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Preface

The Data Access Service, which is used to import and export data to and from Simphony's database, is described in this document.

Audience

This document is intended for the following audiences:

- Installers / Consultants
- Customer Support
- Training Personnel
- MIS Personnel

Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL:
https://support.oracle.com

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received and any associated log files
- Screen shots of each step you take

Documentation

Oracle Hospitality product documentation is available on the Oracle Help Center at
http://docs.oracle.com/en/industries/hospitality/

Revision History

Date	Description of Change
June 2007	• Initial publication
October 2007	• Minor Edits
January 2018	• Formatting changes only
January 2019	• Updates to Chapters 3, 4 and 5 about data Imports/Exports

Introduction

The Simphony Data Access Service is designed to handle the full range of Data Access requirements of a typical customer. The primary goal of the service is minimized total cost of ownership through consolidated systems management.

The service allows users to perform common database configuration tasks, such as menu item and employee maintenance, and provides sales exports to third party systems, streamlining management tasks and reducing overall complexity.

The input to the Simphony Data Access Service is an XML document, containing one or more commands to select or update items. The output from the service is an XML document containing returned records and error information when necessary. Simphony Data Access Service supports a number of commands, each operating on a single object type such as Employee, Menu Item, or Revenue Center Totals.

Backward Compatibility

Due to backward compatibility requirements of several Simphony customers, the Data Access Service is implemented through an application that makes a call to the web service.

Simphony does not support 8700sql but provides a mechanism to make use of existing delimited data files exports from third party systems with Data Access Service. To facilitate backwards compatibility, a front-end executable is provided to extend the input/export syntax.

During import operations, the executable embeds delimited file data into the XML script before passing the resulting XML document to the web service.

Export operations rely on the executable to receive the exported XML document and write the results to an external delimited file. All field and string delimiters are user-specifiable.

Security

As a Service-Oriented system, Simphony consists of many software modules, each of which typically represents a service in the system. For optimal security in a modular, distributed Service-Oriented system, the client that is requesting a service must be trusted as well as authorized before allowing the service to be carried out on the client's behalf. In Simphony, each service call requires the client to provide authentication credentials. These authentication credentials represent a user in the Simphony system who must have sufficient privileges to make the service request.

The XML script that defines the import or export requests does not contain the user's credentials. The client application that is making the service call is responsible for providing the user's credentials. When the import/export front-end executable, provided with Simphony, is used to make the service call, the user's credentials are stored in a configuration file on the same computer where the front-end executable is running. Typically, a single 'proxy user' should be created in the database that is given privileges to make import/export requests.

1 Understanding Data Access Service

Data Access Service allows selective data exporting and importing from and to the Simphony database without the need to manually enter Simphony data into a format that can be used by other applications.

In addition, the Data Access Service imports and exports comma separated value (CSV) and delimited files that are easily exchanged with spreadsheet programs and database management systems.

- Data Access Service can be used in any of the following ways:
- Data can be exported to files used by other applications.
- Data from other applications can be imported into the Simphony database.

Data Access Service can be run as part of a PC Autosequence at an interval, such as monthly, weekly, or daily. A spreadsheet program can be automatically updated to reflect sales or another activity in Simphony.

Data Access Service Use Cases

At the Data Center Level

Simphony's Data Access Service at the data center level is used mainly for employee and menu item maintenance and includes the following use cases:

- Employee maintenance, such as changes to existing employee records and the creation of new employee records, can be conducted in a third-party employee maintenance software. The Data Access Service ImpExp.exe will import the data from the third-party software to Simphony's database nightly after being called by a PC Autosequence.
- Payroll information from Simphony's database, including clock in and out times, can be exported to third-party software.
- Menu item maintenance, especially for retail items, can be conducted in a similar manner as employee maintenance. Changes made in a third-party software can be imported into Simphony's database using a PC autosequence that calls Data Access Service's ImpEmp.exe program.
- Tender Media and Service Charge totals from the Simphony database can be exported to a third-party accounting program.

At the Workstation Level

Data Access Service can be used to enhance workstation functionality, for example:

- A one-touch sign-in button, similar to RES functionality, can be programmed on the touchscreen. This button calls a SIM event, which exports time card information to determine which retail cashiers are currently clocked in and then exports their sign-in ID from the database. It then displays a list of retail cashiers on the workstation. The employee at the workstation selects him/herself from the list to sign in. With a one-touch sign-in button, the employee does not have to swipe his/her card to sign in each time, saving valuable operational time.

- Simphony's Data Access Service is called through SIM so that workstation SIM applications can export data from and into the database. An example of one use for this functionality would be a workstation SIM that prompts bartenders to enter in their drawer deposit totals at the end of a shift. The SIM then calls the SDA to export the Cash total for that employee and compares the amounts. The SIM can then print a chit that shows if the bartender was over or short.

How Data Access Service Works

Importing Data

When importing data, an XML script is first created using Update commands. The path to this XML file is then passed to the ImpExp.exe program, either directly from a Windows® command line or from a PC Autosequence. The CSV or delimited data is gathered by the ImpExp.exe program as determined by the attributes in the XML script.

The ImpEmp.exe files calls the EGateway Handler running on the application Server. The EGateway Handler then makes database calls to modify the database and returns results back to the ImpExp.exe program.

