7 Additional Information for Networking

In this Chapter...

Introduction

A network is a collection of computers that communicate with each other using a set of agreed upon protocols.

3070 Networking Facilities

3070s contain networking software for:

- LANs (local area networks).
- Internet services.
- File sharing.

Additional facilities include software to enable:

- remote log ons.
- file transfers.
- remote execution.
- network printer servers.
- a full range of Internet services.

To Configure Networking

The first time a 3070 is booted, system configuration information will need to entered. This includes networking information. See Chapter 3, **Setting Up and Configuring New Systems** for the procedure.

Testhead IP Addresses

This section contains:

All 3070 MS Windows systems are configured with Agilent IP addresses in the 10.3.112.XX series.

To avoid network conflicts, including the inability to boot a testhead, all 3070 systems on the same network must share the same IP address series.

3070 System IP Addresses

The following Agilent board test systems have IP addresses in the 10.3.112.XX series:

- 3070 MS Windows systems.

- 3070 UNIX systems shipped with B.03.80 software.

- 3070 UNIX systems updated or ignited with B.03.80 software.

Because of the Hewlett-Packard / Agilent Technologies split, 3070 Board Test systems are no longer shipped with LAN IP addresses in the 15.3.112.XX series.

This should not cause any networking problems because the systems are configured to use local hosts for testhead IP address resolution.

Using a Nameserver for Existing Systems

If you are using a nameserver for name resolution, we recommend, but do not require, that all IP addresses match. This means they should all use the 10.3.112.XX IP address convention.

NOTE

Only 3070 IP addresses in the 10.3.112.XX format are supported by Agilent.

Implications for Custom Applications

If there are any custom applications that are hard-coded to look for a 15.3.112.XX address, they must be modified to look for a 10.3.112.XX address.

NOTE

If you have existing devices on your public LAN using addresses in the 10.3.112.XX range or if you experience conflicts, contact your Agilent support representative.

Find your Agilent support representative on the Internet at `http://www.agilent.com`

a Click **Contact Us** at the top of the page.

b Click **Test & Measurement**

    c Select your country and click **go**

    d Scroll down to **Technical & Professional Services**

The Private LAN

This section contains:

3070 Private LAN IP Addresses

Your 3070 MS Windows system includes two network adapter cards for connecting to local area networks. (LANs). The first network adapter card is configured and reserved for the private LAN. It is represented as **Local Area Connection** in Network and Dial-up Connections. **Local Area Connection** communicates directly from the controller to the testhead. Do not change these settings. There should not be other devices attached to this LAN other than shown in **Figure 7-1** on page 7-6.

The private LAN IP addresses are standard for every test system. **Table 7-1** shows the IP addresses reserved for the 3070 private LAN.

Table 7-1   3070 Private LAN IP Addresses

IP Address	Address Reserved for:
10.3.112.10	The 3070 MS Windows controller. (Local Area Network)
10.3.112.2	The testhead system card.
10.3.112.4	Module 0 of the ControlXT card.
10.3.112.5	Module 1 of the ControlXT card.
10.3.112.6	Module 2 of the ControlXT card.
10.3.112.7	Module 3 of the ControlXT card

