

Common Data Handling Difficulties in Raisers Edge Migrations
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Purpose

This document outlines key data handling difficulties encountered during migrations of data from Raisers Edge (RE) systems to Salesforce (SF).

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Motivation

A number of structures in RE data exports present a data migrator with problems that may be unexpected.

This document mentions those that are prominent/consistent during NWDC migrations of RE data to SF, to help ensure that others are not caught unaware by these issues.

Export Mechanisms for Raisers Edge Data

Details presented in this document assume RE data is extracted using RE “export” and “query” functionality available within the RE user interface.

1. RE “export” functions are used to define most data extraction:

- A) Actions
- B) Appeals
- C) Campaigns
- D) Constituents
- E) Funds
- F) Gifts
- G) Individual Relationships

2. RE “query” functions used to extract RE “attribute” data

Each attribute exported with a unique query providing the attribute data and key links to the described Constituent, Gift, Relationship, etc.

NWDC has not yet tested alternative data extraction approaches such as:

1. use of the “Read Only Database Access” (RODBA) module

I believe access to the RE RODBA module is available **only** with additional charges from BlackBaud. This additional expense may be unacceptable for many data migrations.

2. use of the RE “Application Programming Interface” (API)

I believe access to the RE API is available with **only** with additional charges from BlackBaud. This additional expense may be unacceptable for many data migrations.

3. direct export using login to an SQL Server Management Console session on a server hosting RE.

This approach is probably only available to organizations that are hosting an RE instance on their own database server.

These alternate approaches in some respect offer more direct data access to RE data – with little or no

intervening RE automation. It may be that some of the data irregularities NWDC has encountered with RE data would not be present in data extracted using one of these other approaches.

Frequently Encountered Data Issues

A high-level description of data issues frequently encountered with RE data exports is provided here.

RE Relationships

RE Relationship records consistently present several difficulties to a person working to transfer RE data to SF.

See the accompanying “png” graphics files representing the structure provided by a RE Relationships export that includes a representation of “education” records (“db_rel_diag_RE_ind_rel_educ.png”, “db_rel_diag_RE_ind_rel_non-educ.png”)

Non-Constituents With Little or No Information Provided

It's common to find RE Relationship records marked “is constituent” = false, which provide so little information that creation of SF Contacts may be inadvisable:

1. (Most common) spouses whose relationship record provides nothing but a last name and a title such as “Mrs” or “Mr”.

It may be wise to exclude records like this at the very beginning of the data processing chain. These records provide so little information that records created in SF to represent them would be too ambiguous to provide benefit.

2. “Individual” non-constituents in non-spouse relationships, but with very sparse data.

Consider a situation where three RE constituents are linked to non-constituents named “John Smith”, but no information except first name “John” and last name “Smith” are provided. Typically, this situation would be represented by 3 RE Relationship records marked with “is constituent = false”. Do 3 non-constituent records named “John Smith” really represent the same person? Without address, phone or email information a merge of these records might be completely misplaced.

3. IndOrg records that provide nothing but an organization name abbreviation, etc.

If similar non-constituent records have been created for several RE constituents, there may be several IndOrg records that are all similar, and these may be difficult to deduplicate correctly. “Acme Painting” records created and linked to several persons might actually represent different businesses in different locations – but the sparse data provided won't allow these situations to be distinguished during a deduplication.

Most importantly, these records may provide so little information that records created in SF to represent them would be too ambiguous to provide benefit.

Incorrect Use of Gender Specific Codes

Examples:

1. “husband” for a record with gender “female”
2. “daughter” for a record with gender “female”

This type of error is more common in references to non-constituents than in references to persons who are indicated to be RE constituents.

These errors are so common that NWDC applies a conversion to gender-neutral relationship codes as a standard during RE data migrations.

In addition, use of gender-specific relationship codes within SF basically amounts to “storing similar data in more than one place” - a practice that is basically poor data management. If a specific “gender” field is being populated on SF Contact records, then the use of gender-specific relationship codes essentially stores information already being stored somewhere else. NWDC is that storing similar data in multiple locations always results in inconsistency and ambiguities at some time.

Incorrect Correspondence of Relationship and Reciprocal Codes

Examples:

1. “Husband” with reciprocal “Owner”
2. “Wife” (gender “female”) with “Wife” (gender “male”)
3. “Daughter” with “Husband”
4. “Daughter” with “Employee”
5. “Grandparent” with no specified reciprocal relationship

This type of situation is common in RE relationship data. If data is being transferred to a SF instance using NPSP Relationships automation, it is desirable to correct these.

Unfortunately, automated correction of these errors is often not practical, as human judgment or references to subtle details of related data are required for a proper correction. But it may be possible to identify these situations in a fashion that facilitates manual edits by RE users before final data processing is complete.

