

# **OCLC Dedicated TCP/IP Site Preparation Guide**

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## **About This Manual**

### **Route to**

Technical staff members who will be responsible for meeting the requirements of this access method and will make the necessary technical changes to your institution's network.

Staff members who use OCLC services and will now use OCLC Dedicated TCP/IP Access.

### **Why read this?**

This manual describes OCLC Dedicated TCP/IP Access. This access method requires reconfiguration and new user and institution responsibilities.

### **Reasons for the change**

This access method supports the use of applications that use TCP/IP protocols. It can replace OCLC Multidrop Access and Internet access to OCLC services.

### **Questions?**

Contact your OCLC-affiliated regional network with any questions.

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## **1. Considering OCLC Dedicated TCP/IP Access**

## Chapter overview

This chapter contains the descriptions and the requirements of OCLC Dedicated TCP/IP Access.

### In this chapter

This chapter covers the following topics:

[1.1 OCLC Dedicated TCP/IP Access: Description](#)

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### Audience

Library staff, campus network staff, or anyone considering OCLC Dedicated TCP/IP Access.

## 1.1 OCLC Dedicated TCP/IP Access: Description

### Description

OCLC Dedicated TCP/IP links a campus or Local Area Network (LAN) to OCLC for access to OCLC services. Dedicated TCP/IP Access provides robust telecommunications in support of all OCLC products and services including Cataloging (except the OCLC CatExpress service), Resource Sharing, Reference Services, electronic archiving, and Internet-based electronic documentation. Dedicated TCP/IP Access provides easy, seamless network access to OCLC from user networks.

OCLC Dedicated TCP/IP Access is a network-to-network link. One network is located at your site; the other is the OCLC network.

The primary audience for Dedicated TCP/IP Access is OCLC libraries that have a Local Area Network, campus network, or wide-area network that can support TCP/IP and that currently have either OCLC Multidrop Access or that use the OCLC Flat Fee Internet pricing option. Libraries that need more than three simultaneous users and do not have reliable Internet access are appropriate candidates for OCLC Dedicated TCP/IP Access.

## 1.2 OCLC Dedicated TCP/IP Access: Advantages

### Advantages

- Improved reliability and support. Libraries with unstable or slow Internet facilities may want Dedicated TCP/IP reliability for access to OCLC services.
- Consistent, predictable monthly charges.
- You can take advantage of the time and money already invested in your network.

## 1.3 Additional Considerations

## Migration planning and cost considerations

- With Dedicated TCP/IP, your local network and its support become part of the communications path to OCLC services.
- OCLC will end its Multidrop Access on March 31, 2000. All Multidrop users will migrate to Internet access, OCLC Dedicated TCP/IP Access, or Dial Access (OCLC Dial TCP/IP Access or traditional).
- If you have fewer than three OCLC Multidrop workstations, Dedicated TCP/IP will be more expensive than your current Multidrop communications; consider Internet or Dial TCP/IP access.
- If you have reliable Internet service, the OCLC Flat Fee Internet pricing option (for OCLC Cataloging and Resource Sharing services) will be a cheaper option than OCLC Dedicated TCP/IP Access. You should try the Flat Fee Internet pricing option before installing a Dedicated TCP/IP link. There is no minimum number of simultaneous users required for the Flat Fee Internet option.
- Services such as Electronic Collections Online that transmit large amounts of data may require higher speed lines.

## Dedicated TCP/IP and Flat Fee Internet pricing

- OCLC offers a Flat Fee Internet pricing option for Internet access for single institutions. This pricing allows you to pay a flat, monthly fee per simultaneous user for access to OCLC Cataloging and Resource Sharing services. There is no charge for Internet access to OCLC Reference Services.
- OCLC is neutral about which access option you choose. Flat Fee Internet is the easiest to implement if you already have dependable Internet access. Because it is cheaper, this new pricing option may make Internet access your first consideration. If your Internet access is unreliable, you should consider Dedicated TCP/IP Access.

Because of the remote access limitation of Dedicated TCP/IP (see "[Remote users](#)"), you may choose to use both Dedicated TCP/IP and Internet (either under the Flat Fee pricing or standard connect hour pricing).

If you implement both a Dedicated TCP/IP link and Flat Fee Internet pricing, you have the following pricing options:

- Two separate pools of Access and User Support Fees--one applied to your Internet users, and one applied to your Dedicated TCP/IP users. These limits are exclusive to the access type.
- A single, combined pool of Access and User Support Fees applied jointly across both access methods.

## Asynchronous Transfer Mode (ATM)

ATM (Asynchronous Transfer Mode) is one of many data link layer protocols. OCLC is neutral with respect to other data link layer protocols implemented within your networks and is affected only by the interconnecting Ethernet segment between your and OCLC's networks. TCP/IP packets flow over the intermediate hops from your client applications to the OCLC application hosts.

What this means is that your network may use other data link layer protocols but can operate with Dedicated TCP/IP if you provide a dedicated Ethernet connection, as detailed in [1.5 Hardware Requirements](#).

## Seamless redundancy between Dedicated TCP/IP and Internet access methods

Once the Dedicated TCP/IP link is installed, you may choose to use the Internet in addition to the Dedicated TCP/IP link to access OCLC services. Some libraries have requested a "seamless" approach between Dedicated TCP/IP and Internet access. In this situation, your on-campus Dedicated TCP/IP users normally access OCLC through the Dedicated TCP/IP link, and your remote (off-campus) Internet users access OCLC through the Internet.

With seamless redundancy if the Dedicated TCP/IP link fails, then the Dedicated TCP/IP traffic is automatically, temporarily migrated to the Internet. This migration occurs seamlessly; that is, without manual user intervention (for example, changing domain names or URLs). Although OCLC can offer seamless redundancy in special circumstances, we discourage its use for several reasons:

- OCLC Dedicated TCP/IP facilities are reliable and stable. In the unlikely event of an outage, users can still use the Internet for backup and redundancy by manually changing the domain names or URLs of the services they want to use.
- Seamless redundancy does not change the remote user limitation of Dedicated TCP/IP Access. Internet users still access OCLC through the Internet.
- Because the switchover to Internet backup is transparent to users, problems with the Dedicated TCP/IP link may go undetected (and therefore unreported and unsolved) for extended periods.
- Support and troubleshooting can be more problematic in this environment because users do not readily know their path (Dedicated TCP/IP vs. Internet) when calling campus networking staff or OCLC User and Network Support for assistance.
- If the Dedicated TCP/IP link goes down while you are logged on, your connection is dropped and you must re-logon.

If you implement seamless redundancy, you must also enroll for the Flat Fee Internet option with a "pooled" number of simultaneous users across the two access methods. (See "[Dedicated TCP/IP and Flat Fee Internet pricing](#)," for more information.) Flat Fee Internet enrollment is necessary to avoid incurring Internet connect hour charges.

### **Remote users**

OCLC Dedicated TCP/IP Access is a campus LAN-to-OCLC LAN connection. That is, it is *avirtual, private, non-Internet*, IP network. Although it uses the same technologies, such as routing and TCP/IP protocols, it is not the public Internet.

Because of technical TCP/IP addressing issues, remote users who connect to an institution or consortium's network through the Internet cannot use the Dedicated TCP/IP network to connect to OCLC. If a remote user tries to access OCLC through the Dedicated TCP/IP link after initially connecting to the institution or consortium's network from the Internet, the connection is prevented.

