

SIEMON | NEWS, EVENTS, AWARDS, PRODUCT & CASE STUDIES...

CABLING FOR THE FUTURE

# Innovate

The Siemon Company Newsletter | May 2014

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**CONNECTING THE WORLD  
TO A HIGHER STANDARD**


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## Siemon launches LightStack™ high density fiber enclosure

Siemon is pleased to announce the launch of the new end-to-end ultra high density Plug and Play fiber enclosure. This end-to-end fiber system combines superior performance and density with unmatched accessibility in a sleek, modern enclosure.

LightStack has been designed to support advanced data center and storage area network environments and to provide a fast, seamless migration to advanced 40 and 100 Gigabit applications.

LightStack features a unique patent-pending enclosure that has the capacity to house 144 LC fibers or 864 MTP fibers in a single rack unit.

Its revolutionary horizontal cable management accommodates both traditional and uni-tube jumpers and features easy-unlatch, swing-open management clips for full access.

Innovative swivel cable tie-down points on the rear of the enclosure maintain proper bend radius.

With a rear bottom tray that slides inward for easy access to the connectivity while the enclosures are stacked on top of each other, LightStack offers best-in-class accessibility. In the out position, the rear tray acts as a cable management partition between stacked enclosures.

Low-loss Plug and Play modules are also easily inserted or removed from either the front or rear of the enclosure and the aesthetically appealing easy-open magnetic door eliminates harmful pinch points and offers high-visibility drop-down labelling.



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# LightStack™

Siemon's NEW ultra high density fiber enclosure.

Siemon's New LightStack system combines superior performance and ultra high density with unmatched accessibility - all packaged in a sleek, modern 1U enclosure that manages fiber cabling like never before.



#### ULTRA HIGH DENSITY:

Elegantly designed enclosures facilitate up to 144 fibers (LC) and 864 fibers (MTP) within 1U



#### SUPERIOR JUMPER MANAGEMENT:

Unlatch and swing open clips for complete access to any jumper with ample capacity to route all jumpers in one direction



#### UNMATCHED ACCESSIBILITY:

Divider is there when you need it and gone when you don't. Slides inward for complete access to all connectivity at the rear of stacked enclosures



#### LOW LOSS CONNECTIVITY:

Highest performing Plug and Play Modules and Adapters can be single-handedly installed and removed from the front or rear

Learn more: [www.siemon.com/lightstack](http://www.siemon.com/lightstack)

CONNECTING THE WORLD TO A HIGHER STANDARD



## Siemon launches SidePOD™ and Baffle cabinet solutions

Siemon has launched the SidePOD™ and Baffle solution to support side-to-side ventilated active equipment and end of row (EoR) configurations in data center applications. Designed to create and direct airflow to support cooling, the SidePOD and Baffle can also be used to expand EoR configurations, to increase capacity.

As an optional add-on to Siemon's 48-inch deep VersaPOD® (VP2) cabinets, the SidePOD creates the necessary clearance for proper airflow and cooling when using side-to-side ventilated switches, such as Cisco Nexus 7018 Series Switches. The optional baffles can be mounted within the SidePOD to route cold air to the input side of the switch and route exhaust air into the hot aisle.

The SidePOD is also suitable for expanding EoR configurations to increase capacity. When added to EoR cabinets, the SidePOD enables use of full size Zero-U panels, which provides up to 12U of vertical

patching and/or high-capacity vertical cable management to optimize EoR functionality. The SidePOD is compatible with the VP2 side panels, so the EoR cabinet side panels can readily be transitioned to the SidePOD when added.

