Introduction

This spreadsheet compares the efforts and time needed for a single On-Boarding exercise by using various tools and methods. It is is an example of real-world complexities faced many time over in a typical on-boarding project.

Meta-Update reduces the "Market Time", from months to days and ARS dev efforts from months to days. This savings is multiplied by each new spreadhseet, every iteration of develop and test, and, when an ITSM release is upgraded.

Contents

Introduction

Introduction to th contents of this sheet. This page.

On-Boarding Exercise

This describes the problem. It includes one sample source spreadsheet and a referenced class look-up sheet.

Cost Comparisons

Describes the various tools and technologies available comparing time and efforts required to automate the import of the On-Boarding Exercise.

Feature Comparisons

Selected features are compared across the tools and techonolgies.

Graphics

A stark conclusion showing the cost savings in graphical form and a quick view of the previous data.

Conclusion

Meta-Update simplifies automations radically reduces complexity, efforts, and delivery times in on-boarding. These cost and time savings multiply on each iteration and during ITSM release upgrade.

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

Meta-Update

Want more information about Meta-Update?

Please click the following links:

Main Links Page

Management Summary Presentation

Learning Meta-Update

The Problem

☞ Automate the load of a spreadsheet of equipement into the CMDB.

⇨ CI Classes and categorizations are given by data on the row of the source sheet which is looked up against another sheet.

⇨ Two columns contains lists of users for which associations are needed.

⇨ A parent column is used to create a relationship between two CIs. Parents always appear before the child CIs.

⇨ Attribute columns need transformation and can go to specific targets depending on the class.

Lists of Login IDs need to build CI Associations.

Needs 2ⁿᵈ CSV to get Class, CTI.

Simulates real-world complexities of a single on-boarding example

	A	B	C	D	E	F	I	J	
1	CI-ID	hostname	Parent	UsedBy	OwnedBy	Type	Architecture	Memory	Num-CPUs Capacity
2	STH-Svr-010			bchernys		Server	Sparc	12	
3	STH-Lpt-010	nanook		bchernys	bchernys	Laptop	Intel	4	
4	STH-Lpt-020	seekoo		bchernys	bchernys	Laptop	Intel	16	4
5	DSK-020	L:	nanook	bchernys		Disk			750 Gb
6	DSK-030	N:	nanook	bchernys		Disk			1 Tb
7	DSV-010	goat		bchernys;gabd	bchernys	Disk			
8	DSV-020	yam		bchernys;gabd	bchernys	Disk			
9	STH-Lpt-010	sth-m3		gabdulle;bcher	gabdulle	Laptop	Intel	2	1
10	DSK-010		sth-m3	gabdulle		Disk			1.5 Tb
11	SCR-010		seekoo	bchernys	bchernys	Monitor			
12									

Class dependent attributes.

BMC_Disk "Size" attribute is a decimal. Needs normalization.

☞ This sheet is used as a reference when importing the source sheet. The source Type value is looked up against this sheet yielding a CMDB Class and Categorization.

	A	B	C	D	E	F
	Type	**Tier 1**	**Tier 2**	**Tier 3**	**Name Space**	**Class**
	Server	Hardware	Processing Unit	Server	BMC	BMC_ComputerSystem
	Mainframe	Hardware	Processing Unit	Other Type of Processing Unit	BMC	BMC_Mainframe
	Laptop	Hardware	Processing Unit	Laptop	BMC	BMC_ComputerSystem
	Disk	Hardware	Disk Device	Disk Drive	BMC	BMC_DiskDrive