This constraint affects you if you provide FirstSearch Web access to patrons by implementing a single button on a Web site. In this case, if the workstation is *directly connected* to your network (in the 204.17.227.xxx address space), access to FirstSearch is available through the Dedicated TCP/IP link. However, in the case of access to FirstSearch through the Dedicated TCP/IP link from a workstation that is neither directly connected nor going through a server in this same address space (that is, it is accessing through the Internet), access is prevented.

In this scenario, you can provide access to FirstSearch from the Web site in two ways.

1. Provide access to OCLC with two buttons instead of a single button. One button contains the address of FirstSearch through Dedicated TCP/IP (firstsearch.dedip.oclc.org) and is labeled for Dedicated TCP/IP users. The second button contains the address of FirstSearch through the Internet (www.ref.oclc.org) and is labeled for remote Internet users.
2. Implement a Web script behind the button to examine the users' source IP addresses and route them accordingly. If a user's address is within your network (that is, in the 204.17.227.xxx address space), the script routes the user's requests through the Dedicated TCP/IP link. If the user's address is an address outside your network's address space, the script routes the user's requests to the address for FirstSearch through the Internet.

In neither of the above two scenarios do remote users have access to the Dedicated TCP/IP link. However, these configurations prevent a remote user from hitting a dead end on a button that contains only the address for FirstSearch through the Dedicated TCP/IP link.

To enable remote access through a Dedicated TCP/IP link, you can use one of the following methods:

- Implement a proxy server for remote users.
- Implement a Z39.50 server (such as OCLC SiteSearch or OCLC WebZ); this is for Z39.50 access only.
- Bypass the Internet by implementing asynchronous or PPP dial-in facilities for remote users.

For a remote connection to access the Dedicated TCP/IP link, the remote user must route through an IP address within your LAN in the address space 204.17.227.xxx. As long as the request appears to come from this address space to your institution router (or Ethernet port with routing capability), remote users can access OCLC through the Dedicated TCP/IP link.

**Note:** This constraint may affect institutions or consortia that want to use Dedicated TCP/IP as an alternative to the Internet. This is an important limitation and should be thoroughly discussed by any institution or consortium that wants to use OCLC Reference Services across a Dedicated TCP/IP link prior to proceeding with the order process.

## **Duplicate access charges**

The first 30 days of Dedicated TCP/IP Access are an acceptance period and are therefore provided at no charge. Billing will begin 30 days after installation of the link, even if local issues delay your institution's local implementation. If your institution is migrating from OCLC Multidrop or OCLC Flat Fee Internet pricing access, there may be duplicate OCLC access charges as you transition from your current access methods to Dedicated TCP/IP Access.

## **1.4 Restrictions**

### **No Internet access**

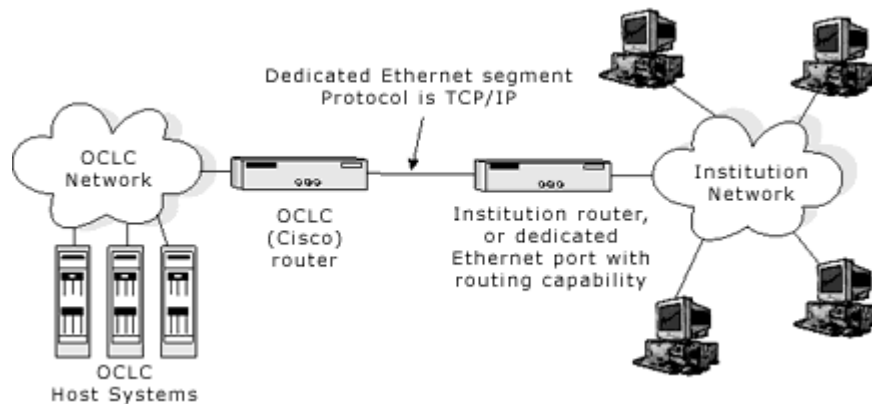
OCLC does not provide Internet access through the Dedicated TCP/IP Network. If your site does not have Internet access and your users click on an outside Internet link from the OCLC Web Site, FirstSearch, or Electronic Collections Online, they receive an error message that the system was unable to resolve the host

name. Since there is no Internet access from your network, the address cannot be reached.

If you have Internet access and your users click a link that takes them outside OCLC, the users must use the Back button on the browser or the session bookmark to return to the OCLC Web page. If the non-OCLC Web page has a link to OCLC and your users click it, access *isnot* through the Dedicated TCP/IP Network. To verify whether access to a page was made through Dedicated TCP/IP Access, note the URL. All URLs for this access method contain the string *dedip.oclc.org*.

## 1.5 Hardware Requirements

For the Dedicated TCP/IP link, OCLC will place an OCLC-owned and managed Cisco router at your site to connect to the OCLC network, as shown in the illustration below.



Your institution must supply a dedicated Ethernet TCP/IP interface on your institution's LAN to connect to the OCLC router. The Ethernet interface must also have routing capabilities. The port can be on an Ethernet switch, provided the port is unshared.

This Ethernet segment must connect only two end points: the OCLC router and your institution's Ethernet port. No other hosts or workstations can share this segment. It is your responsibility to identify and obtain the necessary hardware and software to provide this interface. It is also your responsibility to supply the necessary cables to connect the two ports.

### Recommended configuration

An Ethernet port on a Cisco router is the recommended configuration. In this configuration, the required routing function resides within the hardware device (router) to which the Ethernet cable is attached.

### Alternative configuration

An alternative configuration is an Ethernet switch port. This solution can be more complex because of switch manufacturers' various configuration options. In this case, the routing function must be provided either internally or externally to the switch for the OCLC router connection to perform correctly.

An OCLC router-to-Ethernet-switch segment must not be bridged to any other segments, and your institution must be capable of routing to an OCLC-specified IP address.

### Unacceptable configurations

OCLC will not link to the following configurations:

- The OCLC router placed within a shared Ethernet segment. This includes hosts or workstations attached directly to the Ethernet cable or through hubs or other network hardware.
- The OCLC router bridged with other institution segments.
- The OCLC router defined as a host on your institution's LAN.
- Your institution's network connected to the OCLC router by a serial connection.

### Connection types for dedicated Ethernet segment

Your institution must provide the Ethernet cable (100 meters or shorter) between your institution's Ethernet port and the OCLC router. The 10 Mbps connection to the OCLC router can be either 10baseT or AUI and must use one of the following connection types:

From	To	You will need
10BaseT port	10BaseT port	10BaseT cross cable
10BaseT port	AUI port	AUI to 10BaseT transceiver and a 10BaseT cross cable
AUI port	AUI port	Two AUI to BNC transceivers and a 10Base2 cable with BNC connectors

## 1.6 Physical Environment Requirements

### Inside wiring requirements

Your site must provide the following inside wiring:

- In-house circuit facilities for a 56 Kbps circuit (or 256 Kbps or 512 Kbps circuit if applicable) from the telephone company point of presence (POP) to the OCLC-provided router
- An RJ48S jack for 56 Kbps circuits (or an RJ48C jack for 256 Kbps and higher circuits) to terminate the circuit and provide connectivity to the OCLC-provided router

### Physical locations

Your site must do the following:

- Provide 120V, 1.2A power within 6 feet of the OCLC router.
- Provide a secure location for the OCLC router as close to the telephone company's demarcation as possible. You must provide the hardware.
  - For 56K lines, the OCLC router is too small to mount in a rack. You can place on a shelf in a rack or wall mount it.
  - For lines larger than 56K, the OCLC router is rack mountable. Or you can place it on a shelf in a rack or wall mount it.
- Maintain OCLC's labeling on the OCLC router.
- Locate the OCLC router within 100 meters of your institution router. This is an Ethernet cabling requirement.
- Keep the auxiliary port cable provided with the router in an accessible area available for troubleshooting.

