

S2U "KING COBRA" THE WORLD'S MOST ADVANCED RUGGED SERVER

ULTRA-MODULAR, 100% LRU, 2U (SHORT RACK) SERVER / WORKSTATION



DEFENSE / DATA CENTERS / AVIONICS / MOBILE



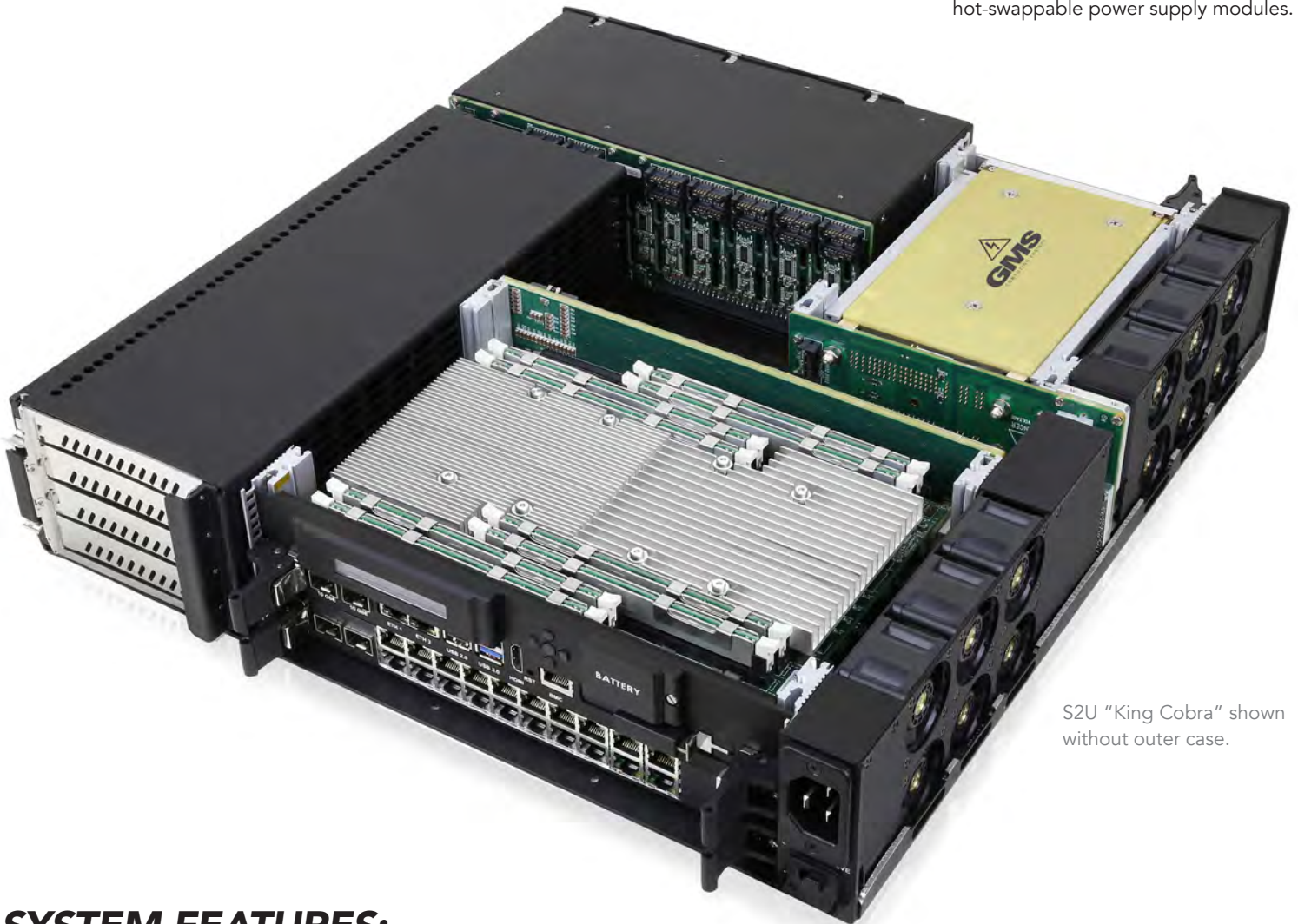
GENERAL MICRO SYSTEMS, INC.
TRUSTED AND DEPLOYED SINCE 1979

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GENERAL DESCRIPTION

The S2U "King Cobra" is a major breakthrough in server technology. It is the smallest, fastest rack-mount server on the market, with more I/O performance and storage functionality than any other server. It replaces several 1U/2U servers, switches/routers, RAID controllers, and Auxiliary Power Units (APU) with a single 2U, 17-inch deep (short) rack-mountable (or freestanding) enclosure. Furthermore, 100% of the "King Cobra" electronics modules are Line Replaceable Units (LRU) specifically designed for field replacement and upgrading. This at-the-module 100% LRU functionality allows the user to replace any function of the system in the field within seconds, thus providing ultimate flexibility and minimizing down time.

The S2U features state-of-the-art CPU, packaging, and cooling design, utilizing the rugged and proven OpenVPX (VITA 65) architecture. Unlike PC motherboards, which virtually all servers use, the "King Cobra" OpenVPX design can withstand much higher shock, vibration, and temperatures than standard servers. The "King Cobra" utilizes a modular subsystem design allowing the OEM user to upgrade or change the server's configuration in the field quickly and economically. This reliable, field-proven OpenVPX architecture also takes full advantage of commercial-off-the-shelf (COTS) PCI Express (PCIe) boards such as ultra-high-performance video boards, RAID controllers, and DSP modules, which may be quickly and easily plugged/unplugged into the system within seconds. OpenVPX is also used for the redundant, N+1 hot-swappable power supply modules.



S2U "King Cobra" shown without outer case.

SYSTEM FEATURES:

- Supports Dual Xeon® E5 processors, Router, 20-port managed switch, 48TB RAID storage and Quad NVIDIA® GPU
- 100% modular: each subsystem is a Line Replacement Unit (LRU) for ultra-fast servicing, upgradability and sparing
- Fully scalable server utilizing standard OpenVPX and PCIe modules
- Supports two 6U OpenVPX modules, three 3U OpenVPX modules and four full-length/height PCIe modules
- Supports twelve 2.5" removable storage devices such as x4 PCIe ("NVMe") Enterprise SSD and SAS/SATA drives
- Supports removable APU for orderly shutdown and power transients (omit PCIe Card cage)
- Dual removable Fan Trays with twelve Smart Fans for quiet, efficient, redundant cooling
- Triple redundant, hot-swappable 3U OpenVPX AC/DC Power Supplies for N+1 Power or User I/O
- Ultra-low SWaP, only 17" x 17" x 3.25" @ 30 lb. and as low as 300W
- Operates at standard temperature 0°C to +50°C or extended temperature -20°C to +75°C
- Fully compliant to MIL-STD-810G, MIL-STD-1275D, MIL-S-901D, DO-160D, MIL-STD-461E and IP64
- Status LEDs for each Power Supply, Storage module, Fan Tray, and User
- Available in ruggedization levels R1-R3

THE GMS MODULAR APPROACH

S2U "King Cobra" is the world's most advanced server system. Besides offering more than 8U worth of server/switch/router/storage functionality in only 2U of (short) rack space, S2U's field-replaceable, modular architecture is an industry breakthrough at a significantly lower price. Where every server on the planet except S2U relies on an inflexible bolted-in motherboard that is often happiest in an air-conditioned environment, S2U relies on the battle-hardened OpenVPX standard. S2U's motherboard can be easily swapped out in the field, or upgraded as technology evolves.

