CORNING

Bringing Broadband Home
A Product Architecture Guide

Whether your deployment is centralized split, distributed split, or optical tap, you can count on our fiber-to-the-home expertise. We've compiled the most commonly used preconnectorized products for each architecture type. Our portfolio of products is designed to address your specific challenges from speed of deployment, labor and cost considerations, performance requirements, future-readiness, and more.

Every fiber network needs a path from the central office electronics to a customer premise. Options exist across these typical network areas:

(A) Central Office (CO)
(B) Feeder Cable
(C) Fiber Distribution Hub (FDH)
(D & E) Distribution Segment
(F) Customer Premise

This document outlines four methods of deploying the distribution segment (D & E) of the network depending on the level of connectivity used and architecture chosen.

Central Office (A), Feeder Cable (B), and Fiber Distribution Hub (C)

Regardless of architecture or density, the type of products you select for the first three segments of a fiber-to-the-home network are similar in nature at the central office (A), feeder cable (B), and fiber distribution hub (C).

Our rack-mount hardware solutions (A) simplify the design and deployment with industry-leading density, flexibility, and provide the lowest total cost of ownership.

The feeder cable (B) is the backbone of the network. With designs for every environment, our innovative cables solve your unique application challenges, from congested duct space and environmental extremes, to mechanical forces and cable-entry concerns. The fiber distribution hub (C) enables quick-turn subscriber turn up and error-free, long-term management of your climbing take rates within cabinets or splice closures.

See How OTTC Deployed This Connectivity Solution.
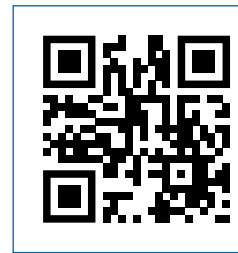
A Central Office (CO)

The Centrix™ hardware system is a pay-as-you-grow solution where you can choose to order fully loaded racks/frames on day one, or simply start with a cassette in a housing. The core of the solution is a single, modular cassette that can be tailored to include a variety of optical devices and can contain up to 36 LC connector adapters.

| Part Number	Description
Frame	
CTX-SA-FRAME-7	Standard Rear Cable Access Frame, 7 ft
Housings	
CTX-S4U	Centrix Housing, 4U, 12 cassette positions, empty
CX4WWP36-B3-2RJ000	432 F Centrix 4U Splice Housing, 36 F LC APC cassettes, ribbon standard single-mode pigtails
CX4U831246C-xx002B	288 F Centrix 4U Stubbed Housing, 24 F SC APC cassettes, 31-m stub, xx cable
Cassettes	
CTXCMA00-6C-SP8102	Centrix Splitter Cassette, 1x2 splitter, SC APC, 8 devices
CTXCMA00-B3-SP1132	Centrix Splitter Cassette, 1x32 splitter, LC APC
CTX360236A9-D9893B	Centrix Stubbed Cassette, 36 LC UPC adapters to 3 MTP®, 2 m
CTXCPP24-6C-2RH000	Centrix Pigtail Cassette, 24 SC APC
CTXCA36-B3B	Centrix Patch Cassette, 36 LC APC
Jumpers	
444401G3116004M	Jumper, SC APC to SC APC, 4-m long, 1.6-mm outer diameter
585801G3116004M	Jumper, SC UPC to SC UPC, 4-m long, 1.6-mm outer diameter
222201G3116004M	Jumper, LC APC to LC APC, 4-m long, 1.6-mm outer diameter
020201G3116004M	Jumper, LC UPC to LC UPC, 4-m long, 1.6-mm outer diameter

