

COSprint Server

UNIX and Linux hosted print spooling and output management, for heterogeneous networks of UNIX, Linux and Microsoft Windows®

One or more **COSprint Server** modules constitute the central, and only mandatory, component of a **COSprint** domain. A **COSprint Server** is hosted on a UNIX or Linux system that may also be an application server. As a result of **COSprint's** design for performance, even the largest organizations can use small, dedicated host systems – for example, an Intel based Linux server or a small UNIX box. The **COSprint Server** does not run native on Microsoft Windows but does serve print requests generated in a Windows environment.

All output requests from the enterprise are directed to these output servers, whether the originating system is using the **COSprint Client** or a basic operating system print service. The **COSprint Server** software is network-aware so that multiple servers can be run in parallel at larger sites, each being updated with the information held on the others. In this manner, an administrator can manage the enterprise output load by connecting to a single point on the network. The same mechanism provides help desk personnel with a single access point for information, so ensuring a quicker mean time to resolve output related problems.

At least one **COSprint Server** must be installed. It manages all the object data (data about queues, printers, and stationery types, for example) in the **COSprint** environment and performs all the scheduling. If considerations of throughput and resilience indicate it, more than one **COSprint Server** may be installed. In this configuration, the **COSprint** object data is distributed between the instances of the **COSprint Server**.

sources and consist of *queues*, *output devices*, *formats* and *filters*.

When configuring a **COSprint Server**, administrators can set up any number of queues and give them names that are useful in the context of their business. Output requests are then directed towards meaningful destinations rather than cryptic printer names.

Output devices may, in the same way, be named in accordance with any useful convention. Although an output device is a logical object in the structure of **COSprint**, it is of course closely related to a physical unit. Multiple output devices may be assigned to a queue and multiple queues can share an output device. When a new object (printer, queue etc.) is defined in a **COSprint Server**, it becomes available for use by users of the entire domain, regardless of which actual system they are actually logged in to. This means that, for example, a printer created on system X is available for printing to a

user who is using system Y. Administration costs are reduced, as a printer needs to be defined only once on the network rather than on every system.

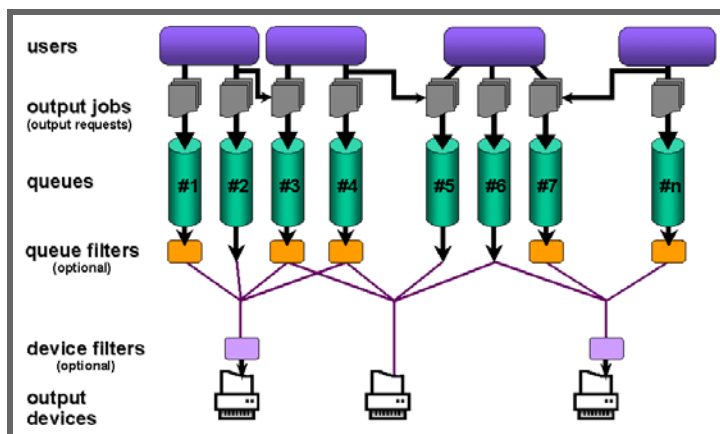


Figure 1 – COSprint configuration diagram

The logical configuration of **COSprint** is simple and can be understood by reference to the diagram above in which all of the **COSprint** structural objects are shown. In **COSprint** terminology, the structural objects are called *re-*

Formats are used to specify the initial condition of a printer before the job starts to be printed. This may be useful in order to specify the stationery type, size and orientation for the print job. The format specification may contain any combination of attributes to which the printer is capable of responding.

