

The Cost of Infrastructure

To control the cost of Internet service, pay attention to the major cost drivers.

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How can a property owner get the best bandwidth for the buck? Start by understanding the basis for the fees Internet service providers charge. Most of these are accounted for by network construction costs, which can be broken down into infrastructure and engineering costs. Infrastructure includes wiring and network equipment required to distribute bandwidth and video from the property demarc to residents. Engineering includes design, configuration and installation services.

Infrastructure and engineering fees are sometimes absorbed by the service provider and included as part of the monthly service fees. Alternatively, the property owner can buy down the monthly service fees by paying for infrastructure and engineering services as an up-front capital expense. If the property budget will allow it, this is the approach we recommend. We have seen as much as 3 to 5 dollars of cost built into service agreements for every dollar of actual equipment expenses, so by building the cost of infrastructure into the capital budget, property owners can save a significant amount of money over the term of the service agreement and control the choice of provider.

For an existing property, infrastructure cost depends largely on the condition of the existing infrastructure. For new construction, cost depends on the number of buildings, units and beds and on the infrastructure configuration. Wiring costs include any fiber, coaxial or data (Cat 5e or Cat 6) cabling required to distribute data and video from the property service demarc to each building and unit. Network equipment includes devices required to subdivide, deliver and manage video and data to residents over the wiring or wirelessly. Regardless of who covers the up-front costs, ownership of this equipment typically transfers to the property owner by the end of the service agreement.



A property owner may want to extend the agreement term to reduce recurring monthly costs. This may be a good idea if the service provider agrees to replace the equipment after five years. After five years, equipment failure rates are typically high enough to impact service levels. In addition, network equipment more than five years old will be hard-pressed to keep pace with growing bandwidth demand.

ENGINEERING COSTS

Although standardization minimizes engineering costs, it has its limits. Unfortunately, one size does not fit all in network design. Typically, either a property has some anomaly or customization is required. Engineering design time will be required to survey the property and tune a standard design to meet specific requirements. Once all network parameters are taken into consideration and infrastructure is shipped, additional engineering time will be required to configure, install, turn up and test the infrastructure and network equipment.

Allow ample time for services to stabilize after the network is installed and after semester turn. Working through

the initial batch of trouble tickets to resolve any problems introduced by new residents usually takes about a week. A week is also sufficient to ensure that proper bandwidth and wireless coverage is being delivered. If service issues persist for more than a week, the design may be faulty or the service provider may not be up to the job.

Once the network infrastructure and equipment has been installed and tested, it is cut over into operation. Bandwidth is delivered to the demarc (typically near the property management office) and distributed to residents. Recurring monthly service fees cover the cost of delivering bandwidth to the property, providing help desk support to residents and monitoring and managing network operations.

Those of us who provide multifamily communications services continue to see the same mistakes being made. The most common oversight in the design, installation and operation of communications infrastructure is a lack of standards. In an industry in which competitive posture is typically based on the ability to replicate a successful business model, this is always surprising. **BBP**

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