A CO

C FDH
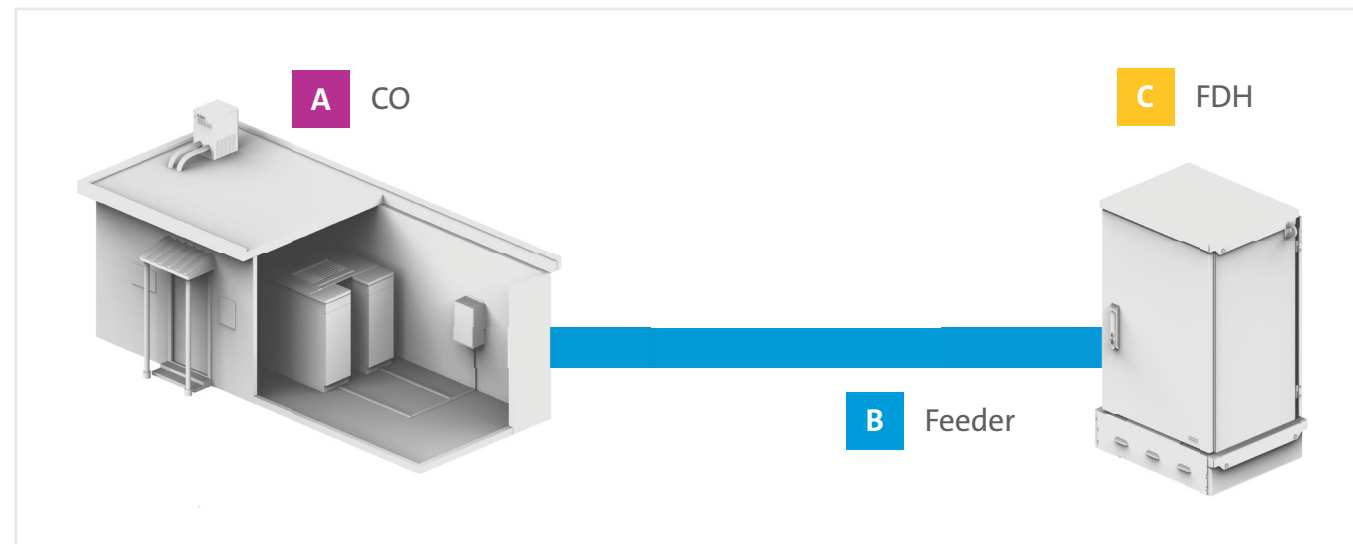
B Feeder

B Feeder Cable
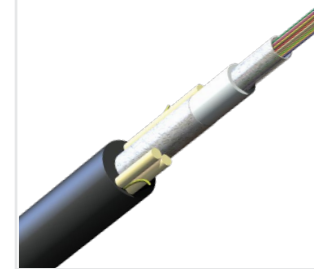
Whether aerial or buried, we have the fiber count, quality, and reliability your network demands. For higher fiber counts, ribbon cable may be a good option for you! For below-grade applications, consider using an armored cable. If you are looking for a solution to place in congested ducts with microducts, MiniXtend® cable may be the right fit.

Part Number	Description
Ribbon Cables	
xxxZC5-14100D53	SST-Ribbon™ Armored Cable (144-864 fibers)
xxxEC4-14100D53	SST-Ribbon All-Dielectric, Non-Armored Cable (012-216 fibers)
xxxEV4-14100D53	SST-UltraRibbon™ All-Dielectric, Non-Armored Cable (288-864 fibers)
xxxEV4-44101D53	RPX® All-Dielectric Self-Supporting Cable (024-144 fibers)
Loose Tube Cables	
xxxZU4-T4F22D20	ALTOS® Loose Tube Cable (012-288 fibers)
xxxZUC-T4F22D20	ALTOS Lite Single-Jacket, Armored Loose Tube Cable (012-288 fibers)
Microduct Cables	
xxxZM4-T4F22A20	MiniXtend Cable (012-144 fibers)
xxxZH4-Y4F40A20	MiniXtend HD Cable (144-288 fibers)
xxxZH4-S4F40A20	MiniXtend HD Cable (288-432 fibers)

C Fiber Distribution Hub (FDH)

The Panel Access Cabinet (PAC) series provides everything necessary to manage up to 864 fibers for an outside plant FTTx application in pole- and pad-mount environments. For below-grade installations, the LCPE is designed to house five 1x32 splitters (ordered separately) with preterminated SC APC adapters.

Cabinets/Splice Closures

Part Number	Description
PAG-D3-DDU4SUCL6C-000LXFA	Panel Access Cabinet, pole mount, 432 fibers, 72-fiber feeder, 72 fiber pass through, ALTOS® Lite armored cable, 31-m stubs
PAG-C3-CCU4SU4P6C-000LXFA	Panel Access Cabinet, pad mount, 288 fibers, 48-fiber feeder, 48 fiber pass through, ALTOS dielectric cable, 31-m stubs
WMR4CC6CA6C11132	LS Series Splitter Module, 1x32
EDBS00BBSC00BBS00P	Local Convergence Point Enclosure, 144 fibers, Loose Tube feeder cable, splice capable
XSB1DDA91A911132	Local Convergence Point Enclosure, splitter module, 1x32

Distribution Segment — Option 1

Centralized Split: Distribution Cable & Splice Closures (D) and Stubbed Terminals (E)

The distribution segment of a fiber-to-the-home network will vary based on network architecture.

The most common architecture deployed in the United States and Canada is a centralized split (CS) network. A CS network is characterized by a single split location between electronics in the outside plant, often with several splitters housed in a centralized location.

The first CS option shown on this page highlights a spliced design. This includes bulk distribution cable & splice closures (D) and stubbed terminals (E) at the network access point.

Note: First layer splitters often exist in cabinets but in smaller serving areas may be housed in splice closures.

See How Tri-Co Deployed This Connectivity Solution.