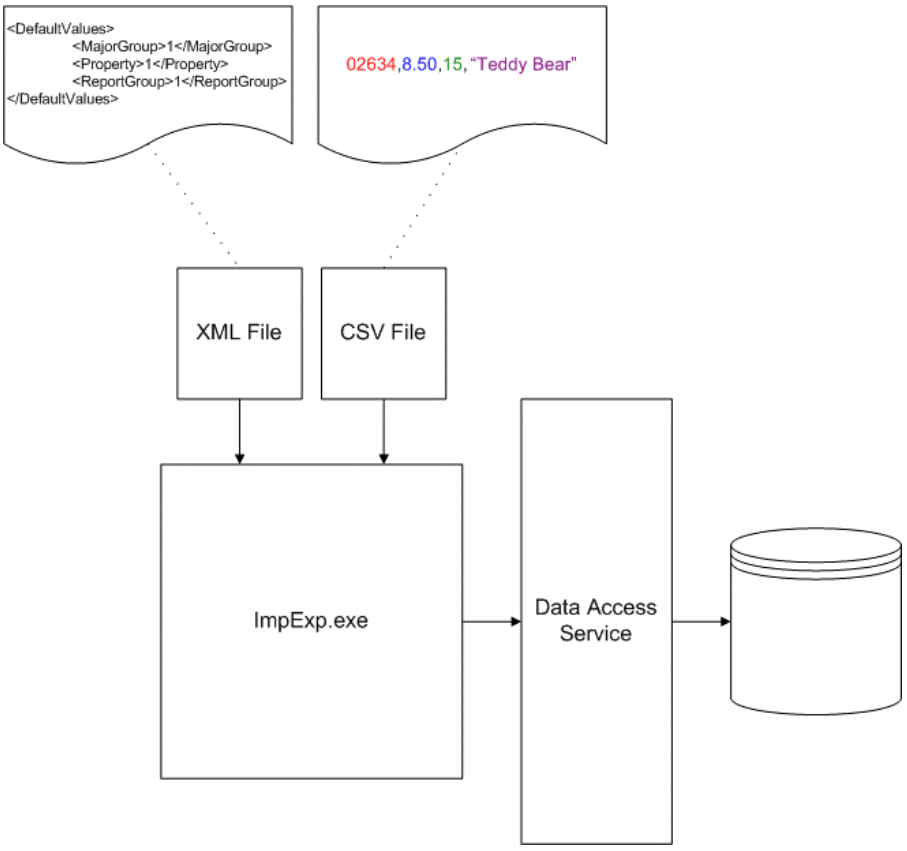

Figure 1-1 Importing Data

The diagram above illustrates how Simphony's Data Access Service imports data. The dashed line from the XML file shows an example of the XML default values that can be used when importing the retail item "Teddy Bear." The dashed line from the CSV file shows an example of the comma separated values used to import the same retail item. Within the CSV file example, the value "02634" shown in red text is the Number Lookup (NLU), the value"8.50" shown in blue text is the price of the item, the value "15" shown in green text is the family group, and the value "Teddy Bear" shown in purple is the name of the item.

Exporting Data

When exporting data, an XML script is first created using Select commands. The path to this XML file is then passed to the ImpExp.exe program, either directly from a Windows® command line or from a PC Autosequence.

The ImpEmp.exe files calls the EGateway Handler running on the application Server. The EGateway Handler then makes database calls to query the database and returns results back to the ImpExp.exe program. The ImpExp.exe program then writes a CSV or delimited data file for output.

Note: XML script Delete commands are not currently supported in Simphony's Data Access Service.

