Communication Infrastructure – Sailing Tips

Giampiero Sforte

Key Account Manager Italy, Greece

LayerOne 15th November 2019

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Sailing has some inherent dangers but by applying a few basic rules and guidelines plus a touch of plain old common sense, you can help to minimize any hazards.

In this guide, we'll look at a few of the steps we recommend that you consider when you set sail to help keep yourself and your crew and passengers safe at all times on the water.

(Sailing Guide)

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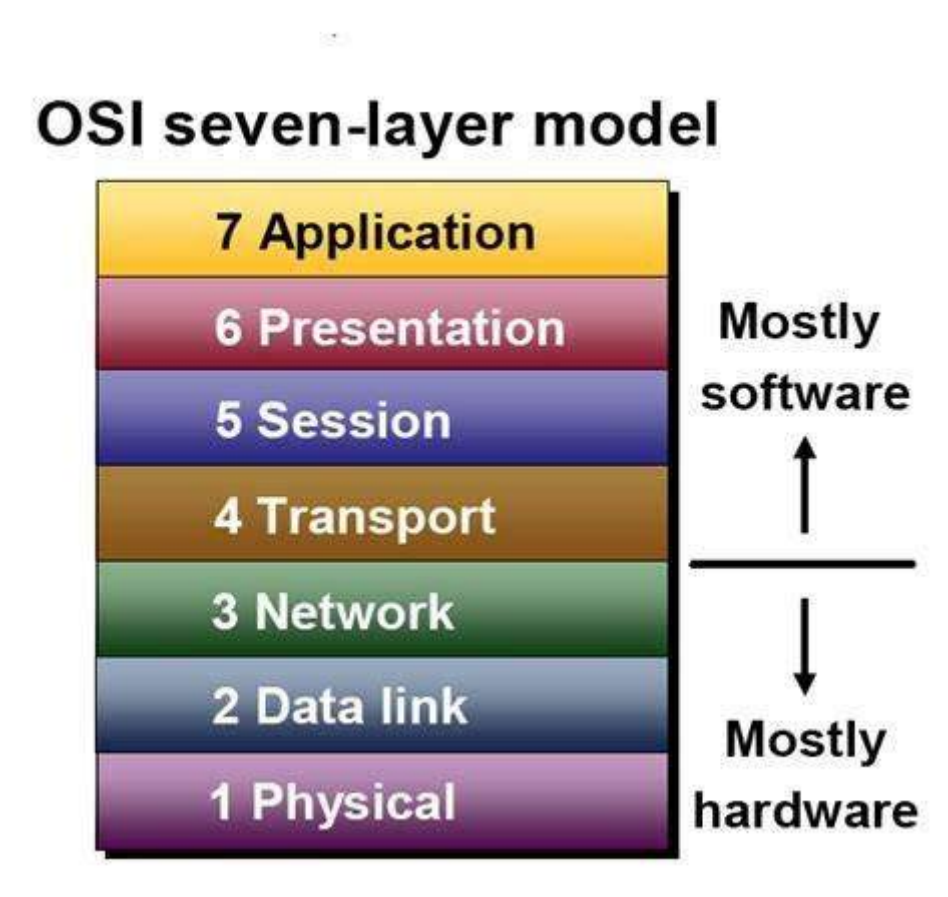
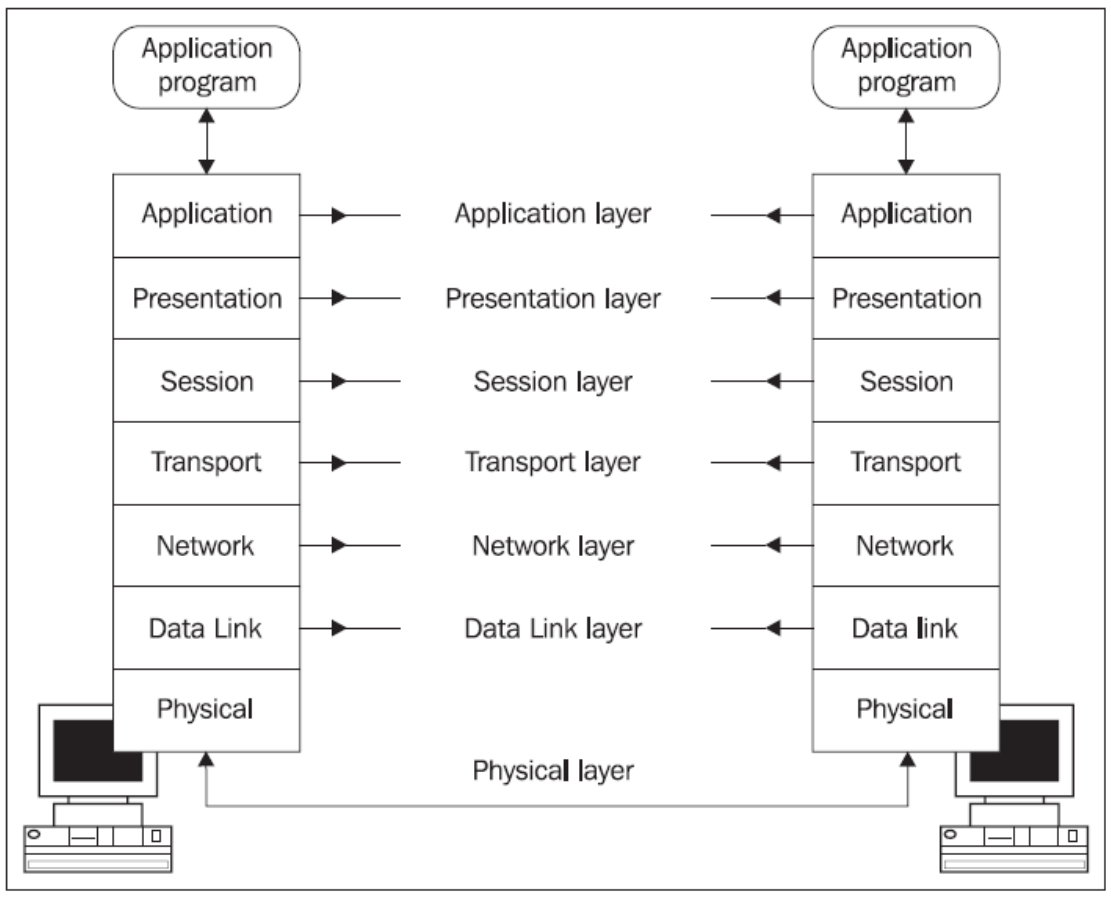
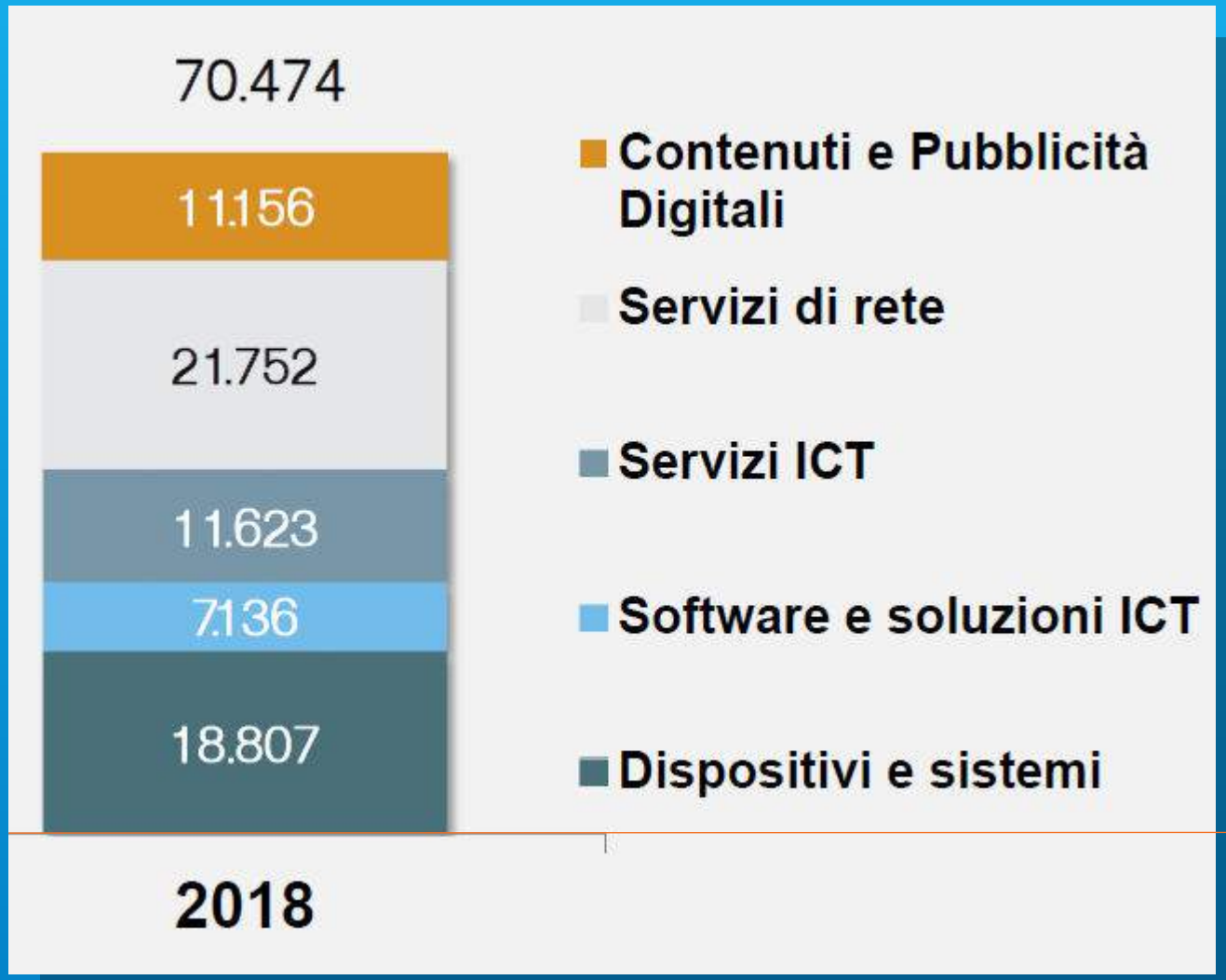




