Fiber To The Home (FTTH)

ZEP Kozani Project

Link S.A

Overview of surrounding area
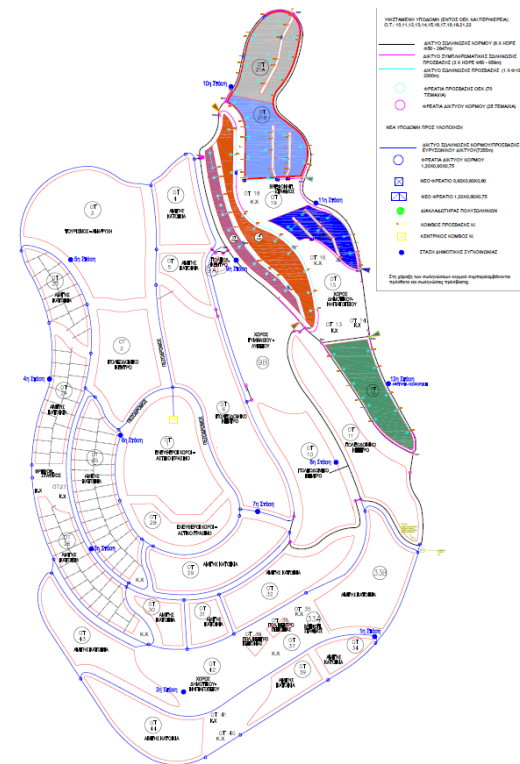
The Project

- One of the first FTTH projects and the largest one in Greece
- 300 residential and civil buildings
- Optical To Ethernet CPEs
- IP video phones
- Internal structured optical cabling- Low bend Radius Fiber
- Digital services (Internet, IPTV, IP telephony, e-Learning)
- Very strict and tight time plan
- Project accomplishment time: 4 months

The Implementation

- 8 km of trenches
- 16 km of Φ50 tube
- 26 km of blown microducts
- 8 km of fiber optics for 300 users
- Construction of the main switch room plus 11 outdoor cabinets
- Design, installation and configuration of the active optical equipment
- Installation, configuration and distribution of 300 CPEs and 300 videophones.

Civil works

- Civil works started on the first week of October 2009
- Two different types of digging: X1 and X2
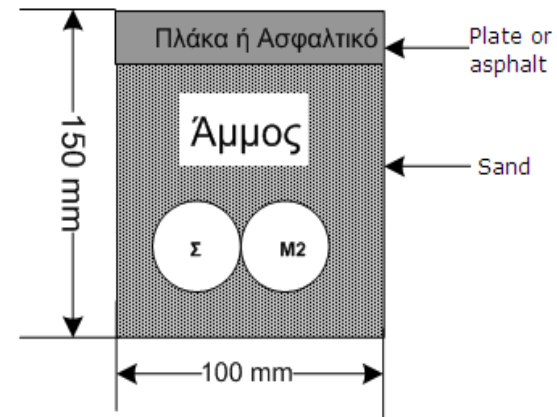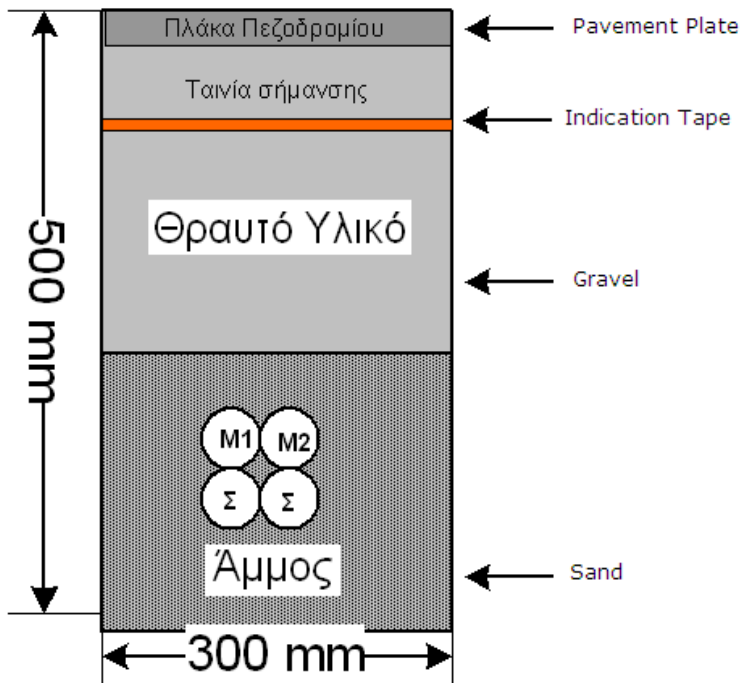
Civil works