SPARING AND TECH REFRESH

PROGRAM COMMONALITY

S2U's modular approach has several other advantages when applied to long-running programs. Besides using modular LRUs for tech refresh on the original program, S2U can be easily adapted to other programs as well. Application software developed for one program can be reused, while new or legacy I/O modules from another program can be added to S2U. In this fashion, S2U remains the same basic system across multiple programs but is modified with different platform-specific configurations. This commonality eases system qualification and meets joint service requirements for "component" commonality across platforms.

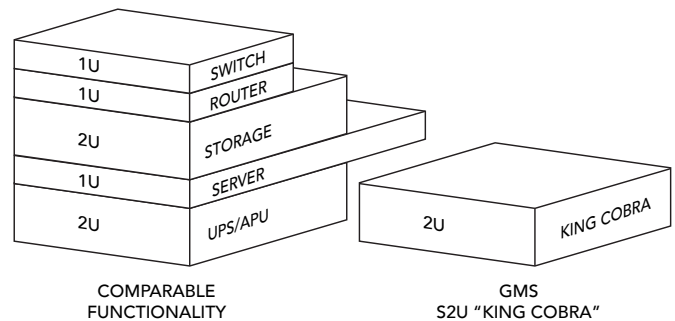
SPARES AND FIELD REPLACEMENT

S2U's modular approach also simplifies sparing. A "spare" in S2U is any of the removable LRU electronics subsystem modules. With conventional servers, the lowest size LRU spare is usually the whole server itself. With S2U, spare electronics modules can be available at the depot level. The S2U modular approach saves money, simplifies logistics, and finally makes true field replacement a reality.

In addition to the CPU, every electronics module in the S2U "King Cobra" is a modular line replacement unit (LRU) and can be easily extracted, changed or replaced with a pre-planned product improvement. S2U's rugged field replaceable modules maximize battlefield uptime and survivability, shattering the fallacy that commercial servers cannot be "ruggedized" for the battlefield. Typical motherboard-based servers can't survive, they can't be easily fixed, and they won't evolve when your program needs change.

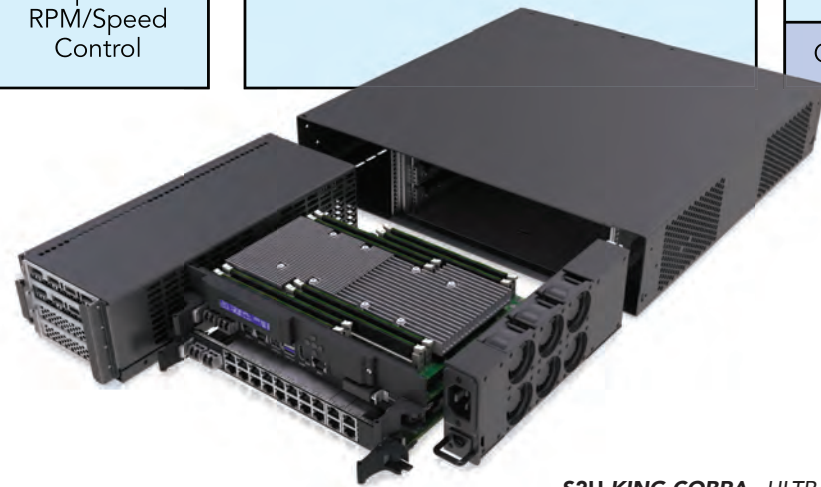
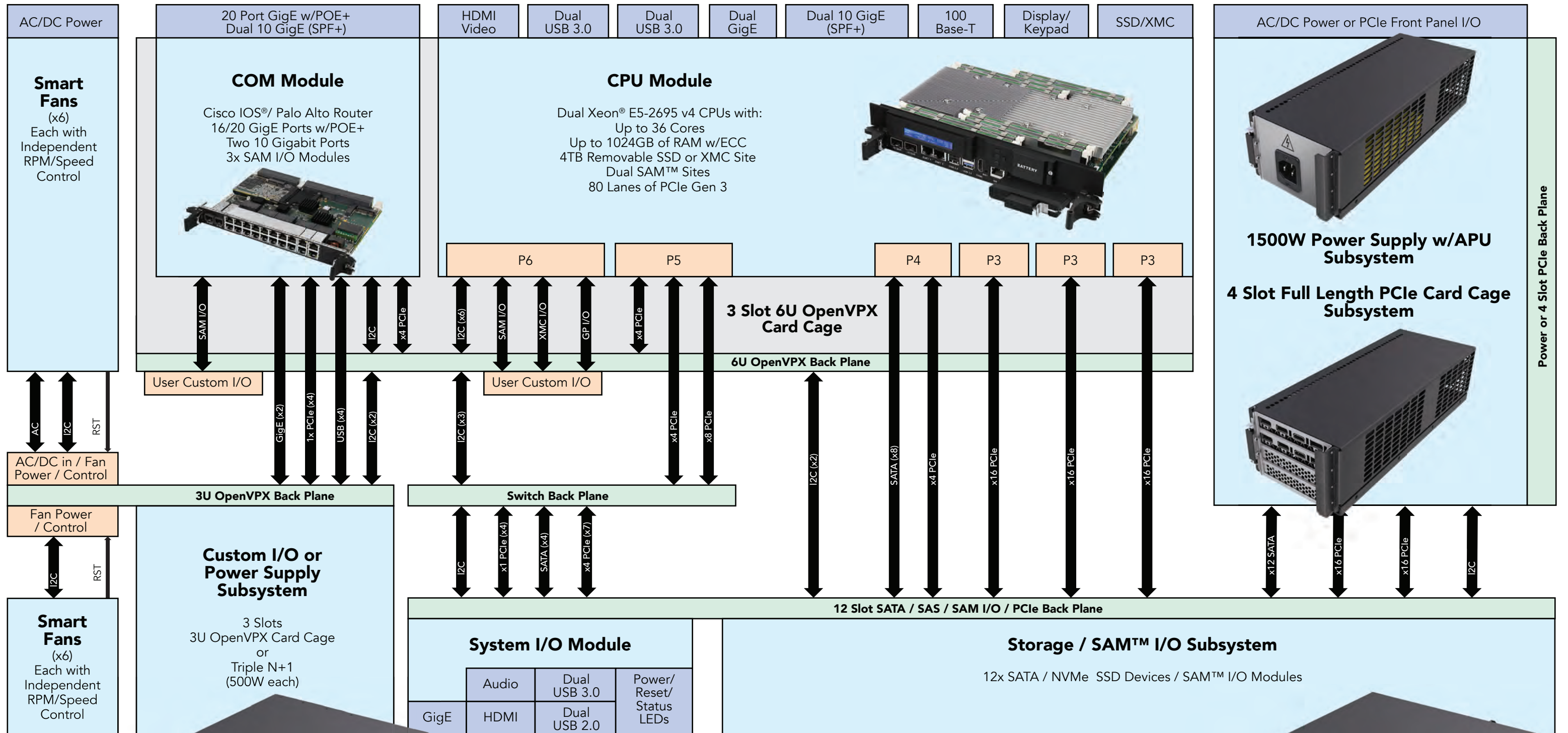
LIFECYCLE UPGRADABILITY