Tri-Co Case Study

A — CO
B — Feeder
C — FDH
D — Distribution and Closure
E — Stubbed Terminal
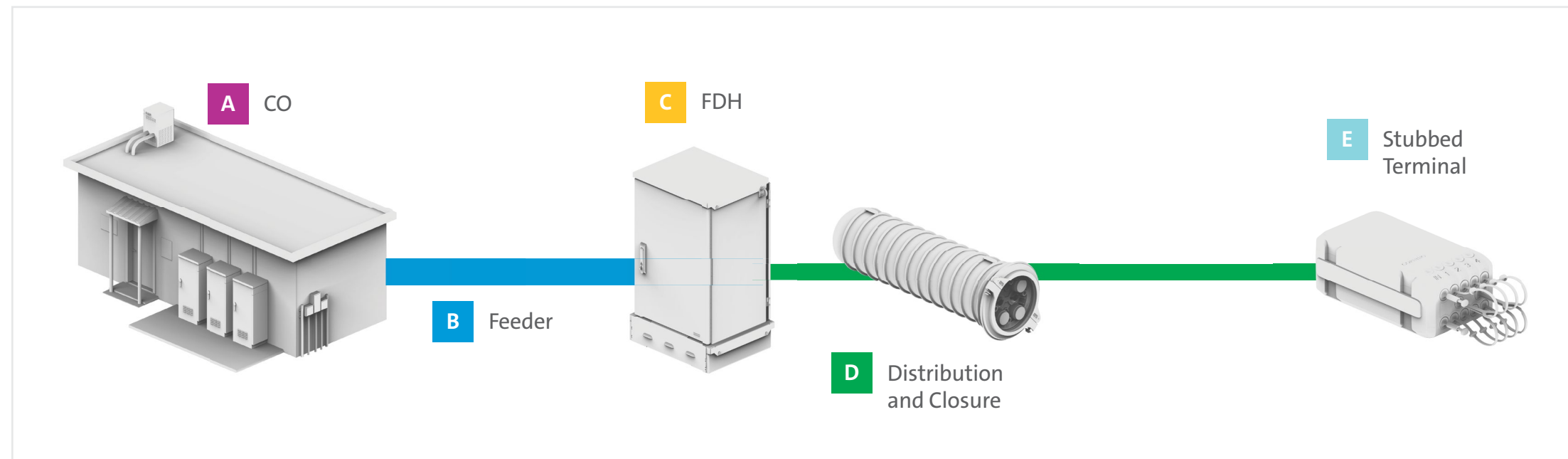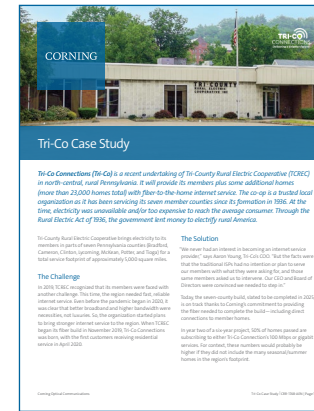
D — Distribution Cable & Splice Closures
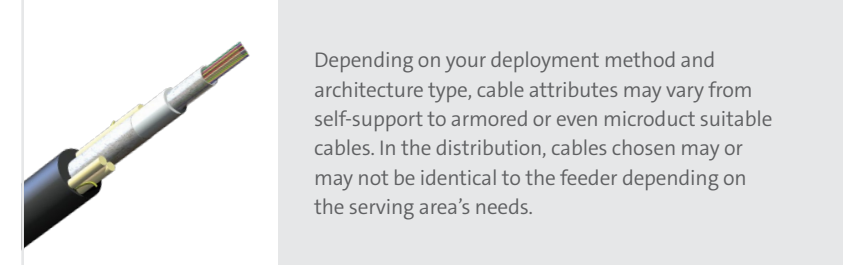
Depending on your deployment method and architecture type, cable attributes may vary from self-support to armored or even microduct suitable cables. In the distribution, cables chosen may or may not be identical to the feeder depending on the serving area's needs.

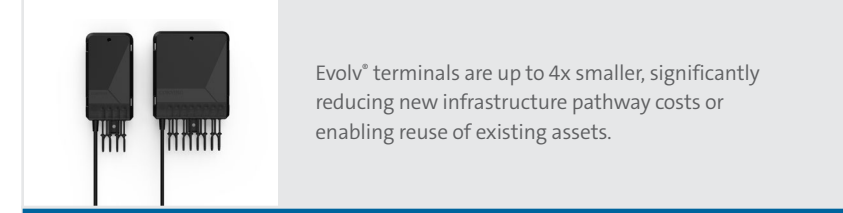| Part Number	Description
Ribbon Cables	
xxxZC5-14100D53	SST-Ribbon™ Armored Cable (144-864 fibers)
xxxEC4-14100D53	SST-Ribbon All-Dielectric, Non-Armored Cable (012-216 fibers)
xxxEV4-14100D53	SST-UltraRibbon™ All-Dielectric, Non-Armored Cable (288-864 fibers)
Loose Tube Cables	
xxxZU4-T4F22D20	ALTOS® Loose Tube Cable (012-288 fibers)
xxxZUC-T4F22D20	ALTOS Lite Single-Jacket Armored Loose Tube Cable (012-288 fibers)
Microduct Cables	
xxxZM4-T4F22A20	MiniXtend® Cable (012-144 fibers)
xxxZH4-Y4F40A20	MiniXtend HD Cable (144-288 fibers)
xxxZH4-S4F40A20	MiniXtend HD Cable (288-432 fibers)
Closures	
SCF-6C28-01	Splice Closure, 288 single-fiber splice capacity, 6-in diameter, 28-in dome length, four drop ports, without splice trays
SCF-ST-112	SCF Splice Trays, 24 heat-shrink single-fiber splices
SCA-9T24-LRS	SCA Aerial Terminal, SNAP-9T24, standard end caps, direct fusion splicing, 16 drop ports - 8 per side
BPEO-S0-MXT-04T1-D69-4S7	BPEO Splice Closure Size 0, MiniXtend Splice Terminal

