aha products **group**

AHA3641
10.0 Gbps GZIP Compression/Decompression IC

FEATURES

- Supports open standard algorithms GZIP and zlib
- Supports LZS algorithm
- Full duplex operation
- PCIe 2.0 x8 interface (Can be connected as a x4 interface)
- High compression ratio
- Minimal expansion of uncompressible data
- Supports streaming of large files or blocks
- Supports compression of intermixed blocks from different files
- Low power

APPLICATIONS

- Blade and file servers
- Web servers
- Application server appliances
- Storage appliances
    - Virtual Tape Library
    - SAN, NAS
- File system compression
- Security applications (deep packet inspection)
- WAN acceleration appliance
- Data logging

Table 1: AHA3641 Compression Ratios

Files	GZIP
Calgary Corpus	2.85:1
Canterbury Corpus	3.63:1
HTML Corpus	6.25:1

INTRODUCTION

The AHA3641 integrated circuit (IC) performs compression/decompression at 10 Gbps throughput. This low-cost solution meets the growing needs of the network and storage markets. Vendors who have traditionally implemented open source GZIP or zlib compression software now can free up CPU resources while achieving optimal compression ratio and throughput performance. In addition, those using LZS can support this legacy algorithm while having the higher compression ratios of GZIP and zlib available in their systems.

APPLICATION SERVERS AND LOAD BALANCE APPLIANCES

E-commerce, financial, and many other application server sites have complex applications and large databases used to generate dynamic content for thousands of users simultaneously, resulting in a large volume of traffic on internal networks and on the Internet. These servers are heavily loaded due to the complexity of the applications. The networks between servers and database engines are also heavily loaded retrieving and storing information as are the internal networks between servers and the Internet.

As the complexity of the applications increases, the need for faster response times to customers is also increasing. These sites would

benefit by compressing content to reduce the number of packets transmitted to clients across the Internet. They would also benefit by compressing data transferred between the servers and database, and by decompressing data from clients faster, all without increasing the CPU load.

STORAGE APPLIANCES

Storage requirements are constantly changing with the implementation of new technologies that support greater data integrity. With technologies such as Continuous Data Protection, Virtual Tape Libraries, and WAN acceleration devices, the need for bandwidth efficiency becomes necessary for controlling rising costs associated with backing up and transmitting data through internal and external networks. Compression is a technology that significantly lowers the cost of storing data to disk while drastically lowering bandwidth needs and latency associated with transferring data across networks. Hardware compression is required for multi-gigabit per second applications.

BENEFITS

Using the AHA3641 IC in networking, application acceleration, and SANs markets will provide the following benefits:

- Faster response time to clients
- Increased throughput
- High compression ratio performance for optimal bandwidth efficiency
- IC solutions provide the foundation for low cost board based products
- Lower power consumption

ORDERING INFORMATION

Part Number	Description
AHA3641	GZIP 10 Gbps compression/decompression IC

ABOUT AHA

The AHA Products Group (AHA) of Comtech EF Data Corporation develops and markets superior integrated circuits, boards, and intellectual property cores for improving the efficiency of communications systems everywhere. AHA has been setting the standard in Forward Error Correction and Lossless Data Compression for many years and provides flexible and cost effective solutions for today's growing bandwidth and reliability challenges. Comtech EF Data is a wholly owned subsidiary of Comtech Telecommunications Corporation (NASDAQ: CMTL). For more information, visit: www.aha.com.

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