Ask yourself the right questions before signing a service agreement.

Checklist: How to Shop for a Bandwidth Provider

When shopping for bandwidth, there are things that matter and things that don't. For example, most bandwidth vendors make a big deal about the hardware they use. But it's really not an issue — a router is a router is a router. So don't let the marketing hype sway you. What you should care about are the answers to these questions:

1. **What are you prepared to pay?** Although bandwidth is as cheap as it has ever been, commercial-grade bandwidth still carries a significant cost. Prices range from as low as $50 per month all the way into thousands of dollars per month, and the number of users and speeds that the services support vary widely. It is also important to look at installation and/or startup costs, as well as whether the vendor includes any equipment and if that equipment is leased or purchased. Can you roll an existing service (VoIP for example) into the bandwidth offering to save overall costs? A small business (one with less than 10 users) should not be paying more than a couple of hundred dollars per month. But a lot depends on usage. If you are hosting your own servers for public and/or private access, then you need bandwidth to handle the expected traffic.

2. **Does the provider service your area?** A simple inquiry will determine the answer — but it is crucial.

3. **How big is your organization?** And how many locations and connections/endpoints do you need networked? Although this is basic information, you need to have it accurate before you even begin — it is almost the first question any potential provider will ask you. Make sure you think a couple of years ahead in terms of growth. If the provider can't scale to your anticipated volume, then look elsewhere.

4. **How many static IP addresses do you get?** You are going to need several static IP addresses if you want to run servers at your site that are accessible externally via your proposed bandwidth. Whether they are public or private servers, you still need to make sure you have a static IP address for each of them.

5. **What protocol or type of connection can you get?** This is much less important than most people think — DSL, T1, T3, OC4, 8, 16 and so on. These affect the upload and download speeds of your connection and some other technical factors, but by and large, in this case (and unlike with most technology), you really do only care about the end result: speed. Small businesses with less than 10 users might be able

to get away with sub-1-Mbps connections, but realistically, almost any business is going to want to start at 1 Mbps for download and close to that for upload, then scale up from there. The one exception is wireless broadband. This is a brand-new arena, and if you need wireless broadband, most bets are off; there are very few providers, and you really have to look at whether the technology can do what you need it to in every respect.

6. **What are your billing options?** These typically only come into play for large-scale bandwidth supplies, where the provider is meeting very large traffic volumes and charges at a rate that involves the amount of bandwidth consumed — either up to a cap per month or at a rate determined by the 95th percentile of usage.

7. **What SLAs (Service Level Agreements) can you expect?** These are critical — even for small businesses — because they lay out the expected level of reliability, support and service, as well as options in the event of failure. For many businesses, good connectivity to the outside world is critical. For companies that are also going to carry VoIP service over the bandwidth supplied, this issue becomes even more critical. SLAs differ widely from vendor to vendor, but the basics are a certain level of guaranteed uptime, a certain level of guaranteed performance and a service-and-support offering. Uptime is typically expressed as a percentage of total time, with the ideal being the hypothetical five nines (99.999 percent).

   To give you some perspective, 99.999-percent guaranteed uptime would mean a total of 26 seconds down per month. A good level of uptime is four nines — 99.99 percent — which means about five minutes of downtime per month. However, problems usually run in a big block, so a year's worth of downtime (one hour) at once is a more likely scenario, which could still be pretty disruptive if that hour was at a critical period. Unfortunately, real world uptime is worse than this — more like three or even two nines — so look closely at the available options to remedy problems. Do you get a refund, money back or some other form of compensation? Is there a redundant line that can be switched in?

8. **How is installation handled?** This is a significant issue. Even at the very low end with "self-install" DSL kits, it is important to make sure you have good support for doing it yourself. Does the vendor have good online support forums? Are they active, with a good range of answered problems, or do questions disappear into black holes? And for company installations, make sure you look at costs for wiring, running cable to a building and so on. These are often hidden extras that can make a significant difference. Also, don't sign off on the installation until you have tested it thoroughly. For instance, are all systems getting the bandwidth they are supposed to?

9. **Finally, what extras should I consider?** One option that some companies offer is additional security. This isn't a bad thing at all and usually comes with very little overhead — essentially the supplied router has the ability to run and manage security features like a firewall, and you reap the benefit.

   Private networks are another optional extra that can make a difference. There are two kinds of private networks to consider. One is essentially a formalized VPN (virtual private network) that makes for ultrasecure connections between your business and external employees and/or customers. You can always build this yourself on top of any bandwidth solution, so it isn't necessary, but if you need it, you should at least take a look at the costs to see if the bandwidth provider can offer you a cost-effective solution. The second is the carrier's private network backbone. This is a real advantage and means that the bandwidth supplier is using its own (or leasing space on a) private network that is nationwide or even global in scope and is much like having a private (and safer) version of the Internet across which to route traffic. Ideally this means priority for your traffic, additional safety and security, since IP traffic is harder to spy on or tap into, and closer control over uptime and other performance issues.