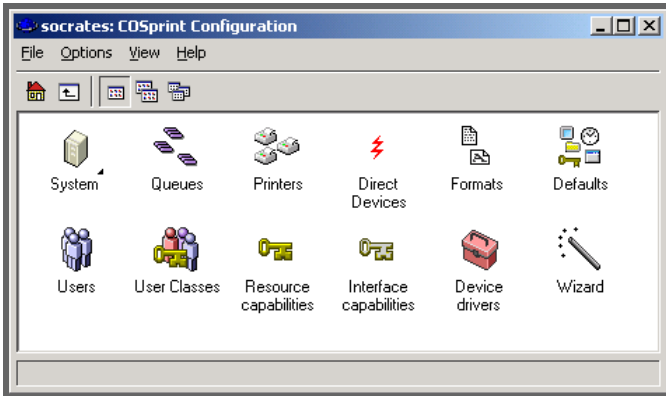


Figure 2 – the COSprint Server configuration menu

When COSprint is operational, users submit jobs to queues. Users may be either actual, logged-on interactive users, or applications that have been set up to use COSprint as their output service. Every print job is scheduled in an appropriate queue to arrive at its chosen device(s) in accordance with the attributes that have been assigned to it. On the way to the output devices, print jobs may be modified by the action of the filters, if such have been configured.

Access control

Access to all resources in the COSprint Server environment is controlled in accordance with the organization's security policy by means of the access control objects – user classes and capabilities. All resources and functions within COSprint are associated with capabilities. Capabilities are then assigned to user classes. To use a particular resource or perform a function, a user must be a member of a class that is associated with the capability to use/perform it. In this way access to any element of COSprint can be protected, which helps demonstrate compliance with legislation, as do the logs and audit trails generated.

Output device types

An obvious requirement of an output management and print spooler product is its ability to address as many types of output device as possible. This functionality is well developed within COSprint. The default methods built into the COSprint Server are the ability to drive standard lpr/lpd or telnet enabled net-

worked devices, as well as all directly connected parallel or serial printers. If any printers fall outside any of these categories, COSprint can be configured to call any custom printer driver to communicate with the printer.

In the same way, COSprint can be configured to output to any fax engine that has a command line interface or API. COSprint may also be used to output to email, ftp or even an html page repository. This provides the user organization with one central point of control for all output if desired with a resultant reduction in administration and help desk costs.

Job control

One of the strongest features of COSprint is the range of job control facilities available.

These allow a suitably authorized user the ability to

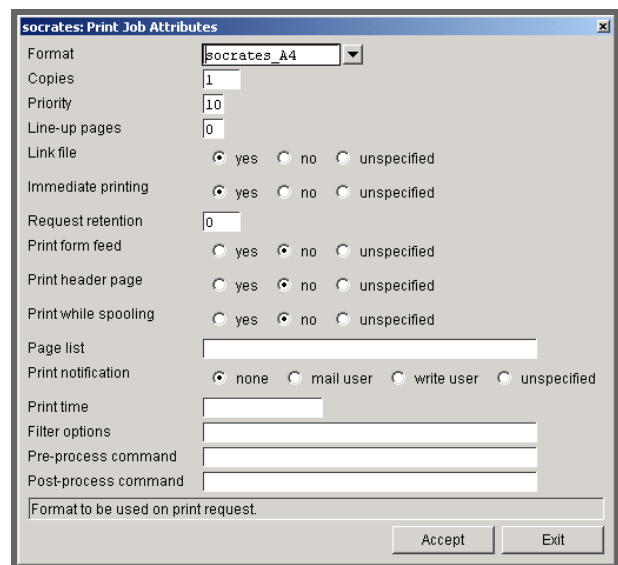


Figure 3 – an example of output job attributes as set within COSprint

perform standard control actions such as stop, start, pause or resume, on either a single job or selection of jobs. If finer control is required, options exist so that the job can be instructed to print at a given time, or to print only a certain range or list of pages. Jobs may be retained before and after printing, and linked to the original file if required. The print job can also be set up to output line-up pages allowing pre-printed continuous stationery to be properly aligned. If large quantities of output are generated at a site, then a broader approach can be used, allowing control over all jobs meeting certain criteria such as stationery type or owner. Most attributes can be set at any one of four levels of default – at the system, user

class, queue or user level, with each level overriding underlying defaults. Any attribute may also be locked to prevent it being overridden at a higher level.

This granularity of control allows for the improvement of service levels (for example, by ensuring that high priority jobs are handled first) and reduction of materials wastage.

