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KUMAR KV, VICE PRESIDENT FOR INFORMATION TECHNOLOGY,
NARAYANA HEALTH

NARAYANA HEALTH ACHIEVES 99.999 PER CENT UPTIME AND SAVES MORE LIVES AS A CONSEQUENCE

**IZO™ PRIVATE CONNECT, MICROSOFT AZURE, AND
DYNAMIC PATH SELECTION TOGETHER MEAN DOCTORS
TREAT PATIENTS MORE EFFECTIVELY AND AFFORDABLY**

CASE STUDY | NARAYANA HEALTH
CATEGORY | CLOUD



OVERVIEW AND RESULTS

Narayana Health is one of India's leading healthcare providers. But its legacy systems were letting it down. Networks were subject to aggravating outages. Medical teams had to wait to access vital patient data. Further, poor redundancy and security complicated matters. Lack of agility meant it couldn't easily scale to match growing demands.

To meet those challenges, Narayana Health turned to a unified Tata Communications and Microsoft Azure solution and achieved the following outcomes:

- Five-nines availability with Dynamic Path Selection
- Three-times faster response times for vital clinical applications
- 30 per cent reduction in total cost of ownership

Microsoft Azure meets compute and storage requirements while virtualisation maximises agility. Dual diversified last mile links and redundant active-active PoPs connect over 26 sites. A Global VPN and IZO™ Private Connect provide access to the Microsoft Azure cloud in Chennai and Pune. The intelligent Dynamic Path Selection load-sharing capability ensures automatic failover and uninterrupted data access.

About the customer

Narayana Health operates a system of 31 hospitals, seven heart centres, and a network of primary care facilities across India. The organisation provides advanced levels of care in over 30 specialities including cardiology and cardiac surgery, cancer care, neurology and neurosurgery, orthopaedics, nephrology and urology. The Narayana Health mission is of delivering high quality and affordable healthcare services to the broad population by leveraging economies of scale, skilled doctors, an efficient business model and best practice technologies. For more information go to www.narayanahealth.org

CHALLENGE

Previously, Narayana Health used a mass of servers in local data centres to run mission critical healthcare and business applications as well as store x-rays and scans. Local telco links supported connectivity, which presented drawbacks like:

- Unreliable network with recurring outages delaying medical teams from accessing critical patient care data.
- Disparate systems lacking centralised management led to inefficiencies and poor productivity.
- Lack of automation and platform services.
- Unmanaged localised routers increased the possibility of failure and security breaches, while the infrastructure couldn't scale quickly to meet continuing business growth.

Recognising an urgent need to replace its systems with a reliable, high-performing infrastructure, Narayana Health chose a unified solution running on Tata Communications and Microsoft Azure.

Kumar KV, Vice President for Information Technology, says: "IT infrastructure is critically important to help us save lives. We chose Tata Communications and Microsoft Azure because the centralised solution perfectly balances network reliability, quality and cost."

HIGH PERFORMANCE SAVES MORE LIVES

The combination of Tata Communications and Microsoft Azure means Narayana Health clinicians are empowered to help patients more effectively. Today, medical teams can quickly access data because vital clinical applications respond three-times faster than was the case with the legacy systems.

Data is streamed over secure Tata Communications IZO™ Private Connect links from the Microsoft Azure cloud repositories. "Our old system left much to be desired," says Kumar. "It had many loopholes and definitely wasn't the best practice. Tata Communications and Microsoft Azure offer a commanding TCO. They provide us with 99.999 percent uptime, which wasn't possible in the past."

MASSIVE PACS FILES GET SPECIAL TREATMENT

Medical images like x-rays, which can be massive files, use a dedicated PACS/ teleradiology infrastructure hosted at the main hospital in Bangalore. Dynamic Path Selection allows this critical traffic to be prioritised over a dedicated image transfer network.

Back-end integration means clinicians get a unified patient-centric view of PACs images along with Microsoft Azure cloud data accessed via IZO™ Private Connect.

"Sometimes we are dealing with life and death situations," says Kumar. "Tata Communications and Microsoft Azure provide us with the highly available systems our medical teams require to access critical applications and data. Without such reliability, patients could be at risk."

DYNAMIC PATH SELECTION ASSURES BUSINESS CONTINUITY

In the network, Tata Communications Dynamic Path Selection technology automatically recognises application traffic and chooses the appropriate route. Not only maximising performance by balancing bandwidth between diverse links, Dynamic Path Selection also assures business continuity by routing traffic over the Internet in the event of a network fault.

Kumar confirms: "The business value of Dynamic Path Selection is that it obviates the need to provide back-up circuits, while assuring optimum network bandwidth utilisation. Taking the whole solution together I estimate overall total cost of ownership savings at 30 per cent." For additional redundancy, two routers are deployed in each hospital. In the event of a router failure, traffic is automatically transferred to the operating router.

