 GMT`
ShortDatePattern	`M/d/yyyy` Example: `5/28/2017`
SortableDateTimePattern	`yyyy-MM-ddTHH:mm:ss` Example: `2017-05-28T18:35:00`

Asset CSV

Asset records correspond to a physical asset register. They are separate from the records of inventory devices, just as an asset register is separate from the physical devices it lists. The asset records and inventory device records are linked. (In the following table, long attribute names have been wrapped for publication, but in the CSV files each is one unbroken string.)

Table 1: Spreadsheet columns for `Asset` DDI

Column	Details
`AcquisitionMode`	*Type:* String. Optional. Maximum: 100 The acquisition mode. Standard modes are: • `Purchased` • `Leased` • `Rented` • `Loaned`. If no value is specified for a new asset, no value is set in the database record. For single tenant on-premises implementations, new acquisition modes will be created for non-existing values. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
`AssetName`	*Type:* String. Mandatory. Maximum: 256 The name of the computer or a brief description of the asset.

Column	Details
`AssetStatus`	*Type:* String. Optional. Maximum: 100 The asset's status. Standard values are: • `Purchased` • `In Storage` • `Installed` • `Retired` • `Disposed` • `Other`. If no value is specified for a new asset, the value will set to `Purchased`. For single tenant on-premises implementations, new asset status values not yet in the compliance database but found in the incoming data will be created automatically. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.) ***Tip:*** *Setting the `AssetStatus` to any of `In Storage`, `Retired`, or `Disposed` for import through the Business Importer excludes the device linked to the asset record from license consumption calculations. Setting `AssetStatus` by this method does not:* • *Remove installation records for the linked device* • *Remove individual license allocations for the linked device.* *Those effects rely on the status being changed through the web interface for FlexNet Manager Suite.*
`AssetTag`	*Type:* String. Optional. Maximum: 256 The asset tag that identifies the physical device. This may be something like a barcode number.

Column	Details
AssetType	*Type:* String. Optional. Maximum: 64 The asset type. Standard types are: • Workstation • Server • Monitor • Desk • Chair • Printer • Router • Switch • Telephone • Cell phone • Laptop • Mobile Device. If no value is specified for a new asset, the Workstation value is used. For single tenant on-premises implementations, new asset types are created for incoming non-existing values (so beware of typographical errors): for behavior and presentation, the Workstation template will be applied to these new types. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
AssignToUser	*Type:* String. Optional. Maximum: 128 The employee number of the asset assigned user. The user must exit in the compliance database; if not, the value will be discarded.
BusinessUnit	*Type:* String. Optional. Maximum: 500 (64) The business unit of the asset: the name of the last level or some of the last levels or all levels. Level and sub-levels must be separated by the forward slash [/] character. The maximum size for each level is 64 characters.
Category	*Type:* String. Optional. Maximum: 500 (64) The category of asset: the name of the last level or some of the last levels or all levels. Level and sub-levels must be separated by the forward slash [/] character. The maximum size for each level is 64 characters.
ChargesAmount	*Type:* Float. Optional. Maximum: - Amount to be charged back for the use of this asset.

Column	Details
ChargesFrequency	*Type:* String. Optional. Maximum: 100 The frequency with which the charge back price is charged. Standard values are: • None • Weekly • Monthly • Quarterly • Yearly • Lump Sum. If no value is specified for a new asset, no value is set in the compliance database. For single tenant on-premises implementations, new period descriptions will be created for non-existing values. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
Comments	*Type:* String. Optional. Maximum: 4000 Comments entered about the asset.
ContractNo	*Type:* String. Optional. Maximum: 60 The contract number (foreign key) for any contract attached to the asset.
CostCenter	*Type:* String. Optional. Maximum: 500 (64) The cost center of the asset: the name of the last level or some of the last levels or all levels. Level and sub-levels must be separated by the forward slash [/] character. The maximum size for each level is 64 characters.
CurrencyCode	*Type:* String. Optional. Maximum: 32 The currency code must match an existing currency code in. See the list in Currency Codes.
CurrencyDate	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. Date the exchange rate is valid.
CurrencyRate	*Type:* Float. Optional. Maximum: - The currency exchange rate against the default currency value set in **System Defaults**.

Column	Details
`CurrencySnapshotName`	*Type:* String. Optional. Maximum: 256 The name of the conversion rate snapshot to be applied to currencies in this import, when converted to the default currency. This must be an exact match for an entry in the `SnapshotName` column of the `CurrencyRateSnapshot` table of the compliance database.
`DeliveryDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The delivery date.
`Depreciation CurrentValue`	*Type:* Float. Optional. Maximum: - The current value of the asset.
`DepreciationMethod`	*Type:* String. Optional. Maximum: 100 The depreciation method. Standard values are: • `Straight Line` • `Residual Value`. If no value is specified for a new asset, no value is set in the compliance database. For single tenant on-premises implementations, new depreciation methods will be created for non-existing values. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
`DepreciationPeriod`	*Type:* Integer. Optional. Maximum: - The depreciation period (in years), used only for straight line depreciation.
`DepreciationRate`	*Type:* Float. Optional. Maximum: - The percentage per year that the asset depreciates, expressed as a decimal fraction. For example, 33% p.a. should be represented as `0.33`. This property is used only for residual value depreciation.
`Depreciation ResidualValue`	*Type:* Float. Optional. Maximum: - The residual value of the asset.
`DisposalDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The date the asset was disposed of.
`EndOfLifeRecipient`	*Type:* String. Optional. Maximum: 128 The person or organization who received the asset when it was disposed of.
`InstallationDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The date the asset was installed.

Column	Details
`InventoriedBy Electronic`	*Type:* String. Optional. Maximum: 64 The name of the tool used to perform inventory on the assets. This property is overwritten by inventory imports.
`InventoriedBy Physical`	*Type:* String. Optional. Maximum: 64 The name of the person or tool that performed the last manual inventory.
`InventoryDate Electronic`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The date the asset last had inventory reported through software. This property is overwritten by inventory imports.
`InventoryDatePhysical`	*Type:* Date. Optional. The date the asset last had inventory updated (entered) manually.
`LeaseAgreement`	*Type:* String. Optional. Maximum: 200 The contract name of the lease agreement for this asset. This must be an exact match for a `ContractName` property of an entry in the `Contract` table of the compliance database. (For consistent data, this same contract should have a ContractTypeID of `2`, which represents a lease agreement.)
`LeaseBuyoutCost`	*Type:* Float. Optional. Maximum: - The cost to purchase this asset at the conclusion of the lease agreement. Depending on the agreement, this may be specified as $1 (a 'dollar buyout'), a price specified in the agreement, or the 'fair market value' of the asset at the expiry of the lease.
`LeaseEndDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The date that the current lease on this asset runs out. (For early termination, you may prefer to use `LeaseTerminationDate`.)
`LeaseNo`	*Type:* String. Optional. Maximum: 60 The contract number of the lease agreement for this asset.
`LeasePeriodicPayment`	*Type:* Float. Optional. Maximum: - The value of recurring payments for this individual asset as defined in its lease agreement. This is sometimes called the 'lease rate'.

Column	Details
`LeasePeriodType`	*Type:* String. Optional. Maximum: 1000 The frequency with which recurring payments are made. The value should match a `PeriodTypeDefaultValue` in the `PeriodType` table in the compliance database. Standard values are: • Weekly • Monthly • Quarterly • Yearly • Lump Sum. For single tenant on-premises implementations, new period types will be created for non-existing values. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
`LeasePrice`	*Type:* Float. Optional. Maximum: - You may use this field to record a total liability under a lease agreement, or other purposes as you require. Keep in mind that you have separate fields for: • The regular rental payments for the assets covered by the lease (see `LeasePeriodicPayment`) • A buyout figure to take over ownership of the assets at the expiry or termination of the lease (see `LeaseBuyoutCost`)
`LeaseStartDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The date that the lease on this asset became effective. In general, this is the date from which you may use rented assets, and from which payment schedules are measured.
`LeaseTerminationDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The date that the lease on this asset was terminated. Normally, use this field for early termination of the lease. If a lease expires in the normal course of business, you may prefer to use `LeaseEndDate`.

Column	Details
LeaseTerminationReason	*Type:* String. Optional. Maximum: 100 The reason that the lease for this asset was terminated. Value must be matched in the DefaultValue column of the LeaseEndReason table of the compliance database. Standard values are: • Lease Ended - Asset Returned • Early Termination - Asset Returned • Buyout • Early Buyout • Trade. For single tenant on-premises implementations, lease end reasons will be created for non-existing values. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
Location	*Type:* String. Optional. Maximum: 500 (64) The location of the asset. The value can be specified as a single description level or as levels and sub-levels separated by the forward slash [/] character. The maximum size for each level is 64 characters.
ManufacturerName	*Type:* String. Optional. Maximum: 200 The name of the manufacturer.
ManufacturerPartNo	*Type:* String. Optional. Maximum: 100 The manufacturer's part number.
ModelNo	*Type:* String. Optional. Maximum: 200 The model number.
ResalePrice	*Type:* Float. Optional. Maximum: - The amount the asset was sold for.
RetirementDate	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The date the asset was retired.

Column	Details
`RetirementReason`	*Type:* String. Optional. Maximum: 100 The reason the asset was disposed of. Standard values are: • `Lost` • `Stolen` • `Disposed` • `Sold` • `Donated` • `Broken`. If no value is specified for a new record of an asset, no value is set in the compliance database. For single tenant on-premises implementations, retirement reasons will be created for non-existing values. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
`SerialNo`	*Type:* String. Key. Mandatory. Maximum: 150 The asset's serial number. Used to link to incoming records of inventory devices.
`WarrantyEndDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The warranty expiration date.
`WarrantyType`	*Type:* String. Optional. Maximum: 100 The type of warranty. Standard values are: • `None` • `One Year on site` • `Three years on site`. If no value is specified for a new asset, the value is set to `None`. For single tenant on-premises implementations, new asset warranty types will be created for non-existing values. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
`WrittenOffValue`	*Type:* Float. Optional. Maximum: - The value of the asset at time of retirement/disposal.

Business Unit CSV

The `Business Unit` object is one of four types of enterprise groups in FlexNet Manager Suite: locations, business units, cost centers and categories. Only the name of an enterprise group is exposed in the web interface, but additional properties exist in the database, and can be used in reports and processes.

Table 2: Spreadsheet columns for `Business Unit` DDI

Column	Details
`BusinessUnitName`	*Type:* String. Mandatory. Key. Maximum: 64 The name of the business unit. Levels and sub levels must be separated by the forward slash [/] character. The maximum size is 64 for each level, 500 for the full name of an enterprise group (all level names separated by a [/] character.
`Description`	*Type:* String. Optional. Maximum: 4000 Comments associated with the business unit.

Category CSV

In database terms, the `Category` object is one of four types of enterprise groups in FlexNet Manager Suite: locations, business units, cost centers and categories.

Table 3: Spreadsheet columns for `Category` DDI

Column	Details
`CategoryName`	*Type:* String. Key. Mandatory. Maximum: 64 (500) The name of the category. Levels and sub levels must be separated by the forward slash [/] character. The maximum size is 64 for each level, and 500 for the full path to a category (all level names separated by forward slash [/] characters).
`Description`	*Type:* String. Optional. Maps to the `Comments` column of the `GroupEx` table in the compliance database.

Contract CSV

Contracts may include leases, maintenance agreements, purchase agreements, and the like. Some contracts may control product use rights on software licenses.

Table 4: Spreadsheet columns for `Contract` DDI

Column	Details
`BusinessUnit`	*Type:* String. Optional. Maximum: 500 (64) The business unit of the contract: the name of the last level or some of the last levels or all levels. Level and sub levels must be separated by the forward slash [/] character. The maximum size for each level is 64 characters.
`Category`	*Type:* String. Optional. Maximum: 500 (64) The category given to the contract: the name of the last level or some of the last levels or all levels of categories. Level and sub levels must be separated by the forward slash [/] character. [/] character. The maximum size for each level is 64 characters.
`Comments`	*Type:* String. Optional. Maximum: 4000 Comments recorded about the contract
`ContractDescription`	*Type:* String. Mandatory. Maximum: 100 The contract name, usefully entered to allow easy identification in lists.
`ContractNo`	*Type:* String. Key. Mandatory. Maximum: 60 The contract number or identifying code.
`ContractStatus`	*Type:* String. Optional. Maximum: 100 The status of the contract. Standard status values are: • `Active` • `Archived` • `Draft` • `Suspended` • `Cancelled` • `Expired` • `Completed`. If no value is specified for a new contract, the `Active` value is used. For single tenant on-premises implementations, new status values will be created for non-existing values. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)

Column	Details
ContractType	*Type:* String. Optional. Maximum: 100 The type of the contract. Standard types are: • General • Lease • Hardware Maintenance and Support • Software License • Software Maintenance and Support • Blanket Purchase • Consulting Services • Insurance • Rent • Subscription • Microsoft Business and Services Agreement • Microsoft Select License Agreement • Microsoft Select Plus Agreement • Microsoft Select License Enrollment • Microsoft Select Plus Affiliate • Microsoft Enterprise Agreement • Microsoft Enterprise Subscription Agreement. If no value is specified for a new license, the General value will be used. For single tenant on-premises implementations, new contract type will be created for non-existing values. For appearance and behavior, the General contract template is applied to these licenses. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
CostCenter	*Type:* String. Optional. Maximum: 500 (64) The cost center of the contract: the name of the last level or some of the last levels or all levels. Level and sub levels must be separated by the forward slash [/] character. [/] character. The maximum size for each level is 64 characters.

Column	Details
`CurrencyCode`	*Type:* String. Optional. Maximum: 32 The currency code must match an existing currency code in ECM. See list in Currency Codes.
`CurrencyDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. Date the rate is valid.
`CurrencyRate`	*Type:* Float. Optional. Maximum: - Currency rate against the default currency value set in **System Defaults**.
`CurrencySnapshotName`	*Type:* String. Optional. Maximum: 256 The name identifying the currency snapshot with conversion rates that apply to currency values in this contract record.
`DocumentUNC`	*Type:* String. Optional. Maximum: 4000 UNC path to the contract document.
`DocumentURL`	*Type:* String. Optional. Maximum: 4000 URL to the contract document
`Evergreen`	*Type:* Boolean. Optional. Default: False. Values may be: • Zero (or an empty cell): false, the default. • One (1): true. When this column evaluates to true, the contract never expires.
`ExpiryDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The end date of the contract: if no end date is present, the contract will be set to never expire.
`GlobalAmount`	*Type:* Float. Optional. Maximum: - The overall price of the contract. This may be an upfront payment, or a total value.
`LastRenewedDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The date on which the contract was last renewed.
`Location`	*Type:* String. Optional. Maximum: 500 (64) The location of the contract: the name of the last level or some of the last levels or all levels. Level and sub levels must be separated by the forward slash [/] character. The maximum size for each level is 64 characters.
`ManagerFullName`	*Type:* String. Optional. Maximum: 64 The full name of the manager responsible for the contract. Used to populate the `ComplianceResponsibility` column of the central database.

Column	Details
`MasterContractNo`	*Type:* String. Optional. Maximum: 60 The master contract number that is the master of this contract.
`MonthlyAmount`	*Type:* Float. Optional. Maximum: - The price of any monthly payment associated with the contract.
`NextRenewalDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The date at which the contract is due to be renewed.
`OwnerFullName`	*Type:* String. Optional. Maximum: 64 The owner's full name of the contract.
`ReviewDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The date at which a contract should be reviewed prior to its expiry date. May mark the start of a period when renegotation or renewal is possible.
`SignatoryFullName`	*Type:* String. Optional. Maximum: 64 The signatory's full name of the contract.
`StartDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The start date of the contract.
`VendorName`	*Type:* String. Optional. Maximum: 64 The name of the vendor witch the contract agreement has been made.

Cost Center CSV

The `Cost Center` object is one of four types of enterprise groups in FlexNet Manager Suite: locations, business units, cost centers and categories. Only the name of an enterprise group is exposed in the web interface, but additional properties exist in the database, and can be used in reports and processes.

Table 5: Spreadsheet columns for `Cost Center` DDI

Column	Details
`CostCenterName`	*Type:* String. Key. Maximum: 64 The name of the enterprise group. Levels and sub levels must be separated by the forward slash [/] character. The maximum size is 64 characters for each level, and 500 for the full name of an enterprise group (all level names separated by forward slash [/] characters).
`Description`	*Type:* String. Optional. Maximum: 4000 Comments associated with the cost center.

License CSV

The `License` object is central to software asset management. This is the database object where consumption of entitlements is recorded.

Table 6: Spreadsheet columns for `License` DDI

Column	Details
`BusinessUnit`	*Type:* String. Optional. Maximum: 500 (64) The business unit of the asset: the name of the last level or some of the last levels or all levels. Level and sub-levels must be separated by the forward slash [/] character. The maximum size for each level is 64 characters.
`Category`	*Type:* String. Optional. Maximum: 500 (64) The category of asset: the name of the last level or some of the last levels or all levels. Level and sub-levels must be separated by the forward slash [/] character. The maximum size for each level is 64 characters.
`ChargesAmount`	*Type:* Float. Optional. Maximum: - For interdepartmental charge-backs, this is the amount to be charged for each computer on which applications linked to the license is installed.
`ChargesFrequency`	*Type:* String. Optional. Maximum: 1000 The frequency with which charge-back amounts are accounted for. The value should match a `PeriodTypeDefaultValue` in the `PeriodType` table in the compliance database. Standard values are: • Weekly • Monthly • Quarterly • Yearly • Lump Sum. For single tenant on-premises implementations, new period types will be created for non-existing values. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
`Comments`	*Type:* String. Optional. Maximum: - Comments about the license recorded by an operator. This field may also be used for storing license keys.

