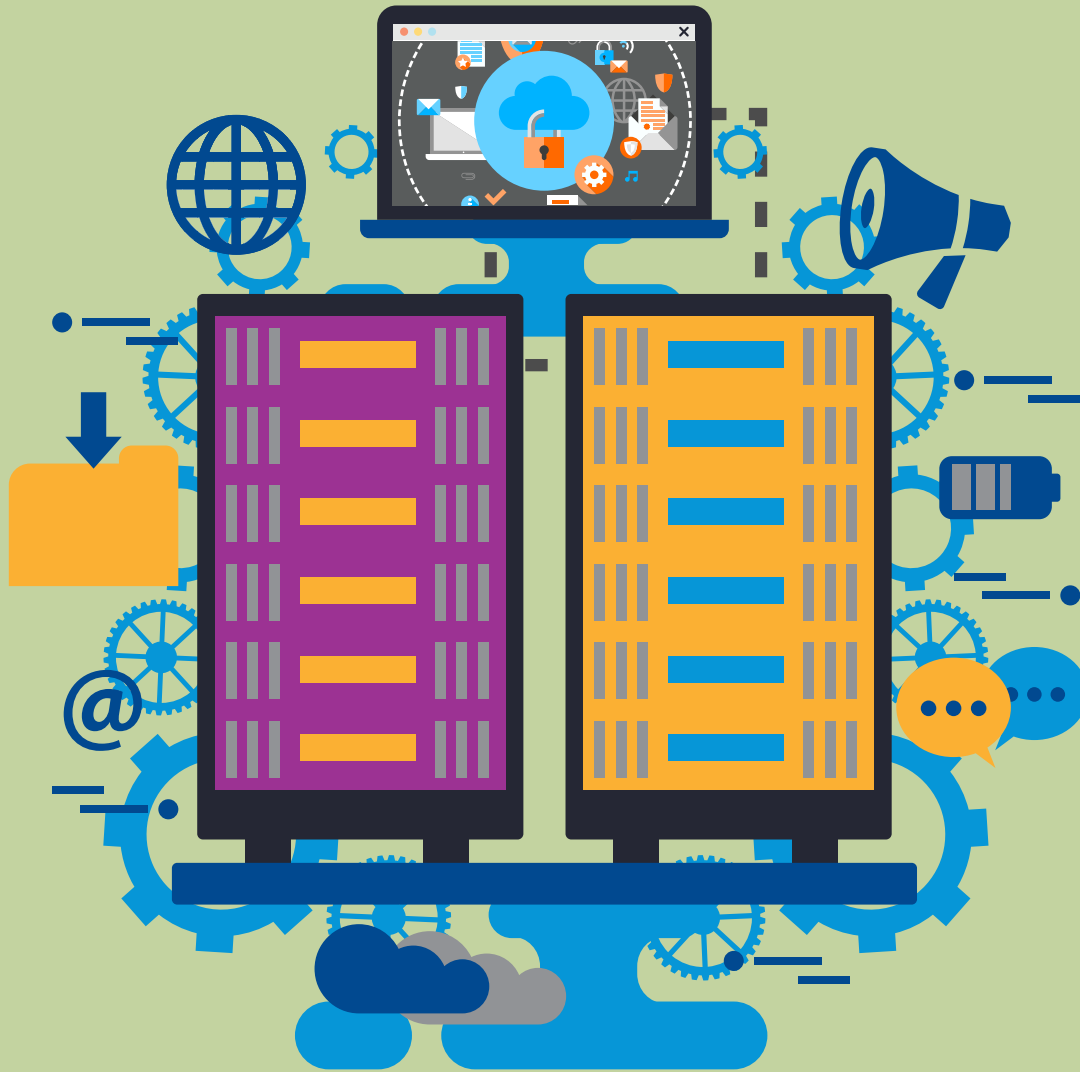


## Belden Supports Data Center Simplicity

With new, fast-moving technology comes increased complexity. Convergence and the Internet of Things (IoT), virtualization, increased security requirements, mobile computing and the cloud can all complicate your data center – whether it's due to managing more equipment, increasing bandwidth requirements or dealing with the unknowns of new technology. Reduce data center complexity by improving simplicity.