Defense systems need to survive the battlefield as well as the design and budget cycles inherent in the military lifecycle. The GMS modular design approach allows the S2U server to upgrade and evolve as technology and programs change, such as from one processor generation to the next. S2U's electronics modules and firmware are easily upgradeable: a program requalification might not even be required.



S2U "KING COBRA" ADVANTAGE

S2U MODULAR TECHNOLOGY	COMMENTS	ADVANTAGE: S2U
PCI EXPRESS FABRIC	Interconnects all S2U modules.	Provides maximum bandwidth with growth headroom for years to come.
OPENVPX	Battle-hardened modules used in rugged aviation, naval, vetronics and space platforms.	No "practically-obsolete" commercial motherboards from offshore manufacturers are found in S2U.
INDUSTRY-STANDARD SSD DRIVES	Ubiquitous SATA and PCI Express drives are available in myriad densities and MTBF ratings.	This future-proofs S2U as the industry evolves to PCI Express SSDs.
PCIE CARD CAGE AND AUXILIARY POWER	Commonly-available PCI Express (PCIe) computer boards plug right in. Or the modular card cage can be replaced with power supply/battery back-up for graceful shutdown in the event of power failure.	Both options maximize flexibility and make S2U easy to design with—or design into legacy programs.
OPENVPX POWER AND I/O MODULES	A smaller version of S2U's "motherboard" and communications modules, S2U relies on industry-standard power supply modules with wide availability and voltage choices.	Power supply sparing becomes off-the-shelf. Add-in industry-standard 3U OpenVPX I/O and co-processor boards substantially extend "King Cobra" functionality.
CISCO® MOBILE READYNET ROUTER	The world's most trusted router software in S2U assures interoperability with battlefield LANs and WANs.	Software programmability protects attack surfaces as the cyber-threat grows, allowing S2U's capabilities to grow with the network and cyber security needs.
ADD-IN I/O OPTIONS	S2U contains at least 20 different ways to add I/O and new functions to the server. Various modules are dual-use, can be swapped out for other functions, or are ready to accept new capabilities.	No other server has this much flexibility...in such a small space.



S2U "KING COBRA" (BACK)

- 6U OpenVPX CPU Module
- 6U OpenVPX COM Module
- PCIe or 1500W Power Supply w/APU Subsystem
- Cooling Subsystem (1 of 2)



S2U "KING COBRA" (FRONT)

- Storage / SAM™ I/O Subsystem
- 3U OpenVPX Power Supplies / Custom I/O Subsystem
- System I/O Module
- Cooling Subsystem (2 of 2)



