

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.

uniqueid	certainty	Alias group	Linkage core	ssn	dob	fname	mname	lname	maiden	gender	flex var
1513	Reference	0000465	CORE	973889334	09/02/1974	MICHELLE	K	CHARTIER		F	
1513	Reference (Alias)	0000465	CORE	973889334	09/02/1974	MICHELLE	K	CHARTIER		F	
1513	Level 2	00004527	nonCore	991786531	09/02/1974	MICHELLE	K	CHARTIER		F	MONROE
1513	Linked Record Alias	00004527	nonCore		09/02/1974	MICHELLE		CHARTIER		F	PORTANGELES
105	Reference	00000047	CORE	986934069	05/02/1961	JOHNNY	D	WILLIAMS		M	
105	Level 2	00004131	nonCore	984139075	05/02/1989	JOHN	D	WILLIAMS		M	LONGVIEW
105	Linked Record Alias	00004131	nonCore		05/02/1989	JOHN	D	WILLIAMS		M	
576	Reference	00001327	CORE	984572554	02/06/1953	JOE	H	JANZEN		M	
576	Level 2	00003840	nonCore	984572554	10/10/1974	JOSEPH	H	JANZEN		M	CHENEY
576	Linked Record Alias	00003840	nonCore		10/10/1974	JOSEPH	H	JENZEN		M	
1411	Reference	00001403	CORE	980585334	01/30/1952	ROBBIE	A	GARCIA		M	
1411	Level 1	00005472	CORE		01/30/1952	ROBERT	A	GARCIA		M	
1411	Level 2	00004116	nonCore	989159119	01/30/1970	ROBERT	A	GARCIA		M	SUMNER
1665	Reference	00002375	CORE	983664200	06/03/1970	MIHCAEL		BROWN		M	
1665	Level 2	00005254	nonCore		06/03/1970	MICHAEL	L	BROWN		M	WRICHLAND
1665	Level 2	00005121	nonCore	983664200		MICHAEL		BROWN		M	SEATTLE
2338	Reference	00003304	CORE		01/30/1960	ANTHONEY		DAVIS		M	
2338	Level 2	00004887	nonCore		01/30/1960	ANTHONY	R	DAVIS		M	

UNIQUEID legend

- Consolidation ?
- Regroup Pending
- User Regrouped

Linkage Certainty Legend

- Origin
- Previously Linked
- Newly Linked

Filter

- All records
- Origin -w- new links
- Potential Consolidation

Sort

- Ascend uniqueid
- Descend total # grouped
- Descend # of newly linked
- Descending Certainty
- Descending CORE #
- Descending non-CORE #
- Descending Xlinks
- Descending alias strength

Search

Search Element:

- First Name
- SSN
- Middle Name
- Uniqueid
- Last Name
- Flex Var

Enter text for search:

Edit

Left Click - Delete / Undelete Flag as CORE

Right Click - Regroup ZOOM

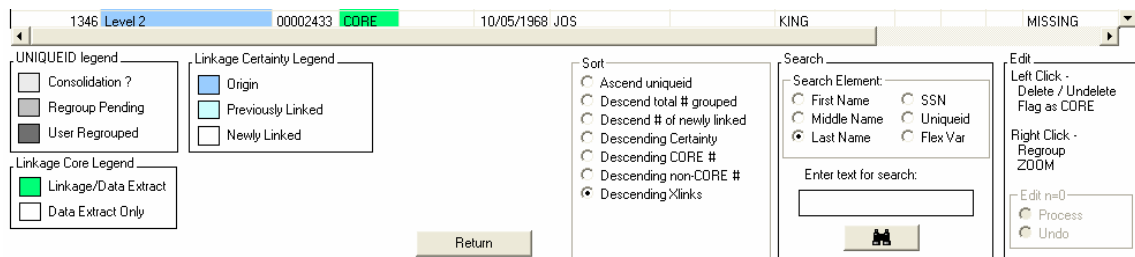
- Edit n=0

New database search feature.

