

5760e Gateway Print Server®

User's Guide





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Contents of this box

- 5760e adaptio gateway box
- AC to 5vdc power adapter
- CD containing the Configuration Utility V4.73e



Note: The CD contains the Configuration Utility Program and supporting manuals which are used to configure the 5760e adaptio gateway box. If you have an earlier version or for some reason you did not receive or have misplaced the CD, you can download the IOCU_473e utility by going to I-O's ftp site:

FTP://FTP.IOCORP.COM/UTILITIES/CONFIGURATION%20UTILITY/

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Preface

I-O's **5760e adaptio/Gateway Print Server**® converts IBM's proprietary SCS data stream into data that can be sent to ASCII based printers. In essence, the adaptio/Gateway makes a standard printer look like an IBM host printer to an IBM iSeries midrange or zSeries mainframe host.

This document describes the installation, basic configuration and operation of the *adaptio/Gateway*. Companion documents describe in detail the configuration of the IBM host, the customization of the I-O SCS Printer Emulations and the Configuration Utility's various screens and configuration parameters. These are:

- The SCS Reference Manual
- The Configuration Utility Help manual

Each of these documents can be easily accessed on the installation CD or downloaded from tp://ftp.iocorp.com/Host_Print/adaptio/

This guide consists of the following chapters:

- Introduction: Provides an overview of I-O's 5760e adaptio/Gateway Print Server.
- Installation: Describes how to install adaptio/Gateway.
- Configuration: Describes how to setup adaptio/Gateway.
- **IBM Host Configuration**: Provides an overview of the setup process for both the iSeries midrange and zSeries mainframe hosts. The detail processes are fully described in a companion document, the SCS Reference Manual.
- Operation: Describes how to use adaptio/Gateway.
- Advanced Configuration: Provides an overview of the configuration customization capabilities of the product. Customization of I-O's SCS printer configuration is more fully described in the SCS Reference Manual.
- **Troubleshooting**: Provides solutions to operational problems that you may encounter while using the product.
- End User License: States the license and warranty conditions.

The following symbols are used in the guide:



Caution: This symbol highlights procedures that if not correctly performed or adhered to, could damage or corrupt the product or adversely affect the security and functionality of the product. Do not proceed beyond such points until the required conditions are fully understood and achieved.



Note: This symbol denotes useful additional information that is relevant to the procedure or feature being described.



Tip: This symbol denotes a hint, shortcut or alternate method to aid or supplement the procedure being described.

Consistent with our policy of continuous development, the product you received may have features different from those described in this guide. Please visit our web-site www.iocorp.com for current information.

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Introduction

This chapter provides a brief overview of I-O's 5760e adaptio/Gateway Print Server.

adaptio/Gateway is a hardware product that converts IBM's proprietary SCS data stream into standard printer languages used by products from companies such as HP, Canon, Kyocera, Xerox, Okidata, etc. Print jobs are sent from the IBM host to the adaptio/Gateway, converted and then redirected to the desired printer. adaptio/Gateway accomplishes this by converting IBM's EBCDIC character set to the ASCII character set. IBM's SCS command structure is converted to PCL 3, Epson or Proprinter command languages.

Connection of the I-O host printing product to the IBM host is accomplished over an Ethernet link between the *adaptio/Gateway* and the IBM host using TCP/IP. Destination printers are also connected on the Ethernet link.

For SCS data streams, TN5250e is used for iSeries connections while TN3270e is used for zSeries connections.

For 5250 hosts when using TN5250e, configuration is only required at the I-O product as the IBM host will automatically create a print device, writer and spooler. However, the IBM host must be configured to use TCP/IP and TN5250e, and setup for automatic device configuration.

For 3270 hosts when using TN3270e, configuration is required at both the I-O product and the IBM host.



CAUTION: BECAUSE OF THE COMPLEXITY ASSOCIATED WITH CONFIGURING MAINFRAME PRINTERS, A KNOWLEDGEABLE HOST SYSTEM ADMINISTRATOR OR IBM SPECIALIST MUST PERFORM THE PROCESS. THE INSTRUCTIONS CONTAINED IN THIS AND RELATED DOCUMENTS ARE INTENDED TO ONLY PROVIDE A BRIEF OVERVIEW OF THE PROCESS.

