

Fixed Mobile Telecoms selects Arista Networks for innovative, fully orchestrated customer-centric network service while reducing management overheads by 90%

Highlights

Challenge

Fixed Mobile Telecoms needed to create a highly orchestrated network architecture to meet the flexibility requirements of its innovative telecommunication service based on a modular layer 2 switching architecture .

Solutions

- Arista 7280SR Series spine / leaf switches for high performance, low latency and scale functioning as primary Software Defined Networking controller
- L3 mesh backbone between switch and transport traffic using VXLAN encapsulation
- Arista CloudVision and EOS integration with core service provisioning systems

Results

- CloudVision API's help deliver complex changes in a programmatic method reducing the time needed for major network changes by as much as 90% Programmable interfaces, publish-subscribe state separation, resilient fault containment and self-healing attributes deliver mission critical visibility and reliability
- Enabled the launch of a new LAN management service to extend end-to-end visibility, management and orchestration into its clients' enterprise networks

As an innovator in the South African telecommunications market, Fixed Mobile Telecoms has selected Arista as its switching and orchestration technology to offer unprecedented levels of flexibility to its growing customer community.



Project Background

Fixed Mobile Telecoms was founded in 2018 by CEO Eduard Du Plessis along with his partner Rikus Jansen. Together with recently joined partner, Delfim Alves, the trio were following a successful formula based on disruption that led to the launch of South Africa's first broadband internet service provider via satellite in 1997 and AfricalNX, an innovative internet exchange for smaller ISPs that launched in 2009. Fixed Mobile's goal is to disrupt the status quo again and break the Service Provider mould with a modular model for telecommunications architecture allowing it to build highly customised solutions for each customer based on the same underlying standardised network and practices.

Challenge

At the core of this concept is the ability to develop deep orchestration technologies within its network while still delivering the carrier grade capabilities expected of a tier 1 telecommunications services provider. "Selecting a networking partner was probably the most difficult technical decision we made during the foundation of Fixed Mobile," Du Plessis explains, "We shortlisted 5 vendors and tested a number of options, but it was clear that not only did Arista meet the technical criteria, it also had a forward thinking approach that would allow us to deliver what we set out to do today and ensure that we were not going to end up at a technological dead-end so to speak."

The Fixed Mobile Telecoms network has nodes in every major city in South Africa and each has a core network transport and a switching layer that uses Arista 7280SRs. "Yet we do far more than just switching with Arista. This is where we do our orchestration which allows us to think beyond just physical infrastructure to allow us to deliver everything as a service," says Du Plessis.

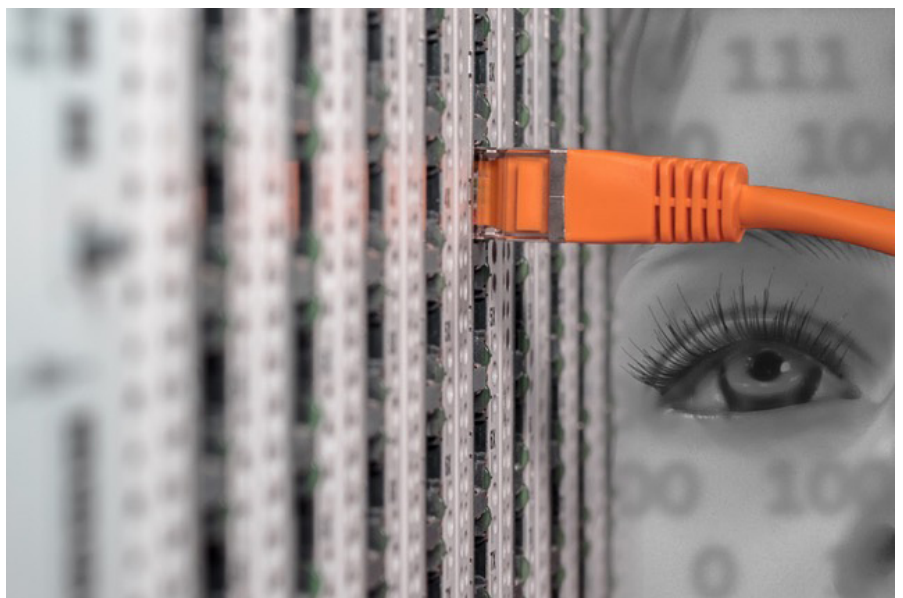
Solution

Within its design, Fixed Mobile uses Arista as its primary Software Defined Networking controller to manage its network in the core and uses Palo Alto as a cyber security layer. "So, for example, if a customer with multiple branches wants to move telecoms traffic or cloud services to a different provider, or migrate to Office 365; from a network perspective, all of these are handled by the orchestration layer and making these changes is incredibly simple."

