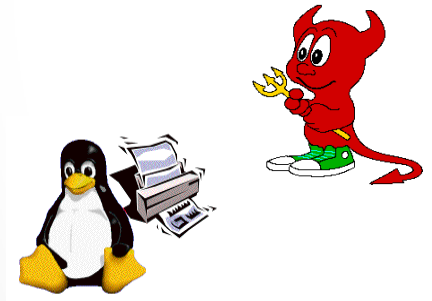




OpenPrinting PAPI

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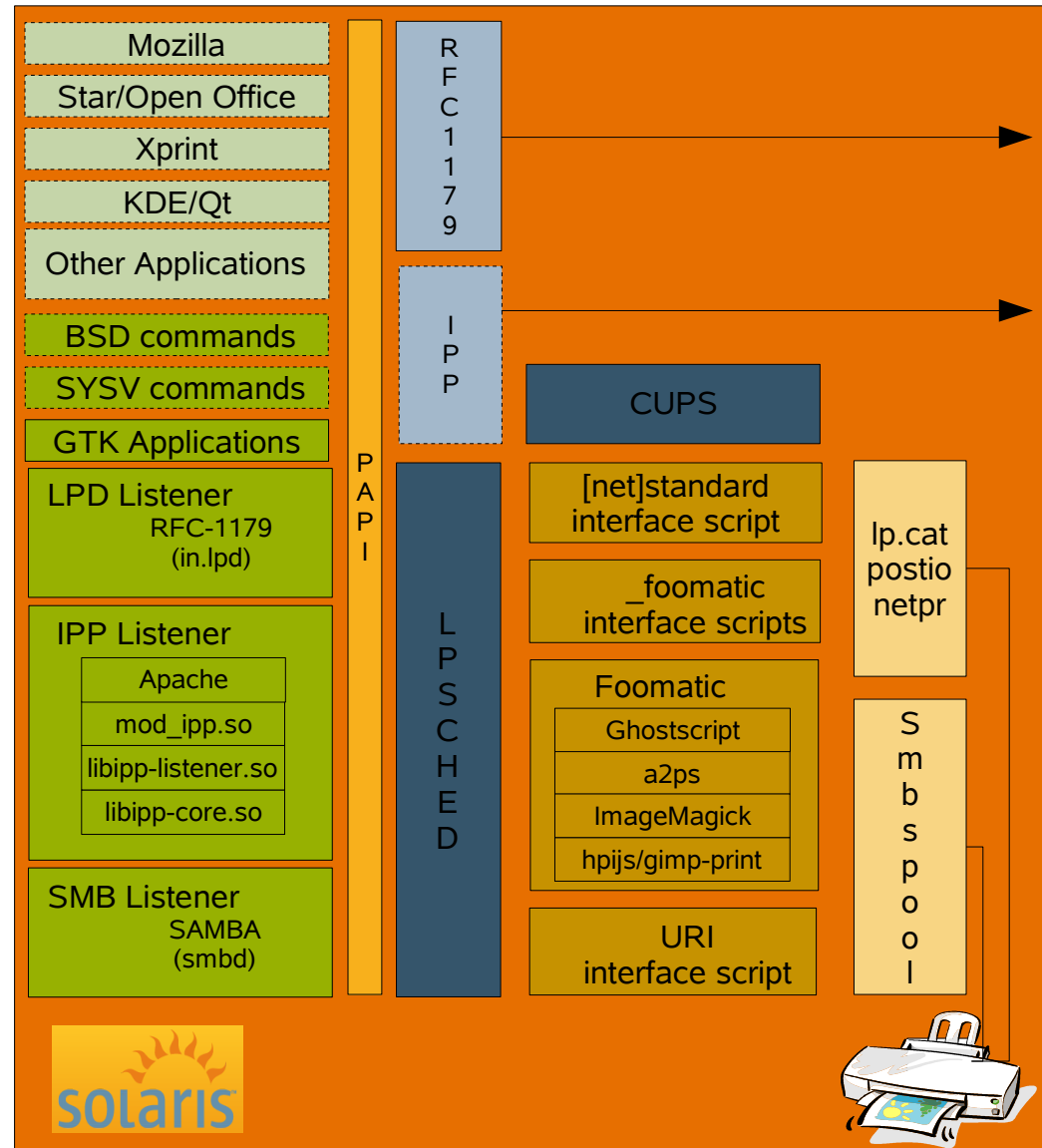
opensolaris

PAPI & Objectives

- **PAPI stands for:**
 - > Printing Application Programming Interface
 - > Pronounced “pappy” or “P.A.P.I.”
- **Objectives**
 - > Provide applications print service or protocol independence
 - > Allow a rich, extensible set of information to flow between application and print service
 - > Support a rich enough set of operations to be useful to most applications with printing needs
- **Contains:**
 - > **Abstractions:** Server, Printer, Job
 - > **Data Structures** for interacting with basic print service objects.
 - > **Functions** to perform various operations against a print service or it's objects.
- **PAPI is an API for applications to use to perform print service interaction.**
 - > CUPS, LP, LPD, RFC-1179, IPP, ...

