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Presto - OpenSolaris Printing Make Easy

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Presenting:

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Agenda

- Why presto?
- Printer Management tools on Unix
- Presto
 - Architecture
 - Print Manager – basic requirements
 - Supported print systems
 - Programming language
 - How many threads
 - Group manager
 - Desktop integration
 - Road map



Presto – Printing Made Easy

- Why presto?



Presto – Printing Made Easy

- Why presto?

Why not?

Presto – Printing Made Easy





Presto – Printing Made Easy

- Why presto?
 - OpenSolaris Printer set up gap
(Hardest task to complete in on survey)
 - Improve user's experinece
 - auto-detection
 - auto-discovery vs manual specification
 - Use SMF for managing network queue
discovery/advertising services
 - Tighter desktop integration

Printer Management tools on Unix



Tools wrapped around
command line's output



Tools based on printing
libraries

Printer Management tools on Unix



`/usr/dt/bin/dtprintinfo`

`/usr/bin/gnome-printinfo`

`/usr/sbin/printmgr`

Printer Management tools on Unix

GNOME CUPS Manager

PrinterDrake

System-config-printer

PRESTO





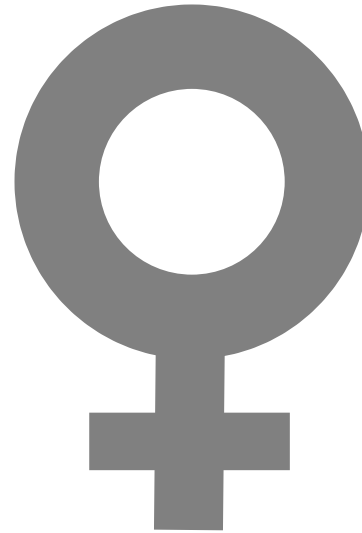
GNOME CUPS Manager

- Dave Camp 2003
 - Gnome-cups-manager
 - Gnome-cups-add
- GNOME, GTK+, libcups
- Integrated with desktop (notification area)
- User still needs to fill text entries



GNOME CUPS Manager

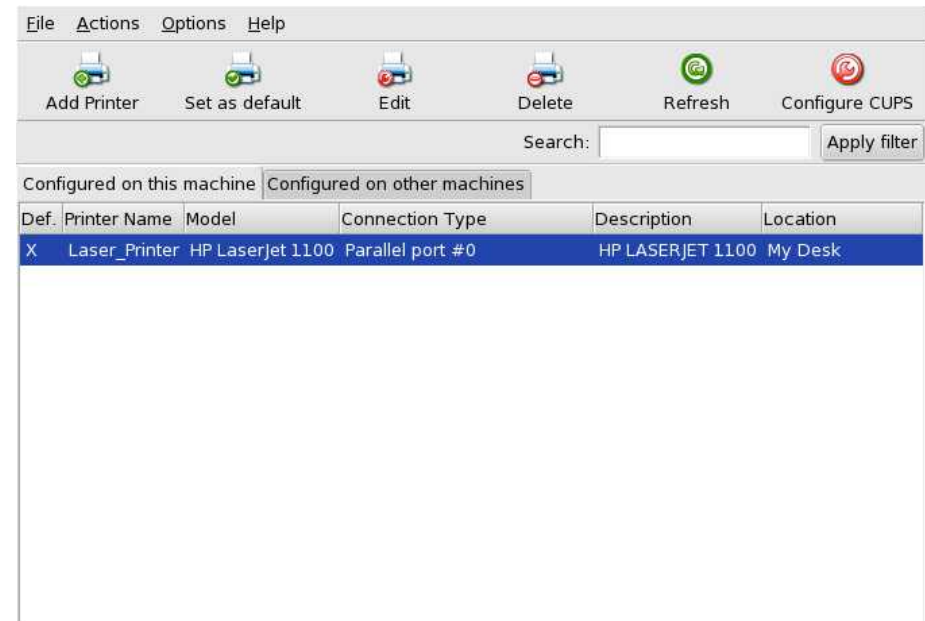
- Eric Redmond - “Cups horror” [0]