Column	Details
ComplianceStatus	*Type:* String. Optional. Maximum: 100 The compliance position of this license. The value should match a StatusDefaultValue in the SoftwareLicenseComplianceStatus table in the compliance database. Standard values are: • Compliant • At Risk • Unknown • Not Tracked. For single tenant on-premises implementations, new compliance status values will be created for non-existing values. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
ContractNo	*Type:* String. Optional. Maximum: 60 The contract number (foreign key) for any contract attached to this license.
CostCenter	*Type:* String. Optional. Maximum: 500 (64) The cost center of the asset: the name of the last level or some of the last levels or all levels. Level and sub-levels must be separated by the forward slash [/] character. The maximum size for each level is 64 characters.
CurrencyCode	*Type:* String. Optional. Maximum: 32 The currency code must match an existing currency code in. See the list in Currency Codes.
CurrencyDate	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. Date the exchange rate is valid.
CurrencyRate	*Type:* Float. Optional. Maximum: - The currency exchange rate against the default currency value set in **System Defaults**.
CurrencySnapshotName	*Type:* String. Optional. Maximum: 256 The name of the conversion rate snapshot to be applied to currencies in this import, when converted to the default currency. This must be an exact match for an entry in the SnapshotName column of the CurrencyRateSnapshot table of the compliance database.
DocumentUNC	*Type:* String. Optional. Maximum: 4000 UNC path to the license contract document. At your discretion, you may use this to link to a copy of the license agreement, or to a contract (such as a purchasing agreement or a support contract) that is relevant to this license.

Column	Details
`DocumentURL`	*Type:* String. Optional. Maximum: 4000 URL to the license contract document. At your discretion, you may use this to link to a copy of the license agreement, or to a contract (such as a purchasing agreement or a support contract) that is relevant to this license. This field accepts a complete URL, including the protocol.
`Duration`	*Type:* String. Optional. Maximum: 100 How long entitlements conveyed by this license persist. The value should match a `DurationDefaultValue` in the `SoftwareLicenseDuration` table in the compliance database. Standard values are: • Perpetual • TimeLimited • Subscription. For single tenant on-premises implementations, new duration values will be created for non-existing values. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
`Edition`	*Type:* String. Optional. Maximum: 60 The edition of the license. Typically kept synchronized with the edition of the application whose use is authorized by the license.
`ExpiryDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The date that rights conveyed by this license expire. Use this for a time-limited license, and perhaps for a subscription license if you so choose (remembering that you will need to maintain the date if the subscription is renewed). Leave this column empty for perpetual licenses.
`ExtraEntitlements`	*Type:* Integer. Optional. Maximum: - The number of entitlements conveyed by this license, apart from the ones recorded in purchases linked to the license. This is the figure displayed in the **Extra entitlements** field on the **Compliance** tab of the license properties.
`LicenseKey`	*Type:* String. Optional. Maximum: 256 The multiple-use license key of the license. Only used when the license key type is a multi-use key (for example, an Enterprise key used to cover multiple installs).
`LicenseName`	*Type:* String. Key. Mandatory. Maximum: 256 Name of the license.

Column	Details
`LicenseStatus`	*Type:* String. Optional. Maximum: 100 The current status of this license in the business lifecycle. The value should match a `DefaultValue` in the `LicenseStatus` table in the compliance database. Standard values are: • Active • Retired • In Stock • Purchased • Received. For single tenant on-premises implementations, new license status values will be created for non-existing values. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)

Column	Details
`LicenseType`	*Type:* String. Optional. Maximum: 100 The kind of license. The value should match a `TypeDefaultValue` in the `SoftwareLicenseType` table in the compliance database. Standard values are: • Enterprise • Device • Node-Locked • User • Concurrent User • Appliance • Client Server • OEM • Evaluation • Run-Time • Device (Processor-Limited) • Site • Named User • Device (Core-Limited) • Core Points • Oracle Processor • Oracle Named User Plus • Processor Points • Oracle Legacy • Enterprise Agreement • SAP Named User • Microsoft Server Processor • CAL • Tiered Device • IBM Processor Value Unit • IBM Authorized User

Column	Details
	• IBM Concurrent User • IBM Floating User • Custom Metric • Processor • IBM Resource Value Unit • IBM User Value Unit • Microsoft Server Core • Oracle User • SAP Package • Microsoft SCCM Client Device • Microsoft SCCM Client User • Microsoft Developer Network. For single tenant on-premises implementations, new license type values will be created for non-existing values. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
`Location`	*Type:* String. Optional. Maximum: 500 (64) The location responsible for this license. The value can be specified as a single description level or as levels and sub-levels separated by the forward slash [/] character. The maximum size for each level is 64 characters.
`OverrideUnitPrice`	*Type:* Float. Optional. Maximum: - The most recent cost-per-entitlement for this license. This figure is used to calculate exposure or savings when there are no purchases linked to the license. It is displayed in the **Override unit price** field on the **Purchases** tab of the license properties.
`PublisherName`	*Type:* String. Optional. Maximum: 64 The publisher who manufactures and distributes the application attached to this license. The value should match a `VendorName` value in the `Vendor` table in the compliance database. Note that the vendor record must exist in the compliance database before you import this license object.
`ResalePrice`	*Type:* Float. Optional. Maximum: - When the license (and the associated software) has been disposed of by reselling to someone else, this field stores the price for which the software assets were sold.

Column	Details
`ResaleRecipient`	*Type:* String. Optional. Maximum: 128 When the license (and the associated software) has been disposed of by reselling to someone else, this field identifies the person or organization who took over the software assets.
`RetirementDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The date that this license was removed from use in your enterprise. Leave this column empty for licenses that are still in use ("active").
`RetirementReason`	*Type:* String. Optional. Maximum: 100 The reason why this license was removed from active use in your enterprise. The value should match a `DefaultValue` in the `EndOfLifeReason` table in the compliance database. Standard values are: • Nothing (leave this column blank) • Lost • Stolen • Disposed • Sold • Donated • Broken. For single tenant on-premises implementations, new retirement reason values will be created for non-existing values. (Not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
`SubjectToTrueUp`	*Type:* Boolean. Optional. Default: False. Set this field to `True` if the license is a true-up license (and so will never be displayed as at risk).
`Version`	*Type:* String. Optional. Key. Maximum: 60 The version of the license. While strictly speaking the version can be left blank, it forms part of a multi-part key to identify existing license records in the database for possible updates. It is therefore recommended that you provide a version in your CSV import.

Location CSV

The `Location` object is one of four types of enterprise groups in FlexNet Manager Suite: locations, business units, cost centers and categories. Only the name of an enterprise group is exposed in the web interface, but additional properties exist in the database, and can be used in reports and processes.

Table 7: Spreadsheet columns for `Location` DDI

Column	Details
`LocationName`	*Type:* String. Key. Mandatory. Maximum: 64 (500) The name of the enterprise group. Levels and sub-levels must be separated by the forward slash [/] character. The maximum size is 64 characters for each level, and 500 for the full name of an enterprise group (all level names separated by forward slash [/] characters).
`Description`	*Type:* String. Optional. Maximum: 4000 Comments associated with the location.

Purchase Order CSV

In the web interface for FlexNet Manager Suite, attention is focused on the individual purchase. If multiple purchases were included within a single purchase order, these are related simply by having the same purchase order number. Similarly, this import mainly focuses on the properties of an individual purchase, with just a few of the properties relating to the enclosing purchase order. Purchase order headers, and purchases (purchase order lines), are stored separately in the compliance database: the import process applies the different data items in this DDI to the appropriate tables.

Table 8: Spreadsheet columns for `Purchase Order` DDI

Column	Details
`BusinessUnit`	*Type:* String. Optional. Maximum: 500 (64) The business unit of the purchase order line: the name of the last level or some of the last levels or all levels. Levels and sub-levels must be separated by the forward slash [/] character. The maximum size for each level is 64 characters.
`Category`	*Type:* String. Optional. Maximum: 500 (64) The category of the purchase order line: the name of the last level or some of the last levels or all levels. Levels and sub-levels must be separated by the forward slash [/] character. The maximum size for each level is 64 characters.
`Comments`	*Type:* String. Optional. Maximum: 4000 Comments entered about the purchase. Intended for general comments: for the details of what was purchased, see `Description`.
`ContractNo`	*Type:* String. Optional. Maximum: 64 The contract number attached to the purchase. This may be a purchasing agreement, a maintenance agreement, and so on.

Column	Details
CostCenter	*Type:* String. Optional. Maximum: 500 (64) The cost center of the purchase order line: the name of the last level or some of the last levels or all levels. Levels and sub-levels must be separated by the forward slash [/] character. The maximum size for each level is 64 characters.
CurrencyCode	*Type:* String. Optional. Maximum: 32 The currency code must match an existing currency code in FlexNet Manager Suite. See the list in Currency Codes.
CurrencyDate	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. Date the exchange rate is valid.
CurrencyRate	*Type:* Float. Optional. Currency exchange rate against the default currency set in **System Defaults** in FlexNet Manager Suite.
CurrencySnapshotName	*Type:* String. Optional. Maximum: 256 The name of the conversion rate snapshot to be applied to currencies in this import, when converted to the default currency. This must be an exact match for an entry in the SnapshotName column of the CurrencyRateSnapshot table of the compliance database.
Description	*Type:* String. Optional. Maximum: 250 What was purchased. Keep this entry precise. General comments can be entered separately under Comments.
DocumentUNC	*Type:* String. Optional. Maximum: 4000 UNC to the purchase order (header) document.
DocumentURL	*Type:* String. Optional. Maximum: 4000 URL to the purchase order (header) document.
InvoiceDate	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The date the item was invoiced.
InvoiceNo	*Type:* String. Optional. Maximum: 50 The invoice number for the purchase order.
Location	*Type:* String. Optional. Maximum: 500 (64) The location owning the purchase: the name of the last level or some of the last levels or all levels. Levels and sub-levels must be separated by the forward slash [/] character. The maximum size for each level is 64 characters.

Column	Details
PartNo	*Type:* String. Optional. Maximum: 100 The part number of the item purchased. For software items, record the SKU number in this column. Providing the manufacturer's SKU (Stock Keeping Unit) number allows for much greater automation, such as automatically applying product use rights to the associated license.
POLineNo	*Type:* Integer. Key. Mandatory. Maximum: - The purchase order line sequence number. This identifies the individual purchase within the purchase order.
PublisherName	*Type:* String. Optional. Maximum: 64 The name of the company producing the software.
PurchaseDate	*Type:* Date. Mandatory. For formats, see Entering Dates in the CSV Templates. The purchase order date.
PurchaseOrderNo	*Type:* String. Key. Mandatory. Maximum: 50 The purchase order number.
PurchaseQuantity	*Type:* Integer. Optional. Maximum: - The quantity of identical items bought together in this purchase (the single purchase order line).

Column	Details
PurchaseType	*Type:* String. Optional. Maximum: 100 The type of purchase: Standard types are: • Not Set • Software • Software Upgrade • Hardware • Services • Other. If no value is specified for a new purchase order line, the Not Set value will be used. ***Tip:*** *In some circumstances, automation treats the Not Set value the same way it treats the Software value.* For single tenant on-premises implementations, new types will be created for non-existing values. However, it is not recommended to create new values, because specific processing actions are tied to each of the existing types. New types added through the Business Importer have no associated processing. (New types are not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
QuantityPerUnit	*Type:* Integer. Optional. Maximum: - The multiplier applied to each unit of PurchaseQuantity. Typically this is 1, so that the total purchased is identical to the PurchaseQuantity; but at other times it may not be. For example, if you purchases 3 license packs (PurchaseQuantity is 3), each of which permitted 5 installations (QuantityPerUnit is 5), the total number of license entitlements from this purchase is 15.
RequestDate	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The date the item was requested.
RequestNo	*Type:* String. Optional. Maximum: 60 The request number for the purchase.
SalesTax	*Type:* Float. Optional. The total sales tax amount for the purchase. Must be entered in the same currency, matching the CurrencyCode setting.

Column	Details
`ShippingAndHandling`	*Type:* Float. Optional. Maximum: - The total shipping and handling cost for the purchase. Must be entered in the same currency, matching the `CurrencyCode` setting.
`ShippingDate`	*Type:* Date. Optional. For formats, see Entering Dates in the CSV Templates. The date the item was shipped.
`Status`	*Type:* String. Optional. Maximum: 100 The current stage of this purchase in the business cycle. Acceptable values are: • `New` • `Pending` • `Completed` • `Cancelled`.
`UnitPrice`	*Type:* Float. Optional. The unit price of the item. Must be entered in the currency matching the `CurrencyCode` setting.
`VendorName`	*Type:* String. Optional. Maximum: 64 The name of the reseller against whom the purchase order was raised.

Software License Key CSV

Some licenses require that you track a key or registration number. Key fields are used for matching the key to the license.

Table 9: Spreadsheet columns for `Software License Key` DDI

Column	Details
`LicenseName`	*Type:* String. Key. Mandatory. Maximum: 256 The name of the license.
`Version`	*Type:* String. Key. Mandatory. Maximum: 60 The version of the license.
`Edition`	*Type:* String. Key. Optional. Maximum: 60 The edition of the license.
`KeyValue`	*Type:* String. Mandatory. Maximum: 400 The value of the license key.

Term and Condition CSV

Terms and conditions are recorded separately in FlexNet Manager Suite, and linked to the contract(s) to which they apply.

Table 10: Spreadsheet columns for `Term and Condition` DDI

Column	Details
`BeginDate`	*Type:* Date . Mandatory. For formats, see Entering Dates in the CSV Templates. The start date for the term or condition.
`Comments`	*Type:* String. Optional. Maximum: 4000 Comments recorded about the term and condition.
`ContractNo`	*Type:* String. Key. Mandatory. Maximum: 60 The contract number.
`Description`	*Type:* String. Key. Mandatory. Maximum: 256 The description of the term and condition.
`DocumentReference`	*Type:* String. Optional. Maximum: 100 A reference to a document or a section of a document for the term or condition.
`EndDate`	*Type:* Date . Mandatory. For formats, see Entering Dates in the CSV Templates. The end date for the term or condition.

Column	Details
`TermAndConditionType`	*Type:* String. Mandatory. Maximum: 256 The type of term and condition. Standard types are: • `Acceptance Period` • `Price Change` • `Cancellation` • `Renewal` • `Expiry` • `Review` • `Limitation` If no value is specified for a new type of term and condition, the `Limitation` value is used. For a single-tenant on-premises implementation, custom types of term and condition are created for non-existing values, so be careful about typographical errors. (Not supported for multi-tenant implementations for managed service providers.)

User CSV

A user is a person linked to a computer who uses the software installed on it. Do not confuse a user with an operator, who is a person registered to use FlexNet Manager Suite interactively.

Table 11: Spreadsheet columns for `User` DDI

Column	Details
`AccountName`	*Type:* String. Mandatory. Maximum: 64 The primary SAM account name for the user.
`Address_City`	*Type:* String. Optional. Maximum: 200 The city of the user.
`Address_Country`	*Type:* String. Optional. Maximum: 100 The country of the user.
`Address_State`	*Type:* String. Optional. Maximum: 200 The state of the user.
`Address_Street`	*Type:* String. Optional. Maximum: 200 The street of the user.

Column	Details
`Address_Zip`	*Type:* String. Optional. Maximum: 20 The zip of the user.
`BusinessUnit`	*Type:* String. Optional. Maximum: 500 (64) The business unit of the user: the name of the last level or some of the last levels or all levels. Level and sub levels must be separated by the forward slash [/] character. The maximum size for each level is 64 characters.
`CostCenter`	*Type:* String. Optional. Maximum: 500 (64) The cost center of the user: the name of the last level or some of the last levels or all levels. Level and sub levels must be separated by the forward slash [/] character. The maximum size for each level is 64 characters.
`DomainName`	*Type:* String. Mandatory. Maximum: 32 The primary domain name (flat name).
`Email`	*Type:* String. Optional. Maximum: 200 The email address of the user
`EmployeeNo`	*Type:* String. Key. Mandatory. Maximum: 128 The employee number of the user.
`EmploymentStatus`	*Type:* String. Optional. Maximum: 256 The employment relationship between this user and the enterprise. Values must match the `DefaultValue` column of the `EmploymentStatus` table in the compliance database. Standard values include: • `Employee` • `Consultant` • `Temporary` • `Part time` • `Casual`. If no value is specified for a new user, the `Employee` value is used. For a single tenant on-premises implementation, custom employment status values are created for non-existing values imported from the data source. (Custom values are not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
`FaxNo`	*Type:* String. Optional. Maximum: 30 The fax number of the user.

Column	Details
`FirstName`	*Type:* String. Optional. Maximum: 128 The first name of the user. If not provided, this value will be extracted from the `FullName` property.
`FullName`	*Type:* String. Optional. Maximum: 64 The full name of the user. If provided, this value will be split during the import into the `FirstName`, `LastName` and `MiddleName` fields. If not provided, it will be built from the values found in `FirstName`, `LastName` and `MiddleName` properties.
`InventorySource`	*Type:* String. Optional. Maximum: 64 If this user is reported in inventory, the name of the person or tool that performed the last inventory.
`JobTitle`	*Type:* String. Optional. Maximum: 128 The job title of the user.
`LastName`	*Type:* String. Optional. Maximum: 128 The last name of the user. If not provided, this value will be extracted from the `FullName` property.
`Location`	*Type:* String. Optional. Maximum: 500 (64) The location of the user: the name of the last level or some of the last levels or all levels. Level and sub levels must be separated by the forward slash `[/]` character. The maximum size for each level is 64 characters.
`ManagerEmployeeNo`	*Type:* String. Optional. Maximum: 128 The manager employee number. The manager must already exist in the database; if not, the value is discarded.
`MiddleName`	*Type:* String. Optional. Maximum: 128 The middle name of the user. If not provided, this value will be extracted from the `FullName` property.
`MobileNo`	*Type:* String. Optional. Maximum: 30 The mobile phone number of the user.
`PhoneNo`	*Type:* String. Optional. Maximum: 30 The business phone number of the user.