Special requirement: Concrete layer should have been applied in advance on certain areas

Civil works

• Civil works took place into the municipality of Kozani's roads as well

Main Switch Node

- The main switch node is situated in the centre of the settlement
- It is divided in 4 different rooms containing desk offices and workstations, storage room, toilet facilities and the main data room.
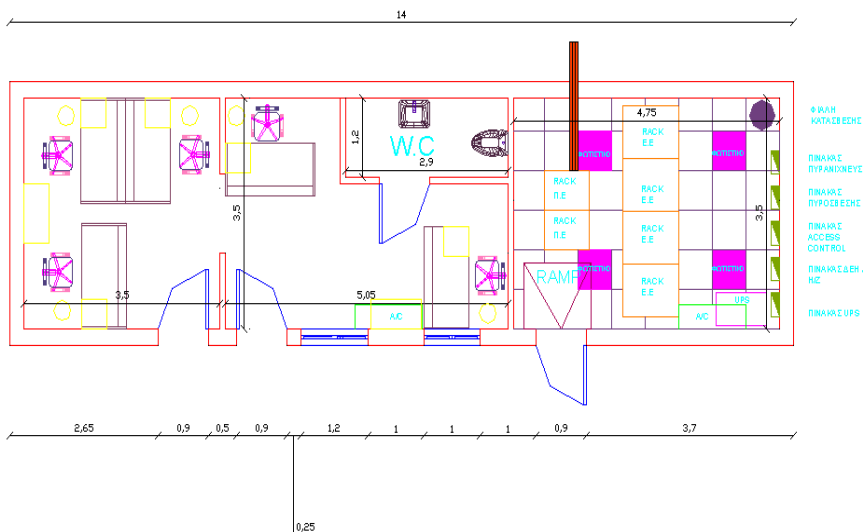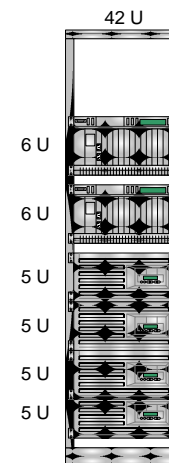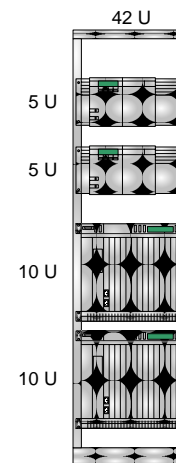
Main Switch Node

- NOC facilities introduced-Six workstations
- Air conditioning-Building isolation
- Electronic recognition system
- Electronic fire alarm system
- Six 19'' racks installation
- Two main servers
- Six routers
- Two firewalls
- PBX call center
- Web server
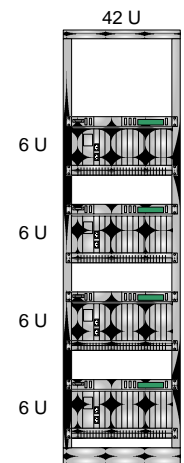- Email server
- NMS
- UPS
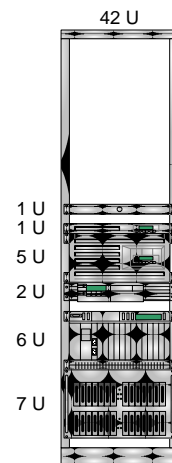
ΕΞΟΠΛΙΣΜΟΣ ΤΗΛΕΦΩΝΙΚΟΥ ΚΕΝΤΡΟΥ