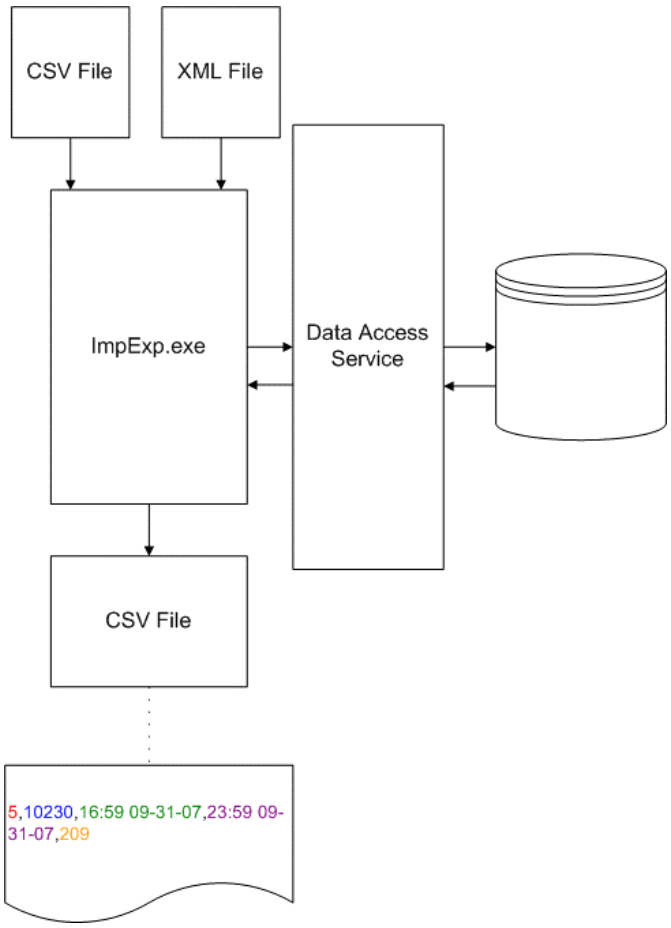

Figure 1-2 Exporting Data

The diagram above illustrates how Simphony's Data Access Service exports data. The dashed line from the CSV file shows an example of the comma separated values used to export the timeclock schedule information. Within the CSV file example, the value "5" shown in red text is the property object number, the value"10230" shown in blue text is the employee object number, the value "16:59 09-31-07" shown in green text is the employee's clock in time, the value "23:59 09-31- 07" shown in purple is the employee's clock out time, and the value "209" shown in orange text is the employee's job code.

2 Creating XML Scripts

When using the Data Access Service to export or import data, remember the following:

- Create a command file that tells Simphony's Data Access Service what information to access.
- Run the XML script from a Windows command line or as part of a PC Autosequence.

If used in a PC Autosequence, the Data Access Service can automatically export or import the data you desire when reports are reset.

Update Command

Update commands are often used when importing data into Simphony's database.

- Update commands support a DefaultValues block, which allows the system to specify values that apply to all records inserted.
- Update operations may be configured to insert records that do not exist.
- Update operations allow for conditions to be specified, similar to SQL WHERE clauses or a list of individual items can be supplied.
- An option exists to ignore errors both at the global level and for each individual Update command.

Example

```
</SDACommand>
        <SDACommand Type="Update">
```

Select Command

A Select command is likely to be used when exporting data from Simphony's database.

Example

```
<SDACommands>
        <SkipErrors>True|False</SkipErrors>
        <SDACommand Type="Select">
```

Note: XML script Delete commands are not currently supported in Simphony's Data Access Service.

3 XML Syntax for Simphony Data Access

XML Input Syntax for Simphony Data Access

Oracle Hospitality recommends that XML scriptwriters adhere to the basic syntax structure as outlined below and as demonstrated in the examples that follow. In many instances, this preferred syntax is required in order to take advantage of evolving XML features.

```
<SDACommands>
       <SkipErrors>True|False</SkipErrors>
       <SDACommand Type="Select">
              <SkipErrors>True|False</SkipErrors>
              <ObjectType></ObjectType>
              <Attributes>
                     <Attribute></Attribute>
              </Attributes>
              <Conditions    LogicalOperation="AND|OR">
                     <Condition>
                        <Attribute></Attribute>
                            <Comparison>=|<>|>|>=|<|<=</Comparison>
                           <Value></Value>
                     </Condition>
                     <Conditions    LogicalOperation="AND|OR">
                     </Conditions>
              </Conditions>
              <Sorts>
        <Sort   Direction="ASC|DESC"></Sort>
 </Sorts>
 <File Type="Delimited|XML">
              <Path></Path>
              <FieldDelimiter></FieldDelimiter>
<StringDelimiter></StringDelimiter>
</File>
</SDACommand>
<SDACommand Type="Insert">
              <SkipErrors>True|False</SkipErrors>
              <ReplaceExisting>True|False</ReplaceExisting>
              <ObjectType></ObjectType>
<DefaultValues>

       </DefaultValues>
       <Data>
       </Data>
       <File Type="Delimited|XML">
                      <Path></Path>
                     <FieldDelimiter></FieldDelimiter>
                     <StringDelimiter></StringDelimiter>
       </File>
       </SDACommand>
           <SDACommand Type="Update">
              <SkipErrors>True|False</SkipErrors>
              <InsertMissing>True|False</InsertMissing>
              <ObjectType></ObjectType>
              <NewValues>
```

```
                </NewValues>
                <Conditions    LogicalOperation="AND|OR">
                       <Condition>
                              <Attribute></Attribute>
                              <Comparison>=|<>|>|>=|<|<=</Comparison>
                              <Value></Value>
                       </Condition>
                       <Conditions    LogicalOperation="AND|OR">
                       </Conditions>
                </Conditions>
                <DefaultValues>
                </DefaultValues>
                <Data>
                </Data>
                <File Type="Delimited|XML">
                       <Path></Path>
                       <FieldDelimiter></FieldDelimiter>
                       <StringDelimiter></StringDelimiter>
</File>
                </SDACommand>
        </SDACommands>
```

XML Output Syntax for Simphony Data Access

```
<SDAResults>
       <SDAResult>
              <Errors>
                     <Error>
                            <ErrorCode></ErrorCode>
                            <ErrorString></ErrorString>
                     </Error>
                      </Errors>
                      <Data>
                      </Data>
        </SDAResult>
</SDAResults>
```

Import/Export Syntax Details

The following are optional tags:

- SkipErrors
- Conditions
- ReplaceExisting
- DefaultValues
- InsertMissing

The following are tags that may appear multiple times:

- SDACommand
- Attribute
- Condition
- Conditions (inside a Conditions block)
- Data

The following tags (or sets of tags) may not appear together:

- Condition and Conditions (within an outer Conditions block)
- [NewValues, Conditions] and [Data, File] (for an Update)
- Conditions and [Data, File] (for a Delete)

Example of XML Syntax used to Import Menu Item Information

```
<SDACommands>
       <URL>http://localhost:8080/EGateway/EGateway.asmx</URL>
       <SkipErrors>true</SkipErrors>
       <SDACommand Type="Update">
              <InsertMissing>True</InsertMissing>
              <ObjectType>MenuItem</ObjectType>
              <DefaultValues>
                       <Property>1109</Property>
                     <RevenueCenter>1</RevenueCenter>
              </DefaultValues>
              <File Type="Delimited">
              <Path>midef.upd.tmp</Path>
               <FieldDelimiter>,</FieldDelimiter>
               <StringDelimiter>"</StringDelimiter>
                 <Attributes>
                      <Attribute>ObjectNumber</Attribute>
                      <Attribute>DefinitionSequence</Attribute>
                      <Attribute>DefinitionName1</Attribute>
                      <Attribute>DefinitionName2</Attribute>
                      <Attribute>MainMenuLevel</Attribute>
                      <Attribute>SubMenuLevel</Attribute>
                      <Attribute>Class</Attribute>
                      <Attribute>NLUGroup</Attribute>
                      <Attribute>NLU</Attribute>
                      <Attribute>SLU</Attribute>
                 </Attributes>
              </File>
       </SDACommand>
</SDACommands>
```

Example of XML Syntax used to Export Menu Item Information

```
<SDACommands>
       <URL>http://localhost:8080/EGateway/EGateway.asmx</URL>
       <SkipErrors>true</SkipErrors>
       <SDACommand Type="Select">
           <ObjectType>MenuItem</ObjectType>
           <Attributes>
                  <Attribute>ObjectNumber</Attribute>
                  <Attribute>DefinitionSequence</Attribute>
                  <Attribute>DefinitionName1</Attribute>
                  <Attribute>DefinitionName2</Attribute>
                  <Attribute>MainMenuLevel</Attribute>
                  <Attribute>SubMenuLevel</Attribute>
                  <Attribute>Class</Attribute>
                  <Attribute>NLUGroup</Attribute>
                  <Attribute>NLU</Attribute>
                  <Attribute>SLU</Attribute>
```

```
        </Attributes>
        <Conditions    LogicalOperation="AND">
                        <Condition>
                       <Attribute>Property</Attribute>
                       <Comparison>=</Comparison>
                       <Value>1109</Value>
                          </Condition>
                           <Condition>
                       <Attribute>RevenueCenter</Attribute>
                       <Comparison>=</Comparison>
                          <Value>1</Value>
                          </Condition>
      </Conditions>
      <Sorts>
              <Sort    Direction="UP">ObjectNumber</Sort>
       </Sorts>
       <File Type="Delimited">
       <Path>exp_midef.upd.tmp</Path>
       <FieldDelimiter>,</FieldDelimiter>
       <StringDelimiter>"</StringDelimiter>
    </File>
    </SDACommand>
</SDACommands>
```

4 Importing Data Files

An XML file created using the XML Syntax described on page 3-1 can be used to import specific attribute data. Importing a file into the Simphony database may add or alter selective records; the entire destination file does not need to be overwritten.

Note: Each XML file supports multiple commands that can each contain an attribute, such as Barcode or MenuItem. Currently, multiple XML files cannot be joined.

The basic procedure for importing Simphony First Edition data is shown below:

1. Create the XML file using the preferred editor.
   - Enter the Command lines.
   - Enter the remaining syntax.
   - Enter your secure EMC logon credentials (See Figure 4-1 below).
     - Where **Username** = your EMC username
     - Where **Password** = your EMC password
2. Run the impexp.exe file located in the `MICROS\Simphony\Tools\ImpExp` folder from the Microsoft Windows command line, as shown below. Enter the path and complete name of the XML file as the first parameter. In the example below, "C:\retail_menu_items.xml" is the location and name of the XML file. Note that the ImpExp.exe file can also be called by a PC Autosequence.

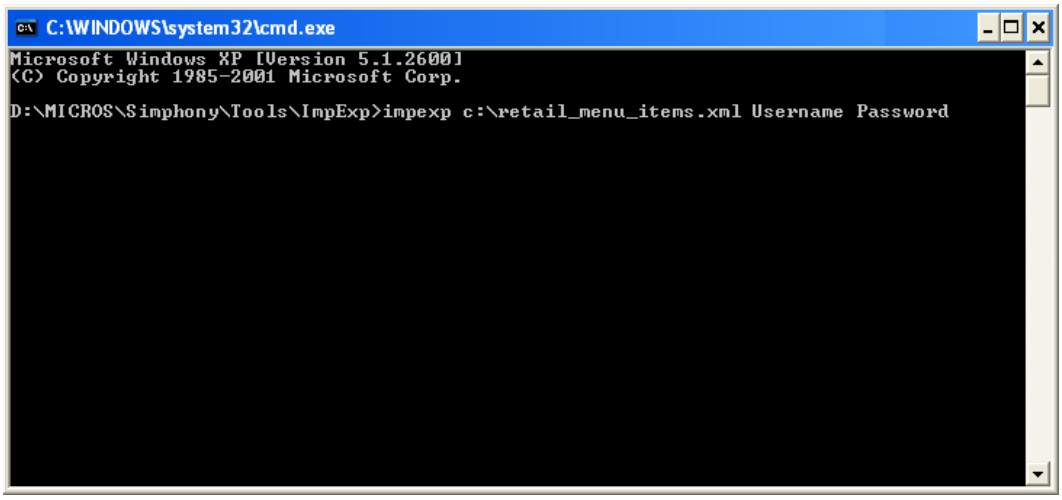

Figure 4-1 Microsoft Windows Command Line - Importing

5 Exporting Data Files

An XML file created using the XML Syntax described on page 3-1 can be used to export specific attribute data.