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E — Stubbed Terminals

Evolv® terminals are up to 4x smaller, significantly reducing new infrastructure pathway costs or enabling reuse of existing assets.

Part Number	Description
Terminals	
DMA4F1FDD1NCxxxF0P	Evolv Terminal, 4-port, SST flat dielectric drop cable, xxx feet
DMA8F1TDD1NCxxxF0P	Evolv Terminal, 8-port, SST flat toneable drop cable, xxx feet
DMATF1MLD1NCxxxF0P	Evolv Terminal, 12-port, MiniXtend cable, xxx feet

Distribution Segment – Option 2

Centralized Split: FlexNAP™ Distribution Cable (D) and Preconnectorized Stubbed Terminals (E)

The distribution segment of a fiber-to-the-home network will vary based on network architecture.

The most common architecture deployed in the United States and Canada is a centralized split (CS) network. A CS network is characterized by a single split location between electronics in the outside plant, often with several splitters housed in a centralized location.

The second CS option shown on this page highlights a preconnectorized design. This includes FlexNAP distribution cable (D) and preconnectorized stubbed terminals (E) at the network access point.

See How DFN Deployed This Connectivity Solution.

Meet the 100% local company that keeps Southern Oregon connected
How DFN uses fully connectorized solutions to get fiber to their customers faster

A	CO
C	FDH
E	Precon Stubbed Terminal
B	Feeder
D	Distribution

| **D** | **Distribution Cable** |

The FlexNAP system utilizes optical fiber cables upon which network access points are pre-installed at customer-specified locations along the length of the cable. In this design, the FlexNAP system has multifiber tethers that connect to preconnectorized stubbed terminals.

| Part Number	Description
FlexNAP Trunk Cables	
FNAP-CBL-xxxEU4	FlexNAP Distribution Trunk Cable, ALTOS® loose tube cable, dielectric, xxx fibers (012 -432 fibers)
FNAP-CBL-xxxEUC	FlexNAP Distribution Trunk Cable, ALTOS loose tube cable, armored, xxx fibers (012-432 fibers)
FNAP-CBL-xxxEV4	FlexNAP Distribution Trunk Cable, RPX® ribbon cable, dielectric, xxx fibers (024 -144 fibers)
FNAP-CBL-xxxEV2	FlexNAP Distribution Trunk Cable, RPX ribbon cable, toneable, xxx fibers (024 -144 fibers)
FlexNAP Tether Attachment Points	
FSU4AxxM2TN005F	FlexNAP Tether Attachment Point, ALTOS loose tube cable, dielectric, xx fibers (02 -12 fibers)
FSUCAxxM2RN015F	FlexNAP Tether Attachment Point, ALTOS loose tube cable, armored, xx fibers (02 -12 fibers)
FSV4AxxM2TN005F	FlexNAP Tether Attachment Point, RPX ribbon cable, dielectric, xx fibers (04, 08, or 12 fibers)
FSV2AxxM2RN015F	FlexNAP Tether Attachment Point, RPX ribbon cable, toneable, xx fibers (04, 08, or 12 fibers)

| **E** | **Preconnectorized Stubbed Terminals** |

Evolv® terminals are up to 4x smaller, significantly reducing new infrastructure pathway costs or enabling reuse of existing assets.

