Meta-Databot

This presentation describes the Meta-Databot, a Meta-Update solution for ITSM mass changes.

It comprises Instructions for use and configuration as a **Quick Start Guide**..

Please see the User's Guide for more details.

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Ben Chernys

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Release 5.74

Objectives

- **ITSM Data Wizard Pain Points & Challenges**
- Introducing Software Tool House's Meta-Databot
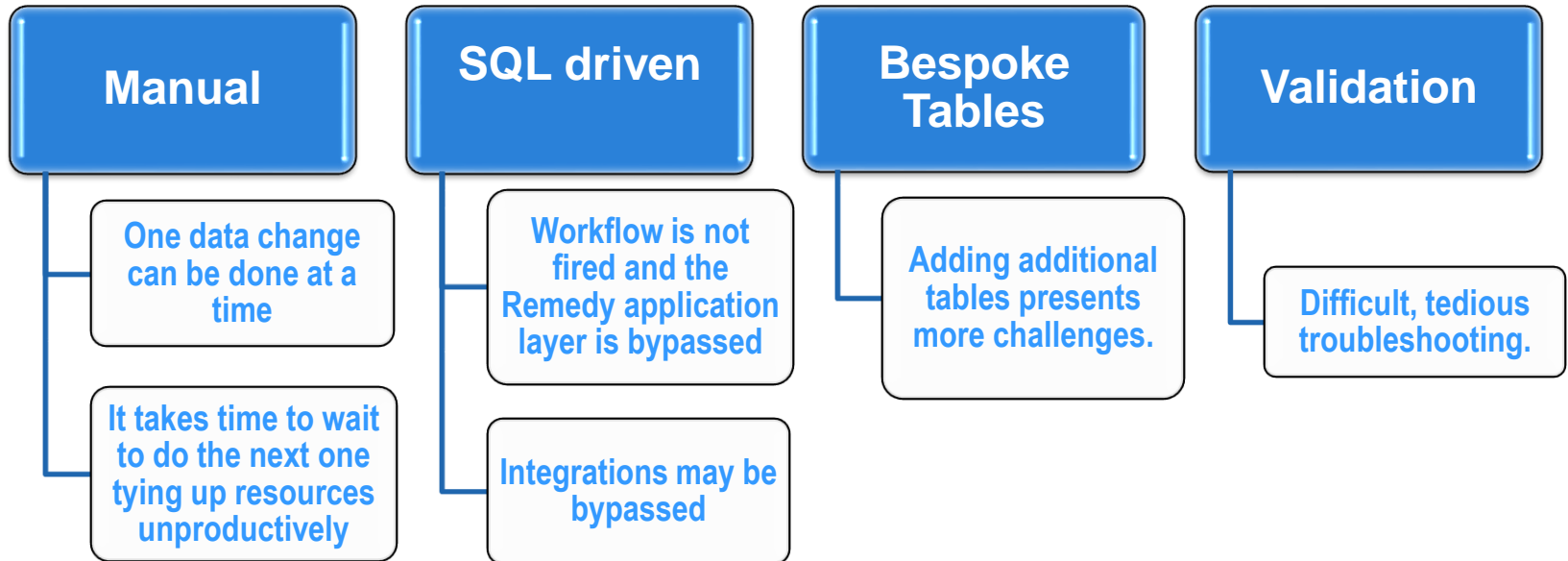- The Meta-Databot Mass Change Solution
- Meta-Databot Configuration
- Input Files
- Running Meta-Databot
- More Information, Next Steps

