
Active RAN sharing business models can bring benefits to towercos as well as operators

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Active RAN sharing is likely to be the next significant evolutionary step in infrastructure sharing, unlocking even greater capex and opex efficiencies than passive RAN sharing. Each stakeholder can quickly benefit from those efficiencies through the rapid adoption of optimised business models.

Independent tower companies (towercos) have paid billions of dollars to acquire passive infrastructure from mobile network operators (MNOs). Currently, the success of the towerco business model is predicated on tenancy ratio growth – that is, growth in hosting antennas. If MNOs choose to share antennas in an active RAN sharing solution, where does that leave the towercos? This article examines the various kinds of RAN sharing architecture, explores different RAN sharing business models and seeks a win-win market scenario that will ensure benefits for all stakeholders.

Different kinds of active infrastructure sharing vary in terms of the degree of sharing

3GPP has defined and ratified different kinds of architecture with varying degrees of sharing (see Figure 1):

- Multi-Operator RAN (MORAN) is the simplest scenario, in which only equipment is shared
- Multi-Operator Core Network (MOCN), in which both spectrum and equipment are shared
- Gateway Core Network (GWCN) is where both the RAN and some elements of the core network are shared.

Sharing can ensure more-efficient usage of spectrum

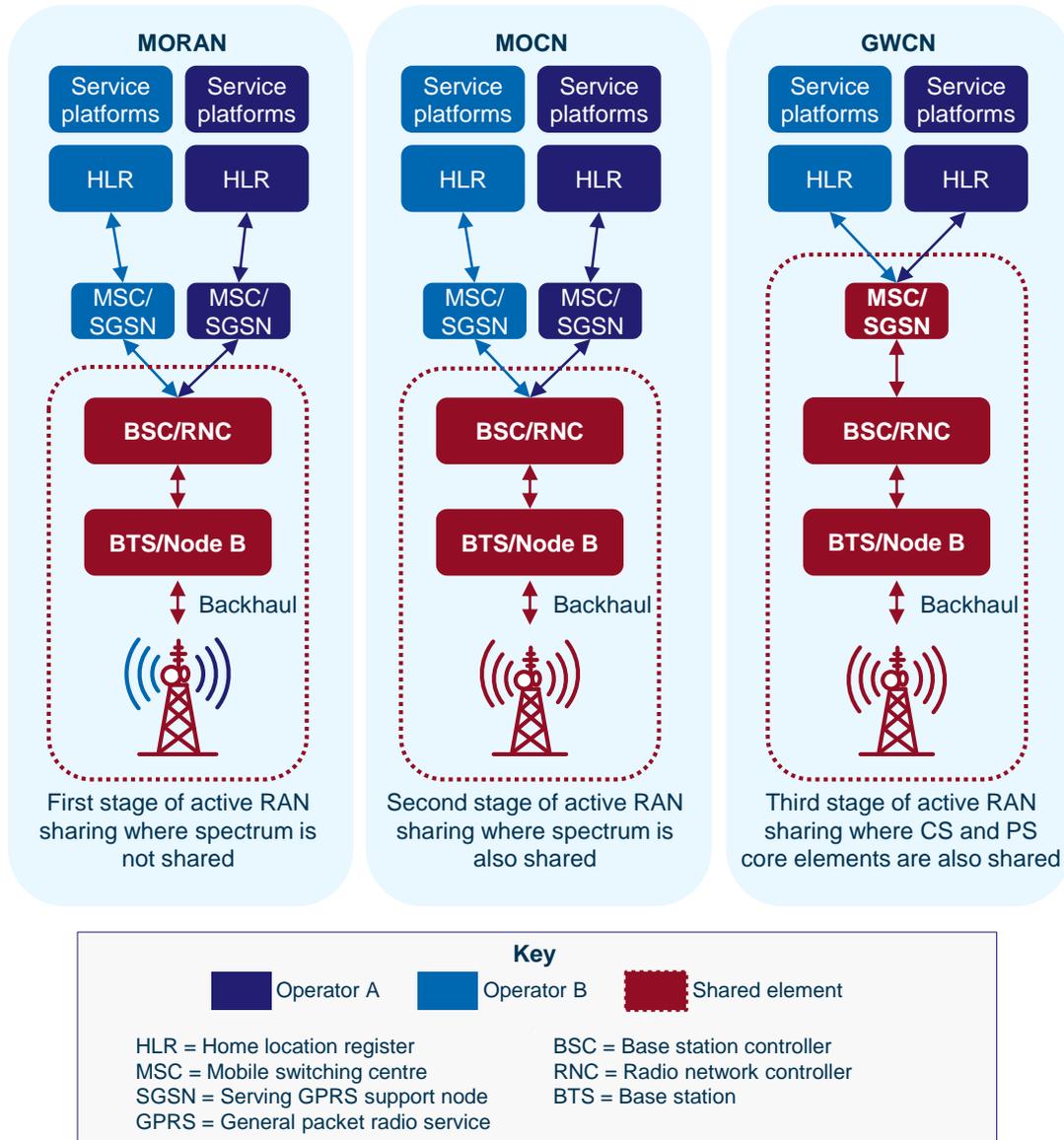
Antenna and radio technology has progressed rapidly in recent years, such that a single antenna can serve multiple bands between 700MHz and 2.6GHz, although multiband antennas can compromise network performance. However, software-defined radio (SDR) can provide significant benefits by dynamically allocating and aggregating spectrum across multiple bands to multiple service providers, therefore cost-effectively maximising the usage of what can be scarce and costly spectrum.