# How Belden Supports Data Center Simplicity



## Emphasizing Standardization

Standardized data center solutions simplify IT infrastructure, allowing more efficient operations at a lower overall cost. Belden focuses on:

- Changeable, scalable, repeatable, understandable and integrated systems and components
- Futureproof solutions that allow you to scale up later
- Common parts, technology and upgrade approaches
- Minimizing the possibility of problems and downtime due to human error
- Easy upgrades without altering cabling infrastructure or enduring downtime



## Engineering Products that Work Together

Products that follow consistent installation and maintenance processes – and are designed and manufactured to fit together – lead to faster, less complex installation. Belden systems provide:

- Product switch-outs and changes without compatibility or footprint issues
- Components that seamlessly integrate into reliable, high-performance networks
- Ample bandwidth and reliability to avoid downtime
- Support for hybrid systems as you move from legacy to IP, and from wired to wireless
- Products manufactured by the same company, so everything is designed to work simply together



## Strong Business Partners

Fully trained, professional Belden business partners optimize design, installation, service and logistical supply. These partners provide:

- Superior guidance
- Best-in-class warranties
- Advisory services, such as audits, design and project management



# Easy Installation and Maintenance

Faster installation and maintenance means short lead times, less training and lower maintenance costs. Trimming a few seconds or dollars may not seem like much, but can add up to days (or thousands of dollars) in savings.



## Ultra-High-Density (UHD) Copper Patch Panels

- Achieve double the port density with unique connector technology
- 48 ports in a 1U space



## FiberExpress® UHD Patch Panels

- Accommodate 144 LC ports or 72 MPO ports for over 860 fiber potential in 1U of space



## Small-Diameter 10GXS Cabling

- Tight bend radius allows small, light cable trays and reduces installation and routing costs
- Reduce cooling loads by improving airflow
- Use 25% less space in cable pathways without compromising performance



## AngleFlex™ Patch Panels

- Eliminate horizontal cable management purchases
- Achieve 27% space savings per rack



## High-Performance Fiber and Copper Cabling

- Limit downtime risk with multi-level distribution
- Allow access to only one circuit at a time to prevent mistakes



# Seamless Scaling and Migration

To minimize increasing complexity as data centers expand in the future, Belden provides components that allow growth and migration – without lots of reconfiguration work or compromised performance and reliability.

## Base 8 Cassettes

- Optimize costs and achieve smooth migration
- Eliminate dark fiber associated with SR4 and PSM4 architectures
- Save 4% to 5% when deploying Base 8 in duplex architectures or 10GBASE-SR and 25GBASE-SR
- Save 5% to 8% in SR4-based architectures

## FiberExpress® Hydra Assemblies

- Eliminate replacement costs for switching out MPO-to-LC cassettes with MPO frames
- Easily upgrade from 10 Gbps to 40 Gbps or 100 Gbps

## Open Bridge Racks

- Flexible, cost-effective migration to an Open Compute environment
- Used in three configurations: networking, server and Open Compute
- Convert quickly from TIA/EIA to Open Compute rails in the field to minimize business interruption

## Rack-Mount Products

- Gain valuable vertical rack space
- Increase available space without increasing footprint or operating costs with 48U, 50U or 52U cabinets

## Virtual Facility Software

- Virtually plan and reconfigure equipment to verify how much space you can save
- Conduct predictive modeling on upcoming moves, adds and changes
- Compare vendor solutions to see how a product impacts data center energy usage and floor space



# Simple Product Design

When products operate using a common methodology and footprint, they're intuitive to learn and easy to work with.