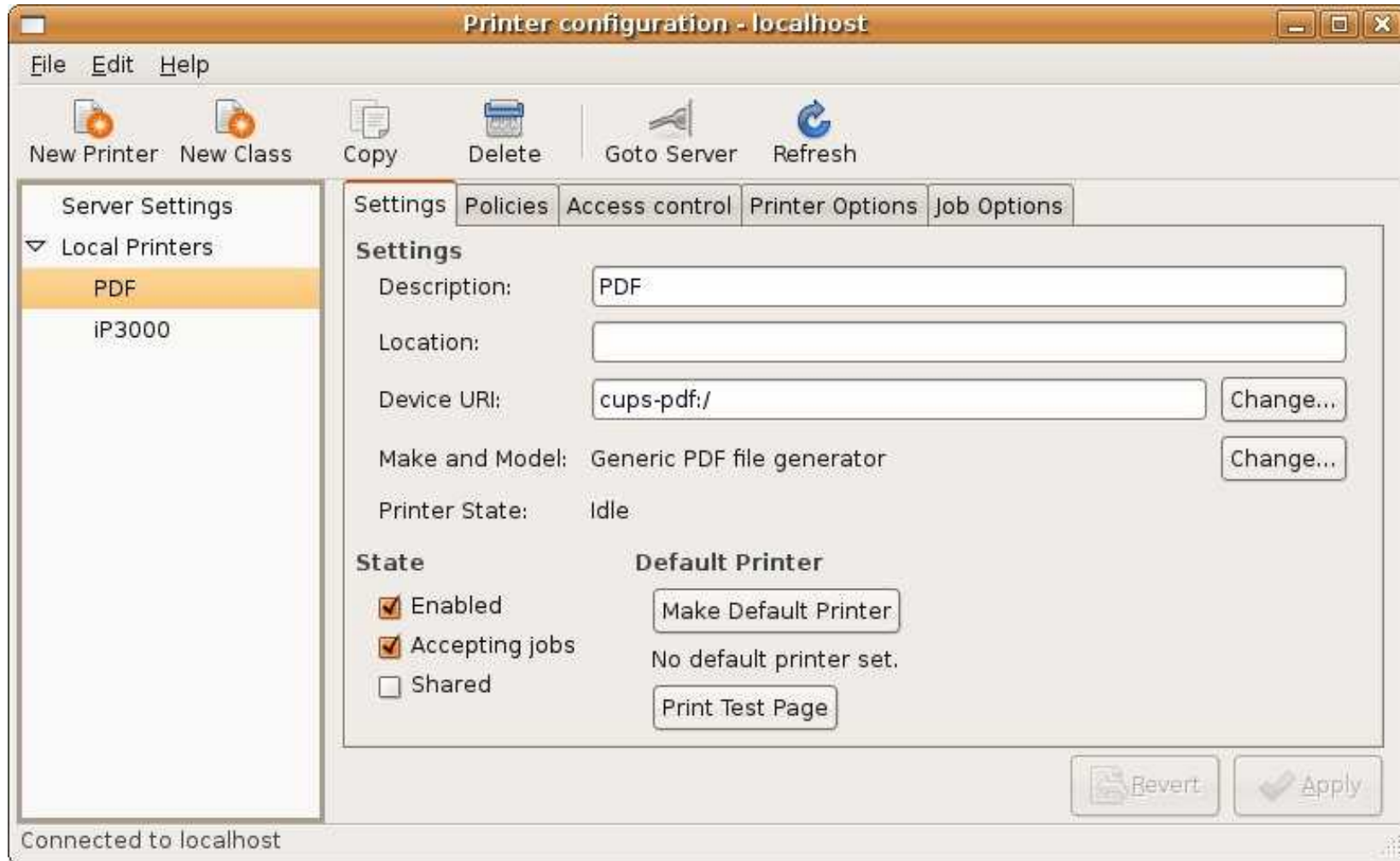
[0] <http://catb.org/~esr/writings/cups-horror.html>