Once the *adaptio/Gateway* and IBM host are properly configured, print jobs sent from the IBM host are issued in IBM's proprietary EBCDIC character set and use the SNA Character String (SCS) command structure. The I-O Printer Emulation in *adaptio/Gateway* converts EBCDIC to ASCII and the SCS command structure to PCL 3, Epson or IBM Proprinter command structures. The I-O Printer Emulations can be customized to change the host print attributes if needed (CPI, page orientation, edge-to-edge, etc.). For 3270 hosts, the I-O SCS Printer Emulation will also handle the DSC (LU3) data stream as well as the SCS (LU1) data stream.

I-O has also included a number of advanced printing features in the I-O SCS Printer Emulation. These include the ability to send printer specific commands as part of the SCS data stream that the IBM host does not know the printer is capable of performing. Other features include I-O's bar code language, graphing language, and even color support.



Note: For Brevity, the terms "print server", "product" and "I-O product" will refer to the specific I-O Print Server, Print Box, Ethernet Display, Thin Client, Software Print Server, etc. host printing solution that you are using. System 15, iSeries and AS/400 hosts will be referred herein as 5250 hosts. zSeries and S/390 mainframe hosts will be referred herein as 3270 hosts. The term IBM host and host will also be used and refers to the appropriate 5250 or 3270 host within the context of the topic being discussed.

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Installation

This chapter covers the process to install I-O's 5760e adaptio/Gateway print server.

Requirements

The following are the requirements for installation of the adaptio/Gateway:

- Dhcp or Static IP Address assigned to the AGW box
- Qualified Windows and IBM host administrators
- Network or USB attached PCL laser, Epson or IBM Proprinter compatible dot-matrix printers

Installation Process

The following are the steps to install the *adaptio/Gateway*:

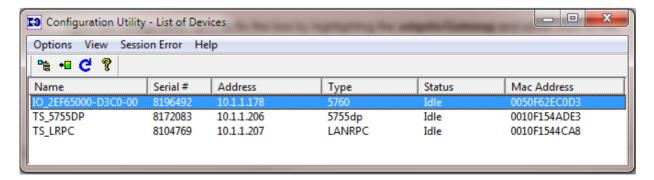
- 1. Insert the *Configuration Utility* CD in your computer's CD-ROM drive. The installation process will automatically begin. If not, click START | RUN, and browse to the CD drive, select the configuration utility "setup.exe" file, right click and Run as Administrator if given the option.
- 2. Follow the InstallShield wizard screens.
- 3. When the InstallShield wizard is complete, the configuration utility will be installed as a Program file.
- 4. Connect the adaptio/Gateway box to the network and connect power.
- 5. Start the Configuration Utility by clicking on START | All Programs | I-O Configuration Utility.
- 6. The Adaptio/Gateway should show on the list of devices with a device type of **5760** which indicates an SCS gateway box.



NOTE: CONFIGURATION UTILITY VERSION 4.73E IS REQUIRED FOR PROPER CONFIGURATION OF THE ADAPTIO GATEWAY. FROM THE UTILITY, CLICK ON HELP, ABOUT UTILITY TO CHECK THE VERSION. IF NOT AT VERSION 4.73E, DOWNLOAD FROM: FTP://FTP.IOCORP.COM/UTILITIES/CONFIGURATION UTILITY/

Configuration Utility

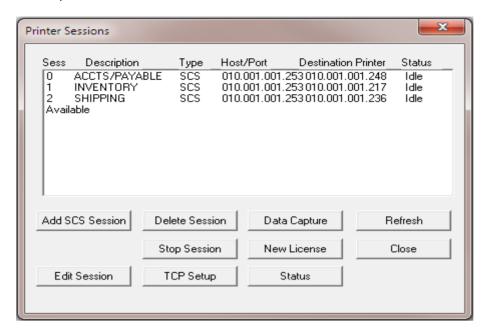
The I-O Configuration Utility displays the various I-O products which gives you access to configure the devices. Highlight the *adaptio/Gateway* and either click on the button or double click on the device to access the configuration of the box.