Incorrect Direction of Relationship and Reciprocal Codes

Examples:

1. Alice” (gender “female”) is “husband” to “Henry” (gender “male”) who is “wife”.
2. “Grandfather” and “grand daughter” roles reversed.
3. “Employee” (an organization) and “manager” (a person) reversed

These situations occur in almost every RE instance.

Unfortunately, automated correction of these errors is often not practical, as human judgment or references to subtle details of related data are required for a proper correction. But it may be possible to identify these situations in a fashion that facilitates manual edits by RE users before final data processing is complete.

Inappropriate Use of Person-To-Person or Person-To-Organization Links

Examples:

1. “Joe” is “daughter” of “Pixie Books”.
2. “Acme Painting, LLC” is “father” of “Alice”
3. “Erika” is “wife” of “NW Art Gallery”

This type of situation is common in RE relationship records.

To create proper code conversion maps for RE Relationship data, it is helpful to construct automation that separately lists the “relationship code” values that are encountered within RE data for:

1. person-to-person links

Typically, only RE “relationship code” or “reciprocal relationship code” values found in *these* situations would be documented in code-conversion maps used to create records loaded to NPSP Relationship records in SF.

2. person-to-org links

A code-conversion may not be needed for relationship code values used in these links, since the standard NPSP “Affiliation” object uses a free-text field to indicate the name or function of a person-to-org linkage.

Also, it's common for some relationship code values in RE to be used only in characterizations of person-to-org relationships. There is no need for these codes to be included in code conversion maps developed for application to SF NPSP Relationship records.

Multiple Relationships Indicated On Each RE Relationship Record

Each individual RE Relationship may simultaneously indicate several types of linkage.

An RE Relationship record provides the following fields that may characterize a linkage:

1. is contact
2. is employee
3. is spouse
4. is head of household
5. relationship code
6. reciprocal relationship code

So, a single record might describe a situation requiring representation by several SF records, and records in both SF NPSP Affiliation and Relationship objects may be required:

1. RE record:
 - A) is contact = “yes”
 - B) is employee = “yes”
 - C) relationship code = “board of directors”

D) relationship reciprocal code = “secretary”

(An intentionally suggested “nonsense” value – these sorts of situation are not uncommon in RE Relationship data, and data migration automation has to be able to handle them.)

SF records created:

- i. Affiliation with Role = “Org Contact”
- ii. Affiliation with Role = “Employee”
- iii. Affiliation with Role = “Board Member”
- iv. Affiliation with Role = “Board Secretary”

2. RE Record between “Marge” and “David”

- A) is contact = “yes”
- B) is head of household = “yes”
- C) is spouse = “yes”
- D) relationship code = “old friend”
- E) relationship reciprocal code = “emergency contact”

SF data created:

- i. SF Affiliation indicating “primary affiliation” with household Account?
- ii. SF Account.Primary Contact value set to indicate this individual as primary contact for household?
- iii. SF Affiliation indicating “emergency contact” role for household?
- iv. SF Relationship indicating “spouse”
- v. SF Relationship indicating “friend”?
- vi. SF Relationship indicating “emergency contact” role for an individual?

RE Relationship records that simultaneously specify several relationships are common, and data handling automation therefore must be capable of creating several SF records for these situations.

Ambiguous Relationship “Date From” and “Date To” Values

Each RE Relationship record can represent multiple relationships simultaneously. But the RE Relationship record provides only one set of “date from” and “date to” values.

This creates a data ambiguity.

For example, say we have a relationship record in RE with these values:

- 1. Relationship between “Marge” and “David”
 - A) is contact = “yes”
 - B) is head of household = “yes”
 - C) is spouse = “yes”

- D) relationship code = “old friend”
 - E) relationship reciprocal code = “emergency contact”
 - F) date from = 1/1/1960
 - G) date to = 12/31/2014
2. There is no clear way to determine which of the several relationships represented ended on 12/31/2014:
- A) Head of household? Did the household agree that someone else would play this role?
 - B) Did the “contact” role change? Perhaps the household decided that someone else would be the primary contact?
 - C) Did the marriage end?
 - D) Did someone else take the emergency contact role?
 - E) Did David stop being Marge's friend?
 - F) Did *every* type of relationship documented with this record end on 12/31/2014?

Complex Deduplication of Relationship Codes

Because of the typical RE Relationship problems outlined above, it is typically necessary to perform a de-duplication step on a set of initial records generated from RE Relationships:

As an example:

1. RE Relationship between “Phil” and “Jeannie”
 - A) is spouse = “yes”
 - B) relationship code = “husband”
 - C) reciprocal relationship code = “old friend”

Generated “candidate” NPSP Relationship records

 - i. Jeannie is Phil's “spouse” (generated from “husband” relationship code)
 - ii. Jeannie is Phil's “spouse” (generated from “is spouse” setting of “true”)
2. RE Relationship between “Jeannie” and “Phil”
 - A) is spouse = “yes”
 - B) relationship code = “old friend”
 - C) reciprocal relationship code = “spouse”

Generated “candidate” NPSP Relationship records

 - i. Phil is Jeannie's “old friend”
 - ii. Phil is Jeannie's “spouse” (generated from “is spouse” setting of “true”)

Notice that a blunt, direct initial handling of the RE record can generate several “candidate” NPSP Relationship records that carry similar values.