PrinterDrake

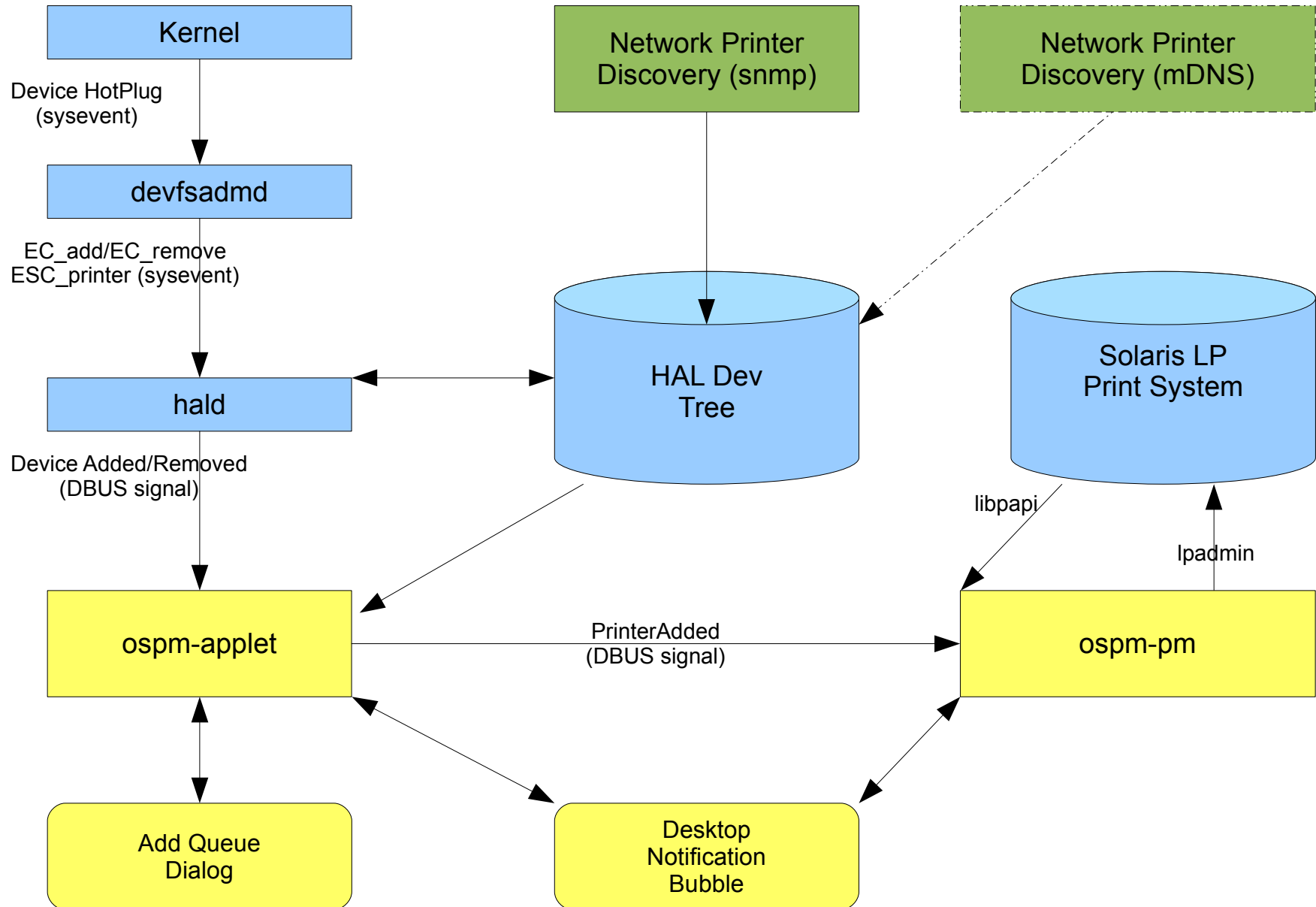
- Plug and Print (Parallel/USB)
- Network printer discovery using SNMP
- Fuzzy matching of Manufacturer and model name
- configuration of sharing of CUPS printers
- automatic download of certain firmware if needed