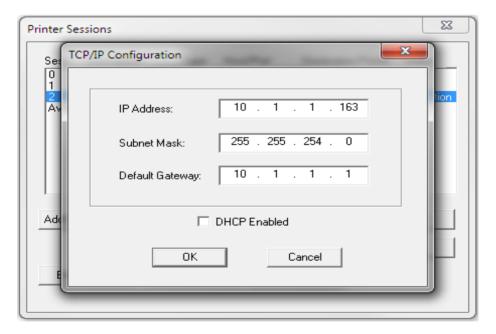
NOTE: THE PRODUCT TYPE WILL BE DISPLAYED AS A 5760 FOR AN SCS GATEWAY OR AS A 5765 FOR AN IPDS/SCS GATEWAY.

Opening the configuration of the gateway box will show the number of printer sessions you purchased. This example shows a 4 session license.



Assigning an IP Address

The 5760 comes with Dhcp set by default, so the unit should pick up an IP address if you have a Dhcp server. You can change the IP address by clicking on the TCP Setup button, uncheck the Dhcp box and enter a static IP, Subnet Mask, and Default Gateway.





NOTE: IF THE BOX DOESN'T SHOW ON THE CONFIGURATION UTILITY, DHCP FAILED TO ASSIGN AN IP ADDRESS OR A STATIC ADDRESS WAS ASSIGNED PREVIOUSLY THAT IS NOT SUPPORTED BY YOUR NETWORK.

Accessing the 5760 to reset the IP address

If the 5760 fails to show on the Configuration Utility you will need to attach a monitor, keyboard and mouse to the box to be able to access the Windows Control Panel.

If you do not have a mult-port USB Hub, a second USB port for the mouse can be accessed by taking a sharp object such as an Xacto knife and carefully lift the front label up from the left side.

Powering on the unit will show a Windows screen, click on Start, Settings, Network and Dial-up Connections.

Click on the network connection and either assign a new static IP or select the Radio Button for Obtain an IP address via DHCP.

After clicking OK, you should be able to rescan from the Configuration Utility and see the box with the static or Dhcp assigned address. You can then go through the configuration and make any other changes.

Changing the Device Name

The device name that shows on the Configuration Utility is Windows generated, but can be changed to make identification easier when multiple devices are listed.

With the monitor, keyboard, and mouse attached, click on Start, Settings, Control Panel, System, Device Name and enter the desired Device Name.

Restoring Factory Defaults

Defaults can be restored using the Configuration Utility and selecting Options, Restore Factory Defaults. However, if the unit doesn't show on the Configuration Utility, you can go through the Control Panel, System, and in the General tab, check the box for Reset the terminal to factory-default property settings.

This will enable Dhcp and clear out any previously configured sessions. If you want a specific device name, you will need to go back into System, Device Name and re-enter the desired name before removing the monitor, keyboard and mouse.



NOTE: AN EARLY VERSION OF THE FIRMWARE DID NOT ALLOW ACCESS TO THE CONTROL PANEL FOR NETWORK AND SYSTEM CHANGES. SEE TROUBLESHOOTING FOR INSTRUCTIONS TO UPDATE FIRMWARE.

Obtaining a License for additional sessions

When you first install the adaptio/Gateway it comes with the printer sessions you ordered pre-installed.

To acquire a license for additional sessions (up to 10 sessions) for the *adaptio/Gateway*, follow these steps:

- 1. Provide your dealer with a purchase order for the desired number of additional sessions.
- 2. Provide your dealer with the following information:
 - Serial number of the adaptio/Gateway box.
 - First and Last Name
 - Company Name and Address
 - Phone Number
 - E-mail Address
- 3. Your dealer will submit his purchase order to I-O's order department.
- 4. A license file will be sent by e-mail to the person listed in the contact information.
- 5. Once the license file is received, follow the instructions in this section for applying a license file.