Terminals*	
Part Number	Description
DFA4F1yDD1M1xxxF0P	Evolv Terminal, 4-port, preconnectorized OptiTip®, xxx feet
DFA8F1yDD1M1xxxF0P	Evolv Terminal, 8-port, preconnectorized OptiTip, xxx feet
DFATF1yDD1M1xxxF0P	Evolv Terminal, 12-port, preconnectorized OptiTip, xxx feet

* "y" indicates either dielectric (F) or toneable (T)
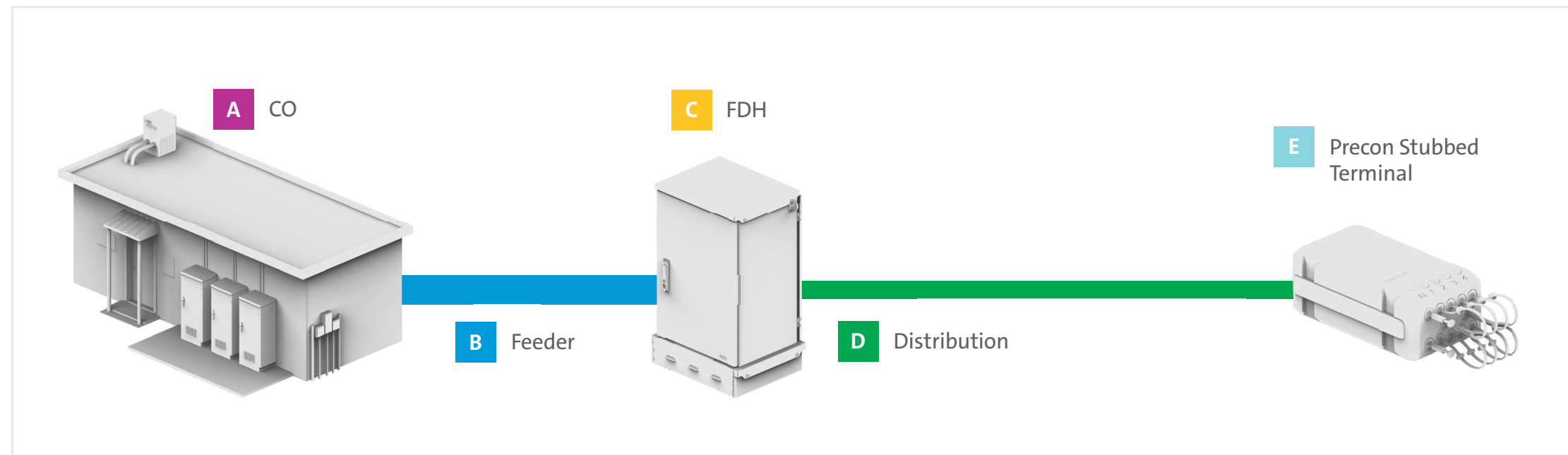
Distribution Segment – Option 3

Distributed Split: Distribution Cable (D) and Splitter Terminals (E)

The distribution segment of a fiber-to-the-home network will vary based on network architecture.

Distributed split (DS) architectures are gaining popularity in the United States. By distributing or cascading splits in two or more field locations, the physical volume of products in the field can shrink in size as the ports at each location are shared until the last access point is reached.

The distributed split network shown below includes FlexNAP™ single-fiber distribution cable (D) and splitter terminals (E) at the network access point.

Note: First layer splitters may exist in the fiber distribution hub (FDH), cabinets, or closures.

See How GoNetspeed Deployed This Connectivity Solution.

Flexible fiber construction in the Finger Lakes region
Why GoNetspeed relies on FlexNAP® cables, and the best practices they've discovered

GoNetspeed fiber install in an ILEC area

D	Distribution Cable

The FlexNAP system utilizes optical fiber cables upon which network access points are pre-installed at customer-specified locations along the length of the cable. In this design, the FlexNAP system has single-fiber Pushlok™ tethers that feed stubless splitter terminals.