Column	Details
`UserStatus`	*Type:* String. Optional. Maximum: 256 The status of the user. Standard values include: • `Active` • `Inactive` • `Retired` • `On Leave` • `Pending`. If no value is specified for a new user, the `Active` value is used. For a single tenant on-premises implementation, custom user status values are created for non-existing values imported from the data source. Users with these custom status values are assumed to be "active" (able to consume licenses) for the purposes of compliance calculations. (Custom values are not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)
`UserSuffix`	*Type:* String. Optional. Maximum: 100 The suffix to the name of the user. Standard suffixes include: • Jr. • Sr. • I • II • III For a single tenant on-premises implementation, custom user suffixes are created for non-existing values imported from the data source. (Custom values are not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)

Column	Details
UserTitle	*Type:* String. Optional. Maximum: 100 The title of the user. Standard titles include: • Mr. • Miss • Mrs. • Ms. • Dr. • Prof. For a single tenant on-premises implementation, custom user titles are created for non-existing values imported from the data source. (Custom values are not supported for multi-tenant implementations for managed service providers, nor for cloud implementations.)

Vendor CSV

The Vendor table is used to store both the publishers of software and the resellers. You may use the same sample CSV file in both cases. Limited information about vendors is available in the web interface for FlexNet Manager Suite, but additional columns are available in the database, and are available for reports and other purposes.

Table 12: Spreadsheet columns for Vendor DDI

Column	Details
Address_City	*Type:* String. Optional. Maximum: 200 The city of the vendor.
Address_Country	*Type:* String. Optional. Maximum: 100 The country of the vendor.
Address_State	*Type:* String. Optional. Maximum: 200 The state of the vendor.
Address_Street	*Type:* String. Optional. Maximum: 200 The street of the vendor.
Address_ZIP	*Type:* String. Optional. Maximum: 20 The zip of the vendor.
Email	*Type:* String. Optional. Maximum: 200 The email address of the vendor.

Column	Details
FaxNo	*Type:* String. Optional. Maximum: 30 The fax number of the vendor.
ParentName	*Type:* String. Optional. Maximum: 64 The name of the vendor's parent. The parent vendor must already exist in the database; if not, the value is discarded.
PhoneNo	*Type:* String. Optional. Maximum: 30 The phone number of the vendor.
VendorName	*Type:* String. Key. Mandatory. Maximum: 64 The name of the vendor.
Web_Site	*Type:* String. Optional. Maximum: 200 The web site of the vendor.

Currency Codes

All monetary amounts within a single import must be entered in the same currency. (They must also be at the same exchange rate between that chosen currency and the base currency, as set within FlexNet Manager Suite.) The chosen currency is identified by one of the following supported currency codes.

Table 13: Supported currency codes

Code	Currency
USD	United States Dollar
ARS	Argentine Peso
AUD	Australian Dollar
BND	Brunei Dollar
BRL	Brazil Real
CAD	Canadian Dollar
CHF	Swiss Franc
CNY	Chinese Yuan
DKK	Danish Krone
EGP	Egyptian Pound
EUR	Euro

Code	Currency
FJD	Fiji Dollar
GBP	British Pound
HKD	Hong Kong Dollar
IDR	Indonesian Rupiah
INR	Indian Rupee
JPY	Japanese Yen
KPW	North Korean Won
KRW	South Korean Won
LKR	Sri Lankan Rupee
MXN	Mexican Peso
MYR	Malaysian Ringgit
NLG	Holland Guilder
NOK	Norwegian Krone
NZD	New Zealand Dollar
PGK	Papua New Guinea Kina
PHP	Philippine Peso
RUB	Russian Rouble
SEK	Swedish Krona
SGD	Singapore Dollar
THB	Thai Baht
TWD	New Taiwanese Dollar
VEB	Venezuelan Bolivar
VND	Vietnam Dong
ZAR	South African Rand

4

Additional Information

This chapter provides additional information about connection strings and working with a variety of file types.

Validating Connection Strings

There are many ways to build and validate connection strings, but here is one of the most popular.

Other than for reading data from directory services, the Business Importer uses OLE-DB connections to read data from external data sources. You can use the following procedure to build and validate an OLE-DB connection string.

To validate a connection string:

1. In your preferred flat text editor, create a new text file (for example, `test.txt` in the `temp` directory).
2. Make sure Windows Explorer does not hide the extension of the file (**Tools > Folder Options > Views**), and rename the text file by changing the `.txt` extension to `.udl` (for example, `test.udl`).
3. Depending on the architecture of your computer:
   - On a Windows 32-bit machine, double-click on the file.
   - On a 64-bit machine, open a Command Window and use the following command line (wrapped for publishing: enter all on one line):

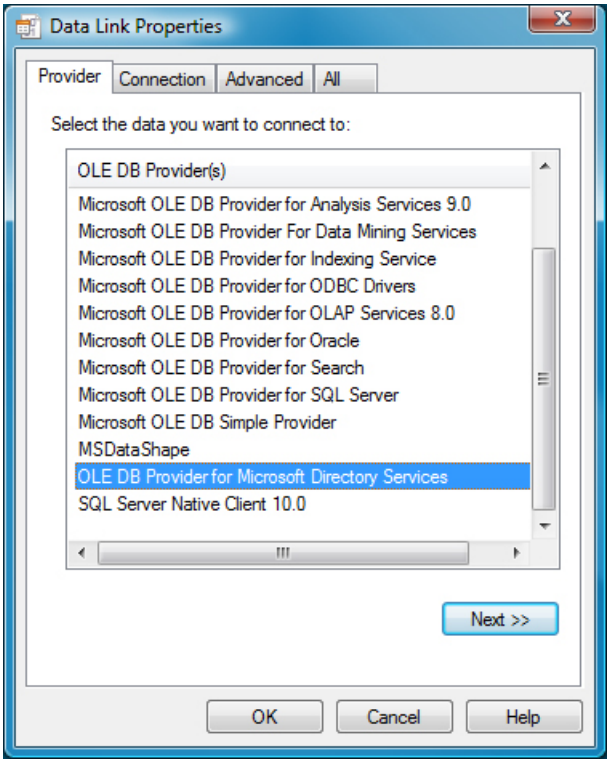
     ```
     C:\Windows\syswow64\rundll32.exe
          "C:\Program Files (x86)\Common Files\System\Ole DB\oledb32.dll",
          OpenDSLFile FilePathAndUDLFileName
     ```

     For example:

     ```
     C:\Windows\syswow64\rundll32.exe
          "C:\Program Files (x86)\Common Files\System\Ole DB\oledb32.dll",
          OpenDSLFile C:\temp\test.udl
     ```

   The **Data Link Properties** dialog is displayed.

4. Ensure the **Provider** tab is selected, and choose the appropriate OLE-DB provider for this connection.



Tip: *There may be several available OLE-DB drivers to connect to an external data source, depending on which providers are installed on your computer. For instance, connection to SQL Server can be accomplished using any of the following drivers:*

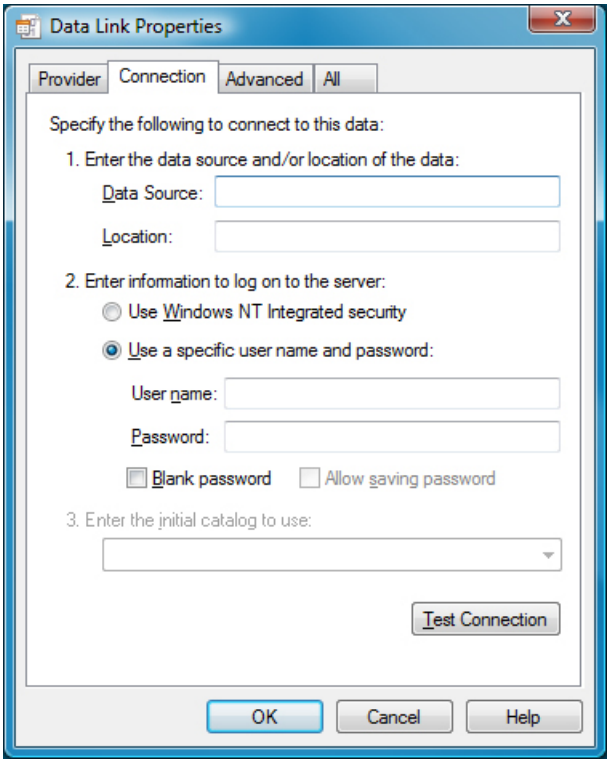
- *Microsoft OLE DB Provider for SQL Server*
- *SQL Server Native Client 10.0*
- *Microsoft OLE DB Provider for ODBC Drivers.*

Notice that in the XML file that configures this connection, the `Type` *attribute of the* `Import` *element must be set to match the provider used. In this instance:*

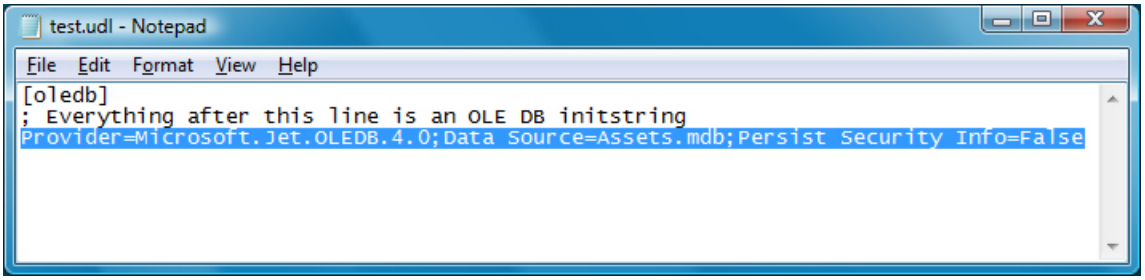
Provider	*Type attribute setting*	*Notes*
Microsoft OLE DB Provider for SQL Server	`SQLServer`	*The provider should be omitted from the connection string.*
Microsoft OLE DB Provider for ODBC Drivers	`ODBC`	*The provider should be included in the connection string.*
SQL Server Native Client 10.0	`OLEDB`	*The provider should be included in the connection string.*

For more about connection strings and the `Type` *attribute of the* `Import` *element, see ConnectionString Attribute.*

5. Select the **Connection** tab, and enter the details for your connection.



6. When satisfied, test for completeness and accuracy by clicking **Test Connection**.
7. When the connection is validated, click **OK** to save the details into your text file.
8. Open the UDL file in your text editor.



9. For `Oracle` or c/ values of the `Import` element's `Type` attribute, remove the provider value.
10. Copy the [remaining] connection string from the text file, and paste it into the XML adapter file for the Business Importer.

Tip: *This method does not expose all the attributes required for every kind of OLE-DB connector. For instance, extended properties for Excel or CSV files are only available in the* ***Advanced*** *tab of the* ***Data Link Properties*** *dialog. See ConnectionString Attribute for more details on the required values for each connection type.*

Working With Excel Files

Connection strings

For details of connection strings to use with different versions of Excel, see ConnectionString Attribute.

Detecting data types

For best results when importing Excel files, you may need to adjust some registry settings on the computer where the Business Importer is executing. This may be necessary because the OLE-DB driver for Excel automatically assigns the format for each column based on a sampling of the first eight rows of the spreadsheet. This may cause problems in scenarios like the following:

- In a particular column, the first eight rows contain numeric values.
- Therefore the OLE-DB driver sets the column type to `numeric`.
- Further down the column, there are string (text) values in other rows.
- When it encounters these, the driver may either discard the string values, or throw a fatal error.

One possible way to solve the problem is to change the number of rows considered by Excel. Of course, this is only reliable if all rows in the spreadsheet are examined; but on very large spreadsheets, this may have performance impacts.

If you wish to modify the number of rows Excel examines to determine the data type, use `regedit` to locate the following registry key:

- For a 32-bit operating system:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Jet\4.0\Engines\Excel
```

- For a 64-bit operating system:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Jet\4.0\Engines\Excel
```

In this key, the value for `TypeGuessRow` defines the number of rows that Excel reads to determine the format of a column. A value of zero causes Excel to read the full worksheet to evaluate column types.

Working with mixed data types

Depending on the quality of the data and different scenarios that can occur, a spreadsheet column can sometimes contain mixed data types (for example, numeric and string). In this case, data should always be considered as string (with numeric values being numbers that are represented as strings). You can control the behavior of the OLE-DB driver in this case by setting the `ImportMixedType` value (in the same registry key listed above) to `Text`.

If you force this behavior, also ensure that, within the connection string defined in the XML adapter file, the extended properties set the value of `IMEX` to `1`:

```
Provider=Microsoft.ACE.OLEDB.12.0;Data Source=FullPathAndFileName;
Extended Properties=Excel 12.0 Xml;HDR=Yes;IMEX=1
```

One further control

For date/time columns in your source spreadsheet, you can use the `Format` attribute of the `Property` element to clarify the data type. This identifies the format of the data column in the source data, improving conversion for storage in the target database.

The last resort

Even with all these parameters and setting and the additional use of the `Format` attribute of the `Property` element, there are still few cases that cannot be handled by the OLE-DB Excel driver. These cases display as either fatal errors, or as data loss of data corruption. In these instances, the use of the text driver is recommended.

Working With CSV Files

Connection strings

For details of connection strings to use with different versions of Excel, see ConnectionString Attribute.

Detecting data types

Any data surrounded by the text delimiter (double quotation marks [“], is interpreted as text. For example, `"42"` is a text string, and not a number.

The OLE-DB driver for Text automatically assigns the data type of each column based on a sampling of 25 rows. This may generate issues in some cases. For example, if the 25 first rows of particular column include only numeric values, the column is now typed as numeric. If string values exist in the 26th row or beyond, either a fatal error will be generated or values will be discarded.

One possible way to solve the problem is to change the number of rows considered by the driver. Of course, this is only reliable if all rows in the CSV file are examined; but on very large files, this may have performance impacts.

To modify the number of rows Excel examines to determine the data type, use `regedit` to locate the following registry key:

- For a 32-bit operating system:

  ```
  HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Jet\4.0\Engines\Text
  ```

- For a 64-bit operating system:

  ```
  HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Jet\4.0\Engines\Text
  ```

In this key, the value for `MaxScanRows` defines the number of rows that the driver reads to determine the data type of a column. A value of zero causes the driver to read the full worksheet to evaluate column types.

Using Schema.ini

Columns names, data types, character set, and data conversions are specified for the Text OLE-DB driver by using a `schema.ini` file. This file contains the definition of the columns for any text file in the current directory and overwrites all other settings.

Microsoft Windows offers an easy way to generate a default `schema.ini` file based on the existing text files in a directory. For details, see Editing a Schema.ini File.

A CSV example

Assume that an `asset.csv` file, located in the `temp` directory, contains the following values:

```
Assetname, AssetSerialNumber, AssetPrice
"First Computer", "SerialNumber1", 1000
"Second Computer", "SerialNumber2", 2000
"Third Computer", "SerialNumber3", 3000
```

The corresponding XML adapter file used to load the assets into the compliance database is as follows:

```
<Import Name="ASSET"
        Type="CSV"
        ConnectionString="Provider=Microsoft.Jet.OLEDB.4.0;
            Data Source=c:\temp;
            Extended Properties='text;HDR=Yes;FMT=CSVDelimited'"
        Query="select * from [asset.csv]">
    <Log Name="NewLog"
        Output="file"
        Loglevel="debug"
        filename="IMPORT_NAME.log.txt"
    </Log>
    <Object Name="asset"
        Type="asset"
        Output="assetoutid"
        Update="True"
        Create="True">
        <Property
            Type="shortdescription"
            Name="Description"
            Value="AssetName"
            ValueType="FieldValue"
            UseForMatching="false">
        </Property>
        <Property
            Type="serialnumber"
            Name="Serial Number"
            Value="AssetSerialNumber"
            ValueType="FieldValue"
            UseForMatching="true">
        </Property>
```

```
        <Property
            Type="purchaseprice"
            Name="Purchase Price"
            Value="AssetPrice"
            ValueType="FixedValue"
            UseForMatching="false">
        </Property>
    </Object>
</Import>
```

Editing a Schema.ini File

A `schema.ini` file defines the columns for a text file, overwriting all other settings.

The OLE-DB driver for a text file looks for a `schema.ini` file in the same directory as the text file to be imported. This can define all aspects of the processing of the text file:

- Column names
- Data types for all columns
- The character set
- Data conversions.

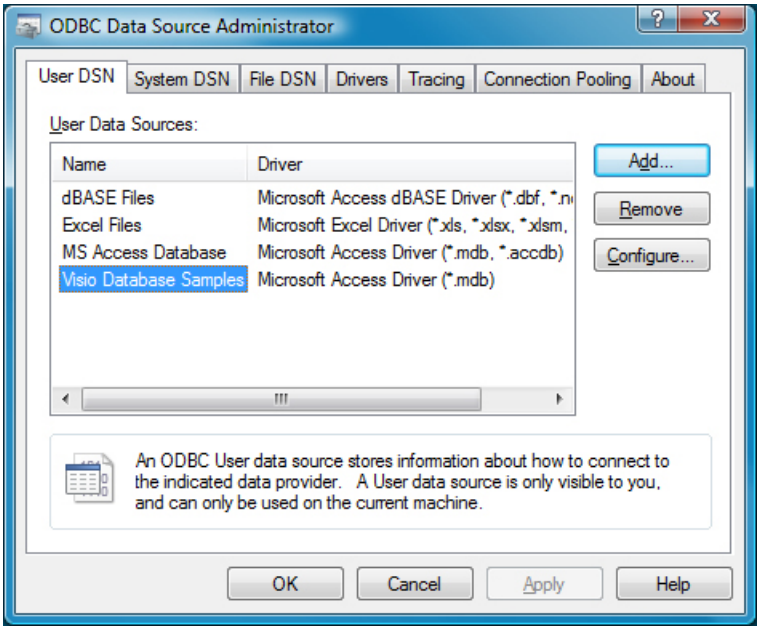
The easiest way to work with a `schema.ini` file is to use the Microsoft Windows facilities to create it, and then edit the file to suit your requirements.

