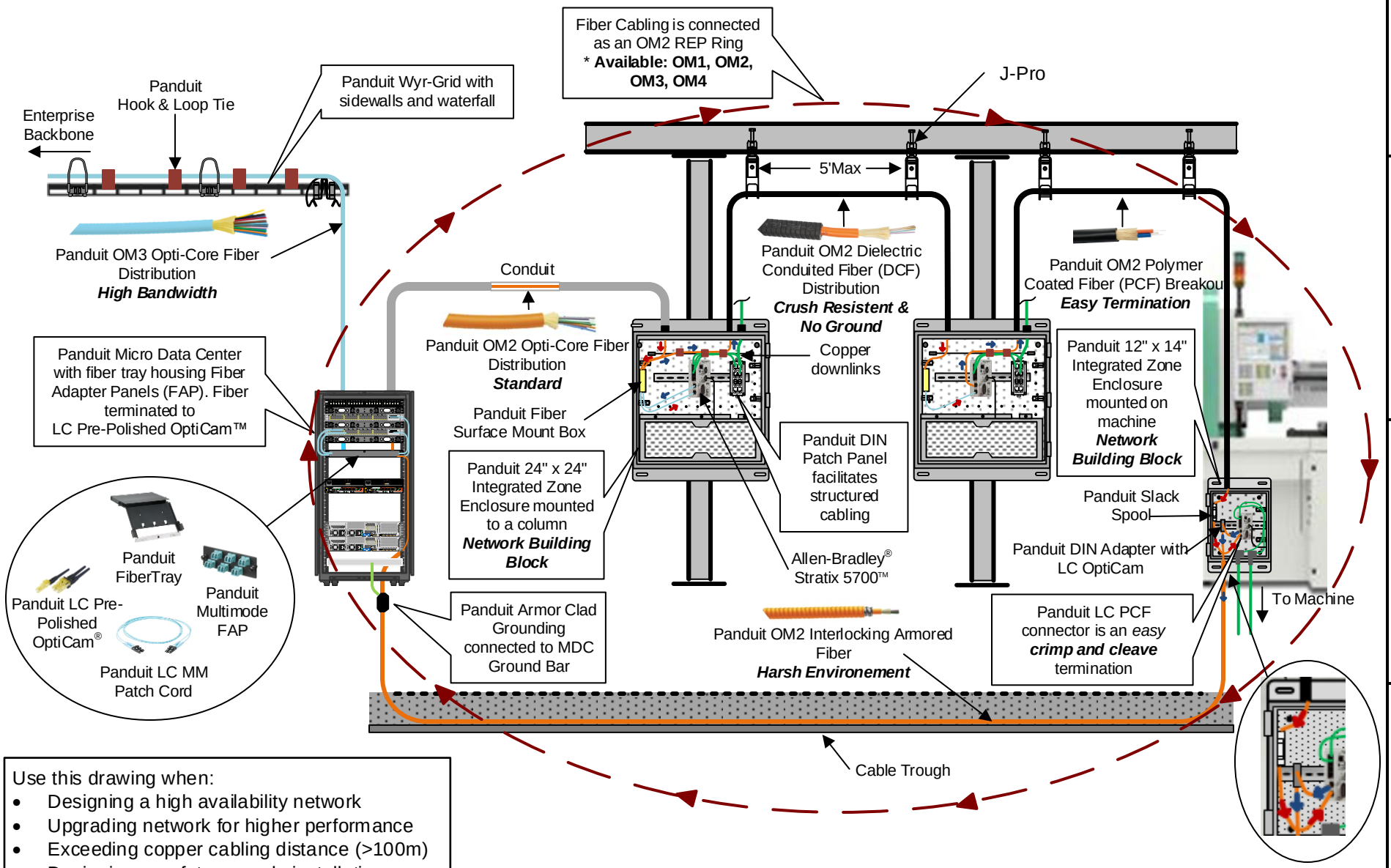
This drawing shows various fiber cabling, pathways, adapters, and connectors for a Resilient Ethernet Protocol (REP) switch ring using an Allen-Bradley® Stratix switch for high availability.



