StorageTek™ Host Software Component (HSC)

MVS Software

SL8500 Multiple TCP/IP Connection Support

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StorageTek™
Host Software Component

SL8500 Multiple TCP/IP Connection Documentation Update

Release 6.1 and Later

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About This Document

For HSC 6.1 and later, the *SL8500 Multiple TCP/IP Connection Documentation Update* describes the functionality necessary to define multiple TCP/IP connections.

Contents of this Document

This document contains changes to the existing documentation, including:

- LMUPATH control statement
- TCP/IP connections - important considerations
- connecting to multiple SL8500s in an ACS.

Conventions for Reader Usability

Instructions explaining changes are shown in *italics*. Actual modifications are denoted by revision bars (|) displayed in the left margin. As needed, surrounding text from the existing documentation is included for clarity.

Multiple TCP/IP Connection Updates

For HSC 6.1 and later, the SL8500 Multiple TCP/IP Connection Support Update *provides modifications to the HSC documentation. These changes describe the functionality necessary to define multiple TCP/IP connections to the SL8500 library.*

The following topics have been updated:

- *LMUPATH control statement*
- *TCP/IP connections - important considerations*
- *connecting to multiple SL8500s in an ACS.*

Note: *A partitioned SL8500 cannot use the multiple TCP/IP connection feature since partitioning applies only to a single SL8500 box.*

LMUPATH Update

The LMUPATH control statement now allows you to define up to four IP addresses. This control statement is described in Chapter 3, HSC Control Statements and HSC Start Procedure, in the System Programmer's Guide.

LMUPATH Control Statement

The LMUPATH control statement allows users to define network LMU attachments. LMUPATH information is obtained from the definition data set specified by the LMUPDEF command. The LMUPATH statement must be placed in the definition data set; it cannot be issued as an operator command.

Note: If you are using the SL8500 partitioning feature, the PARTID parameter connects to a specific partition defined by the SL8500 library for the HSC host group.

Users can find additional important TCP/IP-related information by referring to "Dynamic LMU Connection. To display the LMUPDEF data set, refer to Display LMUPDEF in the *HSC Operator's Guide*.

LMUPATH Usage

LMUPATH statements define the TCP/IP addresses used to communicate between an HSC on a host and the LMU for a specific ACS. Up to four addresses can be specified for each ACS. The following are possible address combinations:

- For a 9310 library using up to two 9330 LMU units, you can specify up to two addresses, however, a second address indicates a dual LMU environment.
- For an SL8500 ACS with one library, you can specify up to two addresses, which also indicates a dual LMU environment.
- For an SL8500 ACS with four or more libraries, you can specify up to four IP addresses, one for each library of an ACS.

Notes:

- TCP/IP must be initialized prior to bringing the HSC to the full service level.
- The number of hosts that can be connected to a TCP/IP LMU at one time is hardware dependent. With the help of your Sun StorageTek SE, verify that the LMU is capable of connecting all the required hosts.
- For more information about connecting multiple libraries within an ACS using TCP/IP, refer to Appendix A, "HSC Support for the SL8500 Library".

Syntax

```
►►─LMUPATH──ACS(aa)──────LMUADDR(┌─────────────────────┐)──PARTID(00n)──────►◄
                                 ↓ ,                   │
                                 ├─lmu_hostname────────┤
                                 └─nnn.nnn.nnn.nnn─────┘
```

Control Statement Name

LMUPATH
initiates the LMUPATH control statement.

Parameters

ACS
specifies the ACS name.

aa
specifies the hexadecimal ACSid value (00 through FF) to identify the LMU(s) used to communicate with an HSC.

LMUADDR
identifies an LMU by IP address or host name for each ACS. To designate a single LMU environment, specify one IP address or host name. To specify a dual LMU environment, enter an additional IP address and/or host name.

Note: A maximum of four addresses can be specified.

Users can intermix host name and IP addresses in one LMUPATH control statement. Each parameter entered must represent a different IP address.

lmu_hostname
defines a host name for the TCP/IP connection. The host name can be up to 24 characters long. The first character must be alphabetic.