ΔΙΑΚΟΜΙΣΤΕΣ ΚΑΙ ACCESS SWITCHES 5 & 6

CORE SWITCHES 1 & 2 CORE ROUTERS 1 & 2

ACCESS SWITCHES 1 - 4

Main Switch Node

- More than 3km of internal optical cabling into the main switch node
- Full electrical installation
- Fire alarm system with HFC-227ea agent
- Electronic recognition system
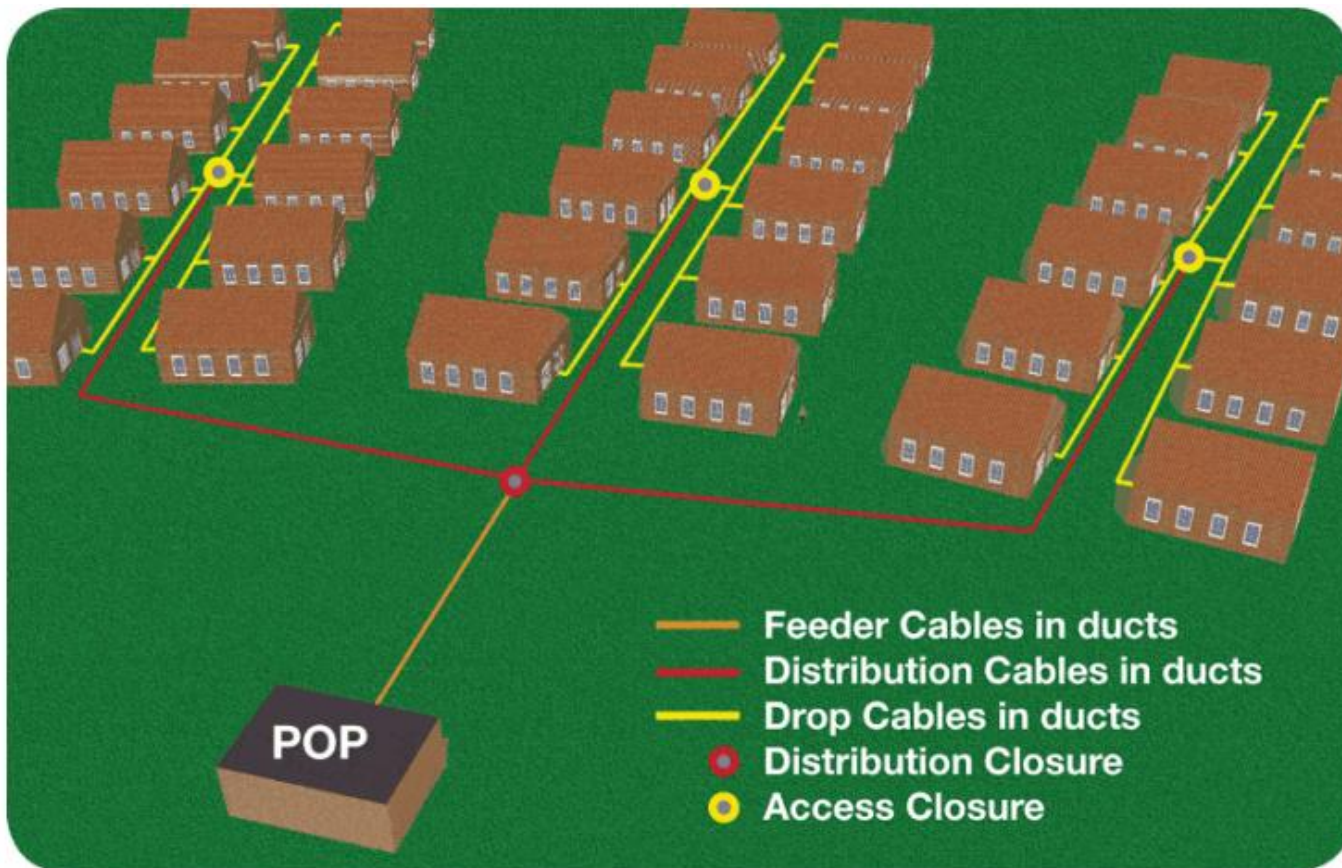- Alarm security system
- Air conditioning