Figure 7-1   3070 Private LAN IP Addresses
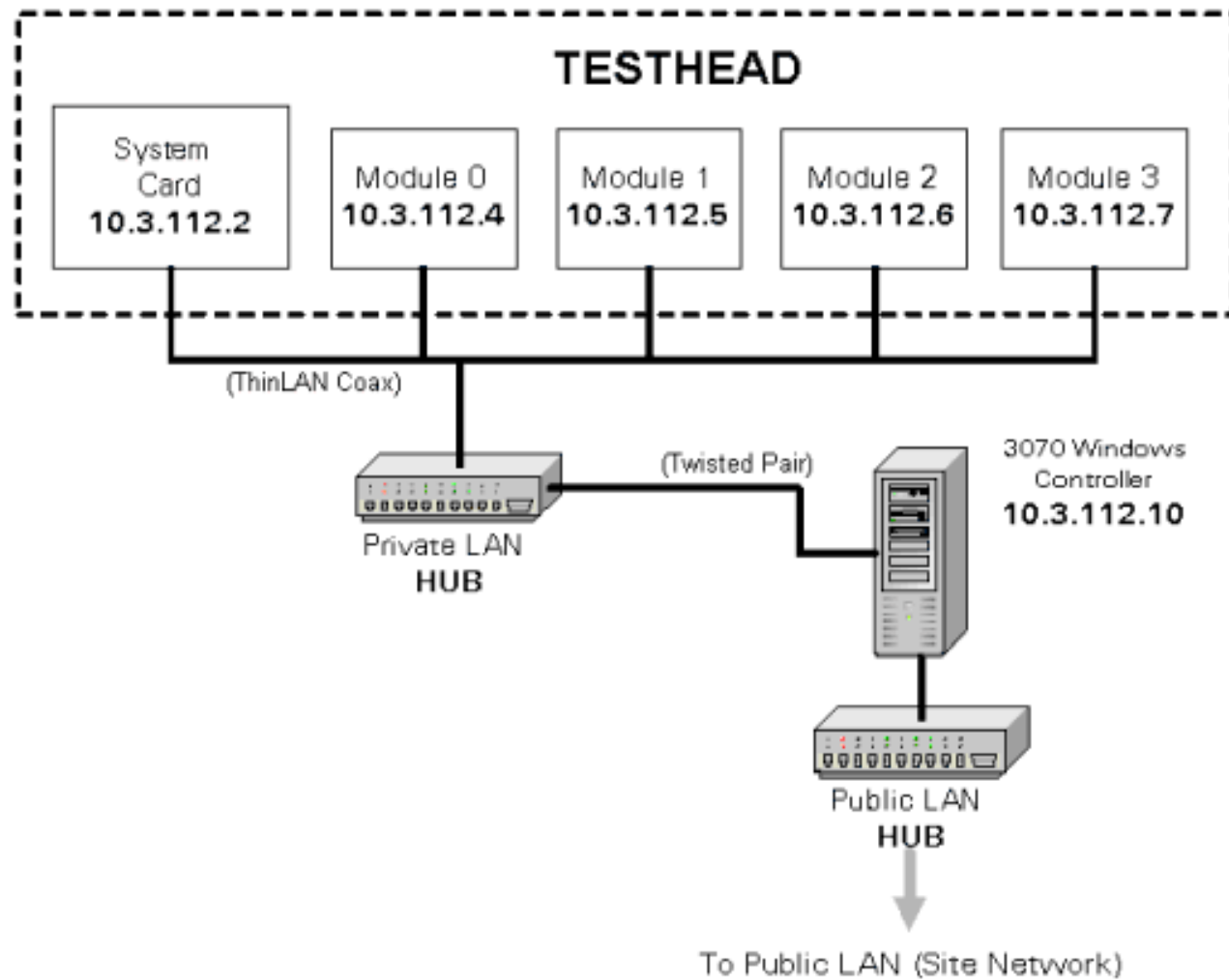
The Public LAN

This section contains:

- **Introduction**, 7-7
- **A User-Access Example**, 7-7

Introduction

Local Area Connection 2 is the public LAN interface used for connecting to your site network. This LAN interface can be connected to your network with an RJ45 cable that is compatible with 10Base-T or 100Base-T.

A 3070 MS Windows system includes an RJ45 LAN cable located at the base of the controller. **Figure 7-2** shows the location of the LAN cable and coupler on the back of a 3070 MS Windows controller. Use this cable to connect to your site network.

A User-Access Example

3070 systems are now available with either a Windows or a UNIX controller. **Figure 7-3** on page 7-8 shows an example of a user-access scheme when both Windows and UNIX systems exist.

