INTRODUCTION

Remote SpoolPrint3X/400 will automatically transfer spool file entries from a System/38, System/36, or AS/400 to remote System/38, System/36, AS/400, MVS or VM processors. Multiple remote systems can receive spool files, and multiple printers per remote system can receive spool files. The user specifies output queues on the System/38 and AS/400 (Printer ID's on the System/36) which are to be transmitted. Remote SpoolPrint3X/400 will monitor local outq's and transmit available spool entries from each monitored outq or printer ID to the specified remote system's printer. The spool entry will be deleted from the source system (unless SAVE (*YES) is specified for S/38, AS/400 spool files, or Hold after Print is specified on the S/36).

Multiple remote systems are supported. Each remote system can receive and print spool files on multiple printers. There is no limitation to the number of active remote printing tasks (Remote Writers) on a source or target system. For example the user may define 2 Remote Writers to printers P1, P2 of a remote System/36 and have 2 Remote Writers defined to Outq's QPRINT.QGPL and LPRT200.QGPL.
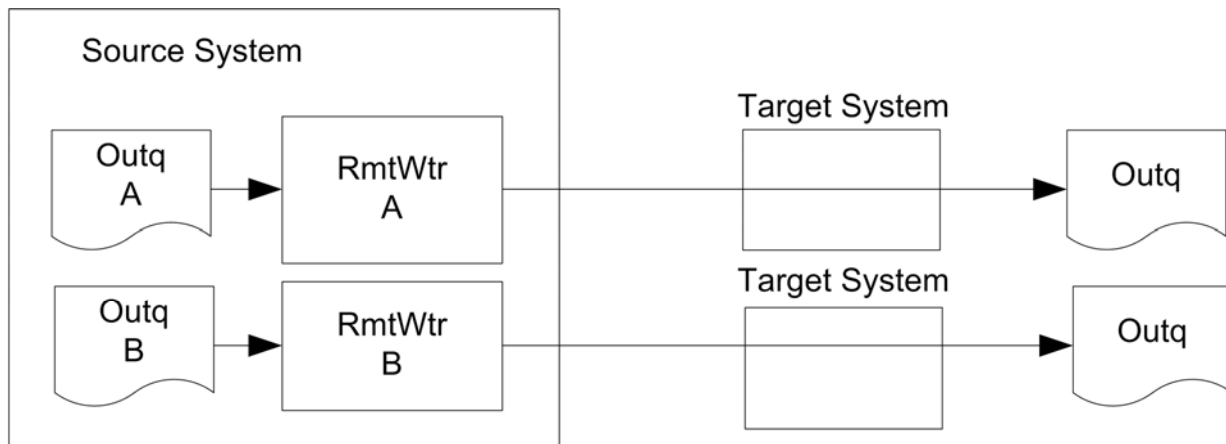

Figure 1: Example System to Remote Systems

Remote SpoolPrint3X/400 uses IBM's Advanced Program to Program Communications (APPC) to communicate with the remote systems. S/36, AS/400 APPN is supported by Remote SpoolPrint3X/400. Remote SpoolPrint/400 can also use TCP/IP to communicate to other AS/400 machines. Please note that APPC and TCP are shipped from IBM with the operating system. The remote system can be connected via a leased phone line, point-to-point or multipoint, a dial up phone line, or other common communications facilities (X.25, modem eliminators, etc). Other communications equipment such as remote control units (i.e. 5294) may be defined on the same line. Other system software packages such as DDM or Display Station Passthru may share the same line on both the source and target system.

Remote SpoolPrint3X/400 Features

There are several options available to the user when setting up a Remote Writer. Each remote writer can be tailored differently, adding flexibility to the user remote spool network. Tailoring options can be changed if desired. For S/38 or AS/400 machines, the user specifies the outq to monitor when starting the

REMOTE SPOOLPRINT3X/400™

Remote Writer. Remote SpoolPrint3X/400 is event-driven, thus the operating system will automatically activate the Remote Writer task when a ready spool entry becomes available. The Remote Writer tasks consume no CPU or other system resource while waiting for output to send, and become active immediately.

For S/36 machines, when starting a Remote Writer the user specifies one or more of the following selection criteria: Printer ID, Forms ID, User ID. The Remote Writer will transmit only ready spool entries which match specified selection criteria. Remote SpoolPrint3X/400 will periodically monitor the spool area at a user specified time interval (i.e. 30 sec). The monitor process is extremely fast and consumes little CPU. When a spool file entry becomes ready the Remote Writer will automatically print the spool file on the specified remote printer.

The user may specify the execution priority of the remote writer on the local system. This will allow the user to prioritize the flow of information against other jobs (i.e. passthru terminals) competing for the telephone line.

Remote SpoolPrint3X/400 will optionally translate the Forms ID and Font ID of a spool entry while being transmitted. It will also translate the spool entries Lines per Page and Lines per Inch attributes into a S/370 Forms Control Buffer Name attribute. This is to allow for different naming conventions on different systems. The user can set up a translation table specifying the forms ID, remote writer, and the target forms ID.

