

# COMPUTING

## Centellis® 8840 4Tbit/s Telecom Platform

### Data Sheet

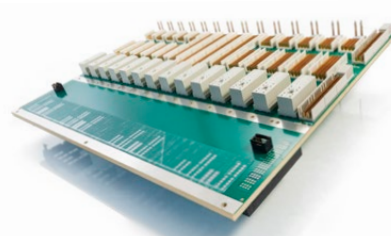
*The Centellis 8840 platform has a rich ecosystem of blades and software which make it well-suited to application acceleration and advanced networking*

- Architected for high availability applications
- Advanced platform management software
- Cooling & power with up to 600 watts per slot
- 10G, 40G, 100G-ready backplane with upgrade path to future 100G capable blades
- Artesyn QuadStar™ architecture supporting up to 400Gbps aggregated bandwidth per slot
- AC & DC power variants
- DC power versions pre-certified for NEBS Level 3
- Redundant shelf management & telco alarms
- 10 payload and 4 switching slots with rear transition module capability for each slot
- PICMG® 3.0 ATCA mechanical form factor and power/cooling design
- PICMG 3.1 ATCA high performance switch fabric capable of 1, 10 and 40Gbps operation

The Centellis® 8840 is architected to be a high availability platform suited to application acceleration and advanced networking with a rich ecosystem of blades and software that enable it to be deployed in a range of applications from security appliances to session border controllers to content optimization. Many configurations have been pre-certified for NEBS Level 3 saving both certification cost and time-to-market. The platform can be deployed in existing networks as well as SDN & NFV networks of the future. It's backplane has been designed and verified for 100G Ethernet and is ready for integration with future 100G capable blades.

### Benefits

- Bladed architecture for scalability, minimized cabling and ease of maintenance
- Application-ready configurations shorten time-to-market
- Pre-certified for NEBS Level 3 saves time-to-market & testing costs and ensures the platform is carrier grade
- Strong ecosystem of off-the-shelf or custom blades allows the platform to be easily configured for a range of applications & upgraded as new technologies become available
- Future-proof backplane design enabling 10G, 40G, 100G that allows the system to scale with advancing technologies and increasing bandwidth requirements
- Power & cooling up to 600 watts per blade slot accommodates today's technology with headroom for higher powered processors in the future



**Advanced TCA®**

**ARTESYN™**  
EMBEDDED TECHNOLOGIES

## Rich Content Ecosystem

- Platform management and diagnostics software suite
- Advanced load balancing and packet classification software
- Intel® Xeon® based server blades with storage options
- High throughput packet processing blades based on Cavium OCTEON or Intel® Architecture processors
- Voice & video media processing and transcoding based on TI and Octeon DSPs
- 10G & 40G switching blades with load balancing and system control functionality

## Flexible Application-Ready Configurations

Off-the-shelf enabling technology allows you to focus on your application

- Security Appliance / Deep Packet Inspection
  - Up to 10 Cavium OCTEON or Intel Architecture blades for deep packet inspection
- Session Border Controller
  - Up to 10 Intel Architecture blades for application processing
  - Voice and video transcoding blade options, capable of, for example, up to 80 channels of H.264/720p to H.264/SD (30 frames per second) per blade
- Content Optimization
  - Up to 10 Cavium OCTEON or Intel Architecture blades capable for example of processing up to 50 million packets/sec per OCTEON blade

## System Management

System Services Framework (evaluation license included) provides an easy way to set up and manage an Artesyn platform with an attractive web browser-based graphical user interface, command line interface or XML interface.

- Automated system inventory of hardware and system software elements
- Platform monitoring and management including sensors, alarms, events, hotswap status, FRU information, power, cooling, and shelf management
- Graphical monitoring of platform parameters including
  - Several temperature readings
  - Voltage readings
  - Fan levels

- Firmware upgrade for all blades
- Linux OS services management
- Configuration of SRStackware switch management and protocol software
- Blade and systems diagnostics
- Security and access control including system user account management and user authentication
- Ability to integrate additional functionality through packages from Artesyn or 3rd parties

