

Machine Translation (M2M)

SNMP MIB to CIM MOF

WIMS Working Group – CIM Project
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M2M – Background

- **DMTF/PWG Alliance**
 - **Work Register for CIM Printing Refresh (May 2005)**
- **WIMS WG - CIM Refresh Project**
 - **Phase 1 – Editorial – Completed (January 2007)**
 - Edit existing CIM classes – Description and MappingStrings
 - PWG White Paper – to PWG Call for Objections (June 2006)
 - DMTF Change Requests – to CIM Core WG (June 2006)
 - DMTF CIM MOF Revisions – to CIM v2.14 (January 2007)
 - **Phase 2 – Technical – Work-In-Progress**
 - Create new CIM classes for Printer Subunits and Alerts
 - IETF Printer MIB v2 – over 150 SNMP MIB objects
 - New CIM MOF classes – over 100 CIM MOF properties

M2M – Rationale

- **Scope of Problem**
 - 6,000 lines of ASN.1 in Printer MIB v2
 - Too big for manual cut-and-paste
- **Order of MIB and MOF clauses is different**
 - **Name on OBJECT-TYPE at beginning to two MOF clauses**
 - MIB name to MappingStrings clause in middle
 - MIB name to MOF name at end (declaration of property)
 - **SYNTAX clause at beginning to multiple MOF clauses**
 - MIB enums to ValueMap and Values clauses in middle
 - MIB type to MOF type at end (declaration of property)
 - **MAX-ACCESS clause in middle to MOF Write qualifier**
 - Optional prefix to Description clause at beginning
 - **DESCRIPTION clause in middle to MOF Description at beginning**
 - Fix leading/trailing quotes to MOF conventions

M2M – MIB Table to MOF Class

- Name on OBJECT-TYPE macro
 - Convert MIB prefix (e.g., "prtInput") for MOF table class
 - Save input prefix for deletion from property names
 - Convert MIB suffix (i.e., "Table") for MOF table class
 - Save (singular) output class name for row name
 - Output MOF table class
 - class CIM_PrintInputTrays : CIM_Collection {
 - Not used in WIMS-CIM (only rows and columns are used)
 - Hand-edit Description clause of MOF table class
 - Cut-and-paste from MIB and then hand-edit
- Skip to end of OBJECT-TYPE macro
 - Skip all other MIB clauses
 - Not used in WIMS-CIM

M2M – MIB Row to MOF Class

- Name on OBJECT-TYPE macro
 - Convert MIB name (e.g., "prtInputEntry") for MOF row class
 - Replace with saved singular name from MOF table class
 - Output MOF row class
 - class CIM_PrintInputTray : CIM_ManagedElement {
 - Hand-edit Description clause of MOF row class
 - Cut-and-paste from MIB and then hand-edit
- Skip to end of OBJECT-TYPE macro
 - Skip all other MIB clauses
 - Not used in WIMS-CIM
- SEQUENCE macro
 - Output fixed up property names as MOF comments
 - // MediaName

M2M – Column to MOF Property

- **ASN.1 Comments in MIB**
 - **Skip**
 - Not used in WIMS-CIM
- **Name on OBJECT-TYPE macro**
 - **Delete MIB prefix (e.g., "prtInput") for MOF declaration**
 - string MediaName;
- **SYNTAX**
 - **Convert MIB type (e.g., "Integer32") for MOF declaration**
 - sint32 RemainingCapacity;
 - **Convert MIB enums to MOF ValueMap and Values clauses**
 - ValueMap { "1", // Other
 - Values {"Other", // 1
- **UNITS**
 - **Capitalize MIB units (e.g., "kBytes") for MOF Units clause**
 - Not used in Printer MIB v2 or WIMS-CIM

M2M – Column to MOF Property

- **MAX-ACCESS**
 - "accessible-for-notify" or "read-only"
 - Ignore
 - "read-write" or "read-create"
 - Output MOF Write qualifier
- **STATUS**
 - **Skip**
 - Not used in Printer MIB v2 or WIMS-CIM
- **DESCRIPTION**
 - **Fix leading/trailing quotes**
 - Output MOF Description clause
 - **Hand-edit references (e.g., "prtGeneralCurrentLocalization")**
 - CIM_Printer.Current[CharSet|NaturalLanguage]
- **DEFVAL**
 - **Skip**
 - Not used in Printer MIB v2 or WIMS-CIM