This option is not supported in VM.

nnn.nnn.nnn.nnn
defines an IP address for the LMU.

PARTID

defines a partition ID for each ACS.

Note: A partitioned SL8500 cannot use the multiple TCP/IP connection feature since partitioning applies only to a single SL8500 box.

00*n*

specifies a partition ID from 001 to 999.

Notes:

- All three characters must be entered for the partition ID.
- For this release, only IDs 001 through 004 are supported.

Examples

The following example shows multiple LMUADDR parameters consisting of an IP address and a hostname. In this case, the second parameter, LMU01, indicates a dual LMU environment.

```
LMUPATH ACS(ØØ) LMUADDR(123.456.789.Ø12,LMUØ1)
```

Note: The host name parameter shown in this example (LMU01) is not supported in VM.

The following example shows multiple LMUADDR parameters consisting of two IP addresses and a partition ID. For an SL8500 library, the second IP address indicates a dual TCP/IP connection to the SL8500. The partition ID, 001, indicates the SL8500 library has been configured with partitioning, and a partition ID of 1 has been assigned for the HSC as ACS 00.

```
LMUPATH ACS(ØØ) LMUADDR(123.456.789.Ø12,123.456.789.Ø13) PARTID(ØØ1)
```

The following example shows multiple LMUADDR parameters consisting of four IP addresses. For the SL8500 library only, the first, second, third, and fourth IP addresses indicate a TCP/IP connection to each of four separate SL8500 libraries connected in ACS 00.

```
LMUPATH ACS(ØØ)+
LMUADDR(123.456.789.Ø12,123.456.789.Ø13,123.456.789.Ø14,123.456.789.Ø15)
```

Library Connection Considerations

The following description has been modified to include an overview of multiple TCP/IPs. This is found in Appendix A, HSC Support for the SL8500 Library, in the System Programmer's Guide.

TCP/IP Communications - Important Considerations

Connections

For the complex, there are two types of TCP/IP connections for the SL8500 library:

- Dual TCP/IP — A redundancy feature that allows up to two connections to the first library in a complex.
- Multiple TCP/IP — Starting with the SL8500 3.9*x* firmware release, an SL8500 complex is capable of a network connecting up to four libraries to the HSC. This enhances redundancy in the complex compared to dual TCP/IP. Refer to "Multiple SL8500 Library Connections" on page 6.

Multiple SL8500 Library Connections

The following information details multiple library connection requirements. This is located in Appendix A, HSC Support for the SL8500 Library, in the System Programmer's Guide.

Connecting to Multiple SL8500 Libraries in an ACS

When SL8500 3.9*x* or higher firmware is installed, the HSC can connect to more than one SL8500 in an ACS (library complex).

The HSC supports up to four connections to an ACS. Some *possible* connections are:

- four connections to four SL8500s
- two connections to each of two SL8500s
- two connections to one SL8500 and two connections to two other SL8500s.

When the HSC establishes two connections to one SL8500, the HSC provides dual TCP/IP or multiple TCP/IP connectivity. Refer to the "Connections" description under "Library Connection Considerations" on page 5 for more information.

Notes:

- To optimize library performance and minimize inter-library communication among SL8500s, connect to the libraries with the most activity. The HSC distributes communications to the libraries evenly.
- LMUPATH control statements are used to define network LMU attachments.

