

Sine Nomine Associates

Advanced CUPS

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Agenda

- Managing CUPS Printer Information Distribution
- Setting Up CUPS for High Availability
- Enabling Encryption and Authentication
- Integrating CUPS into CP/CMS Printing
 - Setting up RSCS for LPR
 - Setting up Users for Unified Printing
- Specialized Print Processors
 - Automated PDF File Creation
 - Fax Transmission

Managing CUPS Info Distribution

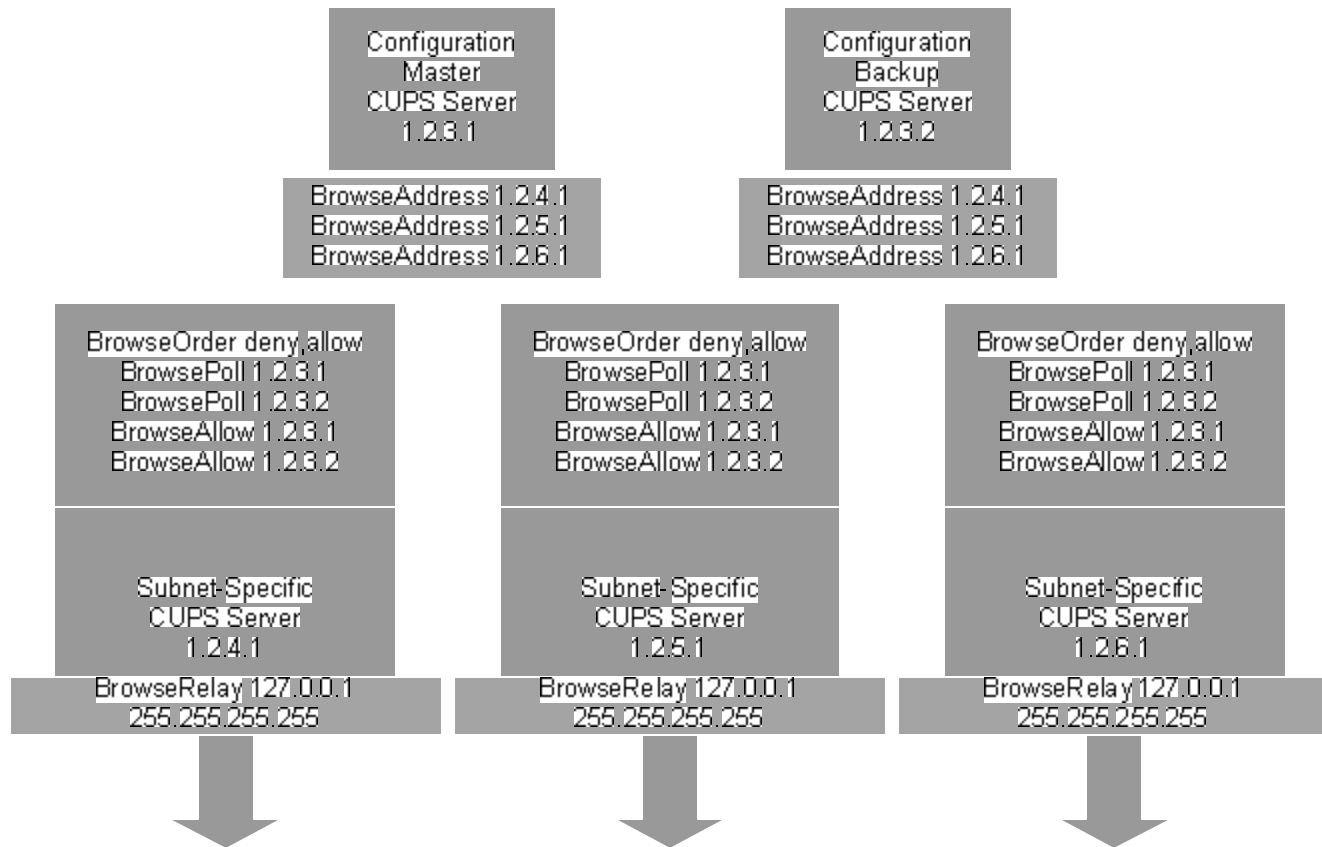
- CUPS printer information distribution is managed by CUPS server announcements
 - Within subnet: directed broadcast
 - Cross-subnet: designated relay via IP unicast

- Information renewed periodically (30 seconds default)

Browse Control Keywords

- Browsing On/Off Enables browsing updates (defaults)
- BrowseAddress List of addresses to receive info (push)
- BrowseAllow List of addresses to accept printer info from
- BrowseDeny List of addresses to deny printer info
- BrowseRelay Redistribute printer updates to list
- BrowseOrder Indicate processing of allow or deny first
- BrowsePoll List of servers to poll for printer info (pull)
- BrowseInterval Interval between updates (seconds)

Managing CUPS Info Distribution



Setting Up CUPS for HA

- Printer groups provide a very elegant HA setup
 - Any print queue part of the group can service a request
 - Groups distributed as part of standard browsing updates
 - Configuration server manages uniqueness and failover

- Example:
 - Define prt-a on config server 1
 - Define prt-b on config server 2
 - Define group “prt” on config server 1 and 2
 - Add prt-a to group “prt”
 - Add prt-b to group “prt”

- Presto!

Enabling Encrypted Transport

- Default is IfRequested
- Will use SSL methods and cache
- Will use SSL certificates (remember IPP is a HTTP overload!)