Desirable but not required:

- Provide a power source on a UPS system for the OCLC router.
- Locate the OCLC router in an environmentally controlled computer room with temperature range between 70 and 80 degrees Fahrenheit.
- Provide one modem or fax line, and one voice line, within 50 feet of the OCLC router. This provision facilitates troubleshooting.
- Provide either a laptop or PC located within the auxiliary port cable length that can access the router for troubleshooting.

## 1.7 Routing Software Requirements

Your institution's router or routing function must be configured with Cisco IOS software version 10.1x or higher. If you are using a router or routing function other than Cisco's, your routing software must provide equivalent functionality to Cisco IOS version 10.1x. Older versions of Cisco software or other brands of routers may also work, but OCLC has not and will not test these for compatibility.

If you are using an Ethernet switch, the switch must be able to connect to the OCLC Cisco router. Routing software or hardware must be able to direct the TCP/IP traffic to an OCLC-specified IP address.

The OCLC Dedicated TCP/IP Network uses the non-routing Class A 10x.x.x IP addresses internally. An IP routing conflict occurs if your institution also uses this same 10x.x.x IP address space to address workstations that connect to OCLC services through the Dedicated TCP/IP path. An additional function is required if this is the case.

An IP Network Address Translation (NAT) function (the same function that must be used to access the Internet) must be inserted prior to passing traffic to the OCLC router. Translate your institution's 10x.x.x IP address into another IP address space (it does not matter which address space) before passing it to the OCLC router. The OCLC router, in turn, converts these translated addresses for handling within the OCLC Dedicated TCP/IP Network, thus avoiding the routing of the 10x.x.x address.

## 1.8 Configuration Requirements

### Your responsibilities

Make whatever modifications are necessary to your network to accommodate the new 56 Kbps or higher digital line and to establish communications with the OCLC router and to allow your users to access OCLC through the connection to the OCLC router.

Your responsibilities include the following:

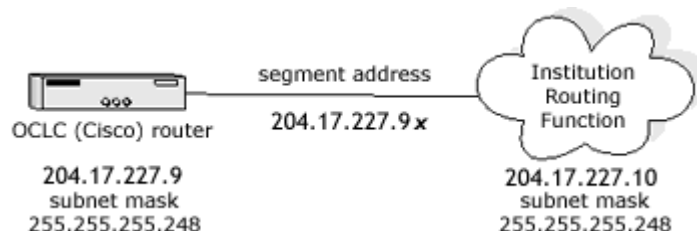
- Configure your institution's routing function with the static route provided below, and distribute that route throughout your network before installation.
- Include all your institution IP ranges that can access the OCLC router on the dedicated Ethernet port.
- Depending on the Domain Name Server (DNS) your LANs use, determine the DNS functions to support, as shown below.
- Create new sessions and connections in all OCLC communications software, using the SessionGuide for workstations that use the OCLC Cataloging and Resource Sharing services.
- Provide the appropriate URLs to users of OCLC Web-based services.
- Provide your institution's OCLC Site Identification Number to users of OCLC services.
- Provide security clearance or escort responsibilities (if applicable) for OCLC's service agent during installation or maintenance of the OCLC router.
- To ensure compatible router software versions, OCLC recommends that you carry maintenance

coverage for your institution router that includes software upgrades.

## OCLC's responsibilities

OCLC makes all necessary OCLC network configuration changes to accommodate the addition of the new Dedicated TCP/IP 56 Kbps connection. OCLC is also responsible for any configuration changes in the OCLC router required to facilitate the TCP/IP connections between the OCLC Network and your network.

OCLC supplies a class C IP address for routing and connectivity. This class C address is 204.17.227.x. OCLC provides the Ethernet segment host addresses from this address space and the associated subnet mask.



All traffic destined for the OCLC-supplied 204.17.227.x address space must be routed to the OCLC router Ethernet port address.

## Ethernet port configuration

Configure the dedicated Ethernet segment on your institution's routing function with the IP address 204.17.227.10 and the mask 255.255.255.248. An example of this configuration on a Cisco router is as follows:

```
interface Ethernet 0
description OCLC router connection
ip address 204.17.227.10 255.255.255.248
```

Note: These are the actual IP addresses. You can use them in your configuration

## Static route configuration

You must include a static route to the OCLC Dedicated TCP/IP Network. The network address for this network is 204.17.227.0. The mask is 255.255.255.0, and the OCLC router port address is 204.17.227.9. The OCLC router does not distribute this route using any routing protocol, so the route must be static. You are responsible for distributing this route throughout your network. Do not distribute this route to the Internet. An example of the route statement for a Cisco router is shown below:

```
ip route 204.17.227.0 255.255.255.0 204.17.227.9
```

## DNS configuration

Your site must provide a DNS (Domain Name Server) environment or a method of resolving host names. No changes need to be made to your institution's DNS for the Dedicated TCP/IP link to perform correctly

DNS requests to the OCLC-defined *dedip.oclc.org* domain resolve to addresses within the 204.17.227.x class C IP address space. These resolved addresses, in turn, are routed through your institution's LAN to the OCLC Ethernet segment. DNS names are initially resolved by the DNS hierarchy structure. (For the

majority of cases, this is performed through the Internet.)

### Domain-name configuration

The following table lists the Dedicated TCP/IP Access domain names for all OCLC services:

OCLC service	Dedicated TCP/IP OCLC domain name
OCLC Cataloging, Interlibrary Loan, Selection, and Union List	connect.dedip.oclc.org
OCLC FirstSearch Web, TTY, & Electronic Collections Online	<b>Preferred name:</b> firstsearch.dedip.oclc.org <b>Obsolete names that will eventually be phased out:</b> fscat.dedip.oclc.org www.dedip.ref.oclc.org
OCLC New FirstSearch	newfirstsearch.dedip.oclc.org
<b>OCLC Interlibrary Loan Electronic Exchange</b> IPIG (ISO ILL Protocol Implementers Group) ILL Old ISO ILL ILL Direct Request ILL Direct Request Profiling ILL Prism Transfer (IPT)	illhost.dedip.oclc.org  reqload.dedip.oclc.org isoill.dedip.oclc.org idr.dedip.oclc.org edx.dedip.oclc.org
OCLC Home Page	www.dedip.oclc.org
Electronic Data Exchange (EDX) through FTP	edx.dedip.oclc.org
FirstSearch Usage Statistics Reports	www.stats.dedip.oclc.org
Product Services Web	psw.dedip.oclc.org/psw
Z39.50 access to Reference Services	z3950.dedip.oclc.org
Z39.50 access to Cataloging Server	zcat.dedip.oclc.org

### For IP address recognition

To use IP address recognition for Reference Services you must have *adirect* Internet connection. The first transaction goes over your Internet connection to authenticate your IP, authorization, and password. All transactions after that go over your Dedicated IP Network.

If you do not have a *direct* Internet connection, you can use only one IP range. This range is not your workstation's IP range, but your OCLC router's IP pool. You must contact OCLC in this case.