To edit a `schema.ini` file:

1. Depending on your machine architecture:
   - On a 32-bit operating system, open the Control Panel and start ODBC.
   - On a 64-bit operating system, open a Command Window and run:

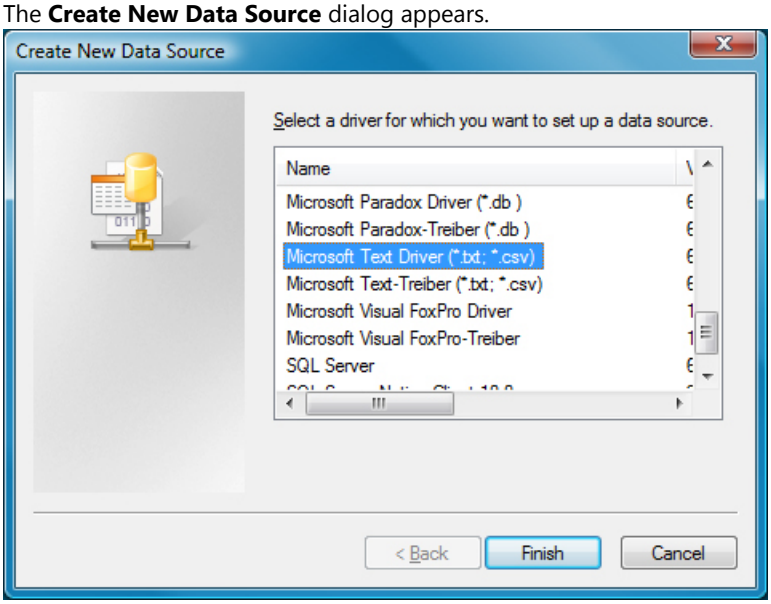
     ```
     C:\Windows\SysWOW64\Odbcad32.exe
     ```

   The **ODBC Data Source Administrator** dialog appears.



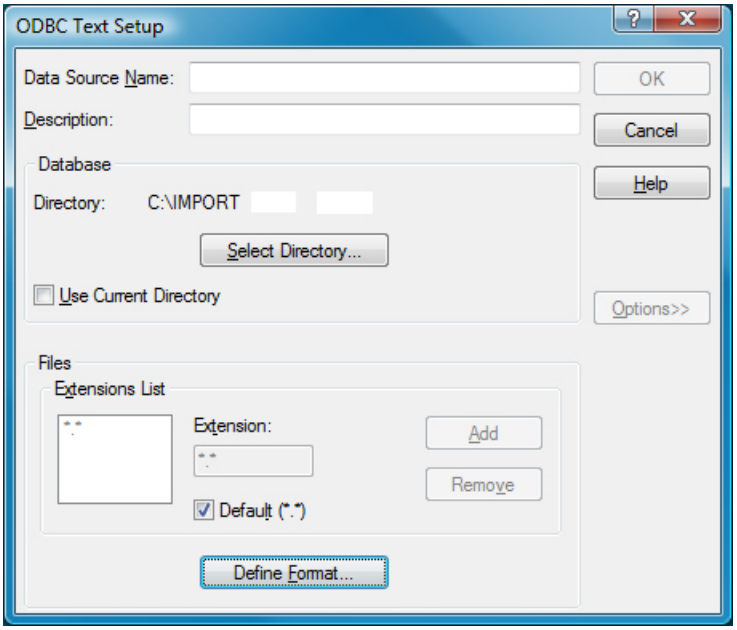
2. Click **Add...**.

   The **Create New Data Source** dialog appears.



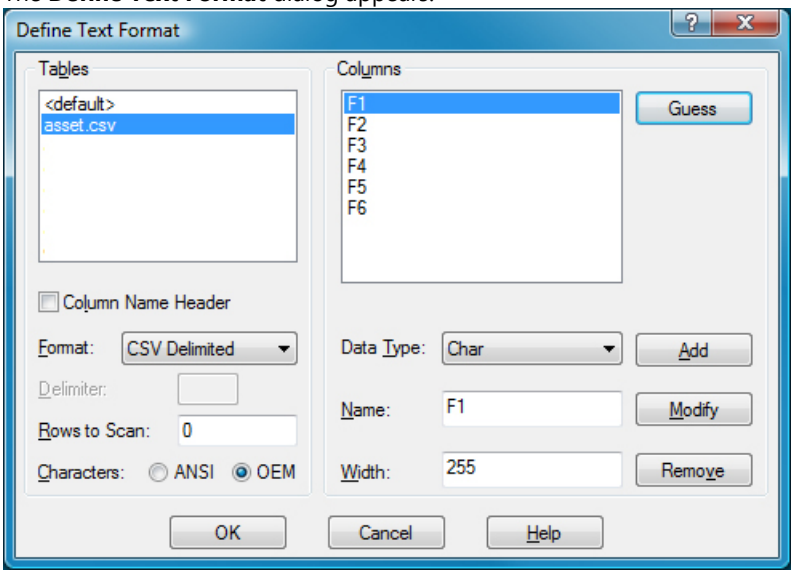
3. Select `Microsoft Text Driver (*.txt; *.csv)`, and click **Finish**.

   The **ODBC Text Setup** dialog appears.



4. Click on the **Select Directory...** button, and select the directory where the text file is stored.
5. Still in the **ODBC Text Setup** dialog, click **Define Format...**.

   The **Define Text Format** dialog appears.



6. If your text file has a column headers in the first line/row, click **Guess**, and the column names appear in the **Columns** list.

   If required, you can modify column names and formats can be performed in this dialog. Select a column name from the list, and edit the attributes below.
7. When satisfied with your column details, click **OK** in the **Define Text Format** dialog.
8. In the last dialog, click **Cancel** to avoid setting up a new data source.

9. In Windows Explorer, check the directory where the text file resides, and you will find a new `schema.ini` file there.
10. Edit and modify the `schema.ini` file using a flat text editor such as Notepad or WordPad.

For more information about configuring a `schema.ini` file, see http://msdn.microsoft.com/en-us/library/ms709353(VS.85).aspx

Working with Directory Services

The Business Importer can import data from directory services, such as Microsoft Active Directory, or Novell eDirectory. However, configuration and settings are quite unlike other drivers.

Credentials

Usually no login and password are needed as the Business Importer runs under an account that has read access to the directory from which data is to be collected. However, if necessary, login, password, and authentication type can be provided within the `ConnectionString` attribute using the following format:

```
Login=value;Password=value;AuthenticationType=value
```

The values for `AuthenticationType` are listed in the following table. Because not all values are supported by all directory services, please check the documentation for your directory service (for example, see https://msdn.microsoft.com/en-us/library/system.directoryservices.authenticationtypes%28v=vs.110%29.aspx).

Authentication Type	Description
`Anonymous`	No authentication is performed.
`Delegation`	Enables Active Directory Services Interface (ADSI) to delegate the user's security context.
`Encryption`	Attaches a cryptographic signature to the message that both identifies the sender and ensures that the message has not been modified in transit.
`FastBind`	Specifies there will be no attempt to query the Active Directory Domain services `objectclass` property.
`ReadOnlyServer`	For a WinNT provider, the Business Importer tries to connect to a domain controller. For Active Directory Domain Services, this flag indicates that a writable server is not required for a serverless binding.
`Sealing`	Encrypt data using Kerberos.
`Secure`	Requests secure authentication. This is the default value.
`SSL SecureSocketLayer`	Attaches a cryptographic signature to the message that both identifies the sender and ensures that the message has not been modified in transit.
`ServerBind`	Used only if `ADsPath` includes a server name.

Authentication Type	Description
Signing	Verifies data integrity to ensure data received is the same as the data sent.
None	Set to use basic authentication.

Query structure

Each query to a directory service is made up of two parts:

- A filter, defined in the `Query` attribute of the `Import` element (see Query Attribute).
- A comma-separated list of properties to read, defined in the `PropertiesToLoad` attribute of the `Import` element (see Import Element.)

In defining the filter in the `Query` attribute, each element must be enclosed in parentheses. Expressions can use the relation operators <, <=, =, >=, >. Examples:

```
(objectClass=user)
(lastName>=Davis)
```

Compound expressions are formed with the prefix operators & and | (logical-AND and logical-OR). Examples:

```
(&(objectClass=user)(lastName= Davis))
(&(objectClass=printer)(|(building=42)(building=43)))
```

Additional parameters

The driver supports numerous additional parameters (`server timeout`, `searchscope`, `sizelimit`, and so on). Usually, there is no need to modify the default values set by the connector.

Important: *When using eDirectory, the `pagesize` attribute must be set to `-1`.*

ADSI example

In this example XML adapter file, users and their associated domains and locations are retrieved from Active Directory:

```
<Import
        Name="ADUser"
        Type="ADSI"
        ConnectionString=""
        Query = "(&amp;(objectCategory=user)(objectClass=person)(mail=*))"
        Properties="distinguishedname,sn,cn,givenname,c,company,
                department,division,displayName,employeeID,EmployeeNumber,
                mail,manager,middleName,mobile,title,telephoneNumber,
                SAMAccountName">
        <Log Name="NewLog"
                Output="file"
                Loglevel="warning"
```

```
        filename="[DATE][TIME][IMPORT NAME].log.txt">
    </Log>

    <Object Name="Location"
        Type="Location"
        Output="locationid1"
        Update="false"
        Create="True">
        <Property Type="groupCN"
            Name="Name"
            Update="No Update"
            Value="distinguishedname"
            ValueType="FieldValue"
            UseForMatching="True"
            Regex="(?&lt;=OU=).*?(?=,)"
            RegexOrder ="reverse">
        </Property>
        <Property Type="groupexid"
            Name="ID"
            Update="No Update"
            Value="locationid1"
            ValueType="FieldValue"
            UseForMatching="true"
            MatchingMask="[value]%."
            MatchingMode ="like"
            UseNullValueForMatching="removeproperty">
        </Property>
    </Object>

    <Object Name="Compliance Domain"
        Type="compliancedomain"
        Output="compliancedomainoutid"
        Update="False"
        Create="True">
        <Property Name="Qualified Name"
            Type="QualifiedName"
            Update="Never"
            Value="distinguishedname"
            ValueType="Field Value"
            UseForMatching="false"
            Regex="(?&lt;=DC=).*"
            RegexReplace=",DC="
            RegexReplaceBy= ".">
        </Property>
        <Property
            Name="Flat Name"
            Type="flatname"
            Update="Never"
```

```
                Value="distinguishedname"
                ValueType="Field Value"
                UseForMatching="true"
                Regex="(?&lt;=DC=.*DC=).*?(?=,DC=)">
        </Property>
</Object>

<Object
        Name="User"
        Type="user"
        Output="useroutid"
        Update="true"
        Create="True">
        <Property Name="User Name"
                Type="username"
                Update="Always"
                Value="cn"
                ValueType="Field Value"
                UseForMatching="False">
        </Property>
        <Property Name="EmployeeNumber"
                Type="employeenumber"
                Update="Always"
                Value="EmployeeNumber"
                ValueType="Field Value"
                UseForMatching="False">
        </Property>
        <Property Name="FirstName"
                Type="firstname"
                Update="Always"
                Value="givenname"
                ValueType="Field Value"
                UseForMatching="False">
        </Property>
        <Property Name="MiddleName"
                Type="middlename"
                Update="Always"
                Value="middleName"
                ValueType="Field Value"
                UseForMatching="False">
        </Property>
        <Property Name="LastName"
                Type="lastname"
                Update="Always"
                Value="sn"
                ValueType="Field Value"
                UseForMatching="False">
        </Property>
```

```
<Property Name="JobTitle"
        Type="jobtitle"
        Update="Always"
        Value="title"
        ValueType="Field Value"
        UseForMatching="False">
</Property>
<Property Name="BusinessPhoneNumber"
        Type="BusinessPhoneNumber"
        Update="Always"
        Value="telephoneNumber"
        ValueType="Field Value"
        UseForMatching="False">
</Property>
<Property Name="MobilePhoneNumber"
        Type="MobilePhoneNumber"
        Update="Always"
        Value="mobile"
        ValueType="Field Value"
        UseForMatching="False">
</Property>
<Property Name="Locationid"
        Type="locationid"
        Update="Always"
        Value="locationid1"
        ValueType="Field Value"
        UseForMatching="False">
</Property>
<Property Name="Email"
        Type="Email"
        Update="Always"
        Value="mail"
        ValueType="Field Value"
        UseForMatching="False">
</Property>
<Property Name="SAMAccountName"
        Type="SAMAccountName"
        Update="Always"
        Value="SAMAccountName"
        ValueType="Field Value"
        UseForMatching="True">
</Property>
<Property Name="ComplianceDomainID"
        Type="ComplianceDomainID"
        Update="Always"
        Value="ComplianceDomainoutID"
        ValueType="Field Value"
        UseForMatching="False">
```

```
                </Property>
        </Object>
</Import>
```

Working With XML Files

Business Importer can import data from XML files that meet the following requirements:

- The XML file must have a single root element (of any name) that contains all the other elements that will be imported.
- All the child elements of the root node must be identical element types.

Here is a simple example:

```
<AssetsToImport>
    <Asset  AssetLocation="Boston"
            AssetName="WKS-00312"
            AssetDeliveryDate="12/05/2007" />
    <Asset  AssetLocation="Los Angelse"
            AssetName="LTP-02321"
            AssetDeliveryDate="04/08/2009" />
</AssetsToImport>
```

Connection to XML files

To specify the connection in the XML adapter file, the only parameters to set are:

- The data source `Type="XML"`
- The connection string, which must contain both the path to and name of the source XML file (see example below).

Example XML adapter file for importing from an XML source

In the XML adapter file, the mapping to compliance database properties uses the names of the XML tags in the source file. For example, using the XML source file example shown above, the XML adapter file contains:

```
<Import Name="Asset"
      Type="XML"
      ConnectionString="C:\Assets.xml">
        <Object Name="Asset"
                Type="asset"
                Output="assetoutid"
                Update="true"
                Create="true">
                <Property Name="Short Description"
                        Type="shortdescription"
                        Update="Never"
```

```
                        Value="AssetName"
                        ValueType="Field Value"
                        UseForMatching="true"/>
                <Property Name="Location"
                        Type="location"
                        Update="Always"
                        Value="AssetLocation"
                        ValueType="Field Value"
                        UseForMatching="False"/>
                <Property Name="Delivery Date
                        "Type="deliverydate"
                        Update="Always"
                        Value="AssetDeliveryDate"
                        ValueType="Field Value"
                        UseForMatching="False"/>
        </Object>
</Import>
```

Working With Web Services

For the Business Importer to collect data from web services, the following items are required:

- The URL of the web service
- The authentication (if any) required to connect to the web service
- The function of the web service to be called or alternatively the SOAP request
- Whether or not header information is required to call the web service
- The name of the XML element within the response that contains the data.

URL and authentication

With the XML adapter file, the URL and authentication are specified in the `ConnectionString` attribute of the `Import` element. The structure is:

```
ConnectionString="Login=MyLogin;Password=MyPassword;URL=http://MyServer/WebService/
MyWebService.asmx"
```

The function call

The function call within the web service is specified in the `Query` attribute of the `Import` element. It can be specified in two ways:

- You can provide the name of the function
- You can provide the full SOAP message.

If just the name of the function is defined, a standard SOAP request is built and forwarded to the web service. For example, if the following function name is specified:

```
Query="GetAllPurchaseOrders"
```

the following SOAP request is built and transmitted:

```
<?xmlversion="1.0"encoding="utf-8"?>
<soap:Envelope
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:xsd="http://www.w3.org/2001/XMLSchema"
        xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
        <soap:Body>
                <GetAllPurchaseOrdersxmlns=\"http://tempuri.org/" />
        </soap:Body>
</soap:Envelope>
```

Alternatively, if the soap request requires different syntax or parameters, the full SOAP request can be specified in the `Query` attribute of the `Import` element. The above SOAP request could be represented in the following way. Note the need to escape various characters in the mark-up as XML entities. This value has been wrapped to show similarity with the example above:

```
Query="&lt;?xml version=&quot;1.0&quot;
        encoding=&quot;utf-8&quot;?&gt;
        &lt;soap12:Envelope
                xmlns:xsi=&quot;http://www.w3.org/2001/XMLSchema-instance&quot;
                xmlns:xsd=&quot;http://www.w3.org/2001/XMLSchema&quot;
                xmlns:soap12=&quot;http://www.w3.org/2003/05/soap-envelope&quot;&gt;
                &lt;soap12:Body&gt;
                        &lt;GetAllPurchaseOrders xmlns=&quot;http://tempuri.org/&quot;
/&gt;
                &lt;/soap12:Body&gt;
&lt;/soap12:Envelope&gt;"
```

Supplying header information

If header information is required by the web service, use the `SOAPHeaderValues` attribute of the `Import` element to specify the header information. For example:

```
SOAPHeaderValues="SOAPAction:=http://MyServer/WebService/GetAllPurchaseOrders"
```

Decoding the reply

When a response is received from the web service, it includes the full SOAP message made up of multiple XML elements. The Business Importer does not know which of these many elements contains the required data. There are three approaches to solving this dilemma:

- The `SOAPElement` attribute of the `Import` element lets you specify the name of the element containing the required data.

