



## ***Managed Services Scenario in India***

### ***White Paper***

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# 1 Introduction

The Indian telecom sector continues to get recognition as the fastest growing and smartest, most efficient operating service provider sector. On the face of this, it sounds like great news and one wishes the gravy train would go on. But what do you see as you scratch the surface? With falling ARPUs and increasing competition, ever higher spectrum prices and increasing MOU, how will the sector stay on top? Will the very same business models – such as Managed services – which the industry invented to ease its growing pains, outgrow the very sector that created it?

Perhaps a metaphor will help us explain – Imagine that there is an infrastructure company that builds roads and follows the business model of Build/Operate/Maintain/Earn. They build the roads, maintain them and earn money as they collect toll. If the company is operating in an environment where –

- They have to continuously build roads (as there are very few roads currently)
- The roads that they built continuously require changes/upgrading – something like sand dunes in the Sahara desert making it necessary to rebuild the roads all over again.

People familiar with the Indian telecom industry will see the parallels immediately. Indian telecom industry has seen tremendous growth over last few years not only in terms of subscriber additions, but also in terms of the service portfolio offered to and expected by the customers. So in a sense, the Telecom operators are like an infrastructure company that is caught up in continuously building & maintaining roads rather than capitalizing on the existing assets. And there does not seem an end to this in sight. The rapid pace of technology advancements requires the telecom operators to continuously enhance and overhaul their networks. This has caused significant pain to the operators and has forced them to look for alternate business models and strategies to cope up.

“Managed Services” has emerged as a solution over last few years and has reached a point where most operators use managed services in one way or the other. “Managed services” is an umbrella term that is very widely used in multiple industries and means different things. Managed Services; as applied to Telecom Operators can be loosely defined as an arrangement between a telecom operator and one or more managed services providers where the operators outsource core business functions typically associated with a telecom operator to the managed service

provider. At a very high level, the managed services can be broken into three basic categories –

- Network - Allowing a managed services partner to manage the “Network” of the operator.
- Hosted Services - Allowing a managed services partner to manage the delivery of services to the subscribers. Typically used for Value Added Services.
- IT - Allowing a managed services partner to manage the IT infrastructure of the operator – integrating billing, support and customer care functionalities.

In this white paper, we explore the managed services industry in India and discuss how it is relevant to the Indian operators. We focus on the managed services pertaining to the infrastructure (network planning/build out and maintenance/operations). We look at the market conditions and factors that are prompting Indian operators to consider managed services.

## 2 Traditional Telecom Operator

Traditionally the telecom operators or service providers are seen as entities that are heavily technology driven. While branding, marketing and building loyal customer base are integral parts of any telecom operator business, the operators always took pride in being recognized as the technology driven companies. It makes perfect sense; as the “Network” is the key enabler for these companies. Building and maintaining the greatest access, edge and core networks is the main differentiator for the operators and they devoted significant manpower and capital to make sure they provide a plethora of services to their customers riding on their networks.

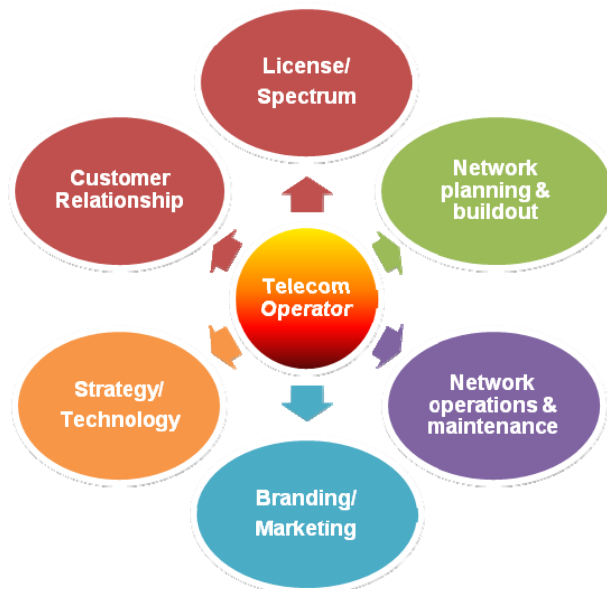


Figure 1: Traditional Telecom Operator Functional Areas

The Telecom business is capital-intensive with heavy investment demands arising from the high cost to obtain spectrum and licenses and large capital expenditure incurred to build the network. However, in today's world, where telecom technologies are moving at a very fast pace, the operators seem like continuously building and upgrading their networks. They are either expanding their reach to cover new telecom circles, or expanding the network to handle high levels of subscriber densities or making changes to the network to provide new solutions and services such as 3G and mobile broadband.

