## World Wide Remedy Users Group
### WWRUG10 - Sharing Tools, Technology and Training.

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**Software Tool House Inc**

# Data Imports using Meta-Update®
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# Outline

- Different Ways to Automate Imports

- How Meta-Update® Automates Imports

- Meta-Update® Benefits

- Sample Import (Background, Live Demo)

- A Look at Meta-Update® Scripting

- More Information

# Objectives/Results

- ➢ Objectives
  - ➢ Compare different ways for automating imports for time to delivery, efforts and costs
  - ➢ Learn how Meta-Update® slashes costs and yields significant reductions in time to market

- ➢ Results
  - ➢ A complex CSV import to the CMDB will be demonstrated

- ➢ Skills developed
  - ➢ Understanding Import Automation Strategies
  - ➢ An introduction to Meta-Update® scripting

# Ways of Automating Imports

## ARS Import Export

Manual exports to CSVs, Excel to change values, manual imports.

Automated with staging forms and import workflow: a time-consuming, expensive Workflow Project.

## Template-based Products

Must use supplied templates.

Can't use your own or handle different sources.

Manual validation and firing.

Automated with staging forms and import workflow.

## Panacea Migrator DSO AIE

Automated with complex Merge workflow.

May require changes to application.

Workflow Project can approach API costs.

## API Perl Java c

Sure way to automate.

Expensive and slow to develop.

Usually needs outside, non-Remedy staff.

## SQL

Dangerous to the integrity of the ARS system data.

Expensive and slow to develop.

Usually needs outside, non-Remedy staff.

# Meta-Update Import Automating

## Scripting Tool

Meta-Update reads a simple ASCII script file, and performs your functions through the API.

Replete with look-ups, value transforms, file facilities, messaging and error handling.

## No Server Changes No Workflow

No server changes at all.

No staging forms and complex Merge workflow.

No changes to OOTB applications.

## No API Needed

No API programmers.

No time-consuming, expensive, frustrating development projects.

*Your* ARS staff easily implement any automation.

## Any Sources

Handle CSVs of any type – even with line feeds.

Handle your own developed templates.

Apply automatic value transforms.

Use CSVs as Look Ups.

## Efforts Costs Time

ROI is typically its first use.

Reduce efforts and time to delivery by an order of magnitude.

# Meta-Update Import Automating

- Meta-Update is an ARS API Data Scripting Tool.

With Meta-Update, one develops proven, repeatable scripts that can be used over and over again.

Meta-Update is a new way to harness the power of the ARS API:  *with no programming at all!*

# Meta-Update Import Automating

- ARS:                    **$ Field $**

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

     Meta-Update extends the concept of a reference by specifying a record with a field. This allows multiple records' field values to be referenced.

# Meta-Update Import Automating

- ARS: **$ Field $**

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

  A ***Tag*** is a reference to an ARS record, file record, SQL row, a named variable set, a diary entry, program arguments, the environment.

# Meta-Update Import Automating

- ARS: **$ Field $**

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

    A ***Field*** is an ARS field's database name or id, a field defined in a file or SQL query, a program argument, an environment variable, assigned string variable name, regular expression extract, server or client process.
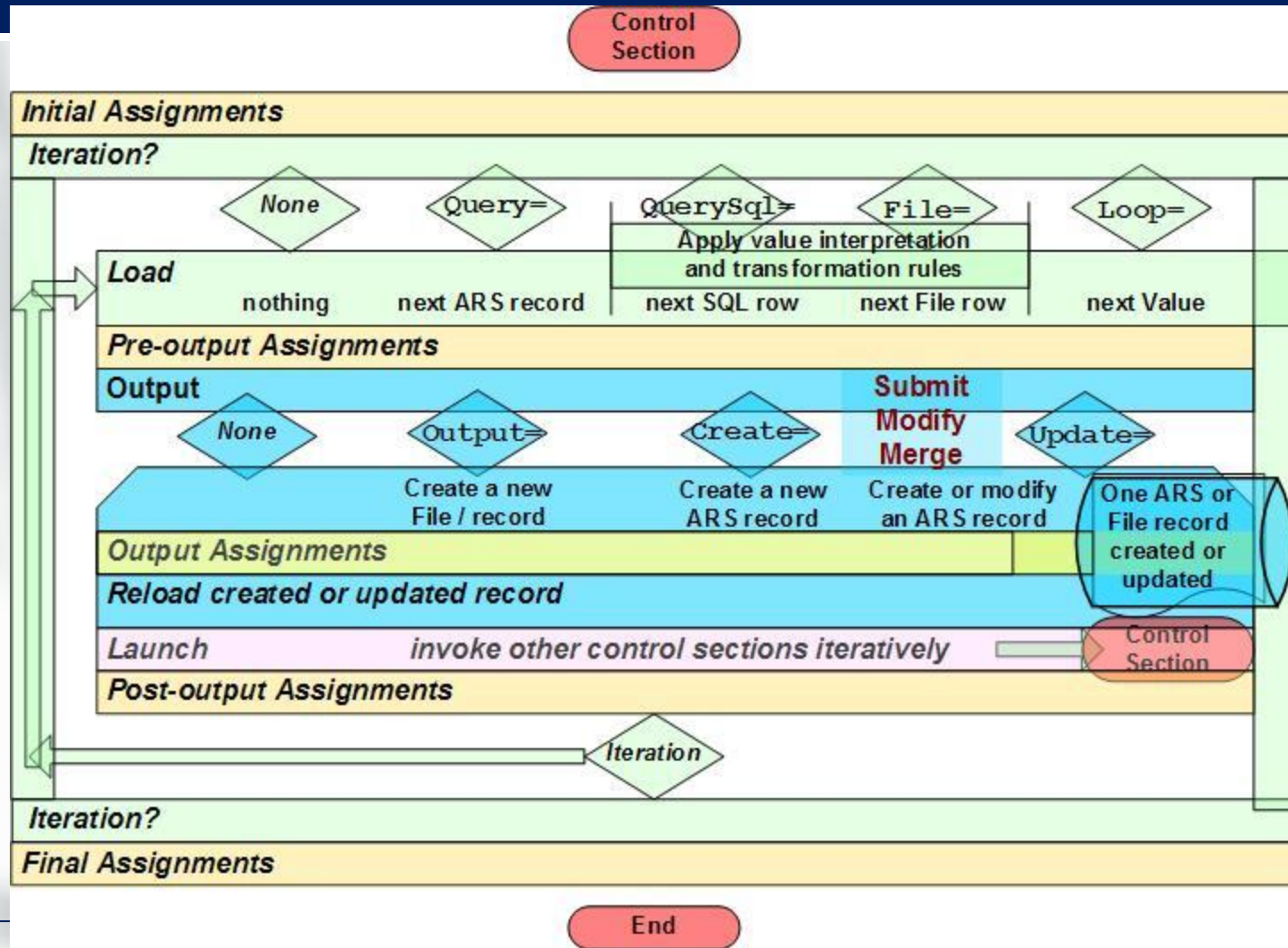
# Meta-Update Import Automating

