# MultiMerge

*(Turn on Document Map in View menu to easily navigate this document)*

*This is a small but very powerful specification. It solved a complex problem that the client and incumbent product vendors and systems integrators had been wrestling with for years. It uses the clients domain knowledge, data collections and language; and integrates with their chosen charting tool. The specification language was extended to interact with key Link Explorer (“LE”) properties and actions.*

## Introduction

*This application displays a menu of queries that can be called by analysts at any point in their workflow. A Link Explorer chart will be displayed in response. Where analysts suspect that separately displayed entities are really the same entity, they can merge those entites for a single view; they can also look inside an already merged entity and undo the merge if they wish.*

# Host: PcClient

**Link Explorer Template:** Multi\_Merge *this will call the correct LE charting template*

## Start.Form



TFN : ThisId *Equates ThisId to the entered TFN so that it’s easier to identify in the spec text*

*The button names below that start with LE\_ indicate icon buttons that will appear as options in the Link*

*Explorer charting product.*

[LE\_SoftMerge] Icon = 'arrow\_join.png' *this icon will show in Link Explorer*

 Description = 'Soft-Merge selected objects' *displayed when you click the icon*

 Enablement = 'SelectedObjects' *multiple objects selected in Link Explorer*

 *The actions below will be executed when the icon button is clicked*

 AddMergeSourceToCandidate = False

 If SingleTable = True

 MergeTable = ObjectClass *objectclass selected in Link Explorer*

 If Candidate.Count = 1

Error if ObjectClass <> 'ASIC\_Company' and ObjectClass <> 'ASIC\_Person'\_

 and ObjectClass <> 'Prop\_Entity'

 -Heading = 'Auto-Merge based on TFN'

 -Message = 'Can only auto-merge a Company or Person'

 Load matching Property TFN if ObjectClass = 'Prop\_Entity'

 Load matching ASIC TFN if ObjectClass <> 'Prop\_Entity'

Error if Candidate.Count < 2

 -Heading = 'Auto-Merge based on TFN'

 -Message = 'No matching objects to merge'

 AssignMergeType.Process

 Candidate.Process if SingleTable <> True

 Merge.Process

[LE\_UnMerge] Icon = 'arrow\_split.png'

 Description = 'UnMerge the selected (merged) object'

 Error if SServant.PreMerge = True

 -Heading = 'Soft-Merge'

 -Message = 'Soft-Merge disabled while Pre-Merge in process'

 UnMerge.Process

[GWS Group with Aggregated Assets Visualisation by Group\_Id]

Error if ThisId = Nothing

 -Heading = 'ERROR'

 -Message = 'You must enter a Client Identifier'

 MergeTables = 'GWS\_Entity'

QueryIdCol = Nothing

LEtemplate -Name = 'Multi\_Merge.twf'

 -ODBC = 'Visualisation\_L2'

LEchart -Name = 'FindGroupAggAssetsfromGWSby GroupId'

 -Type = 'link'

-Layout = 'layered'

-Identifier = ThisId

[Property data Australia wide Summary by TFN] >Error if ThisId = Nothing

 -Heading = 'ERROR'

 -Message = 'You must enter a Client Identifier'

 MergeTables = 'Prop\_Entity'

QueryIdCol = 'Matched\_TFN'

LEtemplate -Name ='Multi\_Merge.twf'

 -ODBC = 'Visualisation\_L2'

 LEchart -Name = 'PROPSummarybyPropertyEntityTFN'

 -Type = 'link'

-Layout = 'layered'

-Identifier = ThisId

[User Guides and Tip Sheets] Link to '\\prod.net.gov\netshares$\analysttoolbox\Link\_Explorer'

[Latest update on issues] Link to '\\prod.net.gov\netshares$\analysttoolbox\Link\_Explorer\Current\_Issues.txt'

[ASIC Person Summary by TFN]

Error if ThisId = Nothing

 -Heading = 'ERROR'

 -Message = 'You must enter a Client Identifier'

 MergeTables = 'ASIC\_Address, ASIC\_Company, ASIC\_Person'

 QueryIdCol = 'TFN\_Matched'

LEtemplate -Name = 'Multi\_Merge.twf'

 -ODBC = 'Visualisation\_L2'

LEchart -Name = 'ASIC\_PersonSummaryByTFN'

 -Type = 'link'

-Layout = 'layered'