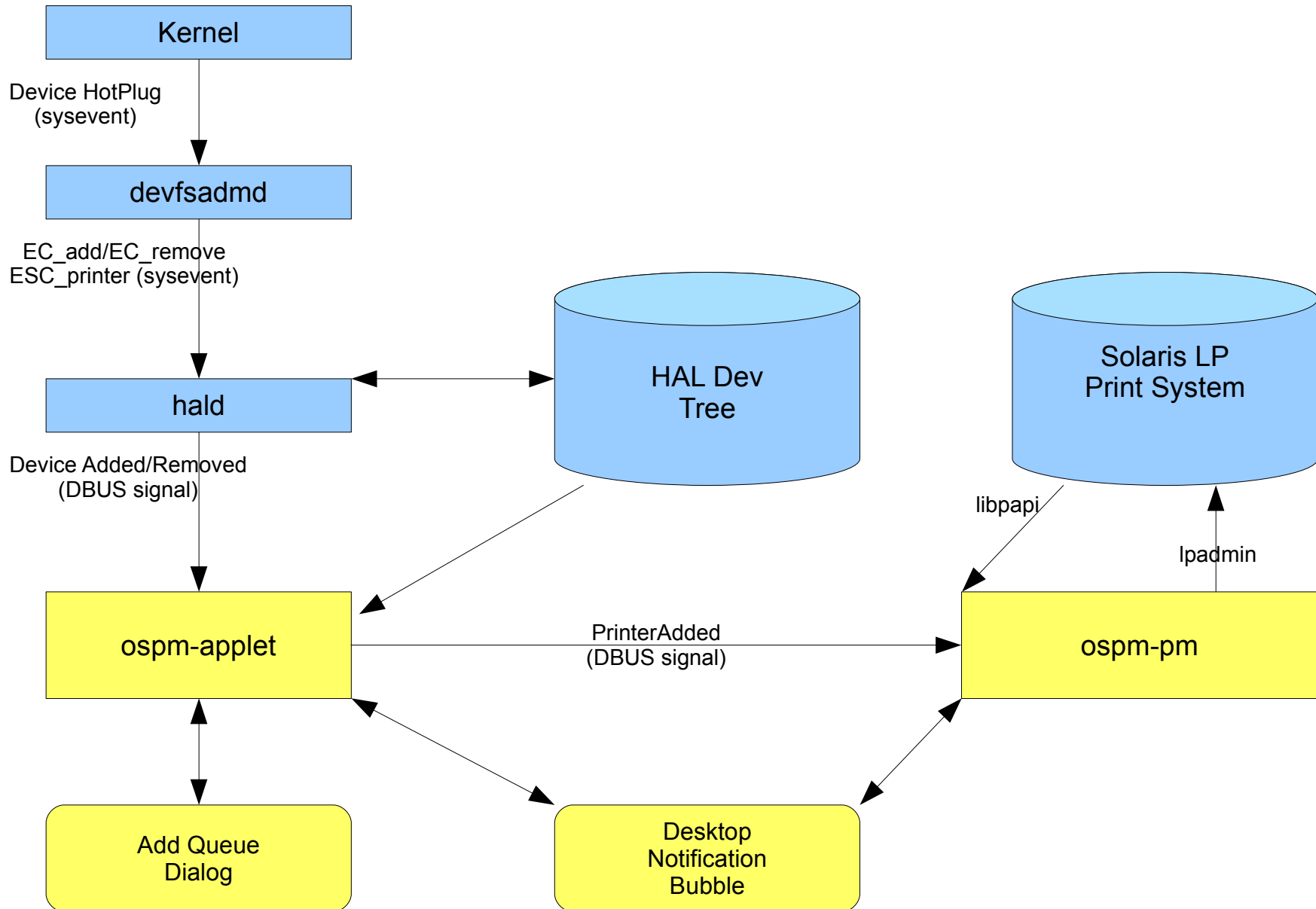
System-config-printer



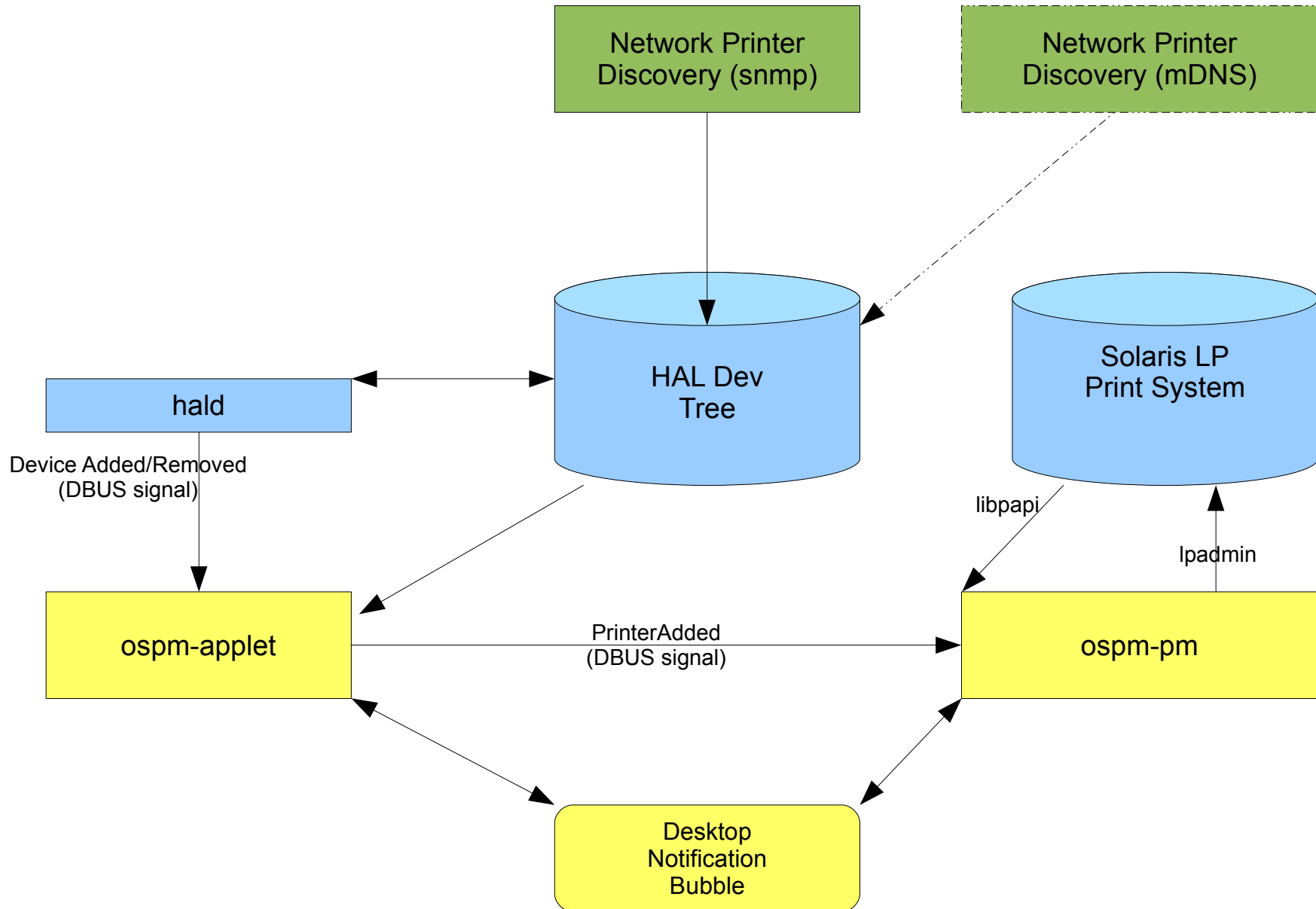
Architecture of Presto



Local printer discovery



Network printer discovery





Print manager – basic requirements

- the tool must get away from parsing command line program's output
- the tool must be able to handle large number of queues reasonably as some environment contains.
- the tool must provide functionalities adequately to replace some existing tools such as gnome-printinfo and Solaris printmgr on the desktop.
- seamless integration into the desktop



Print system supported

- Solaris LP
- CUPS is not supported at the moment
(has been integrated into Solaris Nevada build 87)