For instance, RE may provide Relationship records representing both the “Jeannie/Phil” and “Phil/Jeannie” link directions of a “husband/wife” relationship. So a simple conversion may create two different records indicating a “spouse” relationship. But because NPSP automation will *create* reciprocal records, data processing must ensure that only *one* of these spouse records is loaded to SF.

These deduplications can be complex, as it's necessary to detect and merge records that differ only in directionality. For instance, in a typical use of NPSP Relationship automation, only one of these two records should be loaded to SF:

1. Mark is Joan's “parent”
2. Joan is Mark's “child”

Non-Constituent Records Have Low Visibility to RE Data Users

NWDC standard processing of RE data includes creation of SF Contacts for “non-constituents” documented in RE Relationship records.

1. Non-constituent records are included in the RE Relationships data export, unless the export definition specifies otherwise
2. If non-constituents are important enough that relationships to them are defined in RE, it seems sensible that they'd be important enough to justify transfer to SF Contact records.
3. A non-constituent might be a spouse, friend, relative... any sort of relationship to a non-constituent might be documented in an RE Relationship record.

However, it is common for even experienced RE users to have no idea how to look for non-constituent records:

1. Search tools in the RE user interface typically search among constituents.
2. RE typically provides no good interface tools to search for a non-constituent record.
3. RE “constituent id” values that might be used for searches are not defined on non-constituent record within RE.

As a result, client “data reviewers” typically have difficulty when they're attempting to verify data established in a SF Contact record to represent an RE non-constituent. It's very rare that a client data reviewer will know how to look for the corresponding RE record, even if the SF record is clearly marked as being derived from a RE non-constituent. It's likely that special instruction will need to be provided to client data reviewers concerning verification of data on SF records created from RE non-constituents.

Duplicate Representations of Relationship “Education” Records

RE data exports may represent the same “Education” records repeatedly.

See the accompanying “png” graphics file representing the structure provided by a RE Relationships export that includes a representation of “education” records (“db_rel_diag_RE_ind_rel_educ.png”)

If RE Data for “Joe” includes an “education” record linking Joe to “UCLA”, that record will be repeated on every RE Relationship record defined for “Joe”

For example, say...

1. we initially establish an RE constituent record for Joe and indicate an education record linking him to “UCLA”.
2. we then add an RE Relationship record linking Joe to a constituent record representing his grandfather
3. we then add an RE Relationship record linking Joe to a constituent record representing his friend Sally.
4. As it turns out, an RE Relationship data export will
 - A) provide a copy of the “UCLA” education link on each of Relationship record linked to Joe.
For instance,
 - i. one copy of the “education” record linking Joe to “UCLA” will be linked to the Relationship record documenting Joe's relationships to his grandfather, and
 - ii. *another* copy of the *same* education record will be provided in linkage to the Relationship documenting his friendship with Sally.
 - B) It's clear this is the exact same education record being represented, because the RE Relationship export provides the same “system id” value on them. (“System ID” is the internally generated RE primary key for a table.) This can also be verified by checking every other field on the “education” record .

Incomplete Overlapping of Relationships in Similar Data Export Areas

Some data areas in RE export definitions seem as if they would duplicate data represented in RE Relationship exports, but do not:

1. “Primary Business” area within a defined RE “Constituent” export and data provided in an RE Relationships export
I've only been asked to migrate “primary business” information in one RE data migration. There was some overlap, but *not* complete overlap with similar information obtained in an RE Relationship export from the same RE instance.
Because of this *partial* overlap, a complicated set of merge/deduplicate steps may be required to construct appropriate NPSP Affiliation records, etc.
2. “Primary Alumni Information” area within a defined RE “Constituent” export and data provided in an RE Relationships export.
I've only been asked to migrate “primary alumni information” information in one RE data migration. There was some overlap, but *not* complete overlap with similar information obtained in an RE Relationship export from the same RE instance.
Because of this *partial* overlap, a complicated set of merge/deduplicate steps may be required to construct appropriate NPSP Affiliation records, etc.

RE “Phone Number” Records

The RE “Phone Number” table (typically exported as part of an RE “constituent” export definition) provides a slightly misleading name - “phone numbers” are not the only information stored in this

object.