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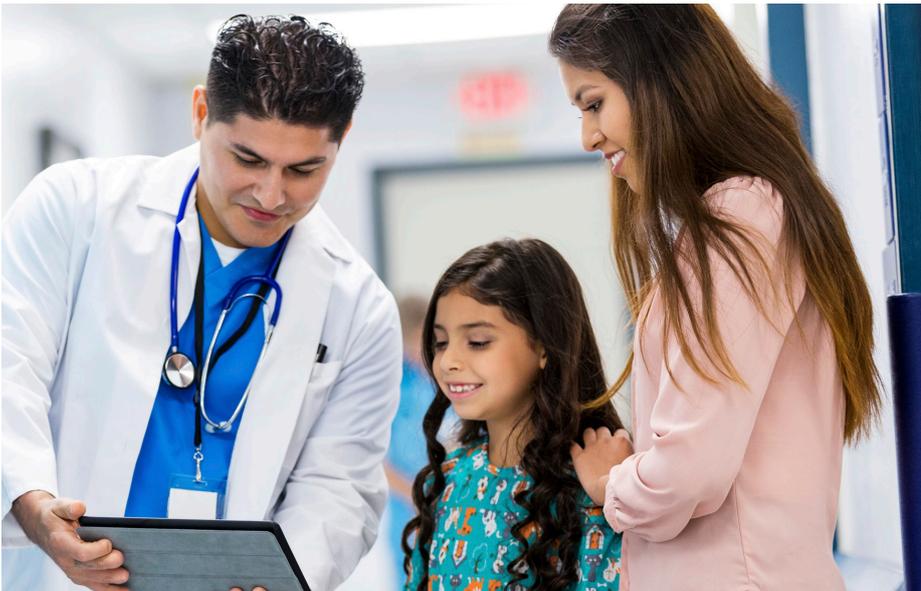
AZURE AGILITY MEANS QUICK TIME-TO-MARKET

With integrated Tata Communications and Microsoft Azure solutions, Narayana Health is armed with the agility to meet its present and future needs.

Nagendra Balasubramanyam, Account Executive, Public Sector South at Microsoft, says: “The Microsoft Azure cloud gives you hyper-scale access to virtually infinite computing resources at much lower cost. The Microsoft intelligent cloud platform allows increased efficiency through automation and platform services. Operating over Tata Communications IZO™ Private Connect links means mission-critical clinical applications run much faster, which helps improve patient healthcare.”

Collaboration among medical teams is easily achieved. Authorised users even on the other side of the world can access patient data, enabling critical consultation. New data and images are quickly added to patient files. With low latency and seamlessly connected systems, medical teams have treatment data instantly at their fingertips at all times.

That quick scalability means Narayana Health can grow IT resources almost instantly to match its growing requirements. To do so, it only has to contact the Tata Communications management team, which immediately allocates and deploys more resources.



SOLUTION

Now a Tata Communications solution with multiple redundancy for no single-point-of failure achieves the desired high availability. A Tata Communications Global VPN ensures high performance. Tata Communications IZO™ Private Connect links every Narayana Health facility direct to the Microsoft Azure cloud for instant data access.

Key Narayana Health business and clinical applications, including electronic patient records, run in the Microsoft Azure cloud. Meanwhile, x-ray and scan files are stored on a picture and archiving communications system (PACS) in the main hospital.

“Deployment and migration was like a great Bollywood movie production,” says Kumar. “Team members showed a great deal of passion. Tata Communications migrated all data to Microsoft Azure in only hours by bumping up bandwidth. Their know-how has brought stability to our critical systems.”

In addition, Narayana Health uses Tata Communications audio conferencing services and other managed collaboration tools to improve efficiency and knowledge sharing

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NAGENDRA BALASUBRAMANYAM, ACCOUNT EXECUTIVE, PUBLIC SECTOR SOUTH, MICROSOFT CORPORATION

MANAGED SERVICE INCREASES COST EFFICIENCY

Narayana Health no longer owns or manages its IT infrastructure. Instead, Tata Communications and Microsoft teams keep a 24/7 steady eye on all systems, right down to routers and firewalls, for reliability and performance. Narayana Health sees what's going on via a centralised management pane.

"We consume IT resources as a service and don't have to worry about management," Kumar explains. "The Tata Communications solutions offer exceptional value for money. They provide better functionality than we could afford if buying and managing them on our own. We no longer experience downtime and I've got the peace of mind of knowing we're using security best practice."

That means Narayana Health can focus its scarce IT people firmly on the needs of patients and let Tata Communications and Microsoft do the heavy lifting.

Kumar concludes: "We've forged a partnership with Tata Communications and Microsoft based on trust and capability. With them, we can do what we do best: provide affordable healthcare to the people of India and save more lives."

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TATA COMMUNICATIONS AND MICROSOFT AZURE

The combination of Tata Communications and Microsoft Azure helps Narayana Health achieve 99.999 per cent uptime. IZO™ Private Connect means cloud data is carried securely and at high speed over the Tata Communications Global VPN with only a short hop to a Microsoft Azure data centre. That means Narayana Health professional clinicians anywhere can quickly access vital patient data. Meanwhile, the absence of downtime and the fact that clinical applications respond three-times more quickly than before makes staff more efficient while elevating levels of patient care. Microsoft Azure helps maximise agility for Narayana Health through automation and platform services, while offering compute and storage scalability.



About Tata Communications

Tata Communications Limited (CIN no: L64200MH1986PLC039266) along with its subsidiaries (Tata Communications) is a leading global provider of A New World of Communications™. With a leadership position in emerging markets, Tata Communications leverages its advanced solutions capabilities and domain expertise across its global and pan-India network to deliver managed solutions to multi-national enterprises, service providers and Indian consumers.

The Tata Communications global network includes one of the most advanced and largest submarine cable networks and a Tier-1 IP network, as well as nearly 1.5 million square feet of data centre and collocation space worldwide.

Tata Communications' depth and breadth of reach in emerging markets includes leadership in Indian enterprise data services and leadership in global international voice.

Tata Communications Limited is listed on the Bombay Stock Exchange and the National Stock Exchange of India.

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