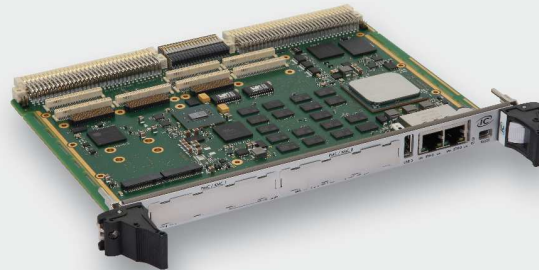


# IC-INT-VMec

6U VME Intel® Xeon® processor D-15xx SBC

- 6U VME
- Intel® Xeon® processor D-15xx
- up to 32 GB DDR4 with ECC
- one VGA or DVI
- two PMC/XMC slots



## Description

The **IC-INT-VMec** is a general-purpose Single Board Computer, aimed at lengthening the lifetime of legacy VMEbus systems.

The **IC-INT-VMec** is a 6U VME Single Board Computer (SBC) based on an Intel® Xeon® processor D-15xx (Broadwell DE) and designed to provide high-performance, ruggedized and highly secure solutions.

Xeon® D combines the performance and advanced intelligence of Intel® Xeon® processors in to a dense and low-power system-on-a-chip (SoC). Its 64-bit Broadwell microarchitecture, Hyper Threading technology, and enhanced floating point processing provide high processing throughput and performance to run time-critical demanding applications.

The **IC-INT-VMec** features a multicore (up to 8) Xeon® D-15xx processor implementing the Intel AVX2 technology and a scalable memory bank (up to 32 GB DDR4/Bank with ECC).

The VME64x backplane interface is supported by an FPGA chip running field-proven VME IP developed and supported by Interface Concept, ensuring long-term availability.

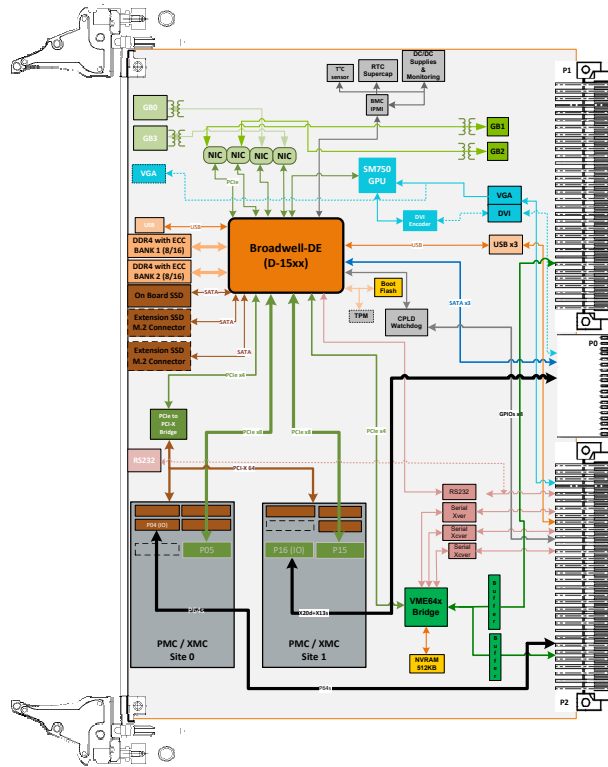
The **IC-INT-VMec** supports a wide range of customization and interface options to fulfill various application needs:

- two PMC (PCI-X) / XMC (PCIe) slots
- a scalable and secured SATA NAND SSD
- two M.2 connectors for extra SSD
- GPIO, USB, serial & SATA interfaces
- a VGA or DVI interface

The **IC-INT-VMec** in compliance with the ANSI/VITA 31.1 standards, offers two Gigabit Ethernet ports on the board's front panel, and two others on the board's backplane connector.

The **IC-INT-VMec** is delivered with a UEFI Boot Loader customized by Interface Concept, which enables the optimization of power-up sequences.