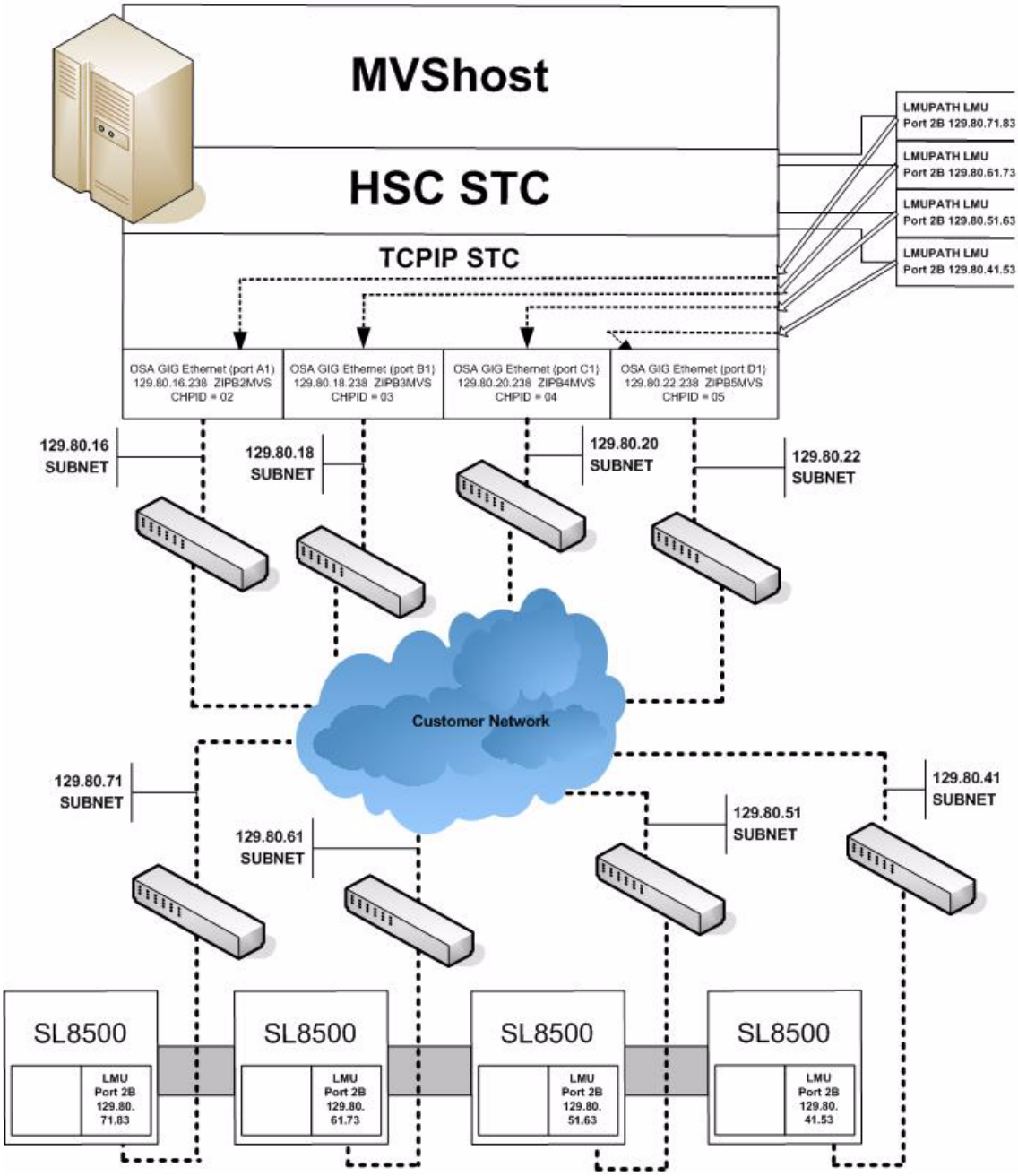
The following example shows multiple LMUADDR parameters consisting of four IP addresses. In this case, the first, second, third, and fourth IP addresses indicate a TCP/IP connection to each of four separate SL8500 libraries connected in ACS 00.

```
LMUPATH ACS(ØØ)+
LMUADDR(123.456.789.Ø12,123.456.789.Ø13,123.456.789.Ø14,123.456.789.Ø15)
```

Sample Configuration - Four SL8500 Network Connections, Four Mainframe IP Addresses

The figure on the next page shows a sample of a four IP (four host IPs) configuration with four SL8500 network connections. This configuration applies to SL8500 3.9*x* or higher firmware.

LMUPATH ACS(00)
LMUADDR(129.80.71.83,129.80.61.73,129.80.51.63,129.80.41.53)



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