In addition to this, the explosive growth in subscriber numbers poses challenges in customer care, billing and customer management. While this is actually a great problem to have, the operators need innovative ways to manage the business in a more efficient way.

### 3 Role of Managed Services

India, while one of the fastest growing telecom markets in the world; is also notorious for lowest ARPU and highly competitive landscape. There are over 20 licensed mobile operators in India and most cities have in excess of 6 operators with some circles having as many as 8 or more service providers to choose from. January and February 2009 saw the record breaking addition of 15 million and 12 million subscribers respectively but the profit margins of the operators are expected to be under pressure from falling ARPU, aggressive discounts and additional expenses incurred by the operators to expand their reach. In a bid to add efficiency, operators have routinely innovated with revenue sharing models, hosted models, out-sourced services and managed services.

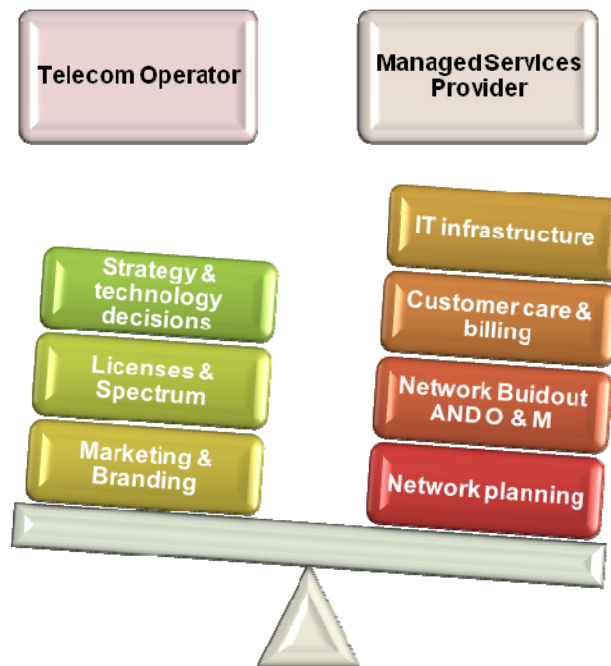


Figure 2: Functional Areas: Shifting Balance towards Managed Services

In response to the market conditions, over last few years, the balance has clearly shifted in favor of outsourcing more and more core functions traditionally associated with the operator. To cope with the fast rollout requirements, to reduce Opex and Capex and to add efficiencies to the network operations, most operators today use strategic partners that take care of planning, deploying, maintaining and optimizing the network for them.

Operator	Managed Service Partner	Brief Description of the contract	Value/Source
<b>Airtel</b>	<b>Nokia-Siemens Networks</b>	NSN to expand Airtel's GSM network in 8 circles, NLD and ILD network with 1.8 million NGN ports and international calling card capacity by 4.5 million new users through a managed services deal	US \$ 900 million, Source – Airtel Annual Report, 2007/08
<b>Airtel</b>	<b>Huawei Technologies</b>	Huawei to deploy and manage core network, Node-B, BTS and end-to-end 2G/3G network.	Source – Airtel Annual Report, 2007/08
<b>Airtel</b>	<b>Ericsson</b>	Ericsson to “design, plan, deploy, optimize and Airtel's GSM network across 15 circles	US \$ 2 Billion, Source – Airtel Annual Report, 2007/08
<b>BSNL</b>	<b>Ericsson</b>	Ericsson chosen as “strategic partner” for BSNL's 3G network rollout	Ericsson website.
<b>Tata Teleservices Limited</b>	<b>Nokia-Siemens Networks</b>	TTSL partnered with NSN for Pan-India GSM network rollout. NSN is expected to manage the network for next 5 years through a managed services deal.	Source – Nokia-Siemens Press Release, January 2009
<b>BPL Mobile</b>	<b>Huawei Technologies</b>	Huawei to Supply and deployment services for GSM base stations, radio equipment, packet and circuit switched core equipment and routers to BPL for the expansion of Mumbai circle	US \$20 million, Source – Huawei Press Release, March 2008
<b>Reliance Communications</b>	<b>Alcatel-Lucent</b>	Reliance and Alcatel-Lucent formed joint venture to provide managed services to operators globally. The Joint Venture is responsible to manage Reliance's CDMA and GSM networks in India.	Source - Alcatel-Lucent press release, May, 2008