PAPI in the real world

- **Not a Print Manager**
 - > Print service independent
 - > Provides available features
- **Used by**
 - > GTK (GNOME)
 - > Print commands (lp/lpr...)
 - > Mozilla
 - Bug 317450
 - patch submitted
- **Works with**
 - > CUPS (IPP)
 - > LP
 - > LPD (RFC-1179)
- **Capabilities Support**
 - > in progress
 - > Integrated solution



PAPI Information

- PAPI source code
 - > SourceForge
 - <http://sourceforge.net/projects/openprinting/>
 - openprinting-papi-dev@lists.sourceforge.net
 - > OpenSolaris
 - <http://opensolaris.org/os/community/printing/>
 - <mailto:printing-spool@linux-foundation.org>
- OpenPrinting PAPI mailing list:
 - <http://linux-foundation.org/mailman/listinfo/printing-spool/>
 - printing-spool@linux-foundation.org
- V1.0 Spec
 - <ftp://ftp.pwg.org/pub/pwg/fsg/spool/papi-v1.0-2005-07-15.pdf>



**Thank you for your
time...**

Get involved!!!

Stay involved!!!

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PAPI Details

✦ Data types introduced by the PAPI:

- **papi_status_t** status/error code enumeration
- **papi_service_t** server/service connection
- **papi_printer_t** printer object/handle/context
- **papi_job_t** job object/handle/context
- **papi_attribute_t** object attributes
- **papi_stream_t** stream object/handle/context
- **papi_job_ticket_t** job ticket
- **papi_filter_t** filter for limiting printer lists
- **papi_encrypt_t** get/set the encryption type

✦ Attribute API :

- **papiAttributeListAdd***
 - Adds a single attribute (and value) to an attribute list
- **papiAttributeListDelete**
 - Delete an attribute from an attribute list.
- **papiAttributeListGet***
 - Retrieve the value associates with an attribute
- **papiAttributeListFind**
 - Search for an attribute in a list
- **papiAttributeListGetNext**
 - Walk through an attribute list
- **papiAttributeListFromString**
 - create/append an attribute list using a text-based format
- **papiAttributeListToString**
 - Convert an attribute list to a text base string form
- **papiAttributeListFree**
 - Deallocate resources associated with an attribute list

✦ Service API

- **papiServiceCreate**
 - create a new service object for submitting jobs, listing printers, etc
- **papiServiceDestroy**
 - destroys a service object and all associated resources
- **papiGet*() / papiSet*()**
 - Get or set the corresponding service object attributes

* = Supported object attributes UserName, Password, Encryption, AuthCB, AppData, AttributeList, StatusMessage

✦ Miscellaneous API :

- **papiStatusString**
 - Return a textual representation of a papi_status_enumeration
- **papiLibrarySupportedCalls**
 - Enumerate all papiCalls that do not simply return PAPI_OPERATION_NOT_SUPPORTED
- **papiLibrarySupportedCall**
 - Determine if a specific function is supported by the implementation

* = Supported types of value, string, integer, boolean, range, resolution, datetime, collection, metadata

PAPI Details

Job API:

- **papiJobSubmit / papiJobSubmitByReference**
 - Submit a print job either immediately copying or postponing copy of the job data
- **papiJobValidate**
 - Verify that the document format and job attributes are valid for and supported by the designated print queue
- **papiJobStreamOpen / papiJobStreamWrite / papiJobStreamClose**
 - Open/write/close a stream for printing data on-the-fly
- **papiJobQuery**
 - Request job information from print service
- **papiJobModify**
 - Modifies the job attributes
- **papiJobCancel**
 - Cancels a print job
- **papiJobHold / papiJobRelease / papiJobRestart**
 - Hold, release, or restart a print job
 - Retrieve the corresponding attribute list from a job object for further lookup or enumeration using the Attribute interface
- **papiJobPromote**
 - Promote a print job
- **papiJobGetAttributeList**
 - Retrieve the corresponding attribute list from a job object for further lookup or enumeration using the Attribute interface
- **papiJobGet***
 - Retrieve the corresponding attribute from a job object
- **papiJobListFree / papiJobFree**
 - Free a job object of list of job objects and their associated resources

Printer API :

- × **papiPrintersList**
 - ◆ Retrieves a list of printer/class queues
- × **papiPrinterQuery**
 - ◆ Queries for detailed information about a printer object
- × **papiPrinterAdd / papiPrinterRemove**
 - ◆ Creates/destroys printer object
- × **papiPrinterModify**
 - ◆ Sets printer object attributes
- × **papiPrinterPause / papiPrinterResume**
 - ◆ Stop and start job processing on a printer object
- × **papiPrinterEnable / papiPrinterDisable**
 - ◆ Stop and start job queueing on a printer object
- × **papiPrinterPurgeJobs**
 - ◆ Cancels all jobs on a printer
- × **papiPrinterListJobs**
 - ◆ Lists jobs on a printer
- × **papiPrinterGetAttributeList**
 - ◆ Retrieve an attribute list from printer object
- × **papiPrinterListFree / papiPrinterFree**
 - ◆ Deallocate resources associated with a printer object or list of printer objects