OCLC service	Domain name
OCLC FirstSearch Web	<i>firstsearch.dedip.oclc.org/route=DEDIP;FSIP</i>
OCLC FirstSearch Electronic Collections Online	<i>firstsearch.dedip.oclc.org/route=DEDIP;ECOIP</i>

## 1.9 Security Considerations

OCLC Dedicated TCP/IP Access is a secure access method. An OCLC Dedicated TCP/IP site cannot access any other Dedicated TCP/IP site because of the Network Address Translation (NAT) used in the institution router and OCLC router at each site. Users can access only OCLC online hosts, which are specifically defined in the institution router and OCLC router at each site. OCLC also has access lists that prevent unauthorized routing updates. The institution router and OCLC router at each site are password protected, and these passwords change periodically.

OCLC allows access to the Dedicated TCP/IP Network from any address within the IP ranges you provide. Therefore, you may choose to block any network IP addresses that you do not want to access OCLC.

OCLC recommends that you block all IP addresses external to your institution's IP ranges from accessing the link.

OCLC recommends that your institution router not accept routing updates from the OCLC router.

For diagnostic purposes, OCLC would like the ability *toping* and *traceroute* into your network.

For diagnostic purposes, OCLC permits *ping* and *tracert* into the OCLC network.

For security and continuity, OCLC will not provide access to the OCLC router's configuration management.

## 1.10 Link Readiness Requirements

Because OCLC incurs significant costs from its vendors for Dedicated TCP/IP link installation, it is critical that your site be ready for the installation well before the installation date. *Before* ordering Dedicated TCP/IP Access, your institution must have done the following:

- Installed and configured the dedicated Ethernet port with routing capability and have the necessary cable available to connect to the OCLC router at the time of installation.
- Completed any necessary inside wiring to accommodate the link.
- Identified the physical location where you will locate the OCLC router.
- Configured your routing function with the static route provided, and distributed that route throughout your network.
- Identified your institution's appropriate library administration, network systems, and telephone services contacts to provide to OCLC on the *Line Request* form. OCLC will contact these people, and they will be crucial to the installation of your institution's link.

If OCLC cannot confirm that your site is ready for installation soon after OCLC receives your order, your order may be canceled and your institution may incur cancellation penalties.

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## 2. The Installation Process

### Chapter overview

This chapter describes the procedure for installing and configuring OCLC Dedicated TCP/IP Access.

### In this chapter

This chapter covers the following topics:

[2.1 Installation Steps](#)

[2.2 Modifying Your Workstation Software](#)

[2.3 Installation Testing](#)

[2.4 Installation Schedule](#)

[2.5 Cancellation of Existing Telecommunications Methods](#)

### Audience

Library and campus network staff responsible for installing and configuring your institution's router, and for configuring the workstations on the network to access the link.

### 2.1 Installation Steps

Use the following chart to determine the order of tasks in installing OCLC Dedicated TCP/IP Access. Specifics are contained in [chapter 1, Considering OCLC Dedicated TCP/IP Access](#)

Step	Responsible party	Action
1	You	Contact your OCLC-affiliated regional network to obtain a line speed and simultaneous user recommendation. Obtain a <i>Dedicated TCP/IP Line Request</i> form. For an explanation of these, see appendix A.
2	You	Prepare for OCLC router installation based on chapter 1 of this manual.
3	You	Return <i>Line Request</i> form to your OCLC-affiliated regional network for Dedicated TCP/IP Access.
4	Regional network	Signs and forwards the <i>Line Request</i> form to OCLC.
5	OCLC	Contacts your technical contacts provided on the <i>Line Request</i> form prior to scheduled router and line installation to verify site readiness based on this site preparation guide, and to ensure proper contact names and router location. OCLC also verifies order information and proper telephone company information, and finalizes installation dates and times. Orders circuit from the telecommunications carrier and returns a copy of the <i>Line Request</i> form to you with circuit and router installation dates (approximately 45 calendar days from OCLC's receipt of the <i>Line Request</i> form; OCLC will call you if the deadline must be delayed). A copy of the <i>Line Request</i> form is sent to your OCLC-affiliated regional network. Assigns the OCLC Site Identification Number for the OCLC router.
6	OCLC	Orders the OCLC router, tracks circuit installation status, and orders OCLC router installation services.
7	OCLC service agent	Arrives as scheduled to install the line and OCLC router. OCLC service agent works with OCLC to build configuration and ensure proper linking to your router network.
	You	Your LAN administrator links your institution router to the OCLC router and approves the connection to OCLC's host systems. Your LAN administrator also configures your institution's routing function with the static route ( <a href="#">Static route configuration</a> ) and distributes that route throughout your network before installation.
8	You	In the OCLC communications software create new sessions and connections that use the correct domain names ( <a href="#">Domain-name configuration</a> ) for the OCLC services your users want to access. Verify that your workstations can connect to the services. For Web-based services, provide the correct URL (also <a href="#">Domain-name configuration</a> ) and verify that the workstations can connect to the services. Communicate the OCLC Site Identification Number to users of OCLC services
9	You	Cancel other OCLC Access methods, as needed, through your OCLC-affiliated regional network.

## 2.2 Modifying Your Workstation Software


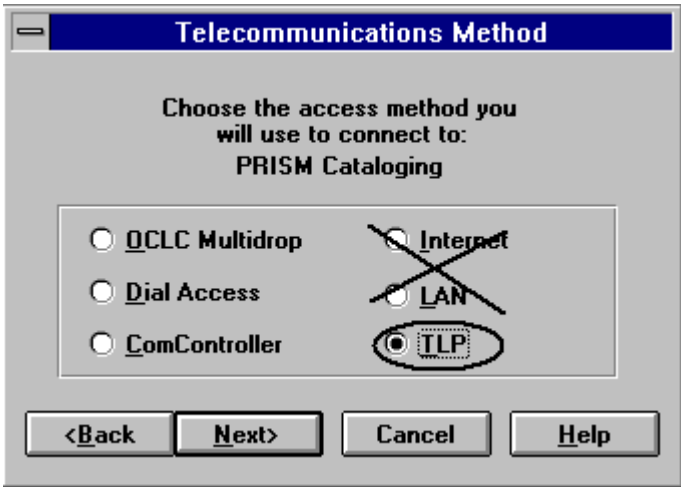
### Introduction

The [OCLC Access Suite](#) offers an integrated selection of the latest Windows versions of OCLC access, cataloging, and interlibrary loan software and is available at no charge for [downloading](#) or [ordering](#).

### Creating Passport for Windows sessions for OCLC Cataloging and Resource Sharing Services

For Dedicated TCP/IP Access, use the Passport for Windows SessionGuide to create sessions and connections to log on and use OCLC Cataloging and Resource Sharing services. Choose TLP as your connection type when using SessionGuide. All Cataloging (except the OCLC CatExpress service) and Resource Sharing services are supported with this type of connection.

Here are the steps to use when creating your new sessions and connections:

Step	Action
1	In Passport for Windows, select Session=>Create from the menus.
2	In the SessionGuide dialog box, click the Yes button.
3	<p>Select any of the PRISM options in the left column for Cataloging and Resource Sharing.</p>  <p>Then click the Next button.</p>
4	<p>Select the TLP option and click the Next button.</p> 
5	In the TLP Settings dialog box, type the domain name of the service to which you want to connect. (See the " <a href="#">Domain-name configuration</a> ".) Leave the default for the port (23) unless your system administrator advises otherwise. Then click the Next button.
6	In the OCLC Authorization and Password dialog box, type your authorization and password for the service you selected. Check the boxes to embed this information in your logon macro. Click the Next button.
7	In the Session Name dialog box, type a mnemonic name for the new session. It is good practice not to name this session the same as an existing session. This will delete the existing session. Then click the Finish button.
8	The SessionGuide Finished dialog box displays a review of your session name and macro books. It prompts you whether to open the session. Click the Yes button and test the session.