## Block Diagram



## Main features

### Processor Unit

- ▶ 1 \* Intel® Xeon® D-1519 or D-1539
  - ▶ D-1519
    - ▶ Cache = 6MB
    - ▶ Core speed = 1.5 GHz
    - ▶ Thermal design power = 25W
  - ▶ D-1539
    - ▶ Cache = 12MB
    - ▶ Core speed = 1.6 GHz
    - ▶ Thermal design power = 35W
- ▶ up to 2\*8 GB DDR4 with ECC (optionally up to 2\*16 GB)
- ▶ Calendar clock with supercap backup
- ▶ Thermal monitor sensor

### Storage subsystem

- ▶ up to 16 GB SLC On-board SATA SSD
- ▶ 2 M.2 SATA Key M SSD connectors
- ▶ up to 3 \* SATA ports on P0

### Communication subsystem

- ▶ 4 \* front Gigabit Ethernet ports (2 front/ 2 rear)
- ▶ 4 \* USB ports (1 front & 3 rear)
- ▶ 1 \* console port (front or rear)
- ▶ 3 \* multimode serial ports (RS422, RS485, RS232)
- ▶ 1 \* rear or front VGA (P2) or DVI (P0)

### I/O subsystem

- ▶ VME64x
- ▶ Two PMC/XMC slots
  - ▶ slot 0: compatible with VITA35 P4V2-64ac
  - ▶ slot 1: 20 differential pairs (X20d) and 13 single-ended (X13s) connected to VME P0 from Pn6 (X16d + X10s with DVI manufacturing option)

### Accessories

- ▶ 6U Rear Transition Module

The **IC-INT-VMec** is available in air-cooled and conduction-cooled (without any front I/O) versions compliant with VITA 47 classes.

## On-board firmware

Interface Concept Single Board Computers based on Intel CPUs, use the new UEFI firmware technology.

This Boot Loader, **developed and tested by our R&D team**, implements all the initializations and optimized PBITs while ensuring the shortest boot time before launching the UEFI shell or loading the Operating System from storage devices (CD, DVD, HDD, USB...) or network.

When the final application is running, Runtime services remain in memory thus allowing the user to access UEFI variables for monitoring (e.g. PBIT results) or setup operations.

On request, we can customize the Boot Loader to keep only what is strictly necessary for customer's applications.

## OS Support

Interface Concept provides LSP Linux® distributions (IC SDK, others...) and VxWorks® 7.0 on request.

## Grades

Criterion	Coating	Operation Temperature	Rec. Airflow	Oper. HR% no cond.	Storage Temperature	Sinusoidal Vibration	Random Vibration	Shock 1/2 Sin. 11ms
Standard	Optional	0 to 55°C	1 .. 2 m/s	5 to 90%	-45 to 85°C	2G [20..2000]Hz	0.002g2 /Hz [10..2000]Hz	20G
Extended	Yes	-20 to 65°C	2 .. 3 m/s	5 to 95%	-45 to 85°C	2G [20..2000]Hz	0.002g2 /Hz [10..2000]Hz	20G
Rugged	Yes	-40 to 75°C or 85° C (*)	2 .. 5 m/s	5 to 95%	-45 to 100°C	5G [20..2000]Hz	0.05g2 /Hz [10..2000]Hz	40G
Conduction-Cooled 71°C	Yes	-40 to 71°C at the thermal interface (*)	-	5 to 95%	-45 to 100°C	5G [20..2000]Hz	0.05g2 /Hz [10..2000]Hz	40G
Conduction-Cooled 85°C	Yes	-40 to 85°C at the thermal interface (*)	-	5 to 95%	-45 to 100°C	5G [20..2000]Hz	0.1g2 /Hz [10..2000]Hz	40G

(\*) : Temperature grades are subject to availability according to IC products. Please consult us.

All information contained herein is subject to change without notice.

For more information, please contact:



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