OSI : Open Systems Interconnection

*The **Open Systems Interconnection** model (OSI model) is a conceptual model that characterizes and standardizes the communication functions of a telecommunication or computing system without regard to its underlying internal structure and technology*



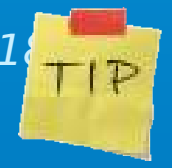
ICT Expenditure € Mil - ITALY-2018

Layer One Responsibility

80 € Mil

(0,11- 0,4%

Cabling Expenditure - ITALY-201



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The network is playing an increasingly important role as:

- Data Is Being Secured And Centralized
- IT And Facilities Convergence
- Wired And Wireless Options Are Growing

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Why Business Continuity Depends On The Network Reliability

A Major Outage Makes Headlines, But—

The smaller daily issues cause all the headaches

- In-building wireless network goes down
- A bad server connection knocks the CRM off line
- A power interruption disrupts security access system

COMPANIES EXPERIENCE AN AVERAGE OF FOUR OUTAGES PER YEAR, COSTING AN AVERAGE OF $3.9 MILLION ANNUALLY

by ScienceLogic

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The Role Of The Enterprise Infrastructure

Ground-zero in the effort to improve reliability:

- *Support all connected users, systems and devices – within the building and across the campus*
- *Provide the intelligence and resiliency to ensure business continuity*


QUIZ!

QUIZ Time: **Car mechanic**, Who I'll call on?

A

B

C

QUIZ Time: **Taxi**, Who I'll call on?

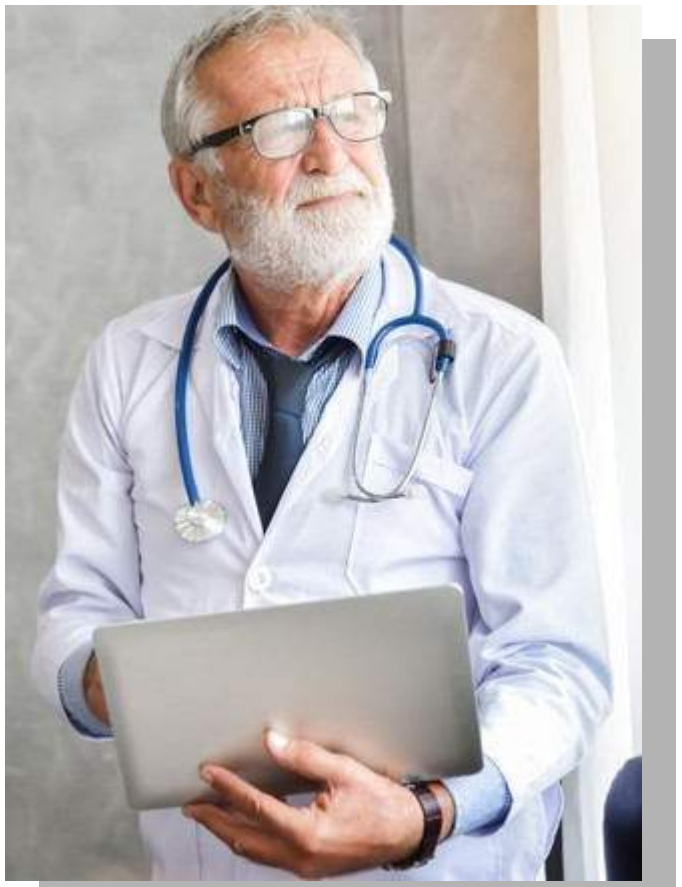
A

B

C

QUIZ Time: **Doctor**, Who I'll call on?

A



B

C

QUIZ Time:
Who is the Trustable Partner for your infrastructure ?

A

B

C

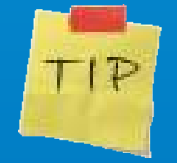
Is a brochure enough ?

Marketing Vs Reality?

Marketing Vs Reality?

The tip here is

- look at the FACTS, sounding & concrete facts, not promises, real/touchable facts
- don’t be shy, ask for information, as many as you need to understand

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Who is COMMSCOPE
SHAPING THE NETWORKS OF TOMORROW

