Lua Scripting

Brian Lassiter
Director of EA

MILSOFT
Utility Solutions

2012 Milsoft Users Conference

What is Lua?

- Embedded scripting language in WindMil and WindMilMap
- Created by a University team in Brazil
- Used by several software and gaming companies

What can Lua do?

- Make modifications to circuit models

- Create new element fields for custom reports and data boxes

- Perform tasks on a schedule

Types of Lua Scripts

- .lua – make model edits and perform calculations on model data when script is ran

- .elua – creates element field in the field list

- .plum – script that can be ran automatically based on certain actions

Model Editing with Lua

- Example scripts for model edits
  - Insert transformer fuses(Arc Flash)
  - Connect consumers to closest transformer
  - Rephase elements from file
  - Rename elements
- Calculations
  - Total length of selected lines

Element Field Creation

- Lua scripts can create new element fields

- Defined as .elua files and must reside in C:\Milsoft\Programs\Scripts\eLua

- Perform calculations on existing data

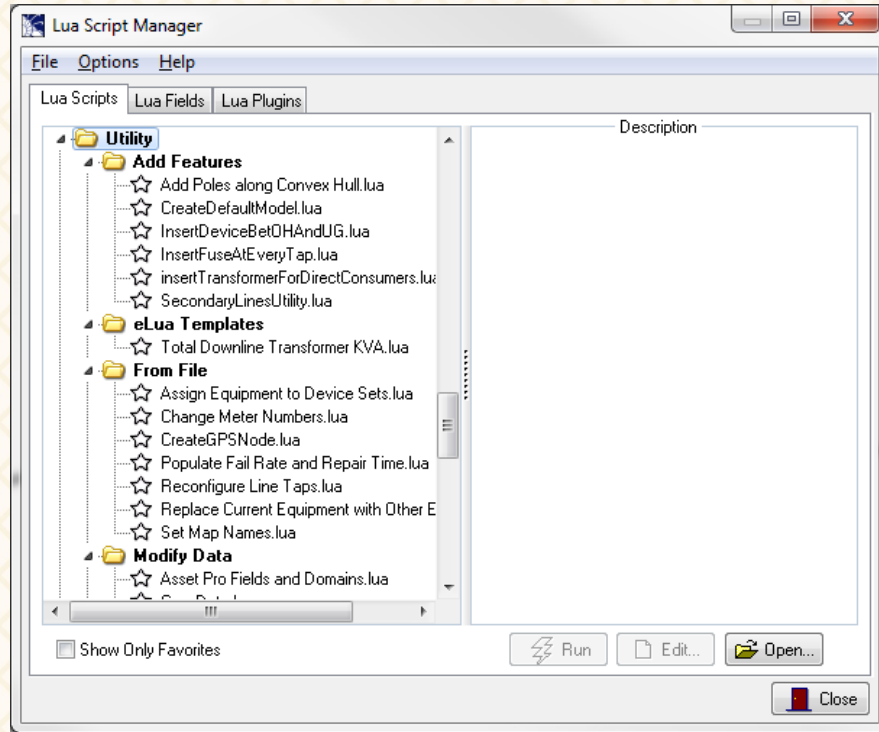- Upline and downline tracing/searching

Example Element Fields

- Total kW Loss – summation of kW loss on all elements downline from selected

- Upline Device – search upline to find device and equipment of device

- Min Downline Voltage – Search downline and return lowest voltage downline

Running Scripts

- Utilities, Script manager
  - Select Script
  - Hit Run
- Scripts can be tagged as favorite and run from Utilities, Execute Script

Script Manager

Script Manager Features

- Create new scripts

- Run selected scripts

- Create scripts from templates

- Add eLua fields to Selected Elements tab

eLua Templates

- Allows user to easily create a new element field based on pre-defined template

- Milsoft provides templates

Assigning to Toolbar

- Frequently used script can be a toolbar button

- Right click on custom toolbar, assign Lua script

  - SumLength.lua

Plum Scripts

- Can perform task based on WindMil action
  - Rename elements immediately after added to model
  - OnGetGridName
  - OnAfterAddElement

Creating a Right Click Menu Option

- Right click menu can now have scripts added as options

- Use plum Lua scripts and specific header option
  - PopupMenuItem

MILSOFT Utility Solutions

Future Plans for Lua

- Replace Updatable Utilities with scripts

- Replace Global Editor Editing Utilities with scripts

- Enable scripting capabilities in other parts of WindMil (possibly Analysis)

- Provide more templates for easier script creation

MILSOFT Utility Solutions

Lua Resources

- Several web sites for reference
  - http://www.lua.org/
  - http://en.wikipedia.org/wiki/ Lua_(programming_language)
- Milsoft Tutorial in Progress

www.Mcours.com
Site N°1 des Cours et Exercices   Email: contact@mcours.com

Questions/Comments