## Enclosure

- 14 blades slots each with rear transition module (RTM) slots
  - 2 switch/system manager slots
  - 2 additional blade slots supporting QuadStar™ architecture
  - 10 (12 when configured for dual star) 8U payload slots for application blades
- 100/40/10/1G-capable backplane with QuadStar architecture for highest data throughput over the fabric interface
  - 160 Gbps maximum bandwidth to each slot, when used with 40G capable blades
  - Up to 400 Gbps bandwidth to each slot, when used with 100G capable blades
- AC or DC power distribution
  - DC version: 4 Power Entry Modules (PEMs) for 2+2 redundancy, supporting 8 kW
  - AC version 1: 4 PSUs configured for 2+2 redundancy, supporting 6 kW
  - AC version 2: 4 PSUs configured for 3+1 redundancy, supporting 9 kW
- Dual shelf managers and alarm modules
- Embedded Telco Alarm functionality
- Front Alarm Display Panel (ADP)
- Panel access & interfaces
  - One RS-232 console port (RJ-45)
  - One 10/100 baseT Ethernet (RJ-45)
  - One Telco Alarm interface (dry relay contact, DB-15)
- Front-to-rear cooling
  - Four top blower slots, 2 accessible from the front, 2 accessible from the rear

## Dimensions & Weight

- 798 mm high x 449 mm wide (not including mounting ears) x 515 mm deep (545 mm with cable tray)
- DC version weight: 66 kg / 146 lbs (without switch blades)
- AC version weight: 69 kg / 152 lbs (without switch blades)

## Operating Environment

- Operating temperature range (DC): -5 °C to 55 °C @ 90% non-condensing humidity
- Operating temperature range (AC): -5 °C to 40 °C @ 90% non-condensing humidity
- Storage temperature range: -40 °C to 70 °C @ 95% relative humidity

## Fabric Switch

Centellis 8840 includes four 40G Ethernet ATCA-F140 hub blades providing the redundant 40G communications fabric. This configuration supports bandwidths of 80G (dual-dual star), 120 G (3+1 redundancy) and 160G (non-redundant).

- ATCA 1G, 10G, 40G fabric switch interface
- Up to 160G bandwidth per node slot when configured for QuadStar™ topology
- Integrated Linux based software package for system & switch management
- Customization options with AMC site, HDD bay and telecom clocking module
- Available FlowPilot load balancing software
- Front panel interfaces
  - Service processor interface via 1G Ethernet (RJ-45) and RS-232 serial (RJ-45)
  - Base interface via dual 10G Ethernet (SFPP)
  - Fabric interface via dual 40G Ethernet (QSFP)
  - Telecom Clock interfaces
- Blade Services Software
  - Carrier-grade Wind River Linux
  - Firmware Upgrade Facility
  - Hardware Platform Interface (HPI) to manage platform elements configured for multi-shelf management support
  - SRstackware switching software including switch chip initialization, configuration, management as well as a full suite of L2 and L3 protocols

## The Artesyn Experience

Artesyn has over 30 years of experience serving the telecommunications industry and has hundreds of thousands of products deployed in the world's communications networks. With that long experience comes a deep understanding of our customers' requirements for on-time, consistent and high quality product coupled with excellent customer support. We deliver on all counts from our own world-class factory and seasoned support experts.

Artesyn strives to speed our customers' time to revenue and make your development process as easy as possible. For example our System Services Framework software is designed to make the configuration of your system painless by automatically inventorying all the system hardware and software elements, allowing you to configure switches and payload boards as well as monitor and diagnose hardware and software behavior, all from a simple graphical user interface enabling access to a single shelf or multiple shelves locally or remotely. All these features and experiences are supported globally with local system architects and FAEs to keep you on schedule.

We're very flexible and agile. We recognize that you may need your system to have your own unique branding. No problem. We're used to that. We have services that allow you to define the look and feel that's consistent with your company's branding and aesthetic standards. Our flexibility isn't just limited to look and feel. Integration services, unique support requirements, longevity of supply, drop shipments and many more services are designed to make it easy to do business with us and quick for you to get to market and deploy smoothly.



