



Reliance Jio Automate Initiative Elevates India to #1 Worldwide in Mobile Broadband in Partnership with Cisco

Jio Network 2.0 Automates at Scale

Jio's Vision

In 2016 Reliance Jio (Jio) embarked on a journey to enable the vision of Digital India for 1.3 billion Indians and to propel India into a global leadership role in the digital economy. Today Jio is the only operator to deploy pan-India 4G only network and has created a strong data network with infrastructure and backhaul for offering wireless services for consumers, businesses, IoT devices and other digital solutions allowing further data consumption on the network. It has the widest 4G reach in the industry having over 80% share of the overall industry data capacity. Moving forward, Jio continues to make progress for delivering Enterprise, SMB and IoT offerings.

Jio-Scale: The world's largest All-IP Network Powered by Cisco

The world's largest all-IP network of Jio is powered by Cisco (See figure 1). Over the past year the network has scaled to 2.5 exabytes, nearly doubling over the period, and by the end of 2018 it will have scaled to 6.5Exb with more than 250,000 Cisco routers. With this expansion Jio will cover 99% of India's population leveraging Cisco's network platform and automation.

Jio and Cisco's strategic partnership scales across multiple technology areas including IP/MPLS, data center, integrated mobile core, service provider Wi-Fi, contact center, security and enterprise IT.



Jio Automate Initiative leverages Cisco Network Automation Platform

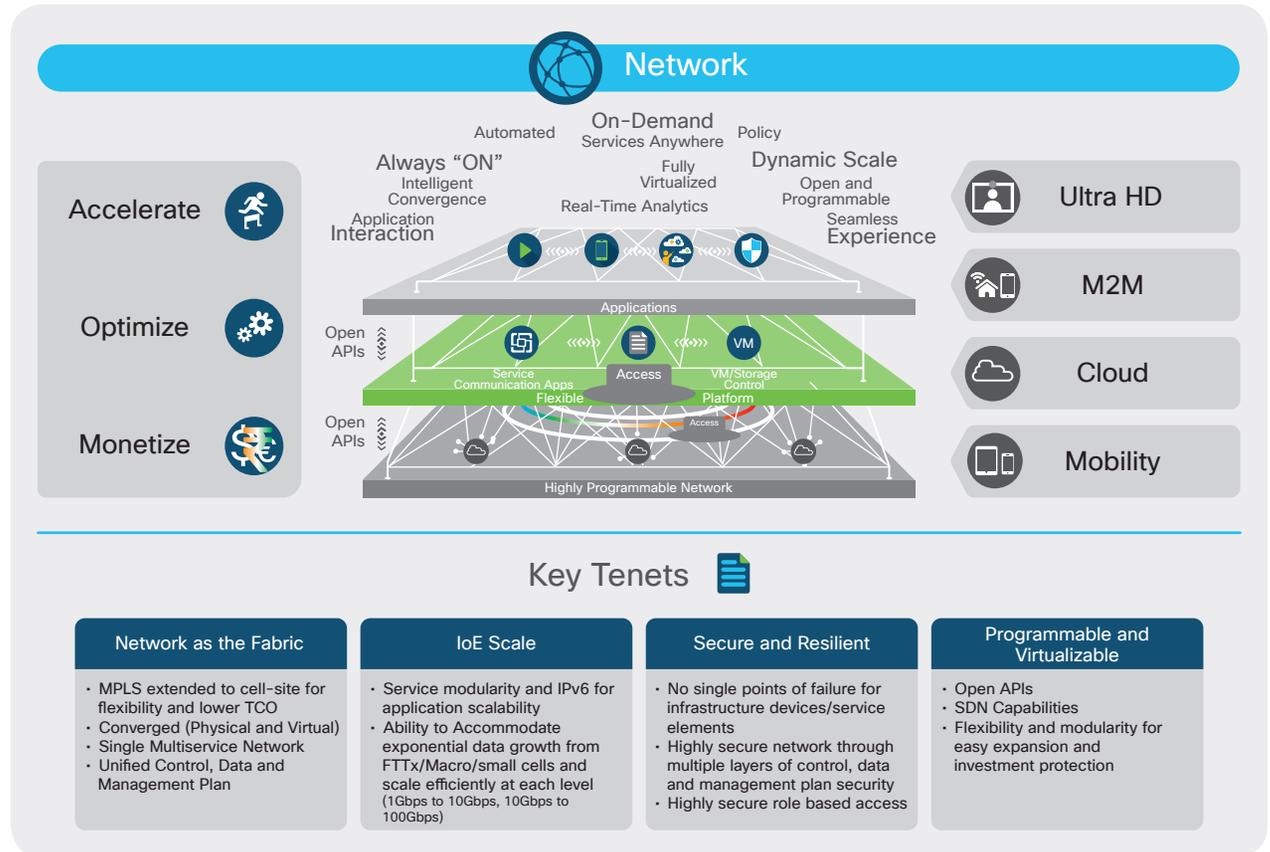
To deploy, scale, and manage a network the size of Jio's required a lot of effort and automation. Thus, the Jio Automate initiative was the pivotal linchpin in the launch of services for the network. Leveraging all the key attributes – Agility, Consistency, Accuracy, Scale, Metric Visibility the whole infrastructure was built at light speed resulting a faster time-to-market onboarding 160 Million Subscribers and managing a traffic of more than 2.5 exabytes.