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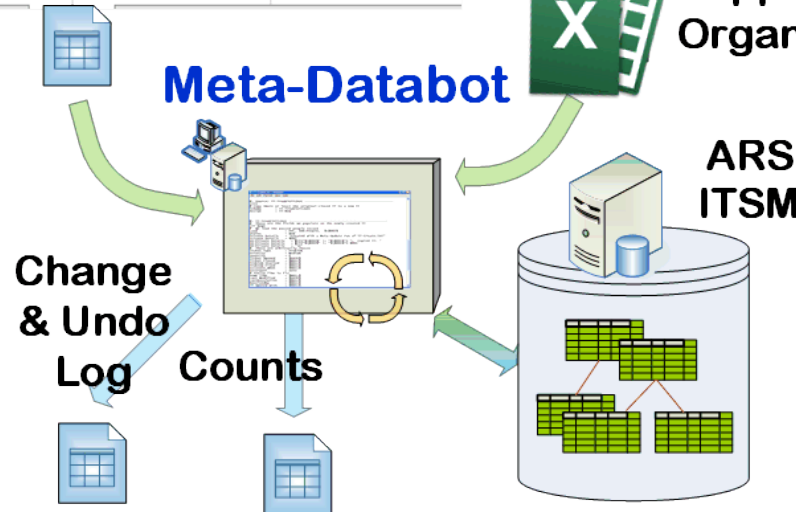www.softwaretoolhouse.com

ITSM Data Wizard Pain Points

Manual

One data change can be done at a time

It takes time to wait to do the next one tying up resources unproductively

SQL driven

Workflow is not fired and the Remedy application layer is bypassed

Integrations may be bypassed

Bespoke Tables

Adding additional tables presents more challenges.

Validation

Difficult, tedious troubleshooting.

Meta-Databot

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Meta-Databot

Automated

- An input file of data changes is processed.
- Fire and forget. Zero human resources taken.

Workflow can be fired

- Forms can be configured to not use SQL.
- Integrations will fire.

Bespoke Tables

- Adding additional tables and fields is trivial.
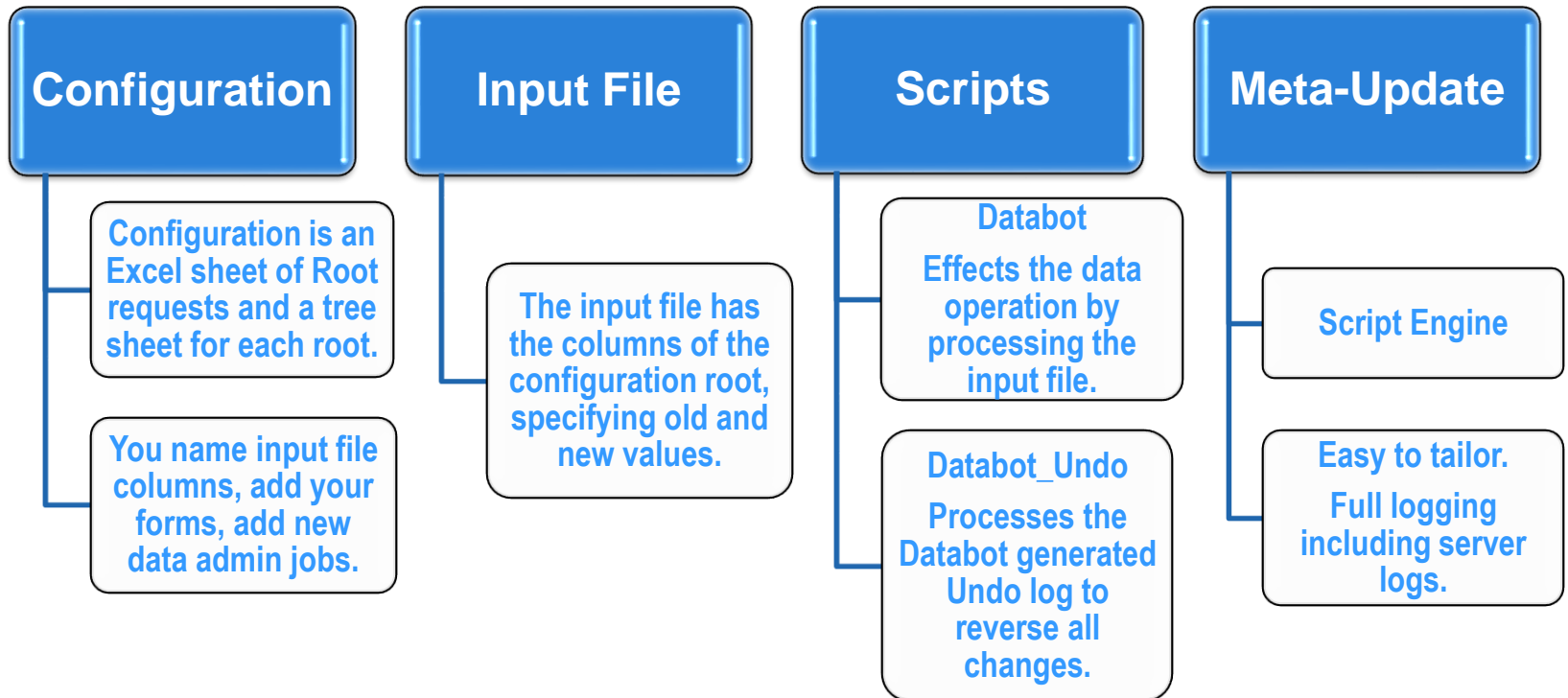- Adding *your own* data admin jobs is easy.