CUSTOMERS THAT TRUST ON COMMSCOPE

IN MORE THAN 150 COUNTRIES

CABLE PROVIDERS

TELCO PROVIDERS

RETAIL

HOSPITALITY

FINANCE

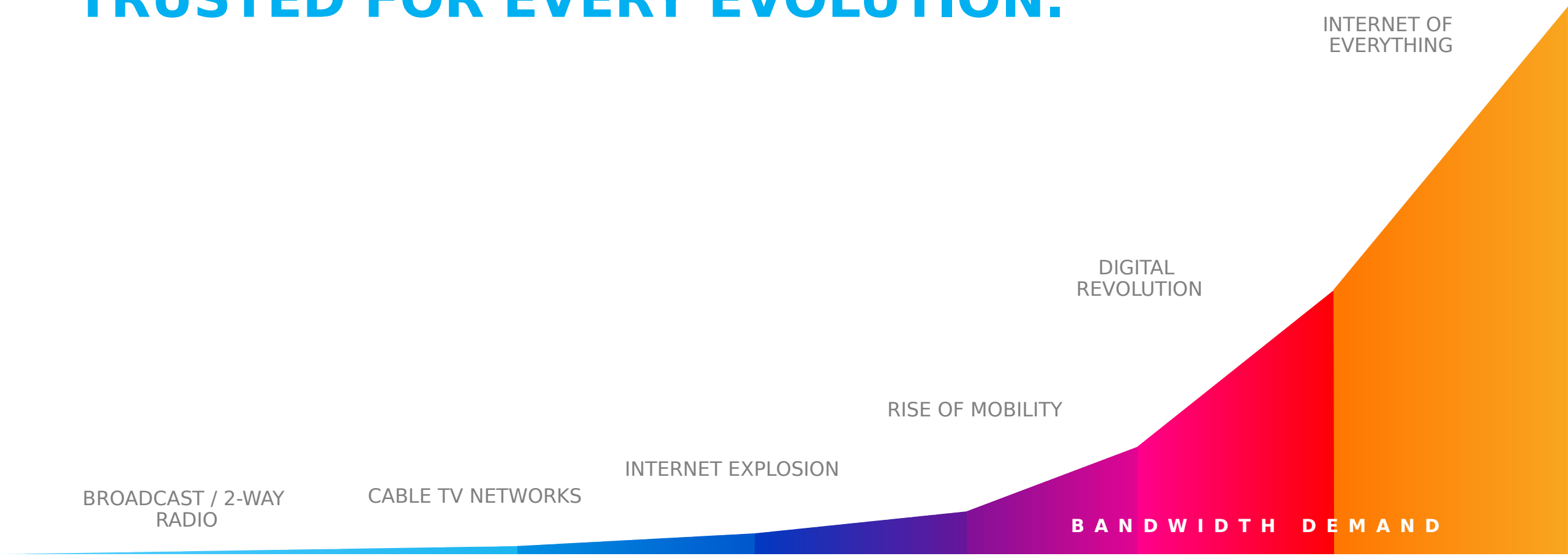
SATELLITE PROVIDERS

EDUCATION

FORTUNE 500

PROGRAMMERS

TRUSTED FOR EVERY EVOLUTION.



1976	2004	2008	2011	2013	2015	2017	2019
CommScope	SYSTIMAX	ANDREW	iTRACS	alifabs	AIRVANA	AMP / ADC / KRONE	COMMSCOPE	ARRIS
CATV Infrastructure	Structured Cabling	Wireless Infrastructure	Data Center Infrastructure Management	Metro Cell	Small Cell	Fiber Connectivity	Integrated Brand	Entertainment and Communication

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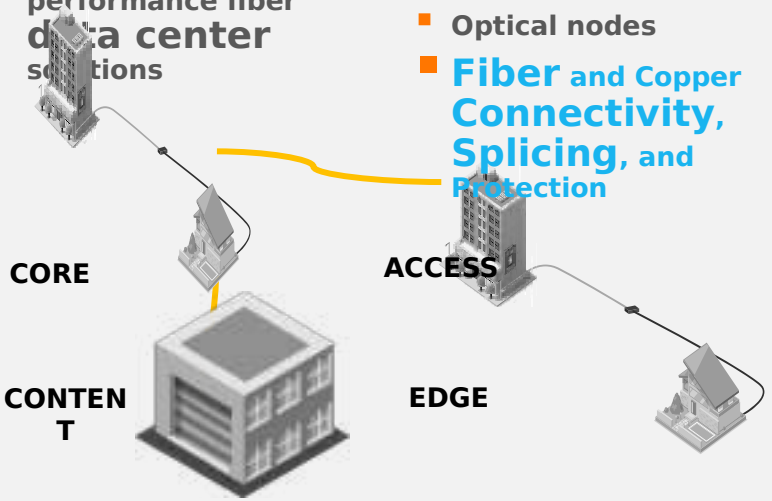
WELL-POSITIONED TO **UNLOCK YOUR NETWORKS' FULL POTENTIAL.**

Residential
Broadband Delivery

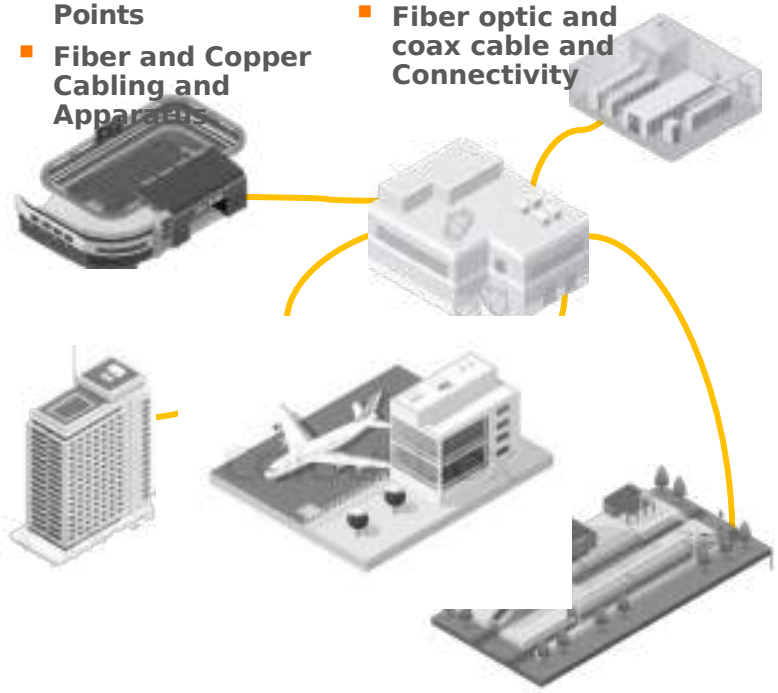
- Headend and Central Office aggregation and transport equipment
- **High density**/high performance fiber **data center** solutions
- Fiber optic and coax cable and Connectivity
- Outside Plant Closures, Terminals, and Cabinets
- Optical nodes
- **Fiber and Copper Connectivity, Splicing, and Protection**



- Video Encryption
- Video Processing
- Advertising Insertion
- Cloud Services
- Set Top Box
- Residential Connectivity
- Broadband Gateway
- In-home Wi-Fi

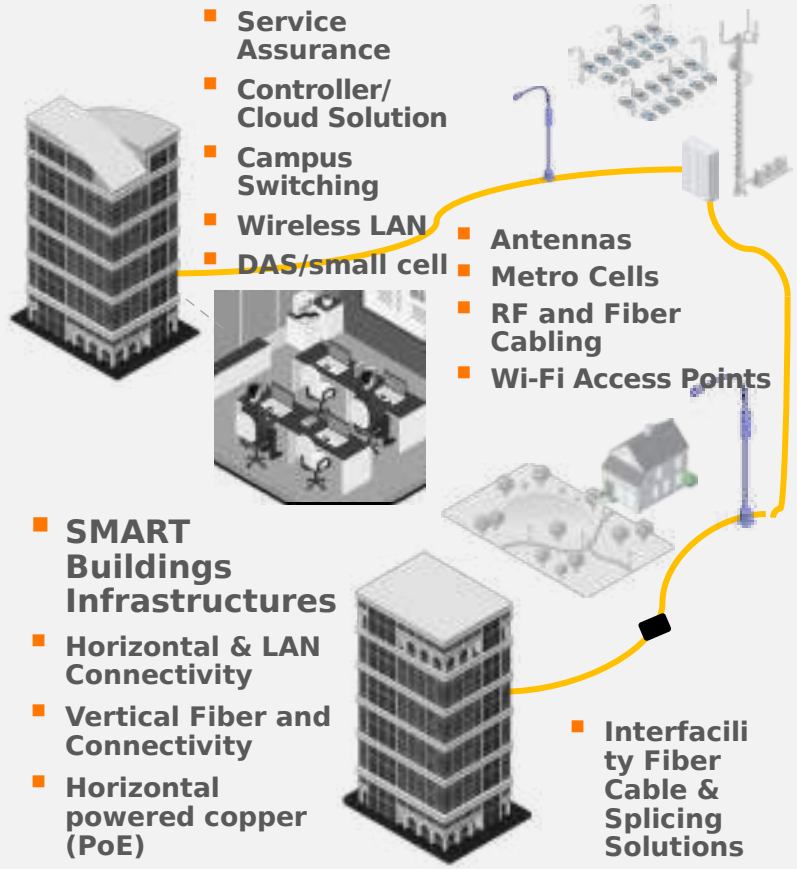
Venue
Coverage & Capacity Solutions

- Small cell / OneCell
- Distributed Antenna System (**DAS**)
- Wi-Fi Access Points
- Fiber and Copper Cabling and Apparatus
- SAS
- Controller/ Cloud Solution
- Ethernet Switch
- Fiber optic and coax cable and Connectivity



Macro, Metro, and Enterprise
Wired and Wireless

- Service Assurance
- Controller/ Cloud Solution
- Campus Switching
- Wireless LAN
- DAS/small cell
- Antennas
- Metro Cells
- RF and Fiber Cabling
- Wi-Fi Access Points