"In today's data centers, we are seeing an increase of large, side-vented chassis switches that are often deployed in end of row configurations," says Dave Valentukonis, cabling support systems manager at Siemon. "While these switches provide more room and accessibility for cable management at the front and rear of the equipment, it is critical to maintain





Siemon's Lyle Menard, Structured Cabling System Specialist, explores Siemon's innovative VersaPOD® cabinets and SidePOD™ and Baffle solutions

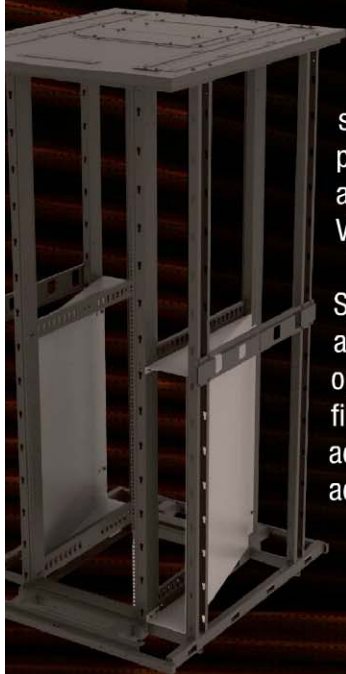
proper airflow. Siemon's new SidePOD and Baffle solutions are ideal for supporting these switch environments, while still providing the cable management and patching benefits of VersaPOD's Zero-U space."

Siemon's SidePOD door features a lockable latch that can be easily opened or closed with a single finger. There is a multiple cable access opening in the lid that accepts optional brush guards to provide overhead cable access to the Zero-U space. The unique

angled design of the baffles allows them to be nested in the Zero-U space between VP2 cabinets, to support both side intake and venting between adjacent cabinets.

Unlike most baffle solutions, Siemon's modular baffle allows six of the eight available Zero-U spaces (75 percent) to be used concurrently for patching or cable management. These reversible baffles can be installed in either orientation for proper airflow from cold to hot aisles...

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# VersaPOD®

Siemon's VersaPOD offers the density, scalability and efficiency you need to design the ideal infrastructure for your data center environment. Its innovative design optimizes the space previously un-used between traditional cabinets, enabling design options not previously possible.



## Zero-U Patching

Zero-U patch panels put patching ports right beside equipment ports - reducing the need for more expensive, longer cords. Shorter cords with less cable slack improves air flow, aesthetics and simplifies channel tracing.

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## Zero-U Cable Management

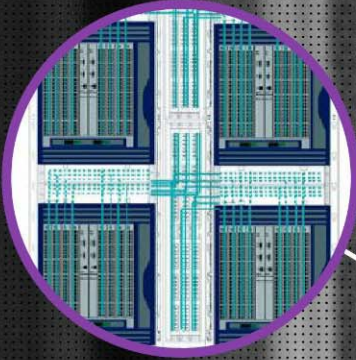
The high capacity of VersaPOD's Zero-U cable management zones not only leave significant space to add cabling channels as your needs grow, it frees space needed to mount future networking equipment without the need to add more cabinets and consume valuable data center floor space.

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FIND OUT MORE ABOUT SIEMON'S DATA CENTER DESIGN SERVICES | [EXPLORE](#)



## Design Options

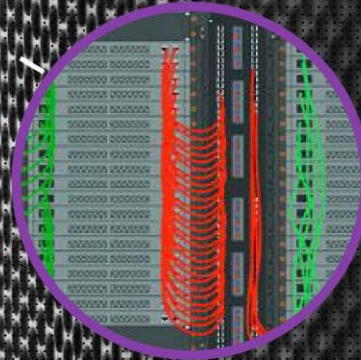
VersaPOD's wide variety of cable routing options enable it to support nearly any data center configuration, giving you the flexibility to design an infrastructure to fit your needs instead of working around the space limitations of traditional cabinets.

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## Space Savings

VersaPOD's innovative design allows for optimized space usage. View a real-world example of the VersaPODs space saving credentials.

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## Thermal Capabilities

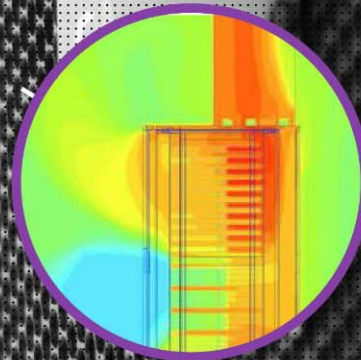
Analysis Overview: This analysis is based on a third-party thermal capacity study of the VersaPOD cabinet using CFD modeling and the following parameters.