Cisco and Reliance continuously innovate and the barometer for the innovation is through the “Jio Automation Index” – which looks at:

1. Build Scale per day
2. Peak Network Utilization per day
3. Velocity of Service Provisioning
4. Proactive Problem Management
5. Software Image upgrades achieved per day

The Jio Automation Index helps Cisco and Jio to raise the bar of innovation and automation.

Figure 1. Jio 2.0 Network Architecture Powered by Cisco



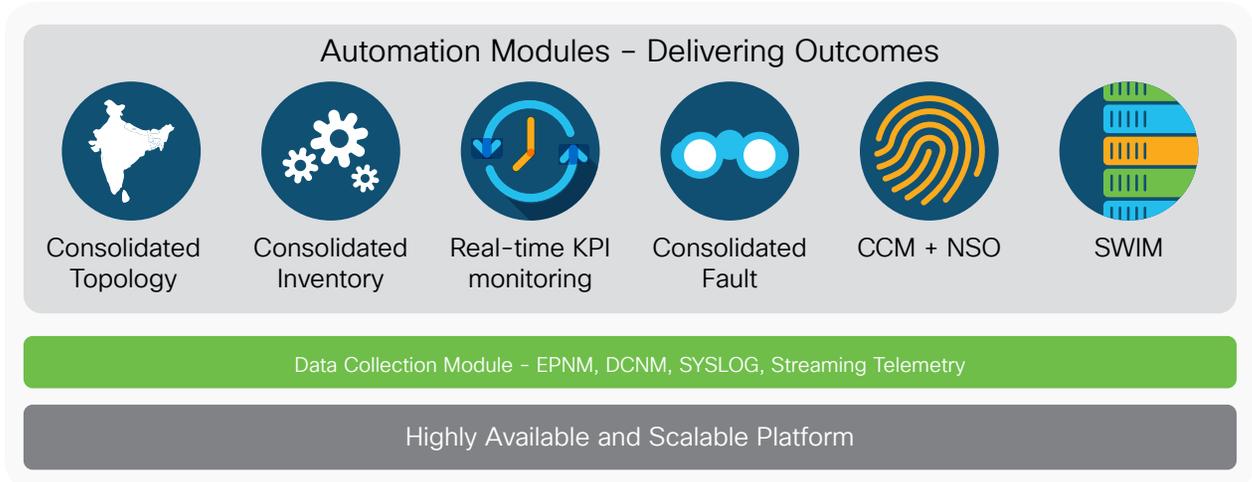
Jio-ed “Know Your Customer”, SIM activation in minutes

In early 2017, Reliance JIO Chairman and Managing Director Mukesh Ambani shocked the India mobile market by announcing a completely new process for mobile SIM activation for Jio customers. Whereas SIM activation previously took 3-5 days, he announced that SIM activation would now be done instantly or within 15 minutes after customers got a JIO Welcome Offer SIM. This process is known as JIO eKYC SIM activation and will be done using the Aadhaar Card.

Aadhaar card digital data document verification (like fingerprint/ Retina verification) will be done at JIO stores. This is yet another Jio first for reducing the time to onboard a customer to the network – at Jio-speed.

Future co-innovation on mobile video edge

Jio is the number #1 provider of video services pan-India. Jio and Cisco have been co-developing the mobile video edge solution with the goal of delivering the best mobile video experience from the cloud to their customers. Together we designed the mobile edge solution using Control and User Plane Separation (CUPS), as defined in 3GPP standards R14 and expanded in 5G standards, to build an edge anchor, at which a Content Delivery Network (CDN) cache could be deployed (See figure 2).





