

LET'S BUILD A CXNNECTED ECOSYSTEM



TATA COMMUNICATIONS



The adoption and application of mobile technology is transforming the way we live and work. The world continues to go mobile, as the broader mobility ecosystem grows exponentially, resulting in a world where new mobile voice and data services have become ubiquitous.

The disruptive & beneficial impact of this transformation is significant. Our Mobility Services portfolio is designed

to provide solutions to help Mobile Network Operators succeed in this complex market environment. We can help you navigate through the complexity of 5G and VoLTE roaming, interconnect and signalling, towards a strategy that supports the growth of your business across borders, enhances the productivity and efficiency of your employees and delivers exciting new mobile service possibilities.

Mobile roaming services

Integrated solutions for international voice and data roaming traffic

Manage your international roaming traffic efficiently while providing a seamless user experience for your customers. We support your migration from 3G and 4G/LTE to 5G roaming within a single solution framework. We support your VoLTE roaming migration, with hosted IMS capabilities, comprehensive signalling security and transparency of use.



New generation mobile roaming

Supporting 5G roaming, 3G-to-VoLTE Roaming Interworking and VoLTE roaming (S8HR). Tata Communications can help you with its managed steering of roaming service, intelligent border roaming, roaming hubbing and hosted IMS services.



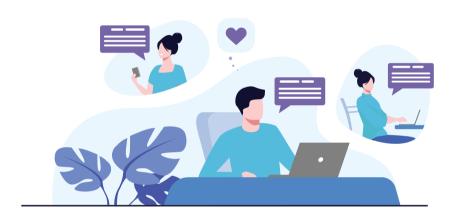
Regional breakout

Expand your roaming revenue by offering a superior "roam like at home" user experience at a lower cost. By reducing the unnecessary backhaul and resulting latency, our approach helps reduce churn, promote roamer engagement and grow revenue.



Private roaming hub

With customised roaming plans for your enterprise customers, you can create an international roaming hub for a more flexible and efficient way to manage intra-company roaming.





Clearing & settlement

Data clearing and financial settlement services, providing visibility and support throughout the roaming process, including support for Billing and Charging Evolution (BCE) with which to manage 5G roaming clearing traffic



Managed steering of roaming

We look after the steering of your roaming traffic and connectivity, ensuring your traffic is managed in accordance with your roaming partnership strategy. It means one less thing for your own roaming department to have to worry about.





Intelligent border roaming

With land borders there can be issues with people living and working in the border areas connecting with foreign networks by accident. Our solution identifies the location of subscribers and their corresponding profiles, to ensure that any issues with unintentional border roaming can be resolved quickly and easily, thus minimising unnecessary cost and customer service issues.



Global retail roaming and MVNO services

Tata Communications MOVE-SIM Connect presents a low cost solution for global mobile roaming. It delivers low cost access to local mobile networks in 200 countries and territories, with a single SIM solution. We can provide this service to Mobile Network Operators that are looking for a way to differentiate roaming services for retail subscribers.

Secure Signalling Network

Manage Mobile Call Control, Roaming and Mobile Messaging traffic, with optimum cost control

Tata Communications' Mobile Signalling solutions optimise the delivery of signalling traffic for international call control, roaming and messaging services. Our core offerings, including SCCP, STP Transit and Diameter, enable the routing and delivery of signalling traffic to both bilateral and hub destinations.

Diameter signalling exchange



Reliable Transport - Global coverage, with 74 On-Net PoPs in 40 countries. Flexible IP transport configuration options. S6a, S6d, S8 and S9, relay agent, proxy agent. SCTP multi-homing, load balancing. congestion control, IR.77 compliant.

Global Peering - We ensure reach to global destination through our peering relations with all the major roaming service providers.

Focus on QoS -comprehensive SLAs. 2 pairs of DRAs with geo-redundant network architecture. IR34 conformant. Pro-active monitoring, 24x7. Dedicated support desk with up to 99.999% availability.

Additional Value Add Services - leverage LTE Steering over the cloud. Hosted DEA for secure partner network connection and Hosted DRA for optimal traffic routing.

SS7 signalling



Multi STP Configuration - Superior redundancy and reach-6 global STPs Fully redundant, scalable hi-speed inter-STP backbone.

Global Reach - 200+ direct customers. Reach to 800+ MNO destinations in ANSI and ITU plane. 230+ PoP locations.

End-to-End Infrastructure - Network equipment like STPs, conversion platform, lawful interception nodes. Global network.

Minimal 3rd Party Dependencies - With owned infrastructure and extensive roaming solutions, Tata Communications minimizes dependence on 3rd parties.

Signalling security



Tata Communications addresses the security threats in SS7 and LTE/EPC Diameter based networks. Our managed signalling firewall handles screening, across any protocol, any layer, any message and any Diameter Attribute Value Pair (AVP).

We apply contextual awareness to determine whether otherwise valid messages might pose a threat to the network or subscribers based on their context. The service include near real-time streaming analysis and flexible reporting enabling the definition of metrics, thresholds for alerting and publishing reports based on these criteria.

Visit www.tatacommunications.com for more details.



Why Tata Communications?

We're the Connection



Connect to global hubs and ecosystems

Our global relationships give you access to multiple partners through a single relationship



Connect to a better end-user experience

Our solutions optimise the end-user experience for better customer retention and improved long-term profitability



Connect global devices on demand

Our IoT solutions provide global connectivity and advanced services for devices, all controlled through a self-service portal and APIs



Connect to a true partner

We believe in the strength and value of long-term partnerships.Our partners benefit from a full spectrum of support, managed services, responsive tools, expertise, advice, training and collective knowledge



Connect to complete solutions

We deliver a complete portfolio of network and communications services that evolve with our customers' needs



Connect to efficiency and profitability

Our solutions reduce complexity and increase the efficiency of your business, with minimum CAPEX requirements

Every hour of every day, Tata Communications is working to increase our network capacity, capabilities, and services to benefit our customers. Here are some facts about us that keep our customers coming back for more:

- Largest on-net signalling provider, connecting 300 MNOs directly
- (02) 1 in 3 MNOs on-net for voice
- O3) Coverage of 4 out of 5 global mobile subscribers
- 04) 8 of the world's 10 most popular web destinations
- All MNOs reachable for IPX service, with our peering partnerships
- Carrying 1 out of 5 international wholesale voice calls
- Serving the needs of 2,000 CSPs partners and customers
- (08) Top 5 Tier 1 global IP provider



- (9) Working with 480+ on-net voice carriers
- (10) Global reach for A2P Messaging
- Our network connections cover 99% of world GDP
- 1 in 6 MNOs Connected with managed VPNs
- >24% of the world's internet routes are on the Tata Communications network
- Carrying up to 50% of international voice roaming traffic

03

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For more information, visit us at $\underline{www.tatacommunications.com}$







