

## Network sharing in Asia

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Operators look to share network resources by partnering with competing operators to lower their expenditure on network infrastructure - currently more than 60 per cent of their costs. In Asia, government regulations and competitive reluctance are delaying the full-scale adoption of network infrastructure sharing. Despite these obstacles, the current economic climate and slowing revenue growth is making network sharing an attractive proposition. Sharing will let operators focus on branding and customer service and accelerate the introduction of new services and networks.



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With the current economic climate taking its toll around the world, mobile network operators are considering new tactics to improve customer service and reduce churn while also lowering costs. One idea that has struck a chord with operators worldwide is network sharing, which sees competing operators partnering to lower their expenditure on network infrastructure.

Network sharing can take many forms and may involve the sharing of either active or passive network assets. Active infrastructure sharing includes all the electronic components deployed by operators, such as microwave radio equipment, switches, antennas and transceivers for signal processing and transmission. Meanwhile, passive infrastructure sharing refers to 'dumb' network assets like towers, air-conditioning equipment, generators, technical premises and pylons.

Unfortunately, active infrastructure sharing has proven notoriously difficult to implement. Operators in the Asian market, particularly in high-density populations like India and China, have competed for customers over many years on the quality of their networks and many still regard their RAN (*radio access network*) as a core source of advantage. Some countries have already banned RAN sharing, fearing that too much cooperation between operators could reduce competition.

However, passive network sharing has the potential to deliver huge cost savings to Asian mobile operators by reducing both their OpEx (*operational expenditure*) and CapEx (*capital expenditure*). Effective passive network sharing can reduce the number of new masts that operators need to deploy, while also spreading the cost of any new sites that do need to be created between multiple companies. This consolidation of network infrastructure between operators lowers

OpEx, by reducing the total number of masts in operation.

Yet, if there were no difficulties associated with network sharing, operators across Asia would already have instituted it. One problem is that the business case for network sharing remains to be proved and it is difficult to accurately predict since operators are not legally permitted to know the exact details of each other's OpEx. Even so, Europe and the USA have seen a rapid growth in network sharing agreements, while in Asia the uptake of network sharing has been held back by a number of additional factors.

In many Asian countries, the incumbent fixed line and mobile operators, such as Telkomsel in Indonesia, are either partially or completely government owned. Additionally, these government-owned operators tend to have a majority share in their country's network infrastructure. While Western operators

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would welcome network sharing agreements, since it would allow them to rapidly expand their coverage in Asia, government linked operators in Asia want to have full control of their network infrastructure for fear of losing ground to these new competitors. The rapidly expanding and lucrative Asian market also means that domestic operators do not need to give ground to foreign telcos in exchange for investment. For example, China Telecom earned US\$3.3 billion in profits last year, with total revenue of US\$25.8 billion. This success has given many Asian operators the freedom to heavily restrict foreign investment in domestic networks. The Spanish giant Telefónica has struggled to acquire even a ten per cent stake in China Netcom, while Vodafone's stake in China Mobile is only just over three per cent.

However, network sharing in the Asian market saw an immediate boost with the roll-out of 3G services in countries like China. Both Western and Japanese operators, who had already implemented 3G services in their home markets, were able to provide China with essential technology and experience and this allowed them to make in-roads into the Chinese market. This has left many Asian telecoms regulators now facing increasing pressure from foreign mobile operators with lucrative 3G contracts for network infrastructure sharing in light of the deregulation of the telecoms industry. This situation is complicated still further by the strict laws in many Asian countries governing the ability of foreign organisations to own land.

The pace of the uptake of network sharing in Asia will depend on individual governments. As with the issue of number portability, Asian markets will need governments to push the agenda forward and the incumbent operators will follow. Unfortunately, this is likely to be a complex process. For example, in Malaysia the drive towards network sharing will need to come from the top, since it involves many agencies or ministries of the government; and touches on disparate issues like land ownership, telecommunications and housing.

Political issues aside, Asian operators also face a number of technical challenges in implementing any network sharing solution. The merging of networks is made more complex for Asian operators because they will want to decommission a roughly even

number of towers, so that one of them does not risk severely compromising their network capacity. For example, if two operators have 200 towers in a region, they may want to merge to a network of 110 towers with both of them decommissioning roughly 45 sites. The greater complexity of a shared network will also result in higher infrastructure management costs. All the systems that manage considerations like lease payments, network compliance and maintenance have to become both transparent and cross-organisational when two or more operators are involved.

This raises another complication with network sharing: it is illegal for operators to share any information that might provide a competitive advantage, such as lease costs. Asian operators will therefore require bespoke asset management software that can process confidential information from both parties and provide the necessary answers based on undisclosed figures. This software needs to understand who is allowed to know what information, while also comparing the old OpEx costs with the new OpEx costs and the increased CapEx - thus allowing both operators to monitor the value of network sharing. This type of system necessitates that operators already possess some form of estates management software that can provide an accurate register of what their assets are. Asset management software can also be indispensable in advising the automatic planning tools that are used to calculate the optimum configuration for the new network structure and the order in which it should be reconfigured.

The size and geography of individual Asian countries can even come into play in determining how quickly network sharing will become common in Asia. Countries such as Singapore or isolated subsections of larger nations, like Hong Kong, will see a rapid increase in network sharing simply because land is scarce and the size of the country limits the number of sites that need to be managed. On the other hand, countries like India and China are still moving towards providing complete mobile coverage. However, if these countries could show the way in adopting network sharing, mid-sized Asian countries like Malaysia will almost certainly follow suit. Additionally, once Long Term Evolution (LTE) reaches the Asian market, operators may be forced to consider network sharing,

simply because implementing this technology will require more mast sites.

Network sharing can be an important way for operators to cope cost-effectively with the increasing demand on their networks. In Malaysia, mobile Internet and mobile broadband usage are predicted to skyrocket during 2009, with four million subscribers already accessing mobile Internet - 195 thousand through mobile broadband services. Similarly, China and India will see massive increases in mobile broadband uptake as their huge rural populations are granted mobile coverage; India has already seen a 167 per cent surge in mobile Web browsing in January 2009 compared to the previous year. The Asia-Pacific region is forecast to account for about 33 per cent of all mobile data traffic by 2013 due to the proliferation of wireless broadband-enabled laptops and mobile broadband handsets with higher than 3G speeds. A single high-end phone (such as an iPhone or Blackberry) generates more data traffic than thirty standard mobile phones and smartphone sales in the Asia-Pacific region have recorded a 2.3 per cent sequential growth, reaching 7.5 million unit sales in 2008.

Therefore, despite the obstacles to network sharing in Asia, the current economic climate and slowing revenue growth is likely to increase the incidence of operators participating in network sharing. It is an attractive proposition: with passive infrastructure sharing, operators are expected to save close to 30 per cent on CapEx and OpEx. Currently passive infrastructure accounts for about 60 per cent of an operator's cost of doing business and, while the falling price of electronic components is lowering the cost of active infrastructure, rising property and material prices is increasing the capital cost of passive infrastructure.

As network sharing and outsourcing increases throughout Asia, operators will increasingly be able to focus more on branding and customer service to differentiate from the competition. By reducing the financial burden on Asian operators, network sharing can also accelerate the introduction of new services and facilitate the deployment of new networks, while lowering barriers to market entry and reducing call tariffs. This is then, by any measure, a very positive step forward for subscribers. ●