areca® At the Heart of Storage

ARC-5066 RAID Controller

iSCSI/Hi-Speed eSATA/USB 3.0

Cost-Effective RAID Controller

- RAID 6 Support
- Multiple Host: GbE(x4)/6Gbps eSATA/USB 3.0
- 24 x 6.0Gbps SATA Disk Channels

Overviews

The ARC-5066 RAID controller is a family of 12/16/24 6.0Gbps SATA hard drive ports depending upon the amount of storage required. The ARC-5066 storage controller is designed to provide a truly innovative multiple host interfaces to address the needs of different cost-effective RAID storage requirements. When properly configured, the RAID controller can provide non-stop service with a high degree of fault tolerance through the use of RAID technology and advanced array management features. The 4 port iSCSI connections deliver high performance, advanced function, high availability, and scalable storage capacity with both direct iSCSI host and IP network connectivity. High transfer rates and more SATA disk channels provide a major benefit for those applications requiring cost-effective RAID solutions that take advantage of low cost, high capacity SATA disk drives, especially the rapidly growing demand from the Vmware ESX server external storage, DVR markets and cold storage.

Maximum Host Interoperability

The ARC-5066 supports multiple host interfaces; eSATA III, iSCSI or USB 3.0 that can work with different application requirement. The 6.0Gbps eSATA host interface can be directly attached to host computers by widely-adopted and low-cost eSATA interface without add-on cards and device drivers, or being included inside a host system, such as digital video recorder. As video management systems continue to trend toward IP, iSCSI RAID controller has become increasingly popular to provide massive quantities of storage in a highly secure manner. The ARC-5066 is designed with 4 1Gbps host ports for a cost-effective and shared storage solution with Link Aggregation (LACP, Trunking), Multi-Path IO (MPIO), and iSCSI Multiple Connection per Session (MC/S) support. The ARC-5066 uses iSCSI protocol, which allows system designers significant flexibility in determining placement of storage within a network as well as how the storage is allocated across multiple NVRs.

Unsurpassed Data Availability

The ARC-5066 incorporates onboard 1.2GHz storage processors and 2GB on-board DDR3-1200 SDRAM memory to offer high-performance with the added advantage of central management and RAID protection. Designed and leveraged with Areca's existing high performance solution, this controller delivers high-capacity at the best of cost/ performance value. It supports the hardware RAID 6 engine to allow two HDDs failures without impact the existing data and performance. Its high data availability and protection derives from the many advanced RAID features. The ARC-5066 allows easy scalability from JBOD to RAID. It can be configured to RAID levels 0, 1, 10, 1E, 3, 5, 6, 00, 100, 30, 50, 60, Single Disk or JBOD function selection for data protection. Link aggregation combines Quad Gigabit Ethernet connections to increase data transfer past a single connection and provides redundancy in the event of a failed connection.

Easy RAID Management

Configuration and monitoring can be managed either through the LCD control panel, RS232 port or Ethernet port. The firmware-embedded several available RAID managers include internet browser, CLI, Telnet, API, SMTP and SNMP via a LAN port. The ArcSAP Quick Manager is a remote management interface for configuration, monitoring and management of Areca RAID controllers. The ARC-5066 firmware and EPLD has implemented the disk fault/activity map to SGPIO based indicator LEDs and individual fault/activity status header. In addition to meet different enclosure, ARC-5066 has implemented autonomous chassis management of two power supplies status connectors, four fan monitor/speed control connectors. The Intelligent cooling continuously adapts to environmental conditions by automatically controlling the speed of the cooling fans.

Adapter Architecture

- 1.2GHz storage I/O processor
- 2GB on-board DDR3-1200 SDRAM with ECC protection
- Support up to 24 internal 6.0Gbps SATA ports
- NVRAM for event logs & transaction log
- Write-through or write-back cache support
- Redundant flash image for controller availability
- Battery backup module ready (optional)

Features

- RAID level 0, 1, 10(1E), 3, 5, 6, 30, 50, 60, Single Disk or JBOD
- Multiple RAID 0 and RAID 10(1E) support (RAID 00 and RAID100)
- Multiple RAID selection
- Configurable stripe size up to 1024KB
- eSATA host: 8 volumes(with port multiplier), iSCSI host:128 volumes and USB 3.0 host: 8 volumes
- Online array roaming
- Online RAID level/stripe size migration
- Online capacity expansion and RAID level migration simultaneously
- Online volume set growth
- Instant availability and background initialization
- Support global and dedicated hot spare
- Automatic drive insertion/removal detection and rebuilding
- Support for native 4K and 512 byte sector SATA devices
- Multiple pairs SSD/HDD disk clone function
- SSD automatic monitor clone (AMC) support
- Support HDD firmware update
- Support intelligent power management to save energy and extend service life

Environmental

- Temperature
  Operating 0° to 40°C ; Storage -40° to 70°C
- Humidity
  Operating 10% to 80% (non-condensing)
  Storage 5% to 95% (non-condensing)

Host Interface

- 1 x 6.0Gbps eSATA
- 1 x 5.0Gbps USB 3.0
- 4 x 1.0Gbps GbE iSCSI
  - Jumbo frame support
  - Header/Data digest support
  - CHAP authentication
  - MPIO, MC/S, Trunking and LACP(802.3ad) support

Disk Interface

- 12/16/24 x 6.0Gbps SATA ports
- Up to 6 x SFF-8087 drive connector

Monitors/Notification

- Environment and drive failure indication through LCD, LED and alarm buzzer
- Keep silent and adequate air flow and cooling by intelligent cooling fan speed control
- SMTP support for email notification
- SNMP support for remote manager
- Support 4 x 3-pin fan connector
- Support 2 x 2-pin power status connector

RAID Management

- Field-upgradeable firmware in flash ROM via RS-232 and LAN port
- Push Buttons and LCD for setup and status
- Firmware-embedded manager via RS-232 port
- Firmware-embedded Browser-based RAID manager, SMTP manager, SNMP agent and Telnet function via LAN port
- Out-of-band API sample and functional code for customer to quickly customize its AP.

Mechanical

- Dimension (W x H x D): 146(W) x 43(H) x 200(D) mm

Electrical

- Power Requirements: 32W max. On +12V

ARC-5066 Throughput

Host Interface Transfer Rates	GbE iSCSI: Up to 1.0Gbps (100MB/s) eSATA: Up to 6.0Gbps (600MB/s) USB 3.0: Up to 5.0Gbps (500MB/s)
Host Burst Transfer Rates	1 x GbE (RAID 5) : Up to 107MB/s(read); Up to 108MB/S(write) eSATA (RAID 5) : Up to 433MB/s (read); Up to 393MB/s(write) USB 3.0 (RAID 5) : Up to 345MB/s (read); Up to 355MB/s (write)

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