6U VPX CPU MODULE

Dual, Ultra Fast
2.1GHz
Processors

Up to
72
Logical Cores

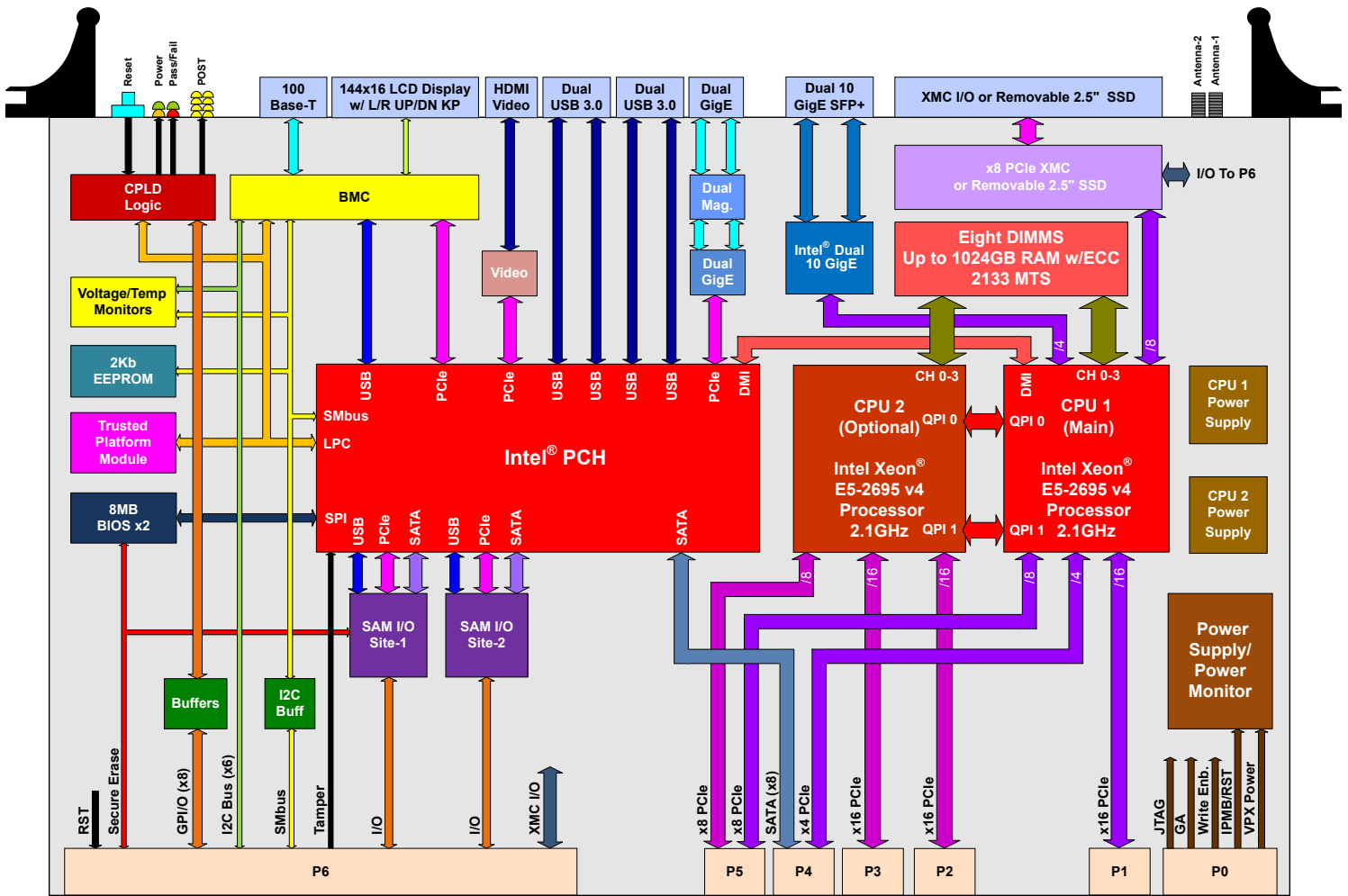
Up to
1024GB
DDR4 DRAM w/ECC

Up to
80Lanes
PCI Express

FEATURES:

- Rugged, 6U OpenVPX dual slot air-cooled module
- Utilizes dual Intel® Xeon® E5-2695 v4 CPU with up to 18 Cores, each operating up to 2.1GHz
- Hyper-Threading on each core for a total of up to 72 logical cores
- Supports up to 1024GB of RAM with ECC up to 2133 MT/s
- 35MB unified instruction/data cache for each CPU
- Up to 80 lanes of Gen 3 PCIe and 8 lanes of Gen 2 PCIe for ultimate high-speed I/O expansion
- Two 10Gigabit Ethernet ports with Fiber/Copper via SPF+ connectors
- Two Gigabit Ethernet ports with TCP/IP off load engine
- Support for one Enterprise Class x4 PCIe SSD with up to 2.4GB/s read and 1.2GB/s write speeds
- Support for one x8 XMC site (omit removable SSD)
- 4 USB 3.0 ports, eight GPI/O lines and HDMI video
- Baseboard Management Controller (BMC) for full system diagnostics and health management
- Front panel 144x16 LCD display with Up/Down, Left/Right keypad for system status
- Two SAM™ I/O modules for additional storage or off-the-shelf I/O such as Wi-Fi, cellular and more
- 16MB BIOS Flash and 2Kb EEPROM for FRU information
- Support for Trusted Platform Module (TPM) for secure operation (optional)
- Intel® Virtualization Technology (VT-x/VT-d2) and Trusted Execution Technology (TXT)
- Active Management Technology (AMT) for remote KVM functions
- Converged Platform Power Management (CPPM) for power saving
- Secure Erase ("zeroize") for total erasure of all Flash devices, including BIOS
- Voltage and temperature monitoring, plus reporting

CPU MODULE BLOCK DIAGRAM



ADDITIONAL DETAILS

The CPU Module is a dual slot OpenVPX module with front and rear I/O. Using Intel's latest server processor, the CPU module supports dual Intel® Xeon® processors (E5-2695 v4), each with up to 18 physical cores with Hyper-Threading for a total of 72 logical cores operating at up to 2.1GHz with the ability to TurboBoost up to 3.3 GHz. To harvest this incredible CPU performance, each CPU is coupled with up to 512GB (1024GB total) of RAM organized in four banks. Each RAM bank consists of two DIMM arrays with Error Correcting Code (ECC). The ECC RAM provides 2-bit error detection with 1-bit of correction, and supports up to 2133 Mega Transfers per Second (MTS) between CPU and memory, resulting in an incredible peak memory transfer rate of over 80GB/s.

The CPU module also provides two 10Gigabit Ethernet ports via SFP+ connectors for Fiber or Copper support. Additionally, two Gigabit Ethernet ports, four USB 3.0 ports, and one HDMI video port are provided on the CPU module's front panel. For custom I/O, the SBC provides one XMC site with x8 PCIe with front and rear panel I/O, or a 2.5-inch Enterprise class SSD device that is removable from the front with up to 2.4GB/s read and 1.2GB/s write speeds.

The SBC provides two Special Application Module (SAM™) sites, which support two mSATA SSD devices that may be used to boot the Operating System (OS) with RAID functions. Additional SAM I/O devices such as GPS, MIL-STD-1553, CANBus, or other ExpressMini cards may be used as well.

Other I/O functions of the CPU module include: Baseboard Management Controller (BMC) for health monitoring and reporting via a dedicated Ethernet port, Trusted Platform Module (TPM), eight GPIO lines, 16MB BIOS Flash, 2Kb of Field Replacement Unit (FRU) for configuration data, Real Time Clock (RTC) with field replaceable battery, and voltage/temperature monitoring.

A 144x16 pixel LCD display with Up/Down, Left/Right keypad is accessible on front panel to provide the status of the CPU module and user parameters. The CPU module also provides an incredible 80 lanes of PCIe Gen 3 support for I/O expansion via its VPX P1-P5.