Use this drawing when:

- Designing a high availability network
- Upgrading network for higher performance
- Exceeding copper cabling distance (>100m)
- Designing new future-ready installation
- Mitigating electrical noise

IN-ROUTE PCD003-AUG16-ENG	PANDUIT™	Fiber Switch Ring (REP) Deployment for High Availability

Bill of Materials

Part Number	Description
Cabling, Patch Cords, and Zone Enclosure	
FODRX12Y	12-fiber OM3 multimode riser distribution cable
FSDR506Y	6-fiber OM2 multimode riser distribution cable
FSPR506Y	6-fiber OM2 multimode riser indoor armor cable
ACG24K	Armored cable grounding kit
FSPD508	8-fiber OM2 dielectric crush resistant indoor multimode cable
FI2D204	4-fiber OM2 PCF (polymer-coated fiber) multimode LSZH-riser indoor breakout cable
FX2ERLNLNSNM001	LC OM3 patch cord, 1 meter length (it is okay to patch to OM2 horizontal fiber cable)
Z22*******	24" x 24" zone system with 8 downlinks, Stratix 5700, and UPS (Universal, switch-ready, integrated, preconfigured)
Z11*******	12" x 14" integrated system with 8 downlinks and Stratix 5700
NWSLC-2Y	Label sleeve for cable identification, 1" length, qty. 100
FLCCLIW-X	Lock-in connector
PSL-LCAB-BL	LC duplex adapter block-out device
Adapters, Connectors, DIN Patch Box, and Tray	
FCE1U	19" rack mount fiber tray
FLCDMC5BLY	LC OM2 OptiCam duplex fiber connector
FLCDMCXAQY	LC OM3 OptiCam duplex fiber connector
FAP8WAQDLC	LC OM3/OM4 FAP with 8 duplex multimode adapters with phosphor bronze split sleeves
FLCDHMIG	LC duplex crimp and cleave fiber connector for PCF (polymer coated fiber) multimode cable with push-pull release mechanism
FDME8RG	8-port DIN fiber patch panel
Pathways	
WG12BL10	12" W x 10' L Wyr-Grid pathway section
WGSPL1218BL	Wyr-Grid splice to join sections
WGSW2BL	Wyr-Grid 4" height snap-on sidewalls
JP2SBC50-L20	J-Hook with screw-on beam clamp for use with flanges up to 1/2" thick
HLB2S-C0	Hook & Loop stacked strip cable ties, qty. 100

For More Information

For more information, contact your local distributor, Panduit Sales Representative, or Rockwell Automation Sales Representative.
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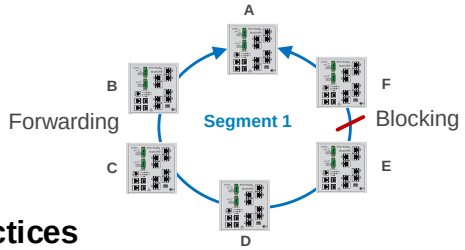
About this Configuration

Fiber is ideal for high-bandwidth, long-distance and electrical-noise-immune transmission. This drawing lays out the options for media, methods to route, protect and patch fiber for a high availability REP switch ring.

Resilient Ethernet Protocol (REP) Ring

Resilient Ethernet Protocol (REP) is a segment concept. Segments can be wrapped into rings seen as a redundant link to form a redundant network that self heals (typically less than 80ms).



Best Practices

- Fiber switch uplinks minimize network drop out during discovery after a disconnect as well as provide the largest bandwidth headroom.
- Controlling fiber bend radius using spools, waterfalls, etc. minimizes signal attenuation to achieve the greatest distance and performance.
- Structured cabling accommodates network expansion, speeds up troubleshooting, and improves reliability. It is a cabling infrastructure that has demarcation points such as patching and horizontal cabling.
- Cable identification using labels and color coding speeds up troubleshooting and maintenance activities (moves/adds/changes). When applying labels, use a sleeve.
- Prevent unauthorized access and cable changes with block-out and lock-in port control products.
- Grounding of armored fiber cabling required for electrical code.
- Link testing with a power meter ensures optimal signal transmission.
- Conduit fill should not exceed 60% capacity.

References

- Panduit Fiber Optic Infrastructure Application Guide
- ANSI/TIA 568C
- NECA/FOA 301
- http://www.ab.com/en/epub/catalogs/6005557/6005561/10213454/Introduction.html

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