Validation

- Change Logs are generated.
- All changes can be undone!

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Meta-Databot

Configuration

Configuration is an Excel sheet of Root requests and a tree sheet for each root.

You name input file columns, add your forms, add new data admin jobs.

Input File

The input file has the columns of the configuration root, specifying old and new values.

Scripts

Databot

Effects the data operation by processing the input file.

Databot_Undo

Processes the Databot generated Undo log to reverse all changes.

Meta-Update

Script Engine

Easy to tailor.

Full logging including server logs.

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Meta-Databot is a Meta-Update script

This allows very quick customizations to Meta-Archive:

➢ **Changing or adding archive targets: file system, database**

➢ **Adding processes, integrations, notifications**

➢ **Adding fields to, or additional, output files**

Meta-Archive can be "single stepped" in the Meta-Update debugger.

You can watch how Meta-Archive checks and archives your data!

ETL – Extract Transform Load – *Scripting* tool

Meta-Update allows any BMC Remedy administrator / developer to automate *any* ETL data operation in *record time*.

with no need for API or programming skills

Simplicity
Flexibility
Power

with no staging forms, workflow, customizations, or server changes

Extremely light software footprint

Remedy: **$Field$**
Meta-Update: **$Tag, Field$**

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Features

ServiceNow

ARS API

No Staging Forms

No Merge Filters

Multiple Servers

No Server Changes

SQL

Debugger

ARS Output

Attachments

Auditable

File Output

Cached Look-Ups

Variable Targets

Robust Assignments

Regular Expressions

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Meta-Databot Distribution Contents

File Name	What is it?	Comments
120-Databot.ini	The Meta-Databot script	You run Meta-Update with this script. Arguments specify the Data-Admin operation, the configuration files, and the input files.
140-DatabotUndo.ini	The Undo script	You run this script with the same configuration and Data-Admin operation but with the generated Undo log as input.
Meta-Databot-Quick-Start-Guide.pdf	This document	Explains how to configure, run, and test Meta-Databot and the Meta-DatabotUndo.
Databot-cfg.xlsm		The Meta-Databot configuration spreadsheet. Macros should be enabled to automatically generate the CSV files.

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Meta-Databot
Configuration
for ITSM 8.1.0

Introduction

Software Tool House's **Meta-Databot** is similar to the BMC ITSM Data Wizard but automates its function allowing you to change many different values in one go. The Meta-Databot is a **Meta-Update** script. This spreadsheet contains the configurations for the Meta-Databot. Add any customized forms you may need, or add any new Data Admin roots you may need.

