

The Misguided CAPEX Obsession

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When operators evaluate new technologies and network equipment, it inevitably involves an intensive and detailed process, whereby all aspects of candidate technologies and prospective vendors are thoroughly analyzed. There is always a wide range of selection criteria, including power consumption, size, manageability, operational fit, and performance. However, in the majority of cases, the price of the equipment ends up being the primary selection criteria. This is driven by a few factors, the first being that it is easy to make a general price comparison. Price is a simple number that can directly be compared between solutions. It is also a guaranteed number, as the operator can be sure of the cost through a properly defined quote, and can realize immediate savings. Focusing on CAPEX can also allow buyers room for negotiation, as well as leveraging other buying processes such as online auctions and open tenders to achieve cost savings.

Through this focus, operators have gotten very proficient at optimizing CAPEX and reducing their expenditures on network equipment. However, focusing on capital costs alone can actually result in much higher network costs for operators. Equipment costs are typically compared on a per unit basis, which can provide an inaccurate view of the overall network CAPEX. Product features in some solutions can enable more efficient equipment deployments, and with fewer required units there is an actual reduction in CAPEX, even when per unit costs may be high. If the total network equipment cost is optimized, these costs typically only represent about 15-20% of operators' annual costs. However, a major portion of the remaining 80% of operators' costs can be reduced by properly

optimizing the network and choosing the right network equipment. In order to do this effectively, operators instead need to focus on total cost of ownership rather than solely on equipment costs.

There are some other very important areas of network cost that should also be considered; the first being site costs. These can be optimized by choosing more compact equipment, and all-outdoor installations. For example, in backhaul networks, choosing a solution that minimizes antenna size, thereby reducing expenditure on costly tower leases, will significantly impact recurring costs. Power consumption is another important, but often overlooked, site cost.

Another major cost consideration, in both wireless access and wireless backhaul networks, is spectrum costs. Typically, spectrum costs are annually recurring costs, often equating to 3-5X more outlay than the cost of the equipment over 5 years. These costs can be reduced by optimizing the frequency band being used, such as E-Band for wireless backhaul networks, where spectrum costs are often one tenth that of traditional microwave frequencies. Choosing more spectrally efficient systems can also have significant impact on the annual spectrum cost, providing a 50% or more reduction.

Operating costs also represent a major portion of operators' annual expenditures. The selection of an optimized architecture, and the associated network equipment, can significantly reduce site visits, as well as maintenance costs. In addition, network management costs can be optimized with the right solution.

The final area of consideration is upgrade costs. By choosing the right solution upfront, operators can significantly increase the technology life of their deployed equipment. This can increase the length of time over which the solution costs are amortized. It can also eliminate the need for expensive de-installations and upgrades to new equipment, not to mention cost incurred for retraining and bringing new equipment online.

With an increasing focus on service prices, and market pressure on ARPU, it is important that operators optimize their network equipment investment. In order to truly get the most of network equipment investments, and optimize network costs, it is critical for operators to evaluate the total cost of ownership of a network architecture and equipment investment. This is a difficult process for

operators, as it is much more complicated to address in an evaluation and tender process. However, if this challenge is properly addressed, the cost benefits to the operator can be significant, resulting in a 30-50% reduction in overall network costs. To achieve this might often see the price paid per piece of equipment being higher in order to get the technology improvements that impact other areas of the network where significant cost savings can be realized.

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