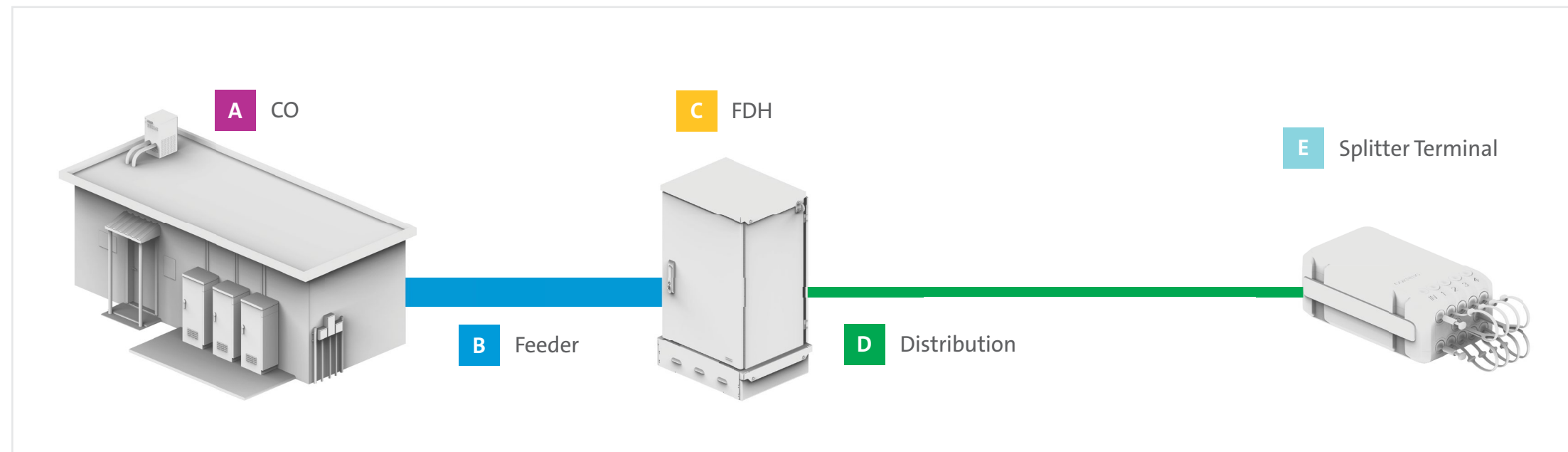| Part Number	Description
FlexNAP Trunk Cables	
FNAP-CBL-xxxEU4	FlexNAP Distribution Trunk Cable, ALTOS® loose tube cable, dielectric, xxx fibers (012-432 fibers)
FNAP-CBL-xxxEUC	FlexNAP Distribution Trunk Cable, ALTOS loose tube cable, armored, xxx fibers (012-432 fibers)
FlexNAP Single-Fiber Tether Attachment Points	
FSD4AxxD1TN010F	FlexNAP Tether Attachment Point, ALTOS loose tube cable, dielectric, xx tether count (01 = single tether or 02 = dual tether)
FSDCAxxD1RN015F	FlexNAP Tether Attachment Point, ALTOS loose tube cable, armored, xx tether count (01 = single tether or 02 = dual tether)
Tether Extenders	
D1D101EB49RxxxF-P	Pushlok ROC™ Drop Cable, Jumper, dielectric, xxx feet
D1D101EB19RxxxF-P	Pushlok ROC Drop Cable, Jumper, toneable, xxx feet
Connection Terminals	
DMA2F1J1D1NC000S0P	Evolv® 1x1 F Pushlok Connection Terminal
DMA2F1J2D1NC000S0P	Evolv 2x1 F Pushlok Connection Terminal

A CO

C FDH

E Splitter Terminal

B Feeder

D Distribution

E	Splitter Terminals

Evolv terminals are up to 4x smaller, significantly reducing new infrastructure pathway costs or enabling reuse of existing assets.

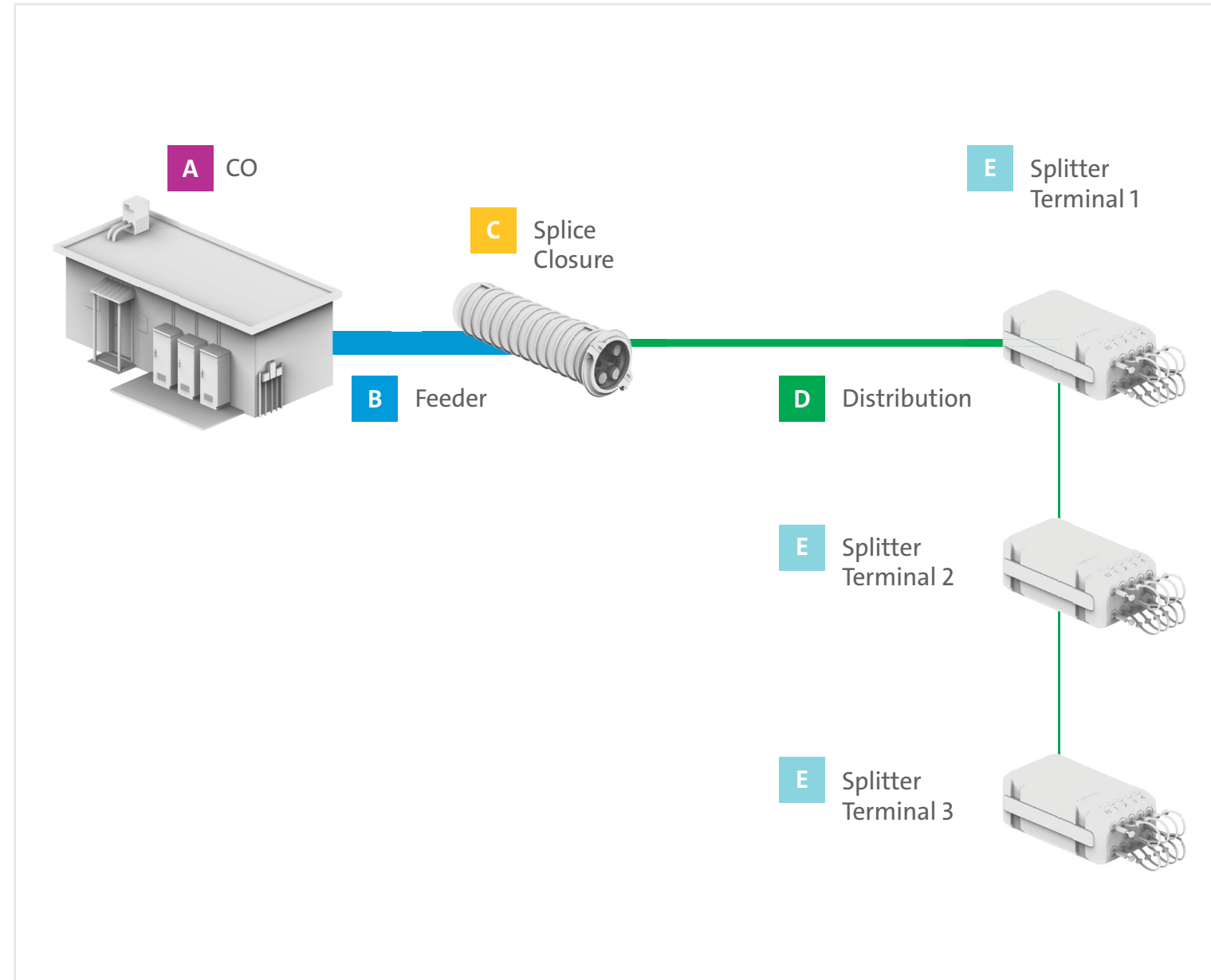| **Terminals**	
Part Number	Description
DSH2F100D1NC000S0P	Evolv Splitter Terminal, 1x2 splitter, unstubbed
DSH4F100D1NC000S0P	Evolv Splitter Terminal, 1x4 splitter, unstubbed
DSF8F100D1NC000S0P	Evolv Splitter Terminal, 1x8 splitter, unstubbed
DSP6F100D1NC000S0P	Evolv Splitter Terminal, 1x16 splitter, unstubbed