Data Changes Handled

Overview

What is the Meta-Databot?

Meta-Databot reads an input spreadsheet of old and new values and, for each row, changes these values across all of ITSM as configured in this sheet.

Company Name
People Name
Login ID
Support Groups: Name & Organization

How does the Meta-Databot work?

The Meta-Databot changes data based on one root form and record. For example, for changing Support Group Names and Organizations, the Meta-Databot uses a "Support Group" or CTM:Support Group as the root.
That Root is updated and then used to query and update all dependent forms.

What is this Config sheet?

This spreadsheet contains a root sheet, which has one row for each root form configured. It then has a sheet for each of the different roots. These sheets show how to get and update the forms that have a copy of this root's data. The root sheet also defines the new and old field names on the input files. There are a few test input files provided as well with the old and new values equal. These can be used as a pattern and should have data from your system.

Want more information about Meta-Update?
Please click the following links:

How do I Add My Forms to this Config?

Adding a form is as simple as adding a row to each of the sheets where that form's data will need changing when that sheet's root record is changed.

Main Links Page

How do I generate the CSVs needed for Meta-Update?

In the Go sheet, set your output file path and name and press the Go button.

Management Summary Presentation

Meta-Update

Meta-Update is used to automate any ARS / ITSM data **ELT - Extract, Load, Transform** operation
— without staging forms, workflow, or any server changes at all
— without any programming skills at all
— in a language your ARS admin already speaks

Your usage of this spreadsheet indicates your acceptance of Software Tool House's terms and conditions.

Home | Contents | Go! | Root | Company | LoginId | Person | Suppo ... ⊕

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Meta-Databot Config Sheets

Home Contents

Help pages

Go!

Generate CSV files on this page.

Specify an output file prefix to which is appended "-root", etc.

Root

Defines a Data Admin operation

Specifies input file name columns.

Specifies output file suffixes used by the Go! Sheet.

Specifies tree sheet name.

Tree Sheets

One sheet for each Data Admin operation

Specifies forms and fields.

Test Sheets

Simple test sheets to change data values and change them back again.

This sheet is used to generate the configuration CSV files based on the Root sheet. For each configured and enabled root, a configuration CSV file will be generated. The root configuration will also be generated.

The files are generated by appending a CSV file name to the "Output file's prefix" as documented below.

Output files' prefix: e:\Dta\cfgDatabot

Press the button to the left to read the input file and export the files below:

With the current setting, files   e:\Dta\cfgDatabot-root.csv
like these will be created: e:\Dta\cfgDatabot-LoginId.csv
                                     e:\Dta\cfgDatabot-Person.csv
                                     e:\Dta\cfgDatabot-SupGrp.csv

Meta-Databot Config Sheets

This sheet is used to generate the configuration CSV files based on the Root sheet. For each configured and enabled root, a configuration CSV file will be generated. The root configuration will also be generated.

The files are generated by appending a CSV file name to the "Output file's prefix" as documented below.

Output files' prefix:　　e:\Dta\cfgDatabot

Macros must be enabled to produce the CSV files.

Press the button to the left to read the input file and export the files below:

With the current setting, files like these will be created:
```
e:\Dta\cfgDatabot-root.csv
e:\Dta\cfgDatabot-LoginId.csv
e:\Dta\cfgDatabot-Person.csv
e:\Dta\cfgDatabot-SupGrp.csv
```

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Root – Define Data Admin Operations

Data Admin Keyword	Root Form	Enabled	Config Sheet Name	Output File Name	Auto Status History	Query	key1	key2	f1	f2	f3
Login	CTM:People	1	LoginId	LoginId	1	'Remedy Login ID' = "$Old Login$"	Person ID	179	Remedy Login ID		
Company Name	COM:Company	1	Company	Company		'Company' = "$Company Name Old$"	Company Entry ID	179	Company		
Support Group	CTM:Support Group	1	Support Group	SupGrp		'Company' = "$Company Name$" and 'Support Organization' = "$OLD Support Organization$" and 'Support Group Name' = "$OLD Support Group Name$"	Support Group ID	179	Support Group Name	Support Organization	Company
Support Org	CTM:Support Group	1	Support Group	SupOrg		'Company' = "$Company Name$" and 'Support	Support Group ID	179	Support Organization	Company	

To create a new operation, add a row here, and a new sheet for the child forms.