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## Thermal Management

With energy costs continuing to rise, Siemon's VersaPOD system has been designed to control air flow to maximize thermal management and efficiency without sacrificing equipment and cabling density.

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## Siemon launches Surface Pack™ Box

Siemon has launched the Surface Pack Box.

In common with a Grid Outlet Position (GOP) box, the Surface Pack Box will typically be deployed in buildings with a raised floor system, such as in call centers and trading floors. Designed for use with or without flexible plastic conduit, cables can be routed and secured via a strain relief point within the box and terminated to the outlets.

The Surface Pack Box can be pre-terminated with chosen outlets and ready for rapid deployment once construction is finalized. Siemon MAX®, Z-MAX® and TERA® outlets are all supported by Surface

Pack Box, affording a choice of unshielded or shielded systems for performance from category 5e to 7A...





# To Fill, or not to Fill

## Get the most out of Data Center Cooling with SnapFit™ Thermal Blanking Panels

The use of a hot aisle/cold aisle configuration in the data center has long been considered a best practice for energy efficiency in a raised-floor environment, allowing the intake side of network equipment to pull in cold air from the cold aisle and expel hot exhaust air into the hot aisle. As density continues to increase, reaching upwards of 15 kW per rack, and the need to ensure energy savings becomes a top concern among data center managers, a simple hot aisle/cold aisle configuration is often no longer adequate as it allows some mixing of hot air and cold air.

In response, containment has become the latest trend for thoroughly separating hot and cold air to maximize energy efficiency. However a well-designed containment system and related energy savings simply cannot be realized without using blanking panels to fill empty rack spaces.

### FOR BOTH HAC AND CAC

Whether using hot-aisle containment (HAC) that isolates hot air exhaust and returns it directly to computer room air conditioner (CRAC) units via close

coupled in-row cooling or vertical ducts (i.e. Chimneys), or cold-aisle containment (CAC) that completely closes off the cold aisle to isolate cold air to the intake side of equipment, the purpose of any containment strategy is to prevent the mixing of the cold air and hot air...



Preventing the mixing of cold and hot air in the data center not only ensures that the equipment is taking in the coldest air possible to keep server fan speed at a minimum and prevent overheating, but it also ensures that the hottest air is returned to the CRAC units. Raising the temperature of the return air provides a greater Delta T (i.e. Difference between intake out output air), which allows the units to operate more efficiently...

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## Siemon Webinar explains the new IEEE 802.11ac standard...



Siemon continued its free webinar series with an educational update on the newly published IEEE 802.11ac Very High Throughput 5 GHz Wireless Standard. This latest informative webinar, entitled 'IEEE 802.11ac 5 GHz Wireless Update and Structured Cabling Implications', was presented by Siemon's Valerie Maguire.



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Offering users the potential to double their current wireless speeds, the new 802.11ac standard has far reaching implications with respect to cabling infrastructure design. With the introduction of 256 quadrature amplitude modulation (QAM), which allows more bits to be encoded in a single symbol, an eventual 160 MHz channel bandwidth and a maximum of eight spatial streams, 802.11ac will immediately support gigabit Wi-Fi with the potential to theoretically deliver 6.93 Gb/s wireless data rates in the future.

For the first time, the specification of high performance copper cabling supporting access layer switches and uplink connections will be critical to achieving multi-gigabit throughput and fully supporting the power and capacity of these next generation wireless access points.

**“We are proud to continue our complimentary webinar series with this engaging and exciting session on the latest wireless standard. All applicable terminology will**

**be explained and clearly presented for a wide range of technical and non-technical audiences.”**

David Wall, Global integrated marketing manager at Siemon.