## Keymaps

Many OCLC users have created special keymaps or function keys for their sessions. If you have created such a keymap, assign it to your new session through the Settings dialog box. Highlight the keymap name that you want to assign, and then click OK.

## Creating logons for OCLC ILL ME for Windows

OCLC ILL ME for Windows, Version 2.0, supports Dedicated TCP/IP Access. Use the Logon Guide to create logons.

## Changing OCLC CJK software

OCLC CJK, Version 3.0, supports Dedicated TCP/IP Access. Use the Logon Guide to create logons.

## Creating a logon for OCLC Cataloging Micro Enhancer for Windows software

To create a CatME for Windows logon for Dedicated TCP/IP Access, use the LogonGuide.

## 2.3 Installation Testing

### Tests and responsibilities

Once the OCLC router is installed and you have connected it to your Ethernet port as described in [chapter 1, your site](#) and OCLC cooperate to test the Dedicated TCP/IP link:

1. OCLC and you establish TCP/IP communications between the OCLC network and your network.
2. If your workstation software is not already configured, you provide OCLC with access to your network by providing IP address(es) of workstations or hosts that OCLC *canping* to verify connectivity.

Otherwise, if your workstation software is configured, you establish a connection to OCLC from any workstation on your network.

3. Your staff (with OCLC or OCLC-affiliated regional network assistance if needed) modifies the workstation software as described in this chapter to allow workstations to access the OCLC Dedicated TCP/IP Network through your network.
4. You verify access to OCLC for all required services.

## 2.4 Installation Schedule

The following table lists the schedule of tasks for installing your Dedicated TCP/IP link:

Task	Schedule
Circuit ordered	2 weeks after <i>Dedicated TCP/IP Line Request</i> forms signed and returned to OCLC
OCLC configuration complete	45 days after circuit order (OCLC will call you if this deadline must be delayed)
Circuit installed	45 days after circuit order (OCLC will call you if this deadline must be delayed)
Static route installed (by you) and distributed to all routers on your network	You must complete this before circuit installation
OCLC router installed	Same day as circuit installation
Your institution router or Ethernet switch connected to OCLC router	Same day as circuit installation
Testing to verify configuration	Begins 1 day after OCLC router installation and continues for 5 to 15 business days
Network ready for traffic	1 day after site testing complete
Dedicated TCP/IP billing begins	30 calendar days after OCLC router and circuit installation
Cancel other OCLC Access methods, as needed, through your OCLC-affiliated regional network.	As needed as you transition to Dedicated TCP/IP access

## 2.5 Cancellation of Existing Telecommunications Methods

### Removal of OCLC Multidrop lines

OCLC Multidrop Access are not automatically removed. It is your responsibility, in conjunction with your OCLC-affiliated regional network, to complete the *OCLC Computer Products Request* forms to order the removal of workstations, Communications Controllers or Multidrop lines.

### Cancellation of OCLC Dial Access authorizations

OCLC Dial Access authorizations for CompuServe, 800, and local dial are not automatically canceled. It is your responsibility, in conjunction with your OCLC-affiliated regional network, to complete the *OCLC Access and Authorization* forms to request the cancellation of your Dial Access authorizations and passwords.

### Cancellation of OCLC Flat Fee Internet Pricing access

OCLC Flat Fee Internet pricing options are not automatically canceled. It is your responsibility, in conjunction with your OCLC-affiliated regional network, to complete the *Configuration Change Order for OCLC Dedicated TCP/IP Access and/or Flat Fee Internet form* to change or discontinue Flat Fee Internet pricing.

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## 3. Managing Your Dedicated TCP/IP Link

## Chapter overview

This chapter contains hints for smooth implementation and management of your Dedicated TCP/IP link.

### In this chapter

This chapter covers the following topics:

[3.1 Monthly Management Reports](#)

[3.2 Current Status Reports](#)

[3.3 The finger Utility](#)

### Audience

Library staff responsible for implementation planning and for link management after installation.

## 3.1 Monthly Management Reports

OCLC provides [monthly reports](#) to assist you with the management of your Dedicated TCP/IP Access. These reports show your institution's monthly connect time, number of sessions, and number of simultaneous users by individual OCLC symbol and for your institution as a whole.

These reports are available on the OCLC Product Services Web site. A sliding window of three months of reports is loaded and available at all times. Be sure to view or download your reports within this three-month period. Past reports are not available after they are removed from the Product Services Web site.

To view your reports, you must access the Product Services Web site using an OCLC authorization number associated with your OCLC symbol that is billed for the Dedicated TCP/IP Access. This measure ensures that only your institution can view your reports.

## 3.2 Current Status Reports

[Current Status Reports](#) provide information about a particular household including the number of simultaneous users currently logged on and the maximum number of simultaneous users logged on for the day. These reports are available from the OCLC Product Services Web.

## 3.3 The finger Utility

OCLC has customized Dedicated TCP/IP's response to the finger utility to allow you to:

- Determine "on the fly" how many active cataloging users are on your OCLC Dedicated TCP/IP link
- Determine the OCLC symbol that is billed for Dedicated TCP/IP Access

### Procedure

To use the finger command on your Dedicated TCP/IP link, do the following:

- At a Unix or DOS shell prompt, type *finger @connect.dedip.oclc.org* and press <Enter>.

- You can also see the same statistics in the Current Status Report available from the OCLC Product Services Web

## Emulating finger

If finger is not on your workstation, you can emulate it by telnetting to port 79 of connect.dedip.oclc.org and retrieve the same information. Your implementation of telnet may differ, but in general use the following procedure:

Step	Action
1	At a Unix or DOS shell prompt, type <i>telnet connect.dedip.oclc.org 79</i> and press <Enter>. The screen flashes and displays a blank line.
2	Press <Enter>.

# 4. Support and Troubleshooting

## Chapter overview

This chapter provides guidelines to diagnose Dedicated TCP/IP Network problems and to help you communicate the results to User and Network Support (UNS).

## In this chapter

This chapter covers the following topics:

[4.1 General Support Guidelines](#)

[4.2 Troubleshooting Potential Telecommunications Problems](#)

[4.3 Problem: Cannot Access OCLC, or Connected Workstations Are Hung](#)

[4.4 Error Messages](#)

[4.5 Problem: Erroneous Data](#)

[4.6 Problem: Slow Response Time](#)

[4.7 Domain Name Server \(DNS\) Problems](#)

[4.8 OCLC Service/Software, Hardware, and Circuit Configuration](#)

## Audience

Library or campus network staff responsible for support and troubleshooting of the link.

## 4.1 General Support Guidelines

### Your support responsibilities

OCLC cannot track individual site configurations. Effective network troubleshooting and resolution depends on your providing your OCLC Site Identification Number when you call for support.

If you have multiple access methods, you must know which access method you are using when calling for support. Support relative to the workstation's communication hardware may rely on your providing the workstation's IP address. Internal networking problem resolution will depend on the end users having access to their site's system administrator's name, phone number, pager number, and/or e-mail address.

## Support providers

Support for OCLC's Dedicated TCP/IP Network is provided by OCLC-affiliated regional networks and OCLC User and Network Support (UNS).

- OCLC-affiliated regional networks are the first line of support for OCLC users inquiring or needing clarification about new access methods. Users should call their OCLC-affiliated regional networks for assistance with upgrading, configuring, or installing software--operating systems, Web browsers, and OCLC software.
- After initial installation, users should contact their site's system administrator, who should contact OCLC User and Network Support (USA and Canada 1-800-848-5800 or e-mail to [support@oclc.org](mailto:support@oclc.org)) for support and troubleshooting for the OCLC Dedicated TCP/IP Network. You should not use any other telephone numbers, e-mail addresses, or contact the OCLC staff who assisted you with your initial installation.