- If `SOAPElement` is not specified, the Business Importer looks for an element with a name concatenating the function name with the string `Result` (in the example above, this produces `GetAllPurchaseOrderResult`).

  Tip: *This relies on the Query attribute being used for just the function name rather than the full SOAP request.*

- If these approaches are unsuccessful, the Business Importer falls back to using the content of the `Body` XML element of the response.

If you would like to specify the `SOAPElement` containing the returned data but do not know its name, the Business Importer with the following command line switches:

```
/testdb=ImportName /log=debug
```

These options write the full SOAP answer to the log, where you can analyze it and identify the load-bearing element, plugging its name back into your XM adapter before the next run.

Customizing the Asset-Device Linkage

Within FlexNet Manager Suite, certain asset types (such as workstations, servers, and other kinds of computer) are normally linked to records of inventory devices (computers). This link brings together software and hardware inventory and the details you record for your asset register.

To support this practice, the normal behavior of the Business Importer when creating new asset records of the appropriate type is to perform a search for existing inventory devices that are available (in this case, 'available' means that the records have not been marked as ignored, and the records are not already attached to another asset). The search compares the asset's serial number against the serial numbers recorded for inventory devices. If the serial number of the new asset record matches the serial number of an available inventory device, the link between them is automatically created. (This check is also performed by FlexNet Manager Suite when new inventory device records are created. This means you can create new asset records as the machines are procured, and once inventory is received from a device with a matching serial number, the link is again created automatically. However, this topic is concerned with behavior when adding an asset record while the inventory device record already exists.)

There may be some circumstances where you want to disable this behavior, or replace it with different behavior. You can achieve this using the `CustomComputerMatching` attribute of the `Object` element in the XML adapter file.

`CustomComputerMatching` supports the following values:

Value	Description
`CustomComputerMatching=""`	(Empty). The default behavior described above is executed using the inbuilt logic.
`CustomComputerMatching=" "`	(Spaces). The inbuilt logic is disabled, and no links to existing inventory devices are created during this import.
`CustomComputerMatching="SQL-Value"`	The placeholder is replaced either with the name of a stored procedure or with a SQL statement to be executed against the compliance database during the import.

If you are using the third option, the following literal keywords can be included in your SQL, and are replaced by the values shown during the import:

Keyword	Replaced by
`[TemporaryTableName]`	The name of the temporary or physical table that the Business Importer uses for the import.
`[OutputField]`	The name of the field containing the `assetid` values for existing or new asset records created.
`[ImportID]`	The ID of the record in the `ECMImportLog_Import` table that is reporting the import.
`[ImportObjectID]`	The ID of the record n the `ECMImportLog_Object` table that is reporting on the specific object within the import.

When you are creating specific SQL logic, you can retrieve the list of newly created AssetID values with the following query:

```
Select [OutputField] from [TemporaryTableName] where created =1
```

It is also possible for the SQL statement or procedure to return the number of inventory devices affected by the import. This number is then logged in the `ECMImportLog_Object` table.

Here is a sample extract of an XML adapter file calling a stored procedure:

```
<Import Name="Asset"
        Type="CSV"
        ConnectionString="Provider=Microsoft.Jet.OLEDB.4.0;
                Data Source=c:\temp;
                Extended Properties='text;HDR=Yes;FMT=CSVDelimited'"
        AccountIsEncrypted="False"
        Query="select * from [asset.csv]">
        <Object Name="Asset"
                Type="asset"
                Output="assetoutid"
                Update="true"
                Create="true"
                CustomComputerMatching="exec MyProcedure [TemporaryTableName],
[OutputField]">
                …
                …
        </Object>
</Import>
```

5

The FlexNet Business Importer Data Model

This chapter documents the data model supported by the Business Importer (and therefore the Business Adapter Studio).

The data model is embodied in an XML file called `FNMPDataModel.ini`, which is automatically synchronized between the central application server and all inventory beacons. The one `.ini` file covers the data model for several different releases of FlexNet Manager Suite. The version documented in this chapter is always the most recent version. To validate the behaviors and settings for earlier supported versions, please compare this chapter with the appropriate model from the `FNMPDataModel.ini` file.

The Asset Object

This item maps to the `Asset` object in the FlexNet Manager Suite compliance database. It supports the addition of custom properties through the Business Importer.

Properties

The `Asset` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 14: Data model properties for `Asset` object (alphabetical listing)

Property	Details
`Acquisition Mode`	*Type:* `nvarchar`. Maximum: 100. Values of `Acquisition Mode` must match those stored in the `AcquisitionMode` table of the compliance database.

Property	Details
`Asset Name`	*Type:* `nvarchar`. Maximum: 256. Mandatory: adapters must provide values for this column. Maps to `Asset.ShortDescription` in the compliance database.
`Asset Status`	*Type:* `nvarchar`. Maximum: 100. Values of `Asset Status` must match those stored in the `AssetStatus` table of the compliance database.
`Asset Tag`	*Type:* `nvarchar`. Maximum: 256. Maps to `Asset.AssetTag` in the compliance database.
`Asset Type`	*Type:* `nvarchar`. Maximum: 64. Values of `Asset Type` must match those stored in the `AssetType` table of the compliance database.
`Assigned To User ID`	*Type:* `int`. Stores the `AssignToUserID` as a foreign key to the `user` table in the compliance database.
`Category ID`	*Type:* `varchar`. Maximum: 128. Stores the `categoryID` as a foreign key to the `category` table in the compliance database.
`Charges Amount`	*Type:* `float`. Maps to `Asset.ChargeBackPrice` in the compliance database.
`Charges Amount Currency Rate ID`	*Type:* `int`. Stores the `ChargeBackPriceRateID` as a foreign key to the `currencyrate` table in the compliance database.
`Charges Frequency`	*Type:* `nvarchar`. Maximum: 100. Values of `Charges Frequency` must match those stored in the `PeriodType` table of the compliance database.
`Comments`	*Type:* `ntext`. Maps to `Asset.Comments` in the compliance database.
`Corporate Unit ID`	*Type:* `varchar`. Maximum: 128. Stores the `businessunitID` as a foreign key to the `CorporateUnit` table in the compliance database.
`Cost Center ID`	*Type:* `varchar`. Maximum: 128. Stores the `costcenterID` as a foreign key to the `costcenter` table in the compliance database.

Property	Details
`Delivery Date`	*Type:* `datetime`. Maps to `Asset.DeliveryDate` in the compliance database.
`Depreciation Current Value`	*Type:* `float`. Maps to `Asset.DepreciationCurrentValue` in the compliance database.
`Depreciation Current Value Currency Rate ID`	*Type:* `int`. Stores the `DepreciationCurrentValueRateID` as a foreign key to the `currencyrate` table in the compliance database.
`Depreciation Method`	*Type:* `nvarchar`. Maximum: 100. Values of `Depreciation Method` must match those stored in the `DepreciationMethod` table of the compliance database.
`Depreciation Period (Years)`	*Type:* `int`. Maps to `Asset.DepreciationPeriod` in the compliance database.
`Depreciation Rate (0-1)`	*Type:* `decimal`. Maps to `Asset.DepreciationRate` in the compliance database.
`Depreciation Residual Value`	*Type:* `float`. Maps to `Asset.DepreciationResidualValue` in the compliance database.
`Depreciation Residual Value Currency Rate ID`	*Type:* `int`. Stores the `DepreciationResidualValueRateID` as a foreign key to the `currencyrate` table in the compliance database.
`Disposal Date`	*Type:* `datetime`. Maps to `Asset.DisposalDate` in the compliance database.
`End of Life Recipient`	*Type:* `nvarchar`. Maximum: 128. Maps to `Asset.EndOfLifeRecipient` in the compliance database.
`Installed On`	*Type:* `datetime`. Maps to `Asset.InstallationDate` in the compliance database.
`Inventoried By Electronic`	*Type:* `nvarchar`. Maximum: 64. Maps to `Asset.InventoryAgent` in the compliance database.
`Inventoried By Physical`	*Type:* `nvarchar`. Maximum: 64. Maps to `Asset.InventoryAgentManual` in the compliance database.

Property	Details
Inventory Date Electronic	*Type:* smalldatetime. Maps to Asset.InventoryDate in the compliance database.
Inventory Date Physical	*Type:* datetime. Maps to Asset.InventoryDateManual in the compliance database.
Lease Agreement	*Type:* nvarchar. Maximum: 200. Maps to Asset.LeaseName in the compliance database.
Lease Buyout Cost	*Type:* money. Maps to Asset.LeaseBuyoutCost in the compliance database.
Lease Buyout Cost Currency Rate ID	*Type:* int. Stores the LeaseBuyoutCostRateID as a foreign key to the currencyrate table in the compliance database.
Lease End Date	*Type:* datetime. Maps to Asset.LeaseEndDate in the compliance database.
Lease Number	*Type:* nvarchar. Maximum: 120. Maps to Asset.LeaseNo in the compliance database.
Lease Periodic Payment	*Type:* money. Maps to Asset.LeasePeriodicPayment in the compliance database.
Lease Periodic Payment Currency Rate ID	*Type:* int. Stores the LeasePeriodicPaymentRateID as a foreign key to the currencyrate table in the compliance database.
Lease Price	*Type:* money. Maps to Asset.LeasePrice in the compliance database.
Lease Price Currency Rate ID	*Type:* int. Stores the LeasePriceRateID as a foreign key to the currencyrate table in the compliance database.
Lease Start Date	*Type:* datetime. Maps to Asset.LeaseStartDate in the compliance database.
Lease Termination Date	*Type:* datetime. Maps to Asset.LeaseTerminationDate in the compliance database.

Property	Details
Lease Termination Reason	*Type:* nvarchar. Maximum: 100. Values of Lease Termination Reason must match those stored in the LeaseEndReason table of the compliance database.
Lease period type	*Type:* nvarchar. Maximum: 100. Values of Lease period type must match those stored in the PeriodType table of the compliance database.
Location ID	*Type:* varchar. Maximum: 128. Stores the locationID as a foreign key to the location table in the compliance database.
Manufacturer	*Type:* nvarchar. Maximum: 100. Maps to Asset.Manufacturer in the compliance database.
Manufacturer Part No	*Type:* nvarchar. Maximum: 100. Maps to Asset.ManufacturerPartNo in the compliance database.
Model No	*Type:* nvarchar. Maximum: 200. Maps to Asset.ModelNo in the compliance database.
Parent Asset ID	*Type:* int. Stores the ParentAssetID as a foreign key to the asset table in the compliance database.
Resale Price	*Type:* float. Maps to Asset.ResalePrice in the compliance database.
Resale Price Currency Rate ID	*Type:* int. Stores the ResalePriceRateID as a foreign key to the currencyrate table in the compliance database.
Retirement Date	*Type:* datetime. Maps to Asset.RetirementDate in the compliance database.
Retirement Reason	*Type:* varchar. Maximum: 100. Values of Retirement Reason must match those stored in the EndOfLifeReason table of the compliance database.
Serial Number	*Type:* nvarchar. Maximum: 150. Maps to Asset.SerialNumber in the compliance database.
Warranty End Date	*Type:* datetime. Maps to Asset.WarrantyExpirationDate in the compliance database.

Property	Details
Warranty Type	*Type:* nvarchar. Maximum: 100. Values of Warranty Type must match those stored in the AssetWarrantyType table of the compliance database.
Written Off Value	*Type:* float. Maps to Asset.WrittenOffValue in the compliance database.
Written Off Value Currency Rate ID	*Type:* int. Stores the WrittenOffValueRateID as a foreign key to the currencyrate table in the compliance database.

Data model version 12.2

The Category Object

This item maps to the Category object in the FlexNet Manager Suite compliance database.

Database interaction

If an incoming Category is not matched by an existing record in the compliance database, a new record is created there.

If an incoming Category matches an existing record in the compliance database, details are updated (as allowed for individual properties described below).

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the Category appears in the Enterprise Groups group in the right-click context menu.

Within the Business Adapter Studio, the default name suggested for the Output attribute of this Category object is Category_ID.

Properties

The Category object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 15: Data model properties for Category object (alphabetical listing)

Property	Details
Address - City	*Type:* varchar. Maximum: 200. Maps to Category.address_city in the compliance database.

Property	Details
`Address - Country`	*Type:* `varchar`. Maximum: 100. Maps to `Category.address_country` in the compliance database.
`Address - State`	*Type:* `varchar`. Maximum: 200. Maps to `Category.address_state` in the compliance database.
`Address - Street`	*Type:* `varchar`. Maximum: 200. Maps to `Category.address_street` in the compliance database.
`Address - Zip`	*Type:* `varchar`. Maximum: 20. Maps to `Category.address_zip` in the compliance database.
`Business Phone Number`	*Type:* `varchar`. Maximum: 30. Maps to `Category.businessphonenumber` in the compliance database.
`Description`	*Type:* `ntext`. Maps to `Category.comments` in the compliance database.
`Email Address`	*Type:* `varchar`. Maximum: 200. Maps to `Category.email` in the compliance database.
`Fax Number`	*Type:* `varchar`. Maximum: 30. Maps to `Category.faxphonenumber` in the compliance database.
`ID`	*Type:* `int`. For the `ID` property, the Business Adapter Studio offers a list of the output field names from previous objects in the adapter. Maps to `Category.groupexid` in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. In the Business Adapter Studio, SQL-like expressions for pattern matching (contained in the `MatchingMask` attribute of the adapter's XML file) are supported for this property. An exception is the case when the incoming `ID` is null. In these cases, the property is excluded from the matching process, which then relies on other properties of the `Category` object. However, updates to the stored value of `Category.groupexid` are not permitted.

Property	Details
Name	*Type:* varchar. Maximum: 128. Mandatory: adapters must provide values for this column. Individual groups in the path through the enterprise group hierarchy are separated with the / character. Maps to Category.groupcn in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of Category.groupcn are not permitted.

Data model version 12.2

The Computer Object

This item maps to the computer object in the FlexNet Manager Suite compliance database. It supports the addition of custom properties through the Business Importer.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the Computer appears in the Computer group in the right-click context menu.

Properties

The Computer object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 16: Data model properties for Computer object (alphabetical listing)

Property	Details
Asset ID	*Type:* int. Stores the AssetID as a foreign key to the Asset table in the compliance database.
Assigned Chassis Type	*Type:* nvarchar. Maximum: 1000. Values of Assigned Chassis Type must match those stored in the ComputerChassisType table of the compliance database.
Assigned User ID	Stores the AssignedUserID as a foreign key to the User table in the compliance database.

Property	Details
Calculated User ID	Stores the CalculatedUserID as a foreign key to the User table in the compliance database.
Category ID	*Type:* varchar. Maximum: 128. Stores the categoryID as a foreign key to the category table in the compliance database.
Chassis Number	*Type:* nvarchar. Maximum: 128. Maps to computer.HostIdentifyingNumber in the compliance database.
Chassis Type	*Type:* nvarchar. Maximum: 1000. Values of Chassis Type must match those stored in the ComputerChassisType table of the compliance database.
Clock Speed (MHz)	*Type:* int. Maps to computer.MaxClockSpeed in the compliance database.
Compliance Status	Values of Compliance Status must match those stored in the AssetComplianceStatus table of the compliance database.
Computer Name	*Type:* nvarchar. Maximum: 256. Maps to computer.computername in the compliance database.
Computer Type	*Type:* nvarchar. Maximum: 1000. Values of Computer Type must match those stored in the ComplianceComputerType table of the compliance database.
Corporate Unit ID	*Type:* varchar. Maximum: 128. Stores the businessunitID as a foreign key to the CorporateUnit table in the compliance database.
Cost Center ID	*Type:* varchar. Maximum: 128. Stores the costcenterID as a foreign key to the costcenter table in the compliance database.
Disk Space (byte)	*Type:* int. Maps to computer.TotalDiskSpace in the compliance database.
Domain ID	*Type:* int. Stores the ComplianceDomainID as a foreign key to the ComplianceDomain table in the compliance database.
Email Address	*Type:* nvarchar. Maximum: 512. Maps to computer.EmailAddress in the compliance database.

Property	Details
IMEI	*Type:* nvarchar. Maximum: 512. Maps to computer.IMEI in the compliance database.
IP Address	*Type:* nvarchar. Maximum: 256. Maps to computer.IPAddress in the compliance database.
Inventory Date	*Type:* datetime. Maps to computer.InventoryDate in the compliance database.
Inventory Source	*Type:* nvarchar. Maximum: 64. Maps to computer.InventoryAgent in the compliance database.
Inventory Source Type	*Type:* nvarchar. Maximum: 1000. Values of Inventory Source Type must match those stored in the ComplianceComputerInventorySourceType table of the compliance database.
Last Logged On User ID	Stores the ComplianceUserID as a foreign key to the User table in the compliance database.
Location ID	*Type:* varchar. Maximum: 128. Stores the locationID as a foreign key to the location table in the compliance database.
MAC Address	*Type:* nvarchar. Maximum: 256. Maps to computer.MACAddress in the compliance database.
Manufacturer	*Type:* nvarchar. Maximum: 128. Maps to computer.Manufacturer in the compliance database.
Model Number	*Type:* nvarchar. Maximum: 128. Maps to computer.ModelNo in the compliance database.
Number Of Cores	*Type:* int. Maps to computer.NumberOfCores in the compliance database.
Number Of Sockets	*Type:* int. Maps to computer.NumberOfSockets in the compliance database.
Number Of Threads	*Type:* int. Maps to computer.NumberOfLogicalProcessors in the compliance database.