- **SMART Buildings Infrastructures**
- Horizontal & LAN Connectivity
- Vertical Fiber and Connectivity
- Horizontal powered copper (PoE)
- POE on FIBER
- Interfacility Fiber Cable & Splicing Solutions

SERVICES TO PLAN, DESIGN, IMPLEMENT, OPERATE NETWORKS IN ALL SEGMENTS

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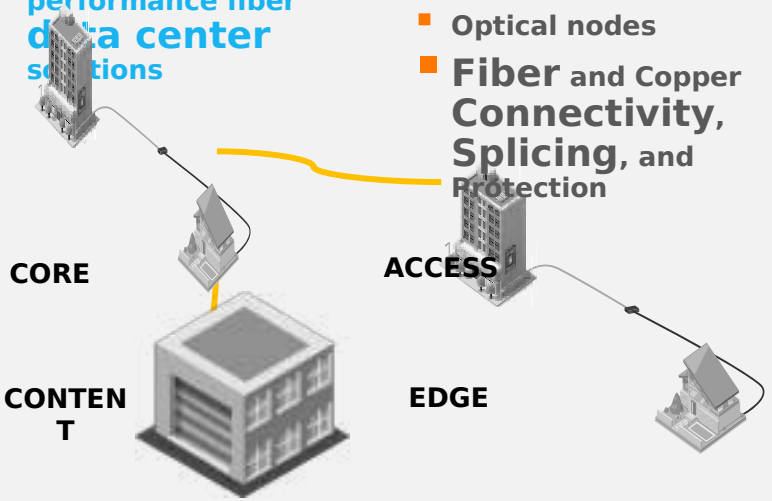

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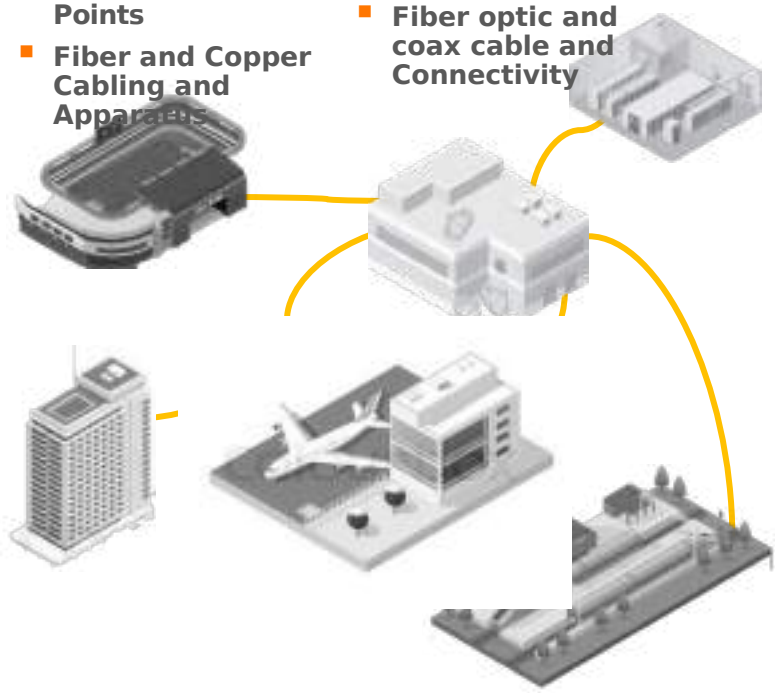

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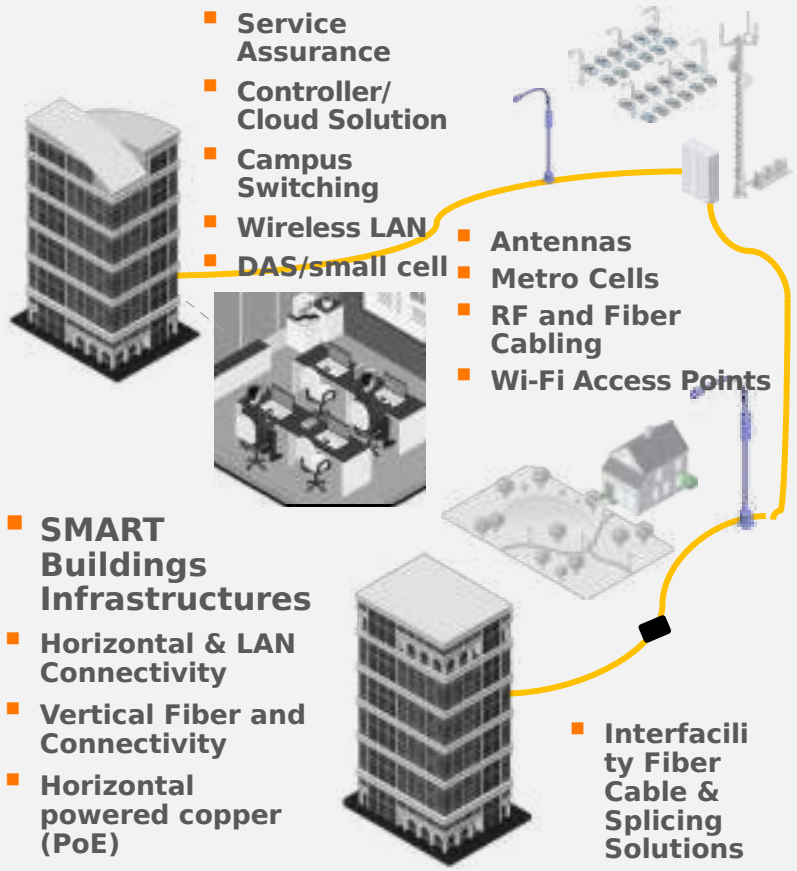

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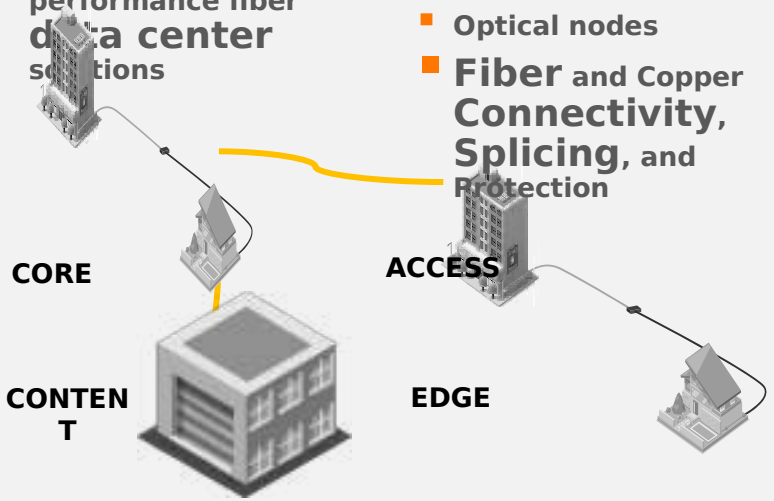

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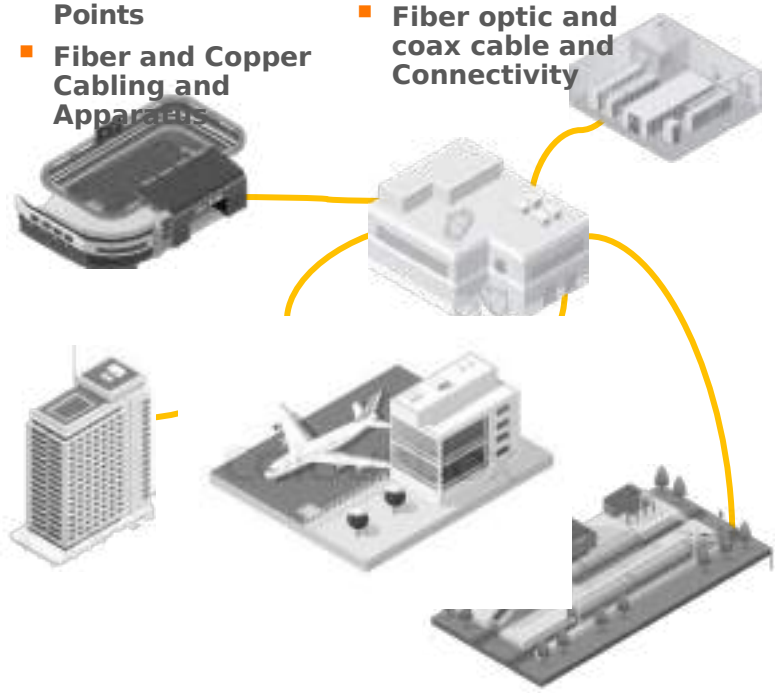

