

Contribution from Keith Carter
January 24, 1997

----- Directory Subgroup: Issues -----

1. Should LDAP be included in the Directory Schema?

Proposal: Remove section "2.3 Directory Entries Using LDAP" to decouple the schema from a specific directory protocol.

2. The use of "objective" attributes vs. "subjective" attributes still needs to be resolved. For example, for Maximum Print Quality is it better to have values like "high", "medium", "low" or to have explicit, quantified, measurable values? Some considerations are: end-users don't often know what explicit objective values are or what they really mean and they want to depend on an administrator to define what is "high" quality printing and what is "low" quality, especially since today's objective values that equate to "high" are tomorrow's objective values that equate to "medium". On the other hand, some end-users demand the control and power explicit values can give them when they do filtered searching. For example, they know and appreciate the difference between 20ppm and 23 ppm printers.

Proposal: We need to focus on the primary "customer" of the Directory Schema who is the end-user selecting printer objects. Based on my interaction with customers, most end-users want to search for printer objects using standard values "low", "medium" and "high" for quality, cost and speed. I realize there are power end-users who want to make a selection based on explicit values, but these end-users can always query for a list of printer objects using the basic 3 values of the directory attribute of interest and then query each printer object in the list for its specific value. However, I expect most of the time the power end-users will know the explicit capabilities of printer objects. So, we should stick with "high", "medium" and "low" for these attributes. Another option is to provide a mechanism to specify explicit values for these attributes if that is really necessary. I invite Jim Walker of DAZEL and Scott Isaacson of Novell to share their "real world" experience since I understand both DAZEL and Netware 4.x/NDPS also allow end-users to search for printer objects based on attributes.

3. Is the cost per page tied to the media it is printed on? Do we need to define some standard for determining the cost per page?

Proposal: Please read the proposal for issue 2 which basically states not to put this level of granularity in the cost attribute of a printer object entry in the directory. If this is required for accounting applications, then an explicit value on cost should be stored in the printer object. Furthermore, based on the series of email responses on this issue, I'm convinced that it will be complex to define values for the cost attribute more granular than "high", "medium" and "low". Finally, a URL reference for more information on the cost of a printer seems like a printer object attribute since this does not allow a user to select a printer object based solely on the attributes in its

directory entry.

4. Is information that is as variable as media-ready stored in the Name Service?

Proposal: No. This requires an implementation to synch up the physical attributes of a printer object with its printer object entry in the directory which I don't believe we should require of an implementation. If there is a tidal wave of support for media-ready, then we could make this attribute optional and indicate that an administrator may specify the values so as not to require implementations to synchronize printer objects and their entries in the directory. Scott Isaacson and Jim Walker, what does your experience tell you about putting such attributes in printer object entries in the directory?

5. How is "near my hotel" done? Is there a required format for printer location in the schema?

Proposal: The Directory Schema has an attribute called Location. Per the current definition in the Directory Schema document, this field is a free form string that can contain site-specific location information. This seems sufficient and keeps things straightforward for an implementation.

6. The client should be able to ask either the printer or the Name Service for the location of the driver/driver installer.

Proposal: Put the location of the driver/driver installer in the printer object - not in the directory. This location could change based on the printer(s) assigned to a printer object so putting this in the directory opens the door to synchronization issues in keeping a printer object entry in the directory current with its printer object. Furthermore, I do not believe that this attribute is required by an end-user to select a printer object.

7. Should Device Id be in the Directory Schema? If so, is this the IEEE 1284 device id, the Object Identifier as used in the Host Resource MIB hrDeviceId object, or some other identifier?

Proposal: Remove Device Id from the Directory Schema. Make and Model should be sufficient in terms of locating printer object entry(ies) that use a specific device. Once an end-user selects a printer object, an IPP application can query the printer object to get its device id so the application can select the printer driver for the printer object.

8. We must specify which attributes are "mandatory" and which are "optional". LDAP uses the terms "must" and "may" to identify attributes that "must" appear and attributes that "may" appear in a given entry in the directory.

Proposal: TBD.

9. What should be stated about security?

Proposal: Replace section “3. Security Considerations” with a statement like the following:

This document does not identify specific security mechanisms used by a directory service to control access to printer object entries in the directory. Security is left to the implementation of the directory service.

----- End of Directory Issues -----