Property	Details
`Number of Hard Drives`	*Type:* `int`. Maps to `computer.NumberOfHardDrives` in the compliance database.
`Number of Network Cards`	*Type:* `int`. Maps to `computer.NumberOfNetworkCards` in the compliance database.
`Number of Processors`	*Type:* `int`. Maps to `computer.NumberOfProcessors` in the compliance database.
`Number op Display Adapters`	*Type:* `int`. Maps to `computer.NumberOfDisplayAdapters` in the compliance database.
`Operating System`	*Type:* `nvarchar`. Maximum: 128. Maps to `computer.OperatingSystem` in the compliance database.
`Partial Number Of Processors`	*Type:* `float`. Maps to `computer.PartialNumberOfProcessors` in the compliance database.
`Phone Number`	*Type:* `nvarchar`. Maximum: 256. Maps to `computer.PhoneNo` in the compliance database.
`Processor Type`	*Type:* `nvarchar`. Maximum: 256. Maps to `computer.ProcessorType` in the compliance database.
`RAM (byte)`	*Type:* `int`. Maps to `computer.TotalMemory` in the compliance database.
`Role`	*Type:* `nvarchar`. Maximum: 1000. Values of `Role` must match those stored in the `ComplianceComputerRole` table of the compliance database.
`Serial Number`	*Type:* `nvarchar`. Maximum: 100. Maps to `computer.SerialNo` in the compliance database.
`Service Pack`	*Type:* `nvarchar`. Maximum: 128. Maps to `computer.ServicePack` in the compliance database.
`Status`	*Type:* `nvarchar`. Maximum: 1000. Values of `Status` must match those stored in the `ComplianceComputerStatus` table of the compliance database.

Data model version 12.2

The Computer Connection Object

This item maps to the `compliancecomputerconnection` object in the FlexNet Manager Suite compliance database.

Database interaction

Note: *If an incoming `Computer Connection` is not matched by an existing record in the compliance database, the incoming record is rejected. Creation of new records is not allowed for `Computer Connection` objects.*

Note: *If an incoming `Computer Connection` matches an existing record in the compliance database, the incoming details are ignored. Updating existing records is not allowed for `Computer Connection` objects.*

Behavior in the Business Adapter Studio

Tip: *The Computer Connection object is not available within the Business Adapter Studio.*

When you create new objects in the Business Adapter Studio, the `Computer Connection` appears in the `Computer` group in the right-click context menu.

Properties

The `Computer Connection` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 17: Data model properties for `Computer Connection` object (alphabetical listing)

Property	Details
`Connection Name`	*Type:* `varchar`. Maximum: 64. Lists the current values of `connectionname` extracted from the compliance database using the following SQL query: `select ConnectionName as Value from ComplianceConnection order by ConnectionName`
`External ID`	*Type:* `int`. Maps to `compliancecomputerconnection.Externalid` in the compliance database.

Data model version 12.2

The Contract Object

This item maps to the Contract object in the FlexNet Manager Suite compliance database. It supports the addition of custom properties through the Business Importer.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the Contract appears in the Contract group in the right-click context menu.

Properties

The Contract object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 18: Data model properties for Contract object (alphabetical listing)

Property	Details
Category ID	*Type:* varchar. Maximum: 128. Stores the categoryID as a foreign key to the category table in the compliance database.
Comments	*Type:* ntext. Maps to Contract.Comments in the compliance database.
Contract Description	*Type:* nvarchar. Maximum: 100. Mandatory: adapters must provide values for this column. Maps to Contract.ContractName in the compliance database.
Contract No	*Type:* nvarchar. Maximum: 60. Mandatory: adapters must provide values for this column. Maps to Contract.ContractNo in the compliance database.
Contract Status	*Type:* nvarchar. Maximum: 1000. Values of Contract Status must match those stored in the ContractStatus table of the compliance database.
Contract Type	*Type:* nvarchar. Maximum: 1000. Values of Contract Type must match those stored in the ContractType table of the compliance database.
Corporate Unit ID	*Type:* varchar. Maximum: 128. Stores the businessunitID as a foreign key to the CorporateUnit table in the compliance database.

Property	Details
Cost Center ID	*Type:* varchar. Maximum: 128. Stores the costcenterID as a foreign key to the costcenter table in the compliance database.
Evergreen	*Type:* bit. Maps to Contract.NeverExpires in the compliance database.
Expiry Date	*Type:* datetime. Maps to Contract.EndDate in the compliance database.
Global Amount	*Type:* money. Maps to Contract.TotalValue in the compliance database.
Global Amount Currency Rate ID	*Type:* int. Stores the TotalValueRateID as a foreign key to the currencyrate table in the compliance database.
Last Renewed Date	*Type:* datetime. Maps to Contract.LastRenewedDate in the compliance database.
Location ID	*Type:* varchar. Maximum: 128. Stores the locationID as a foreign key to the location table in the compliance database.
Master Contract ID	*Type:* int. Stores the MasterContractID as a foreign key to the Contract table in the compliance database.
Monthly Amount	*Type:* money. Maps to Contract.MonthlyValue in the compliance database.
Monthly Amount Currency Rate ID	*Type:* int. Stores the MonthlyValueRateID as a foreign key to the currencyrate table in the compliance database.
Next Renewal Date	*Type:* datetime. Maps to Contract.RenewalDate in the compliance database.
Previous Contract ID	*Type:* int. Stores the PreviousContractID as a foreign key to the Contract table in the compliance database.
Review Date	*Type:* datetime. Maps to Contract.PreExpiryDate in the compliance database.

Property	Details
`Start Date`	*Type:* `datetime`. Maps to `Contract.StartDate` in the compliance database.
`Vendor ID`	*Type:* `int`. Stores the `VendorID` as a foreign key to the `Vendor` table in the compliance database.

Data model version 12.2

The Contract Responsibility Object

This item maps to the `ComplianceResponsibility` object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Contract Responsibility` appears in the `Contract` group in the right-click context menu.

Properties

The `Contract Responsibility` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 19: Data model properties for `Contract Responsibility` object (alphabetical listing)

Property	Details
`Comments`	*Type:* `ntext`. Maps to `ComplianceResponsibility.Comment` in the compliance database.
`Contract ID`	Mandatory: adapters must provide values for this column. Stores the `contractid` as a foreign key to the `Contract` table in the compliance database.
`Responsibility`	*Type:* `nvarchar`. Maximum: 1000. Mandatory: adapters must provide values for this column. Values of `Responsibility` must match those stored in the `ResponsibilityType` table of the compliance database.
`User ID`	*Type:* `int`. Mandatory: adapters must provide values for this column. Stores the `complianceuserid` as a foreign key to the `User` table in the compliance database.

Data model version 12.2

The Corporate Unit Object

This item maps to the `CorporateUnit` object in the FlexNet Manager Suite compliance database.

Database interaction

If an incoming `Corporate Unit` is not matched by an existing record in the compliance database, a new record is created there.

If an incoming `Corporate Unit` matches an existing record in the compliance database, details are updated (as allowed for individual properties described below).

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Corporate Unit` appears in the `Enterprise Groups` group in the right-click context menu.

Properties

The `Corporate Unit` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 20: Data model properties for `Corporate Unit` object (alphabetical listing)

Property	Details
`Address - City`	*Type:* `varchar`. Maximum: 200. Maps to `CorporateUnit.address_city` in the compliance database.
`Address - Country`	*Type:* `varchar`. Maximum: 100. Maps to `CorporateUnit.address_country` in the compliance database.
`Address - State`	*Type:* `varchar`. Maximum: 200. Maps to `CorporateUnit.address_state` in the compliance database.
`Address - Street`	*Type:* `varchar`. Maximum: 200. Maps to `CorporateUnit.address_street` in the compliance database.
`Address - Zip`	*Type:* `varchar`. Maximum: 20. Maps to `CorporateUnit.address_zip` in the compliance database.
`Business Phone Number`	*Type:* `varchar`. Maximum: 30. Maps to `CorporateUnit.businessphonenumber` in the compliance database.
`Description`	*Type:* `ntext`. Maps to `CorporateUnit.comments` in the compliance database.

Property	Details
`Email Address`	*Type:* `varchar`. Maximum: 200. Maps to `CorporateUnit.email` in the compliance database.
`Fax Number`	*Type:* `varchar`. Maximum: 30. Maps to `CorporateUnit.faxphonenumber` in the compliance database.
`ID`	*Type:* `int`. For the `ID` property, the Business Adapter Studio offers a list of the output field names from previous objects in the adapter. Maps to `CorporateUnit.groupexid` in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. In the Business Adapter Studio, SQL-like expressions for pattern matching (contained in the `MatchingMask` attribute of the adapter's XML file) are supported for this property. An exception is the case when the incoming `ID` is null. In these cases, the property is excluded from the matching process, which then relies on other properties of the `Corporate Unit` object. However, updates to the stored value of `CorporateUnit.groupexid` are not permitted.
`Name`	*Type:* `varchar`. Maximum: 128. Mandatory: adapters must provide values for this column. Individual groups in the path through the enterprise group hierarchy are separated with the `/` character. Maps to `CorporateUnit.groupcn` in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of `CorporateUnit.groupcn` are not permitted.

Data model version 12.2

The Cost Center Object

This item maps to the `CostCenter` object in the FlexNet Manager Suite compliance database.

Database interaction

If an incoming `Cost Center` is not matched by an existing record in the compliance database, a new record is created there.

If an incoming `Cost Center` matches an existing record in the compliance database, details are updated (as allowed for individual properties described below).

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Cost Center` appears in the `Enterprise Groups` group in the right-click context menu.

Within the Business Adapter Studio, the default name suggested for the `Output` attribute of this `Cost Center` object is `CostCenter_ID`.

Properties

The `Cost Center` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 21: Data model properties for `Cost Center` object (alphabetical listing)

Property	Details
`Address - City`	*Type:* `varchar`. Maximum: 200. Maps to `CostCenter.address_city` in the compliance database.
`Address - Country`	*Type:* `varchar`. Maximum: 100. Maps to `CostCenter.address_country` in the compliance database.
`Address - State`	*Type:* `varchar`. Maximum: 200. Maps to `CostCenter.address_state` in the compliance database.
`Address - Street`	*Type:* `varchar`. Maximum: 200. Maps to `CostCenter.address_street` in the compliance database.
`Address - Zip`	*Type:* `varchar`. Maximum: 20. Maps to `CostCenter.address_zip` in the compliance database.
`Business Phone Number`	*Type:* `varchar`. Maximum: 30. Maps to `CostCenter.businessphonenumber` in the compliance database.

Property	Details
`Description`	*Type:* `ntext`. Maps to `CostCenter.comments` in the compliance database.
`Email Address`	*Type:* `varchar`. Maximum: 200. Maps to `CostCenter.email` in the compliance database.
`Fax Number`	*Type:* `varchar`. Maximum: 30. Maps to `CostCenter.faxphonenumber` in the compliance database.
`ID`	*Type:* `int`. For the `ID` property, the Business Adapter Studio offers a list of the output field names from previous objects in the adapter. Maps to `CostCenter.groupexid` in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. In the Business Adapter Studio, SQL-like expressions for pattern matching (contained in the `MatchingMask` attribute of the adapter's XML file) are supported for this property. An exception is the case when the incoming `ID` is null. In these cases, the property is excluded from the matching process, which then relies on other properties of the `Cost Center` object. However, updates to the stored value of `CostCenter.groupexid` are not permitted.
`Name`	*Type:* `varchar`. Maximum: 128. Mandatory: adapters must provide values for this column. Individual groups in the path through the enterprise group hierarchy are separated with the `/` character. Maps to `CostCenter.groupcn` in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of `CostCenter.groupcn` are not permitted.

Data model version 12.2

The Currency Object

This item maps to the `currency` object in the FlexNet Manager Suite compliance database.

Database interaction

Note: *If an incoming `Currency` is not matched by an existing record in the compliance database, the incoming record is rejected. Creation of new records is not allowed for `Currency` objects.*

Note: *If an incoming `Currency` matches an existing record in the compliance database, the incoming details are ignored. Updating existing records is not allowed for `Currency` objects.*

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Currency` appears in the `Miscellaneous` group in the right-click context menu.

Properties

The `Currency` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 22: Data model properties for `Currency` object (alphabetical listing)

Property	Details
`Currency Code`	*Type:* `nvarchar`. Maximum: 32. Mandatory: adapters must provide values for this column. Values of `Currency Code` must match those stored in the `CurrencyCode` table of the compliance database.

Data model version 12.2

The Currency Rate Object

This item maps to the `currencyrate` object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Currency Rate` appears in the `Miscellaneous` group in the right-click context menu.

Properties

The `Currency Rate` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 23: Data model properties for `Currency Rate` object (alphabetical listing)

Property	Details
`Currency ID`	Mandatory: adapters must provide values for this column. Stores the `currencyid` as a foreign key to the `currency` table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there.
`Exchange Rate`	*Type:* `float`. Mandatory: adapters must provide values for this column. Maps to `currencyrate.rate` in the compliance database.
`Snapshot ID`	Mandatory: adapters must provide values for this column. Stores the `snapshotid` as a foreign key to the `currencyratesnapshot` table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there.

Data model version 12.2

The Currency Snapshot Object

This item maps to the `currencyratesnapshot` object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Currency Snapshot` appears in the `Miscellaneous` group in the right-click context menu.

Properties

The `Currency Snapshot` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 24: Data model properties for `Currency Snapshot` object (alphabetical listing)

Property	Details
`Reference Currency ID`	In the Business Adapter Studio, the default value offered for `Reference Currency ID` is the current value of `DefaultCurrencyID` in the compliance database. Stores the `snapshotreferencecurrencyid` as a foreign key to the `currency` table in the compliance database.
`Snapshot Date`	*Type:* `datetime`. Mandatory: adapters must provide values for this column. Maps to `currencyratesnapshot.snapshotdate` in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. Null values are included in the matching process, so that only corresponding records with a null or empty value for this property are matched.
`Snapshot Name`	Mandatory: adapters must provide values for this column. Maps to `currencyratesnapshot.snapshotname` in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there.

Data model version 12.2

The Custom Query Object

The custom query object maps to the `Query` object in the compliance database, and does not contain any properties in this data model.

Data model version 12.2

The Document Object

This item maps to the `document` object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Document` appears in the `Miscellaneous` group in the right-click context menu.

Properties

The Document object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 25: Data model properties for Document object (alphabetical listing)

Property	Details
Asset ID	*Type:* int. Stores the AssetID as a foreign key to the asset table in the compliance database.
Attached By	*Type:* nvarchar. Maximum: 256. Maps to document.UserName in the compliance database.
Contract ID	*Type:* int. Stores the contractid as a foreign key to the contract table in the compliance database.
Description	*Type:* nvarchar. Maximum: 3000. Maps to document.DocumentDescription in the compliance database.
Document Reference/Path	*Type:* nvarchar. Maximum: 500. Mandatory: adapters must provide values for this column. Maps to document.documentname in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there.
Document Type ID	*Type:* int. Mandatory: adapters must provide values for this column. Maps to document.documenttypeid in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there.
License ID	*Type:* int. Stores the softwarelicenseid as a foreign key to the License table in the compliance database.
Purchase Order ID	*Type:* int. Stores the purchaseorderid as a foreign key to the purchaseorder table in the compliance database.
User ID	*Type:* int. Stores the complianceuserid as a foreign key to the User table in the compliance database.

Data model version 12.2

The Domain Object

This item maps to the `compliancedomain` object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Domain` appears in the `Miscellaneous` group in the right-click context menu.

Properties

The `Domain` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 26: Data model properties for `Domain` object (alphabetical listing)

Property	Details
`Flat Name`	Mandatory: adapters must provide values for this column. In the Business Adapter Studio, the default regular expression to extract the `Flat Name` from the incoming data is `(?<=DC=.*DC=).*?(?=,DC=)` Maps to `compliancedomain.flatname` in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there.

`Qualified Name`	Mandatory: adapters must provide values for this column.
	In the Business Adapter Studio, `Qualified Name` offers a default regular expression of
	`(?<=DC=).*`
	replacing incoming strings of
	`,DC=`
	with
	`.`
	Maps to `compliancedomain.QualifiedName` in the compliance database.
	However, updates to the stored value of `compliancedomain.QualifiedName` are not permitted.

Data model version 12.2

The License Object

This item maps to the `License` object in the FlexNet Manager Suite compliance database. It supports the addition of custom properties through the Business Importer.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `License` appears in the `License` group in the right-click context menu.

Properties

The `License` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 27: Data model properties for `License` object (alphabetical listing)

Property	Details
`Access Granted to Users or Usage Consumes Entitlements`	*Type:* `bit`. Maps to `License.allowexternalroaminguse` in the compliance database.
`Additional External Users`	*Type:* `int`. Maps to `License.additionalbulkusersexternal` in the compliance database.
`Additional Infrequent Users`	*Type:* `int`. Maps to `License.additionalbulkusersinfrequent` in the compliance database.
`Additional Normal Users`	*Type:* `int`. Maps to `License.additionalbulkusersregular` in the compliance database.
`Allocations Consume License Entitlements`	*Type:* `bit`. Maps to `License.AlwaysInstalled` in the compliance database.
`Allow Sub-Capacity Licensing for Points outside ILMT`	*Type:* `bit`. Maps to `License.allowibmpvusubcapacityfromnonilmt` in the compliance database.
`Apply Special Virtualization Rights`	*Type:* `bit`. Maps to `License.CoverInstallsOnVirtualMachines` in the compliance database.