6U VPX COM MODULE

2 Fiber/Copper
10GB-E
On the front panel

Up to 20
GB-E Ports
with POE+

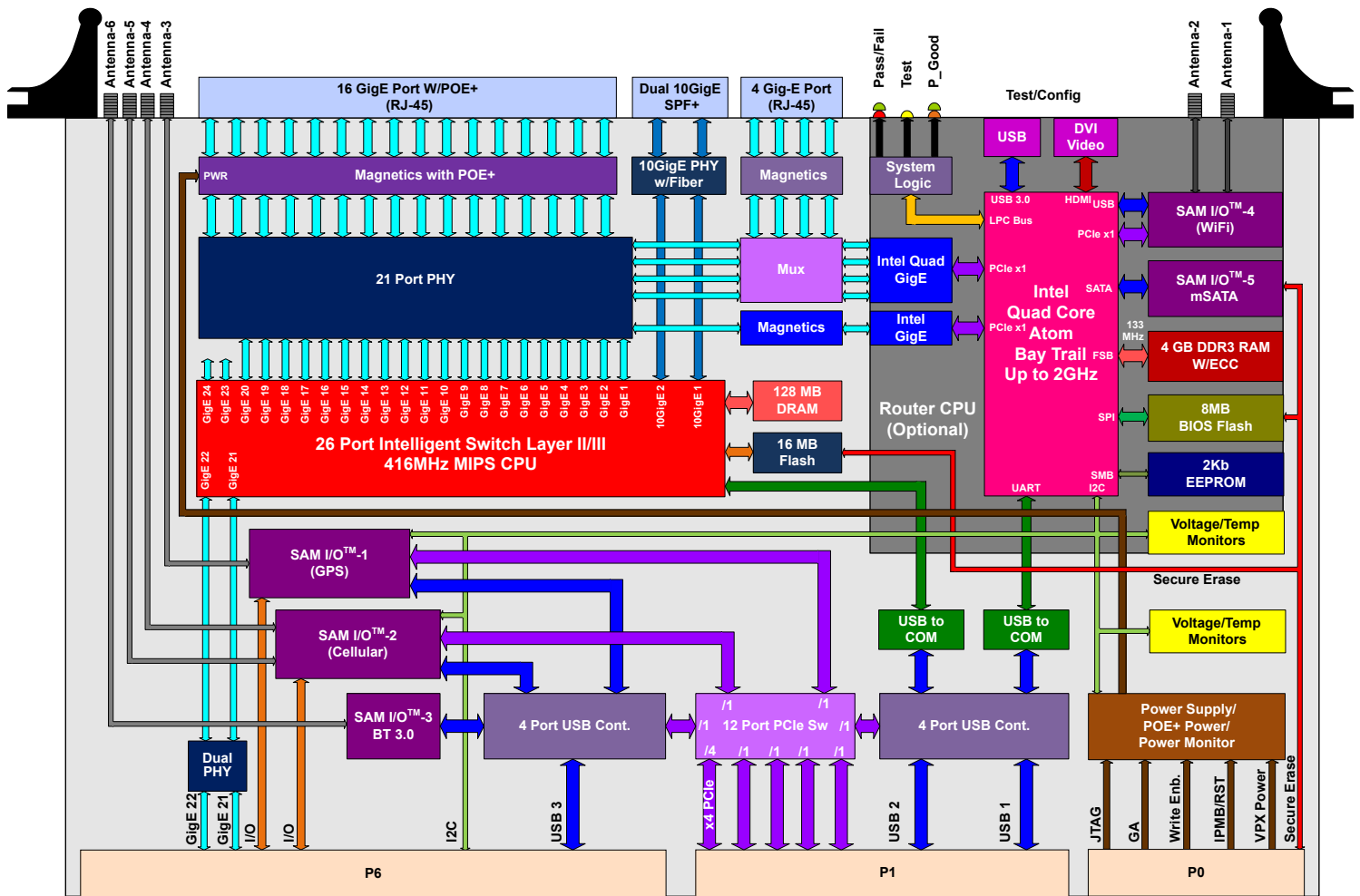
Full Featured
Cisco®
Embedded Router

Up to 3
SAM™ I/O
Expansion Sites

FEATURES:

- Rugged, 6U OpenVPX single slot air-cooled module
- Full-featured Cisco®/Palo Alto Embedded Services Router (ESR) with four Gigabit Ports (Optional)
- Runs Cisco® IOS routing software, optimized for extreme environments
- Supports Cisco Mobile Ready Net for infrastructure-less networking
- Designed for mission-critical voice, video or data packets
- Supports routing protocols: RIP (V1/V2), OSPF, EIGRP-IP, BGP and more
- Fully managed enterprise Ethernet Layer 2 switch with Layer 3 features
- 20 Gigabit Ethernet ports (16 w/Router), all with Power Over Ethernet (POE+) up to 150W
- Two 10Gigabit Ethernet ports with Fiber/Copper via SPF+ connectors
- Very low latency, VLAN support, QoS/differentiated services
- Multicast and spanning tree capabilities
- Security features for authentication and authorization
- DHCP client and server support, and SNMP
- Support for IEEE-1588 for packet time stamping (optional)
- Internal shared memory with jumbo frame support
- Web GUI and SNMP management interfaces provided for ease of configuration
- Support for Multicast IPv4, IPv6 with IGMPv2/3 snooping and MLD
- Bluetooth 3.0 support for ultra-fast wireless communication (eg: keyboard and mouse)
- Three SAM™ sites for custom I/O (Wi-Fi/Bluetooth, GPS, cellular radios, and more)
- Secure Erase ("zeroize") for total erasure of all Flash devices, including BIOS
- Voltage and temperature monitoring, plus reporting

COM MODULE BLOCK DIAGRAM



ADDITIONAL DETAILS

The COM Module is a 6U single slot OpenVPX module. It is connected to the CPU module via a 4x PCIe lane via VPX-P1. The COM module provides twenty Gigabit ports via a managed switch with Power Over Ethernet+ (POE+), and two SAM™ I/O sites for additional functions such as Wi-Fi, Cellular, Bluetooth and GPS.

The switch functions are controlled via a 416MHz MIPS processor with 128MB of DRAM. The MIPS processor controls up to twenty Gigabit Ethernet ports and two 10Gigabit Ethernet ports. The two 10Gigabit Ethernet ports are connected via SFP+ connectors to the COM module's front panel, and support Fiber/Copper interfaces, which may connect directly to the CPU module's 10Gigabit Ethernet port.

The managed switch supports Layer 2 and Layer 3 functions such as VLAN and QoS processing, enabling the delivery of differentiated services, security via intelligent frame processing, and egress frame manipulation. The switch may be configured via the host CPU USB/COM port that is connected internally or via a Gigabit Ethernet port on the rear panel. All twenty Gigabit Ethernet ports support POE+, which can provide up to 25W on each port up to 150W total.

The COM module supports a full-featured Cisco® IOS® software package with Mobile Ready Net to facilitate the most complex routing needs for security and compatibility with existing defense infrastructures. The Router is designed for battlefield applications and includes features to create and maintain both stationary and ad hoc networks with the highest quality-of-service (QoS). Moreover, it can adjust QoS based upon available bandwidth, resources, and available networks.

The Router provides Radio Aware Routing (RAR), Dynamic Link Exchange Protocol (DLEP), and IPv6. It supports routing protocols RIP (V1/V2), OSPF, EIGRP-IP, BGP and more, plus it supports up to 32 VLANs. Data packet encapsulations include PPP, PPPoE, GRE and 802.1q VLAN trunking.

The Router module portion of the COM Subsystem is based on a Quad Core Intel® Atom™ processor with 4GB of RAM and four Gigabit Ethernet ports. The COM module also provides one additional SAM™ I/O site for more I/O such as Wi-Fi, or GPS for time stamping of each data packet.