Appetite and opportunity for RAN sharing differs between European and African operators

An almost 30-year-old legacy of European mobile market fragmentation can make some stakeholders reluctant to explore RAN sharing. However, European operators, faced with flat revenue and forced investment to support burgeoning data traffic demand, are motivated to explore strategies that can unlock significant cost savings.

In contrast, African operators may be more willing to collaborate and engage in RAN sharing. Cost savings are also important in Africa, but there is an additional benefit of rapid coverage gains, motivated by a need to make mobile communications more affordable and drive penetration rates by accessing more low-ARPU subscribers.

Figure 1: Different kinds of active infrastructure sharing [Source: Analysys Mason, 2014]



Legacy antenna-driven business models are sub-optimal for active sharing

In a RAN-sharing scenario antennas can be shared by multiple MNOs. In order to future-proof themselves against RAN sharing, towercos should adopt a business model driven by usage, for example, by the number of service providers using a tower, not only by the physical space required. Other physical design factors should also be considered, for example, the increasing use of tower-mounted radio units providing MNOs with the benefits of reduced power consumption and/or increased coverage.

TowerXchange spoke to one African towerco that defines a tenant as “a standard amount of space and a standard amount of power.” This seems to be the prevalent approach; rental rates are dependent on standard equipment configurations. At the recent TowerXchange Meetup Americas, towercos spoke of adding frequency-specific language to their lease contracts, ensuring that each additional tenant pays a monthly lease whether hanging new equipment or sharing existing antennas.

If towercos can agree mutually beneficial contractual terms with MNOs, they could become even more investible as a result of RAN sharing, because the load and space required on a tower can be less for one shared antenna than for three or four antennas doing the same job, freeing up finite tower capacity to sell to more tenants.

ROI expectations are satisfied through passive asset transfer

The motivation to transfer infrastructure assets from MNOs to towercos is clear when one considers both the immediate cash release for the MNO and the differing return on investment (ROI) horizon expectations for each party. Specialist infrastructure investors readily incorporate towers into an investment mindset that typically includes transport and mining infrastructure, and might calculate ROI over anything from 10 to 25 years, while MNOs prefer 3–5-year ROI horizons.

Analysys Mason recently conducted a project to develop the business case and operational model to establish a greenfield towerco. The project considered the potential synergies of augmenting the business of an established fibre-based service provider by offering a portfolio of managed active network services as well as traditional towerco services. However, the challenge was to identify a complementary investment profile to add shareholder value and define the operational demarcation between the two entities considering the different market and operational requirements.

Different investment models are attractive to different stakeholders and skill sets are not easily transferable between active and passive operations. In recent years, MNOs have tended to move away from long-term investments by either setting up separate infrastructure entities, as in the Indian mobile telecoms market, or by divesting infrastructure altogether through a sell-and-leaseback arrangement to independent towercos that have a longer-term investment view.

Analysys Mason is a pioneer of network-sharing solutions, having supported very early passive sharing ventures as well as recent leading active sharing solutions. We have extensive experience of providing valued advice to both towercos and MNOs to optimise their businesses through informed infrastructure and technology investment.

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