Configurable attributes include:

- queue and job priorities
- number of copies
- stationery type
- retention period for output job after printing/transmission
- header pages
- print page ranges
- time and date to print

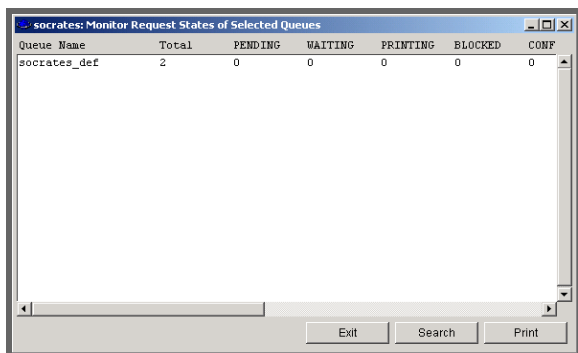
Output job monitoring

Once jobs have been submitted to the *COSprint* Server queues, they may be monitored by anybody with the appropriate access privileges. They may request a summary of all jobs on all queues. This lists the queue names and the number of jobs held in each queue for all the different categories of job state (for example, printing, held, waiting on stationery change etc.).

An operator can also monitor any single queue, showing each of the jobs currently lodged on that queue, together with its current status. In this view, a print job may be selected for further attention and action.

Help desk staff may be provided with one point of access to obtain all output related information so reducing their costs and improving service levels.

Printer monitoring



| Queue Name | Total | PENDING | WAITING | PRINTING | BLOCKED | CONF |
|--------------|-------|---------|---------|----------|---------|------|
| socrates_def | 2 | 0 | 0 | 0 | 0 | 0 |

Figure 4 – queue monitoring

This feature allows a *COSprint* administrator to view the current status of a SNMP-enabled printer or other output device. Printers that are not SNMP-enabled can also be included for status checking provided that a command requesting printer status information is available to *COSprint*. Using this mechanism, help-desk staff can quickly diagnose why a user's print request has failed, again improving service by reducing the time to remedy a problem.

Automated report distribution

Reports can be distributed electronically (for example, via fax, email or ftp) using *COSreport*, an integral module of *COSprint*. *COSreport* automates report generation and works with *COSprint* to allow the electronic transfer of reports by any designated, available means to the intended recipient or group of recipients.

COSreport can also logically decollate a report into report "views". Each view can be sent to recipients who require only that particular view of the information (rather than the entire report). Views can be sent out automatically after each running of the master report from which they are extracted.

Using this module users, automatically receive an electronic copy of the sub-sets of the report they need immediately after they have been generated, so removing the need for human intervention, reducing the amount of paper used, and improving speed of delivery.

COSprint for Microsoft Windows

Through OSM's own implementation of the SMB/CIFS protocol on the *COSprint* Server, Microsoft Windows users can see *COSprint* queues as if they were shared printers, without having to run any additional software on the workstation or Microsoft server. In this way all printers can be shared across the UNIX, Linux and Windows estates.

COSprint User Interfaces

User interfaces include a command line interface compatible with lp, lpr and lpd, an X Window System GUI, a Microsoft Windows GUI and a web browser interface. Using the web browser interface all users are able to monitor and manage their own print requests so further offloading help desk and improving service levels. For larger sites with multiple *COSprint* Servers, a central console facility is also provided which further reduces administration costs.

Availability

Sun Solaris, IBM AIX, HP-UX, Linux 2.4 and 2.6. Other versions of UNIX and Linux subject to request.

Summary

COSprint Server provides the following benefits:

- a central point of control for all output jobs, including those generated by SAP R/3, so reducing administration and help-desk overhead
- a reduction in output management costs, as output management is off-loaded from expensive application servers and low volume print servers to a small number of low cost

dedicated print servers

- inbuilt load balancing and failover which improves reliability and service levels
- a reduction in printer hardware costs, as the printer estate can be shared between the UNIX, Linux and Microsoft Windows environments
- a reduction in WAN costs through optional end to end compression and decompression of output
- an increase in security due to access controls and optional encryption/decryption of output
 - improved service levels due to faster delivery to point of need

For more information please visit:

www.cosprint.com



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