1500W POWER SUPPLY W/ APU

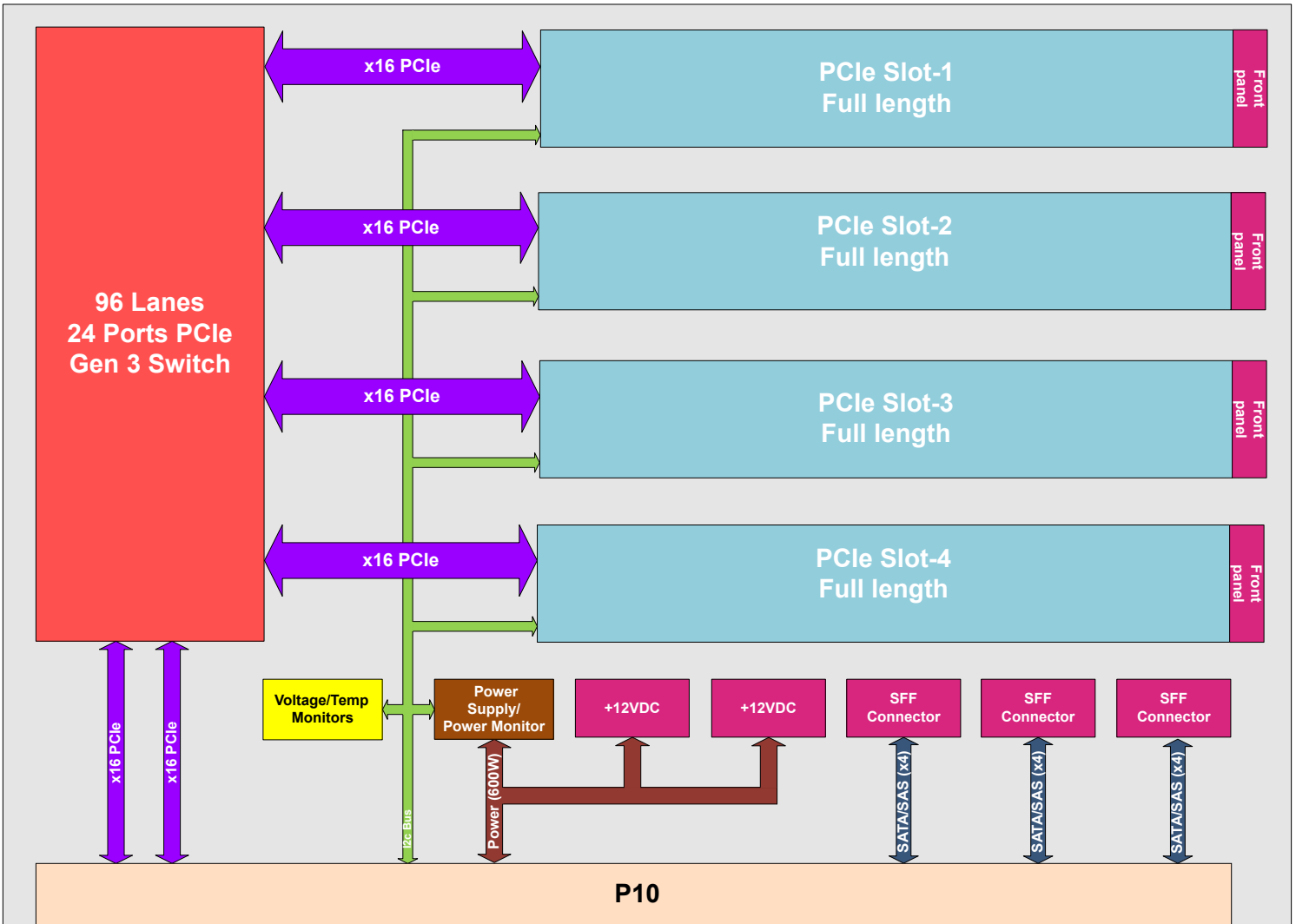
- Up to 1500W to power the entire S2U and charge APU batteries
- APU allows orderly shutdown upon power interruption
- High power/density batteries for maximum hold-time
- Optional Super Caps power storage technology for airborne applications
- Power monitor directly sends CPU to suspend-to-disk (S4) or shutdown
- Supports 110/220 VAC or 28 VDC input power (MIL-STD-704F)
- Fully enclosed canister for easy removal/replacement
- Voltage and temperature monitoring, plus reporting



PCIe SUBSYSTEM

- Supports up to four standard full-length/height x16 PCIe modules
- Supports two dual height PCIe video cards from NVIDIA®/AMD® for max GPU performance
- Supports standard hardware RAID controllers for ultimate performance and data reliability
- Up to 600W of power provided to support the most demanding graphic/DSP applications
- All four PCIe modules are easily removable and replaceable
- Voltage and temperature monitoring, plus reporting

PCIe MODULE BLOCK DIAGRAM



ADDITIONAL DETAILS

The PCIe Subsystem provides four full length/full height PCIe slots for industry-standard add-on modules. The Power Supply/Auxiliary Power Unit (APU) Subsystem provides normal and holdup power for the entire S2U. These two subsystems are installed independently. When the PCIe Subsystem option is used, power to “King Cobra” is supplied via the 3U OpenVPX Subsystem utilizing 3U OpenVPX power supplies. When the Power Supply/APU Subsystem is used, normal power is provided via this subsystem and backup power or orderly shutdown is provided via internal batteries or Super Caps. Besides providing backup power, choosing the Power Supply/APU in “King Cobra” makes available three slots in the 3U OpenVPX Subsystem to support user I/O modules.

The PCIe Subsystem is a function never seen before in any server. It is a removable subsystem that houses up to four full size, full height PCIe cards such as video cards, RAID controllers, DSPs, and many other ultra-high performance cards requiring the fastest throughput possible. Each site supports a x16 PCIe interface and gives rear panel access directly to I/O. Up to 600W of total power is provided for these four sites, making them capable of supporting the most power demanding applications.

The Power Supply/Auxiliary Power Unit (APU) is designed to provide backup power to the “King Cobra” for several minutes in order to prevent sudden shutdown, which can create catastrophic system errors and corrupt the file system. The Power Supply/APU Subsystem detects power brownouts and failure conditions, and provides a clean DC power supply to the S2U while forcing an orderly shutdown. BIOS settings allow the system to go to suspend-to-disk mode (S4 state) or full shutdown (S5).

The Power Supply/APU Subsystem may be ordered with a LiFePO4 type of battery for ground-based applications, or with Super Caps technology for airborne applications where batteries are prohibited.

The Power Supply/APU supports 110/220 VAC or 28 VDC input power (MIL-STD-704F), supports voltage and temperature monitoring with reporting, and may be easily removed via locking ejectors. When the Power Supply/APU is used the PCIe subsystem is omitted from the “King Cobra” (they are mutually exclusive).



