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HDS6705

6U OpenVPX Intel Xeon Scalable HPEC Multiprocessing Board with BuiltSECURE Technologies

Solving complex data problems, securely, in the most inhospitable places

- True data center class processing capability
- Robust data confidentiality/integrity hardware protections
- Optimized for size, weight, power and cooling
- Key building block for developing AI-capable processing systems

Secure, actionable information when you need it, where you need it.

The environmentally rugged OpenVPX HDS6705 processing module provides smart, autonomous edge applications and the on-platform security and multifunction processing capability needed to solve the most complex data problems in the most inhospitable environments.

The HDS6705 features the same AI-enabling Intel® Xeon® Scalable processor that powers modern data centers. Protected by Gen 4 BuiltSECURE™ SSE IP that is built-in, not bolted-on, it delivers secure, data-center performance that protects sensitive algorithms even if the platform is compromised. The HDS6705 is integral to developing secure, software-agnostic, embedded AI-capable processing systems that operate at the tactical edge.

Highlights

- Manages big data workloads on physically and environmentally challenged platforms with optimized server-class processing technology.

- Provides on-platform data confidentiality/integrity hardware protections even if the platform is compromised.

- Optimized for size, weight, power and cooling to deliver the best performance and highest MTBF for consistent and efficient operation – anywhere.

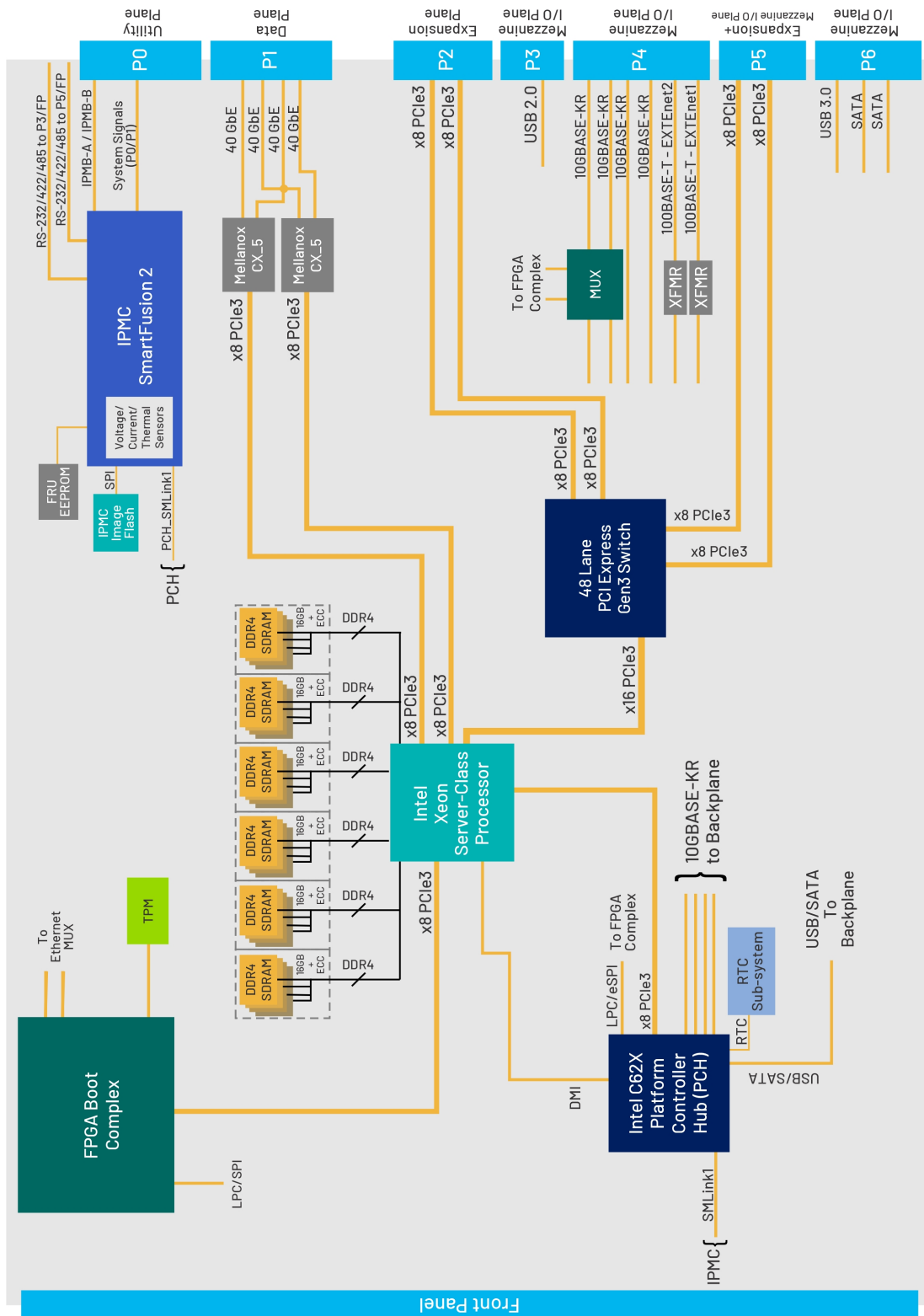Compared to Xeon D-based 6U OpenVPX boards, Xeon-SP based boards deliver:

150%	22%	11	3×	4×
more memory bandwidth	improved power efficiency	additional years of life cycle support	more memory	DMIPS

HDS6705 BLOCK DIAGRAM

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SPECIFICATIONS

Processors (default)

Intel® Xeon® SP 6238T 1.9 GHz 22-core (Cascade Lake) server-class processor with AVX512 acceleration

BuiltSECURE Embedded Framework

FPGA complex to support secure boot and application load options

Memory

96-192 GB DDR4 SDRAM with ECC

PCIe to Switched Fabric Bridge

NVIDIA® Mellanox® ConnectX®-5 Ethernet adapter

System Management

Out-of-band VITA 46.11 IPMI controller running on auxiliary voltage

IPMI

On-Board IPMI controller

OpenVPX Multi-Plane Architecture

System Management via IPMB-A and IPMB-B link on P0 management plane

10/40 Gigabit Ethernet on data plane; 10 Gigabit Ethernet on control plane

Full x16 or dual x8 PCIe Gen3 interfaces on P2 and P5 expansion plane

Mechanical

6U OpenVPX, 1.0" slot pitch

VITA 65/46/48 compliant

SOSA aligned

Options

VITA 48 Cooling Options: AC (48.1), CC (48.2), AFB (48.7), LFT (48.4)

Mercury's Processing Ecosystem

To build a secure, AI-capable processing subsystem, combine:

- 1x HDS6705 (Multiprocessing)
- 4x GSC6204 (GPU)
- 2x SFM6126 (Network Switch)
- 1x IOM-400 (I/O Interface)
- 1x SMA-301 (System Management)
- 2x SCM6010 (Storage)
- 1x Ruggedized Chassis

Or, choose from our broad portfolio of hardware and software interoperable building blocks to design your own edge-ready processing subsystem.

CLOUD COMPUTING

SENSE DATA → ACQUIRE DATA → PROCESS DATA → TRANSMIT DATA → RECEIVE DATA

TACTICAL EDGE COMPUTING

SENSE DATA → PROCESS DATA ON BOARD

ON-PLATFORM DATA CENTER PROCESSING CAPABILITY AT THE TACTICAL EDGE

Mercury's HDS6705 provides the same processing capabilities as Cloud servers to bring the most environmentally challenged, space-constrained platforms the highest processing capability and integrated security problem.

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Learn more

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