Users and Services

- 300 users consisting of households, government buildings and public services buildings

- Internal optical cabling installation, CPEs installation and configuration

- 300 IP Video phones distribution, installation and configuration

- IP Services such as IPTV and e-Learning

Typical FTTH Implementation Design

Feeder Cables in ducts
Distribution Cables in ducts
Drop Cables in ducts
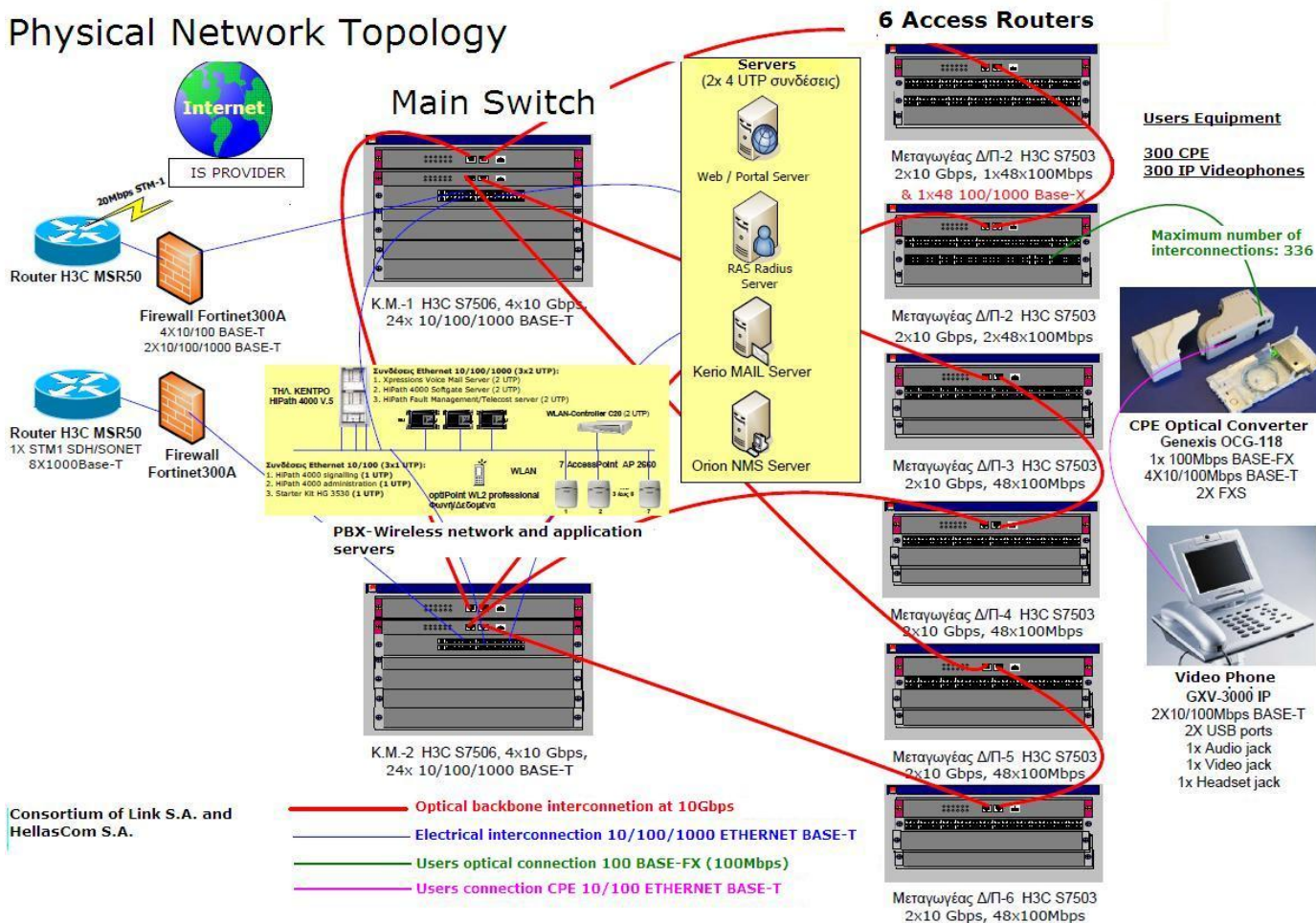Distribution Closure
Access Closure