Property	Details
Apply User Limit Per Processor Core	*Type:* bit. Maps to License.minimumnumberofusersmultipliedbyprocessors in the compliance database.
Calculate Compliance	*Type:* bit. Maps to License.calculatecompliance in the compliance database.
Category ID	*Type:* varchar. Maximum: 128. Stores the categoryID as a foreign key to the category table in the compliance database.
Charges Amount	*Type:* float. Maps to License.ChargeBackPrice in the compliance database.
Charges Amount Currency Rate ID	*Type:* int. Stores the ChargeBackPriceRateID as a foreign key to the currencyrate table in the compliance database.
Charges Frequency	*Type:* nvarchar. Maximum: 1000. Values of Charges Frequency must match those stored in the PeriodType table of the compliance database.
Comments	*Type:* ntext. Maps to License.Comments in the compliance database.
Compliance Status	*Type:* nvarchar. Maximum: 1000. Values of Compliance Status must match those stored in the SoftwareLicenseComplianceStatus table of the compliance database.
Copy Version and Edition from Most Recent Application	*Type:* bit. Maps to License.copyeditionandversion in the compliance database.
Cores Limit	*Type:* int. Maps to License.numberofcores in the compliance database.
Corporate Unit ID	*Type:* varchar. Maximum: 128. Stores the businessunitID as a foreign key to the CorporateUnit table in the compliance database.
Cost Center ID	*Type:* varchar. Maximum: 128. Stores the costcenterID as a foreign key to the costcenter table in the compliance database.

Property	Details
`Count Includes Installations on Host OS`	*Type:* `bit`. Maps to `License.limitvirtualinstallsincludeshost` in the compliance database.
`Duration`	*Type:* `nvarchar`. Maximum: 1000. Values of `Duration` must match those stored in the `SoftwareLicenseDuration` table of the compliance database.
`Edition`	*Type:* `nvarchar`. Maximum: 60. Maps to `License.Edition` in the compliance database.
`Eligible for use with Cloud Service Providers`	*Type:* `bit`. Maps to `License.licensemobilityapplies` in the compliance database.
`Expiry Date`	*Type:* `datetime`. Maps to `License.ExpiryDate` in the compliance database.
`External User Multiplier`	*Type:* `float`. Maps to `License.usermultiplierexternal` in the compliance database.
`Extra Entitlements`	*Type:* `int`. Maps to `License.NumberPurchased` in the compliance database.
`Group Allocation Compliance Level`	*Type:* `int`. Maps to `License.groupallocationcompliancelevel` in the compliance database.
`Infrequent User Multiplier`	*Type:* `float`. Maps to `License.usermultiplierinfrequent` in the compliance database.
`License Key`	*Type:* `nvarchar`. Maximum: 256. Maps to `License.LicenseKey` in the compliance database.
`License Keys Rule`	*Type:* `nvarchar`. Maximum: 1000. Values of `License Keys Rule` must match those stored in the `SoftwareLicenseKeyType` table of the compliance database.
`License Status`	*Type:* `nvarchar`. Maximum: 1000. Values of `License Status` must match those stored in the `LicenseStatus` table of the compliance database.
`License Type`	*Type:* `nvarchar`. Maximum: 1000. Values of `License Type` must match those stored in the `SoftwareLicenseType` table of the compliance database.

Property	Details
License VMs Using Host Processor Information	*Type:* bit. Maps to License.usehostprocessorinformation in the compliance database.
Location ID	*Type:* varchar. Maximum: 128. Stores the locationID as a foreign key to the location table in the compliance database.
Manage Linked Applications Automatically	*Type:* bit. Maps to License.automanagetitles in the compliance database.
Manager ID	*Type:* int. Stores the ManagerID as a foreign key to the user table in the compliance database.
Maximum Installations for a User	*Type:* int. Maps to License.numberofcomputersallowedperuserlicensepoint in the compliance database.
Maximum Installations on a Device	*Type:* int. Maps to License.numberofapplicationinstallsallowedperlicensepoint in the compliance database.
Maximum Sockets	*Type:* int. Maps to License.numberofsockets in the compliance database.
Maximum VMs Per License	*Type:* int. Maps to License.NumberOfAllowedVirtualInstalls in the compliance database.
Maximum Virtual Cores Per Instance	*Type:* int. Maps to License.totalnumberofcorespervmperlicense in the compliance database.
Maximum Virtual Processors Per License	*Type:* int. Maps to License.numberofprocessorsperose in the compliance database.
Minimum Core Licenses Per VM	*Type:* int. Maps to License.minimumnumberoflicensespervm in the compliance database.

Property	Details
Minimum Days before Reassignment	*Type:* int. Maps to License.reassignmenttimelimit in the compliance database.
Minimum Processors	*Type:* int. Maps to License.minimumnumberofprocessors in the compliance database.
Minimum Users	*Type:* int. Maps to License.minimumnumberofusers in the compliance database.
Name	*Type:* nvarchar. Maximum: 256. Mandatory: adapters must provide values for this column. Maps to License.Name in the compliance database.
Number Of Processors Per License Consumed	*Type:* int. Maps to License.NumberOfAllowedProcessorsPerHost in the compliance database.
Number of Cores Per Socket License	*Type:* int. Maps to License.numberofcorespersocket in the compliance database.
One Entitlement Allows User to Access Number of Installations	*Type:* bit. Maps to License.limitnumberofcomputersuserlicensecanbeinstalledon in the compliance database.
One Entitlement Covers Number of Installations on a Device	*Type:* bit. Maps to License.limitnumberofapplicationseachlicensepointcovers in the compliance database.
One Licensed Host Covers Multiple VMs	*Type:* bit. Maps to License.LimitNumberOfVirtualInstalls in the compliance database.
Override Unit Price	*Type:* float. Maps to License.PurchasePrice in the compliance database.
Override Unit Price Currency Rate ID	*Type:* int. Stores the PurchasePriceRateID as a foreign key to the currencyrate table in the compliance database.
PVU Entitlement Limit	*Type:* int. Maps to License.pvulimit in the compliance database.

Property	Details
PVU Limit Applies	*Type:* bit. Maps to License.pvulimitapplies in the compliance database.
Peak Consumed Count	*Type:* int. Maps to License.peakconsumed in the compliance database.
Processors Limit	*Type:* int. Maps to License.numberofprocessors in the compliance database.
Publisher ID	*Type:* int. Stores the PublisherID as a foreign key to the vendor table in the compliance database.
Resale Price	*Type:* float. Maps to License.ResalePrice in the compliance database.
Resale Price Currency Rate ID	*Type:* int. Stores the ResalePriceRateID as a foreign key to the currencyrate table in the compliance database.
Resale Recipient	*Type:* nvarchar. Maximum: 128. Maps to License.EndOfLifeRecipient in the compliance database.
Resources Consumed	*Type:* int. Maps to License.resourceunitsconsumed in the compliance database.
Retirement Date	*Type:* datetime. Maps to License.RetirementDate in the compliance database.
Retirement Reason	*Type:* varchar. Maximum: 1000. Values of Retirement Reason must match those stored in the EndOfLifeReason table of the compliance database.
Second Use At Home	*Type:* bit. Maps to License.SecondUsageAtHome in the compliance database.
Second Use On Work Laptop	*Type:* bit. Maps to License.SecondUsageWorkLaptop in the compliance database.
Subject To True Up	*Type:* bit. Maps to License.TrueUp in the compliance database.
Third Party Users may use Linked Applications	*Type:* bit. Maps to License.thirdpartyaccessallowed in the compliance database.

Property	Details
`Time Limit Applies before License Reassignment`	*Type:* `bit`. Maps to `License.reassignmenttimelimitapplies` in the compliance database.
`Usage Time Limit In Days`	*Type:* `int`. Maps to `License.virtualapplicationaccessmaximumusageperiod` in the compliance database.
`Version`	*Type:* `nvarchar`. Maximum: 60. Mandatory: adapters must provide values for this column. Maps to `License.Version` in the compliance database.

Data model version 12.2

The Link Contract - Asset Object

This item maps to the `contractasset` object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Link Contract - Asset` appears in the `Relationships` group in the right-click context menu.

Properties

The `Link Contract - Asset` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 28: Data model properties for `Link Contract - Asset` object (alphabetical listing)

Property	Details
`Asset ID`	Stores the `assetid` as a foreign key to the `Asset` table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of `contractasset.assetid` are not permitted.

Property	Details
Contract ID	Stores the contractid as a foreign key to the Contract table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of contractasset.contractid are not permitted.

Data model version 12.2

The Link Contract - License Object

This item maps to the contractlicense object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the Link Contract - License appears in the Relationships group in the right-click context menu.

Properties

The Link Contract - License object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 29: Data model properties for Link Contract - License object (alphabetical listing)

Property	Details
Contract ID	Stores the contractid as a foreign key to the Contract table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of contractlicense.contractid are not permitted.
License ID	Stores the softwarelicenseid as a foreign key to the License table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of contractlicense.softwarelicenseid are not permitted.

Data model version 12.2

The Link Operator - Role Object

This item maps to the `ComplianceOperatorRole` object in the FlexNet Manager Suite compliance database.

Database interaction

Note: *If an incoming `Link Operator - Role` matches an existing record in the compliance database, the incoming details are ignored. Updating existing records is not allowed for `Link Operator - Role` objects.*

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Link Operator - Role` appears in the `Operator` group in the right-click context menu.

Properties

The `Link Operator - Role` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 30: Data model properties for `Link Operator - Role` object (alphabetical listing)

Property	Details
`Operator ID`	Stores the `targetid` as a foreign key to the `ComplianceOperator` table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of `ComplianceOperatorRole.targetid` are not permitted.
`Role`	*Type:* `nvarchar`. Maximum: 64. Values of `Role` must match those stored in the `ComplianceRole` table of the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of `ComplianceOperatorRole.compliancerole` are not permitted.

Data model version 12.2

The Link Payment Schedule - Asset Object

This item maps to the `paymentscheduleasset` object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Link Payment Schedule - Asset` appears in the `Payment Schedule` group in the right-click context menu.

Properties

The `Link Payment Schedule - Asset` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 31: Data model properties for `Link Payment Schedule - Asset` object (alphabetical listing)

Property	Details
`Asset ID`	Stores the `assetid` as a foreign key to the `asset` table in the compliance database. However, updates to the stored value of `paymentscheduleasset.assetid` are not permitted.
`Contract ID`	Stores the `contractid` as a foreign key to the `contract` table in the compliance database. However, updates to the stored value of `paymentscheduleasset.contractid` are not permitted.
`Coverage End Date`	*Type:* `datetime`. Maps to `paymentscheduleasset.ActiveEndDate` in the compliance database.
`Coverage Start Date`	*Type:* `datetime`. Maps to `paymentscheduleasset.ActiveStartDate` in the compliance database.
`Payment Schedule ID`	*Type:* `int`. Stores the `PaymentScheduleID` as a foreign key to the `PaymentSchedule` table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of `paymentscheduleasset.PaymentScheduleID` are not permitted.

Data model version 12.2

The Link Payment Schedule - License Object

This item maps to the `paymentschedulelicense` object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Link Payment Schedule - License` appears in the `Payment Schedule` group in the right-click context menu.

Properties

The `Link Payment Schedule - License` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 32: Data model properties for `Link Payment Schedule - License` object (alphabetical listing)

Property	Details
`Contract ID`	Stores the `contractid` as a foreign key to the `contract` table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of `paymentschedulelicense.contractid` are not permitted.
`License ID`	Stores the `softwarelicenseid` as a foreign key to the `License` table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of `paymentschedulelicense.softwarelicenseid` are not permitted.
`Payment Schedule ID`	*Type:* `int`. Stores the `PaymentScheduleID` as a foreign key to the `PaymentSchedule` table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of `paymentschedulelicense.PaymentScheduleID` are not permitted.

Data model version 12.2

The Link Purchase Order Line - Asset Object

This item maps to the `purchaseorderlineasset` object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Link Purchase Order Line - Asset` appears in the `Relationships` group in the right-click context menu.

Properties

The `Link Purchase Order Line - Asset` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 33: Data model properties for `Link Purchase Order Line - Asset` object (alphabetical listing)

Property	Details
`Asset ID`	Stores the `assetid` as a foreign key to the `Asset` table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of `purchaseorderlineasset.assetid` are not permitted.
`Purchase Order Line ID`	Stores the `purchaseorderdetailid` as a foreign key to the `PurchaseOrderLine` table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of `purchaseorderlineasset.purchaseorderdetailid` are not permitted.

Data model version 12.2

The Link Purchase Order Line - License Object

This item maps to the `purchaseorderlinelicense` object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Link Purchase Order Line - License` appears in the `Relationships` group in the right-click context menu.

Properties

The `Link Purchase Order Line - License` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 34: Data model properties for `Link Purchase Order Line - License` object (alphabetical listing)

Property	Details
`License ID`	Stores the `softwarelicenseid` as a foreign key to the `License` table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there.
`Purchase Order Line ID`	Stores the `purchaseorderdetailid` as a foreign key to the `PurchaseOrderLine` table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there.

Data model version 12.2

The Location Object

This item maps to the `Location` object in the FlexNet Manager Suite compliance database.

Database interaction

If an incoming `Location` is not matched by an existing record in the compliance database, a new record is created there.

If an incoming `Location` matches an existing record in the compliance database, details are updated (as allowed for individual properties described below).

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Location` appears in the `Enterprise Groups` group in the right-click context menu.

Within the Business Adapter Studio, the default name suggested for the `Output` attribute of this `Location` object is `Location_ID`.

Properties

The `Location` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 35: Data model properties for `Location` object (alphabetical listing)

Property	Details
`Address - City`	*Type:* `varchar`. Maximum: 200. Maps to `Location.address_city` in the compliance database.
`Address - Country`	*Type:* `varchar`. Maximum: 100. Maps to `Location.address_country` in the compliance database.
`Address - State`	*Type:* `varchar`. Maximum: 200. Maps to `Location.address_state` in the compliance database.
`Address - Street`	*Type:* `varchar`. Maximum: 200. Maps to `Location.address_street` in the compliance database.
`Address - Zip`	*Type:* `varchar`. Maximum: 20. Maps to `Location.address_zip` in the compliance database.
`Business Phone Number`	*Type:* `varchar`. Maximum: 30. Maps to `Location.businessphonenumber` in the compliance database.
`Description`	*Type:* `ntext`. Maps to `Location.comments` in the compliance database.
`Email Address`	*Type:* `varchar`. Maximum: 200. Maps to `Location.email` in the compliance database.
`Fax Number`	*Type:* `varchar`. Maximum: 30. Maps to `Location.faxphonenumber` in the compliance database.

Property	Details
ID	*Type:* int. For the ID property, the Business Adapter Studio offers a list of the output field names from previous objects in the adapter. Maps to Location.groupexid in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. In the Business Adapter Studio, SQL-like expressions for pattern matching (contained in the MatchingMask attribute of the adapter's XML file) are supported for this property. An exception is the case when the incoming ID is null. In these cases, the property is excluded from the matching process, which then relies on other properties of the Location object. However, updates to the stored value of Location.groupexid are not permitted.
Name	*Type:* varchar. Maximum: 128. Mandatory: adapters must provide values for this column. Individual groups in the path through the enterprise group hierarchy are separated with the / character. Maps to Location.groupcn in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there. However, updates to the stored value of Location.groupcn are not permitted.

Data model version 12.2

The Operator Object

This item maps to the ComplianceOperator object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the Operator appears in the Operator group in the right-click context menu.

Properties

The Operator object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 36: Data model properties for `Operator` object (alphabetical listing)

Property	Details
`Account`	*Type:* `nvarchar`. Maximum: 256. Mandatory: adapters must provide values for this column. Maps to `ComplianceOperator.operatorlogin` in the compliance database.
`Email`	*Type:* `nvarchar`. Maximum: 200. Maps to `ComplianceOperator.email` in the compliance database.
`Enabled`	*Type:* `bool`. Mandatory: adapters must provide values for this column. Maps to `ComplianceOperator.isenabled` in the compliance database.
`Job Title`	*Type:* `nvarchar`. Maximum: 128. Maps to `ComplianceOperator.JobTitle` in the compliance database.
`Name`	*Type:* `nvarchar`. Maximum: 512. Maps to `ComplianceOperator.operatorname` in the compliance database.

Data model version 12.2

The Payment Schedule Object

This item maps to the `paymentschedule` object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Payment Schedule` appears in the `Payment Schedule` group in the right-click context menu.

Properties

The `Payment Schedule` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 37: Data model properties for `Payment Schedule` object (alphabetical listing)

Property	Details
`Buyout Cost`	*Type:* `money`. Maps to `paymentschedule.BuyoutCost` in the compliance database.

Property	Details
Buyout Cost Currency Rate ID	*Type:* int. Stores the BuyoutCostRateID as a foreign key to the currencyrate table in the compliance database.
Contract ID	*Type:* int. Mandatory: adapters must provide values for this column. Stores the contractid as a foreign key to the contract table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there.
End Date	*Type:* datetime. Maps to paymentschedule.enddate in the compliance database.
Frequency	*Type:* nvarchar. Maximum: 1000. Values of Frequency must match those stored in the PeriodType table of the compliance database.
Lease Number	*Type:* nvarchar. Maximum: 150. Maps to paymentschedule.LeaseNumber in the compliance database.
Lease Termination Date	*Type:* datetime. Maps to paymentschedule.LeaseTerminationDate in the compliance database.
Lease Termination Reason	*Type:* nvarchar. Maximum: 100. Maps to paymentschedule.LeaseTerminationReason in the compliance database.
Link to New Assets and Licenses attached to Contract	*Type:* bit. Mandatory: adapters must provide values for this column. Maps to paymentschedule.includenewassetsandlicenses in the compliance database.
Name	*Type:* nvarchar. Maximum: 100. Mandatory: adapters must provide values for this column. Maps to paymentschedule.description in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there.
Notes	*Type:* ntext. Maps to paymentschedule.Comment in the compliance database.
Payment Schedule Metric	Values of Payment Schedule Metric must match those stored in the PaymentScheduleCategory table of the compliance database.