“As part of Siemon’s commitment to keeping industry professionals and their customers informed, this educational webinar will answer questions concerning emerging 802.11ac technology trends, products and capabilities. The webinar will also provide a question and answer session for participants to interact with our expert presenter, Valerie Maguire, to get the specific information they need surrounding this latest wireless technology.” says David Wall.

The complete series of Siemon webinars is also available online at: [www.siemon.com/webinars](http://www.siemon.com/webinars), so previously recorded sessions can be selected and reviewed at any time.

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# How to Cross Reference ISO/IEC & TIA Naming Conventions

With four new ISO/IEC and TIA cabling projects under development, it is more confusing than ever to cross reference the two group's cabling and component specifications. This short primer should help.

In ISO/IEC Standards, structured cabling components (e.g. Cables, connecting hardware, and patch cords) are characterized by a performance "category" and are mated to form a permanent link or channel that is described by a performance class.

In TIA Standards, components and cabling are both characterized by a performance category. ISO/IEC and TIA equivalent grades of cabling, arranged in order of increasingly more stringent transmission performance, are shown below.

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## 10 Myths about Smart Building Performance

Smart Buildings are Expensive, Complicated, Only New Products, Only About Energy...? Not true.

There are many myths surrounding smart building performance. Colin Dyer, President & CEO of Jones Lang LaSalle, Inc., Dispels 10 smart building myths in his recent article "What Businesses Get Wrong About Creating Smarter Buildings".

According to Colin:

"#1: Smart choices are a no-brainer. In fact, this one isn't a myth. As affordable, smart building technologies are introduced and adopted by the marketplace, building tenants are coming to expect smart building features, and owners and investors are seeing solid returns on their investments in smart systems"...

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## Siemon New Products: Year in Review

New product Innovation continues to be a major focus at Siemon - We invite you to explore some of the new items we added to our range.

[CLICK HERE TO VIEW THE FULL BLOG POST](#)



LC BladePatch® Cord



Low Loss Plug & Play



Intelligent PDU Solutions



SnapFit™ Thermal Panel



42U VersaPOD® V600



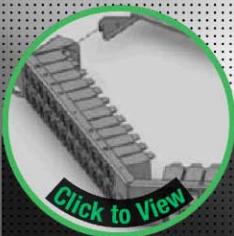
SidePOD™ & Baffle



MAX® TurboTool™



Mini LC Duplex Assemblies



Z-MAX® Patch Panel



RoutelT™ Cable Managers



XGLO™ APC LC & SC Singlemode Jumpers



MapIT® G2 Smart Fiber Enclosure



## The Need for Low-Loss Multifiber Connectivity In Today's Data Center

Optical insertion loss budgets are now one of the top concerns among data center managers, especially in today's large virtualized server environments with longer-distance 40 and 100 gigabit Ethernet (GbE) backbone switch-to-switch deployments for networking and storage area networks (SANs).

In fact, loss budgets need to be carefully considered during the early design stages of any data center—staying within the loss budget is essential for ensuring that optical data signals can properly transmit from one switch to another without high bit error rates and performance degradation.





With the length and type of the fiber cable and number of connectors and splices all contributing to the link loss, data center managers are faced with the challenge of calculating each connection point and segment within their fiber channels.

Multifiber push on (MPO) or mechanical transfer push on (MTP) connectors are rapidly becoming the norm for switch-to-switch connections due to their pre-terminated plug and play benefits and ease of scalability from 10 to 40 and 100 gigabit speeds. Unfortunately, typical MPO/MTP module insertion loss may not allow for having more than two mated connections in a fiber channel, which significantly limits design flexibility and data center management. Low loss, rather than standard loss, MPO/MTP connectors better support multiple mated connections for flexibility over a wide range of distances and configurations while remaining within the loss budget.