Applying a New License File

After applying the license file, additional print sessions will be activated.

To apply a license file, follow these simple steps.

- 1. Copy the attached license file into a temporary directory.
- 2. Start the Configuration Utility and open the configuration of the gateway box.
- 3. Ensure all sessions are not actively printing jobs before continuing.



CAUTION: PRINT DATA COULD BE LOST IF THE SESSIONS ARE NOT IDLE. AS AN ALTERNATE, STOPPING ALL SESSIONS WILL ENSURE THAT NO DATA WILL BE LOST.

- 4. From the Printer Sessions window, click New License.
- 5. Navigate to the license file in its temporary directory.
- 6. Click Open. The license will be copied into the gateway box.
- 7. Click Close and you will be prompted to Reset the box.
- 8. After the Reset, open the configuration and the available sessions will be shown on the list.

If you encounter problems, or have questions, please refer to the following resources:

- I-O's Knowledge Base at http://www.iocorp.com/help
- The User's Guides and Reference Manuals found at ftp://ftp.iocorp.com/Host_Print/adaptio/ or Manuals on the I-O Configuration Utility CD.



NOTE: THESE MANUALS ARE FOR THE ADAPTIO SOFTWARE SERVER AND SOME REFERENCES MAY NOT PERTAIN TO THE **ADAPTIO/GATEWAY**.

- E-mail I-O's Technical Support Group at support@iocorp.com
- Contact I-O's Technical Support Group by voice at 801-973-6767.

Operation

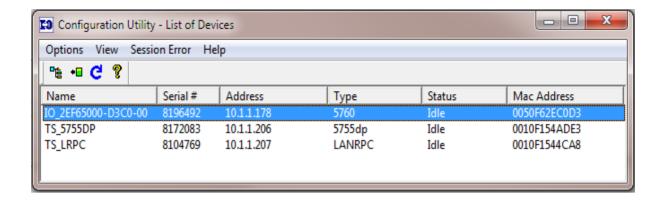
This chapter covers the process of adding, editing and deleting sessions, diagnostic processes, etc.



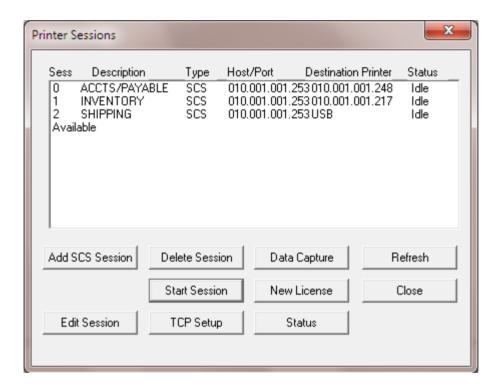
NOTE: THE INSTRUCTIONS PRESENTED HEREIN ARE FOR WINDOWS XP PRO. SLIGHT VARIATIONS OCCUR DUE TO THE DIFFERENCES BETWEEN THE VARIOUS WINDOWS OPERATING SYSTEM VERSIONS.



TIP: DETAILED INSTRUCTIONS FOR SOME OF THE PROCESSES DESCRIBED HERE MAY BE FOUND IN TWO COMPANION DOCUMENTS, THE **SCS Reference Manual** OR THE **Configuration Utility Help**. They can be viewed from the **I-O Configuration Utility CD** OR from I-O's ftp site: ttp://ftp.iocorp.com/Host_Print/adaptio



Open the configuration options for the box by highlighting the *adaptio/Gateway* and either click on the button or double click on the device to access the configuration menus.



Adding an SCS Session

To add a new session:

- 1. Start the IO Configuration Utility.
- 2. Highlight the adaptio/Gateway and click on or double click to open the Device Configuration window.
- 3. Click Add SCS Session.
- 4. Fill in the data required on the SCS Configuration screen.
- 5. If additional customization of the session is required, click on either of the two tabs (AS/400 SCS Printing or Mainframe SCS/DSC Printing tabs) and/or Telnet Restart buttons. Refer to the adaptio/Gateway Help document and SCS Reference Manual for a description of the information required in each field.