◄ ► ... | Contents | Go! | **Root** | Company | LoginId | Person | Suppo ... ⊕ : ◄

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Root – Define Data Admin Operations

Column Name	Explanation	Values for Support Org
Data Admin Keyword	Specified as an argument to the Meta-Databot script.	Support Group
Root Form	A form name that contains the data to be changed and for which all tree forms can be considered children of.	CTM:Support Group
Enabled	Must be 1 or the row is ignored.	1
Config Sheet Name	This is the name of the sheet within this spreadsheet that defines the tree of forms related to this admin job.	Support Group
Output File Name	A minus sign, this value, and ".csv" is the file generated by the Go! Macro.	SupOrg
Query	A query with input file fields wrapped in dollar signs. Used to select and change data in the root form.	'Company' = "$Company Name$" and 'Support Organization' = "$OLD Support Organization$"
key1 key2	Up to two fields in the root form to be used in some tree forms to determine records to change. Generally an indexed field like Request ID or Instance ID.	Support Group ID 179
f1..f5	Up to 5 fields of the root form that may have data changes corresponding to the input file fields. Fields can be used for selecting and/or changing.	Support Organization Company
Finp1o..Finp5o Finp1n..Finp5n	Up to five columns in the input sheet corresponding to the fields f1..f5 of the root form. "o" designates the old value, "n", the new. If there is an "o" field but no "n" field, then that value is used for selection and will not change.	OLD Support Organization NEW Support Organization Company Name

Uses same root form and same tree sheet as Support Group

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Tree – Define Forms

Column Name	Explanation	Values for Support Org
Form Name	A form name that contains the data to be changed and for which may or may have a key of the root form as a key	AAS:Activity
Enabled	Must be 1 or the row is ignored.	1
Merge Option	Normally blank to use an SQL Update statement like the BMC Data Wizard. Can be used to allow workflow to fire by specifying "Workflow". Other options are available. Will slow down the job considerably.	
f1..f5	These column names are the Root's f1..f5 Field Names. If and only if the Root has a single field defined, this can be a comma separated list of fields. See the Login Data Admin on the next slide.	Company Support Group Name Support Organization ASCPY ASGRP ASORG
Comments & Labels	Configuration files have been generated using both the OOTB BMC Data Wizard data and our Freebie Fields & Forms spreadsheets. Items not included in the BMC Data Wizard are identified. Labels are added to make rows easier to understand though just the field names.	

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Login Root & Tree configuration

Data Admin Keyword	Root Form	Enabled	Config Sheet Name	Output File Name	Auto Status History	Query	key1	key2	f1		Finp1o	Finp1n	Finp2o
Login	CTM:People	1	LoginId	LoginId	1	'Remedy Login ID' = "$Old Login$"	Person ID	179	Remedy Login ID		Old Login	New Login	

Form Name	Enabled	Merge Option	Subset Query	key1	Remedy Login ID
FIN:Association	1				4
FIN:ConfigCostCentersRepository	1				300489800
HPD:Help Desk	1				4,301391782,301921200,1000000716,1000003779
HPD:Help Desk Assignment Log	1				1000000581,1000000716
HPD:HelpDesk_AuditLogSystem	1				455
HPD:IncidentInterface_Create	1				301921200,302105200
HPD:Template	1				4,1000001139
HPD:WorkLog	1				1000000159
NTE:CFG-Notification Events	1				1000000581
NTE:Notifier	1				1000000581
NTE:Notifier Log	1				1000000581
PBM:Investigation Effort Log	1				1000000581
PBM:Investigation WorkLog	1				1000000159
PBM:Known Error	1				1000000839,1000000841
PBM:Known Error WorkLog	1				1000000159
PBM:Problem Investigation	1				4,1000000337,1000000839,1000000841,301323300
PBM:Problem_AuditLogSystem	1				455
PBM:ProblemInterface_Create	1				1000000337,1000000839