Figure 7-2   LAN cable and coupler

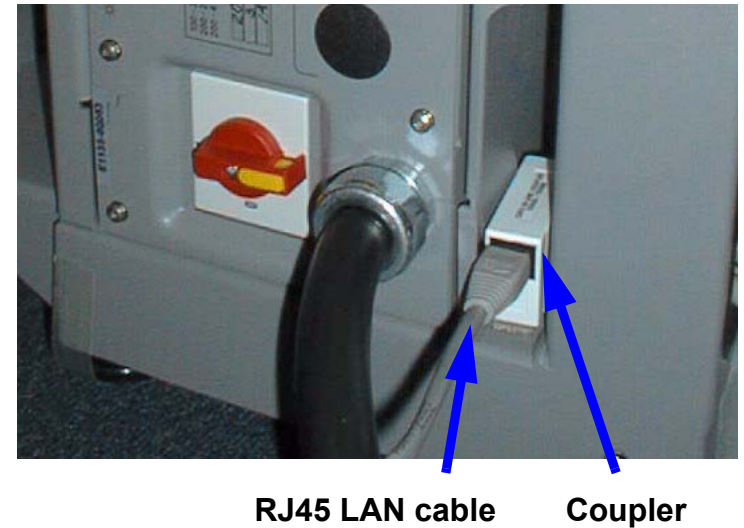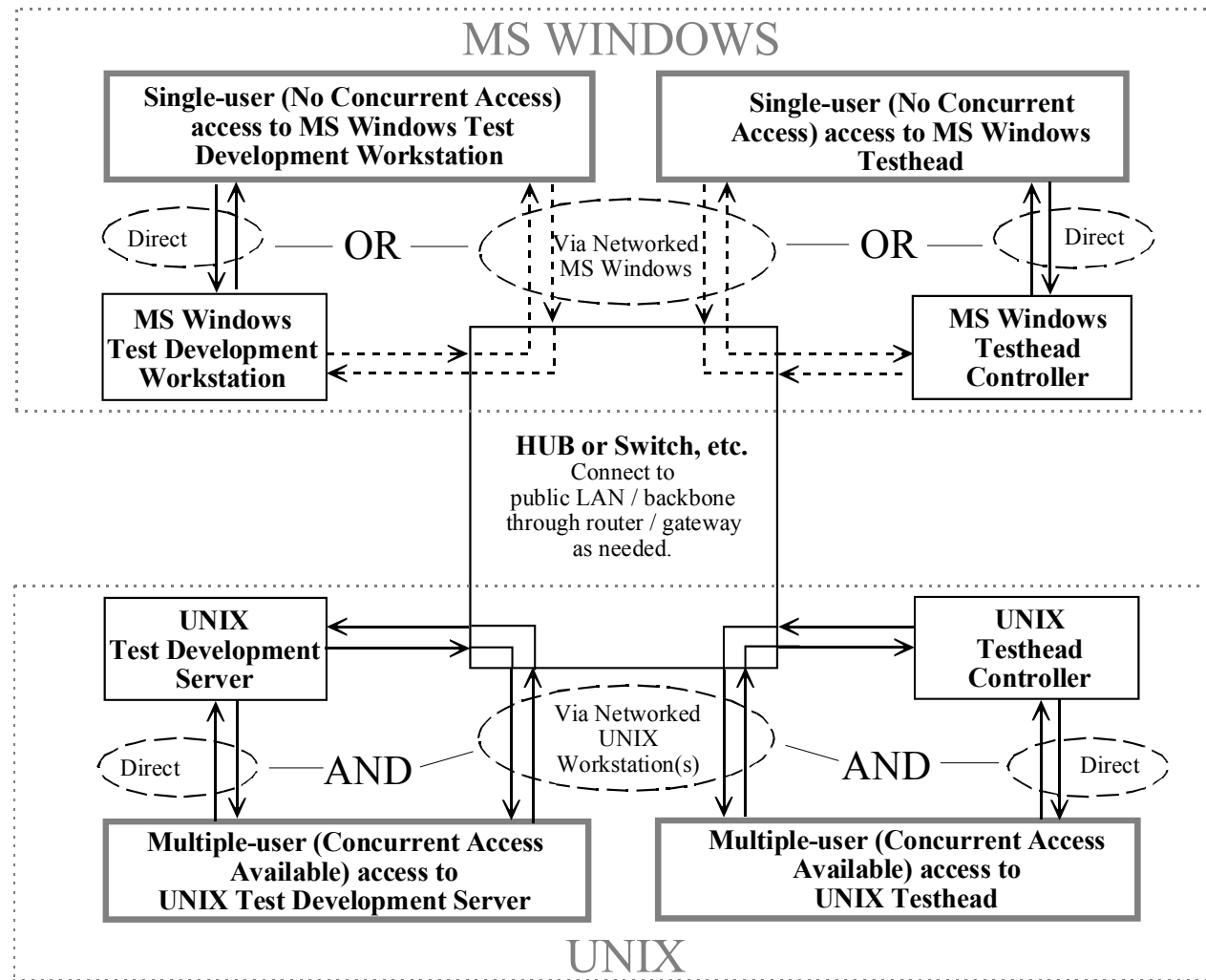**RJ45 LAN cable**   **Coupler**