Note: Each XML file supports multiple commands that can each contain an attribute, such as Barcode or MenuItem. Currently, multiple XML files cannot be joined.

The basic procedure for exporting Simphony First Edition data is shown below:

1. Create the XML file using the preferred editor.
    - Enter the Command lines.
    - Enter the Output command.
    - Enter the remaining syntax.
    - Enter your secure EMC logon credentials (See Figure 5-1 below).
        - Where **Username** = your EMC username
        - Where **Password** = your EMC password
2. Run the impexp.exe file located in the `MICROS\Simphony\Tools\ImpExp` folder from the command line, as seen below. Enter the path and complete name of the XML file as the first parameter. In the example below, "C:\input.xml" is the location and name of the XML file. Note that the ImpExp.exe file can also be called by a PC Autosequence.

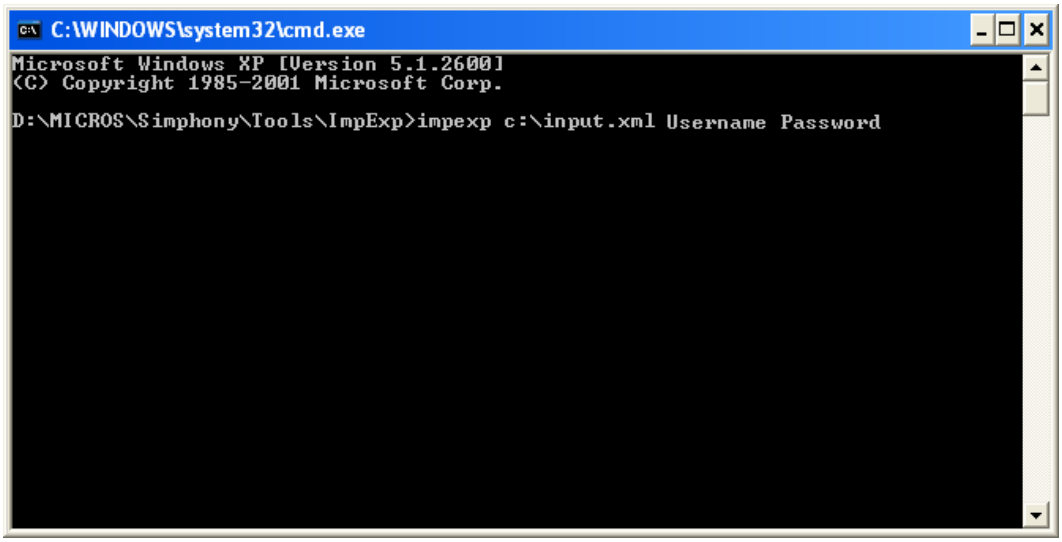

Figure 5-1 Microsoft Windows Command Line - Exporting

6 Supported Data Access Attribute Types

Understanding the Attribute Tables

A Note on Data Types

The tables in this section include the Simphony Field Data Types, Max Width, and range for each attribute name.

Remember the following:

- Number fields never contain thousands-separator characters.
- The decimal point character defaults to "." but can be changed.

Type Code Definitions

The table below defines the data types and max widths that are used in the Simphony attribute tables that follow.

Note the following:

- A variable-length number can never be less than one digit; it always appears even though its value may be zero.
- In multi-PC configurations, all totals are consolidated; the totals do not need to be exported from each PC individually.

Table 6-1 Type Code Definitions

Data Type	Max Width	Definition
Alphanumeric	n	An alphanumeric string of up to n characters.
Alphanumeric	n (Exact)	An alphanumeric string of exactly n characters.
Decimal	n	A decimal integer of up to n digits (not including its decimal character). For currency amounts, the decimal character, and the number of decimal places, are set by the DECIMAL_CHAR and DECIMAL_PLACES Control Commands. Some decimal integer fields may use a fixed or a floating decimal point, and are not affected by the DECIMAL_PLACES Control Command. For example, the Tare Weight field in the Menu Item Maintenance module allows a floating decimal point.
Hexadecimal	n (Exact)	A string of exactly n characters, each of which can only be one of the hexadecimal characters [0-9, A-F]. On export, A-F will always be upper case; on import, both cases are allowed.
Numeric	n	An integer of up to n digits that does not contain a decimal point.

Data Type	Max Width	Definition
Numeric	n (Exact)	An integer of exactly n digits that does not contain a decimal point.
TIME		Converted from 32-bit UNIX Time Field. A date/time in system local time, in the format HH:MM MM-DD-YY (e.g., 23:59 12-31-99). These strings are always fifteen characters long.
DATE		Defines the date format as MM-DD-YY.