Enabling Authenticated Printing

- Authentication user | certificate-id

Integrating CUPS into CP/CMS Printing

- Two steps for CP/CMS side:
 - Configure LPR support in RSCS
 - Use PPS instead of PRINT or write cover exec

- On CUPS server
 - cups-lpr package installation
 - cups-lpr provides a LPD implementation that acts as a IPP client to CUPS
 - Works with any LPR implementation
 - Package updates /etc/services and /etc/inetd.conf
 - Requires inetd or xinetd package installed and enabled

RSCS Setup for LPR

- Add LOADLIB for RSCSEXIT to PROFILE GCS
 - Note: requires RSCS restart
- Add TYPE LPR link for each CUPS printer or printer group to support
 - Need only hostname and printer queue name
 - EXIT=LPRXPSE desirable (PostScript)

User Configuration

- Update SYSTEM NETID with CPUids and NJE node name
 - Update copy on MAINT 490
 - Test with CMS IDENTIFY command
 - DDR MAINT 490 to MAINT 190
 - SAMPNSS CMS
 - IPL 190 PARM SAVESYS CMS

- In SYSPROF EXEC (MAINT 190):
 - 'CP SPOOL PRT TO RSCS'
 - 'CP TAG DEV PRT rscsid prtname'

- Either PRINT or PPS works at this point

User Configuration Notes

- We recommend copying PPS EXEC from the RSCS disks to a common disk – PPS provides substantially more function than PRINT – and writing a small PRINT EXEC to call PPS.
- If you have a channel-attached printer, you can still use this setup by tagging the output for <rscsid SYSTEM> with the appropriate class. One extra step, but it's consistent across the board.

CUPS Printer Definitions for RSCS

- When possible, use native PostScript printers
- Use the foomatic drivers and Ghostscript for non-PS printers
 - From RSCS' perspective, all printers are PS
 - Costs some CPU, but provides great functional improvement

Specialized Print Processors

- Print processors accept a print stream and transform it in some ways, possibly calling external programs
- Common examples:
 - Automatic PDF generation
 - Print-to-fax (needs fax modem hardware – hard to do on mainframe)

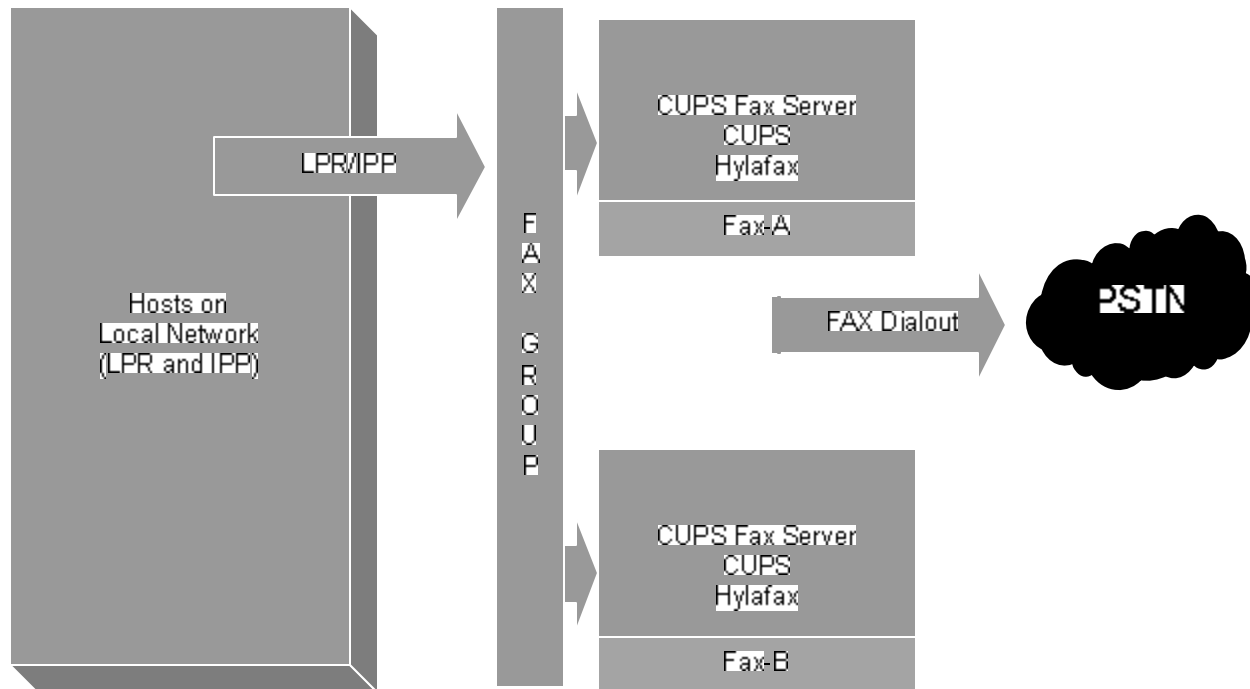
Automated PDF File Creation

- apt-get install **cups-pdf** (Debian, similar rpm for RH/Novell)
- apt-get install gs-gpl
- lpadmin -p prPDF -E -v **cups-pdf:/** -m raw -D "PDF printer"
- Add the Adobe PS printer driver as described in Samba docs (if supporting Windows)
- Restart samba and **cups**
- Requires user to have home directory on CUPS server—may be SMB-mounted

Fax Transmission

- Needs external box with fax modem hardware
- Use CUPS groups to tie mainframe output to multiple outbound servers
 - Define modem queues on external servers
 - Define group that contains all queues
 - Configure RSCS to print to group name
- Needs fax server software (Hylafax is popular and included with most Linux distributions)
- Cookbook at <http://xtronics.com/reference/Debian-print2hylafax.htm>

Fax Configuration



Q&A

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