Records in the RE “Phone Number” object might represent:

1. Phone numbers
2. Email addresses
3. Twitter user names
4. Facebook account names
5. Website URLs
6. Skype names
7. other uses are also relatively common

These different uses are distinguished only by the value provided in the `PhoneNumber.Type` field on these records.

A number of difficulties are common when working with `PhoneNumber` records:

1. Individual RE instances typically apply their own set of values in the `Type` field – one RE instance may apply completely different values than any other RE instance.

As a result, at least some customization of data handling automation is required for almost every RE instance.

2. “Type” values used for email addresses typically do not clearly identify the sort of “home”, “work”, “other” categories used in typical SF instances.

It is common for “type” values like “email”, “email 1”, “email 2” to be used, without anything in the “type” value clearly indicating “home” or “work” use, etc. It's common that the “home/work” distinction needs to be inferred from the sort of RE Constituent record being characterized – with values linked to “individual” constituents interpreted as “home/other” phone numbers, etc.

3. “Type” values used for phone numbers typically do not clearly identify the sort of “home”, “work”, “other” categories used in typical SF instances.

It is common for “type” values like “phone”, “cell”, “phone 2”, “mobile”, “cell work” to be used, without anything in the “type” value clearly indicating “home” or “work” use, etc. It's common that the “home/work” distinction needs to be inferred from the sort of RE Constituent record being characterized – with values linked to “individual” constituents interpreted as “home/other”, etc.

4. It is relatively common to find provided values that disagree with the provided `Type` value.

For instance:

A) `Type` value “email”, but a phone number is provided

B) `Type` value “website”, but an email address is provided

5. It is not uncommon to find the the same email or phone number value represented on multiple records linked to the same constituent, etc.
6. Email addresses provided in these records are not necessarily well-formed, valid email

addresses.

It may be wise to check all email addresses for construction errors at the start of the processing chain. Improperly formed email addresses will typically cause rejection of records during SF data loading operations. In those circumstances, calculated values for NPSP “preferred email” field may also need to be recalculated. (For instance a “preferred email value of “home” can not be used if SF rejects the provided “home email” value.)

7. Web site addresses provided in these records are not necessarily well-formed, valid web site URLs.

RE Export and Query Differences

RE Exports and Queries Sometimes Do Not Access the Same Fields

In rare cases, fields that are present in RE may be available for inclusion within an RE “export” definition, but not in an RE “query” definition. And vica versa.

RE Exports and Queries Sometimes Provide Different Values for the Same Field

In rare cases, a field that is exported in an RE “export” definition may have different values than will be found in the same field within an export generated with an RE “query” definition.

1. This has been encountered in the RE Action.Solicitor(s) field.

This field provides a comma-delimited text value listing all the solicitors that have been associated with the RE Action.

- A) The ordering of the solicitors within the comma-delimited text generated using an RE “query” is the reverse of the ordering used in an RE “export” definition.

RE Gifts

Payment of Multiple Gift Installments with a Single Gift

See the accompanying “png” graphics file representing the structure provided by a RE Gift export that includes a representation of “gift installment” records (“db_rel_diag_RE_gf_2.png”)

RE will allow a single gift to be applied as a payment of multiple planned gift installments. Installments on completely different gifts might also be paid with a single gift.

A data migrator must remain aware that the “gift installment payment” records created in an RE gift export do not represent an individual gift, but only the **application** of a gift towards a planned installment payment.

This situation is rare, but data migrators will need to be aware of the possibility.

Incomplete Coordination of Gift-level and Installment-Level Fund Links

See the accompanying “png” graphics files representing the structures provided by a RE Gift export that includes a representation of “gift installment” records (“db_rel_diag_RE_gf_1.png”,

“db_rel_diag_RE_gf_2.png”)

Within an RE Gift export, allocations of gift installments to funds do not reliably match the fund allocations that are directly linked to the Gift record.

Gift Links to Campaigns and Appeals May Differ from Current Campaign/Appeal Hierarchy

It is relatively common to encounter Gifts with Campaign and Appeal links that disagree with the currently defined RE Campaign/Appeal hierarchy.

In these situations, it may be necessary to construct SF Campaign records with parent/child links that represent not only the currently defined RE Campaign/Appeal hierarchy, but which also represent Campaign/Appeal combinations encountered on RE Gift records.

Ambiguous Representation of RE “Attribute” Data in RE Exports

Tables generated in an RE “export” to represent RE Attributes are labeled ambiguously (using numeric suffixes rather than more evocative table names).

This can make it difficult to use RE “export” definitions for export if more than a small number of RE Attributes need to be exported. It may be desirable to instead use a separate RE query definition to export each RE Attribute to a clearly named file.

See the accompanying “png” graphics file representing the structure provided by a RE Relationships export that includes a representation of “education” records (“db_rel_diag_RE_ind_rel_educ.png”). The RE export definition used to generate this MS-Access database included several RE Attributes linked to RE Relationship “Education” records.