

DBTOOL

Connected Home Division

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Distribution with NDA to HUMAX on
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Agenda

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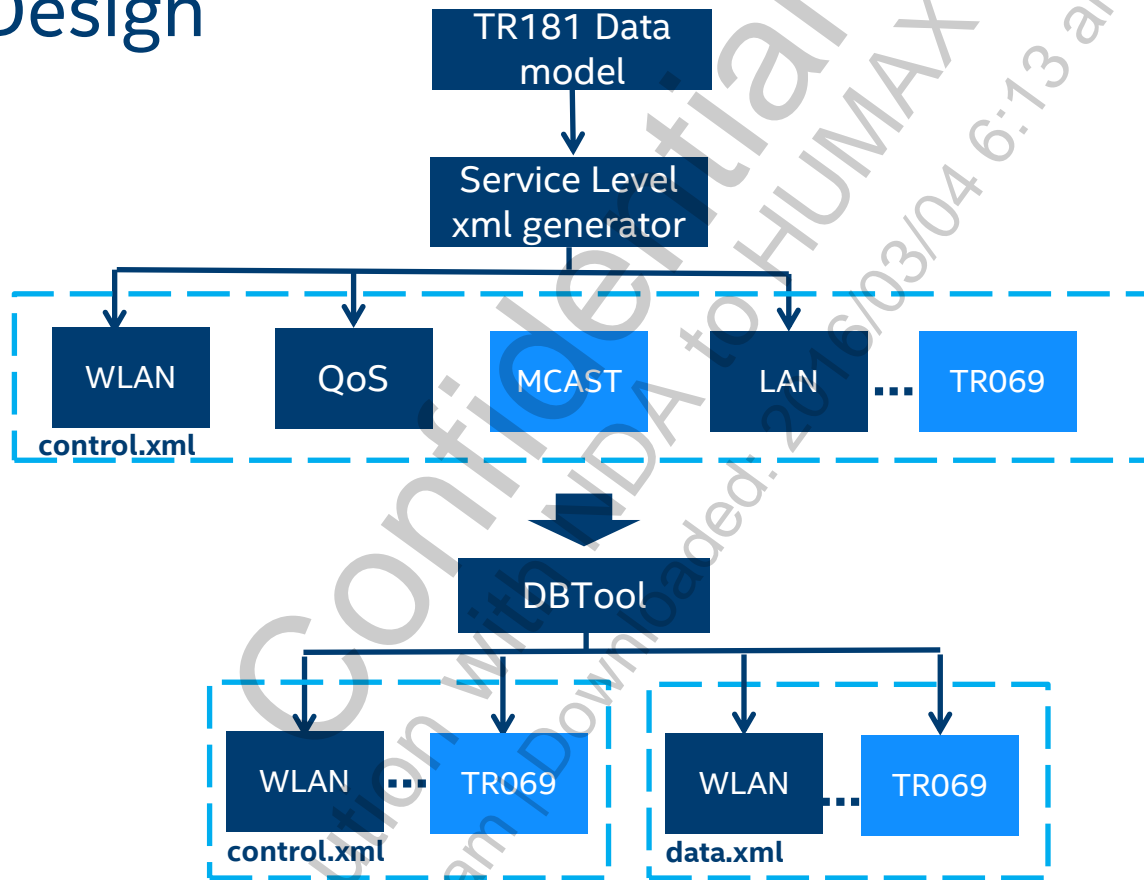
DBTool overview

- DBTool is Data Base manager , responsible for creating configuration files (xml format) for UGW platforms.
- DBTool provides Services Based configuration xml files (like WLAN, QoS, Network, etc.,)
- It derives the service based xml files from standard BBF , which provides the data model.
- DBTool is used to Add/modify/delete existing services or new services of configuration file.
- DBTool is used generate ID's and Flag for given service XML.