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Test Input Files

Column Name	Explanation	Values for Support Org
Company Name	All the column names defined in the root configuration must exist in the input file. They can appear in any order and be mixed amongst other, ignored columns.	Software Tool House Inc. Software Tool House Inc.
NEW Support Organization		Support2 Support
OLD Support Organization		Support Support2

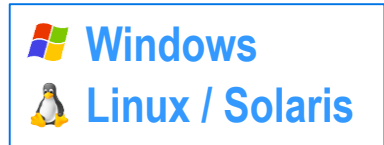|	OLD Support Organization	NEW Support Organization	Company Name
1			
2	Support	Support2	Software Tool House Inc.
3	Support2	Support3	Software Tool House Inc.
4	Support3	Support2	Software Tool House Inc.
5	Support2	Support	Software Tool House Inc.
6			
7			

Note: to change Support Organizations on a Group by Group basis, use the Support Group Data Admin operation.

Row 2 changes Support Organization data in configured forms from "Support" to "Support2",
row 3, from "Support2" to "Support3",
row 4, back to "Support3",
and row 5, back to "Support",
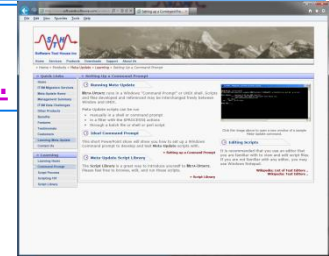so that all the ITSM data should be back as it was before the run began.

An Undo run will reverse this process with the same data at the end.

Running

Preparing the command prompt

Windows

Linux / Solaris

Help on setting up and using a Command Prompt.

➢ **Set PATH**

```
path D:\Apps\SoftwareToolHouse\bin;%path%
```

```
export PATH=/apps/STH/bin:$PATH
  export LD_LIBRARY_PATH=/apps/STH/bin:$LD_LIBRARY_PATH
```

➢ **Set Script and Config file Path**

```
set      SthScriptPath=e:\STH\scripts\Meta-Databot;
         e:\STH\scripts\Meta-Databot\cfg\;%SthScriptPath%
```

```
export SthScriptPath=/apps/STH/scripts/Meta-Databot:
       /apps/STH/scripts/Meta-Databot/cfg/:$SthScriptPath
```

➢ **Change to your working directory**

```
cd      D:\Dta\Dev\Arch\wrk
cd      ~/wrk
```

Help on generating your SthLic file on next page.

➢ **Set Meta-Update Licensing**

```
SthLic.cmd    dev
.  SthLic.sh    dev
```

Build your SthLic.cmd file

➢ **Run `SthLicUpd.exe` to build your `SthLic.cmd` (or `SthLic.sh`) file. This file will set environment variables.**

Will generate SthLic.sh in the –out directory

➢ **`SthLic.cmd` needs to be run once when you open a new command or terminal window.**

➢ **Run `SthLicUpd.exe` to encrypt other ARS server passwords if needed.**

```
Administrator: Cmd Box

e:\qqq> SthLicUpd.exe    Prompt   -licpath .\   -out .\SthLic.cmd

SthLicUpd        Version 1.00
            (c) Copyright 1996-2012 by Software Tool House Inc.
                www.softwaretoolhouse.com
..got 2 license files

..for server    1 - sthv1
  Please enter a short name such as dev or prod or nothing to continue [] > dev
  Enter another short name for the server or nothing when done [] >
  Enter the connection address for the server [sthv1] >
  Enter the connection address for the Admin server if different [sthv1] >
  Enter an RPC port or 0 if using port mapper [0] > 2501
  Enter the ARS user id > Demo
  Enter the password for ARS user Demo; use '-' for none > .
  Would you like the password encryped? [Y] >
```