- 6. Click the OK button the SCS session description screen to save the configuration.
- 7. On the List of Sessions screen, highlight the newly added session. Then start the session by simply clicking the Start button.
- 8. After a few seconds the Status column will show that the session has started.
- 9. If the IBM host is a System i5, iSeries, or AS/400, the host will automatically create a printer device and start the writer. If the IBM host is a zSeries mainframe, the system administrator must create the printer device, writer, etc. Refer to the **SCS Reference Manual.**



NOTE: THE 5760E HAS A USB PORT WHICH CAN BE CONFIGURED FOR A PRINTER WHICH DOES NOT SUPPORT A NETWORK CONNECTION. IT IS RECOMMENDED THAT YOU USE A PRINTER WITH A USB PORT, BUT SOME NEWER PRINTERS WITH A PARALLEL PORT CAN BE USED WITH A USB TO PARALLEL CABLE. I-O HAS FOUND THAT A CABLESTOGO USB/PARALLEL CABLE SEEMS TO WORK THE BEST WHERE APPLICABLE, HOWEVER NOT ALL PARALLEL PRINTERS ARE COMPATIBLE.

Edit a Session

To edit a session:

- 1. Start the IO Configuration Utility.
- 2. Highlight the *adaptio/Gateway* and click on or double click to open the Device Configuration window.
- 3. Highlight the session and click on the Edit Session button. You may also double click on the session in the List of Sessions.
- 4. The same screens that are used in adding a session are presented. Make the appropriate changes.
- 5. Click the OK button to save the configuration.
- 6. Restart the session.



NOTE: SESSIONS MUST BE STOPPED TO BE EDITED. IF THE SESSION IS NOT STOPPED, YOU WILL BE GIVEN THE OPTION TO STOP THE SESSION OR SIMPLY VIEW THE CONFIGURATION OF THE SESSION.

Delete a Session

To delete a session:

- 1. Start the IO Configuration Utility.
- 2. Highlight the adaptio/Gateway and open the device.
- 3. Highlight the session you want to delete and Stop the session.
- 4. Then click the Delete Session button on the tool bar.



NOTE: SESSIONS MUST BE STOPPED TO BE DELETED. IF THE SESSION IS NOT STOPPED, YOU WILL BE GIVEN THE OPTION TO STOP THE SESSION.

Refresh the List of Sessions Screen

The List of Sessions screen in the **IO Configuration Utility** will automatically be updated every few seconds or you can refresh the list at any time by clicking on the Scan Network button on the tool bar.

IBM Host Configuration

This chapter provides a brief description of the process to configure the IBM host for use with I-O's 5760e adaptio/Gateway Print Server. For the complete process, please refer to the **SCS Reference Manual**.

For each IBM host printer device, a separate session is setup on the *adaptio/Gateway*. Generally each session on the *adaptio/Gateway* is sent to a different printer. However, one printer may be setup as the destination printer for more than one session.

Configuration of a session involves the following steps:

- Setup the IBM host
- Setup a session on the adaptio/Gateway.
- Customization, if needed, of the session's configuration in *adaptio/Gateway* to adjust the final printing output.

5250 SCS Setup

This user's guide contains specific instructions on the setup and use of **adaptio/Gateway**. Companion manuals contain more detailed instructions on setting up the IBM host and customizing the SCS printer session.

Please refer to the following manuals and guides to setup SCS sessions:

- Setting up the IBM System i5, iSeries or AS/400 midrange host is found in the SCS Reference Manual.
- Setting up adaptio/Gateway sessions is found in the Operation chapter in this guide.
- Customizing the adaptio/Gateway session is found in the SCS Reference Manual.
- The Configuration Utility Help manual also provides instructions on the use of the adaptio/Gateway and describes the various configuration screens.