REMOVABLE STORAGE / SAM™ I/O SUBSYSTEM

- Up to 12 hot-pluggable 2.5" Drive Bays for storage or I/O devices
- Each site supports 6Gbit/s SAS/SATA drives or x4 PCIe SSD drives
- Each SSD supports up to 2.4GB/s read and 1.2GB/s write speeds
- Supports SAS/SATA devices from CPU module or PCIe Subsystem
- Supports hardware or software RAID 0,1,5,10,50 and custom
- Supports up to 24 SAM™ modules for custom I/O
- Voltage and temperature monitoring, plus reporting

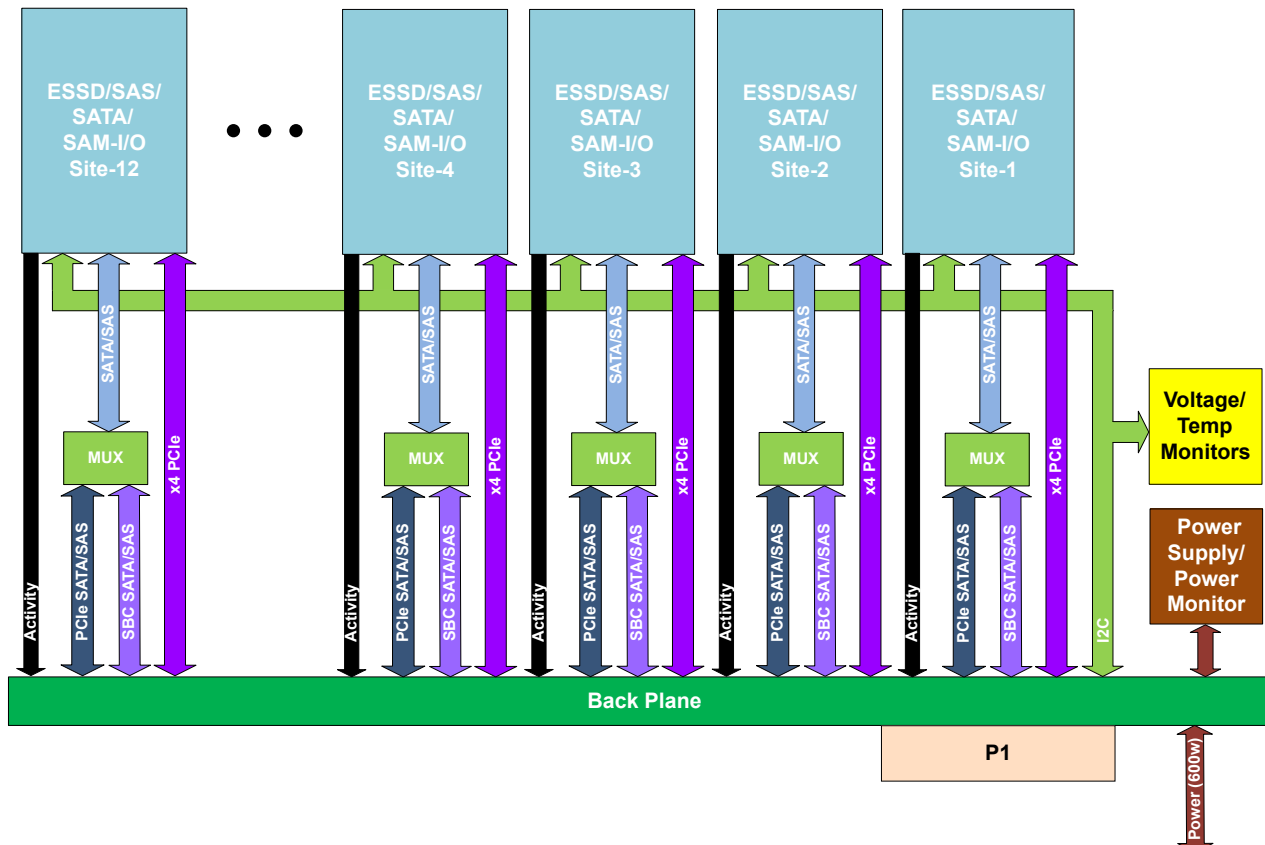
ADDITIONAL DETAILS

The Storage/SAM™ Subsystem, provides twelve removable drive bays. Each drive bay supports standard 2.5-inch SAS/SATA drives or the new upcoming Enterprise class NVMe SSD drives which utilize x4 PCIe for the highest performance possible. Each Enterprise Class x4 PCIe SSD supports up to 2.4GB/s read and 1.2GB/s write speeds. The SAS/SATA interface is provided by the CPU module directly or from the PCIe Subsystem via a RAID host controller. No SATA port multipliers are used, thus each port is capable of full SATA III speeds of up to 6 Gb/s, and supports RAID 0,1,5,10 and 50.

These twelve sites also support the new SAM™ I/O modules from GMS. Since each site has x4 PCIe lanes as well as SAS/SATA support, ultra-fast I/O devices such as dual HD video capture, DSP, FPGA, and other high-performance video functions may be added.

GMS will be supplying a variety of high-speed I/O modules to support a wide array of standard or custom functions.

STORAGE/SAM™ I/O BLOCK DIAGRAM





SYSTEM I/O MODULE

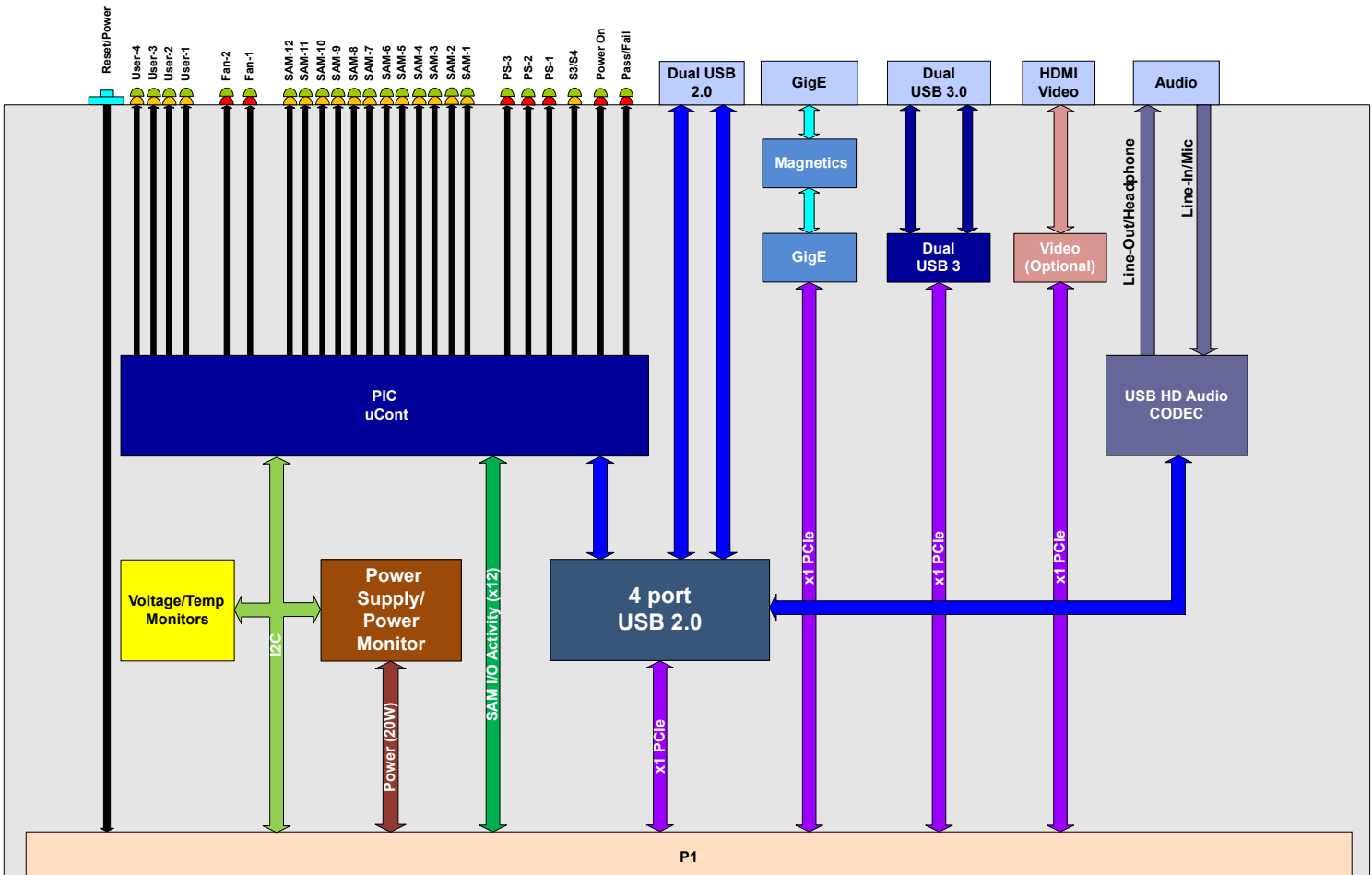
- Gigabit Ethernet port for Remote Management and status
- Two USB 3.0 and two USB 2.0 ports with power
- HDMI Video with Audio
- Line-In, Line-Out Audio
- 24 bicolor Status indicators with recessed Power/Reset switch
- Voltage and temperature monitoring, plus reporting