## KeyConnect Series

- Quick work area outlet reconfiguration to ensure availability for users
- Suits any data, voice, video or multimedia application
- Easy insertion and removal from any keystone-style opening

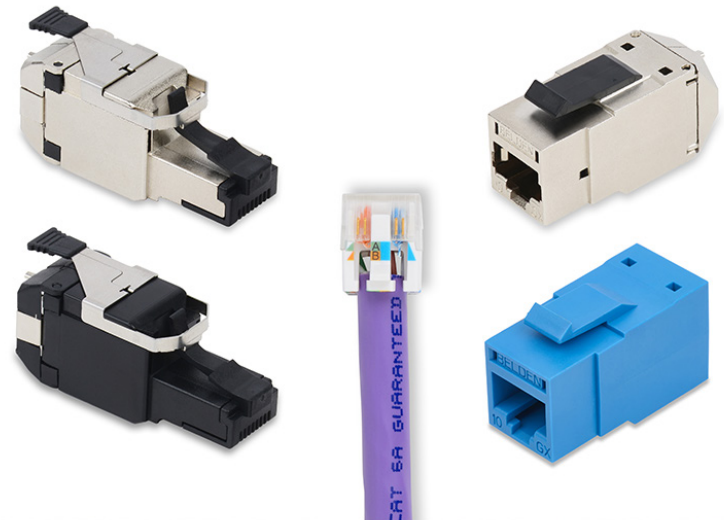
## Shuffle Cassettes

- Fit into any Belden housing to reclaim valuable floor space
- Eliminate cross-connect to separate 40G into 10G channels
- Allow for scaling in leaf-spine architecture
- Save roughly 72U of space as compared to traditional MPO-LC-MPO
- Significantly decrease required patch cords

## REVConnect

- Any connectorization requires only one process, one tool and a set of core components
- One core termination is compatible with eight different connectors

## REVConnect System



# Color Coding and Labeling

Make it simple to locate and access the right data center components with color coding and labeling; doing so also makes your data center look more organized and professional.