Table 1: Managed Services Deals in 2007-2008

The business models that have evolved over last few years have seen most of the leading telecom equipment vendors graduate to offering end-to-end solutions to the operators. The key network infrastructure vendors such as Nokia-Siemens, Alcatel-Lucent, Huawei and Ericsson have built a service portfolio offering the telecom operators end-to-end solutions along with the products. Industry leaders such as Bharti Telesoft offer the telecom operators services to manage the portfolio of value-added-services delivery to the end-customers by consolidating the VAS platforms under one roof. Core networking companies such as Cisco, Juniper and others offer services in the core or edge data network arena. Highlights of major managed services contracts seen in Indian telecom in 2008 are listed above.

It is clear that most of the operators have completely outsourced deployment of their network to strategic partners.

In addition to the above deals, passive infrastructure sharing agreements between various operators have almost completely revamped the way base stations and radios are deployed in the Indian markets. India currently has over 200,000 towers that are owned by various tower companies which are pure-play tower firms or joint ventures between operator and tower firm [Tata –Quippo] or operator consortia [Indus]. It is estimated that India will need an additional 120,000-150,000 towers by 2010 to meet targeted 500 million subscribers.

## 4 Managed Services pitfalls

As the operators embrace the managed services for the reasons mentioned earlier, it is worthwhile to take a step back and understand the pitfalls of managed services.

### 4.1 *Complicated Relationship Management*

“Network” is without doubt the most critical function for a telecom operator. The telecom operators have been known for the quality and scale of their network and always regarded the network as their core competency. However, for the reasons mentioned above, they no longer view planning, building, maintaining and operating of the network as core functionality which now demands a tectonic shift in the thought process, business models and attitude of the telecom operator. This is a crucial point in the whole discussion and cannot be stressed enough.

The managed services industry has evolved in the most logical way, where the leading equipment vendors offer the end-to-end solutions to the operators. However, it is important to note that, different parts of the network are owned by different vendors. So the core network elements might be supplied by one vendor, radio network elements from another, towers and passive infrastructure by a third vendor while infrastructure pieces such as IMS gateways, MSCs and other gateways (such as GGSN, SGSN) might come from yet another vendor. Hence it is not uncommon in this situation to see competitors partner with one another and partners compete with one another. It is interesting to note that most of the traditional rivals in the equipment space have to work closely with each other in the managed services era. As a result, relationship management, building of trust and carefully selecting the managed services partner is crucial for the successful operations.

### 4.2 *Who is responsible for the network?*

One of the biggest dilemmas any outsourcing company has to deal with is the loss of control. The operators need to continuously innovate, upgrade their networks and make decisions such as adding capacity via own base stations or shared, if shared – in some cases heterogeneous tower sharing [GSM /CDMA / 3G / WiMAX] while also moving the core to all-IP networks (NGN) is just one of the possibilities. Managing multi-access service networks, upgrading each one as required, expansion in select circles based on demand, deploying appropriate VAS to meet target

customer requirements, meeting statutory regulatory requirements [such as being-MNP ready, rural roll-out obligations] while still meeting QoS requirements can be fairly serious jugglery. Beyond this will be shareholder and investor demands of keeping the subscriber add counter ticking ahead of competition, while ensuring changing market dynamics feed into marketing strategy to ensure brand is being enhanced continuously. Complex as this already seems, expecting operators to make technology options [for example, GEAPON or GPON for Multi-dwelling unit wire-broadband enhancement in tier-2 towns where DSL penetration is 16% and which version to choose] is an overkill to say the least. As we argued above, this actually is the primary reason for the operators to fall back on managed services to sort out the mess. However, outsourcing network planning and deployment does cause the operator loss of flexibility and control over the network

