



Business challenge

A network was needed to support collaboration among employees across multiple locations on a limited budget while minimizing waste, energy usage and disruption to employees.

Transformation

To improve CEREMA's network performance with an environmentally friendly solution, IBM implemented a passive optical LAN (POL) architecture over the company's existing multimode fibers, which had never been done before. This innovative solution reduced company costs and limited the environmental impact. The upgrade was completed within *three hours* and did not interrupt service.

Business benefits

37%

Cost reduction

in POL migration compared to a new fiber rollout

40%

Saved

on power consumption

€60,000

Budget met

for every office

CEREMA

Faster uploads, better collaboration and lower energy costs—all without recabling

CEREMA is a scientific and technical resource center focused on sustainable development, town planning and transportation. A subsidiary of France's sustainable development ministry, CEREMA has 3,000 employees located in eight cities throughout France.

"We wanted to implement an innovative solution in line with an eco-responsible policy. We were won over by the [IBM] solution."

—Gil Romand, IT Manager of CEREMA Aix-en-Provence

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Faster speeds without waste

Focused on sustainable development projects across France, CEREMA needed access to large file formats and the ability to share them to multiple locations. For CEREMA, slow network speeds would hamper productivity. But as a state nonprofit committed to sustainability, CEREMA couldn't just start from scratch. It needed an environmentally friendly solution and one that would be feasible on a fixed budget.

An innovative solution gives a second life to fiber cables

To meet CEREMA's goals, budget constraints and environmental priorities, IBM worked with a team to develop a turnkey solution that effectively reused the company's infrastructure to improve network speed while reducing power consumption and minimizing disruption. IBM collaborated with CommScope and TNT Telecom to identify the

solution requirements and find an innovative tool that would deliver on all fronts. IBM also worked with Tellabs for POL active equipment, Anixter for shipping and CAILabs to install its AROONA-POL splitter for the access network. IBM's ability to integrate multiple technologies allowed for a high-bandwidth network laid over the existing multimode cabling infrastructure, saving time and repurposing wire. There was minimal disruption and near-immediate improvement: within three hours, all offices had 1 GB access—an increase from the earlier 100 MB access.

A cost-effective, future-ready solution

CEREMA wanted to speed up its local area network (LAN) performance with minimal waste and within budget. IBM developed an innovative solution that reused the company's existing cabling for faster connectivity. This allowed CEREMA to save money on installation; the cost for migrating the LAN was 37 percent lower than a new fiber rollout. The fiber reuse also



eliminated active equipment and simplified network management. The solution reduced the environmental impact of the upgrade. IBM estimates that the solution will save 40 percent on power consumption, based on estimates comparing similar IT needs with copper-based networks. The new architecture is also lighter than copper, reducing the number of trays required to support the wire. As a modular infrastructure, the Tellabs Optical Line Terminal (OLT) can scale to serve up to 2,000 endpoints, which will allow CEREMA to support future growth. Recently, CAILabs, with the support of IBM, Tellabs and other allies, was named innovation platinum award winner for AROONA-POL by the APOLAN¹.

Solution components

- CAILabs AROONA-POL
- IBM Networking Services – Passive Optical Networks
- IBM Nextgen campus networks
- IBM Site and Facilities Services

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Take the next step

To learn more about IBM optical networking services, please contact your IBM representative or IBM Business Partner, or visit the following website: ibm.biz/PON_DAS_network

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¹ Association for Passive Optical LAN, "The Association of Passive Optical LAN Announces 2016 APOLAN Award Winners," press release, January 24, 2017