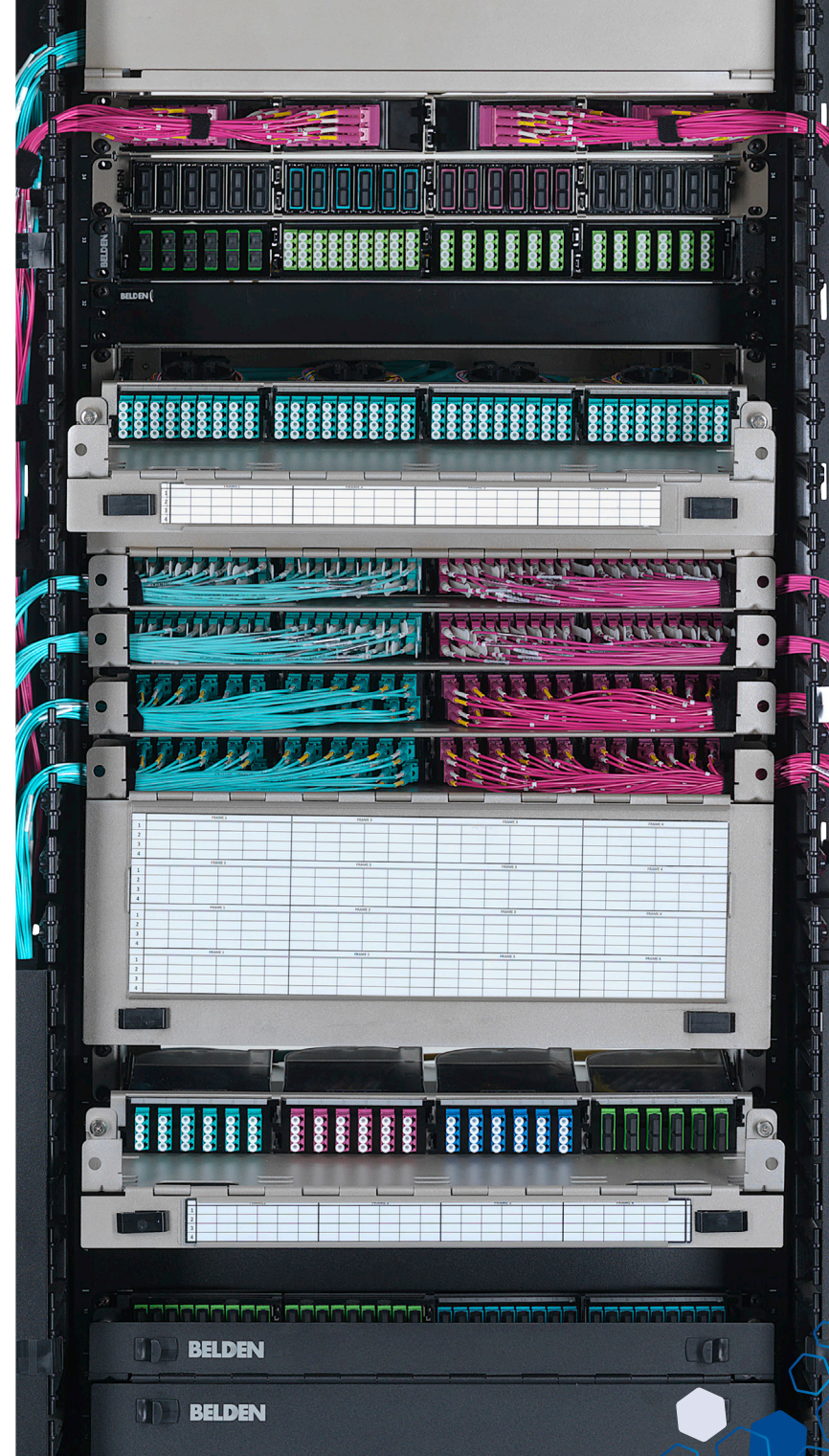
OM4

## Erika Violet OM4 Fiber Cable and Connectivity

- Easily identify, recognize and classify OM4 fiber
- Differentiate between OM3 and OM4 fiber to prevent inadvertent splicing or connections

## Pre-Terminated Copper and Fiber Cabling

- Reduce the chance for mistakes with clear labeling to indicate attachments
- Intuitive plug-and-play action with simple, reusable components
- Eliminate testing requirements with built-in reliability
- Less downtime and labor expense with fast moves, adds and changes



# Prevent Potential Problems

Issues can emerge in your data center for a variety of reasons: poor system design, overheating, human error, product incompatibility or lack of security. Belden offers solutions to keep these problems at bay.



## Smart Cabinet Access System

- Verify user access through biometrics, RFID card or coded locking handles
- Establish zones to grant user access only to certain cabinets
- Receive automated audit trails of cabinet access to track causes of downtime



## Cable Management Solutions

- Properly manage cabling to prevent trips and accidental disconnections
- Protect servers and equipment from failure causing dust, debris and damage



## Ladder Rack Runways

- Fast deployment with minimal business interruption
- Flexible swivel design makes routing easy
- Prevent downtime by managing cable bend radius, number of cables in a tray and weight placed on cables



## Passive and Active Rack Containment

- Prevent hot and cold air mixing to reduce hotspots
- Optimize airflow to deploy more equipment in the same footprint
- Remove high heat loads and prevent overheating with intelligent controllers



## Hot- or Cold-Aisle Containment

- Keep hot and cold air in place with sliding doors that connect magnetically
- Transition between flat roof and vertical containment without costly upgrades
- Prevent waste heat and cool air from mixing



# Automation and Tracing

Manual monitoring and tracking complicates processes. Automatically monitoring data centers and receiving warnings about potential problems prevents downtime and keeps processes running smoothly and simply.