-Identifier = ThisId

[ASIC Company Summary by ACN]

Error if ThisId = Nothing

 -Heading = 'ERROR'

 -Message = 'You must enter a Client Identifier'

 MergeTables = 'ASIC\_Address, ASIC\_Company, ASIC\_Person'

 QueryIdCol = 'ACN'

LEtemplate -Name = 'Multi\_Merge.twf'

 -ODBC = 'Visualisation\_L2'

LEchart -Name = 'ASIC\_CompanySummaryByACN'

 -Type = 'link'

-Layout = 'layered'

-Identifier = ThisId

[ASIC Person Visualisation (1 levels of links) by TFN]

Error if ThisId = Nothing

 -Heading = 'ERROR'

 -Message = 'You must enter a Client Identifier'

 MergeTables = 'ASIC\_Address, ASIC\_Company, ASIC\_Person'

QueryIdCol = 'TFN\_Matched, Matched\_TFN, Rltd\_Enty\_Id'

LEtemplate -Name = 'Multi\_Merge.twf'

 -ODBC = 'Visualisation\_L2'

LEchart -Name = 'ASIC\_Person1LevelByTFN'

 -Type = 'link'

 -Layout = 'layered'

 -Identifier = ThisId

*We have not included the specification of every charting option for the sake of brevity. Each chart option not specified follows the same pattern as those above.*

[CLOSE] >End

**End of Start.Form**

## AssignMergeType.Process

*This process is initiated from the Link Explorer charting product. “SelectedObject” represents the selected object in Link Explorer.*

MergeType = Nothing

For each SelectedObject

 Error if SelectedObject.TableName contains 'Apex\_'

 -Heading = 'Soft-Merge'

 -Message = 'Cannot merge Apex\_ objects'

 NewType = Nothing

 NewType = 'A' if SelectedObject.TableName = 'ASIC\_Address' or\_

 SelectedObject.TableName = 'Prop\_Address'

 NewType = 'C' if SelectedObject.TableName = 'ASIC\_Company'

 NewType = 'C' if SelectedObject.TableName = 'GWS\_Entity' and GWS\_Entity.Entity\_Type = 'COY '

 NewType = 'C' if SelectedObject.TableName = 'Prop\_Entity' and\_

 Prop\_Entity.Matched\_TFN\_ATO\_Client\_Type = 'COY'

 NewType = 'P' if SelectedObject.TableName = 'ASIC\_Person'

 NewType = 'P' if SelectedObject.TableName = 'GWS\_Entity' and GWS\_Entity.Entity\_Type = 'IND '

 NewType = 'P' if SelectedObject.TableName = 'Prop\_Entity' and\_

 Prop\_Entity.Matched\_TFN\_ATO\_Client\_Type = 'IND'

 Error if NewType = Nothing

 -Heading = 'Soft-Merge'

 -Message = 'At least one selected object is not suitable for merging'

 Error if MergeType <> Nothing and MergeType <> NewType

 -Heading = 'Soft-Merge'

 -Message = 'Selected objects must be the same general type (Address, Company or Person)'

 MergeType = NewType

 If SelectedObject.TableName = 'GWS\_Entity'

 EntityType = GWS\_Entity.Entity\_Type

 For each GWS\_Entity

 Error if EntityType <> GWS\_Entity.Entity\_Type

 -Heading = 'Soft-Merge'

 -Message = 'Objects must be the same type (Company or Person)'

 Next

 If SelectedObject.TableName = 'Prop\_Entity'

 EntityType = Prop\_Entity.Matched\_TFN\_ATO\_Client\_Type

 For each Prop\_Entity

 Error if EntityType <> Prop\_Entity.Matched\_TFN\_ATO\_Client\_Type

 -Heading = 'Soft-Merge'

 -Message = 'Objects must be the same type (Company or Person)'

 Next Prop\_Entity

Next SelectedObject

If SingleTable <> True

MergeTableId = 'RecordNumber'

MergeTable = 'Apex\_Address' if MergeType = 'A'

MergeTable = 'Apex\_Company' if MergeType = 'C'

MergeTable = 'Apex\_Person' if MergeType = 'P'

EndIf

**End of AssignMergeType.Process**

## Candidate.Process

*Creates merge Candidates from multiple sources.*

*The process is initiated from the Link Explorer charting product. “SelectedObject” represents the selected object(s) in Link Explorer.*