- ARS:                    **$ Field $**

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

   With a few simple words, query results and files are iterated, records are looked up, references are made and used, and with all these **Tags** in memory at the same time, updates are made and files are output.

# Meta-Update Import Automating

# Demo: On-boarding CSV Import

## ➢ CSV CI Import

Each row of the CSV contains different equipment needing to go in different classes.  A Type column in the CSV is used to determine the class and CTI from another CSV.

A UsedBy and OwnedBy column contains a semi-colon separated list of ARS User Logins and need to generate appropriate associations.

A Parent column makes a Component Relationship if non-null.  The data of the CSV can be assumed to be sorted such that a parent row precedes dependent rows. The Parent's class is defined by the Parent row.

# Demo: On-boarding CSV Import

> ## CSV CI Import:  The input Asset file

**Lists of Login IDs need to build CI Associations.**

**Needs 2nd CSV to get Class, CTI.**

|   | A | B | C | D | E | F | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CI-ID | hostname | Parent | UsedBy | OwnedBy | Type | Architecture | Memory | Num-CPUs | Capacity |
| 2 | STH-Svr-010 | | | bchernys | | Server | Sparc | 12 | 4 | |
| 3 | STH-Lpt-010 | nanook | | bchernys | bchernys | Laptop | Intel | 4 | 2 | |
| 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;bche | 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.**

# Demo: On-boarding CSV Import

➢ ## CSV CI Import:  The Type Look-Up CSV

| | 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 |
| | | | | | | |

# Demo: With Meta-Update

➢ No staging forms or workflow changes to design, document, implement, test, inventory!

➢ A single, simple Meta-Update ASCII Script file that can be built in a few hours.

➢ A single, simple command that can be run manually when needed or automated with *cron* or *at*, or through run process filter.

# Comparison of Automation Efforts

| Tasks / Methods | ARS Import Export, staging forms, workflow | Template-based Products | Panacea, Migrator, DSO | AIE | ARS Perl | Java API | c API | SQL | Meta-Update |
|---|---|---|---|---|---|---|---|---|---|
| Prepare table | 4 | #N/A | #N/A | 4 | 0 | 0 | 0 | #N/A | 0 |
| Develop mapping | 0 | | | 1 | 0 | 0 | 0 | | 0 |
| Develop workflow | 25 | | | 25 | 0 | 0 | 0 | | 0 |
| Develop Script | 0 | | | 0 | 15 | 15 | 20 | | 1 |
| Dev Corrections | 10 | | | 10 | 5 | 5 | 5 | | 1 |
| Documentation | 5 | | | 5 | 5 | 5 | 5 | | 1 |
| QA | 5 | | | 5 | 5 | 5 | 5 | | 5 |
| | | | | | | | | | |
| Total man-days | 49 | | | 50 | 30 | 30 | 35 | | 8 |
| Costs permanent employee | $30,625 | | | $31,250 | $18,750 | $18,750 | $21,875 | | $5,000 |
| Time to market in calendar months | 2.5 | | | 2.5 | 1.5 | 1.5 | 1.8 | | 0.4 |

