Designing the Network: Part 2

MDU developers and service providers often have conflicting business interests – for example, concerning whose network standards should be applied.

By David Daugherty ■ *Korcett Holdings*

Last month, we examined how the dynamic requirements of Internet-based services challenge traditional static network design practices. However, more stringent network design requirements create business as well as technology challenges.

To keep operating costs under control, ISPs have learned to limit the range of network equipment they support. MDU developers, frustrated with the lack of consistency among geographically diverse properties, are learning the same lesson – to insure consistency of Internet amenities, they must impose standards. Unfortunately, this has resulted in a conflict of business interest between ISPs and developers.

This conflict is rooted in capital costs. MDU developers typically ask ISPs to cover the up-front capital cost of infrastructure construction and network equipment. ISPs rightly interpret this demand as implying that they must own and operate the networks for the duration of the service agreements, so they design, build and support the networks in accordance with their own regional design standards. Because most ISPs don't have uniform standards across regions, MDU developers find it impossible to obtain consistent delivery of Internet services across a geographically diverse portfolio.

Some progressive MDU developers have learned that they must impose design standards of their own to achieve consistency in their Internet amenities. Specifically, they must develop design and support standards for the on-site network. This pushes the service demarcation point back from the edge of the network (the RJ45 jacks in the apartments) to the main distribution frame, where the ISP drops off bandwidth to the site. The difference of opinion about the location of the service demarc is the core of the conflict in business interest and the primary source of tension between the ISP and the MDU developer. It is also the single largest contributing factor to related legal expenses. One way to resolve this problem is to work with a third-party managed service provider

Another conflict is related to monitoring and tuning network equipment over the life of the service agreement. This constitutes the primary difference between traditional and managed Internet services.

Traditional product-centric design practices allow an ISP to deploy a network and then hand it off to customer support while the ISP network engineer goes off to design and install the next network. Managed Internet services incorporate the network design staff as a Tier 3 support resource. This is a crucial distinction, given the rapid change in Internet-borne content and services. (For example, the introduction of Netflix movies on demand on the Xbox 360 caused a bandwidth bump of roughly 20 percent in some college student housing facilities. Netflix streams consume about 1 Mbps.)

MDU developers that embrace the need for design standards are pleasantly surprised by the improved performance and economy of scale, as we discussed in last month's Metrics column.

DESIGN STANDARDS

When legal counsel hear the words "design standards," they immediately think about UL 467, TIA/EIA 607 or TIA/EIA 942 – standards published by national or international bodies to make equipment safe or interoperable. In this case, however, we are talking about the logical and physical layout and makeup of the premises network – specifically, a star network topology and standard network equipment with standard configuration files. (See Demystifying Network Design in the March 2009 issue of Broadband Properties.) Once these design standards have been established, successful deployment is a matter of process, beginning with the design review.

The design review is the first step in a communication process designed to establish and manage expectations throughout the project. Using information from the RFQ and the site survey, providers should be required to conduct a project review. This will be unfamiliar turf for most service providers because they are not typically so constrained. In most cases, MDU developers and their consultants disengage once the service provider has been selected. The project is then typically assigned to regional engineering departments.

Next month we will explore what a successful design review involves and how it sets the stage for a successful deployment. **BBP**

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