

Chapter 1

Overview

This TechNote explains how to install and configure UNIX to NetWare printing in an SCO UNIX and NetWare integrated environment. It discusses two different printing configurations:

- NetWare server-attached printer (Compaq Pagemark or other printer)
- Network-attached Compaq Pagemark printer

NetWare Server-Attached Configuration

In the NetWare printer configuration, the printer is attached to the NetWare server parallel/serial port. The instructions in Chapter 2 apply to any NetWare-supported printer. The following figure illustrates the SCO UNIX to NetWare printer configuration:

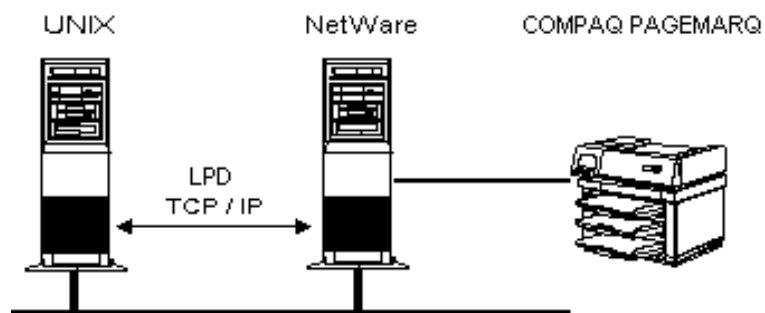


Figure 1-1. SCO UNIX to NetWare Printer Configuration

Network-Attached Compaq Pagemark Configuration

In the network-attached Compaq Pagemark configuration, the Compaq Pagemark connects directly to the network with its network interface card. This configuration uses the ability of the Compaq Pagemark to be able to attach anywhere on a network without requiring a physical connection to a server or workstation. Therefore, the instructions in Chapter 3 are specific for the Compaq Pagemark. The following figure illustrates the SCO UNIX to network-attached Compaq Pagemark configuration:

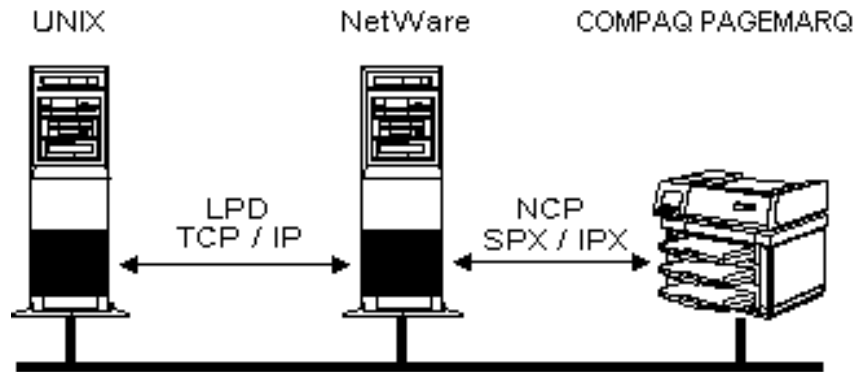


Figure 1-2. SCO UNIX to Network-Attached Compaq Pagemark Configuration

Protocols and Print Job Transmission

Both configurations have two transmission phases. The following table describes the routes taken and routing methods used:

Table 1-1 Protocols and Print Job Transmission		
Printer Configuration	SCO UNIX Server to NetWare Server	NetWare Server to Printer
NetWare Server-Attached	LPD and TCP/IP	Parallel Port
Network-Attached	LPD and TCP/IP	NCP and SPX/IPX

In the network-attached Compaq Pagemarq configuration we must route all print jobs through the NetWare server rather than transmit them directly to the printer. Currently, the only network protocol stack supported in the Compaq Pagemarq is SPX/IPX. Even though an SPX/IPX protocol stack is available for SCO UNIX, it does not provide higher-level NCP services protocols required for NetWare printing. Therefore, SCO UNIX can only use TCP/IP with LPD for remote printing. Because the NetWare server can run both LPD with TCP/IP as well as NCP with SPX/IPX, it can serve as the intermediary between the UNIX host/server and the Compaq Pagemarq.

Compaq PAGEMARQ Configuration Concepts

It is easier to understand configuring the networking features of the Compaq PAGEMARQ if we first examine the models for Novell NetWare and SCO UNIX printing.

SCO UNIX Printing Model

Basic UNIX printing involves four components. The following table lists these components and their functions:

Table 1-2 UNIX Printing Components	
Components	Function
UNIX Host/server	Disk and file management system
UNIX Spool Directory <i>/usr/spool/lp/temp</i>	Subdirectory for temporary storage of print jobs
UNIX Scheduling Program: lpsched	Schedules print jobs from multiple users and delivers them to the printer in the proper order
Printer	Prints the print jobs

NetWare Printing Model

Basic NetWare printing involves the same four components but with different names. The following table describes those components:

Table 1-3
NetWare Printing Components

Components	Function
NetWare Server	Disk and file management system
NetWare Print Queue	Subdirectory that temporarily stores print jobs
NetWare Scheduling Program: Print Server	Schedules print jobs and delivers them to the printer in the proper order
Printer	Prints the print jobs

Comparing the Two Models

The basic differences between UNIX and NetWare printing involve the scheduling programs and the configuration processes.

NetWare print servers support multiple file servers on a network whereas the SCO UNIX scheduler supports a single host. The NetWare print server polls all assigned queues, both local and remote, to schedule the print jobs.

NetWare configuration programs install from both the server and a workstation. SCO UNIX configuration programs install on a single host/server. In the NetWare case, you must remember which machine is used for what part of the configuration process.

Compaq Pagemarq Configuration

When using the Compaq Pagemarq in a NetWare environment, the print server no longer has to run on the NetWare file server. Instead, the print server runs directly on the printer. This program polls all attached NetWare queues on remote file servers to schedule and print queued jobs.

Additionally, Compaq Pagemarq printers have onboard processors that execute SPX/IPX and a subset of the NCP service protocols used for printing. A Compaq Pagemarq can function as a standalone print server and printer. Because the Compaq Pagemarq does not yet support TCP/IP and LPD, all network communications to the printer must be through SPX/IPX and NCP.

The following table describes the Compaq Pagemarq configuration components:

Table 1-4 Compaq Pagemarq Configuration Components	
Components	Function
NetWare Server	Disk and file management system
NetWare Print Queue	Subdirectory that temporarily stores print jobs
Pagemarq Scheduling Program: Print Server	Schedules print jobs from multiple users and delivers them to the printer in the proper order

Configuring the Compaq Pagemarq is different than configuring a server-attached printer. To configure the printer, you use the NetWare workstation utility, NICPrint.

The following chapters contain complete instruction for both the SCO UNIX to NetWare printer and SCO UNIX to network-attached Compaq Pagemarq configurations.