Note: 'Exact' in the Max Width indicates the value must be no more or no less than the max width specified. If the value is less than the max width specified, the value is padded with either spaces (for alphanumeric values only) or zeros (for numeric, hexadecimal, and decimal values).

Barcode

Scope: Revenue Center

Table 6-2 Barcode - Revenue Center Level

Attribute Name	Data Type	Max Width	Range
Property	Numeric	9	1–999,999,999
RevenueCenter	Numeric	3	1–999
ObjectNumber	Numeric	9	1–999,999,999
Code	Hexadecimal	14 (Exact)	
MasterObjectNumber	Numeric	9	1–999,999,999
DefinitionSequence	Numeric	2	0–64
PriceSequence	Numeric	1	0–8
AlternatePrice	Decimal	12	10 digits, sign, decimal
AlternatePrepCost	Decimal	12	10 digits, sign, decimal

Cashier

Scope: Revenue Center

Table 6-3 Cashier - Revenue Center Level

Attribute Name	Data Type	Max Width	Range
Property	Numeric	9	1–999,999,999
RevenueCenter	Numeric	3	1–999
ObjectNumber	Numeric	9	1–999,999,999
Name	Alphanumeric	16 (Exact)	

Discount (Select Only)

Scope: Property

Table 6-4 Discount (Select Only)

Attribute Name	Data Type	Max Width	Range
Property	Numeric	9	1–999,999,999
ObjectNumber	Numeric	9	1–999,999,999
Name	Alphanumeric	32 (Exact)	
TaxClass	Numeric	3	0–255
OptionBits	Hexadecimal	3 (Exact)	
PrintOptionBits	Hexadecimal	1 (Exact)	
NLU	Numeric	3	0–255
SLU	Numeric	2	0–64
MobileSLU	Numeric	2	0–64
Percentage	Decimal	7	000.000–100.000
Amount	Decimal	12	10 digits, decimal
PrivilegeGroup	Numeric	1	0–3
Icon	Numeric	5	0–99,999

Employee

Scope: Enterprise

Note: The following pay rate related Employee attributes can be exported using Data Access Service: “JobCode,” “RegularPayRate,” “OvertimePayRate,” and “PayRates.”

Table 6-5 Employee

Attribute Name	Data Type	Max Width	Range
ObjectNumber	Numeric	9	1–999,999,999
LastName	Alphanumeric	16 (Exact)	
FirstName	Alphanumeric	8 (Exact)	
ID	Hexadecimal	10 (Exact)	
CheckName	Alphanumeric	16 (Exact)	
Group	Numeric	3	0–999
Level	Numeric	1	0–9
AlternateID	Numeric	10 (Exact)	
UserName	Alphanumeric	20	

Attribute Name	Data Type	Max Width	Range
Language	Numeric	255	
GlobalRole (Update Only)	Numeric	9	1–999,999,999
GlobalRoles (Update Only)	LIST		
Property	Numeric	9	1–999,999,999
Class	Numeric	9	1–999,999,999
ISLPrivileges (Select Only)	Hexadecimal	1 (Exact)	
EmployeeRevenueCenter	Numeric	3	1–999
EmployeeOptionBits	Hexadecimal	2 (Exact)	
Training	Numeric	1	0,1
InternationalLdsID	Numeric	4 (Exact)	0000–9999
PayrollID	Alphanumeric	32 (Exact)	
LateClockInGrace	Numeric	2	0–99
Status	Hexadecimal	1 (Exact)	
CurrentRate (Select Only)	Numeric	1	1–8
ClockStatus (Select Only)	Numeric	3	0–4
Descriptor (Update Only)	Alphanumeric	32 (Exact)	
Descriptors (Update Only)	List		
Role (Update Only)	Numeric	9	1–999,999,999
JobCode	Numeric	9	1–999,999,999
RegularPayRate	Decimal	12	10 digit, decimal
OvertimePayRate	Decimal	12	10 digit, decimal
PayRates	LIST		
OperatorRevenueCenter	Numeric	3	1–999
OperatorOptionBits	Numeric	8 (Exact)	
Cashier	Numeric	9	1–999,999,999
TableCount	Numeric	3	0–999
CashDrawer	Numeric	1	0–2
DefaultTouchscreen	Numeric	3	0–255
DefaultMobileTouchscreen	Numeric	3	0–255

Employee Class

Scope: Property

Table 6-6 Employee Class

Attribute Name	Data Type	Max Width	Range
Property	Numeric	9	1–999,999,999
ObjectNumber	Numeric	9	1–999,999,999
Name	Alphanumeric	16 (Exact)	
ISLPrivileges	Hexadecimal	1 (Exact)	
DayMinutesBeforeOvertime	Numeric	5	00:00–23:59
PeriodMinutesBeforeOvertime	Numeric	6	000:00–999:99
PickupAddTransferStyle	Numeric	3	0–255
DefaultTouchscreen	Numeric	3	0–255
DefaultMobileTouchscreen	Numeric	3	0–255