Distribution Segment – Option 4
Optical Tap: Distribution Cable (D) and Splitter Terminals (E)

The distribution segment of a fiber-to-the-home network will vary based on network architecture.

Optical tap architectures are the most fiber lean. Asymmetric/uneven split terminals allow for single-fiber distribution of concatenated terminals. Routes are custom configured to optimize link loss. Increase cable fiber counts for future growth.

The optical tap network shown includes FlexNAP™ single-fiber distribution cable (D), single-fiber Pushlok™ jumpers (D)(E), and splitter terminals (E) at the network access point.

Note: Splitters may be used in the splice closure to consolidate several optical tap chains.

A CO

C Splice Closure

B Feeder

D Distribution

E Splitter Terminal 1

E Splitter Terminal 2

E Splitter Terminal 3

D Distribution Cable

The FlexNAP system utilizes optical fiber cables upon which network access points are pre-installed at customer-specified locations along the length of the cable. In this design, the FlexNAP system has single-fiber Pushlok tethers that begin an optical tap chain of terminals.

Part Number	Description
FlexNAP Trunk Cables	
FNAP-CBL-xxxEU4	FlexNAP Distribution Trunk Cable, ALTOS® loose tube cable, dielectric, xxx fibers (012-432 fibers)
FNAP-CBL-xxxEUC	FlexNAP Distribution Trunk Cable, ALTOS loose tube cable, armored, xxx fibers (012-432 fibers)
FlexNAP Single-Fiber Tether Attachment Points	
FSD4AxxD1TN010F	FlexNAP Tether Attachment Point, ALTOS loose tube cable, dielectric, xx tether count (01 = single tether or 02 = dual tether)
FSDCAxxD1RN015F	FlexNAP Tether Attachment Point, ALTOS loose tube cable, armored, xx tether count (01 = single tether or 02 = dual tether)

E Splitter Terminals

By combining two splitters in each terminal, one asymmetric 1x2 and one even 2- 4- or 8-way splitter, the entire optical tap chain becomes plug and play.

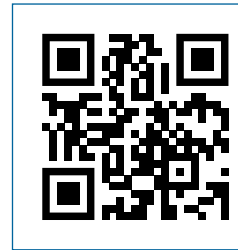| Part Number	Description
Terminals	
DTA8X41700NC00S0P	Evolv® Optical Tap Terminal, 4-port, 90/10 power split, unstubbed
DTA8X41600NC00S0P	Evolv Optical Tap Terminal, 4-port, 85/15 power split, unstubbed
DTA8X41500NC00S0P	Evolv Optical Tap Terminal, 4-port, 80/20 power split, unstubbed
DTA8X41200NC00S0P	Evolv Optical Tap Terminal, 4-port, 70/30 power split, unstubbed
DTA8X41100NC00S0P	Evolv Optical Tap Terminal, 4-port, 60/40 power split, unstubbed
DTA8X41000NC00S0P	Evolv Optical Tap Terminal, 4-port, 00/00 power split, unstubbed
Pushlok Jumper Cables	
D1D101EB49RxxxF-P	Pushlok ROC® Jumper, dielectric, xxx feet
D1D101EB19RxxxF-P	Pushlok ROC Jumper, toneable, xxx feet

Customer Premise (F)

Regardless of architecture or density, the type of products you select for the customer premise (F) segment of a fiber-to-the-home network remain the same.

