What Is This Spreadsheet All About?
(Rick Landau 20060906)

The DMTF CIM model of printers and printing is being updated by the PWG WIMS-CIM working group. As a first step, we are updating the CIM model of the printer device. An extensive model of the printer device is embodied in the SNMP Printer MIB and the PWG Semantic Model. That knowledge should be preserved in future models of printer hardware.

Guideline: If we want a property of a printer device to be manageable through CIM-based management applications, then the property must be represented in CIM. (And similarly, in later discussions, for print services, queues, and jobs.)

Question: What shall we carry forward from the existing model of printer (SNMP, Semantic Model) into a new model of printer (DMTF CIM)?

Let's begin with the SNMP Printer MIB (V2). Which objects in Printer MIB do we think are very important to managing a printer and need to be carried forward? There are several ways to move a property from the old model to a new one.

is (in the existing model), with substantial semantic and syntactic equivalence. In most cases, new properties will need to be included in the new model to stand in for the existing management object. Simple example: prtGeneralServicePerson is a user-supplied string object in SNMP, and it is reasonable to include in a future MOF a writable string property to carry this same data. Better example: prtLocalizationLanguage can be represented equivalently by CIM_Printer.NaturalLanguagesSupported. Both are character strings containing the lower-case language code from ISO639, but they are not quite identical.

equivalent. Example: the CIM analog to prtGeneralCurrentLocalization is CIM_Printer.CurrentNaturalLanguage. However, the SNMP object is an integer that is constrained to be a value of an index in the table of supported languages, while the CIM property is a string that "should also be listed in . . ." the table of supported languages.

is possible that media paths may be best represented in CIM with instances of a subclass of CIM_Capabilities.

- The existing property may be represented functionally, "in spirit," but not as an immediately recognizable analog. Example: prtGeneralReset cannot be represented in CIM as a property with side effects. Some of the functions of this object may be present in the CIM_Printer.RequestStateChange() method and allowable states. Others, such as the resetToFactoryDefaults enum value may have to be represented with entirely different mechanisms.

Question: What classes of printers are we targeting?

Concentrate on shared office printers that are monitored and managed remotely.

- shared
- sheet-fed
- unattended
- monochrome and process color
- few or no options except duplex
- vanilla office printers

- monitored remotely (because they are shared, no assigned operator)
- need info to present a reasonable status page
- need rich status reporting, roll-up plus details
- alarm common error conditions: paper, toner, jam
- need names of all media and supplies
- need items to help predict service needs: capacities, levels, counters

- sense and manage default behavior

- multiple inputs
- one or maybe two outputs
- no fancy finishing
- not production printers with operators

Question: What are the voting categories used here?

A = This property must be in the CIM model. It must be manageable, or it is required for conformance to the Semantic Model, etc.

B = Nice idea, but not mandatory. If it is not in version 1, and if that is a mistake, then we will add it into version

C = Bad idea. The item may be SNMP structure that does not carry data, such as table headers, or may be irrelevant. For instance, continuous forms control is not needed for the class of printers that we want to manage.