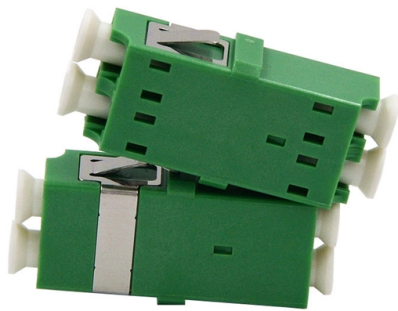


Intelligent Customization Process for ODN Optical Distribution Networks in Field Operations



Overview

This white paper introduces an evolved methodology to manage FTTx Optical Distribution Network (ODN) performance. A centralized OTDR-based solution is the core of this evolved methodology, which greatly improves the visibility and operation efficiency in maintaining ODN. An Intelligent ODN fuses electronic labels/QR codes, high-dynamic-range smart OTDR, and a unified management platform (GIS + topology + data governance). The result: faster mean-time-to-repair (MTTR), higher first-time fix, and traceable changes—without relying on customer-side TF reflectors. While most attention goes to active components like OLTs and ONTs, the ODN represents up to 70% of total FTTH investment. Its evolution is. Hans Neff, Senior Director of ZTE CTO Group, recently delivered a keynote speech entitled 'Embracing the AI Era to Accelerate the Development of All-Optical Networks' at the FTTH Conference 2025 in Amsterdam, sharing the company's solutions and experience in focusing on AI empowerment to achieve. Huawei's DQ ODN solution features its "Fiber Iris" technology, uses an intelligent algorithm to identify fiber signals, and displays the ODN topology on the NCE platform.



Article Content

The Evolution of ODN Architectures in FTTH Networks:

The fiber optic landscape is undergoing a quiet revolution—and it's happening in the Optical Distribution Network (ODN), the backbone of every

DIGITIZATION OF OPTICAL DISTRIBUTION NETWORKS (ODN)

ODN Networks Evolution The residential optical distribution network (ODN) is the final connection between a telecom operators' internet, cable, and telephone services and its customers. Over the

ZTE Company Revolutionizes Optical Networks with Intelligent ODN ...

Speaking before an audience of industry professionals, Neff outlined how the ZTE company leverages artificial intelligence to improve Optical Distribution Network deployment

TS 104 021-1

The present document is mainly based on intelligent optical distribution networks that can collect the ODN device information through intelligent optical path analysis equipment or intelligent

How Optical Distribution Networks (ODN) Are Advancing

Learn how Optical Distribution Networks (ODN) evolve from conventional to intelligent systems and optimize fiber network deployment.

Huawei: Huawei Digital Quick ODN Solution (DQ ODN Solution)

This solution implements precise planning, fast deployment of optical broadband networks, and precise fault locating and rectification, revolutionizing the traditional ODN construction and...

ZTE enhances all-optical networks with smart ODN solutions

AI and digital intelligence can provide end-to-end support for ODN construction in multiple aspects. Hans described how ZTE leverages AI technology to build intelligent ODNs across the entire process,

TS 104 021-1

1 Scope The present document describes the general guidance on Optical Distribution Network (ODN) quick construction and digitalization. The digitalized Quick ODN enables the carriers to improve the

Fiberhome Smart ODN Solution | PPTX

This document discusses FiberHome's Smart ODN solution for optical distribution networks. It begins with an overview of the history and challenges of copper and

Evolving Optical Distribution Network (ODN) Methodology

This white paper introduces an evolved methodology to manage FTTx Optical Distribution Network (ODN) performance. A centralized OTDR-based solution is the core of this evolved methodology,

ODN Innovations: Driving an Intelligent Connectivity

The Optical Distribution Network (ODN) market is poised for significant growth, with projections indicating that expenditure will reach USD

ZTE Drives the Digital Transformation...

As a global leading provider of integrated information and communication technology solutions, ZTE actively promotes the digital and intelligent transformation in the network deployment

CN105634815A

The invention discloses an intelligent ODN (Optical Distribution Network) equipment management system and method applied to an ODN. The method comprises: performing overall planning on

Intelligent Fiber Network Optimization | PDF | Fiber Optic ...

How to Operate Smartening up fiber optic networks with intelligent ODN Shaanxi Mobile has deployed intelligent fiber optic networks at the core and aggregation layers of its network, boosting

Light ODN

ZTE's end-to-end intelligent ODN management solution continues to evolve. The unified management platform integrates the active device management and

Huawei: Huawei Digital Quick ODN Solution (DQ ODN)

Huawei's DQ ODN solution features its "Fiber Iris" technology, uses an intelligent algorithm to identify fiber signals, and displays the ODN topology on the NCE

unsupervised_topic_modeling/topics/en/17/100/100/topics at ...

Contribute to annontopicmodel/unsupervised_topic_modeling development by creating an account on GitHub.

ZTE advances all-optical network deployment with intelligent ODN

Hans described how ZTE leverages AI technology to build intelligent ODNs across the entire process, enhancing efficiency and reducing operational complexity. He elaborated on the

Intelligent Optical Distribution Network

Intelligent Optical Distribution Network The iODN solution identifies and manages optical fiber connections, provides visible operation guidance, and intelligently

Intelligent ODN System Design (2025): Architecture,

Learn how Intelligent ODN combines electronic labels, smart OTDR, and a unified platform to cut MTTR by 40–60%, boost first-time fix, and scale

The future evolution of ODN technologies

Based on the technologies such as identification of branch optical lines, QuickConnect, and uneven optical splitting of optical splitters, the digital

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Smartening up fiber optic networks with intelligent ODN

Smartening up fiber optic networks with intelligent ODN Shaanxi Mobile has deployed intelligent fiber optic networks at the core and aggregation layers of its network, boosting management efficiency and

headTitleNoCommunity

Learn about 77 new offers that went live in Microsoft Marketplace, a single destination to find, try, and buy cloud solutions, AI apps, and agents to meet...

What Is an Optical Distribution Network (ODN)? - The Ultimate Guide

□□ What Is an Optical Distribution Network (ODN)? An Optical Distribution Network is a passive optical transmission system composed of optical fibers, splitters, distribution frames, and

Contact Us

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