



HBA Diagnostics

HBA Health & Connectivity Diagnostics

Industry Challenges

The need for enhanced diagnostics software in enterprise class SANs has become crucial with the increasing emphasis on business continuity and data availability. Data unavailability and data loss (DU/DL) situations often result in disruption of IT services or in a cascade of failures leading to the loss of business, loss of data and even enterprises going out of business.

IT Administrators require comprehensive and robust HBA health and connectivity diagnostics tools to deliver on service level agreements (SLA) and quality of service (QoS) requirements in a SAN environment.

QLogic Advantage

QLogic offers groundbreaking diagnostic tools for troubleshooting enterprise class HBAs health and connectivity issues.

- **Connectivity Diagnostics**
 - Transceiver diagnostics
 - Link Status - End-to-end link diagnosis
 - Multiple Data Patterns for
 - Echo test
 - Loopback test
 - Read write test
- **HBA Diagnostics**
 - Tree view HBA & port status icons
 - Events & alarm logs
 - Email alarm feature
 - HBA beaconing

Transceiver - HBA Diagnostics

Diagnostic Data					
	Temperature (C)	Voltage (V)	Tx Bias (mA)	Tx Power (mW)	Rx Power (mW)
Value	44.75	3.34	8.96	0.373	0.000
Status	Normal	Normal	Normal	Normal	Fault
High Alarm	100.00	4.50	15.00	0.794	0.328
High Warning	70.00	4.00	14.00	0.398	0.165
Low Warning	0.00	2.50	2.50	0.112	0.003
Low Alarm	-50.00	2.00	2.00	0.079	0.002

Link Status - Connectivity Diagnostics

PortName	Link Failure	Sync Loss	Signal Loss	Invalid CRC
Port (08-06-08-C1-88-06-06-06)	8	10	9	7
Disk (31-30-31-30-31-30-31-30)	46	48	47	45
Tape (31-37-31-37-31-37-31-37)	47	49	48	46
Disk (32-32-32-32-32-32-32-32)	48	50	49	47
Disk (33-33-33-33-33-33-33-33)	49	51	50	48
Disk (35-35-35-35-35-35-35-35)	50	52	51	49
Disk (36-36-36-36-36-36-36-36)	51	53	52	50
Disk (38-38-38-38-38-38-38-38)	52	54	53	51



Competitive Shortfalls

Other FC HBA providers fall short by offering a non-intuitive and an incomplete set of diagnostics features. The following features are offered by QLogic but **not** from other FC HBA vendors:

Transceiver diagnostics feature helps users to predict transceiver life time, isolate system failures, and provide link management and monitoring assistance to SAN administrators.

Link diagnostics feature help users in end-to-end link diagnosis and in reducing SAN connectivity down times.

Event and alarm logs with Email alarm feature help users reduce DU/DL times by automatically recording and raising alarms in real time.

HBA status and port status icons help users in isolating faults across the SAN.