Specific software tool or method of addressing specified problem using a variety of tools.					Man days including test, management, planning, etc	Calendar months	Costs in USD
Tool or Technology	Description	Positives	Negatives	Impediments Comments	Development Efforts	Time to Market	Costs in USD
Staging Forms and Workflow	This is the standard way to "automate" imports	Bundled with ARS; most ARS Admins can build	Staging forms & import workflow needed for each import file. Added costs for release upgrades. Expensive, time consuming, limited flexibility.	Lookup cannot be done unless data stored in an additional table - complicates the upload.	49	2.5	30,625
Template based products	Specific templates must be used. Eg: Data Management Templates		Cannot be used for non-template spreadsheets such as this example.				
Migrator, DSO, etc	Record by record transfer programs		Cannot handle spreadsheets				
AIE		Bundled with ITSM; Point and click	CMDB Targets are fixed. No Lookup is possible. The single sheet will need *four* Data Transfer jobs with hard-coded qualifications selecting the CSV targets. Association need be handled through staging forms and workflow.	Cannot handle Associations May not handle complex value transforms	50	2.5	31,250
ARS Perl	API through the Perl language	Free; Can do it No OOTB mods, staging forms or workflow	Requires a Perl programmer - probably not the same as the ARS Admin introducing communication delays.		30	1.5	18,750
Java API	Native Java API	Free; Can do it No OOTB mods, staging forms or workflow Skills marginally more available that other APIs	Requires a Java programmer - not necessarily the same as the ARS Admin introducing communication delays.		30	1.5	18,750
c API	Native c API	Free; Can do it No OOTB mods, staging forms or workflow	Requires a c programmer - probably not the same as the ARS Admin introducing communication delays.		35	1.8	21,875
SQL	Database native language — bypasses the ARS application layer	Fast	Requires a database programmer - probably not the same as the ARS Admin introducing communication delays.	*Not supported by BMC* .			
Meta-Update	ARS API based data scripting tool A single, simple file scripts input validation, all transforms and LookUps, and as many outputs to different classes as needed.	Simple for any ARS developer Can do it No OOTB mods, staging forms or workflow	Product is commercial.	ROI is usually first or second use. Development and test time for a Live WWRUG presentation was 2 hours!	8	0.4	5,000

Ledgend

☒	Not possible
☒✓	Not possible unless specifically handled
✗	Not possible without significant effort
☑	Possible with (more or less) effort
✓	Native

Feature	Staging Forms & Workflow	Template based products	Migrator, DSO, etc	AIE	ARS Perl	Java API	c API	SQL	Meta-Update	Comments
CSV File Handling										
Process specific CSV files	☑	✓	☒	☑	☑	☑	☑	☑	✓	Template based products can process CSVs they are designed for
Process any CSV file natively	☑	☒		☑	☑	☑	☑	☑	✓	Each CSV needs a staging form
Apply translations to CSV fields	☑	☒✓	☑	☑	☑	☑	☑	☑	✓	eg. date / time conversions
Automatically duplicate failed rows	☑	☒	☒	☒	☑	☑	☑	☑	✓	Single setting in **Meta-Update**
Update controls										
Determine target form based of data	☑	☒✓	☑	☒	☑	☑	☑	☑	✓	Target forms can be variable in Meta-Update; fields being assigned can be variables;
Inhibit updates when no changes	☑	☒✓	✗	✗	☑	☑	☑	☑	✓	
Structure transformations										
Create multiple records from source record	☑	☒✓	✗	✗	☑	☑	☑	☑	✓	
Create multiple records from lists, or Diary fields	☑	☒✓	✗	✗	☑	☑	☑	☑	✓	
File output										
Create CSV files with data from multiple forms or SQL	☑	☒✓	✗	✗	☑	☑	☑	☑	✓	
Create muptile XML or HTML files	☒	☒	✗	✗	☑	☑	☑	☑	✓	
Query handling										
Exceed server query return limit	☒	☒	☒	☒	☒	☒	☒	☒	✓	**Meta-Update** re-issues queries autmatically to retrieve all records
Use field names	☒	☒	☒	☒	☑	☑	☑	☑	✓	**Meta-Update** enhances ARS queries to allow field names
Handle complete trees of data as a unit	☒	☒	☒	☒	☑	☑	☑	☑	✓	**Meta-Update** handles a complete tree as a unit before moving on to the next
Logging, Auditing, Debugging										
Full logging facilities	☑	☑	☑	☑	☑	☑	☑	☑	✓	**Meta-Update** logging can be controlled and can include client-side server logging
Id logging facilities	☑	☑	☑	☑	☑	☑	☑	☑	✓	**Meta-Update** id logging is robust: multiple logs can be created on different events. Id logs can be used in large jobs to rerun failed records
Debugging facilities	☒	☒	☒	☒	✗	✗	✗	☒	✓	**Meta-Update** includes a debugger that can single-step, set break-points, display values