There are many options on how an operator may choose to connect the subscriber. The most common practice is to employ a transition housing that allows for a test access point on the façade of the home between the OSP-rated drop and the jumper that routes to the ONT placed inside the home.

Explore More Options:

www.corning.com/go

F Customer Premise

Corning's drop cable portfolio and associated assemblies allow for full plug-and-play at the subscriber premises and also support field-installable terminations.

| Part Number	Description
Drops	
00D101EB49RxxxF-P	Pushlok™ ROC™ Drop Cable, Pigtail, dielectric, xxx feet
00D101EB19RxxxF-P	Pushlok ROC Drop Cable, Pigtail, toneable, xxx feet
D14401EB4R3xxxF-P	Pushlok ROC Drop Cable, Pushlok to SC APC, dielectric, xxx feet
D14401EB1R3xxxF-P	Pushlok ROC Drop Cable, Pushlok to SC APC, toneable, xxx feet
00D101UB4JRxxxF-P	Pushlok Round ROC Drop Cable, below-grade jetting/duct, pigtail, xxx feet
Field-Installable Connectors	
OSNP-SCA-900-Z	OptiSnap® Field Installable Connector, SC APC, Qty 25
TKT-OPTISNAP-CF	OptiSnap™ Connector Installation Toolkit with flat cleaver (FBC-009), fiber prep and cleaning supplies, gray case
NPCP-SCA-48	NPC+ (No Polish Connector), field-installable SC APC, compatible with 250 µm and 900 µm fiber, no toolkit required, package of 48 connectors
Fiber Transition Housing	
FTH-602-A1100	Fiber Transition Housing, 1 SC APC simplex adapter, ground post for toning, hex security screw, 3-m slack storage
FTH-602-A0100	Fiber Transition Housing, 1 SC APC simplex adapter, hex security screw, 3-m slack storage

A CO

C FDH

E Terminal

Home

B Feeder

D Distribution

F Customer Premise
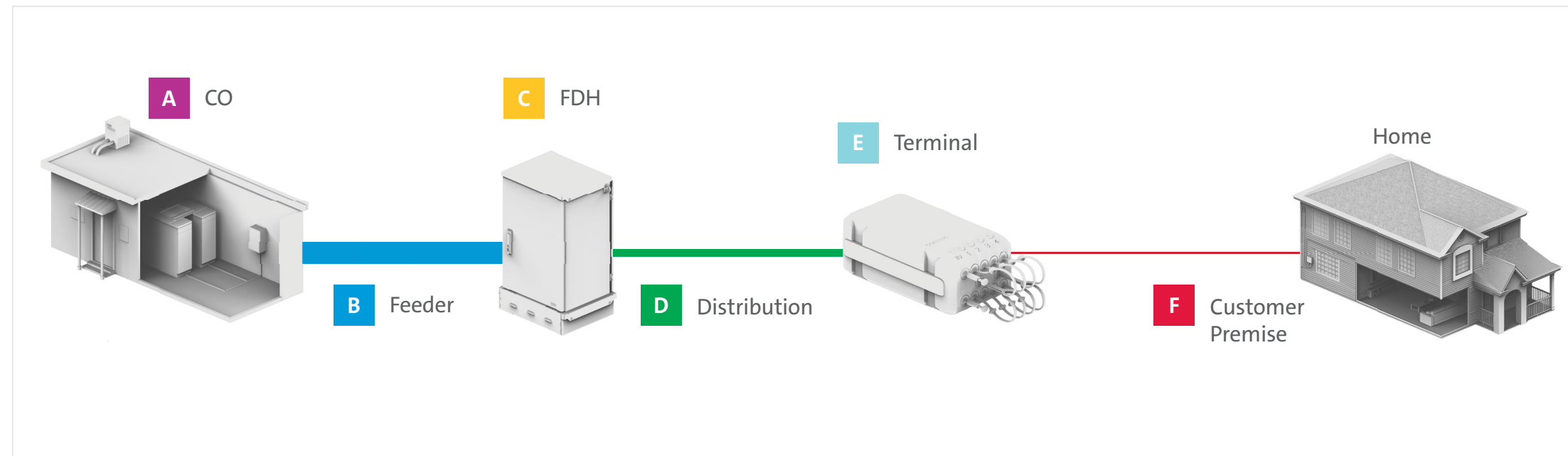
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Get Started Now

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