

EXCEL DIGITAL SIGNAL PROCESSING SERIES 2 (DSP2)

Provides Media Processing Capabilities to the CSP 2090



The Cantata Technology Excel Digital Signal Processing Series 2 (DSP2) card provides fully integrated, high-performance media processing for the Excel CSP 2090. With the DSP2 card added, the CSP 2090 integrates not only signaling, TDM interfaces, and IP interfaces, but also powerful media processing. Application developers can use the CSP 2090 as an integrated communications and media platform for feature-rich, media intensive services. The CSP 2090 can be deployed as an intelligent peripheral, as a comprehensive media server solution, or as an Interactive Voice Response (IVR) unit interoperating with Automatic Speech Recognition (ASR), Text to Speech (TTS), and bulk storage systems.

The DSP Series 2 offers a comprehensive set of features for intensive processing and management of media on the CSP 2090. For application developers looking to create media intensive services, the DSP2 is the ideal add-on to the CSP.

Features and Benefits

Speeds Time to Market

DSP2 can dramatically speed the development cycle. Application developers who choose this solution can develop to just a single set of API messages on a single system, instead of three or more sets of APIs on stand-alone units and software stacks from multiple vendors. Media resources on the DSP2 share a single, easy-to-use OA&M environment with the CSP 2090, so customers experience streamlined network operations

Reduces Costs

The DSP2 card eliminates the need for external Voice Response Units (VRUs), which saves money. There are no separate VRUs to buy or maintain, no leasing of additional space for the VRUs, no need to inventory spare VRUs, no need to train craft personnel on the VRUs, and no separate OA&M systems to maintain.

Highly Scalable and Flexible

The DSP2 card provides unmatched scalability, enabling a wide range of cost-effective solutions from simple, low-density, DTMF functions to high-density, processor-intensive requirements for real-time file recording, playback, and conferencing. Media resources on the DSP2 card are enabled through a system of Resource Points. Customers pay for only the resources needed today, then scale up seamlessly as their needs grow. Customers can buy a DSP2 card with one module or two (each module contains four DSP chips) then add more cards as their requirements increase. The flexible, multi-function design of the DSP2 cards enables each of the eight individual DSP chips to be dynamically assigned to simultaneously perform several different functions.

Cantata has also developed a pooling scheme for the DSP2 card that dynamically allocates media resources as they are used. The pooling scheme assures that at any given time, the maximum possible media resources are available. The CSP 2090 monitors and balances DSP resources among all the DSP2 cards to prevent overloading.

Highly Reliable

The DSP2 card uses several layers of redundancy, including resource pooling, distributed function types, redundant NFS servers, and RAID configurations. Because the card's internal Ethernet switch allows it to connect to multiple NFS servers, there is no single point of failure. If a DSP2 card fails, the CSP 2090 preserves the maximum allowable resources by reallocating licensed capacities to the remaining in-service DSP2 cards. All DSP2 cards are hot-swappable.



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Specifications

NETWORK FILE SYSTEM (NFS) STORAGE

Provides unlimited storage for files that need to be stored long term, like permanent fax records, and for large files like voice mail messages or recorded conferences.

ON-CARD STORAGE

Store up to three hours of files on the DSP2 card itself, useful for temporary recordings and for files that are played back frequently.

REAL-TIME FILE RECORD AND PLAYBACK

Record files using multiple file formats including ADPCM and WAV, play them back by file offset and length, and queue files to be played. The DSP2 also supports two-way call recording that uses no conference ports, as well as configurable beep tones and silence parameters.

STATISTICS FOR CACHE AND FUNCTION USAGE

Monitor services and optimize DSP configurations.

UNIVERSAL TONE GENERATION AND RECEPTION

A DSP chip is assigned to play a universal tone, and can be any tone type with the same encoding format. Up to 512 tone receivers per DSP chip.

HIGH-DENSITY ECHO CANCELLATION

(G.168) with tail lengths of up to 128 milliseconds.

REAL-TIME MEDIA STREAMING

A direct Real-time Transport Protocol (RTP) interface to speech servers.

POSITIVE VOICE DETECTION

Send only voice signals (no silence) to the speech server, freeing up expensive speech server ports. Also cancels file transmission when speech is detected.

ANSWERING MACHINE DETECTION

A powerful, highly-tuned algorithm provides recognition of answering machines, required for some applications.

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Cantata Technology, established in 2006 as a result of the combination of Brooktrout Technology and Excel Switching Corporation, provides market-proven enabling technology that serves as the foundation for anytime, anywhere IP-based communications applications. Leveraging more than 20 years of experience, Cantata offers the broadest range of products, along with a worldwide network of partners that enables service provider and enterprise customers to develop new products, introduce new services and cost-effectively transition networks to IP. Cantata Technology maintains multiple locations worldwide in North America, Asia and Europe.

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