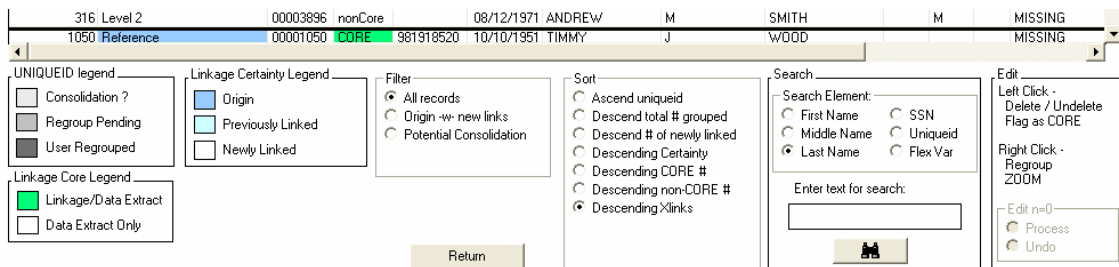
New mouse driven editing function.

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:



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



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:

		group	core					
1513	Reference	00000465	CORE	973859334	09/02/1974	MICHELLE	K	CHARTIER
1513	Reference (Alias)	00000465	CORE	973859334	09/02/1974	MICHELLE	K	CHARTIER
1513	Level 2	00004527	nonCore	991786531	09/02/1974	MICHELLE	K	CHARTIER
1513	Linked Record Alias	00004527	nonCore		09/02/1974	MICHELLE		CHARTIER
1985	Reference	00002574	CORE	987278825	05/13/1975	HOB		RETT

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

1513	Reference	00000465	CORE	973859334	09/02/1974	MICHELLE	K	CHARTIER
1513	Reference (Alias)	00000465	CORE	973859334	09/02/1974	MICHELLE	K	CHARTIER
1513	Level 2	00004527	CORE	991786531	09/02/1974	MICHELLE	K	CHARTIER
1513	Linked Record Alias	00004527	nonCore		09/02/1974	MICHELLE		CHARTIER

RIGHT Mouse-click on any record in an alias group to break the link between that alias group² and all other records consolidated under a given "uniqueid".

1513	Reference	00000465	CORE	973859334	09/02/1974	MICHELLE	K	CHARTIER
1513	Reference (Alias)	00000465	CORE	973859334	09/02/1974	MICHELLE	K	CHARTIER
1513	Level 2	00004527	nonCore	991786531	09/02/1974	MICHELLE	K	CHARTIER
1513	Linked Record Alias	00004527	nonCore		09/02/1974	MICHELLE		CHARTIER
1885	Reference	00002574	CORE	987278825	05/13/1975			BELL
1885	Level 6	00004958	nonCore	987278825	05/13/1975			BELL

Uniqueid ZOOM
 Quick Regroup

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

1513	Reference	00000465	CORE	973859334	09/02/1974	MICHELLE	K	CHARTIER
1513	Reference (Alias)	00000465	CORE	973859334	09/02/1974	MICHELLE	K	CHARTIER
1513	Level 2	00004527	CORE	991786531	09/02/1974	MICHELLE	K	CHARTIER
1513	Linked Record Alias	00004527	nonCore		09/02/1974	MICHELLE		CHARTIER

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

1513	Reference	00000465	CORE	973859334	09/02/1974	MICHELLE	K	CHARTIER
1513	Reference (Alias)	00000465	CORE	973859334	09/02/1974	MICHELLE	K	CHARTIER
1513	Level 2	00004527	CORE	991786531	09/02/1974	MICHELLE	K	CHARTIER
1513	Linked Record Alias	00004527	nonCore		09/02/1974	MICHELLE		CHARTIER
1885	Reference	00002574	CORE	987278825	05/13/1975			BELL
1885	Level 6	00004958	nonCore	987278825	05/13/1975			BELL

Uniqueid ZOOM
 Restore Original Grouping

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	certainty	Alias group	Linkage core	regroup	ssn	dob	fname	mname	lname	maiden	gender	flex var
1513	Reference	00000465	CORE		973859334	09/02/1974	MICHELLE	K	CHARTIER		F	
1513	Reference (Alias)	00000465	CORE		973859334	09/02/1974	MICHELLLE	K	CHARTIER		F	
1513	Level 2	00004527	nonCore		991786531	09/02/1974	MICHELLE	K	CHARTIER		F	MONR
1513	Linked Record Alias	00004527	nonCore		991786531	09/02/1974	MICHELLE	K	CHARTIER		F	PORTA

Uniqueid ZOOM interface.

