



SERVICE : MOBILITY

CONNECTING THE WORLD

GLOBAL SIM AND THE MOBILE PLATFORM ECONOMY



TABLE OF CONTENTS

1. Introduction	3
2. Mobilising the platform economy	3
3. Introducing Mobile Network as a Service	4
4. Global SIM - more than connectivity?	5
5. Cross-border cellular connectivity challenges and the global connectivity provider	5
6. Tata Communications' approach - Mobile Network as a Service (MNaaS) and the mobile platform economy	6
7. Why Tata Communications?	6
8. Why now?	7
9. Creating value from global SIM connectivity	7

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INTRODUCTION

We've witnessed the rise of the digital platform economy, which brings significant change to the way people work, interact and create economic value. Mobile is now positioned for the arrival of its own platform economy. Before delving into what shape this is likely to take, it's useful to identify what we mean by digital platform economy. However, there seem to be no rigid definitions or existing model to help us.

Social media platforms focus on promoting social interaction, while extending their infrastructure for other platforms to be constructed. Marketplace-type platforms, such as eBay or Amazon, create e-commerce opportunities for anyone to become a commercial trader. Price comparison platforms provide a marketplace for consumers to interact with and purchase from enterprises. Although this democratisation principle applies to Airbnb or Uber, it also extends to a range of services providing an online market model. Think about price comparison websites and how they have developed additional value-added services beyond their core function. The platform economy, sometimes also referred to as the sharing economy, challenges incumbents in many traditional markets. It also challenges conventional approaches to the definition of work and the way that value is created.

Digital platforms combine the physical foundation of the Internet, together with web services and advanced analytics, to create an infrastructure across which entire platform-based markets and eco-systems can operate. A range of organisations provide a platform for the consumption of services that include video or music, but also access to financial services, flight and hotel reservations and public utility services. The most important thing is that they link providers and consumers - offering vendors an extra sales or promotion channel and providing consumers with more choice

MOBILISING THE PLATFORM ECONOMY

In the same way that the digital platform economy is transforming the way people interact and do business, so the digital transformation journey being undertaken by enterprises will lead towards a mobile digital platform economy. As enterprises move from an intermediate 'Mobile First' strategy towards a broader mobile platform approach, a multitude of enterprise applications become accessible via mobile. This in turn liberates enterprise employees from the restrictions of a physical workplace and the need to work within the constraints of a fixed environment.

This trend reflects consumer adoption of mobile as the preferred way for social interaction. A combination of social networks, proximity and location services, instant messaging, presence and rich media - combined with authentication services, payments and a wide range of mobile apps - has created not just a mobility experience, but an expectation about the way people interact with each other via mobile. This is the premise of the mobile platform economy: that people expect to have the freedom and convenience to use mobile as an enabler of their lifestyles.

If the mobile platform economy can change the century-old conventions of the way that work is organised and measured, this will have a profound effect on the very nature of the enterprise business model. This will extend to financial structure and the way that it measures output and value creation. While some enterprises are likely to be more affected than others, we are nevertheless witnessing a shift that influences not just local markets, but the global economy.

“Ovum believes that a significant opportunity exists for a large-scale supplier able to provide a global connectivity solution with a single SIM at local prices”

-Ovum: Global Connectivity: OEMs Become Connectivity Providers (2015)

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A mobile platform economy, however, should not just be a mobile extension of existing services, such as being able to use Uber or Airbnb via a smartphone. The mobile platform economy should be able to create and sustain brand new models of interaction specifically enabled by the mobility factor, beyond what already exists.

INTRODUCING MOBILE NETWORK AS A SERVICE

If mobilising the platform economy means something beyond just extending access to a digital platform for mobility, there is another related trend to understand. Enterprises are increasingly moving from a CAPEX-based, to more of an OPEX-based commercial model for the procurement and supply of a range of products and services. In the world of information and communications technology, this introduces more acronyms:

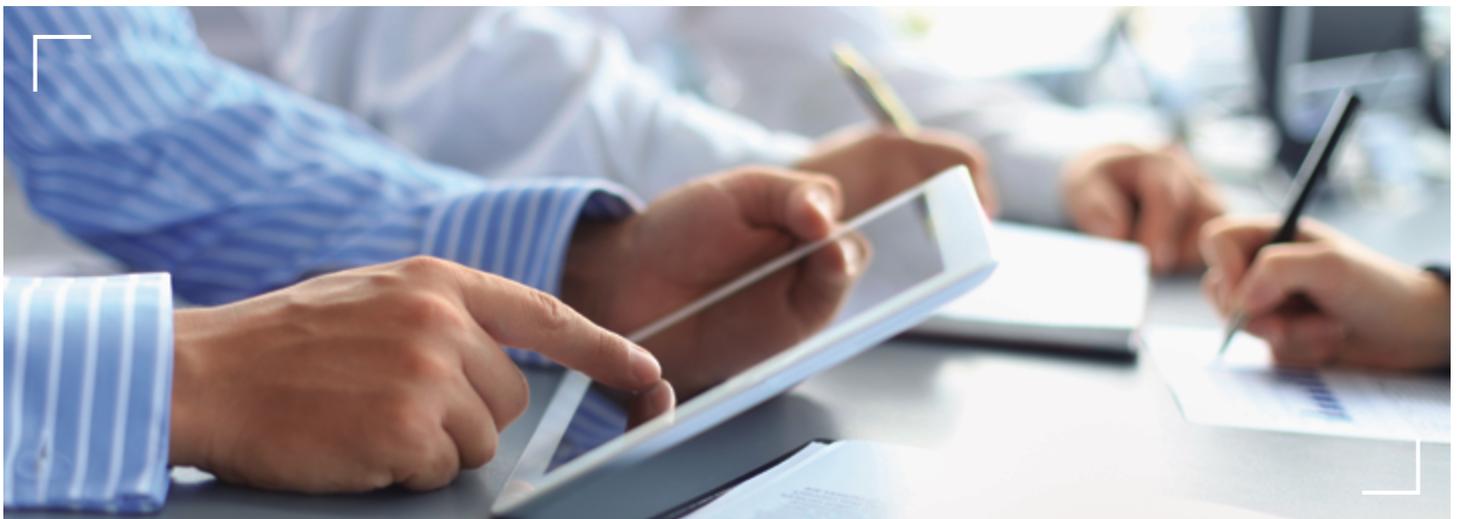
- **Software as a Service (SaaS)** – a hosted software delivery model licensed on a subscription or usage basis
- **Platform as a Service (PaaS)** – a cloud-based service that provides a platform for developing and managing applications without the need to build and maintain a dedicated infrastructure.
- **Infrastructure as a Service (IaaS)** – a cloud computing solution that provides virtualised computing resources over the Internet.

Another variant of these categories is Communications Platform as a Service (CPaaS). Applying the definition above, this is a cloud-based approach to providing a platform for the development and management of communications applications. This is typically accessed via APIs, which are made available for developers to create IP-based communications services that integrate with online applications. A logical extension of this concept is Mobile Network as a Service (MNaaS). Also cloud-based, this provides a platform for developing and managing mobile communications applications via APIs – without the need to build and maintain a development infrastructure.

While this ‘X as a Service’ trend is not just the preserve of enterprise applications, a combination of the digital platform economy in conjunction with on-demand commercial models associated with MNaaS will change patterns of mobile usage and value creation. This trend looks set to create new models and opportunities for the mobile communications industry.

“The market needs large-scale operators such as...Tata Communications which are able to scale up activity in a market so far populated by small commercial aggregators and mobile virtual network operators”

-Ovum: Global Connectivity: OEMs Become Connectivity Providers (2015)



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GLOBAL SIM – MORE THAN CONNECTIVITY?

We've discussed the platform economy, the liberating effects of digital transformation and mobility for enterprises and the shift to demand-based business models. So let us now turn to an example of changing conventions and new value-creation enabled by the mobile platform economy. In this case we examine global SIM in the context of the broader Mobile Network as a Service (MNaaS) ecosystem.

A transformative 'mobility first' strategy can empower enterprise employees, freeing them from the constraints of a fixed workplace environment. But what are the connectivity requirements needed to support this vision? The current options for enterprise employees travelling outside their home market to manage mobile connectivity to enterprise applications are:

1. To use their mobile service provider roaming plans. But this is usually expensive and varies in terms of cost and control.
2. To switch off data roaming and access enterprise applications via Wi-Fi. But Wi-Fi is not always available, and even if it is, it is not always secure and demands that the employee remain within the physical limits of the Wi-Fi hotspot.
3. To purchase a second SIM – either a global roaming or local prepaid SIM. But the various options available are mainly consumer-oriented, prepaid type services, rather than enterprise oriented contract based services.

These varied, imperfect options breed inconsistent approaches in accessing enterprise applications, a lack of control over usage and unpredictable mobile communication costs. But there is a broader set of implications for employees who travel:

- They are not as productive as they could be
- They incur needless costs
- They must physically switch SIMs in and out of their devices
- It is difficult to control employee usage of enterprise assets
- It is difficult to enforce enterprise security policies consistently

There is a clear demand for a global connectivity service that can provide not only consistent cellular connectivity, but also clear visibility and control of costs and usage. And that means there is a clear opportunity for the mobile platform economy to create value.