To enable this capability, Fixed Mobile has used Arista CloudVision®, a platform that is built on top of Arista EOS® with programmable interfaces, publish-subscribe state separation, resilient fault containment and self-healing attributes. CloudVision extends the same architectural approach across the network with a state-based view of the entire network, across the private, public and hybrid cloud.

Fixed Mobile Telecoms built its own portal with a defined set of rules that connects into its core network, security layer and CloudVision APIs to deliver complex changes in a programmatic method that Du Plessis estimates reduce the time needed for major network changes by as much as 90% for its network ops team.

In the current market, Fixed Mobile manages all of these moves, adds and changes on behalf of its customers, "This is the preferred option for most of our customers but if in the future, if the need arises, then the platform we have built is capable of offering most of these capabilities within a self-service tool – initially for simple things such as bandwidth provision or to create basic traffic rules – this flexibility is one of the things that makes us very different," Du Plessis adds.



Conclusion

“In order to have the maximum scalability we selected to use a L3 mesh backbone between switch and transport traffic using VXLAN encapsulation,” explains Hanroux du Plooy, Fixed Mobile’s Network Architect, “This particular configuration offers the required flexibility and simple provisioning operation in order to provide effective network transport, for Fixed Mobile itself and our wholesale customers.” As a result, Fixed Mobile Telecoms has been able to move rapidly within the market and has expanded from its initial MPLS/VPN, Internet and Layer 2 Access services to a deeper solution portfolio that includes voice channels, cloud PBX, network management and unified comms – all within a holistic security model.

The level of orchestration that Fixed Mobile has achieved using Arista within its own network architecture has piqued the interest of several customers keen to improve their internal networking capability, “We see on a daily basis that as a service provider where your responsibility and accountability ends is typically at the handoff point on the enterprise side – but it is after this point that many of the problems actually arise,” explains Du Plessis.

This has led to the ongoing development of a new LAN management service that allows its enterprise customers to more closely integrate their networks with the Fixed Mobile network to gain complete end-to-end visibility, management and orchestration. “In this solution, we have developed tools that can allow a network manager to clearly see what’s going on across their entire local network and within their VLAN within our network to allow a level of visibility and control that customers have never previously been able to achieve,” says Du Plessis.

As one of the most innovative service providers in South Africa, Fixed Mobile Telecoms is growing rapidly and Du Plessis says that technology is only half of the story, “We call it the next evolution of networking and we believe that one day all operators will be like this,” he says, “A future where each customer has the freedom to adapt the service provider network to their individual business requirements without sacrificing quality, performance or reliability is now a reality.” As an example, Adcorp is a client who chose Fixed Mobile Telecoms fully managed, next generation solution to allow them to use cloud migration, cyber security, mobility and agility as key primary business drivers.

Santa Clara—Corporate Headquarters

5453 Great America Parkway,
Santa Clara, CA 95054

Phone: +1-408-547-5500

Fax: +1-408-538-8920

Email: info@arista.com

Ireland—International Headquarters

3130 Atlantic Avenue
Westpark Business Campus
Shannon, Co. Clare
Ireland

Vancouver—R&D Office

9200 Glenlyon Pkwy, Unit 300
Burnaby, British Columbia
Canada V5J 5J8

San Francisco—R&D and Sales Office 1390

Market Street, Suite 800
San Francisco, CA 94102

India—R&D Office

Global Tech Park, Tower A & B, 11th Floor
Marathahalli Outer Ring Road
Devarabeesanahalli Village, Varthur Hobli
Bangalore, India 560103

Singapore—APAC Administrative Office

9 Temasek Boulevard
#29-01, Suntec Tower Two
Singapore 038989

Nashua—R&D Office

10 Tara Boulevard
Nashua, NH 03062



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