Attachment handling

Feature	1	2	3	4	5	6	7	8	9	Notes
Save attachments to the file system	☑	☒	✗	✗	☑	☑	☑	☑	✓	**Meta-Update** attachments can be loaded by reference, from the file system, or extracted to the file system changing attributes like names and paths as desired
Import attachments changing names	☑	☒	✗	✗	☑	☑	☑	☑	✓	Workflow would need to call a process, self-developed plugin, or SQL proc

Value transformations

Feature	1	2	3	4	5	6	7	8	9	Notes
Regular expression extracts	✗	☒	✗	✗	✓	✓	☑	☑	✓	Workflow would need to call a process, self-developed plugin, or SQL proc
Fully structured IF facility	☑	☒	☑	✓	✓	✓	✓	✓	✓	Migrator, DSO etc would need workflow
Lookup against spreadsheets	✗	☒	✗	✗	☑	☑	☑	☑	✓	Spreadsheets will need tables built and can be loaded into tables and queried with workflow
Lookup against internal lists	✗	☒	✗	✗	✓	✓	✓	✓	✓	Internal lists would be repeatedly implemented with hard coded IF natively in the case of AIE else in
Lookup against ARS / SQL forms	☑	☒	☑	☑	✓	✓	✓	✓	✓	
Cache lookup records	☒	☒	☒	☒	☑	☑	☑	☑	✓	
Assignments based on target Form or Class	☑	☒	☑	☒	✓	✓	✓	✓	✓	**Meta-Update** allows you to specify additional assignments through an include
Robust Currency field handling	☑	☒ ✓	✗	✗	☑	☑	☑	☑	✓	
Automatic type conversions	☒	☒	☒	☒	☑	☑	☑	☑	✓	**Meta-Update** knows the target fields, types, limits and converts as needed
Change Status-History values		☒	☒	☒	☑	☑	☑	☑	✓	
Change Diary values		☒	☒	☒	☑	☑	☑	☑	✓	

Tool or Technology	Man-Days Effort	Completion Calendar Time in Months	Costs in USD
Staging Forms and Workflow	49	2.5	30,625
Template based products			
Migrator, DSO, etc			
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Java API	30	1.5	18,750
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SQL			
Meta-Update	8	0.4	5,000

This sheet is produced from the Comparisons sheet.

CSV Automation Methods Comparisons

- Time to Delivery in Months
- Costs in Tens of thousands

Done in two hours for a live WWRUG Presentation

ARS Import,... Template-based... Migrator DSO... AIE ARS Perl Java API c API SQL Meta-Update

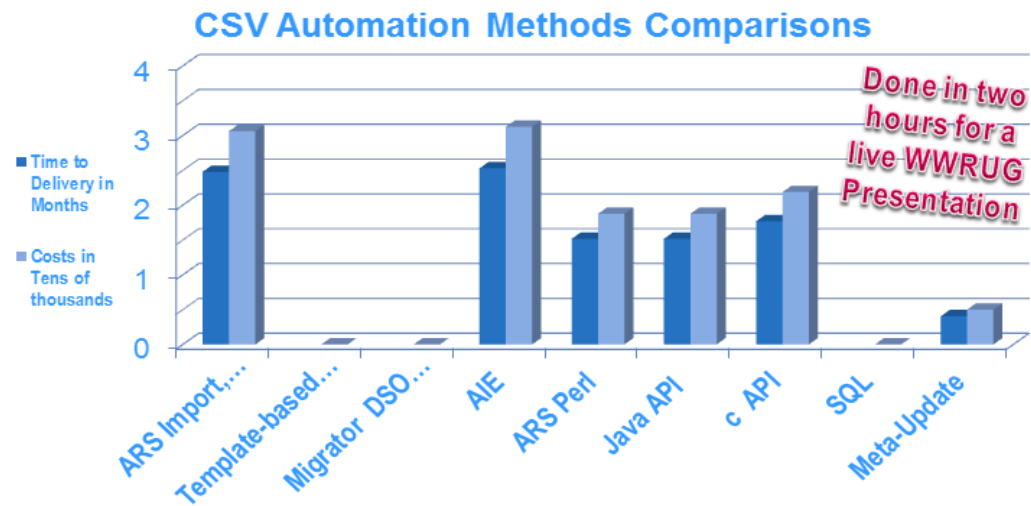**This data in this sheet came from a WWRUG presentation:**

Live CSV import using Meta-Update targeting varying CMDB classes.

Software Tool House at the WWRUG 2010 in Las Vegas

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