

# HDS6705

## 6U OpenVPX Xeon Scalable HPEC multiprocessing board with BuiltSECURE technologies

Securely solving complex data problems in the most inhospitable places

- True data center 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 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%**  
 more memory bandwidth

**22%**  
 improved power efficiency

**11**  
 additional years of lifecycle support

**3x**  
 more memory

**4x**  
 DMIPS

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TECHNICAL SPECIFICATIONS

**Processor (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 GB DDR4 SDRAM with ECC

**PCIe to Switched Fabric Bridge**

Mellanox ConnectX-5 Ethernet adapter

**System Management**

Out-of-band VITA46.11 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 GB Ethernet on data plane; 10 GB 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 65/48/46

SOSA aligned

**Options**

[MOTS+ rugged packaging](#) for extreme environmental protection

VITA 48 cooling options: AC (48.1), CC (48.2), AFB (48.7), LFT (48.4)

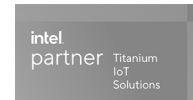
**Mercury's Processing Ecosystem**

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](#)

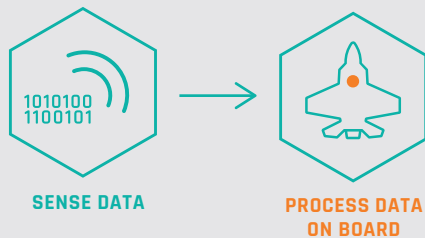
**Partnering with**



**CLOUD COMPUTING**



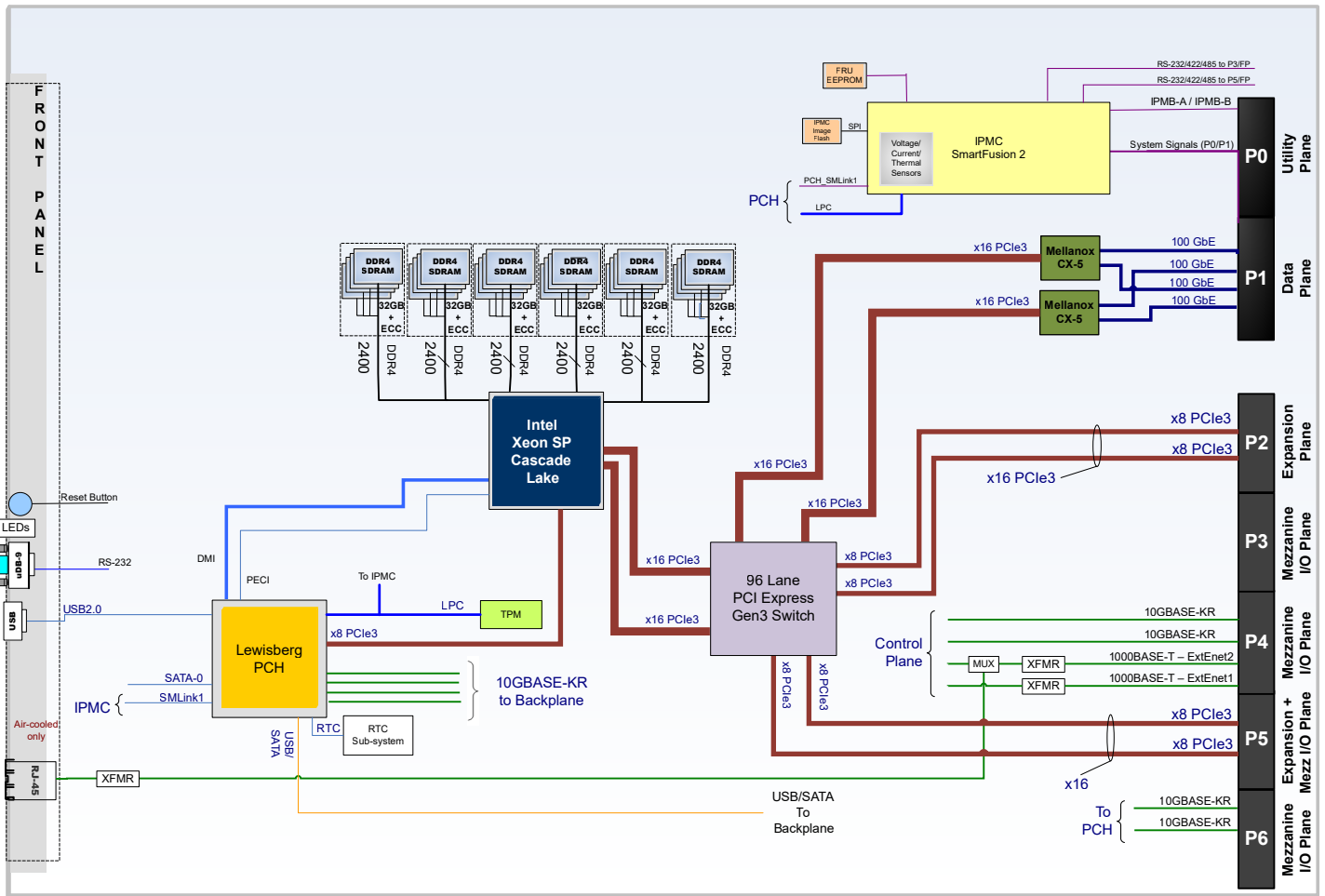
**TACTICAL EDGE COMPUTING**



**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 protection.

HDS6705 functional block diagram



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