Figure 7-3   User-access example for UNIX and MS Windows test development systems and testheads

Bridges, Routers, and Gateways

Bridges, routers, and gateways are used to connect multiple segments of a network into a unified, larger network.

Typically, you will not have to worry about these devices. If installing systems onto an existing network, you may have to configure the 3070 to take advantage of the facilities that your network provides.

Clients and Servers

Network

A network is a group of computers that are connected and used for sharing resources such as files, software, and peripheral devices.

Hosts and Nodes

Each computer or device on the network is host (also known as a node). A host can be a client, server, or both. In most cases, each host functions as both a client and a server.

Client

A client is a computer or program that requests the services of another computer or program.

Server

A server is a centralized computer that manages requests and controls access to shared network resources.

Client/Server

In a Client/Server network, a central computer, the server, manages access to shared network resources. The computers that connect to the server and request services are called clients and are considered to be part of the domain.

The MS Windows Controller as Server

The terms **client** and **server** relate to communication from the computer's point of view. An example of this is the use of a personal computer (MS Windows) as an X-Terminal to communicate with an 3070 controller.

From the user's point of view, the 3070 is the server and the MS Windows controller is the client. But from a networking point of view, the MS Windows controller is the server because it is running a program called X-Server. The 3070 requests services from the MS Windows controller, such as displaying a window or drawing board graphics. The MS Windows controller does not request services from the 3070.

Domain Names

A domain name is a unique combination of a hostname and a network domain name. A hostname is a unique name assigned to node within the network domain to which the node is connected. It is not valid to have two nodes with the same name in the same domain.

TCP/IP protocols provide a number of mechanisms for mapping domain names to IP addresses.

Network Services

A 3070 MS Windows system comes bundled with a variety of basic and advanced network services.

These services may require configuration.

The primary network services available on the 3070 are described in **Table 7-2**.

Table 7-2   Network services

Network Service	Description
FTP	Transfer files to and from a computer running an FTP server service. *To start FTP*: **a** From the Start menu, click **Run** **b** Type **ftp**, then click **OK**.
Telnet	Connect or login to a remote server or computer over a network. To use Telnet, you need: • the TCP/IP protocol installed and configured on your computer. • a user account on the remote host *To start Telnet:* **a** From the Start menu, click **Run** **b** Type **telnet**, then click **OK**.
Internet Explorer	Connect to the internet, search for and view information on the World Wide Web. Use the Internet Connection Wizard to configure settings.
Outlook Express	Send and receive e-mail messages.

Useful Commands

The commands in **Table 7-3** can be executed in a Command Prompt window. In Windows 2000, the Command Prompt replaces the MS-DOS prompt.

More detailed information on these and others commands is available in Windows 2000 Professional Help.

To Execute a Command in a Command Prompt Window

1 Point to Start > Programs > Accessories and click **Command Prompt.**

2 Type the command at the C:\> prompt.

Table 7-3   Command Reference

Command	Description
arp	Display or modify IP-to-ethernet physical address translation tables.
finger	Display information about a user on a specified system.
ftp	Transfer files to and from a computer running an FTP service.
hostname	Display the hostname of the computer.
ipconfig	Display TCP/IP network configuration information.
nbstat	Display protocol statistics and TCP/IP connections using NetBIOS.
netstat	Display protocol statistics and TCP/IP connections.
nslookup	Display information about DNS servers.
ping	Verify connections to remote computers.
route	Maintain network routing tables.
rsh	Run commands on remote computers running the RSH service.