## Remote Climate Monitoring

- Detect environmental hazards before they cause damage
- Receive notifications via cell phone or email



## Power Distribution Units (PDUs)

- View real-time power load assessments
- Receive alarms when conditions exceed thresholds



## Traceable Bonded-Pair Patch Cords

- Accelerate troubleshooting and prevent disconnection errors with built-in LEDs and activation switches on both ends
- Quickly find correct patch cord connections in densely populated patching areas
- Bonded-pair cable with better stability and electrical performance, despite bending, coiling or pulling



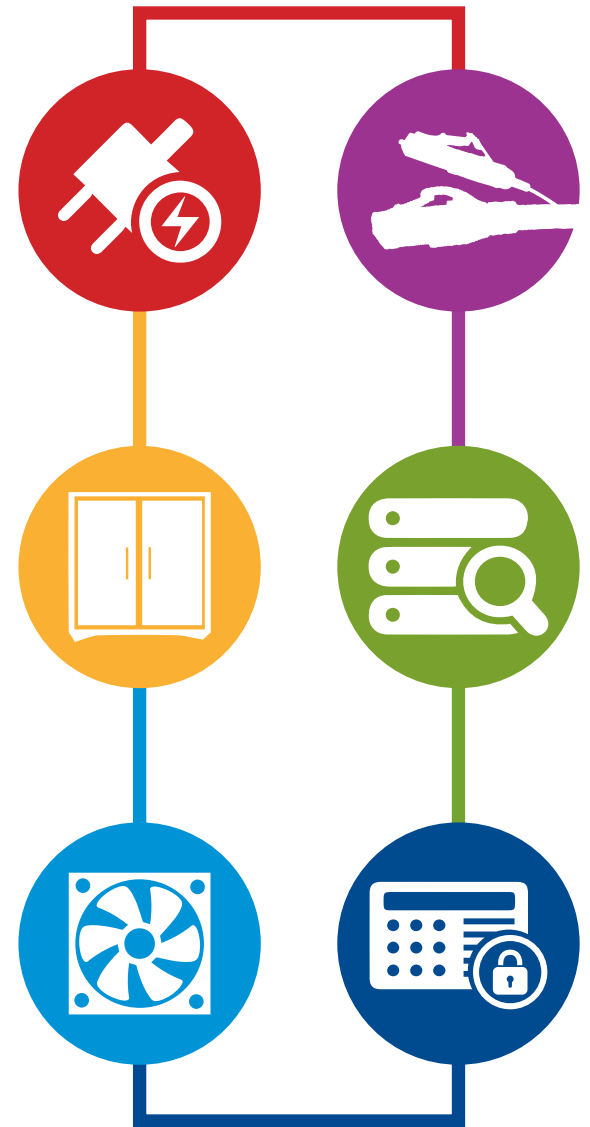


# What Makes Belden Stand Out

Belden owns the manufacturing process, which means we can customize solutions beyond the capabilities of many of our competitors.

Our expertise allows us to provide unique value-added services that set us apart. We can conduct cost analyses to compare data center solutions and help you make the best choice based on needs and budgets.

Our data center and LAN knowledge allows us to work closely with every data center team member: low-voltage contractors, electrical contractors, IT staff, infrastructure specialists and facilities managers.



### Assessment Services

- Uncover costly performance concerns
- Identify data center pain points that impact availability and capacity
- Resolve issues that waste time, money, energy and floor space

### Consignment Services

- Store Belden products onsite without paying for them until they're needed
- Decrease freight costs through large orders that are packaged and bundled together

### Data Center Ready Solution Sets

- Customized enclosures designed for optimal performance, with a single part number for ease of ordering
- Reduce labor costs and improve deployment time with copper, fiber and accessories that ship pre-installed

### Virtual Inventory Services

- Keep necessary products in stock at a Belden warehouse, ready to ship within 24 hours
- Eliminate space dedicated to storing extra equipment

Visit <http://info.belden.com/data-center/complexity> to learn more about how complexity can negatively impact your business—and how Belden can solve your complexity challenges.