FamilyGroup

Scope: Property

Table 6-7 Family Group

Attribute Name	Data Type	Max Width	Range
Property	Numeric	9	1–999,999,999
ObjectNumber	Numeric	9	1–999,999,999
Name	Alphanumeric	16 (Exact)	
ReportGroup	Numeric	2	0–99

JobCode

Scope: Property

Table 6-8 Job Code

Attribute Name	Data Type	Max Width	Range
Property	Numeric	9	1–999,999,999
ObjectNumber	Numeric	9	1–999,999,999
Name	Alphanumeric	16 (Exact)	
OptionBits	Hexadecimal	1 (Exact)	
ReportGroup	Numeric	3	0–255
RevenueCenter	Numeric	3	1–999

Attribute Name	Data Type	Max Width	Range
Role	Numeric	9	1–999,999,999
Class	Numeric	9	1–999,999,999

MajorGroup

Scope: Property

Table 6-9 Major Group

Attribute Name	Data Type	Max Width	Range
Property	Numeric	9	1–999,999,999
ObjectNumber	Numeric	9	1–999,999,999
Name	Alphanumeric	16 (Exact)	
ReportGroup	Numeric	2	0–99

Menu Item

Scope: Property

Table 6-10 Menu Item

Attribute Name	Data Type	Max Width	Range
Property	Numeric	9	1–999,999,999
ObjectNumber	Numeric	9	1–999,999,999
MasterName	Alphanumeric	16 (Exact)	
MajorGroup	Numeric	9	1–999,999,999
FamilyGroup	Numeric	9	1–999,999,999
ReportGroup	Numeric	1	0–8
Status	Hexadecimal	1 (Exact)	
RevenueCenter	Numeric	3	1–999
DefinitionSequence	Numeric	2	1–64
DefinitionName1	Alphanumeric	16 (Exact)	
DefinitionName2	Alphanumeric	16 (Exact)	
Class	Numeric	9	1–999,999,999
SLUSort	Numeric	2	0–99
NLU	Hexadecimal	12 (Exact)	
NLUGroup	Numeric	2	0–32
SLU	Numeric	3	0–127
MobileSLU	Numeric	3	0–127

Attribute Name	Data Type	Max Width	Range
Surcharge	Decimal	12	10 digits, sign, decimal
DefinitionOptionBits	Hexadecimal	1 (Exact)	
SpecialCount	Numeric	4	0–9999
Icon	Numeric	5	0–99,999
Tare	Decimal	8	0.000000–838607
KDSPrepTime	Numeric	5	0–99,999
MainMenuLevel	Hexadecimal	2 (Exact)	
SubMenuLevel	Hexadecimal	2 (Exact)	
PriceSequence	Numeric	1	1–8
PriceOptionBits	Hexadecimal	1 (Exact)	
Price	Decimal	12	10 digits, sign, decimal
PrepCost	Decimal	12	10 digits, sign, decimal
TaxClass	Numeric	3	0–255
MenuLevel	Numeric	1	0–8

MenuItemClass

Scope: Revenue Center

Table 6-11 Menu Item Class

Attribute Name	Data Type	Max Width	Range
Property	Numeric	9	1–999,999,999
RevenueCenter	Numeric	3	1–999
ObjectNumber	Numeric	9	1–999,999,999
Name	Alphanumeric	16 (Exact)	
TaxClass	Numeric	3	0–255
OptionBits	Hexadecimal	6 (Exact)	
MainMenuLevel (Select Only)	Hexadecimal	2 (Exact)	
SubMenuLevel (Select Only)	Hexadecimal	2 (Exact)	
PrintingOptionBits	Hexadecimal	1 (Exact)	
PrintGroup	Numeric	1	1–8
PrivilegeGroup	Numeric	1	0–3
SalesItemizer	Numeric	2	1–16
DiscountItemizer	Numeric	1	0–15

Attribute Name	Data Type	Max Width	Range
ServiceChargeItemizer	Numeric	1	0–8
HighAmountLockout	Numeric	8 (Exact)	0–99,999,999

RevenueCenter (Select Only)

Scope: Property

Table 6-12 Revenue Center (Select Only)

Attribute Name	Data Type	Max Width	Range
Property	Numeric	9	1–999,999,999
ObjectNumber	Numeric	3	1–999
Name	Alphanumeric	16 (Exact)	

Role (Select Only)

Scope: Enterprise

Table 6-13 Role (Select Only)

Attribute Name	Data Type	Max Width	Range
ObjectNumber	Numeric	9	1–999,999,999
Name	Alphanumeric	64	
Comment	Alphanumeric	2000	
TransactionPrivileges	Hexadecimal	20 (Exact)	
SupervisoryPrivileges	Hexadecimal	8 (Exact)	
TimeclockPrivileges	Hexadecimal	3 (Exact)	

ServiceCharge (Select Only)

Scope: Property

Table 6-14 Service Charge (Select Only)

Attribute Name	Data Type	Max Width	Range
Property	Numeric	9	1–999,999,999
ObjectNumber	Numeric	9	1–999,999,999
Name	Alphanumeric	16 (Exact)	
TaxClass	Numeric	3	0–255
OptionBits	Hexadecimal	6 (Exact)	
PrintOptionBits	Hexadecimal	1 (Exact)	
NLU	Numeric	3	0–255