The issue for cross-border cellular connectivity is the conventional way in which mobile services are provided. Individual mobile communications service providers are licensed on a national basis, meaning most enterprises are restricted to dealing with a single home Mobile Network Operator (MNO), with the expectation that this MNO will be able to support global mobility requirements. Thinking about the premise of the mobile digital platform economy, in conjunction with MNaaS, presents a resolution to these issues.

CROSS-BORDER CELLULAR CONNECTIVITY CHALLENGES AND THE GLOBAL CONNECTIVITY PROVIDER

We know that deploying seamless, cross-border cellular connectivity enterprise services presents challenges for connectivity, continuity of service, cost, security and control. A domestic MNO can manage roaming arrangements, but can they support the direct control and policy management capabilities required for consistent and cost effective enterprise mobility connectivity?

- **Global connectivity** – with over 900 MNOs operating across more than 200 countries and territories, it is prohibitively complicated and expensive for an enterprise to negotiate its own roaming agreements. MNaaS resolves this, replacing hundreds of roaming relationships with a single point of aggregation, managed using a single SIM, with potentially multiple IMSIs.
- **Service continuity** – QoS and QoE measurements become the province of the global connectivity provider, supported by a single service level agreement to ensure a consistent service experience for employees.
- **Cost** – a single agreement with a global connectivity provider ensures costs can be not just reduced, but become far more predictable.

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- **Security** – removing the need to use Wi-Fi to access enterprise applications ensures that enterprise employees are not exposing their own organisation to potential network security risks.
- **Control** – enterprises can exercise control over employee mobile usage through a management portal, as well as establish more complex policies regarding the type and extent of usage of certain applications.

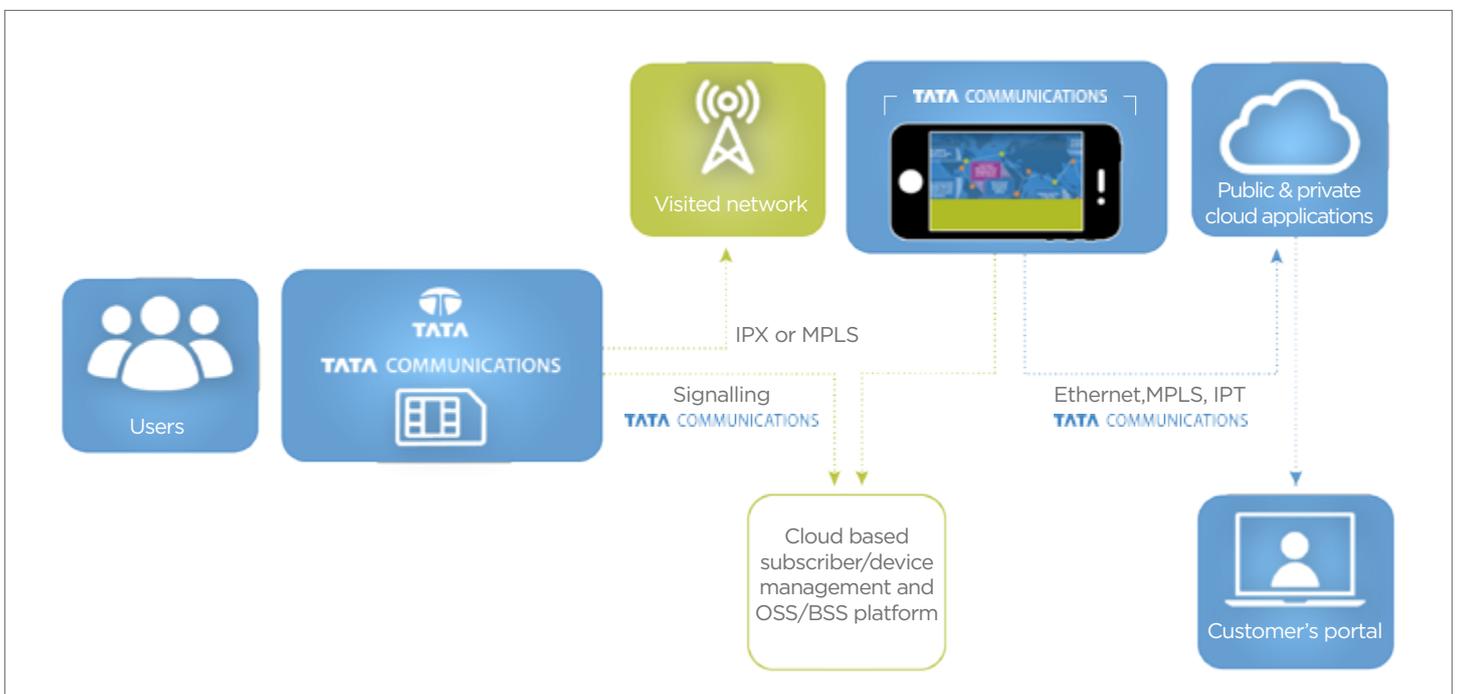
TATA COMMUNICATIONS' APPROACH – MOBILE NETWORK AS A SERVICE (MNAAS) AND THE MOBILE PLATFORM ECONOMY