Remote SpoolPrint3X/400 maintains the spool entry's job attributes (Job name and Job user, Print file name, Proc name).

Spool Attributes transferred:

Job Name
Job User ID
Proc Name
Number of Copies
Forms ID
Lines per Inch (4, 6, or 8)
Characters per Inch (10 or 15)
Output Priority
Lines per Page (1 to 255)
Overflow Line (1 to 255)
Save (Hold after Print)
Align
Font ID
Drawer
Print Quality (Text)
Page Rotation
Justify

Data Compression Option
Data can be compressed by the source system and decompressed by the target system. Repetitive

characters are compressed into 1 repetition character.

Spool Entry Logging and Accounting

Remote SpoolPrint can optionally write a record of each transferred spool entry to the Remote SpoolPrint log. Users can search the log. Information written to the log includes the date/time sent, spool file attributes, and the Remote Writer which sent the entry.

Hold on Remote System

The Remote Writer will optionally hold the transmitted spool entries on the remote system. The user can release the spool entries for printing when desired.

Automatic Line Error Recovery

If a transmission error occurs Remote SpoolPrint3X/400 will periodically attempt to contact the remote system. Once the communications link is reestablished spool file transmission is resumed automatically. The delay period between recovery attempts can be set by the user.

Previous BDS Release Compatibility

Remote SpoolPrint will support one previous release level. This will allow users to migrate to a new release of Remote SpoolPrint in an orderly fashion, instead of all systems at once. Please note that in the future all functions may not be supported, and in some circumstances back level compatibility may not be possible. Refer to Appendix F " Release Compatibility Table" for more information.

Because of differences between S/36 and S/38 or AS/400 print spool support, and to minimize operator intervention on the remote system, Remote SpoolPrint/3X will translate the following spool file attributes during transmission to the remote System/36. The user defines the translations when defining a Remote Spool Writer. Source system spool file attributes are not affected by the translation.

Output Priority

Remote SpoolPrint3X/400 will change the output priority attribute of the spool file to the user specified value during transmission to the remote System/36. The S/38 has nine output priorities (1-9), with priority 1 printed first. The System/36 has six priorities (0-5), with priority 5 being printed first. The user can specify a translation of output priorities for each of the nine S/38 output priorities.

Job Separator Pages

The user may specify if Job Separator Pages are to be printed between spool file entries printed on the remote S/36.

Defer

The user may specify whether the spool entry is to start printing on the remote S/36 immediately, or after the entry is transmitted.

S/370 Forms Control Buffer

The S/370 does not have Lines per Page or Lines per Inch attributes. It has a Forms Control Buffer Name attribute instead. Remote SpoolPrint3X/400 has a translation table to convert these attributes.

REMOTE SPOOLPRINT3X/400™

Transfer using SNADS Features

The user has the option to use SNADS or Remote SpoolPrint/3X to transmit spool entries to the remote system. Using SNADS is available only from/to S/38 and AS/400 machines. This option is specified when defining the Remote Writer. We normally suggest using Remote SpoolPrint3X/400 to transport spool entries. Consider the following:

Remote SpoolPrint3X/400 maintains the spool entry's job attributes (Job name and Job user).

Each Remote Writer using Remote SpoolPrint3X/400 to transmit spool entries has a separate communications session. Spool entries are not queued 'single threaded' through the communications line. Thus a small (i.e. screen print) does not have to wait until a previously scheduled (possibly large) entry is completely transmitted to begin transmission.

SNADS will automatically route output through intermediate nodes to the target node. Using Remote SpoolPrint/3X without APPN, the user must define a Remote Writer at each intermediate node.

For more information on the full capability of SNA Distribution Services, refer to "Communications Administrator's Guide", SC21-8035.

Remote Writer Operations

Remote SpoolPrint3X/400 was designed to be easy to operate. The operator (or a start up program) can start a remote writer using the STRRMTWTR (S/38) or the STRRMWTR (S/36 and AS/400) commands. The operator specifies the remote writer to be started, and the outq (or S/36 printer ID) the Remote Writer will monitor for transmission. Transmission of eligible spool files will occur automatically until you cancel the remote writer using the CNLRMTWTR (S/38) or the CNLRMWTR (S/36 and AS/400) commands. After a spool entry is successfully transmitted to the remote system, it is automatically deleted from the source system (unless the spool file has an attribute of *SAVE).

The operator can display the status of active Remote Writers using the DSPRMTSTS (S/38) or the DSPRMSTS (S/36 and AS/400) commands. The Remote Writer name, the outq being monitored, and the current status (Active or Error Recovery) is displayed.

Some System/36 software components which are used in Remote SpoolPrint 3X/400 were purchased externally. One of the vendors is System Support Products, Inc.

IASPs and Multiple Remote SpoolPrint Instances

Remote SpoolPrint product libraries can be placed onto Basic and Independent ASPs, giving the Administrator great flexibility. Multiple instances of Remote SpoolPrint can be running within an LPAR. Each Remote SpoolPrint instance is independent of the other instances.