Programming language

C as a natural choice

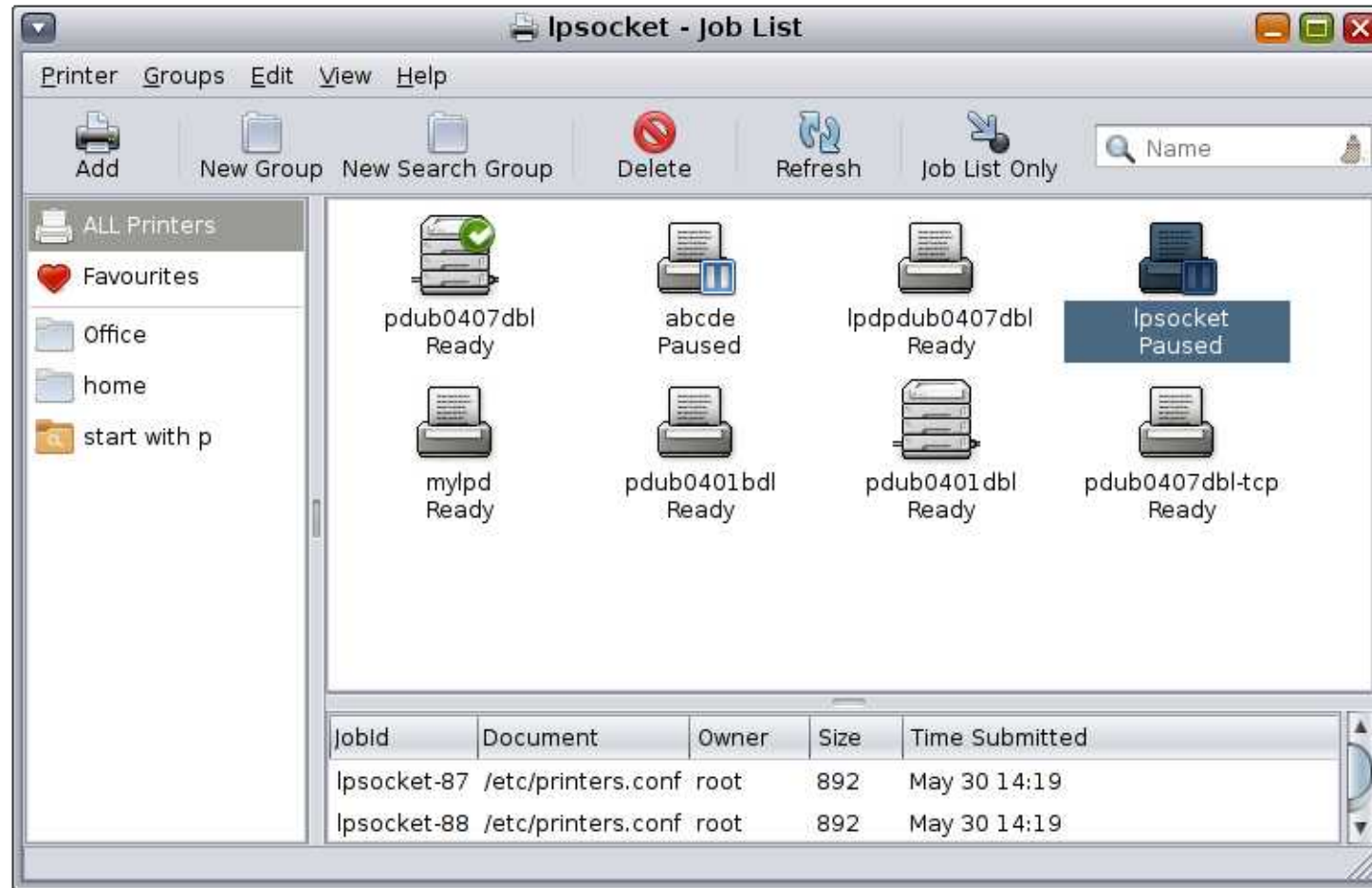
- Solaris Implementation of PAPI is written in C
- GTK+ toolkit is written in C and well suited to implement Desktop GUI

Threads – How many?

- GUI
- Queue states
- Job States



Why Printer Group Manager





Group types

- Special
 - All Printers (System)
 - Favorites (User)
- Static
 - list of named print queues
- Dynamic
 - list of queues derived from specification of printer's attributes





How groups are used?

- Through extension to GTK+ Print Dialog for all arbitrary group (Not implemented yet)
- Utilizing favorites (\$HOME/.printers) on OpenSolaris LP print system

Integration of Groups to GTK+ Print Dialog





Road map

- Local USB auto-detection and creation of queue – Nevada 69
- SNMP network device printer discovery – Nevada 77
- OpenSolaris Print Manger – Nevada 96/97, OpenSolaris 2008.11
- More Network printer discovery modules – MDNS, Samba ?
- CUPS support in OpenSolaris Print Manager?
- GTK+ Print Dialog for Groups

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Thanks

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