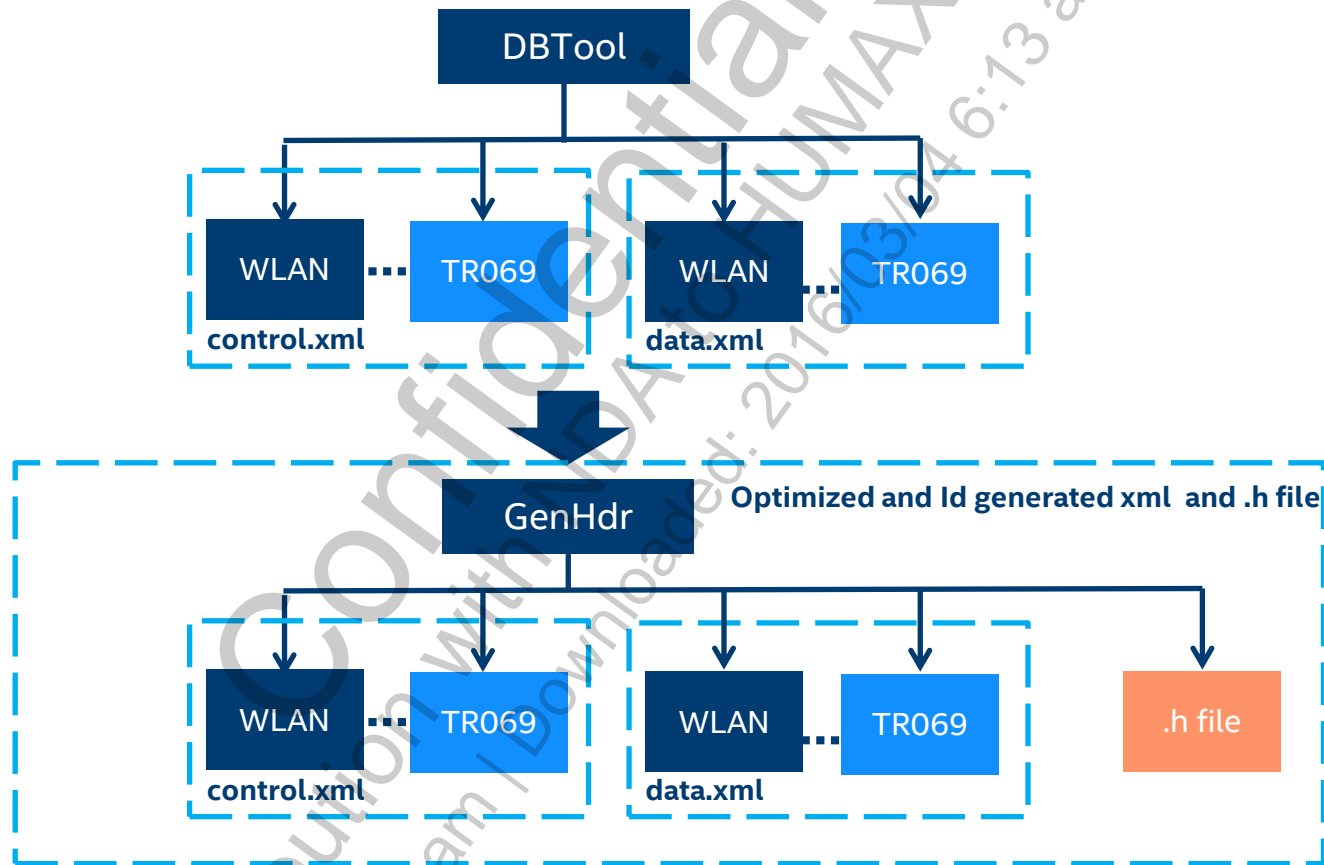
Control and Data xml

- Control.xml
 - Control.xml carries base information of the services , like attribute information , instance information , validation information . Overall it's basic schema file for any service.
 - Control.xml is derived from the standard TR-181 data model file.
 - Control.xml also carries the default values for the object and parameter.
- Data.xml
 - Data.xml carries actual values and instances for given services.
 - Running configuration are stored in data.xml and attributes values updated in data.xml.

