Customer Troubleshooting Guidelines

Overview

Engaging customer's assistance in troubleshooting a technical issue is a key component to quickly and accurately diagnosing an issue and therefore expediting resolution.

Spectra requires customers assist with basic on-site troubleshooting to identify if the issue is caused by a hardware or software fault within the Spectra product. Customer assistance enables Spectra Support to make a reasonable diagnosis prior to an on-site engineer or parts dispatch. This is imperative as downtime is reduced as our support team can often determine the problem quicker remotely than the time it would take for a field engineer to arrive onsite to troubleshoot and then possibly returning to the local depot for parts. Remote troubleshooting is an easy and efficient step in the process as Spectra Logic has continued to invest in our BlueScale user interface to include many advancements in diagnostic, reporting, troubleshooting and testing capabilities.

Customer assistance includes the collection of log files and error data off the Spectra product. As Spectra Logic products are often part of larger data storage and management solution in a customer's environment, requests of third-party logs and driver versions will help eliminate any factors outside the Spectra product that might be contributing to the problem. Any troubleshooting or data collection requested will be accompanied by clear and detailed written instructions, will be well within the capabilities of any data administrator, and many of the requests can be performed remotely. Diagnostics are limited to safe operating and reset of CRUs (Customer Replaceable Units) using minimal tools provided and kept with the Spectra product.

As customer assistance is integral in troubleshooting and resolution, the standard Spectra support contract plans are not suitable for un-manned sites. If this type of specialized support contract is required, contact Spectra Logic Sales to determine if this service type can be provided in your area.

It is important for customers to be aware that the on-site response times for Spectra Logic support contracts follow the industry standard practice of beginning at the time an issue is diagnosed as opposed to the time an issue is reported.

Customer Troubleshooting Summary

The following is a high-level review of the actions customers will be required to assist with in the troubleshooting process. As stated earlier, all requests will be accompanied by detailed instructions and remote assistance.

AutoSupport Log (ASL) and Log Set

The most comprehensive and requested set of logs are the AutoSupport Logs (ASL), if you have a tape library, or a log set, if you have a BlackPearl® product. They contain a variety of diagnostic logs and a recent history of your product's activity providing a broad overview of your unit and insight as to what the issue is. It gives quick access to data such as any system messages that have been generated. It supplies a b road overview of your library and allows us to quickly determine if other, more specific, logs are necessary to help diagnose the problem.

Drive read/write errors

For drive read or write related errors, Spectra support will likely require detailed drive logs. Drive logs help determine if a reported problem is a media, environmental, or robotics issue. The drive log contains recorded error messages along with SCSI information, a history of cleanings, previously loaded tapes, environmental and current drive status. This information is collected by downloading ITDT (IBM® Tape Diagnostic Tool) to run a drive dump, or when that cannot be installed, a less detailed report can be generated from the unit's built-in diagnostic tool DLM (Drive Lifecycle Management). For Spectra Stack units the drive logs will be collected via the unit interface.

Media related errors

For media related errors it may be necessary to collect detailed media usage and health status logs to help us quickly identify media which should be replaced or monitored for possible future replacement. For customers using Spectra Logic Certified media, our MLM (Media Lifecycle Management) feature records several different pieces of information to help us assess the health of the media, such as load counts, remaining capacity, and whether the media is in poor, average or good condition.

Robotic or Motion related errors

For situations where robotics will not initialize and gathering an ASL is not possible, Historical Motion Trace logs may be requested. This must be done from the front panel of the library and a keyboard attached to the LCM. The logs are collected onto a USB key inserted into the LCM of the library.

Intermittent LCM, RCM, QIP or drive issues

For intermittent issues or where drives or robotics freeze or are unavailable to the software or operating system, customers will be asked to perform basic resets and re-seating of CRUs (Customer Replaceable Units) which may include drives, PSUs, LCM (Library Control Module) or RCM (Robotics Control Module). All of these operations are hot pluggable and should not require a library power cycle or special tools. Spectra support may request that additional CAN trace logging is enabled on the system for further long term data collection. As this would involve connection to a local PC with a Spectra provided cable we would assist customers in facilitating this.

SCSI / Fibre level issues

For network connectivity or complex issues we may ask the customer to assist in collecting SCSI traces by providing either hardware or software Fibre or SCSI tracing tools. This may require that the customer load software tools on a direct-attached server for a period of time while the incident is being worked by Spectra Support. We currently provide a copy of Bushound software and the necessary licensing.

Use of *GoToAssist* sessions for remote support

With customer's permission, Spectra support can assist administrators through the use of a remote desktop web-based session using *GoToAssist* onto an attached server. This is used as a tool to decrease time to resolution for support incidents. With a *GoToAssist* connection, Spectra support can view what the customer is seeing, collect logs from the library, or walk customers through specific procedures. Customers are able to grant control to only specific applications to limit viewing and access, and control can be taken from Spectra support at any time.

The only requirement for a *GoToAssist* session is a system that has internet connectivity; no special firewall exceptions are needed. It is a secure connection via SSL (Secure Sockets Layer) using 128bit encryption.

Opening a new incident – information requirements

All new incidents opened with Spectra support should be done via the support portal at support.spectralogic.com. The serial number of the unit, severity of the issue, as well as a detailed problem description will be required. This includes information on the type of failure and when the problem started. It is helpful to attach an AutoSupport Log (ASL) or Log Set, as this is almost always required. Also, any additional logs mentioned above or software and event logs from the application server may be uploaded.

To help further troubleshoot the problem, include answers to the following questions:
- What was the product supposed to be doing when this problem occurred?
- What error messages are you getting and from where are the errors coming, such as from the operating system or the backup software?
- Is this the first time you've seen these errors?
- Has any firmware in the chain from the host to the product been upgraded recently? If so, who performed the upgrade?
- Have any system configurations been changed recently?
- Can your system communicate directly with the product?