NOTE: THESE MANUALS AND GUIDES MAY BE VIEWED ON EITHER THE *IO CONFIGURATION UTILITY* CD UNDER MANUALS OR IO'S FTP SITE: FTP://FTP.IOCORP.COM/HOST_PRINT/ADAPTIO/

3270 SCS Setup

This user's guide contains specific instructions on the setup and use of **adaptio/Gateway**. Companion manuals contain more detailed instructions on setting up the IBM host and customizing the SCS printer session.

Use the following manuals and guides to setup SCS sessions:

- Setting up the IBM zSeries mainframe and its associated Telnet 3270e server are found in the SCS Reference Manual.
- Setting up *adaptio/Gateway* sessions is found in the *Operation* chapter in this guide.
- Customizing the adaptio/Gateway session is found in the SCS Reference Manual.
- The **Configuration Utility** Help manual also provides instructions on the use of the **adaptio/Gateway** and describes the various configuration screens.



NOTE: THESE MANUALS AND GUIDES MAY BE VIEWED ON EITHER THE *IO CONFIGURATION UTILITY* CD UNDER MANUALS OR IO'S FTP SITE: FTP://FTP.IOCORP.COM/HOST_PRINT/ADAPTIO/

Advanced Configuration

I-O's 5760e adaptio/Gateway can be configured to change the way IBM host print jobs are actually printed. Options include the ability to set the final print quality (draft or near-letter quality), the characters per inch used, input tray mapping, edge-to-edge printing, font substitutions, etc.

Advanced configuration can be accomplished through two different methods:

- The IO Configuration Utility.
- I-O's Host Download commands which embeds customization commands within the data stream coming from the IBM host.



TIP: THE **IO CONFIGURATION UTILITY** IS THE PRIMARY METHOD OF CUSTOMIZING THE SCS CONFIGURATION.

The **IO Configuration Utility Help** document describes each configuration screen and the values entered there. A detailed description of each customization option is found in the SCS Reference Manual.

The various Host Download options and their specific use are defined in the SCS Reference Manual.

Supported SCS Customization Options

I-O's 5760e adaptio/Gateway supports all SCS customization functions outlined in the **SCS Reference Manual** with the exception of the following:

- Host Download Command 98 Restore Defaults is not supported.
- Host Download Command 99 Save Current Settings is not supported.



NOTE: ANY DOWNLOADED COMMANDS ARE NOT SAVED AND ARE NOT REFLECTED IN THE ADVANCED SETUP OPTIONS. STOPPING AND RESTARTING THE SESSION WILL CLEAR ANY DOWNLOADED COMMANDS.

Troubleshooting

This chapter contains solutions for problems you may encounter while using the I-O 5760e adaptio/Gateway Print Server. If a problem persists even after you implement the solutions provided here, or if you encounter a problem not listed here, please refer to the following resources:

- The I-O Knowledge Base at www.iocorp.com/help
- The Configuration Utility Help document
- The SCS Reference Manual
- The IPDS Reference Manual
- Your I-O Dealer
- I-O's Technical Support Group at 801-973-6767 or by email at support@iocorp.com.



Note: The manuals and guides may be viewed on either the *IO Configuration Utility* CD under Manuals or IO's ftp site: ftp://ftp.iocorp.com/host Print/adaptio/

Updating Firmware

Updating firmware can be done through the Configuration Utility if the unit can be seen on the Utility. Refer to the following link to download the firmware file, Firmware 5765 V473.zip

ftp://ftp.iocorp.com/Host Print/LAN Print Servers/5765%20Adaptio%20Gateway/

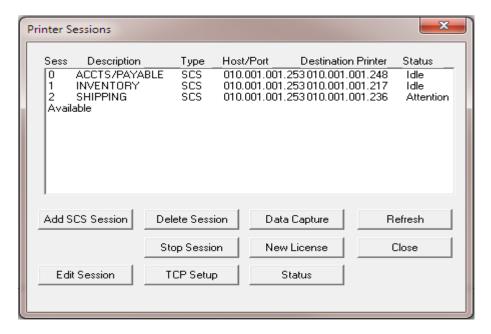
If you are unable to access the 5760 from the Configuration Utility and the Control Panel doesn't give you access to the Network Connections to reset the IP address, refer to the instructions found in the above link. Firmware_update_instructions_5765.pdf



NOTE: THE INSTRUCTIONS, FIRMWARE FILE AND IMAGE FOR THE 5765 IS ALSO USED FOR THE 5760. THE LICENSE APPLIED TO THE UNIT DETERMINES WHICH MODEL YOU WILL HAVE.