DBTool Design



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DBTool Installation

- Download and Extract 'python-2.7.7.msi' from official Python [Link](#)
- Install Python2.7 to default path ie: C:\Python27
- Create a directory called **C:\Python27\add_ons**.
 - Download, save and extract the below four modules to **C:\Python27\add_ons** directory:
 - JDCal: [Link](#)
 - python c:\Python27\add_ons\jdcalf-1.0\setup.py install
 - OpenPyXL [Link](#)
 - python c:\Python27\add_ons\pypa-setuptools\setup.py install
 - Setuptools [Link](#)
 - python c:\Python27\add_ons\openpyxl-2.1.4\setup.py install
 - lxml [Link](#)
 - lxml link provided is an executable file on windows, so just run the .exe file and lxml module is installed.
- Install JRE Version: 1.7.0_45 . Whether the 64bit or 32bit version needs to be installed is again dependant on the OS provided by IT. *General tip.. 32bit variant works on 64bit OS.*

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After Successful installation, add Python installation path to environment variable. Right Click on My Computer-> Properties -> Advanced System Settings -> Environment Variable

Edit 'User Variable' Path:

Before: C:\Program Files\Intel\WiFi\bin\;C:\Program Files\Common Files\Intel\WirelessCommon\

After: C:\Program Files\Intel\WiFi\bin\;C:\Program Files\Common Files\Intel\WirelessCommon\;C:\Python27

Edit 'System Variable' Path:

Before:

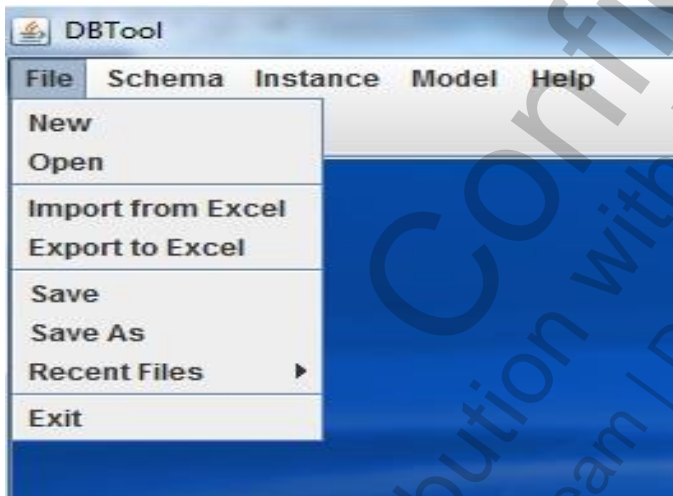
C:\Program Files\Intel\iCLS
Client\;%SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;%SYSTEMROOT%\System32\WindowsPowerShell\v1.0\;C:\Program Files\Intel\Intel(R)
Management Engine Components\DAL;C:\Program Files\Intel\Intel(R) Management Engine Components\IPT;C:\Program Files\Lenovo\Fingerprint Manager Pro;C:\Program
Files\TortoiseHg\;C:\Program Files\Common Files\lenovo\easyplussdk\bin;C:\Program Files\Lenovo\Access Connections\;C:\Program Files\Lenovo\Password
Manager\;C:\Program Files\Intel\WiFi\bin\;C:\Program Files\Common Files\Intel\WirelessCommon\;%JAVA_HOME%\bin;%MAVEN_HOME%\bin

After:

C:\Program Files\Intel\iCLS
Client\;%SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;%SYSTEMROOT%\System32\WindowsPowerShell\v1.0\;C:\Program Files\Intel\Intel(R)
Management Engine Components\DAL;C:\Program Files\Intel\Intel(R) Management Engine Components\IPT;C:\Program Files\Lenovo\Fingerprint Manager Pro;C:\Program
Files\TortoiseHg\;C:\Program Files\Common Files\lenovo\easyplussdk\bin;C:\Program Files\Lenovo\Access Connections\;C:\Program Files\Lenovo\Password
Manager\;C:\Program Files\Intel\WiFi\bin\;C:\Program Files\Common Files\Intel\WirelessCommon\;%JAVA_HOME%\bin;%MAVEN_HOME%\bin;C:\Python27