Run the count first

```
Cmd Box                                                          _ □ ✕
2010-05-03   9:07:35.38
e:\Dta>


   SthMupd.exe    120-Databot.ini Do
               -cmd    Report
               -CfgRt cfgDatabot-root.csv
               -Cfg   cfgDatabot-SupOrg
               -rt    "Support Org"
               -Finp  My_SupOrg_Changes.csv
   find  " i " SthMupd.log | find "Msg: " | find /v "Msg: 0" | more
   grep  ' i.*Msg' SthMupd.log | grep -v 'Msg: 0' | less

   Will report a set of counts for all forms configured.
```

Run the update

```
Cmd Box

2010-05-03   9:07:35.38
e:\Dta>

 SthMupd.exe    120-Databot.ini Do
                -cmd    Update
                -CfgRt  cfgDatabot-root.csv
                -Cfg    cfgDatabot-SupOrg
                -rt     "Support Org"
                -Finp   My_SupOrg_Changes.csv
find  " i " \trc\trc.60 | find "Msg: " | find /v "Msg: 0" | more
grep  ' i.*Msg' SthMupd.log | grep -v 'Msg: 0' | less


 Will change data as expected by the counts.
```

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Optional: Run the Undo

```
Cmd Box
2010-05-03    9:07:35.38
e:\Dta>

  SthMupd.exe    140-DatabotUndo.ini Do
                 -Finp 120-Databot-65772.idlog.csv



  04173739.318 i terminating successfully in 46 sec.



  Will reverse data as expected by the counts.
```

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Output file – ID / Undo Log

Root	Root ID	Schema	Schema ID	Request ID	Old Values	New Values	Num Recs	QrySql	QrySqlUndo	UpdSql	UpdSqlUndo
CTM:Supp	SGP000000000112	CTM:Support Group		SGP00000 0000112	Support Organizat ion=Supp ort	Support Organizat ion=Supp ort2					
CTM:Supp	SGP000000000112	CTM:SYS-Access Permission Grps	381				1	C301242000 = 'SGP000000000112' AND C301363000 = 'Support' AND C1000000001 = 'Software Tool House Inc.'	C301242000 = 'SGP000000000112' AND C301363000 = 'Support2' AND C1000000001 = 'Software Tool House Inc.'	C301363000 = Replace(C301363000, 'Support', 'Support2')	C301363000 = Replace(C301363000, 'Support2', 'Support')
CTM:Supp	SGP000000000211	CTM:Support Group		SGP00000 0000211	Support Organizat ion=Supp ort	Support Organizat ion=Supp ort2		C1000003234 = 'SGP000000000112' AND C1000003227 = 'Support' AND C1000003228 = 'Software Tool House Inc.'			
CTM:Supp	SGP000000000211	CTM:SYS-Access Permission Grps	381				1	C301242000 = 'SGP000000000211' AND C301363000 = 'Support' AND C1000000001 = 'Software Tool House Inc.'	C301242000 = 'SGP000000000211' AND C301363000 = 'Support2' AND C1000000001 = 'Software Tool House Inc.'	C301363000 = Replace(C301363000, 'Support', 'Support2')	C301363000 = Replace(C301363000, 'Support2', 'Support')
CTM:Supp	SGP000000000212	CTM:Support Group		SGP00000 0000212	Support Organizat ion=Supp	Support Organizat ion=Supp		C1000003234 = 'SGP000000000211' AND C1000003227 =			