## **Evolving Data Center Architectures Impact Loss**

Traditional three-tier Layer 3 switch architectures have been common practice in the data center environment for several years. These traditional architectures consist of core network and SAN switches located in the main distribution area (MDA); aggregation switches located in the MDA, intermediate distribution area (IDA) or horizontal distribution area (HDA); and

access switches located in the HDA. With multiple switch tiers and fiber backbone speeds of 10 gigabits per second (Gb/s), the distance and data rates between switches have remained short enough for most data centers to maintain two or more connectors without exceeding optical link loss budgets. However, traditional three-tier architectures are no longer ideal for large virtualized data centres.

While the traditional three-tier architecture was well suited for data traffic between servers that reside on the same access switch, it does not adequately support the non-blocking, low-latency, high-bandwidth requirements of today's large virtualized data centers that divide single physical servers into multiple isolated virtual environments.

Non-blocking refers to having sufficient bandwidth so that any port can communicate with any other port at the full bandwidth capacity of the port, while latency refers to the amount of time it takes for a data packet to travel from its source to its destination. With equipment now located anywhere in the data center, data traffic between two access switches in a three-tier architecture may have to traverse in a north-south traffic pattern through multiple aggregation and core switches, resulting in an increased number of switch hops and increased latency...

[DOWNLOAD THE WHITE PAPER](#)



# BMW Chile:

**SIEMON proves to be the best cabling solution for one of the leading automotive company's Intelligent Building and Data Center**



BMW's new Intelligent Building and data center located in the La Dehesa sector of Santiago del Chile started its operations in September 2013 and is the first in a cluster of 3 Data Centres in Latin America. The other two are planned in facilities, one 10 km from Chile and another in Peru.



One of the important characteristics of this new facility, located in one of the most attractive areas of the Chilean capital, is the deployment of next-generation technology in a space of 17,000 m2.

## A smart environment

It was essential for BMW to have the latest technology in their modern facilities to offer its customers the best service by means of a powerful high-speed network and infrastructure design. BMW's new facility is an example that sets the standard in the Chilean market for being environmentally friendly through intelligent use of resources.

As a result, the building will soon receive LEED Gold certification, once it is completely finished. "This is the largest and most technologically advanced car sales building in Chile.," pointed out Felipe Germain, Head of BMW's Technology Platform, Network and Security Divisions. One of the many reasons that motivated BMW to choose SIEMON cabling was because of its Category 7A TERA® solution that offered a very attractive ROI.

**“Unlike Category 6, it’s fully shielded design has the ability to support future applications with the peace of mind of a 20-year warranty. The TERA**

**solution from Siemon enables the ability to upgrade switches to increase network speeds from 1 to 10 Gb and possibly higher without major changes to the existing infrastructure.”**

Felipe Germain, Head of BMW's Technology Platform, Network and Security Divisions.

The new La Dehesa data center has a unique set-up, being located on the top floor of a building with a "smart" design resulting in substantial savings in capital and operating expense.

As Germain explained, "It exceeds the necessary environmental standards for a project of this scope and it was planned for long-term use. The "intelligence" is based on efficiency and achieving high availability (HA) and applying this principle to all elements.

Achieving high availability means that operations cannot be interrupted by events such as earthquake, fire, floods and other disasters. This was achieved by deciding on cabling with 2 separate networks: one for the computers and a second for the Isis network, BMW's programming system for cars.

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## Connecting the world to a **higher data center standard**

### **Comprehensive data center Infrastructure Solutions**

- End to end copper cabling systems
- Complete fiber optic cabling options
- Innovative cabinets, racks & cooling
- Intelligent Infrastructure Management (IMM)
- Independently tested high-speed interconnects
- In-house Data Center Design Team

### **Why Siemon?**

- 111+ years of manufacturing excellence
- Long-standing commitment to world class excellence
- First to market with category 6 and category 7A
- ISO 14001 certified globally
- Over 400 patents related to structured cabling
- Global network of Siemon certified installers
- 179% Carbon Negative globally

[www.siemon.com/datacenter](http://www.siemon.com/datacenter)