How to DBTool

- How to Launch DBTool
 - Browse to DBTool/src
 - Double click and run dbTool.bat in windows
- Open Service XML file , goto to file -> open -> <service_xml.file>



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- Editing service XML file
 - Add/Modify/delete existing object or parameter or attribute

The screenshot displays the XMLTree - ATM_control.xml editor. The left pane shows a tree view with the following structure:

- ATM
 - access = readOnly
 - maxEntries = 1
 - minEntries = 1
 - LinkNumberOfEntries
 - access = readOnly
 - profile = ATMLink:1
 - syntax = unsignedInt
 - Link
 - Context menu open: Edit, Add Service, Add Object, Add Parameter, Add Attribute, Delete, Move Up, Move Down
 - LowerLayers
 - LinkType

The right pane shows a list of parameters with their values:

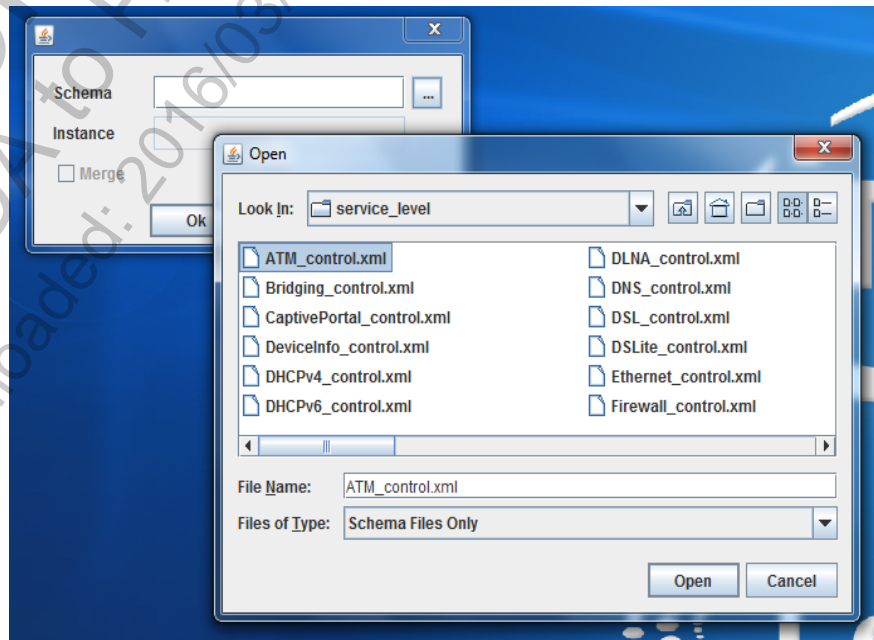
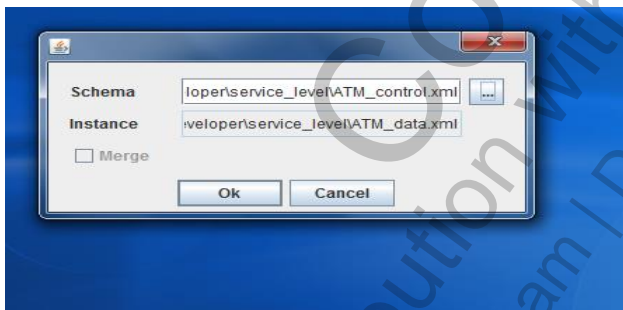
- numEntriesParameter = LinkNumberOfEntries
- multInst = yes
- maxEntries = unbounded
- enableParameter = Enable
- minEntries = 0
- Enable = false
- Status = Down
- Alias
- Name
- LastChange
- LowerLayers
- LinkType
- AutoConfig
- DestinationAd
- Encapsulation
- FCSPreserved
- VCSearchList
- AAL
- Stats

A context menu is open over the 'numEntriesParameter' parameter in the right pane, showing the following options:

- Edit
- Add Service
- Add Object
- Add Parameter
- Add Attribute
- Delete
- Move Up
- Move Down

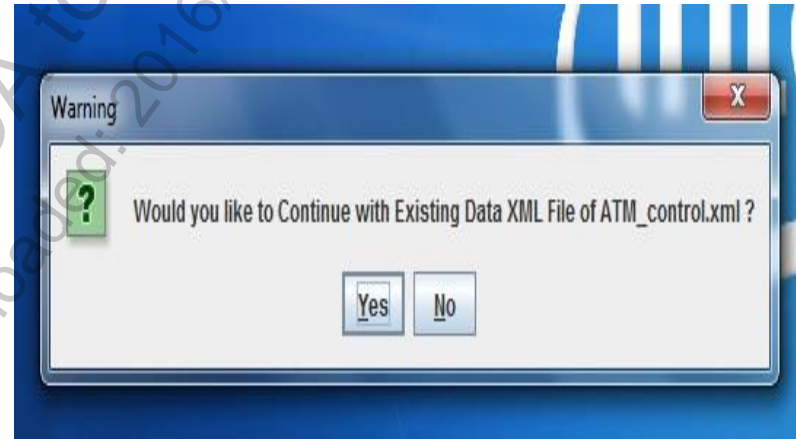
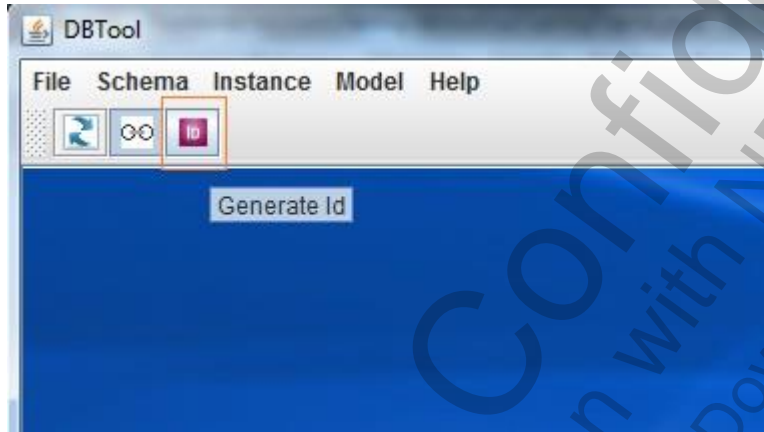
Continued ...

- Creating data xml
 - Goto instances create -> then feed the <service_control.xml>, data.xml will be generated in the same path where the control.xml presents.



Continued ...

- Creating id and flag added xml
 - Goto tool bar ID as shown below then feed the service_control.xml , if in the same location service_data.xml exists then id and flag generated for the files, and it also create .h file for the SL.