Jio's Magical Effect Country



Jio's “State of the Art Network” Company



Jio “Disrupts” Experience Consumer

- India became the first Exabyte country in the world. Mobile broadband consumption grew from 0.2 exabyte to 1.5 exabyte per month – highest in the world
- Propelling India to a 1 trillion dollar digital economy by 2022
- Created Internet-powered knowledge economy, contributing 7% (~250B(USD) of India's GDP
- Indian mobile broadband subscribers grew to more than 400 million, on track to grow to 600 million by 2020
- India is in the top 5 players for IPv6 consumption and accounts for 20% of global usage

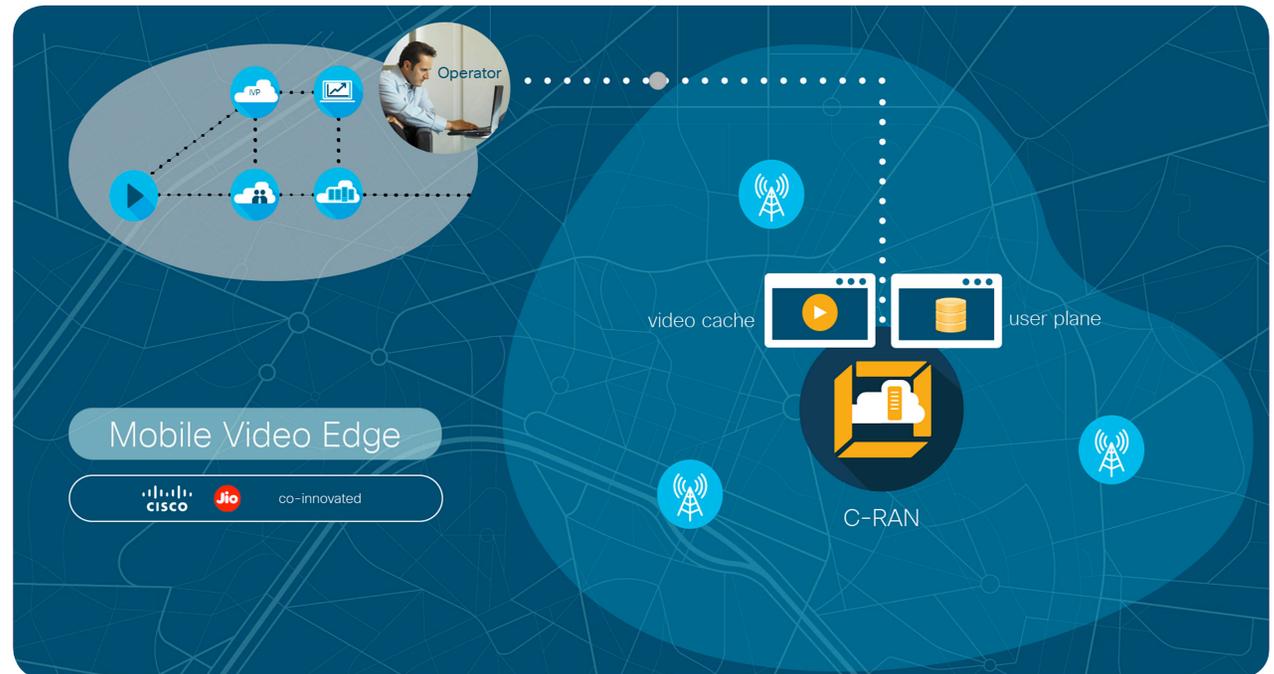
- Jio's network is expected to cover 99% of India's population this year
- Most VoLTE subscribers and traffic worldwide – more than 160 million subscribers with 2.65 billion minutes of calls per day
- Automation at scale: plan, build and operate network infrastructure, nearly doubling capacity with more than 250K routers
- 1.78 billion hours of high speed video per month, making Jio the world's largest mobile video network
- Jio has consistently been rated India's fastest network as per the TRAI's MySpeed application

- Revolutionary, affordable tariff plans – pioneered free voice for life in India
- Device affordability: introduced the Free JioPhone to make smartphone upgrades affordable for all in India
- Onboarded more than 1 million subscribers per day during peak, with working connections in 15 minutes and activation in under 5 minutes
- Aadhaar based eKYC rolled out in 3 million outlets
- Applications and Content
- Enhanced consumer experience and productivity – multiple locations/screens and sources for both
- Linear TV and on-demand content

For more information

To find out more about Cisco Mobile Internet: <https://www.cisco.com/go/mobile>. To learn more about Reliance Jio: <https://www.jio.com/>.

Figure 2. Jio and Cisco Co-Innovation "Mobile Video Edge"



Jio and Cisco together have co-developed the mobile video edge network to solve current massive mobile video issues:

- Assignment of a geographically appropriate IP address to the mobile device
- Handover resiliency in the face of IP address changes on the client side and on the CDN cache site
- Selection of the mobile user plane
- Leaving IMS VoLTE (or services on any other APNs) operating without change or disturbance

This customer story is based on information provided by Reliance Jio and describes how that particular organization benefits from the deployment of Cisco products. Many factors may have contributed to the results and benefits described; Cisco does not guarantee comparable results elsewhere.