# ACT/TECHNICO

VITA 31.1 / PICMG 2.16
Switched Ethernet System Chassis

This system enables the use of Ethernet fabric switching technology in a VME64x environment by leveraging PICMG 2.16 technology via the J0 (VITA 31.1). It is ideal for implementing Ethernet fabrics in a VME64x environment without losing access to current investments.

Product Highlights:

- Leverages PICMG 2.16 Ethernet fabric in a VME environment
- Dual architecture backplane provides 10 VME64x and 4 PICMG 2.16 slots (2 fabric, 2 node) with unobstructed rear transition slots
- High quality, ruggedized construction, cooling for up to 85 watts per slot
- Choice of one or two 10/100 or Gigabit Ethernet switches, managed or unmanaged
- Choice of a 2eSST PowerPC or Pentium M Single Board Computer
- Wide range of optional storage solutions
- Additional subsystem integration services available
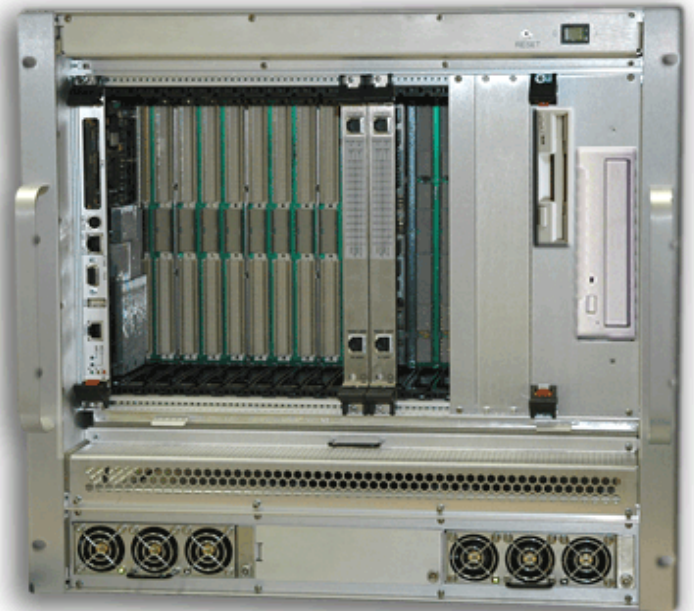
Features:

- 14 slot mixed backplane: 10 VME64x slots, two VITA 31.1 / PICMG 2.16 fabric slots, and two VITA 31.1 / PICMG 2.16 node slots
- 19" rack-mount enclosure, 10U High, 21" deep
- Two 600W redundant power supplies provided (up to 1800 watts available)
- 6U shuttle with provisions for 1 floppy drive, 1 hard drive and 1 CD drive
- Hot swap removable fan tray with 274 CFM cooling capacity (350 LFM average airflow)
- Choose either a VITA 31.1 Pentium M single board computer, or 2eSST PowerPC / PowerQUICC
- One or two Ethernet switches, in choice of 10/100 or Gigabit, up to 24 ports (front or rear)
- Option for additional products such as Single Board Computers, Network Attached Storage blades (RAIDStor), PMC storage modules and other I/O functionality

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VITA 31.1 Standard

The VITA 31.1 standard defines the pin assignments and connector to implement a standard switched Ethernet fabric on a VME64x backplane without the use of cables. The J0 on the VME board has the same pinouts as the J3 on a PICMG 2.16 board. It enables the VME user to utilize existing VME64x technology and software while providing an effective means of providing Point-to-Point interconnections across the backplane, and more importantly, utilizes existing IP software to enhance time-to-market.

The dual architecture approach enables system designers to fully leverage available technology across both VME64x and PICMG 2.16 form factors, resulting in improved system performance through increased payload selection and elimination of form factor constraints.

ACT/Technico VITA 31.1 System

ACT/Technico's VITA 31.1 system provides two system and two node PICMG 2.16 / VITA 31.1 slots, and 10 VME64x slots. The J0 pins are assigned to the VITA 31.1 pin assignments to take advantage of the switched Ethernet fabric across the entire system. The system will also ship with three redundant 400W power supplies. The system can be shipped with a PowerPC or Pentium VMEbus single board computer, pre-configured with either a Linux or VxWorks operating system and any necessary drivers. A choice of one or two 10/100/1000 Ethernet Switches, and optional high availability Network Attached Storage blades (RAIDStor) can also be added and configured.

Specifications:

Chassis

- Width: 17.38" (441.5 mm)
- Height: 17.47" (443.7 mm)
- Depth: *(excluding handles)*: 21" (533.4 mm)
- Weight: 40 lbs (18.2 kg)*
- Airflow: lower front air intake / top rear exhaust
- AC Input: 20A line cord, 100-120 VAC

Single Board Computers

VITA 31.1 compliant Pentium boards:
- Pentium M 1.1 GHz, 1.6 GHz or 1.8 GHz

2eSST PowerPC boards:
- Motorola MVME6100
- PowerQUICC III 8555 or 8560

Specifications *(continued)*:

Ethernet Switches

VITA 31.1 compliant switches are available in both standard grade, extended temperature and conduction cooled versions.

- Up to 24 10/100/1000 ethernet ports (SX or LX)
- Plug and play, no configuration required for basic switching
- Layer 2 bridging capabilities:
  Non-blocking with full wire performance
  · 4K MAC addresses
  · Auto learning and aging
  · 802.1 Q support for 4K VLANs or port based VLAN
- Backpressure flow control on half duplex ports and pause frame on full duplex
- Four QoS traffic classes
- MAC authentication, IEEE802.1X compliant
- Led and thermal sensor for easy network monitoring
- Flexible management tools

Regulatory Compliance

- Shock: MIL-S-901 (15g at 40ms, 30g at 20ms, 100g at 5ms)
- Vibration: MIL-STD-167-1
- Designed to meet UL, CSA and TÜV
- EMC: designed to meet FCC Part 15, Subpart J, Class A; CISPR 22, Class A.
- Grounding: per earthing requirements of IEEE 1101.11

Ordering Information and Part Number Guide

VFC-SBCnx-SWxn-SWxn-Pwr-Drv

SBCx = Single board computer plus rear transition module combination
  1 = Pentium M - (a) 1.1 GHZ; (b) 1.6 GHZ; (c) 1.8 GHz
  2 = MVME6100
  3 = PowerQUICC III

SWxn = Switch plus rear transition module
  1n = 673x: 8, 16 or 24 ports 10/100TX plus 2 Gig ports
  2n = 675x: 12, 16 or 24 ports 10/100/1000BT

Pwr = Specify 1200W or 1800W

Drv = For mounting in the peripheral module:
  F = floppy drive
  C = CD style drive
  H = hard drive (*indicate drive size, i.e. H80*)

Example:

VFC-SBC1b-SW216-SW216-Pwr1200-C-H80

VITA 31.1 chassis assembled with a 1.6 GHZ Pentium M SBC, two 16 port Gigabit switches, 1200W power supply, a CD drive and 80 GB hard drive mounted in the peripheral bays.