Attributes list

syntax: 3 bits

access: 1 bit

Save to flash: 1 bit

Inform to Acs: 1 bit

Change flag: 1 bit

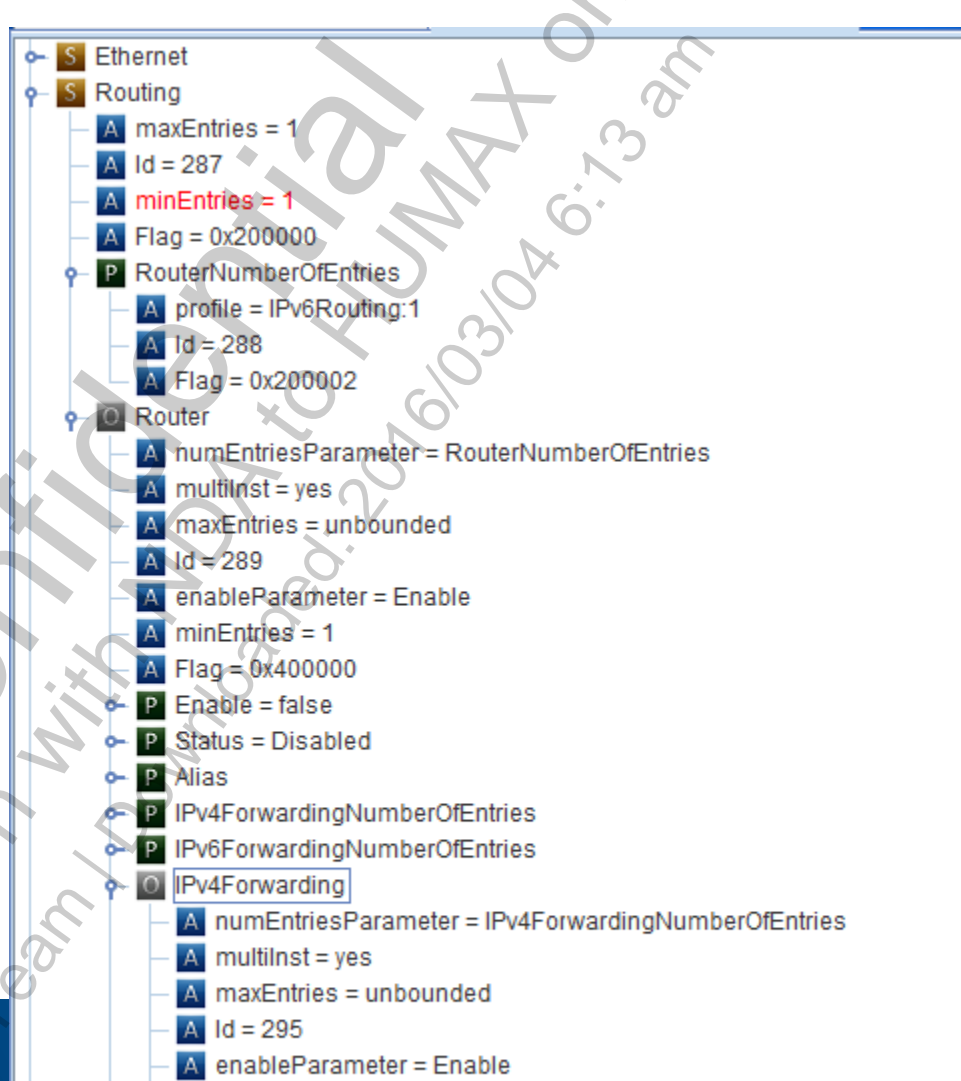
Notification: 2 bits

Access control: 1 bit

Dynamic: 1 bit

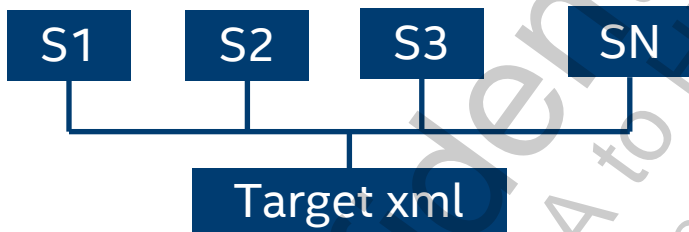
Password: 1bit

Ref is replaced with enum



Merge.py Role

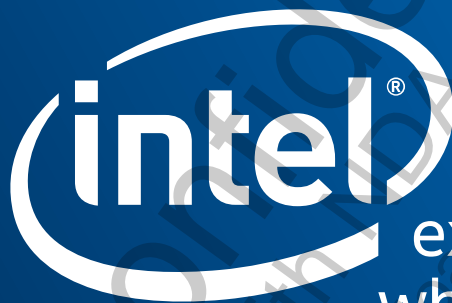
- Merges all the service xml into single target xml i.e



- And also performs schema validation for the given xml files and returns error in case of failure
- Performs deep merge , if two services supports same parent object.

References

- DBTool/src/doc provides following documents.
 - 01_Install_Guide.docx -> how to install python and it's related packages.
 - 02_Usage_Guide.docx -> how to use DBtool.
 - 06_front_end_usage.docx -> how to frontend usage .



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