Property	Details
Payment Schedule Term	Values of Payment Schedule Term must match those stored in the PaymentScheduleTerm table of the compliance database.
Payment Schedule Type	Values of Payment Schedule Type must match those stored in the PaymentScheduleType table of the compliance database.
Start Date	*Type:* datetime. Mandatory: adapters must provide values for this column. Maps to paymentschedule.startdate in the compliance database.

Data model version 12.2

The Payment Schedule Detail Object

This item maps to the PaymentScheduleDetail object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the Payment Schedule Detail appears in the Payment Schedule group in the right-click context menu.

Properties

The Payment Schedule Detail object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 38: Data model properties for Payment Schedule Detail object (alphabetical listing)

Property	Details
Actual/Fixed Amount	*Type:* money. Maps to PaymentScheduleDetail.ActualAmount in the compliance database.
Actual/Fixed Amount Currency Rate ID	*Type:* int. Stores the ActualAmountRateID as a foreign key to the currencyrate table in the compliance database.
Budgeted Amount	*Type:* money. Maps to PaymentScheduleDetail.BudgetedAmount in the compliance database.

Property	Details
Budgeted Amount Currency Rate ID	*Type:* int. Stores the BudgetedAmountRateID as a foreign key to the currencyrate table in the compliance database.
Estimated Amount	*Type:* money. Maps to PaymentScheduleDetail.EstimatedAmount in the compliance database.
Estimated Amount Currency Rate ID	*Type:* int. Stores the EstimatedAmountRateID as a foreign key to the currencyrate table in the compliance database.
Installment Covered	*Type:* nvarchar. Maximum: 50. Maps to PaymentScheduleDetail.PeriodCovered in the compliance database.
Installment End Date	*Type:* datetime. Mandatory: adapters must provide values for this column. Maps to PaymentScheduleDetail.PeriodEndDate in the compliance database.
Installment Start Date	*Type:* datetime. Mandatory: adapters must provide values for this column. Maps to PaymentScheduleDetail.PeriodStartDate in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there.
Installment Status	*Type:* int. Values of Installment Status must match those stored in the PaymentScheduledetailPaymentStatus table of the compliance database.
Notes	*Type:* ntext. Maps to PaymentScheduleDetail.Notes in the compliance database.
Obligated to Pay	*Type:* bit. Maps to PaymentScheduleDetail.Obligated in the compliance database.
Payment Date	*Type:* datetime. Maps to PaymentScheduleDetail.PaymentDate in the compliance database.

Property	Details
Payment Schedule ID	*Type:* int. Mandatory: adapters must provide values for this column. Stores the PaymentScheduleID as a foreign key to the PaymentSchedule table in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there.
Quantity	*Type:* int. Maps to PaymentScheduleDetail.Quantity in the compliance database.
Software Assurance Unit Price	*Type:* money. Maps to PaymentScheduleDetail.SoftwareAssuranceUnitPrice in the compliance database.
Software Assurance Unit Price Rate ID	*Type:* int. Stores the SoftwareAssuranceUnitPriceRateID as a foreign key to the currencyrate table in the compliance database.
Unit Price	*Type:* money. Maps to PaymentScheduleDetail.UnitPrice in the compliance database.
Unit Price Currency Rate ID	*Type:* int. Stores the UnitPriceRateID as a foreign key to the currencyrate table in the compliance database.

Data model version 12.2

The Purchase Order Object

This item maps to the PurchaseOrder object in the FlexNet Manager Suite compliance database. It supports the addition of custom properties through the Business Importer.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the Purchase Order appears in the Purchase Order group in the right-click context menu.

Properties

The Purchase Order object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 39: Data model properties for `Purchase Order` object (alphabetical listing)

Property	Details
`Purchase Date`	*Type:* `datetime`. Mandatory: adapters must provide values for this column. Maps to `PurchaseOrder.PurchaseOrderDate` in the compliance database.
`Purchase Order No`	*Type:* `nvarchar`. Maximum: 50. Mandatory: adapters must provide values for this column. Maps to `PurchaseOrder.PurchaseOrderNo` in the compliance database.
`Vendor ID`	*Type:* `int`. Stores the `VendorID` as a foreign key to the `Vendor` table in the compliance database.

Data model version 12.2

The Purchase Order Line Object

This item maps to the `PurchaseOrderLine` object in the FlexNet Manager Suite compliance database. It supports the addition of custom properties through the Business Importer.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Purchase Order Line` appears in the `Purchase Order` group in the right-click context menu.

Properties

The `Purchase Order Line` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 40: Data model properties for `Purchase Order Line` object (alphabetical listing)

Property	Details
`Authorized By ID`	*Type:* `int`. Stores the `AuthorizedByID` as a foreign key to the `User` table in the compliance database.
`Category ID`	*Type:* `varchar`. Maximum: 128. Stores the `categoryID` as a foreign key to the `category` table in the compliance database.
`Comments`	*Type:* `ntext`. Maps to `PurchaseOrderLine.Comments` in the compliance database.

Property	Details
Contract ID	*Type:* int. Stores the ContractID as a foreign key to the Contract table in the compliance database.
Corporate Unit ID	*Type:* varchar. Maximum: 128. Stores the businessunitID as a foreign key to the CorporateUnit table in the compliance database.
Cost Center ID	*Type:* varchar. Maximum: 128. Stores the costcenterID as a foreign key to the costcenter table in the compliance database.
Description	*Type:* nvarchar. Maximum: 250. Mandatory: adapters must provide values for this column. Maps to PurchaseOrderLine.ItemDescription in the compliance database.
Effective Date	*Type:* datetime. Maps to PurchaseOrderLine.EffectiveDate in the compliance database.
Expiry Date	*Type:* datetime. Maps to PurchaseOrderLine.ExpiryDate in the compliance database.
Include Support, Maintenance or Service Agreement	*Type:* bit. Maps to PurchaseOrderLine.MaintenanceOrServiceAgreement in the compliance database.
Invoice Date	*Type:* datetime. Maps to PurchaseOrderLine.InvoiceDate in the compliance database.
Invoice Number	*Type:* nvarchar. Maximum: 50. Maps to PurchaseOrderLine.InvoiceNo in the compliance database.
Location ID	*Type:* varchar. Maximum: 128. Stores the locationID as a foreign key to the location table in the compliance database.
Part No/SKU	*Type:* nvarchar. Maximum: 100. Maps to PurchaseOrderLine.LicensePartNo in the compliance database.
Processed By ID	*Type:* int. Stores the ProcessedByID as a foreign key to the User table in the compliance database.

Property	Details
`Publisher ID`	*Type:* `int`. Stores the `PublisherID` as a foreign key to the `vendor` table in the compliance database.
`Purchase Order ID`	*Type:* `int`. Mandatory: adapters must provide values for this column. Stores the `PurchaseOrderID` as a foreign key to the `PurchaseOrder` table in the compliance database.
`Purchase Order Line Sequence`	*Type:* `int`. Mandatory: adapters must provide values for this column. Maps to `PurchaseOrderLine.SequenceNumber` in the compliance database.
`Purchase Quantity`	*Type:* `int`. Maps to `PurchaseOrderLine.Quantity` in the compliance database.
`Purchase Type`	*Type:* `nvarchar`. Values of `Purchase Type` must match those stored in the `PurchaseOrderDetailType` table of the compliance database.
`Quantity Per Unit`	*Type:* `int`. Maps to `PurchaseOrderLine.quantityperunit` in the compliance database.
`Request Date`	*Type:* `datetime`. Maps to `PurchaseOrderLine.RequestDate` in the compliance database.
`Request Number`	*Type:* `nvarchar`. Maximum: 120. Maps to `PurchaseOrderLine.RequestNo` in the compliance database.
`Requestor ID`	*Type:* `int`. Stores the `RequestedByID` as a foreign key to the `User` table in the compliance database.
`Sales Tax`	*Type:* `float`. Maps to `PurchaseOrderLine.SalesTax` in the compliance database.
`Sales Tax Currency Rate ID`	*Type:* `int`. Stores the `SalesTaxRateID` as a foreign key to the `currencyrate` table in the compliance database.
`Shipping And Handling Currency Rate ID`	*Type:* `int`. Stores the `ShippingAndHandlingRateID` as a foreign key to the `currencyrate` table in the compliance database.

Property	Details
Shipping Date	*Type:* datetime. Maps to PurchaseOrderLine.ShippingDate in the compliance database.
Shipping Location ID	*Type:* varchar. Maximum: 128. Stores the ShippingLocationID as a foreign key to the location table in the compliance database.
Shipping and Handling	*Type:* float. Maps to PurchaseOrderLine.ShippingAndHandling in the compliance database.
Status	*Type:* nvarchar. Values of Status must match those stored in the PurchaseOrderDetailStatus table of the compliance database.
Total Price Currency Rate ID	*Type:* int. Stores the TotalPriceRateID as a foreign key to the currencyrate table in the compliance database.
Unit Price	*Type:* float. Maps to PurchaseOrderLine.UnitPrice in the compliance database.
Unit Price Currency Rate ID	*Type:* int. Stores the UnitPriceRateID as a foreign key to the currencyrate table in the compliance database.

Data model version 12.2

The Software Allocation Object

This item maps to the SoftwareLicenseAllocation object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the Software Allocation appears in the License group in the right-click context menu.

Properties

The Software Allocation object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 41: Data model properties for `Software Allocation` object (alphabetical listing)

Property	Details
`Computer ID`	*Type:* `int`. Stores the `compliancecomputerid` as a foreign key to the `Computer` table in the compliance database.
`Exemption Reason`	*Type:* `nvarchar`. Maximum: 1000. Values of `Exemption Reason` must match those stored in the `SoftwareLicenseExemptionReason` table of the compliance database.
`License ID`	*Type:* `int`. Mandatory: adapters must provide values for this column. Stores the `softwarelicenseid` as a foreign key to the `License` table in the compliance database.
`License Key`	*Type:* `nvarchar`. Maximum: 400. Maps to `SoftwareLicenseAllocation.keyvalue` in the compliance database.
`Number allocated`	*Type:* `int`. Maps to `SoftwareLicenseAllocation.numberallocated` in the compliance database.
`Status`	*Type:* `nvarchar`. Maximum: 1000. Values of `Status` must match those stored in the `SoftwareLicenseAllocationstatus` table of the compliance database.
`User ID`	*Type:* `int`. Mandatory: adapters must provide values for this column. Stores the `complianceuserid` as a foreign key to the `User` table in the compliance database.

Data model version 12.2

The Software License Key Object

This item maps to the `SoftwareLicenseKey` object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the `Software License Key` appears in the `License` group in the right-click context menu.

Properties

The Software License Key object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 42: Data model properties for Software License Key object (alphabetical listing)

Property	Details
License ID	Mandatory: adapters must provide values for this column. Stores the softwarelicenseid as a foreign key to the License table in the compliance database.
License Key	*Type:* varchar. Maximum: 400. Mandatory: adapters must provide values for this column. Maps to SoftwareLicenseKey.keyvalue in the compliance database.

Data model version 12.2

The Terms And Conditions Object

This item maps to the TermAndCondition object in the FlexNet Manager Suite compliance database.

Behavior in the Business Adapter Studio

When you create new objects in the Business Adapter Studio, the Terms And Conditions appears in the Contract group in the right-click context menu.

Properties

The Terms And Conditions object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 43: Data model properties for Terms And Conditions object (alphabetical listing)

Property	Details
Begin Date	*Type:* datetime. Maps to TermAndCondition.begindate in the compliance database.
Comments	*Type:* ntext. Maps to TermAndCondition.comments in the compliance database.

Property	Details
Contract ID	*Type:* int. Mandatory: adapters must provide values for this column. Maps to TermAndCondition.contractid in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there.
Description	*Type:* nvarchar. Maximum: 100. Mandatory: adapters must provide values for this column. Maps to TermAndCondition.description in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there.
Document Reference	*Type:* nvarchar. Maximum: 100. Maps to TermAndCondition.docreference in the compliance database.
End Date	*Type:* datetime. Maps to TermAndCondition.enddate in the compliance database.
Term and Condition Type	*Type:* nvarchar. Maximum: 100. Maps to TermAndCondition.termandconditiontype in the compliance database. It is used (perhaps in conjunction with other properties) as a key for matching existing records there.

Data model version 12.2

The User Object

This item maps to the User object in the FlexNet Manager Suite compliance database. It supports the addition of custom properties through the Business Importer.

Properties

The User object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 44: Data model properties for User object (alphabetical listing)

Property	Details
Account Name	*Type:* nvarchar. Maximum: 64. Maps to User.SAMAccountName in the compliance database.

Property	Details
`Address - City`	*Type:* `nvarchar`. Maximum: 200. Maps to `User.Address_City` in the compliance database.
`Address - Country`	*Type:* `nvarchar`. Maximum: 100. Maps to `User.Address_Country` in the compliance database.
`Address - State`	*Type:* `nvarchar`. Maximum: 200. Maps to `User.Address_State` in the compliance database.
`Address - Street`	*Type:* `nvarchar`. Maximum: 200. Maps to `User.Address_Street` in the compliance database.
`Address - Zip`	*Type:* `nvarchar`. Maximum: 20. Maps to `User.Address_ZIP` in the compliance database.
`AlternateEmail`	*Type:* `nvarchar`. Maximum: 200. Maps to `User.AlternateEmail` in the compliance database.
`Corporate Unit ID`	*Type:* `varchar`. Maximum: 128. Stores the `businessunitID` as a foreign key to the `CorporateUnit` table in the compliance database.
`Cost Center ID`	*Type:* `varchar`. Maximum: 128. Stores the `costcenterID` as a foreign key to the `costcenter` table in the compliance database.
`Domain ID`	*Type:* `int`. Stores the `ComplianceDomainID` as a foreign key to the `ComplianceDomain` table in the compliance database.
`Email`	*Type:* `nvarchar`. Maximum: 200. Maps to `User.Email` in the compliance database.
`Employee Number`	*Type:* `nvarchar`. Maximum: 128. Maps to `User.EmployeeNumber` in the compliance database.
`Employment Status`	*Type:* `nvarchar`. Maximum: 1000. Values of `Employment Status` must match those stored in the `EmploymentStatus` table of the compliance database.
`Fax Number`	*Type:* `nvarchar`. Maximum: 30. Maps to `User.FaxPhoneNumber` in the compliance database.

Property	Details
`First Name`	*Type:* `nvarchar`. Maximum: 128. Maps to `User.FirstName` in the compliance database.
`Inventory Source`	*Type:* `nvarchar`. Maximum: 64. Maps to `User.InventoryAgent` in the compliance database.
`Job Title`	*Type:* `nvarchar`. Maximum: 128. Maps to `User.JobTitle` in the compliance database.
`Last Name`	*Type:* `nvarchar`. Maximum: 128. Maps to `User.LastName` in the compliance database.
`Location ID`	*Type:* `varchar`. Maximum: 128. Stores the `locationID` as a foreign key to the `location` table in the compliance database.
`Manager ID`	*Type:* `int`. Stores the `ManagerID` as a foreign key to the `user` table in the compliance database.
`Middle Name`	*Type:* `nvarchar`. Maximum: 128. Maps to `User.MiddleName` in the compliance database.
`Mobile Number`	*Type:* `nvarchar`. Maximum: 30. Maps to `User.MobilePhoneNumber` in the compliance database.
`Phone Number`	*Type:* `nvarchar`. Maximum: 30. Maps to `User.BusinessPhoneNumber` in the compliance database.
`User Full Name`	*Type:* `nvarchar`. Maximum: 512. Maps to `User.UserName` in the compliance database.
`User Status`	*Type:* `nvarchar`. Maximum: 1000. Values of `User Status` must match those stored in the `ComplianceUserStatus` table of the compliance database.
`User Suffix`	*Type:* `nvarchar`. Maximum: 1000. Values of `User Suffix` must match those stored in the `UserSuffix` table of the compliance database.
`User Title`	*Type:* `nvarchar`. Maximum: 1000. Values of `User Title` must match those stored in the `UserTitle` table of the compliance database.

Data model version 12.2

The Vendor Object

This item maps to the `Vendor` object in the FlexNet Manager Suite compliance database. It supports the addition of custom properties through the Business Importer.

Properties

The `Vendor` object exposes the following properties in the data model for the Business Importer and the Business Adapter Studio.

Table 45: Data model properties for `Vendor` object (alphabetical listing)

Property	Details
`Address - City`	*Type:* `nvarchar`. Maximum: 200. Maps to `Vendor.Address_City` in the compliance database.
`Address - Country`	*Type:* `nvarchar`. Maximum: 100. Maps to `Vendor.Address_Country` in the compliance database.
`Address - State`	*Type:* `nvarchar`. Maximum: 200. Maps to `Vendor.Address_State` in the compliance database.
`Address - Street`	*Type:* `nvarchar`. Maximum: 200. Maps to `Vendor.Address_Street` in the compliance database.
`Address - Zip`	*Type:* `nvarchar`. Maximum: 20. Maps to `Vendor.Address_ZIP` in the compliance database.
`Email`	*Type:* `nvarchar`. Maximum: 200. Maps to `Vendor.Email` in the compliance database.
`Fax Number`	*Type:* `nvarchar`. Maximum: 30. Maps to `Vendor.FaxPhoneNumber` in the compliance database.
`Name`	*Type:* `nvarchar`. Maximum: 64. Mandatory: adapters must provide values for this column. Maps to `Vendor.VendorName` in the compliance database.
`Parent Vendor ID`	*Type:* `int`. Stores the `ParentVendorID` as a foreign key to the `Vendor` table in the compliance database.

Property	Details
`Phone Number`	*Type:* `nvarchar`. Maximum: 30. Maps to `Vendor.BusinessPhoneNumber` in the compliance database.
`Website`	*Type:* `nvarchar`. Maximum: 200. Maps to `Vendor.WebSite` in the compliance database.

Data model version 12.2