# Multi-Vendor Integration Protocol (MVIP) Overview

The Multi-Vendor Integration Protocol (MVIP) began as a set of hardware and software standards, developed by Natural MicroSystems and six other companies in September of 1990. These standards were focused towards integrating diverse technologies, telephone network interfaces and applications from one or more vendors in a single PC chassis. At present, it has risin to become a full-blown multi-national standard, complete with it's own certified industry group Global Organization for Multi-Vendor Integration Protocol (GO-MVIP).

Currently there are over Over 150 MVIP-compatible component/board level products available from more that 50 companies Worldwide!

The single chassis MVIP specification (MVIP-90) consists of four parts:

- Multiplexed digital telephony bus with 512 x 64Kbps capacity ( or 256 full duplex paths).
- Distributed circuit-switching capability (inside the computer and under software control).
- Sophisticated digital architecture.
- Set of software conventions that permit interworking of independently developed board-level products.

Technically speaking, on the internals: The MVIP Bus uses multiple 2Mbps serial digital data streams which is based on the Mitel ST-Bus format (and it is closely related to Siemens PCM highways and AT&T concentration highways). In ISA Bus or Microchannel computers, these signals are carried between boards by a ribbon cable thus isolating it from the host platform. Electrical interfaces can use LSI components from Mitel, Siemens, AT&T and others. CMOS, PAL, GAL or ASIC interfaces are straight-forward and are discussed in an appendix to the MVIP specification.
Finally, a complete interface is available in a single IC, The Flexible MVIP Interface circuit (FMIC). MVIP clock control is sophisticated enough to support tandem switching among digital trunks, with fall-back clock reference switching in the event of digital trunk failures. The MVIP switching architecture supports switching of 64Kbps data streams or *N* x 64Kbps (ISDN H channels for example). Used as a simple telephony switch, the basic MVIP architecture provides the equivalent of a 512-port non-blocking circuit-switch within the computer chassis.

The MVIP applications technologies inlude:

- Voice Processing
- Speech Recognition
- Text to Speech
- Multi-Line Facsimile
- Telephone call switching and call processing
- Video Conferencing
- Audio Conferencing
- Video CODEC
- Data Communications
- MVIP to LAN interfaces (IsoEthernet, FDDI-II)
- Multiple telephony interfaces:
  - DID
  - E & M
  - T-1
  - E-1
  - ISDN PRI and BRI
  - Proprietary PBX interfaces

## Extending MVIP From Single To Multiple Chassis (MC)

Multi-Chassis MVIP provides the alternate physical layer connectivity with one common software set to inter-connect multiple single chassis MVIP computers with each other or with other service platforms. This provides the means to

break out of the confines of a single chassis to expand the capacity of the application system into larger volume soultions as well as greater bandwidth for integreation with legacy PBX, ACD's and LANs / WANs.

The MC-MVIP:

- *Type MC1* lends 1048x64 Kbps over twisted-pair copper to inter-chassis connects.
- *Type MC2* utilizes FDDI-II allowing 1536x64 Kbps over fiber or copper.
- *Type MC3 spec.* employs SONET/SDH fiber @ 155 Mbps providing up to 4000x64 Kpbs of inter-chassis telephony capacity.

MVIP is an excellant example of a true *Open Architecture* standard. With the support of so many vendors, the advantages and leverage that a system integretor has is phenominal.

***For further information relating to MVIP contact:***
***Global Organization for Multi-Vendor Integration Protocol (GO-MVIP)***

***For information about CTI hardware:***
***Voice and Fax Board Manufacturers list***

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