Administering the Printer Namespace 9

This chapter describes the administration of the printer namespace. The `printer` context is not part of the XFN policies. It is provided in FNS in order to store printer bindings.

The Printer Namespace

FNS provides the capability to store printer bindings in the FNS namespace. This gives print servers the means to advertise their services and allow users to browse and choose amongst the available printers without client side administration.

Printer bindings are stored in printer contexts, which are associated with organizations, users, hosts, and sites. Hence, each organization, user, host, and site has its own `printer` context.

The `printer` context is created under the `service` context of the respective composite name. For example, the composite name shown below has the following `printer` context:

```
org/wiz.com./service/printer
```

The name of a printer for a host, `labpc`, with a printer context might look like this:

```
host/labpc/service/printer/laser
```

Administering Printer Contexts

Currently, printer contexts are supported for name service of files, NIS, and NIS+. The manner in which the bindings are stored in the `printer` context varies according to the underlying name service used for implementing FNS. For NIS and files, printer bindings are only associated with organizations and all the bindings exist in one printer context. NIS+, however, stores the printer bindings in the `printer` context, which allows the printer namespace to be arranged hierarchically and be associated with the `org`, `host`, `user`, and `site` contexts.

Using Files

Files are used as the default name service if neither NIS nor NIS+ is present. The printer bindings are stored in the `/etc/printers.conf` file, which is the printer configuration database used to describe printers. Each printer binding requires its own entry in this file. For example, if you have a printer named `printer1`, with the alias `ps`, you would add an entry to the `printers.conf` file in this format:

```
printer1|ps:bsdaddr=server_name,printer_name
```

In this example, when a lookup is performed on and address containing `printer1`, the address type of `onc_printers_bsdaddr` is returned. For more information about the required file format in `printers.conf`, see the `printers.conf(4)` man page.

Using NIS

If NIS is the underlying name service, the NIS map that is used to store the printer configuration is called `printers.conf.byname`. Each printer binding has an entry in this file. For example, if you have a printer named `printer2`, with the alias `lp`, you would add an entry to the `printers.conf.byname` file in this format:

```
printer2|lp:bsdaddr=server_name,printer_name
```

For more information about the syntax required, see the `printers.conf.byname(4)` man page.

When you list or look up the available printers (using `lpstat`(1), `fnlist`(3N) or `fn_ctx_lookup()` for example), the results are created by merging the list of printers included in the files name service (`/etc/printers.conf`) with the list of printers included in the NIS name service map (`/etc/printers.conf.byname`).

Using NIS+

If NIS+ is the underlying name service for FNS, administering printer contexts is simplified by the `fncreate_printer` command, which creates the `printer` context for organization, users, hosts, and sites.

The `fncreate_printer` command takes the following arguments:

```
fncreate_printer composite_name printer_name printer_address
```

where *printer_address* is in the form *addresstype=address*. In the next example, the *printer_address* is `bsdaddr=labpc,laser-jet`. For more information, see the `fncreate_printer(1)` man page.

In this example, a printer binding for the printer `laser-jet` for the user `jsmith` is created:.

```
% fncreate_printer user/jsmith laser-jet bsdaddr=labpc,laser-jet
```

The new binding, `user/jsmith/service/printer/laser-jet`, has the address type `onc_printers_bsdaddr`, and the address `labpc,laser-jet`. FNS adds the prefix `onc_printers_` to the address type.

In NIS+, it is possible to organize printers hierarchically. For example, printers can be listed under the `printer` context, as shown by the following commands:

```
% fncreate_printer org/wiz.com. color/lpq bsdaddr=colorful,lpq
% fncreate_printer org/wiz.com. color/laser bsdaddr=colorprt,laser
% fncreate_printer org/wiz.com. color/inkj bsdaddr=colorjet,inkj
```

The `fncreate` command added the printer bindings for the printers, `lpq`, `laser`, and `inkj` to the context `color` present under the `printer` context. The result looks like this:

```
org/wiz.com./service/printer/color/lpq
org/wiz.com./service/printer/color/laser
org/wiz.com./service/printer/color/inkj
```

Similarly, color printers, `green`, `red`, and `blue` for user `jsmith` can be organized as follows:

```
user/jsmith/service/printer/color/green
user/jsmith/service/printer/color/red
user/jsmith/service/printer/color/blue
```

Printer bindings (contexts) in NIS+ can be removed using the `fndestroy` command. For example, to remove the `printer` context in this example, use the command:

```
% fndestroy user/jsmith/service/printer/laser-jet
```

When you list or look up the available printers (using `lpstat`(1), `fnlist`(3N) or `fn_ctx_lookup()` for example), the results are created by merging the list of printers included in the files name service (`/etc/printers.conf`) with the list of printers included in the NIS+ tables generated by `fncreate`(1) or `fncreate_printer`(1).