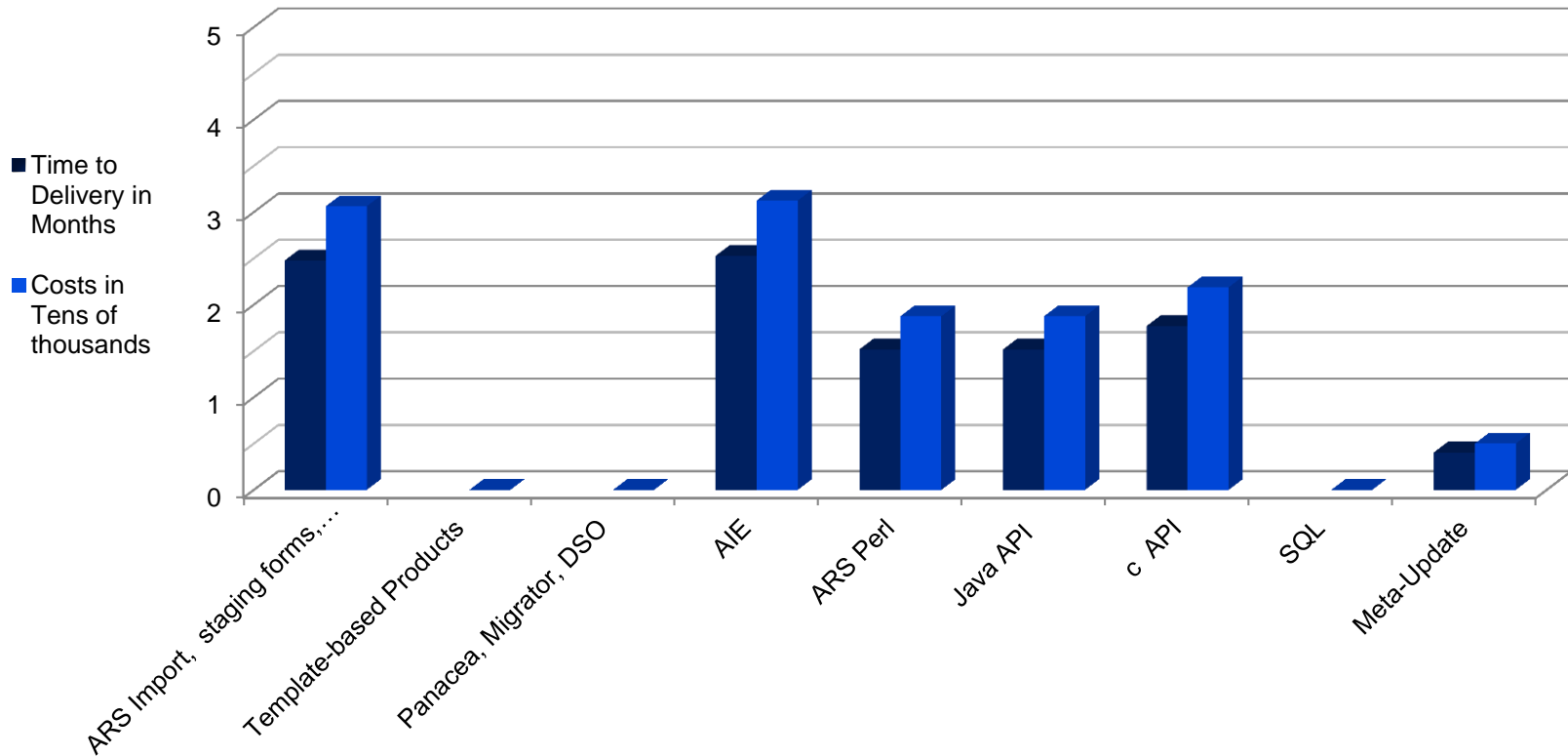| Assumptions | | |
|---|---|---|
| Fully burdened annual employee costs | $150,000 |
| Paid holidays | 20 |
| Work days in year | 260 |

- Adequate skills in required areas assumed.
- Management overhead can fluctuate wildly and is not considered.
- Columns marked #N/A exceed staging forms and do not provide CSV handling required.

# Comparison of Automation Costs

**CSV Automation Methods Costs Comparisons**

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

Categories: ARS Import, staging forms,…; Template-based Products; Panacea, Migrator, DSO; AIE; ARS Perl; Java API; c API; SQL; Meta-Update

# Demo: CSV

➢ We'll now move to the Demo part of the presentation.

➢ We'll start with an empty CMDB - zero CIs.

➢ We'll run the script in debug mode with an editor open to walk through a bit of it.

➢ We'll let it run to completion and examine the results with the User tool.

# Next Steps

- ❑ Check out the Web Site **www.softwaretoolhouse.com**

- ❑ Download this script. See Learning, Script Library

- ❑ Request a Trial License with a Live Install WebEx Training session

- ❑ Contact us at: **sales@softwaretoolhouse.com**

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# Thank You

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