Optimizing server performance resiliency and availability for Fast Ethernet environments

Overview
Historically, single-attached Ethernet servers have provided very little network redundancy. As PC servers move to supporting mission-critical applications—which was once the domain of mini and mainframe computer systems—the requirement for management and resiliency increases. Adaptec has created Duralink Failover software to provide link mirroring for Fast Ethernet.

With the introduction of the Duralink suite of software, Adaptec has demonstrated its commitment to providing server-focused features to support mission-critical applications. Duralink Failover software is one of several innovative utilities that make up this powerful suite.

Duralink Utilities
The Failover utility delivers FDDI-like “dual-homing” features to Adaptec's line of Fast Ethernet adapters.

Duralink Failover software is a network device driver designed to allow a server to maintain its network connection when an Ethernet link fails. Duralink Failover software establishes a network capability with an active link and a hot-standby link. In the event the active link fails, the standby link is automatically activated to preserve the server-user's network link and maintain the server's availability. Duralink Failover will come online when any of the following events occur:

- Link loss
- The drivers lose contact within the adapter’s “keep alive” mechanism
- Abnormal hardware condition interrupt
- The port is unable to transmit for a specified duration
- Abnormal send/receive counters, such as too many collisions or errors on the network segment

Duralink Manager software is a data compilation tool to simplify server optimization. The software captures server statistics on performance, uptime, error messages, and other performance-related variables by responding to SNMP “get” responses. The next release of Duralink Manager software will be enhanced to enable the collected data to automate management by sending “set” requests to the server. Duralink Manager software ships at no additional charge with Adaptec Fast Ethernet adapters. These utilities enable higher server availability and make server management even easier.

Key Features & Benefits
Increased uptime, availability, and performance
Duralink provides high availability network connections for servers running mission-critical applications. Duralink's ability to activate a working link in the event of a failure will keep the server up and running 24 hours a day.

System compatibility
Duralink software runs on all of Adaptec's PCI adapters for Fast Ethernet network servers including the single-port ANA-6911A, the two-port Adaptec Duo (ANA-6922A), and the four-port Quartet (ANA-6944A) adapters. Servers must run NetWare or Windows NT® and have Duralink drivers installed. The adapters and Duralink software suite have been extensively tested with proven reliability in routed, switched, and shared network environments. Adaptec goes to great lengths to guarantee the highest level of interoperability and compatibility in the industry.
**Cost-efficiency**

Thanks to the capabilities of Adaptec’s Fast Ethernet adapters, IS organizations won’t need to deploy more expensive FDDI solutions. Duralink Failover builds on the server-specific failover capabilities inherent in FDDI, yet provides this advanced functionality at Ethernet prices. The software is provided on disk and shipped with the server adapters.

**Simplified configuration**

Duralink captures server statistics on performance to assist network managers in server configuration and optimization. Future enhancements will help simplify management further by automatically sending configuration requests to the server.

**Technical Specifications**

- Available for Windows NT Server and Novell Netware Server operating systems
- Available for ANA-6911A, ANA-6922A, ANA-6944A, and network adapter cards
- Standard OS error logging facilities are used (e.g. NT Error Log)
- DMI-MIF-to-MIB management
- SNMP private enterprise MIB and traps are provided for failure notification to management stations
- User tunable failover time-out parameters

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**DURALINK FAILOVER SOFTWARE**

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The top I/O pipeline, or link, supports a mission-critical application and is therefore protected with a redundant data port. The two ports form one durable link to protect against common infrastructure failures. If a cable is broken or if Switch A should fail, Duralink Failover activates the standby port and begins sending the mission-critical data streams through Switch B to eliminate downtime. The standard applications run on the two lower links. These are unprotected from system failure because they have no redundant server ports. This scenario can be achieved with one Adaptec Duo adapter (ANA®-6922A/TX), Quartet adapter (ANA-6944A/TX), or multiple single-port adapters (ANA-6911A/TX).