Attribute Name	Data Type	Max Width	Range
SLU	Numeric	2	0–64
MobileSLU	Numeric	2	0–64
Percentage	Decimal	7	000.000–100.000
Amount	Decimal	12	10 digits, decimal
TipsPaidTenderMedia	Numeric	9	1–999,999,999
TipsPaidPercentage	Numeric	8	000.0000-100.0000
PrivilegeGroup	Numeric	1	0–3
Icon	Numeric	5	0–99,999

ServiceChargeTotals (Select Only)

Scope: Property

Table 6-15 Service Charge Totals (Select Only)

Attribute Name	Data Type	Max Width	Range
Property	Numeric	9	1–999,999,999
RevenueCenter	Numeric	3	1–999
BusinessDate	DATE		
ObjectNumber	Numeric	9	1–999,999,999
Name	Alphanumeric	16	
Count	Numeric	6	5 digits, sign
Amount	Decimal	17	15 digits, sign, decimal
EmployeeObjectNumber	Numeric	9	1–999,999,999
EmployeeFirstName	Alphanumeric	8	
EmployeeLastName	Alphanumeric	16	
CashierObjectNumber	Numeric	9	1–999,999,999
CashierName	Alphanumeric	16	

Tender Media

Scope: Property

Table 6-16 Tender Media

Attribute Name	Data Type	Max Width	Range
Property	Numeric	9	1–999,999,999
ObjectNumber	Numeric	9	1–999,999,999
Name	Alphanumeric	16 (Exact)	
Type	Numeric	1	1–5
Preamble	Alphanumeric	8	
OptionBits	Hexadecimal	11 (Exact)	
PrintOptionBits	Hexadecimal	1 (Exact)	
NLU	Numeric	3	0–255
SLU	Numeric	2	0–64
MobileSLU	Numeric	2	0–64
HighAmountLockout	Numeric	2 (Exact)	00–79
PrivilegeGroup	Numeric	1	0–3
EstimatedTipPercentage	Decimal	8	000.0000–100.0000
SecondaryFloorPercentage	Decimal	8	000.0000–100.0000
BaseFloor	Decimal	12	10 digits, decimal
SecondaryFloor	Decimal	12	10 digits, decimal
InitialAuthorization	Decimal	12	10 digits, decimal
DefaultTipPercentage	Numeric	3	0–100
InterfaceIndex	Numeric	1	0–8
Icon	Numeric	5	0–99,999
ChargedTipServicecharge	Numeric	9	1–999,999,999
QuickServiceLimit	Decimal	12	10 digits, decimal
OfflineEstimatedTipPercentage	Numeric	8	000.0000–100.0000

TimeCard (Select Only)

Scope: Property

Table 6-17 Time Card (Select Only)

Attribute Name	Data Type	Max Width	Range
Property	Numeric	9	1–999,999,999
ObjectNumber	Numeric	9	1–999,999,999
CurrentRate	Numeric	1	1–8
ClockStatus[1]	Numeric	3	0–4
SequenceNumber	Numeric	3	1–999
Rate	Numeric	1	1–8
Revenue Center	Numeric	3	1–999
ClockIn	TIME		
ClockOut	TIME		
ClockInStatus[2]	Numeric	3	0–4
ClockOutStatus[3]	Numeric	3	0–4
Regular	Numeric	11	10 digits, sign
Overtime	Numeric	11	10 digits, sign

Clock In/Out Status

Table 6-18 Clock In / Out Status

Clock In/ Out Status	
0	Clocked out
1	On unpaid break
2	On paid break
3	Clock in without schedule
4	Clock in with schedule

[1] Refer to the Clock In/Out Status table above.

[2] Refer to the "Clock In or Clock Out Status", on page 6-12 of, Feature Reference Manual table below.

[3] Refer to the "Clock In or Clock Out Status", on page 6-12 of, Feature Reference Manual table below.

Clock In or Clock Out Status

Table 6-19 Clock In or Clock Out Status

Clock In or Clock Out Status		Value	Digit
1	Time Clock Adjustment Name # 1	8	1
2	Time Clock Adjustment Name # 2	4	
3	Time Clock Adjustment Name # 3	2	
4	Time Clock Adjustment Name # 4	1	
5	Time Clock Adjustment Name # 5	8	2
6	Time Clock Adjustment Name # 6	4	
7	Time Clock Adjustment Name # 7	2	
8	Time Clock Adjustment Name # 8	1	
9	Time Clock Adjustment Name # 9	8	3
10	Time Clock Adjustment Name # 10	4	
11	Time Clock Adjustment Name # 11	2	
12	Time Clock Adjustment Name # 12	1	
13	Time Clock Adjustment Name # 13	8	4
14	Time Clock Adjustment Name # 14	4	
15	Time Clock Adjustment Name # 15	2	
16	Time Clock Adjustment Name # 16	1	

TimeclockSchedule

Scope: Property

Table 6-20 Timeclock Schedule

Attribute Name	Data Type	Max Width	Range
Property	Numeric	9	1–999,999,999
ObjectNumber	Numeric	9	1–999,999,999
EmployeeObjectNumber	Numeric	9	1–999,999,999
ClockIn	TIME		
ClockOut	TIME		
JobCode	Numeric	9	1–999,999,999
ReportGroup	Numeric	3	0–255