National Management Network

Case Study.

2023

Project Overview

SiFi Networks funds, builds and operates community wide fibre optic networks across cities in the USA. Tasked with sizeable network projects across the USA, they require experienced network design and integration partners to work alongside them as part of their virtual project team to fulfil multiple fibre rollout projects.

SiFi Networks is funding, building and operating city wide, open access, 10 gig enabled fibre networks under its Fibercity® brand. FiberCities® are the backbone for economic development and are digitally sustainable enabling Smart City applications and a citywide infrastructure footprint that closes the digital divide that is prevalent in US cities.

The national management network project required a network implementation company with experience of rolling our lit fibre networks. They needed to increase network capacity but had a tight budget to maintain in doing so.

As a multi-disciplined project, there were several complex challenges. There was a need to move to a more efficient and automated way to onboard new customers and overcome the connectivity challenges of an unreliable lit fibre service. These challenges, met also with a limited vendor ecosystem, legacy network topography and outdated deployment methods, meant that a holistic end to end approach to the project was required.

Essentially, SiFi Networks needed a full redesign of the network management architecture.

The Challenges
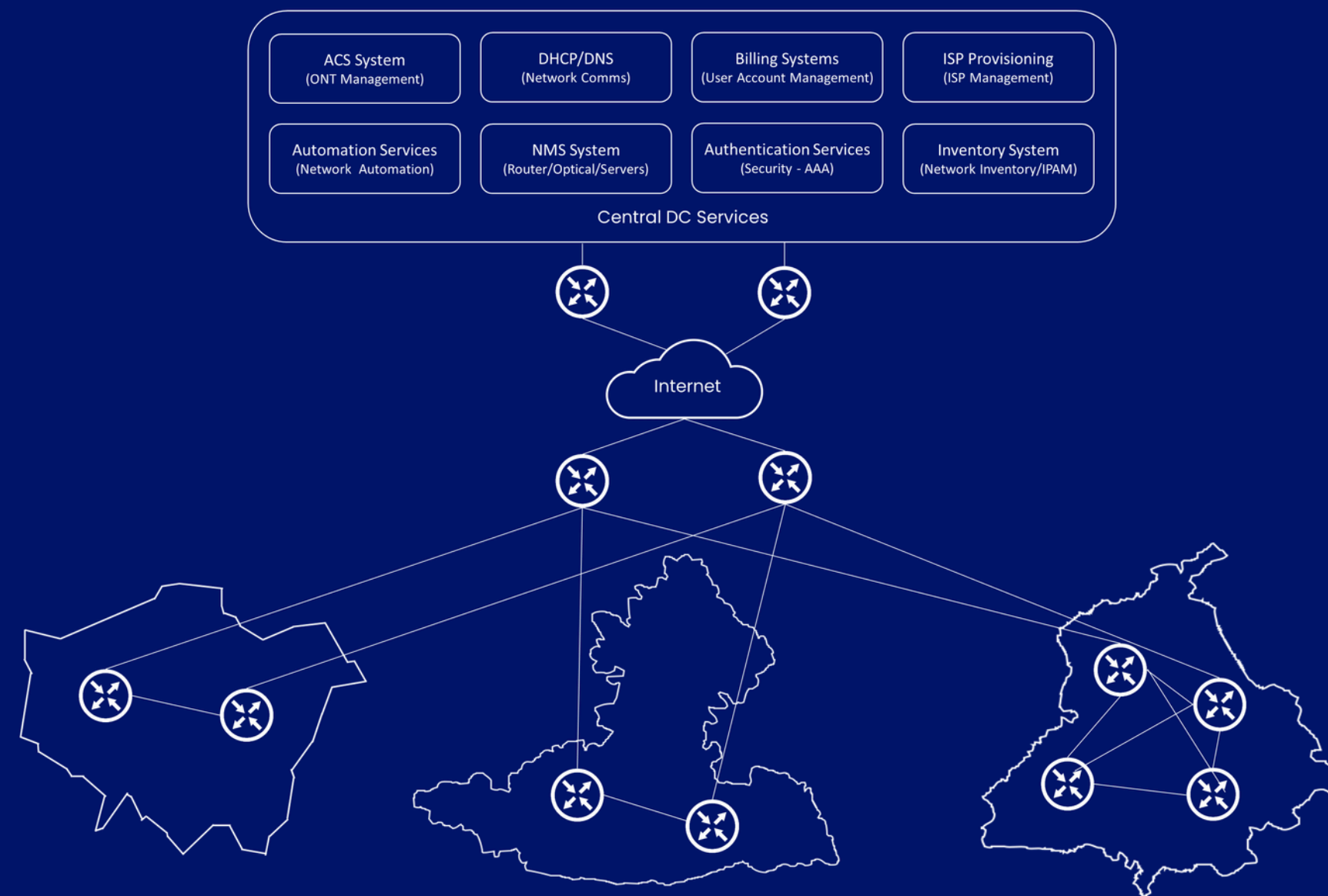
- Needed to automate onboarding new customers and services
- Expensive and unreliable lit fibre services hampering robust network management connectivity
- Lack of multi-vendor management system meaning vendor lock-in
- Legacy network management topology, which was not supportive of growth
- Inefficient "traditional" methods to track deployed assets and IP Addressing

The Solution

All of the network procedures and pain points were documented and reviewed. Working in unison with SiFi networks, the teams identified additional needs such as enhanced security and support for the growing use of cloud services.

NetPMD uncovered that the network topology would be inefficient for scaling the network. and that a lack of systems across central locations would also be key inhibitors to implementing the company's deployment strategy.

With these findings and following consultation and recommendations, the team developed a detailed plan and implemented the following systems:

• Network Management Transport Mechanism (IPsec/OSPF/BGP)
• Network Utility's (DHCP/DNS/AAA)
• Network Management Systems (NMS/ACS/Inventory)
• ISP & User Provisioning Systems (NetCONF/API)

NETPMD

Design and Integration

NetPMD provided a holistic end to end project in which the outcome was a full redesign of the network management architecture. In close collaboration with SIFI Networks, NetPMD applied its "technical IT" methodology and experience to develop a transformation roadmap.

The Benefits

- Enables Smart City/IOT applications
- Increases city revenue
- Boosts economic development
- Citywide network that closes the digital divide
- Improves city services, healthcare and educational services
- Digitally futureproofs cities
- More connectivity choices at competitive prices
- Retains and attracts business

The Result

As a result of the implementations, the network management IT business case and transformation roadmap were well-received by stakeholders.

The project has meant that the partnership between SiFi networks and NetPMD has strengthened further still. SiFi networks appreciate both the deep technical knowledge of the NetPMD project team and the joined-up approach in terms of ways of working.

With NetPMD redesigning the network management architecture, SIFI Networks will be able to increase network capacity and performance, all while reducing annual network spend.