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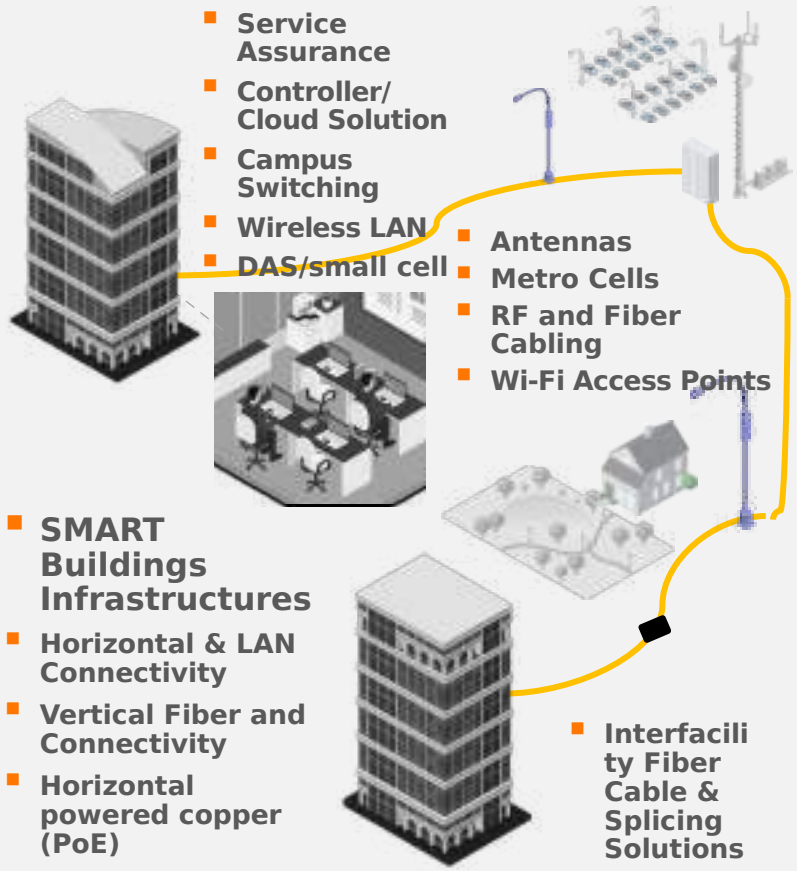

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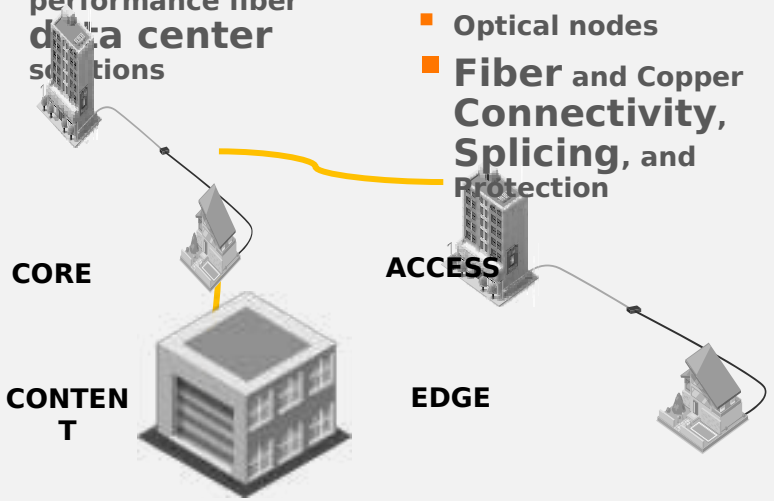

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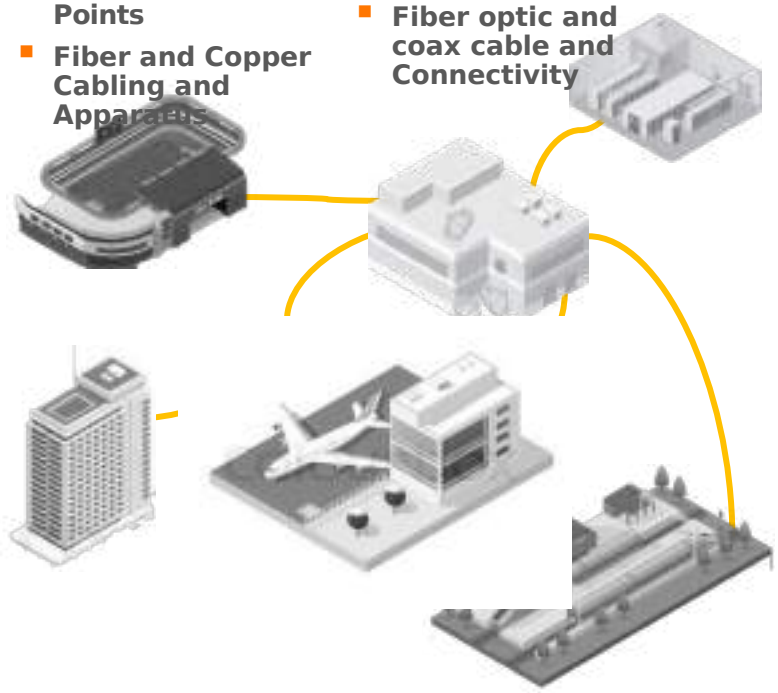

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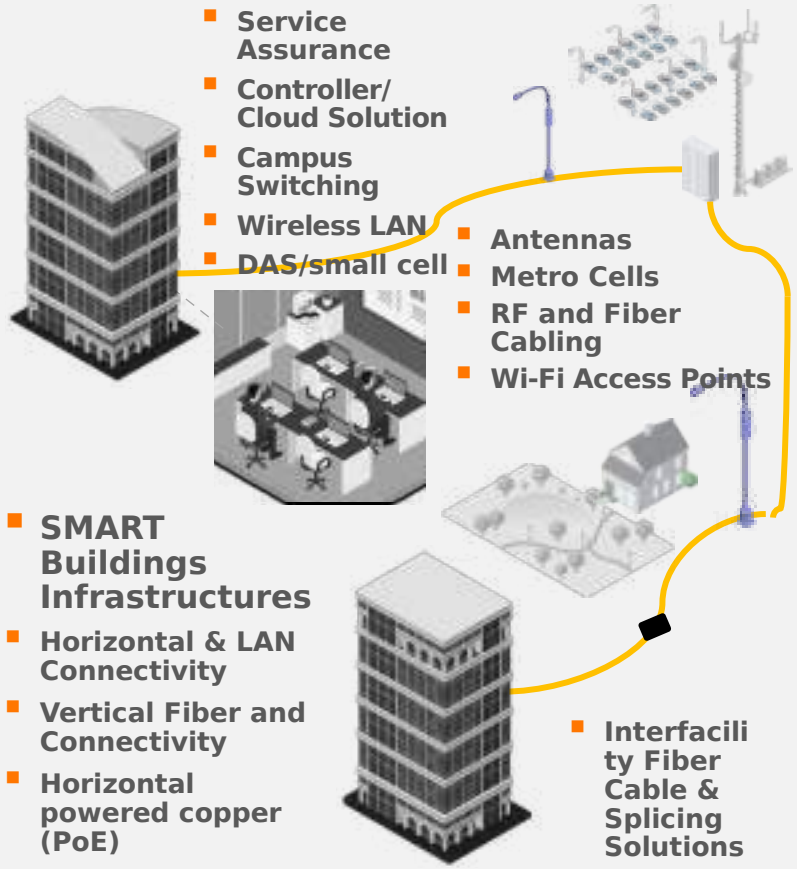

