DATAPOINT DIRECT CHANNEL INTERFACE OPTION

A revolutionary approach to the problem of linking small computers with large mainframes, the Direct Channel Interface Option (DCIO) is a feature of the Datapoint Attached Resource Computer™ System. This option enables IBM computers to share a common database along with a large array of Datapoint processors, for use in an endless variety of applications.

With DCIO, an IBM System/360 or System/370 may be used as one of the ARC™ System's Applications Processors. The IBM mainframe can thus execute application programs in COBOL, BASIC, RPG II, PL/1, and other languages, while utilizing data stored in the ARC database. The IBM computer may continue to operate independently of an ARC system; however, when access to the common database is required, it communicates its requests at high speed through the Direct Channel Interface.

DCIO is a combination of hardware and software that appears to the IBM mainframe as up to eight full-duplex unit record devices. It consists of a dedicated 6000-series Attached Processor, a Resource Interface Module (RIM) for connection to an ARC system, and a Channel Adapter. These three components work together to communicate over the IBM's multiplexer channel.

When the System/360-370 submits a request for data to the ARC database, it receives that data in the "apparent" form of standard, 80-column EBCDIC punched cards. Any output from the application program is returned to the ARC file processors in the same way -- i.e., as "apparent" punched cards or 132-column printout.

The DCIO processor monitors and regulates all requests to an ARC system from the IBM computer, including EBCDIC-ASCII conversions. When not being used for ARC-IBM communications, this processor can be employed as another applications processor on the ARC system, performing a wide variety of data processing tasks.

DCIO communication between the systems is transparent to users of both the IBM computer and to other ARC system users. It proves to be extremely useful for any application where a direct IBM-Datapoint interface is needed.

Functional Characteristics

Processor:
Datapoint 6000-series Attached Processor
60K byte user memory
0.6 microsecond cycle time
Parity checking
Parity bit
Memory allocation and protection
Standard typewriter keyboard, 55 keys
11-key numeric pad
5 control keys
Audio tones
80 columns by 12 rows video display

Emulation:
Emulates up to 8 IBM full duplex
  unit-record I/O devices

Channel Capabilities:
Byte Multiplexer Channel

Data Transfer Rate:
40K bytes/second

Physical Characteristics

Equipment Dimensions:
Width: 53 in. (134.6 cm.)
Height: 37 in. (94 cm.)
Depth: 24 in. (61 cm.)
Weight: 192 lbs. (87.3 kg.)

Power Requirements:
115 or 230 VAC, 50 or 60 Hz
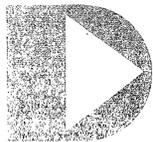
Environment:
50 to 100 degrees F
10 to 38 degrees C
20 to 90% relative humidity, non-condensing

Model Codes

4645 Direct Channel Interface Option
5163 230 VAC, 50 or 60 Hz Power Option

DATAPOINT ANNOUNCES
DIRECT CHANNEL INTERFACE OPTION
FOR ATTACHED RESOURCE COMPUTER™ SYSTEM

San Antonio, December 1, 1977 ....Datapoint Corporation today announced its new Direct Channel Interface Option (DCIO), an option which allows an IBM mainframe to participate as an applications processor in Datapoint's revolutionary Attached Resource Computer System. This option enables IBM 360/370 mainframe systems to access all ARC™ System resources, including the common database and other peripheral devices, for use in a variety of user applications.

The complete DCIO system combines Datapoint hardware and software -- including a 6010 Attached Processor, Resource Interface Module (RIM), channel adaptor, and DCIO software package. The DCIO requires no modification of either operating system, and attaches directly to the IBM 360/370 mainframe and the high-speed ARC system interprocessor bus. The transfer of data from an ARC system common database is always initiated by the IBM mainframe, and can be accommodated over an IBM byte multiplexer channel.

With the DCIO, any IBM 360/370 mainframe can be used as an applications processor within the ARC system. The mainframe can thus execute applications in COBOL, PL/1, RPG, BASIC, and other languages, while utilizing data stored in the ARC system database. Although the

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IBM mainframe retains the capability of performing data processing and other tasks independently of ARC system operations, any requests for access to the ARC system database and other ARC resources are communicated at high speeds through the DCIO. In those instances where the IBM mainframe is not functioning within the ARC system environment, the DCIO processor may be used to perform data processing tasks other than those associated with DCIO operations.

An especially attractive feature of the DCIO is that it allows current IBM system users to utilize the full data processing capabilities of the mainframe in conjunction with the ARC system. Utilizing the DCIO, the IBM computer can partition up to as many as eight applications programs to run concurrently using data from the ARC system common database. The DCIO processor is capable of supporting all eight IBM partitioned programs in a full duplex mode. Most importantly, this transfer of data requires no operating system modifications to the IBM mainframe.

There are a number of ways the DCIO facility can benefit its user. For instance, data which is required by multiple users on the ARC system can be concurrently accessed by all processing resources, whether they be Datapoint or IBM systems. This would prove especially helpful to those users currently executing batch transaction programs on an IBM system, since the 360/370 could be retrieving data files while that same data is being accessed by Datapoint applications processors attached to the ARC system.

Whenever the IBM 360/370 submits a request for data from an ARC

system file processor -- which manages the ARC system common database -- that data is received by the IBM system in a standard, EBCDIC unit record format. Conversely, any output from the applications program is transferred from the IBM to the ARC file processor in the same format.

Monitoring and regulation of all requests from the IBM to the ARC system database, including EBCDIC-ASCII conversions, is conducted by the DCIO processor. The DCIO also ensures that all data transfer in the ARC system is completely transparent both to the users of the IBM mainframe and to the users of other ARC system resources.

The purchase price for the model 4645 Direct Channel Interface Option is $22,908, including installation. The three-year lease price for this same model is $918 (including maintenance) per month. The model 4645 DCIO incorporates an Attached Processor (with 60K user memory), Resource Interface Module, direct channel interface, and software control program.

For more information about Datapoint's Direct Channel Interface Option and Attached Resource Computer System, contact your local Datapoint sales office or Datapoint Corporation: Attn., Marketing Communications, 9725 Datapoint Drive, San Antonio, Texas 78284.