vCPE Test & Measurement: A Market Takes Shape

EXECUTIVE SUMMARY

The metaphor for virtualization is the same one used to stand in for the Internet: a cloud. Whether it's the Internet specifically, or virtualized networks in general, the cloud remains an apt representation in that it's difficult to point to anything that is virtualized; it's more frequently a process than a thing.

That's a truism, but with virtual customer premises equipment (vCPE) there is, in fact, a very specific thing in a circumscribed place: a computer system or server sitting at a customer's location – a less-expensive, general-purpose replacement for special-purpose equipment.

For service providers, virtualizing just about any part of the network has the potential to save both capital and operating expenses in several ways, but there's little opportunity to charge for, and gain revenue from, virtualizing network systems. Service providers can, however, charge for vCPE, as well as for expanded or new services based on it. Furthermore, with vCPE, a direct economic benefit for customers is clearly imaginable; a cheaper box is cheaper, and if it's also the vehicle for improved service, that increases the value proposition.

It was also easy to imagine that vCPE performance could be monitored and assured. Test and measurement (T&M) companies already had tools and techniques to evaluate the basic functionality of applications running in software on a device at the network edge; they have been doing that for the mobile phone market for years. Software agents and probes are in common use, and it was easy to conclude such techniques and tools could be adapted for vCPE.

The market for vCPE has been slow to take off, in part because the inherent benefits can be undermined without a well-planned implementation and in part because the technology – including monitoring and assurance tools – wasn't ready. But now it is now poised to accelerate. Many of the unforeseen pitfalls have been identified, and effective tools are available for monitoring virtualized systems and configurations, with tools to assure network performance on their way. The market should also get a boost from service providers' resolve to deploy implementations that shift more resources off the premises and into the cloud.

vCPE Test & Measurement: A Market Takes Shape, part of Light Reading's Testapedia initiative, surveys the means and methods of monitoring and assuring the performance of vCPE. Perforce, the market for tools to monitor vCPE is dependent on the challenges inherent in vCPE implementations, and the development of the market for vCPE itself, so this report also characterizes the vCPE market. It includes overviews of companies that provide the pertinent tools and services.
The potential of vCPE is clear. Special-purpose hardware can be replaced with less expensive commercial off-the-shelf (COTS) hardware, leading directly to cost savings. Functions are then implemented in software to make the general-purpose systems perform specialized tasks, leading to another fundamental benefit: service agility. Software can be reconfigured, scaled up or down, updated and replaced far more easily and cheaply than hardware.

**vCPE Test & Measurement: A Market Takes Shape** is published in PDF format.