uniqueid	certainty	Alias group	Linkage core	regroup	ssn	dob	fname	mname	lname	maiden	gender	flex var
1513	Reference	00000465	CORE		973859334	09/02/1974	MICHELLE	K	CHARTIER		F	
1513	Reference (Alias)	00000465	CORE		973859334	09/02/1974	MICHELLLE	K	CHARTIER		F	
1513	Level 2	00004527	nonCore		991786531	09/02/1974	MICHELLE	K	CHARTIER		F	MONR
1513	Linked Record Alias	00004527	nonCore		991786531	09/02/1974	MICHELLE	K	CHARTIER		F	PORTA

UNIQUEID Legend

- Consolidation ?
- Regroup Pending
- User Regrouped

Linkage Certainty Legend

- Origin
- Previously Linked
- Newly Linked

Linkage Core Legend

- Linkage and Data Extract
- Data Extract Only

Linked Record Alias Strength

- Moderate
- Weak

Edit controls

- Left Mouse - Delete / Undelete Row
- Right Mouse - Regroup/Consolidate
- Restore Original Grouping

Record Filter

- All records
- CORE records ,new links only

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.

uniqueid	certainty	Alias group	Linkage core	regroup	ssn	dob	fname	mname	lname	maiden	gender	flex var
1513	Reference	00000465	CORE		973859334	09/02/1974	MICHELLE	K	CHARTIER		F	
1513	Reference (Alias)	00000465	CORE		973859334	09/02/1974	MICHELLLE	K	CHARTIER		F	
1513	Level 2	00004527	nonCore		991786531	09/02/1974	MICHELLE	K	CHARTIER		F	MONR
1513	Linked Record Alias	00004527	nonCore		991786531	09/02/1974	MICHELLE	K	CHARTIER		F	PORTA

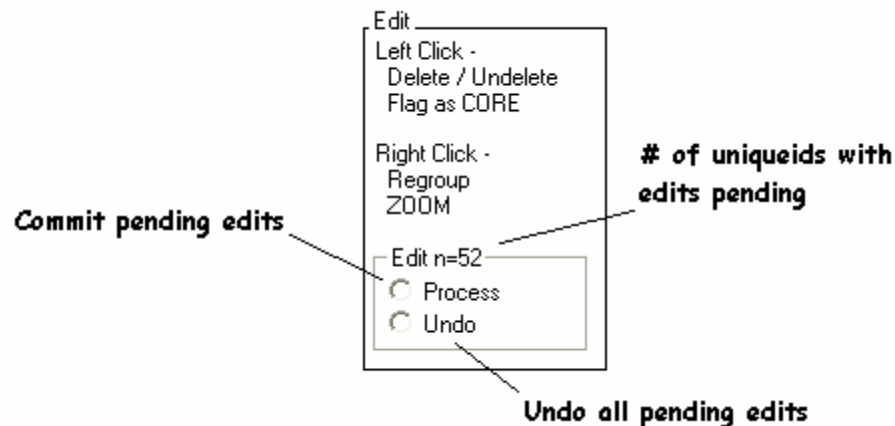
uniqueid	Certainty	alias_group	Linkage_core	regroup	ssst	DOB	name	initial	name
1513	Level 2	00004527	nonCore		991786531	09/02/1974	MICHELLE	K	CHARTIER
1513	Linked Record Alias	00004527	nonCore						CHARTIER
1513	Reference	00000465	CORE	1	973859334			K	CHARTIER
1513	Reference (Alias)	00000465	CORE	1	973859334			K	CHARTIER

uniqueid	Certainty	alias_group	Linkage_core	regroup	ssst	DOB	name	initial	name
1513	Reference	00000465	CORE	1	973859334	09/02/1974	MICHELLE	K	CHARTIER
1513	Reference (Alias)	00000465	CORE	1	973859334	09/02/1974	MICHELLE	K	CHARTIER
1513	Level 2	00004527	nonCore	2	991786531	09/02/1974	MICHELLE	K	CHARTIER
1513	Linked Record Alias	00004527	nonCore	2		09/02/1974	MICHELLE		CHARTIER

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:



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).

Select cells for inclusion in MANUAL REVIEW

Select Select

Fewer More

or

Custom Settings

?

LEVEL 6: Twins ?

?

LEVEL 7: Probabilistic maybe

n=39509

Setting

n=2005

Setting

- Click "Continue to Review"
- Select "verify_name_only" from the "select records for review" control.

Select table to review