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## FONEX PROVIDES SUPPORT AND PURPOSE-BUILT FTTH AND CORE NETWORK SOLUTIONS FOR MUNICIPALITIES

### Application

- Building high-speed fiber-to-the-home (FTTH) network capable of delivering state-of-the-art Internet and telephone services to a group of municipalities

### Challenges

- Solve interoperability and operational issues with existing equipment for voice service features
- Re-engineering network for GPON
- Re-use existing CPE backup power and outdoor enclosures

### Solution

- A purpose-built solution with hardware from Zhone, Juniper and LambdaGain™. Integration capabilities and local support provided by FONEX.

### Benefits

- Full compatibility with voice provider features (caller ID, voicemail etc)
- Scalable equipment which allows the network to be built in stages
- Seamless deployment by leveraging existing CPE backup power and outdoor enclosures
- Smart and cost-effective solution with complete integration guarantee

### The Challenge

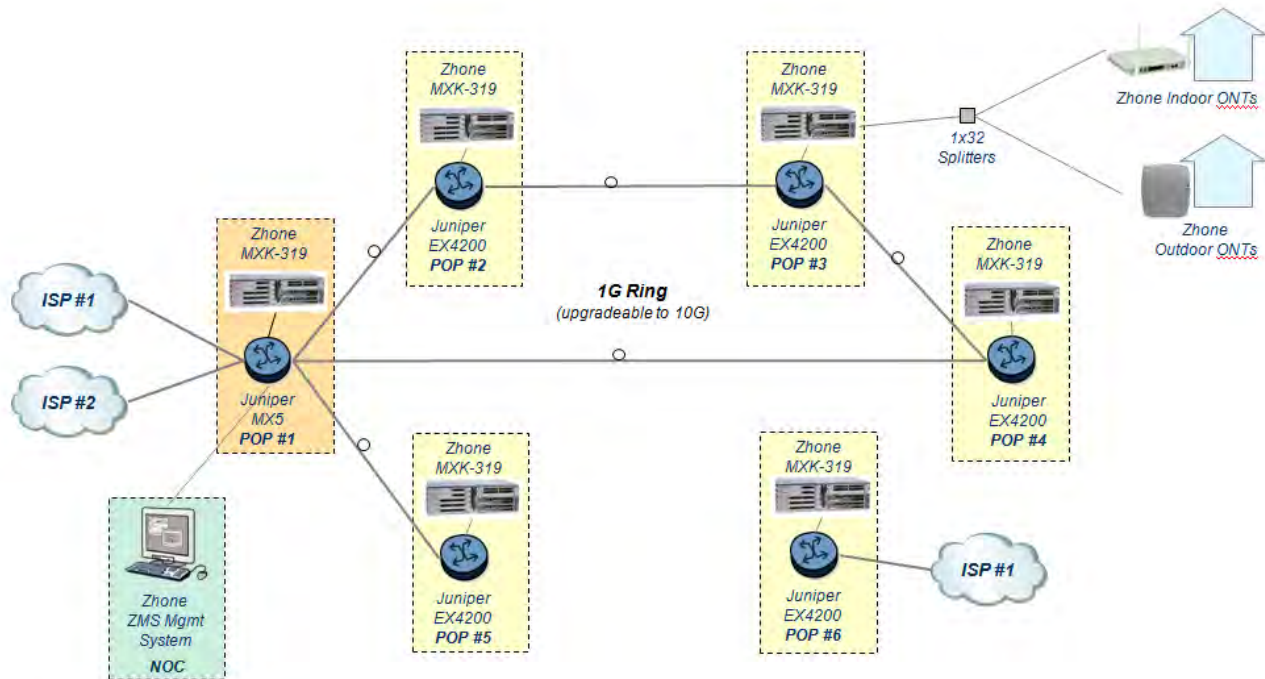
More and more municipalities want to offer broadband services to rural homes and businesses to allow access to state-of-the-art Internet and telephone services. And although dominant ILECs and CLECs claim to reach every corner of the country, a group of municipalities joined forces to produce their own local network infrastructure, due to the lack of development by the major telecom players to build an FTTH network in their region.

However, building a local network infrastructure would prove to be more challenging than anticipated. The regional network operator experienced multiple interoperability issues with its existing equipment and the deployment resulted in multiple frequently disrupted services with the current voice provider features (like caller ID and voicemail), forcing the operator to either rebuild the entire network or drastically improve the network's configuration.

### The Solution

FONEX provided the most viable and cost-effective solution to properly build out the FTTH ring network project. The equipment utilized in this project included Juniper EX-4200 Ethernet switches, which offers a full suite of Layer 2 and Layer 3 switching capabilities and Zhone's MXK-OLTs in the outside plant network and indoor and outdoor ONTs at the homes/businesses. The Zhone MXK platform is fully redundant and features industry-leading density, scalability and switching capacity, the MXK provides non-blocking capacity of up to 3,600 100 Mbps GPON subscribers or 360 1G Active Ethernet subscribers. LambdaGain™'s fully compatible and compliant SFPs were also integrated to enable high data transfers between the OLTs and the

Ethernet switches. LambdaGain™ offers the most comprehensive portfolio of passive optics in the market. This turnkey, purpose-built solution allowed the operator to re-use existing CPE backup power sources and the already installed outdoor enclosures (see diagram below).



Since the operator had also stressed the importance that the solution be 100% compatible with working data and VoIP services, FONEX provided undisputable lab trials with the proposed Juniper, Zhone and LambdaGain™ equipment. The internal tests and compatibility trials proved, beyond a doubt, that the proposed network configuration solution would satisfy the municipalities' technical and operational requirements. The operator could then deploy services in the field with full confidence that services would work as intended.

FONEX also provided the following support services to the operator:

- Assistance with network design
- Pre-configuration and testing of core routers and GPON equipment
- On-site assistance for commissioning
- Research and provision of fibre hardware and connectivity products

The Result: The purpose-built solution provided by FONEX gave the operator the flexibility needed to build their network with scalable equipment, which allows the network to be built in stages, as funding is raised. Any voice provider incompatibility issues were resolved and, if in the future, an upgrade to 10G Ethernet is desired, it will be an easy and seamless upgrade.



**CANADA**  
5400 Ch. St-François  
St. Laurent, QC  
H4S 1P6  
+1 514 333 6639

**FRANCE**  
17 Gutenberg  
Zone de la butte  
91620 Nozay  
+33 01 69 80 70 49

**ITALY**  
Via G. Prina 5  
20154 Milano  
+39 02 29 00 00 45