Session Status Indicators

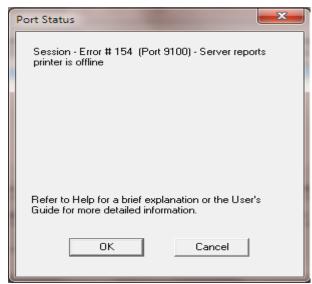
The *IO Configuration Utility* displays several items of information about each printer session. The column entitled "Status" shows the current status of each session.



The Status column will report the following:

- Attention There is a condition that requires attention.
- Busy The session is currently printing a job.
- Idle There is no printing activity.
- Stopped The session is stopped. No printing can occur.

When an Attention indicator is shown in the Status column, select the session and click on the Status bar to display the error condition.



The Session Error Message box will display information about the error condition. Refer to the **Configuration Utility Help document** for detailed information about the error. Click on Help and select Utility Help. Expand the List of Devices and select Session Errors.

Capturing a Data File

I-O's 5760e adaptio/Gateway Print Server includes a very useful tool that will capture the actual IBM SCS data stream being received by the *adaptio/Gateway*. This captured data stream is saved in a file on the PC and then sent to I-O's Technical Support Group where it will be used to recreate the printing problem.

To run the Data Capture utility:

- 1. Start the IO Configuration Utility.
- Open the configuration of the device and highlight the session you want to capture the data stream.
- 3. Click on Data Capture.
- 4. Leave the data type as "Default unless instructed otherwise by Tech Support.
- 5. Click on Browse and select a folder, enter a file name for the captured data.
- 6. Click Open then Start.
- 7. At the IBM host, stop and restart the printer writer.
- 8. Send the print job from the IBM host.
- 9. When the job is complete, stop the Data Capture process.
- 10. Send the file along with very detailed description of the printing problem to I-O's Technical Support Group. support@iocorp.com

Errors

The following is a brief list of problems that may occur. Please refer to I-O's Knowledge Base, the **SCS Reference Manual** and the *Utility* **Help** document for a more complete listing of errors, troubleshooting hints and FAQ's.

Problem	Solution
The installation process of the Configuration Utility results in an error.	✓ Windows 7 and newer OS versions requires Administrator privileges to install the Utility. Right click on the program and Run as Administrator if given the option. If the option is not present, access IO's knowledgebase article 512 from the following URL to enable the hidden administrator account: http://www.iocorp.com/help?p_filters_search=windows%207
 What firewall settings are required? 	✓ Ping should be open.✓ Port 9100 may also need to be opened.
Invalid file screen appears	✓ If an Invalid File screen is displayed, it indicates that the license file contains information that does not match the Adaptio/Gateway Print Server. A new license file will be required. Please contact technical support. Configuration This file is not a valid file OK

End User License

SOFTWARE LICENSE AGREEMENT

IMPORTANT -- READ THIS AGREEMENT CAREFULLY BEFORE INSTALLING THIS SOFTWARE. By installing this software on your computer system, you indicate your acceptance of the following terms and conditions. If you do not agree with these terms and conditions, do not proceed further and delete any information obtained from this software and return the software to I-O Corporation.

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This Agreement is governed by the laws of the State of Utah, USA. The provisions of the Uniform Commercial Code as therein adopted shall apply to this transaction.

Should you have any questions regarding this agreement, or if you wish to contact I-O Corporation, please write I-O Corporation, 14852 South Heritage Crest Way, Unit 1-A, Bluffdale, Utah 84065 or call (801) 973-6767.

Software License 18