The Link King v6.0
User Manual Update

The Link King v6.0 features upgrades in four areas:

• Enhancement to the display of the final linkage map.

• Enhancements to preserve the integrity of linked record clusters in a client master listing through successive updates.

• Enhancements to facilitate editing of the final linkage map (detailed later in this document).

• Enhancements to streamline or improve existing processes, including:
  ✓ Alias compression protocol that is faster and eliminates more redundancy.
  ✓ Linkage of records missing both SSN and DOB

You CANNOT “restore” a Link King job started in v5.x into The Link King v6.0.

You CAN import a “final_link_master” dataset created by The Link King v5.x into The Link King v6.0.

   Rule Your Data!
Enhancements to Display of Final Linkage Map

Easily Identify:

- Records originating in the dataset that was initially unduplicated (Origin).
- Records linked in a previous update to the client master listing.
- Records linked in the current update to the client master listing.
- Records that will be used to establish new linkages in future updates to the client master listing & extract data for analytic purposes (CORE).
- Records that will be used to extract data for analytic purposes but not to establish new linkages.

<table>
<thead>
<tr>
<th>Linkage core</th>
<th>curreny</th>
<th>uniqid</th>
<th>name</th>
<th>phone</th>
<th>dob</th>
<th>frame</th>
<th>mname</th>
<th>label</th>
<th>gender</th>
<th>flx var</th>
<th>note</th>
</tr>
</thead>
<tbody>
<tr>
<td>CORE</td>
<td>00000405</td>
<td>000023047</td>
<td>CLAYTON</td>
<td>555-555-5555</td>
<td>01/01/1960</td>
<td>WILLIAMS</td>
<td>M</td>
<td>LONGVIEW</td>
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</table>
The controls/legends at the bottom portion of the final linkage map display will vary depending on the nature of the unduplication task. The configuration on the previous page (where all possible controls/legends are shown) will only occur during an update of a client master listing where the “matching” dataset contains aliases (i.e., multiple rows of identifying information with the same system based client identifier).

During the initial unduplication of a dataset, the configuration on controls/legends will look like this:

[Diagram of controls/legends for initial unduplication]

Updating a client master listing with a matching dataset that does not contain aliases will result in the following configuration of controls/legends:

[Diagram of controls/legends for updated master listing]

Enhancements to preserve the integrity of linked record clusters in a client master listing through successive updates

Previous versions of The Link King used all identifier information for a client when updating a master client listing. This may result in a gradual deterioration in the integrity of linked record clusters when liberal linkage criteria are used. The Link King v6.0 only uses the identifying information from “CORE” records to establish new linkages.¹ Records linked a lower:

¹ Records from the dataset initially used to create the master client listing or records linked to the index id at high certainty levels.
certainty levels are retained in the master client listing to allow extraction of service information from the associated data tables. These non-“CORE” records are not, however, used to establish new links to other datasets. Accordingly, one can use liberal linkage criteria for some datasets and conservative criteria for other datasets without concern about the negative impact of liberal criteria on subsequent linkage runs.

**Enhancements to facilitate editing of the final linkage map**

LEFT mouse-click on selected record to flag a record for deletion / undelete / flag as CORE.

**Flagged for deletion:**

<table>
<thead>
<tr>
<th>UniqueID</th>
<th>ClientName</th>
<th>CertaintyLevel</th>
<th>LinkProtocol</th>
<th>Date</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1513</td>
<td>Reference</td>
<td>1</td>
<td>CORE</td>
<td>08/02/1974</td>
<td>MICHELLE</td>
</tr>
<tr>
<td>1513</td>
<td>Reference</td>
<td>1</td>
<td>CORE</td>
<td>08/02/1974</td>
<td>MICHELLE</td>
</tr>
<tr>
<td>1513</td>
<td>Level 2</td>
<td>3</td>
<td>nonCORE</td>
<td>08/02/1974</td>
<td>MICHELLE</td>
</tr>
<tr>
<td>1513</td>
<td>LinkedRecordAlias</td>
<td>nonCORE</td>
<td>08/02/1974</td>
<td>MICHELLE</td>
<td></td>
</tr>
<tr>
<td>1008</td>
<td>Reference</td>
<td>3</td>
<td>CORE</td>
<td>08/02/1974</td>
<td>MICHELLE</td>
</tr>
</tbody>
</table>

**Note:** In some instances, the left-mouse will NOT trigger a “delete” row and will only alternate between “CORE” and “nonCORE”. This is the case for “index” records (i.e., the records that form the initial core of a uniqueid) and “reference” records (i.e., a “CORE” record for a uniqueid that is the basis for comparison to records that the uniqueid has been linked with).

During the unduplication/linkage process, records are classified as CORE records if they meet any of the criteria detailed below:

**During Creation of Master Client Listing:**

- Linked at certainty level 1 or 2 by deterministic protocol only
- Linked at certainty level 1 or 2 by both deterministic and probabilistic protocols
- Linked at certainty level 3 by both deterministic and probabilistic protocols
During Update of Client Master Listing:

- Linked at certainty level 1 or 2 by deterministic protocol only
- Linked at certainty level 1 or 2 by both deterministic and probabilistic protocols

Non-CORE record, flagged as CORE:

When a record's CORE status has been manually changed, the text will be colored red to allow the user easy identification of pending changes.

RIGHT Mouse-click on any record in an alias group to break the link between that alias group and all other records consolidated under a given "uniqueid".

Records separated from the reference record will be highlighted in gray.

RIGHT mouse-click on selected record to undo a regroup action.

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2 See used manual for definition of alias group.
RIGHT mouse-click on any record for a given uniqueid to “ZOOM” in for more extensive linkage edits.

Uniqueid ZOOM interface.

LEFT Mouse-click on selected record to flag a record for deletion / undelete / flag as CORE (same as Table view).

RIGHT mouse-click on selected record to “Quick Regroup” (same outcome as obtained on table view) or to separate into multiple groups. The number of grouping options displayed in the pop-up menu increases as the number of alias groups in the uniqueid being examined increases.
Note that if one of the groupings of records in a user defined grouping does not have a designated CORE record, the following message will appear if you try to return to the master client listing:

```
ERROR!

Each group of records must have at least one designated CORE record.
```

The following control identifies the number of uniqueids with edits pending and allows the user to apply the pending edits to the final linkage map as well as to undo pending edits. Edits previously applied are not undone with this control. To undo all edits and restore the final linkage map to its original state, the user must re-map the data (Step 9 from Unduplication/Linking Control Panel).
Linkage of Records Missing Both SSN and DOB

Previous versions of The Link King would deem any record missing both SSN and DOB as “unmatchable”. The Link King v6.0 will link records missing both SSN and DOB. All potential links are classified as a Level 6 link. Some records missing both DOB and SSN may still be considered unmatchable depending on the individual and combined length of the first and last name.

The intention of this feature is to allow processing of records missing both SSN and DOB when those records represent a portion of all records in the dataset being processed. We have not tested this feature where all records in a dataset are missing both SSN and DOB. Further, The Link King limits matching records missing both SSN and DOB to relatively rare names. Linking records missing both SSN and DOB for common names (e.g., John Smith) seems inappropriate.

After records have been linked, to review linked records where at least one member of the record pair is missing both SSN and DOB:

- Click “Review Uncertains” from the unduplication/linking control panel.
- Make sure that the cell for Level 6 is highlighted in yellow (using the select records for review control).
• Click “Continue to Review”

• Select “verify_name_only” from the “select records for review” control.