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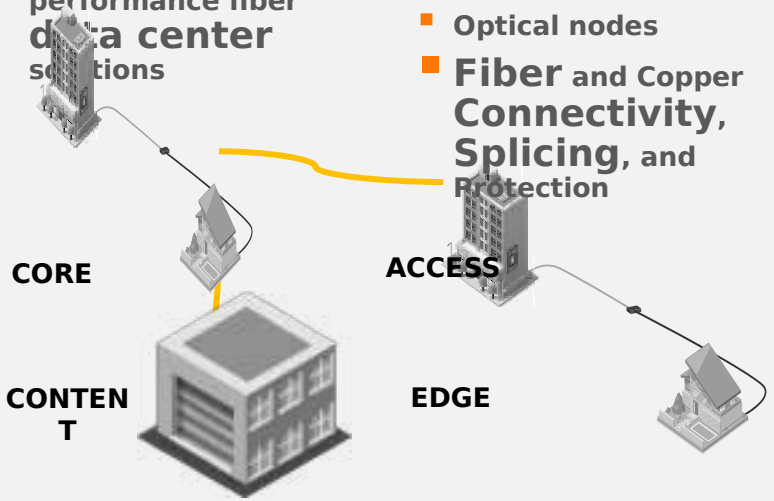

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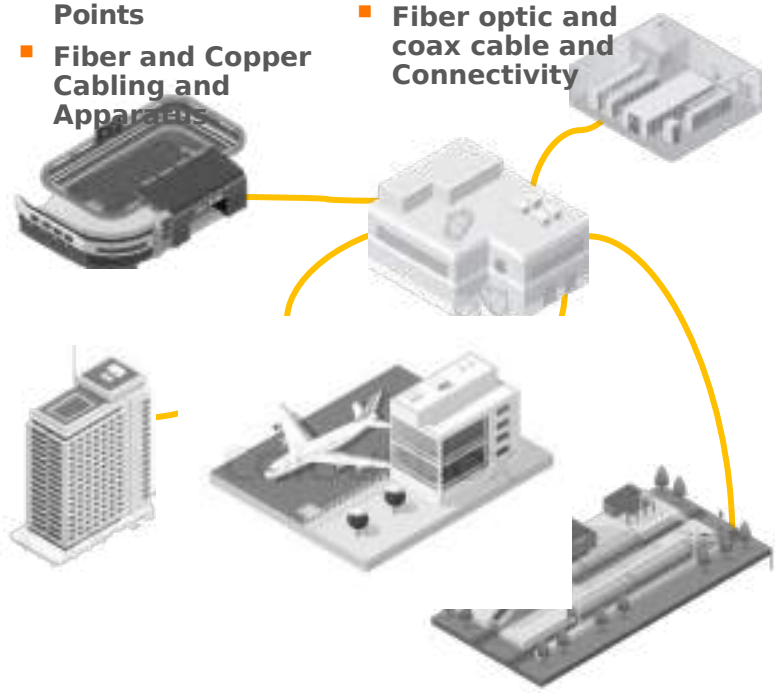

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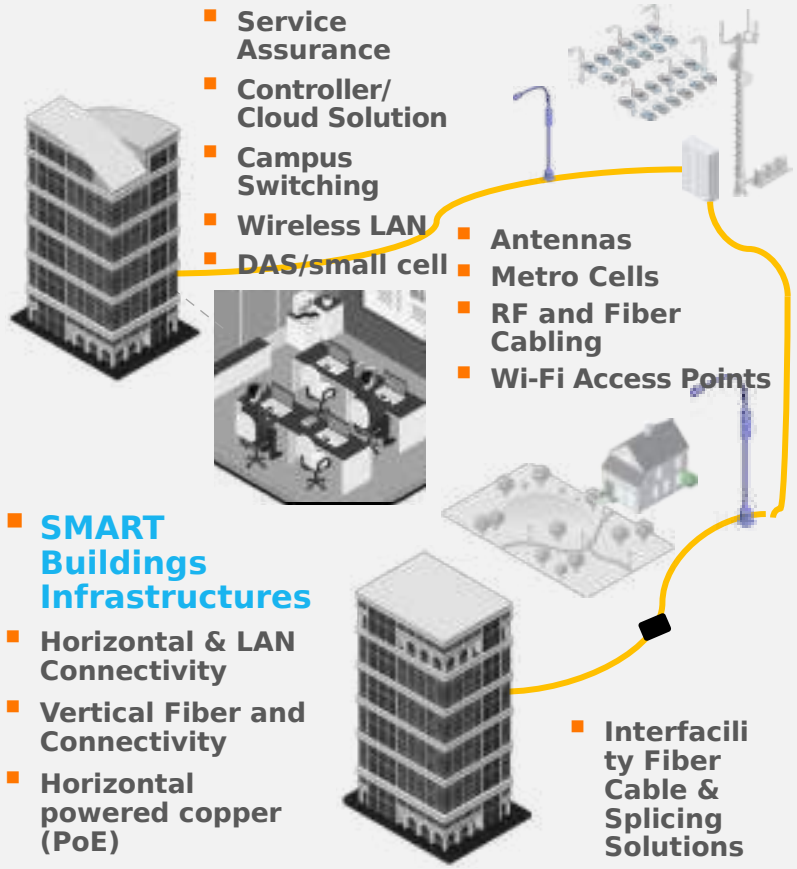

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COMMSCOPE FAST FACTS.

REVENUE

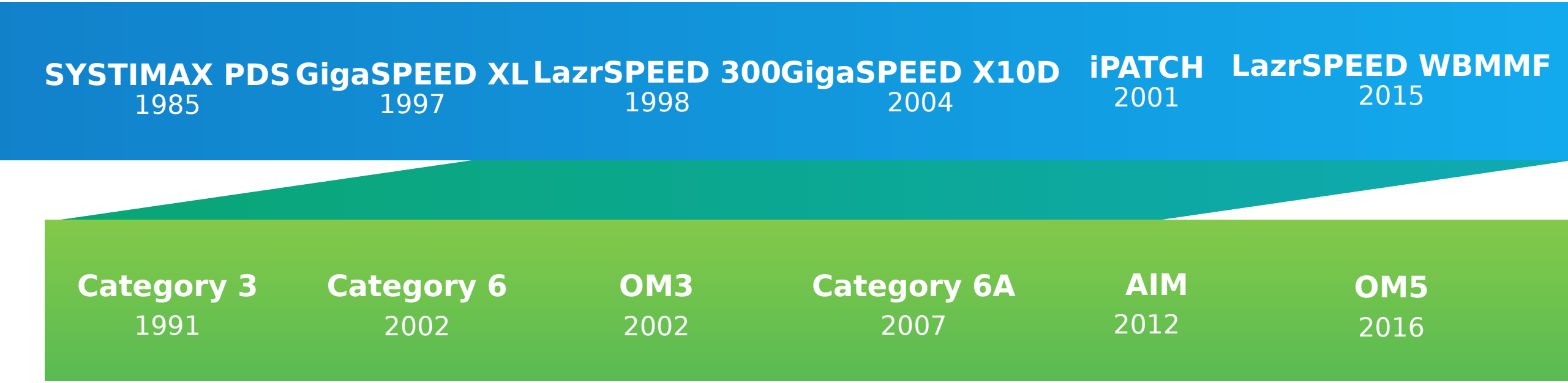
11B$

“It is the ability to innovate that distinguishes a leader from an epigone”

Steve Jobs

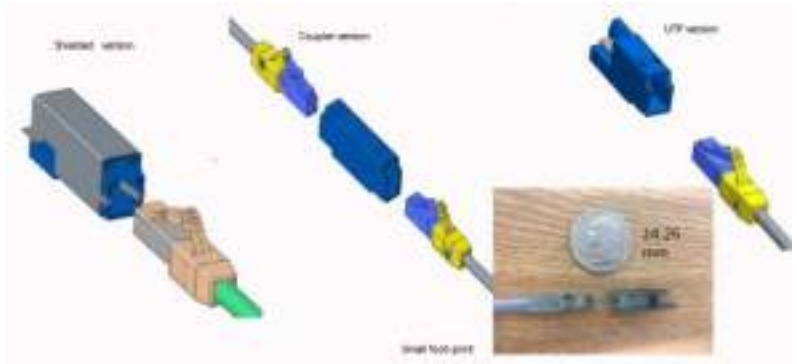
A Tradition of Innovation

"It is the ability to innovate that distinguishes a leader from an epigone" *Steve Jobs*



