Waste Not, Want Not

The secret to efficient capacity planning is knowing where to look.

BY JOAN ENGEBRETSON

How much is enough? For service providers, there is no easy answer when it comes to network capacity, partly because so many business functions or units are involved.

Each unit typically is highly specialized, has limited communication with other departments and makes decisions independently. All of that adds up to inefficiencies, which cost operators money. For example, the business unit responsible for facilities might add capacity to the mobile backhaul network, not realizing that the cell site infrastructure is incapable of using that much bandwidth.

Each new device or service introduced to the network is another wild card. Historical trends are helpful for forecasting capacity needs for established devices or mature services, but they often don't provide clues about demand driven by new services or devices.

To enable efficient planning, a comprehensive approach to capacity management pulls highly detailed traffic data from major network elements.

"More accurate planning information comes from looking across data pulled from multiple sources to see how a network element is being utilized, not just at a high level, but down to the label-switched path or circuit level," said Matt Hayes, senior product manager at Tellabs. "With these insights, planners can see under- and over-utilization and, where resources are not being utilized, they can turn those back to the network element manager to be provisioned in another way."

JUST-IN-TIME BANDWIDTH

This approach often enables network operators to add capacity without additional OpEx or CapEx.

"You won't have circuits continuing to be operational where they are of no benefit to the customer," Hayes said.

Operators traditionally take a "just-in-case" approach to capacity planning, provisioning more capacity than needed. But with comprehensive, detailed information about network utilization, Hayes said, operators instead can use a more cost-effective "just-in-time" approach.

"Being able to see where a facility will cross a certain threshold gives planners a better understanding of other intangibles, from adding heating and air conditioning and other environmental requirements to cell towers and cabling," Hayes said.

OPERATORS TRADITIONALLY TAKE A "JUST-IN-CASE" APPROACH TO CAPACITY PLANNING, PROVISIONING MORE CAPACITY THAN NEEDED.

"The more information you have, the more you can spend just-in-time and yield the greatest benefit out of the network elements you have today."

When planners identify a need to add capacity, it should be easier to justify the expenditure when they can back their recommendation with comprehensive, detailed data from all critical network elements.

"They are armed with quantified proof of why they need to spend," Hayes said.

That data also can help in resolving conflicting capacity planning recommendations from different business units.

"Through a common report or set of reports, the groups responsible for different elements of the network can literally get on the same page with unique actionable information," Hayes said. "The planning involved and any subsequent build plans can be made with more informed insights into utilization and capacity."

BRING IN THE EXPERTS

Tellabs Global Services also can help operators sift through different priorities and ideas to focus on those that will have the greatest impact. Global Services personnel help operators obtain the comprehensive network utilization data necessary to enhance the capacity planning process and present that data in well-organized, easy-to-understand weekly and monthly reports.

Tellabs personnel have expert knowledge on how traffic flows through network elements and can advise clients on how to collect data for their particular situation.

One major North American wireless operator has seen the benefits of enlisting Tellabs Global Services. The operator gets weekly and monthly reports based on utilization data from cell sites, radio network controllers, media gateways and other nodes, along with expert consulting on how to interpret and apply the data. In addition to making the capacity planning process more efficient, the service also has enabled the operator to fine-tune its forecasts by tracking forecasts against actual network performance. ■

CapEx: Capital Expenses
OpEx: Operating Expenses