ADDITIONAL DETAILS

The System I/O Module provides the basic system level functions. It provides two USB 3.0 and two USB 2.0 ports with power, HDMI video, and audio to support the user interface, as well as a dedicated Gigabit Ethernet port (not connected to the COM Board Switch) for remote control and configuration. The System I/O provides 24 bicolor LED indicators to alert the user about the status of each

segment of the "King Cobra". Five bicolor LEDs are also used to indicate power/system status (Power Supply 1-3, Pass/Fail, Good Power and Sleep/Suspend-to-disk (S3/S4)). Twelve LEDs indicate the status of each Drive Bay/SAM™ module. Two more LEDs indicate the status of each of the Smart Fan trays, while four more additional sets indicate user status.

SYSTEM I/O BLOCK DIAGRAM





CUSTOM I/O SUBSYSTEM / POWER SUPPLIES

- Supports up to three 3U OpenVPX sites
- Up to 3 redundant, hot-swappable 3U OpenVPX Power Supplies
- Four x1 PCIe and four USB ports to the 6U OpenVPX backplane
- Supports 110/220 VAC or 28 VDC (MIL-STD-1275) input power
- Voltage and temperature monitoring, plus reporting

ADDITIONAL DETAILS

The Power Supplies/Custom I/O Subsystem is a 3U OpenVPX subsystem. It supports three standard 3U OpenVPX modules or OpenVPX Power Supply modules. If power is supplied via the APU Subsystem, all three OpenVPX sites may be used for user I/O. If the PCIe Subsystem is used, then a minimum of one Power Supply

module is required to power the system. Each Power Supply module provides up to 600W of power. For redundant power or when high power PCIe modules and SSDs are required, two additional power supplies can be added. These power supplies are hot-swappable and support 110/220 VAC or 28 VDC (MIL-STD-1275).



COOLING SUBSYSTEM

- Supports two Fan Trays for redundant cooling
- Each tray supports six Smart Fans, with RPM/speed control
- Precision cooling ducts for uniform airflow
- Intelligent fan controller for optimum control over each fan
- Voltage and temperature monitoring, plus reporting

ADDITIONAL DETAILS

The Cooling Subsystem consists of two Fan Trays, each with six ultra-high-speed fans with programmable speed and a tachometer to verify fan operations. These high-speed fans are individually

controlled via a microcontroller to deliver the optimum cooling for every section on the "King Cobra".

ABOUT GENERAL MICROSYSTEMS: TRUSTED AND DEPLOYED

General Micro Systems (GMS) creates exceptionally innovative products, trusted and deployed through 35+ years of credibility, hundreds of defense, industrial and medical customers, and thousands of successfully deployed systems.

GMS systems are distinguished by their ultra-rugged designs and highest density compute and I/O performance per cubic inch.

A trusted Intel® partner since 1986, GMS is the standard bearer in modular compute-intensive, highest I/O density, highest performance-per-volume, and rugged small form-factor embedded computing systems, servers, and switches. The majority of GMS products are fanless and conduction cooled.

Designed from the ground up to provide the highest performance and functionality in the harshest environments on the planet, the company's highly customizable products include GMS Rugged DNA™ with patented RuggedCool™ thermal cooling technology.

GMS systems are ideal for demanding C4ISR defense, aerospace, medical, industrial, and energy exploration applications. GMS is an IEC, AS9100, and MIL-SPEC supplier with infrastructure and operations for long-life, spec-controlled, and configuration-managed programs. Our Quality Manual, certifications, and further documentation about our rugged infrastructure is available upon request.



Benjamin K. Sharfi (and Boo)
Founder / CEO

GMS MILESTONES

YEAR	TECHNOLOGY RELEASED
1979	First SBC Products: EXORbus Single Board Computers (6502, 6802, Z80)
1984 - 1990	Introduced First VMEbus SBC Products (68000/68010/68020/68030/68040/68060)
1991 - 2000	The First To Introduce a Processor Independent SBC with Upgradeable CPU
	First VME MicroSPARC® & SuperSPARC® SBC with VME64
	First To Release Dual Pentium® Processor SBC
	First To Release Dual PowerPC® SBC
2001 - 2016	First to Ship Field-Upgradeable Pentium®-M based SBC
	First to Ship Smallest, Lightest Core 2® Duo™ Rugged Systems
	First to Ship Smallest Footprint Ultra-Rugged Systems with Removable Storage
	First to Ship Ultra-Rugged Tablet Computer with Removable Storage
	First to Ship Ultra-Rugged Servers with Support for Six Secure Virtual Machines
	First to Ship Ultra-Rugged Dual Fully-Isolated Systems in One Box
	First to Ship Xeon® Based Ultra-Rugged Server
	First to Release Ultra-Rugged Smart Display from 10" to 65"
	First to Ship Ultra-Rugged Server with Integrated Router and Managed Switch
First to Release 100% LRU Modular Server S2U "KING COBRA"	

These are only a few of the groundbreaking achievements we have logged over the past 35 years.

ENGINEERED TO SERVE.™



GENERAL MICRO SYSTEMS, INC.
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