### **4.3 Performance Issues and spectrum scarcity**

“With great growth comes great congestion” – Peter Parker’s (Spider-man) uncle would have said about Indian telecom situation. Most Indian operators today are struggling to meet the Quality of Service benchmarks set by TRAI. End users of Indian mobile and broadband services have faced the issues arising from overcrowding of the networks from time to time. Maintaining Quality of Service is the key performance indicator of telecom operators, and in the light of lack of adequate resources, managed services providers and the telecom operators are suffering. Even though the contractual agreements put in place by the telecom operators penalize the managed service providers for not meeting quality of service benchmarks, the brand of the operators suffers the most when customers have inferior experiences. This is a very important consideration for both operator and service provider today.

The key to solving this is making sure Indian telecom operators have access to the spectrum they require and also making sure spectrally efficient technologies such as HSPA and EV-DO are launched as soon as possible. Of course the pre-requisite for this is auctioning of the 3G spectrum as soon as possible. Until that happens, the operators and managed services partners need to sort out or cope with these issues to best of their ability. But it is an extremely important parameter to consider decisions in the managed services area.

## 5 Changing equations for the operators

As the operators rely on the managed services partners to take care of their network, they want to focus on the business – acquiring customers and putting strategies in place to arrest the slide in ARPU and building brand loyalty. With Indian telecom regulators opening up doors for MVNO, (Mobile Virtual Network Operator); we believe that this opens up very interesting possibilities. Why? Because in the managed services era, the service providers are expected to concentrate on branding and advertising – but an MVNO attached to the operator is usually engaged for the precisely same reason. Traditionally the MVNO targets higher ARPU generating segments by offering unique solutions and services. Globally, there are about 360 planned or operational MVNOs. MVNOs typically buy bulk minutes from the mobile network operator (MNO) and target brand conscious niche markets with bundled innovative services. Success of brand such as Virgin Mobile proves that the consumers do not necessarily want to avail telecom services from a known “telecom” operator. MVNO from a completely different field (such as aviation, clothes, apparel, fashion or any conceivable field) can succeed through clever marketing and branding. However, should the Tier-I MNOs decide to partner with MVNO to help arrest falling ARPU and/or reach additional markets, the managed services providers will be affected as they will need to provision the networks to interface with the MVNO network.

In early 2008, host of new telecom operators won licenses to offer mobile services in India. These new players such as Unitech, Loop Telecom, Shyam Telelink and Swan Telecom are currently in various stages of network build outs. These new telecom operators will definitely have to consider managed services to quickly rollout the network. However, the most critical factor for these operators is to acquire customers and build a large subscriber base rather quickly. One of their possible market entry strategies could be an MVNO path. An established Indian brand (Example - Kingfisher, Amul) or foreign brand may find it attractive to enter this space and establish MVNO serving specific niche markets offering highly tailored services. Should these MVNOs decide to set up a Full MVNO – setting up their own core network including MSC and HLR will certainly make the managed services arena interesting. First and foremost, it will give incredible boost to the market, as effectively multiple operators will be setting up operations in the same geography. On the other hand it may very well introduce complexities in the way the networks will be built, managed and operated. An MVNO that wants to target specific market segment by offering value added services such as music, local language content or applications or other locally relevant applications may opt for hosting services partner to seamlessly provide these value added services to the customers. At the same time, the managed services providers to the MNO –

parent network operator will almost certainly need to interface with the MVNO network to make sure the data/voice calls are routed through the MVNO network as and when appropriate.

In addition to this, most operators are getting ready to move to all-IP core networks to handle 3G and 4G technologies.

So we believe next couple of years is indeed going to be fascinating (and rewarding) for the telecom industry as the industry gears up for introduction of new operators, 3G, MVNO and Mobile Number Portability; it is surely going to keep the operators and managed service providers on their toes.

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