How does a mobile platform-based approach resolve these issues? The answer is by using the same principles as the digital platform economy. As the mobile platform enables an international mobile market structure, it ensures global data connectivity across multiple international mobile networks. At the same time, API integration supports new applications.

Tata Communications applies a combination of MNaaS on-demand principles together with the mobile platform economy. It has used this approach to launch its own platform – **Tata Communications MOVE – SIM Connect** <https://www.tatacommunications.com/products-services/enterprises/mobility/global-mobile-connectivity> – to provide network-independent global cellular connectivity. **Tata Communications MOVE – SIM Connect** offers flexible commercial options that remove the rather rigid approaches that can be imposed by MNOs on their enterprise customers.

WHY TATA COMMUNICATIONS?

Maintaining cellular device connectivity is something that Tata Communications takes in its stride. It does this, by virtue of its global signaling and associated roaming services, and its own, globally-deployed network infrastructure. This asset combination means that Tata Communications can provide a network independent, global virtual mobile network. There is no network operator 'lock-in' – and the globally-distributed network and infrastructure ensures that QoS levels and service continuity can be maintained. The approach also provides secure connectivity to the private or public cloud via its dedicated APN and VPN-to-Cloud service. Time to market is reduced to days or weeks, rather than months, and OTA provisioning and eSIM capability are complemented by an API suite for programmable service development. Comprehensive BSS features take care of billing and settlement arrangements, while personalised services, including custom APNs, branding and self-care portals, are also provided.



Simplified data flow of Tata Communications MOVE – SIM Connect

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WHY NOW?

MNOs are facing significant challenges – whether the potential disruption from eSIM, or digital service providers and OEMs launching their own global connectivity services. Though these disruptions represent an opportunity, they also pose a significant strategic threat. With the possibility of disintermediation in the global connectivity market, it remains to be seen whether MNOs will launch global connectivity services that are aligned with the needs of their enterprise customers. Existing offerings are simply roaming bundles, which take the same approach – and bring the same issues—as in the past.

If enterprises are to seize the opportunity to reduce costs, increase employee productivity and regain control over roaming, a solution is needed that will work now – and liberate the value and productivity potential of digital transformation and mobility.

CREATING VALUE FROM GLOBAL SIM CONNECTIVITY

Thinking about what sort of global cellular connectivity services can be deployed helps to understand the potential offered by the mobile platform economy and Mobile Network as a Service (MNaaS). It's not just about access to enterprise servers via VPN, but also access to a range of unified communications and collaboration services, including audio and video conferencing, file sharing, access to a partner extranet or company voicemail. These are all capabilities that employees need to access when they're on the road, regardless of time or location. And they are exactly the services that can be supported within the platform economy, by the MNaaS model:

- **Platform economy** – an online service market that links customers with suppliers and combines web services with advanced analytics to create an infrastructure across which global enterprise connectivity can operate.
- **MNaaS** – this cloud-based route provides a platform for developing and managing cellular connectivity applications.

To realise the full potential of the mobile platform economy and the MNaaS concept requires another shift in thinking. This takes you to the point whereby mobility is considered in just the same way as the worldwide web and cloud infrastructure. For enterprise employees this means being able to access applications, unified communications and company information via mobile, regardless of arbitrary national borders or commercial access restrictions.

With **Tata Communications MOVE – SIM Connect** your business can use MNaaS principles to access global connectivity services, regardless of location or access network. It removes the complexity of cross-border cellular connectivity, and adds value through the provision of more advanced mobile network services, including QoS, policy management, billing and analytics. The adoption of this approach helps you realise cost and efficiency benefits, to create new value for your business.

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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.

TATA COMMUNICATIONS