## OCLC support responsibilities

1. UNS will verify the connectivity across the circuit between OCLC and your institution router.
2. UNS will attempt to verify connectivity between the OCLC router and your institution router.
3. UNS will troubleshoot workstation hardware problems.
4. UNS will troubleshoot OCLC software configuration on functionality issues.
5. UNS will attempt to assist in operating system problems if they are pertinent to OCLC services and/or software.
6. UNS will attempt to assist in LAN problems if they are pertinent to the access of OCLC services.

## 4.2 Troubleshooting Potential Telecommunications Problems

### Identify local problems first

To provide timely, quality service to all users, OCLC User and Network Support (UNS) asks that users contacting OCLC with OCLC Dedicated TCP/IP communications problems do the following before calling for support:

- Identify and isolate any on-site user network problems
- Gather the pertinent network information

### Have there been any changes or problems since it last worked?

Always look first at any recent changes or problems as possible causes of the communications problem. Inform your support staff and UNS of recent changes or problems when reporting the communications problem. Check for the following:

- Workstation upgrades or moves
- Addition of new workstations and/or subnets to the LAN
- Network software or hardware changes
- Router configuration changes
- New software applications or upgrades
- Construction or renovations in the area of your network
- Phone work in the building
- Power problems or storms

- Heating or air conditioning problems

### Identify the symptoms of the problem you are having

Identify the symptoms of the problem you are having and turn to the appropriate page, as indicated in the following chart:

<b>Problem</b>	<b>Go to section</b>
Cannot access OCLC; or if connected, the workstations are hung while trying to access OCLC	<a href="#">4.3</a>
You receive error messages	<a href="#">4.4</a>
You receive erroneous data	<a href="#">4.5</a>
Slow response time	<a href="#">4.6</a>
Domain Name Server (DNS) problems	<a href="#">4.7</a>
OCLC router/Circuit Configuration/Change Requests	<a href="#">4.8</a>

This troubleshooting section assumes that all workstations, software, routers, and connectivity worked initially, but now you are having a problem. When contacting UNS for communications support, have the OCLC Dedicated TCP/IP Problem-Reporting Checklist (appendix B) handy. To avoid having to call back, verify that all questions in this checklist relevant to your problem can be answered before contacting UNS.

### 4.3 Problem: Cannot Access OCLC, or Connected Workstations Are Hung

#### Procedure

Follow this procedure if a workstation cannot access OCLC, or if one or more workstations connected to OCLC are hung.

Step	Action
1	Look for error messages and see the appropriate error message instructions ( <a href="#">section 4.4, Error Messages</a> ).
2	<p>Check whether any of the workstations within your LAN can connect to OCLC.</p> <p>Determine whether the problem is isolated to one workstation or involves all the workstations accessing OCLC through the Dedicated TCP/IP connection. Does the access problem apply to workstations accessing both OCLC Cataloging/Resource Sharing and Reference services, or just one of these services? If the problem is with just one workstation, and you are not getting a message that tells you why you cannot get access, log off the LAN and reboot the workstation. If the problem still persists, contact UNS. Check whether you can communicate with other sites from your LAN. If you have Internet access, check whether you can access the Internet. If you still cannot access OCLC through the Dedicated TCP/IP Network, and/or cannot connect to other resources, call your system administrator or the person in charge of your LAN.</p>
3	<p>Because UNS is unable to assist you with local LAN problems, and at this point can only validate that the OCLC router and your institution router are accessible from OCLC, it is best to eliminate all possible LAN issues before contacting OCLC UNS. Therefore, ping your institution router (the router attached to the OCLC router) from a workstation on the LAN:</p> <p>Ping address 204.17.227.10; this is the address of the dedicated Ethernet port. If not successful, try to ping the address from another workstation on the LAN. If you cannot ping your institution router from more than one workstation within your LAN, you have either a hardware or a software problem that is relevant to only your site. At this point your system administrator or person responsible for connection to the OCLC router must take over. Stop and contact him or her to complete the following steps.</p>
4	The following steps are to be taken only by a system administrator or person responsible for connecting to the OCLC router. Ping the OCLC router from a workstation on the LAN. The address is 204.17.227.9.
5	If you can ping your institution router but cannot ping the OCLC router, check the Ethernet connection between the two routers, and verify that both connections are secure. If all connections look secure, contact UNS.
6	Observe the LEDs on the OCLC router. The carrier LED should be on, and it should not be in Loopback or in Alarm. If there is no carrier, verify that the serial connection is secure at the router and at the telephone company's demarcation. If you have in-house wiring between the OCLC router and telephone company's demarcation, check for continuity on the in-house circuit.
7	If the OCLC router is in Alarm or Loopback, contact UNS.
8	If you can ping the OCLC router, ping the OCLC host. The address is 204.17.227.20.
9	<p>Call UNS only if one of the following is true:</p> <p>You can ping your institution router but cannot ping the OCLC router or the OCLC host.</p> <p>You can ping the OCLC router but cannot ping the OCLC host.</p>

## 4.4 Error Messages

There are many types of error messages. Error messages not related to the Local Area Network or the OCLC Dedicated TCP/IP Network should not require your system administrator's intervention. However, errors relating to operating systems, hardware, or software applications can sometimes be misinterpreted as communications problems. OCLC recommends that your system administrator provide all LAN users with a list of common errors and instructions for whom to contact when unexpected error messages are received.

### Network access error messages

Use the following table to determine the significance of a network access error message.

Message or symptom	Explanation
Server down, or server not responding	If you <i>do not</i> have Internet access and you are on the OCLC Web site, or in FirstSearch Web, or in Electronic Journals Online, you receive this error if you click on a link that is outside OCLC. Without Internet access, you cannot access these linked sites.
Cannot resolve HOST name	If you receive this error and one of the above conditions does not apply, try again. If the retry fails, see DNS problems ( <a href="#">section 4:7, Domain Name Server (DNS) Problems</a> ).
TCP/IP connection closed by remote host	Try again. If this is an OCLC problem, all workstations accessing OCLC through the Dedicated TCP/IP Network will fail. If only some fail, the problem could be within your LAN.
Maximum number of Dedicated TCP/IP users logged on, please try later.	Your institution designated a maximum number of simultaneous OCLC Cataloging/Interlibrary Loan/Union List sessions. At this time all simultaneous sessions are in use. Try again. If you are frequently getting this message and need additional simultaneous sessions, contact your OCLC-affiliated regional network.
ICMP Error [Host Unreachable]	Try again. This error is usually an Internet routing problem. If this is an OCLC problem, all workstations will fail. If only some fail, the problem could be within your LAN.

### OCLC system error messages

Use the following table to determine the significance of an OCLC system error message.