POP

Adaptation of FTTH architecture in ZEP

- 2 main switches with 6 access routers located in the main data room

- 11 outdoor cabins serving the neighbourhoods of the settlement

- 6 WIFI hotspots located on the bus stops
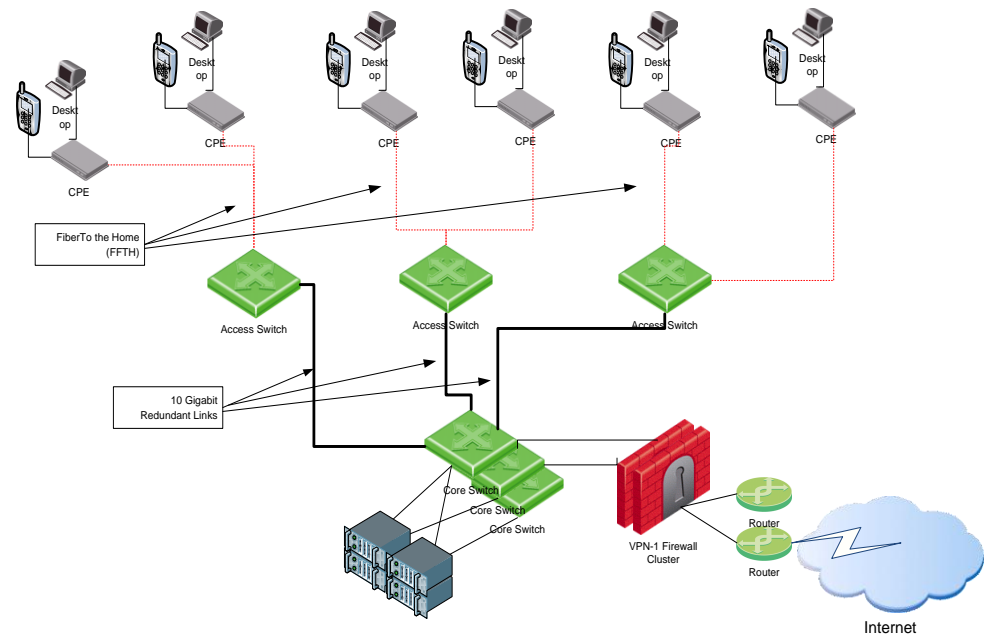
Network Topology

Users and Services after construction

- 300 CPEs and IP Videophones configured, distributed and installed
- Three weeks of extensive testing and fine tuning of the network components
- Close collaboration with the contractors of the IPTV and e-Learning services
- Successful delivery of the project on time
- Network maintenance and support for one year (24x7x365) extendable to three years, ranging from level 1 to level 3.

Thank you for your attention

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