COMMSCOPE – Most Recent Awards

2019 Cabling Installation & Maintenance Platinum Innovators Awards

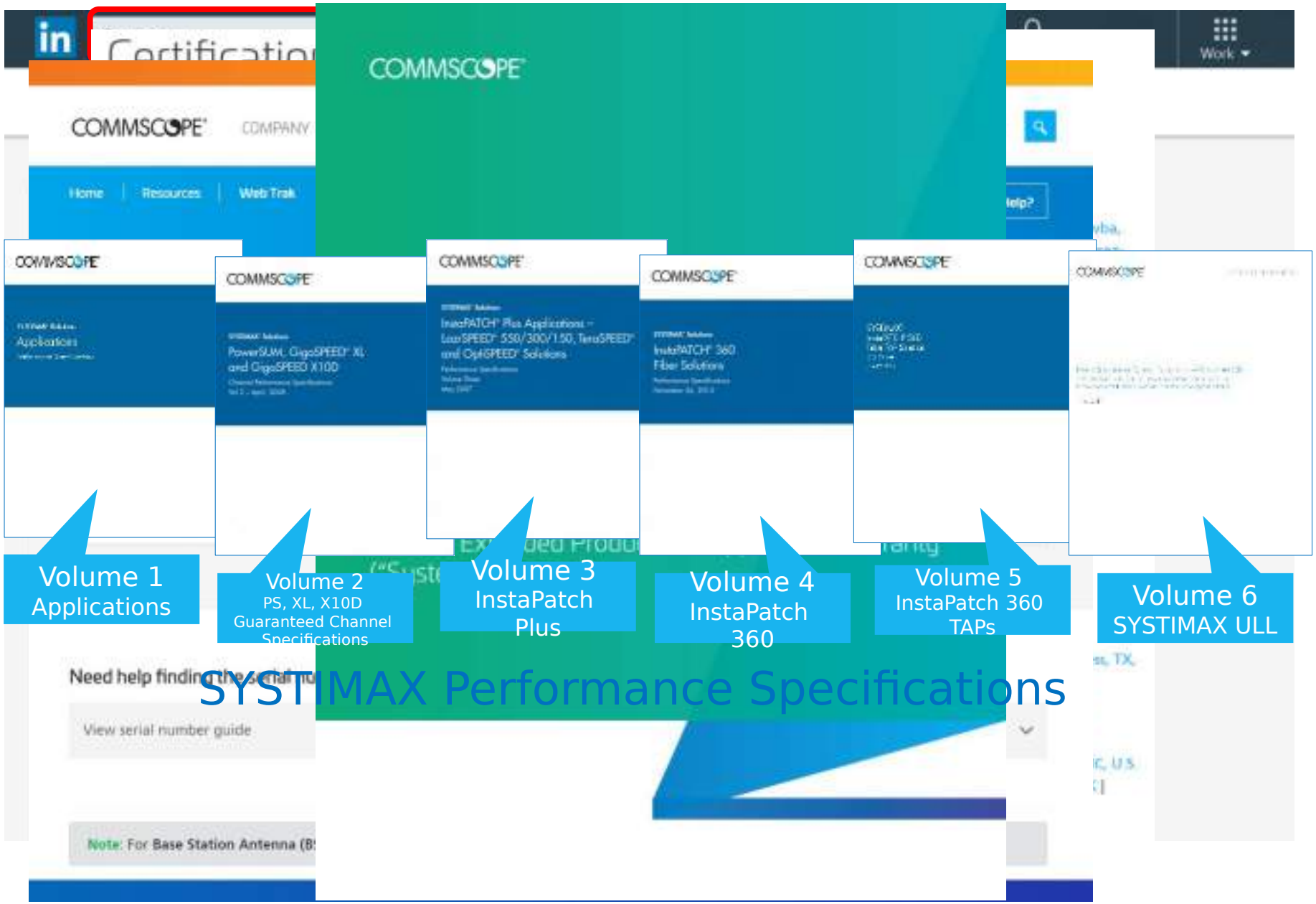


IEC 63171-1 Copper LC-style Connector

2019 Cabling Installation & Maintenance Gold Innovators Awards

Ceiling Connector Assem

Quality in COMMSCOPE




Study the Chart !
TIP

From Some Vendors Warranty Guides

Vendor "X": Warranty Guide

[redacted] WARRANTY GUIDE

WARRANTY INFORMATION

Introduction

The [redacted] System Warranty provides customers with the confidence and security of knowing that their cabling system will deliver the performance they expect to meet their long term networking needs.

The program offers a 25-year standards based performance warranty that applies to all registered links and/or channels in an installation. The warranty does not cover active devices used for power, monitoring or control. The program guarantees that these registered links and/or channels will meet minimum performance requirements as specified in the Commercial Building Telecommunications Cabling Standards, which are listed on Appendix C of this Warranty Guide. With this baseline of performance, customers are assured that their cabling system will support current and future networking applications designed to run on their cabling system.

Vendor "W": Lifetime Warranty

All [redacted] passive structured cabling systems are warranted to operate flawless according to standard based applications and protocols for the related categories as shown in the relevant sections of ISO/IEC 11801, CENELEC EN 50173 and ANSI/TIA-568-C.

Vendor "Y": 25 year System Warranty

3.2 [redacted] 25-year system warranty

[redacted] warrants for a period of 25 years that the [redacted] cabling system installed will meet the values specified in the standards at the time of delivery of the components.

Vendor "Y": 25 year System Warranty

3.1 Component warranty

[redacted] warrants, that all components of the [redacted] cabling system will be free from defects in materials or workmanship for a period of 5 years.

Declared Performances

GUARANTEED PERFORMANCE SPECIFICATIONS FOR 4-CONNECTION GIGASPEED X10D U/UTP CHANNELS[8]	
Electrical Parameter	Guaranteed Margins to ISO/IEC 11801 Edition 2.1 "Class E_A" (1-500 MHz)
Insertion Loss	3 %
NEXT	3 dB
PSNEXT	5 dB
ACR-N	5 dB
PSACR-N	6.5 dB
ACR-F	6 dB
PSACR-F	8 dB
Return Loss	1 dB
PSANEXT	2 dB
PSAACR-F	2 dB
Average PSANEXT	2 dB
Average PSAACR-F	2 dB

Minimum Performances **Guaranteed by CommScope**

Guaranteed Channel Headroom		
Electrical Value	TIA Category 6A	ISO Class E_A
Insertion Loss	3%	3%
NEXT	3.5 dB	2.5 dB
PSNEXT	5 dB	4 dB
PSACR-F	10 dB	10 dB
Return Loss	3 dB	3 dB
PSACR-N	6.5 dB	6.5 dB
PSANEXT	2 dB	2 dB
PSAACR-F	10 dB	10 dB

*Electrical values above are specified standards and consist of worst pair margin per ANSI/TIA-568-C.2 Category 6A and ISO 11801 Class E_A standards.