## Ordering Information

Part Number	Description
CENT-8840-4-AC2	(1) AXP14-400, 14-slot, 19", 18U, QuadStar™, 2+2 AC - (4) ATCA-F140
CENT-8840-4-AC3	(1) AXP14-400, 14-slot, 19", 18U, QuadStar, 3+1 AC - (4) ATCA-F140
CENT-8840-4-DC2	(1) AXP14-400, 14-slot, 19", 18U, QuadStar, 2+2 DC - (4) ATCA-F140
SAM14-100	Shelf manager module for the AXP14-100 - Silver
PEM14-100	DC power entry module for the AXP14-100
PSU14-100	AC power supply unit for the AXP14-100
BLWR14-100-F	Front blower module for the AXP14-100
BLWR14-100-R	Rear blower module for the AXP14-100
RAF14-100-SET	Replaceable air filter kit (set of two) for the AXP14-100
AXP14-100-RKMT-MID23	Mid-mounting brackets for the AXP14-100 for a 23" rack (set of two)
AXP14-100-RKMT-MID19	Mid-mounting brackets for the AXP14-100 for a 19" rack (set of two)
AXP14-100-RKMT-FR23	Front mounting brackets for the AXP14-100 for a 23" rack (set of two)
RJ45-DSUB-ATCA	Adapter cable - RJ45 to DSUB9 female (cable for shelf manager and ATCA-F140 serial console access)
AC-PC-20A-PIGTAIL	AC power cord, right angle, 20 amps, 250 volts, pigtail
AC-PC-13A-UK	AC power cord, 13 amps, 250 volts, UK connector
AC-PC-15A-AUS-ZEL	AC power cord, 15 amps, 250 volts, Australia & New Zealand connector
AC-PC-16A-EU	AC power cord, 16 amps, 250 volts, EU connector
AC-PC-20A-US-250V	AC power cord, 20 amps, 250 volts, US & Canada connector
AXP-F-FILL-PANEL	Blank filler panel, AXP1620, AXP1440, AXP1410, AXP14-100 – Front
AXP-R-FILL-PANEL	Blank filler panel, AXP1620, AXP1440, AXP1410, AXP14-100 – Rear
RTM-ATCA-F140	RTM for the ATCA-F140 with SFP and SFP+ sockets
PRAMC-7311	AMC with Intel® Core™ i7-2655LE Processor, 2.2GHZ, 4GB DDR3 - mid size
PRAMC-7311-16GB	AMC with Intel® Core™ i7-2655LE Processor, 2.2GHZ, 16GB DDR3 - mid size

## Regulatory Compliance

Item	Description
<b>Designed to comply with NEBS, Level 3</b>	Telcordia GR-63-CORE, NEBS Physical Protection
	Telcordia GR-1089-CORE, Electromagnetic Compatibility and Electrical Safety – Generic Criteria for Network Telecommunications Equipment. Equipment Type 2
<b>Designed to comply with ETSI</b>	ETSI Storage, EN 300 019-1-1, Class 1.2 equipment, Not Temperature Controlled Storage Locations
	ETSI Transportation, EN 300 019-1-2, Class 2.3 equipment, Public Transportation
	ETSI Operation, EN 300 019-1-3, Class 3.1(E) equipment, Temperature Controlled Locations
	ETSI EN 300 132-2 Environmental Engineering (EE); Power supply interface at the input to telecommunications equipment; Part 2: Operated by direct current (dc)
	ETSI ETS 300 753, Equipment Engineering (EE); Acoustic noise emitted by telecommunications equipment
<b>EMC</b>	ETSI EN 300 386 Electromagnetic compatibility and Radio spectrum Matters (ERM); telecommunication network equipment; ElectroMagnetic Compatibility (EMC) requirements, Telecommunication equipment room (attended)
	CFR 47 FCC Part 15 Subpart B, Class A (US); FCC Part 15 - Radio Frequency Devices; Subpart B: Unintentional Radiators
	AS/NZS CISPR 22 (Australia/New Zealand), Limits and Methods of Measurement of Radio Disturbance Characteristics of Information Technology Equipment
	VCCI Class A (Japan), Voluntary Control Council for Interference by Information Technology Equipment
	CISPR 22 Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement
	CISPR 24 Information technology equipment – Immunity characteristics – Limits and methods of measurement
<b>Safety</b>	Certified to UL/CSA 60950-1, EN 60950-1 and IEC 60950-1 CB Scheme
	Safety of information technology equipment, including electrical business equipment
<b>RoHS/WEEE compliance</b>	DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. (RoHS)
	DIRECTIVE 2002/96/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on waste electrical and electronic equipment (WEEE)

## SOLUTION SERVICES

Artesyn Embedded Technologies provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh.

## WORLDWIDE OFFICES

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