AddMergeSourceToCandidate = True

Load empty Candidate table *creates an empty table for the relevant Apex object class*

For each SelectedObject *more accurately: For each SelectedObject Class*

 SelectedTable = SelectedObject.TableName

 For each (SelectedTable)

 SourceId = 'RecordNumASIC'

 SourceId = 'RecordNum' if SelectedTable = 'GWS\_Entity'

SourceId = 'ATO\_Address\_Id' if SelectedTable = 'Prop\_Address'

SourceId = 'ATO\_Entity\_Id' if SelectedTable = 'Prop\_Entity'

Copy (SelectedTable) to Candidate

 -RecordNumber = ssId

 -MergeSource = SelectedTable

 -MergeSourceId = SourceId

 Next

Next SelectedObject

**End of Candidate.Process**

## Merge.Process

For each Candidate

 Error if Candidate.MergeChar = 'C'

 -Heading = 'Soft-Merge Error'

 -Message = 'Cannot merge objects that have already been merged into a new object'

Next Candidate

MergeUser = WindowsUser

DBMSname = 'Visualisation'

If MergeTable = 'ASIC\_Address'

MergeTableId = 'RecordNumASIC'

 LEmerge *initates a merge of Link Explorer charts*

If MergeTable = 'ASIC\_Company'

MergeTableId = 'RecordNumASIC'

 LEmerge

If MergeTable = 'ASIC\_Person'

MergeTableId = 'RecordNumASIC'

 LEmerge

If MergeTable = 'GWS\_Entity'

MergeTableId = 'RecordNum'

 LEmerge

If MergeTable = 'Prop\_Address'

MergeTableId = 'ATO\_Address\_Id'

 LEmerge

If MergeTable = 'Prop\_Entity'

MergeTableId = 'ATO\_Entity\_Id'

 LEmerge

LEmerge if MergeTable contains 'Apex\_'

**End of Merge.Process**

## UnMerge.Process

Error if Candidate.Count <> 1

 -Heading = 'UnMerge Error'

 -Message = 'ERROR: Select one object only!'

Error if Candidate.MergeChar <> 'P'

 -Heading = 'UnMerge Error'

 -Message = 'The Candidate object is not a merged parent object!'

MergeTable = ObjectClass

DBMSname = 'Visualisation'

MergeTableId = 'RecordNumber'

MergeTableId = 'RecordNumASIC' if MergeTable contains 'ASIC\_'

MergeTableId = 'RecordNum' if MergeTable = 'GWS\_Entity'

MergeTableId = 'ATO\_Address\_Id' if MergeTable = 'Prop\_Address'

MergeTableId = 'ATO\_Entity\_Id' if MergeTable = 'Prop\_Entity'

LEunmerge *undo a merge of Link Explorer charts*

**End of UnMerge.Process**

## Lexicon:

*The lexicon is optional. It enables easy-to-read phrases (left element) to be used in the specification. The right element contains the information that is used to generate the running application.*

Candidate for NewId : Candidate.RecordNumber = NewId

Load matching ASIC TFN : tSELECT \* INTO Candidate FROM [ObjectClass]\_

WHERE TFN\_Matched = [Candidate.TFN\_Matched]\_

AND MergeChar <> 'C'

Load matching Property TFN : tSELECT \* INTO Candidate FROM Prop\_Entity\_

WHERE Matched\_TFN = [Candidate.Matched\_TFN]\_

AND MergeChar <> 'C'

Load empty Candidate table : xtSELECT \* INTO Candidate FROM [MergeTable]

**End of Lexicon**

## Data Storage and Access:

*If you are working from multiple databases, you specify each database here.*

*The GWS\_Entity and Prop\_Entity tables alteady exist in the database and don’t need to be specified here; they have been included as a documentation preference only.*

*The temporary tables are created by the application in each runtime session.*

**DBMS:**

Name: Visualisation

Type: SqlServer

Connection: Data Source=SYD02H017FC\SQL04;Integrated Security=SSPI;Initial Catalog=Visualisation

GWS\_Entity Table

Prop\_Entity Table

SServant Table

Select Command: SELECT \* FROM SServant WHERE Id = 1001

***Temporary tables…***

SelectedObject Table

Select Command: Temp

Candidate Table

Select Command: Temp

Links Table

Select Command: Temp

**End of Host**

**End of Specification**