Message	Explanation
Dedicated TCP/IP users accessing Reference Services should use the following domain name: firstsearch.dedip.oclc.org. Please connect again using the correct domain name. Dedicated TCP/IP users accessing Reference Services should use the following domain name: epic.dedip.oclc.org. Please connect again using the correct domain name.	To access Reference Services using the Dedicated TCP/IP Network, you must use the appropriate domain name. The correct domain name is displayed in the error message.
Unrecognized Command	Either the user typed an invalid command or the command is the correct command but is on the wrong system. Try entering the command again.
Cannot process your request at this time. Please try again later.	<p>There are two possible explanations:</p> <p>The OCLC system you are attempting to log on to is down. When this happens, UNS is normally already aware that the system is down and the phone greeting will be changed to notify all callers that there is a known problem. The expected time of the fix will be noted in the phone message as soon as it is determined.</p> <p>A logged-on user attempted to log on again. Unless you desire more than one session opened at a time, verify that you are not already logged on before attempting to open another session.</p> <p><b>Note:</b> Each open session to Cataloging or Resource Sharing constitutes a simultaneous user.</p>

## **4.5 Problem: Erroneous Data**

### **Causes of erroneous data**

Generally, erroneous data received at the workstation is the result of noise or distortion on a line or cable. In the TCP/IP environment, the protocol prevents this from happening.

However, if a workstation displays erroneous characters, the characters may have been received correctly but displayed erroneously. The error could be a workstation display board (hardware) problem.

Static electricity can also cause erroneous characters. Try exiting all programs and rebooting the workstation. If the problem persists, contact your OCLC-affiliated regional network or UNS.

## **4.6 Problem: Slow Response Time**

Slow response time can have many causes. Circuit capacity limits, circuit distortion or errors, OCLC Host problems, OCLC system problems, problems related to searches, local area network problems, and hardware constraints can all affect response time.

### **Diagnostic questions**

It is essential that you provide OCLC with the following information:

1. Is response time slow now?
2. Is this the first time you have experienced slow response time?
3. Does the slow response happen around the same time each day/week?
4. Is only one workstation having slow response time?
5. Are the workstations experiencing slow response time all accessing the same OCLC service?
6. Are all workstations accessing the Dedicated TCP/IP Network experiencing slow response time?

If OCLC determines that the circuit is being used at full capacity, OCLC may recommend installing an additional or a larger circuit. If the response time is consistently slow during certain periods of the day, you may elect to restrict certain online activities during those time periods.

## **4.7 Domain Name Server (DNS) Problems**

A Domain Name Server (DNS) resolves domain names into valid IP addresses so data is routed through the appropriate network. There is a separate domain name for each OCLC service, depending on whether you want to access OCLC through the Internet or through the Dedicated TCP/IP Network.

Separate domain names are needed because users may have access to both the Internet and the Dedicated TCP/IP Network. Separate domain names are resolved by the DNS, and the traffic is routed across the desired path.

If the DNS is down, the domain name for the OCLC network cannot be resolved and you may receive a message that the host name could not be resolved. The following step can prevent this from happening:

If you have your own DNS

If you have a Domain Name Server, the resolution of host names in the *dedip.oclc.org* domain depends on your DNS, which in turn depends on the Internet for host name resolution of the host names. When the Internet link fails, name resolution for Dedicated TCP/IP domains also fails. To prevent this, for each workstation that accesses the Dedicated TCP/IP Network, configure the secondary DNS as 204.17.227.35. This may degrade response time by sending all DNS requests over the Dedicated TCP/IP link.

If you are using a DNS provided by your Internet Service Provider (ISP)

For each workstation that accesses the Dedicated TCP/IP Network, configure the secondary DNS as 204.17.227.35.

If you do not have access to a DNS

For each workstation that accesses the Dedicated TCP/IP Network, configure the primary DNS as 204.17.227.35.

### OCLC service domain names

The following is a list of the current Domain Names for the Dedicated TCP/IP Network:

OCLC service	Dedicated TCP/IP OCLC domain name
OCLC Cataloging, Interlibrary Loan, Selection, and Union List	connect.dedip.oclc.org
OCLC FirstSearch Web, TTY, & Electronic Collections Online	<b>Preferred name:</b> firstsearch.dedip.oclc.org <b>Obsolete names that will eventually be phased out:</b> fscat.dedip.oclc.org www.dedip.ref.oclc.org
OCLC New FirstSearch	newfirstsearch.dedip.oclc.org
<b>OCLC Interlibrary Loan Electronic Exchange</b> IPIG (ISO ILL Protocol Implementers Group) ILL Old ISO ILL ILL Direct Request ILL Direct Request Profiling ILL Prism Transfer (IPT)	illhost.dedip.oclc.org reqload.dedip.oclc.org isoill.dedip.oclc.org idr.dedip.oclc.org edx.dedip.oclc.org
OCLC Home Page	www.dedip.oclc.org
Electronic Data Exchange (EDX) through FTP	edx.dedip.oclc.org
FirstSearch Usage Statistics Reports	www.stats.dedip.oclc.org
Product Services Web	psw.dedip.oclc.org/psw
Z39.50 access to Reference Services	z3950.dedip.oclc.org

## 4.8 OCLC Service/Software, Hardware, and Circuit Configuration

### OCLC services and software

Questions or problems about any OCLC service or software application are handled the same, regardless of your access method. However, for communications problems or questions, it is essential that you know your OCLC Site Identification Number (on the OCLC router's tag). UNS may need to validate that the OCLC router is working.

### Circuit configuration change

To order additional simultaneous user system access, contact your OCLC-affiliated regional network.

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## Appendix A. Recommended Number of Simultaneous Users and Line Sizing

### Recommended number of simultaneous users

OCLC-affiliated regional networks can provide an institution with a recommended number of simultaneous users and pricing for an OCLC Dedicated TCP/IP link using an OCLC-provided usage analysis database. Following are the underlying assumptions used to determine the recommended number of simultaneous users:

1. The recommended number of Access and User Support Fees (i.e., simultaneous users) is an estimated number of users that the institution will need to support its use of OCLC Cataloging and Resource Sharing services. This number is based on the average monthly number of Multidrop, TLP, Dial Access, and Internet hours used for Cataloging and Resource Sharing services during the analysis period by the three-character symbols included. No Access and User Support Fees are required for Reference Services usage. However, if institutions want to use Reference Services across the line, the line selected by the institution must be of sufficient capacity to support the desired level of Reference Service usage. To determine the appropriate line size, refer to the line sizing guidelines included in this appendix.
2. The recommended number of simultaneous users assumes that the institution will use OCLC Cataloging and Resource Sharing services approximately the same number of hours per month as it did during the analysis period. Based on the institution's historical average usage data, the queuing theory formula predicts that this number will allow users to log on to these services 99% of the time with their first attempt during times of average usage. During times of peak usage, users may not be able to log on 99% of the time with their first attempt. Although the institution may move the OCLC access to an individual's desktop, OCLC's recommended number assumes that the institution continues to use OCLC in much the same manner as it did before.
3. The recommended number of simultaneous users should be viewed as a starting guideline to use for initial installation. Because of the multitude of variables and changes that may take place at individual institutions, institutions should consider local factors when evaluating the validity of this

recommendation. Because of local factors, workflow changes, growth, etc., libraries may need to adjust this number accordingly. Fine-tuning can be accomplished through analysis of monthly usage statistics once the link is in place.

- The simultaneous user recommendation is a best-guess estimate based on industry-standard queuing theory. Queuing theory is a science that studies and predicts the behavior of systems, such as advanced computer networks, interstate freeways, etc. This formula is also used in other fields to predict the number of queues required during peak periods, such as the number of bank tellers or grocery store cashiers needed during busy times to meet customer demand.