120-Databot-65772.idlog

Output file – Counts Log

	Data Admin	Root Form	Inp Rec Num	Old Value	New Value	Cfg Ix	Cfg Form	Count	Qry	Upd
2	Login	CTM:People	1	bchernys	bchernys2	0		1		
4	Login	CTM:People	1	bchernys	bchernys2	2	AAS:Activity	1	C2 = 'bchernys'	C2 = Replace(C2, 'l
6	Login	CTM:People	1	bchernys	bchernys2	4	AAS:Activity	1	C5 = 'bchernys'	C5 = Replace(C5, 'l
7	Login	CTM:People	1	bchernys	bchernys2	5	AAS:Activity	1	(U0 = 'bchernys'	U0 = Replace(U0,
9	Login	CTM:People	1	bchernys	bchernys2	7	AP:Alternate	1	C4 = 'bchernys'	C4 = Replace(C4, 'l
17	Login	CTM:People	1	bchernys	bchernys2	15	AP:Role	10	C4 = 'bchernys'	C4 = Replace(C4, 'l
21	Login	CTM:People	1	bchernys	bchernys2	19	AP:Signature	29	C13207 = 'bchern	C13207 = Replace(
22	Login	CTM:People	1	bchernys	bchernys2	20	AP:Signature	24	C13204 = 'bchern	C13204 = Replace(
23	Login	CTM:People	1	bchernys	bchernys2	21	AP:Signature	29	C13203 = 'bchern	C13203 = Replace(
26	Login	CTM:People	1	bchernys	bchernys2	24	APR:Approve	3	C1000000638 = 'b	C1000000638 = Rep
28	Login	CTM:People	1	bchernys	bchernys2	26	AST:AssetPe	1	C260100002 = 'bcl	C260100002 = Repl
44	Login	CTM:People	1	bchernys	bchernys2	42	AST:WorkLog	1	C1000000159 = 'b	C1000000159 = Rep
53	Login	CTM:People	1	bchernys	bchernys2	51	CHG:Change	69	C455 = 'bchernys'	C455 = Replace(C4
56	Login	CTM:People	1	bchernys	bchernys2	54	CHG:Infrastru	9	C1000000337 = 'b	C1000000337 = Rep
59	Login	CTM:People	1	bchernys	bchernys2	57	CHG:Infrastru	9	C1000003231 = 'b	C1000003231 = Rep
61	Login	CTM:People	1	bchernys	bchernys2	59	CHG:WorkLo	10	C1000000159 = 'b	C1000000159 = Rep
62	Login	CTM:People	1	bchernys	bchernys2	60	CTM:AuditLo	2	C455 = 'bchernys'	C455 = Replace(C4
65	Login	CTM:People	1	bchernys	bchernys2	63	CTM:People	80	C4 = 'bchernys'	C4 = Replace(C4, 'l
68	Login	CTM:People	1	bchernys	bchernys2	66	CTM:Support	3	C4 = 'bchernys'	C4 = Replace(C4, 'l
70	Login	CTM:People	1	bchernys	bchernys2	68	CTM:Support	9	C4 = 'bchernys'	C4 = Replace(C4, 'l
74	Login	CTM:People	1	bchernys	bchernys2	72	FIN:Associati	3	C4 = 'bchernys'	C4 = Replace(C4, 'l
77	Login	CTM:People	2	bchernys2	bchernys	0		1		
79	Login	CTM:People	2	bchernys2	bchernys	2	AAS:Activity	1	C2 = 'bchernys2'	C2 = Replace(C2, 'l
81	Login	CTM:People	2	bchernys2	bchernys	4	AAS:Activity	1	C5 = 'bchernys2'	C5 = Replace(C5, 'l

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➢ **Binaries, trial licenses, User's Guide available on the web.**

➢ **Pick up a trial license with our Live Install and Scripting 101 presentation**

➢ **Download the Scripting 101 presentation and the Meta-Update User's Guide**

➢ **Look at the samples in the Script Library**

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We Thank You for Your Time

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