Performances Declared in a **Vendor X** brochure

Vendor X : Performances Actually Guaranteed

[redacted] WARRANTY GUIDE

APPENDIX A --SYSTEM WARRANTY DOCUMENTATION REQUIREMENTS

In order for the structured cabling system or additional links and/or channels to be eligible for warranty coverage the following documentation must be submitted by the installer to [redacted]

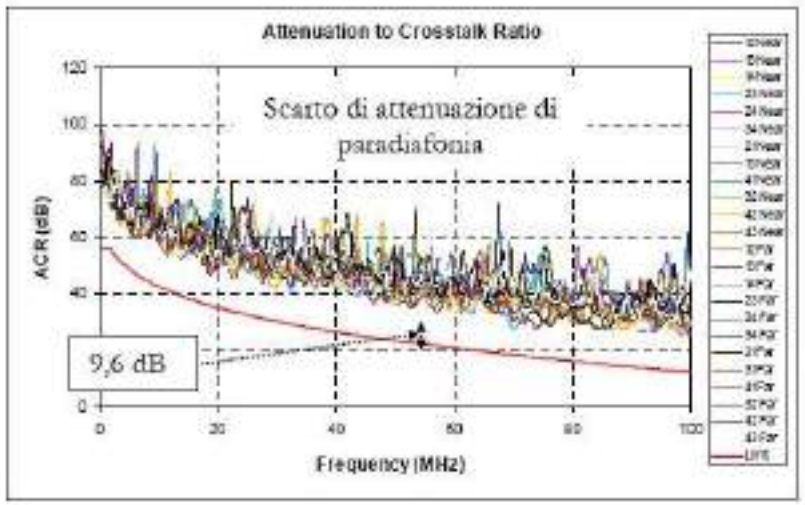
Requirements	Typical format or additional explanation of information to be submitted
All test reports A certified passing test report for each link and/or channel must be submitted to and received by [redacted] Corp. prior to the date the warranty is issued. **Each certified test report must clearly indicate:** 1. Date the test was conducted. 2. For fiber installations, a passing test report for each reference cord must be submitted in accordance with the requirements set forth on Exhibit 1 to this Appendix A. See "Testing Requirements for Fiber Links" on Exhibit 1 of this Appendix A. 3. The designated link and/or channel performance level (i.e. Category 3, Category 5, Class C, Category 5E, Class D, Category 6, Class E, Category 6A, Class Ea., and the link configuration (permanent link or channel). 4. A link identifier in compliance of ANSI/TIA-606-B and ISO/IEC 14763-2-1.. 5. A "PASS" or "*PASS" test result for the overall test requirements specified in the Commercial Building Telecommunications Cabling Standards for each designated link and/or channel classification. 6. For fiber installations only, no negative loss values will be accepted as a "PASS" test result. 7. The installation project name. 8. The test equipment manufacturer, test equipment model, and test equipment test cord adapter part number. Any link and/or channel, which is not identified in a certified passing test report, is not covered by this warranty.	A certified passing test report is one that has been verified by the Partner. Test reports generated by standard field test equipment must list all necessary performance results as specified in the Commercial Building Telecommunications Cabling Standards for the designated link and/or channel performance level (i.e. Category 3, Category 5, Class C, Category 5E, Class D, Category 6, Class E, Category 6A, Class Ea.) • All information must be uploaded to The Hub and come in the field tester manufacturers' standard file format. Please contact the Panduit Warranty Department, if you are unsure of the correct file format, [redacted] • Each test report must contain a clear distinct designated permanent link or channel classification (i.e. Category 3, Category 5, Class C, Category 5E, Class D, Category 6, Class E, Category 6A, Class Ea., Multimode or Singlemode. No alternate or added descriptions. An "*" (asterisk) i.e. *Pass preceding a passing test result can be considered acceptable as long as it meets minimum compliance to the cabling standards. • Each optical fiber link test report must include both link loss and length in order to verify compliance to the cabling standards.

Each test report must contain a clear distinct designated permanent link or channel classification (i.e. Category 3, Category 5, Class C, Category 5E, Class D, Category 6, Class E, Category 6A, Class Ea., Multimode or Singlemode. No alternate or added descriptions. An "*" (asterisk) i.e. *Pass preceding a passing test result can be considered acceptable as long as it meets minimum compliance to the cabling standards.

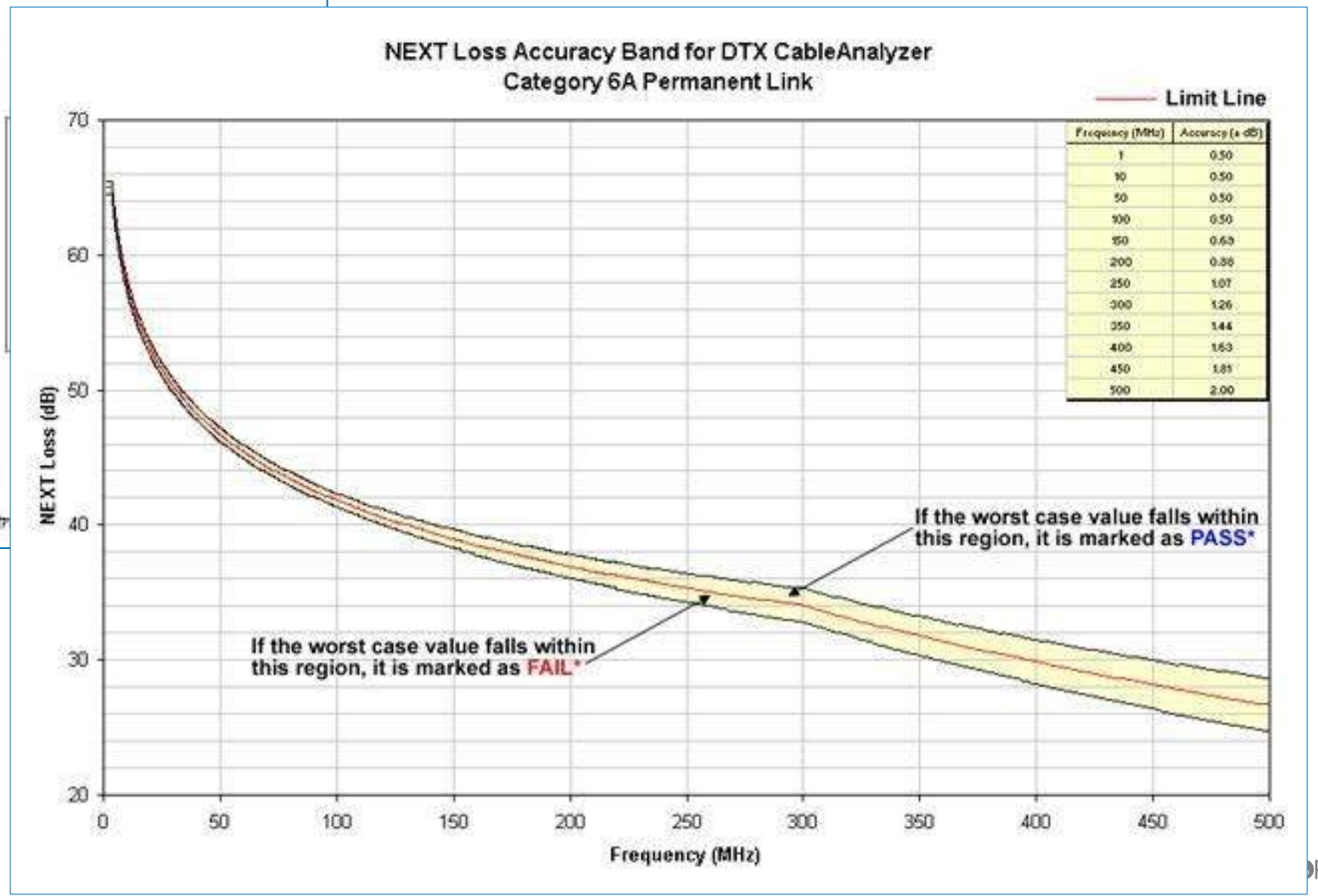
Source: Vendor X website

’’Minimum Guaranteed Margin’’ Vs ’’*Pass’’

Ministero delle Comunicazioni
Istituto Superiore delle Comunicazioni e delle Tecnologie dell’Informazione
iscom



Esempio di valutazione del margine minimo di un parametro t



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SUMMARY

- **Don’t try to save money from your LayerOne taking the risk to reduce reliability and robustness of your communication Infratucture**
  Think about !
- **Don’t run after the daily issues but instead turn your network reliability to a competitive advantage**
- **look at the FACTS, sounding & concrete facts, not promises, real/touchable facts**
- **don’t be shy, ask for information, as many as you need to understand**
- **LOOK AT THE CHART !!!**


Give your ICT Investments the right way to exploit their POWER
TIP

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THANK YOU
ευχαριστίες

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