The formula factors the efficiencies realized through consolidation. This explains why the numbers for three individual institutions added together are higher than for those three institutions as a group. Standard queuing theory asserts that fewer larger queues are more efficient than higher numbers of smaller queues due to elimination of the inherent inefficiencies of sporadic use associated with smaller queues. The following example illustrates the underlying theory behind the formula. Three small local grocery stores might each need 3 cashiers at 5:30 p.m. each day. However, if the stores were consolidated into one with the same demand, the store might only need 5 cashiers at 5:30 p.m., instead of the 9 required for the three stores individually. Because of the sporadic arrival of customers to be served at the checkout counter, sometimes one of the three clerks at the smaller stores would be idle. However, the store managers couldn't send a clerk home because on average the other two clerks couldn't keep up with all of the customers and still meet the store's service quality commitment (e.g., no customer waits more than 3 minutes to be served). But because of the random arrival of customers across the three stores, the idle clerk would probably have been able to serve a customer waiting in line at another store at the time, if this had been physically possible. Hence, by combining stores and creating a larger customer pool, customers are more likely to be waiting to be served at any time. However, fewer clerks can service the same number of customers while still maintaining the stores' service quality standard, since there are fewer idle moments by any particular clerk.

- The line sizing guidelines included in this appendix present the numbers of simultaneous users for Cataloging and Resource Sharing and Reference Services that each bandwidth line can support. Institutions can look up their recommended number of simultaneous Cataloging and Resource Sharing users on the chart to determine the amount of excess capacity available for FirstSearch Web usage. If the institution or consortia has Reference Services requirements known ahead of time, the chart should be used to determine the line size necessary to support both their Reference Services usage and the Cataloging and Resource Sharing simultaneous users recommended.
- OCLC encourages institutions to plan for 2 years of capacity. Institutions will incur financial penalties for line removals or moves that occur within the first 2 years of installation.

### Line-Sizing Guidelines

56 Kbps	56 Kbps	2nd 56 Kbps	2nd 56 Kbps	256 Kbps	256 Kbps	512 Kbps	512 Kbps	1024 Kbps	1024 Kbps	T1	T1
Cat & RS Users	FS Web Users	Cat & RS Users	FS Web Users	Cat & RS Users	FS Web Users	Cat & RS Users	FS Web Users	Cat & RS Users	FS Web Users	Cat & RS Users	FS Web Users
1-10	20	1-18	40	0	90	0	180	0	360	0	530
11-15	18	19-35	35	1-10	87	1-20	174	1-40	348	1-72	509

16-20	16	36-50	30	11-20	84	21-40	168	41-80	336	73-144	488
20-25	14	51-70	25	21-30	81	41-60	162	81-120	324	145-216	467
26-30	12	71-85	20	31-40	78	61-80	156	121-160	312	217-288	446
31-40	10	86-100	15	41-50	75	81-100	150	161-200	300	281-360	425
41-44	9	101-115	10	51-60	72	110-120	144	201-240	288	361-432	404
45-47	8	116-123	8	61-70	69	121-140	138	241-280	276	433-504	383
48-50	7	124-130	6	71-80	66	141-160	132	281-320	264	505-576	362
51-55	6	131-135	4	81-90	63	161-180	126	321-360	252	577-648	341
56-60	4	136-142	2	91-100	60	181-200	120	361-400	240	649-720	320
60-67	2	143-150	0	101-110	57	201-220	114	401-440	228	721-792	299
68-75	0			111-120	54	221-240	108	441-480	216	793-864	278
				121-130	51	241-260	102	481-520	204	865-936	257
				131-140	48	261-280	96	521-560	192	937-1008	236
				141-150	45	281-300	90	561-600	180	1009-1080	215
				151-160	42	301-320	84	601-640	168	1081-1152	194
				161-170	39	321-340	78	641-680	156	1153-1224	173
				171-180	36	341-360	72	681-720	144	1225-1296	152
				181-190	33	361-380	66	721-760	132	1297-1368	131
				191-200	30	381-400	60	761-800	120	1369-1440	110
				201-210	27	401-420	54	801-840	108	1441-1512	89
				211-220	24	421-440	48	841-880	96	1513-1584	68
				221-230	21	441-460	42	881-920	84	1585-1656	47
				231-140	18	461-480	36	921-960	72	1657-1728	23
				241-250	15	481-500	30	961-1000	60	1729-1800	0
				251-260	12	501-520	24	1001-1040	48		
				261-270	9	521-540	18	1041-1080	36		
				271-280	6	541-560	12	1081-1120	24		
				281-290	3	561-580	6	1121-1160	12		
				291-300	0	581-600	0	1161-1200	0		

# Appendix B. OCLC Dedicated TCP/IP Problem-Reporting Checklist

To reduce unnecessary diagnostic time for OCLC Dedicated TCP/IP problems, first contact your system administrator to ensure the problem is not related to your Local Area Network (LAN). When you call OCLC User and Network Support (UNS), please have the information outlined below readily available.

See "[Troubleshooting Potential Telecommunications Problems](#)" to eliminate any site problems before calling UNS.

## Contacting UNS

Have the required site information available from the [Problem-Reporting Checklist](#)

The User and Network Support (UNS) section is available Monday through Friday, from 7:00 am to 9:00 pm US Eastern Time, and on Saturdays from 8:00 am to 8:00 pm.

Toll-free phone numbers:

USA and Canada: 1-800-848-5800

Mexico: 95-800-848-5800

Local (Dublin OH) international phone number: 1-614-793-8682

E-mail address: [support@oclc.org](mailto:support@oclc.org)

World Wide Web: <http://www.oclc.org/oclc/menu/support.htm>

## OCLC Dedicated TCP/IP Problem-Reporting Checklist

### Site Information

OCLC Site Identification Number:  or OCLC router name (found on router tag): or Your OCLC symbol and the OCLC symbol of the library where the OCLC router is located, if different.	System administrator/person in charge of the LAN and the connection between your router and the OCLC router.
	Name:
	Availability hours if applicable:
	Phone number:
	E-mail if applicable:
	Pager if applicable:

### Things UNS *May* Need to Know about Your Network

Do you have a dedicated Ethernet port to the OCLC router? If not, how are you connected to the OCLC router?	Are there any protocol translations being done on your network?
Do you have direct Internet access?	Are there any bridges on your network?
Do you have your own Domain Name Server (DNS)?	Do remote users dial into your network to use the OCLC Dedicated TCP/IP Network?
Do you have in-house wiring from the telephone company's demarcation? Who is responsible for in-house wiring?	Do you have a firewall?
What is your LAN software and version?	Are your workstations connected by a serial cable or Ethernet wire?

### Things That *May* Be Pertinent to This Call

Consult " <a href="#">Troubleshooting Potential Telecommunications Problems</a> " before calling OCLC/UNS for communications problems.	What OCLC service/system are you using?  OCLC Cataloging, Interlibrary Loan, Union List, or Selection OCLC Reference Services (FirstSearch, EPIC, Electronic Collections Online)
Can you ping your router?	Your workstation's IP address:
Can you ping the OCLC router?	What is your OCLC workstation's serial number if applicable?
Can you ping the OCLC host router?	What OCLC software are you using?
Are all workstations having the same problem?	If applicable, can you access the Internet?
Any changes/problems since it last worked?	Describe the access problem  Cannot access  <ul style="list-style-type: none"> <li>• Slow response time</li> </ul> Error message(s)  <ul style="list-style-type: none"> <li>• Erroneous data</li> </ul>
What LED(s) are ON, on the back of the OCLC router?  <ul style="list-style-type: none"> <li>• Carrier Detect Alarm</li> <li>• Loopback</li> <li>• Receive (on model 2524 only)</li> <li>• Transmit (on model 2524 only)</li> </ul>	Name and version of Web browser if applicable