The Changing Landscape of Healthcare IT

Pick any of the top trends in healthcare and you’ll find both an exciting opportunity as well as a daunting challenge for IT. Nearly everything happening with healthcare technology will require the right network infrastructure to support it. From the sheer volume of data that is now collected to trends like telemedicine, IoT, cloud and even Artificial Intelligence, information technology is at the heart of providing quality care to demanding and growing patient populations.

The Problem With Data

If you’re in Healthcare IT, it will come as no surprise that a major challenge is the growth of data. This explosion of data is due in part to the compliance-related need to retain patient records, but also the myriad of innovations happening in the healthcare market. The problem with data is that it taxes infrastructure at a rate that IT teams struggle to keep pace with. Moving data and leveraging transformative models for data storage and computing (e.g. cloud) requires the right kind of network infrastructure. For some, it is all about the size of the network pipes and the goal is to get the largest connection at the lowest price. While bandwidth is one factor, it isn’t the whole picture, and in some cases it isn’t the most important factor.

If leveraging data is the end game in healthcare then cheap bandwidth by itself cannot be the only determining factor when choosing a network provider. Bottlenecks on the network that are created by either oversubscription or high latency will significantly impact the ability of healthcare organizations to store and access data. Nearly every healthcare organization has “big data” plans or collaborative efforts to use analytics, and these efforts will be entirely dependent upon the ability of the service provider to supply ample bandwidth, with the lowest possible latency and with the highest reliability.

Buying more bandwidth may be unnecessary and eat into the scarce resources of your IT budget.

A common mistake is to throw more bandwidth at the problem.

If 1 Gbps is not getting the job done then just get a quote for 10 Gbps and see if that helps. It certainly may help the situation, but it is not the only piece of the puzzle worth examining. Are you sure you are working with the right provider?

Buying more bandwidth may be unnecessary and eat into the scarce resources of your IT budget. A better approach may be to examine the other metrics to determine if working with a different provider could solve your challenges and ultimately improve the performance of applications / access to data.

*Source: https://www.healthdatamanagement.com/list/10-top-healthcare-information-technology-trends-for-2017#slide-4
Internet Access Becoming More Important

Internet may have been an afterthought for most healthcare providers who kept their data centers local and only had a handful of locations that could be served with private, point-to-point connections. Today however, healthcare entities are growing larger and more geographically dispersed. Branch locations may be forced to connect through public, best-effort Internet. IoT, web and mobile applications are creating an urgent need for better quality Internet connectivity. The problem is that Internet is believed to be just a commodity. What could possibly be different about one provider’s Internet connection over another? The truth is that issues like peering, efficiency of routing and geo-diverse interconnections are huge factors that determine the performance of applications and other Internet-related technologies.

The Rise of Telemedicine & Other Innovations in Healthcare

Providers have already begun to move some applications into the cloud and are starting to offer innovative care solutions through technologies like telemedicine and IoT. These put pressure on the IT team to find network connectivity solutions that enable and support these innovative technologies. Whether they are born in the cloud or hosted in a provider’s data center, the quality of Internet can become a weak link in the chain of providing quality care to patients. Healthcare organizations should focus on more than just buying the biggest pipe at the lowest price. The factors outlined in this guide may be even more important.

Putting Network Providers to the Test: What Every Healthcare Organization Should Be Focused on When Buying Network Services

Vendor management is a hot topic in healthcare IT. Digging deeper with your network provider will help you understand the quality and value of the network services that they’re able to deliver. Despite conventional thinking, network connectivity is not a commodity. In an industry where speed is often the difference between life and death, your choice of network provider has never been more important.

Network Quality Will Have an Impact on These Top Healthcare IT Trends in 2017:

- Cloud Computing
- Artificial Intelligence
- Internet of Things (IoT)
- Imaging in the Cloud
- Disease Management Systems
- Big Data / Data Growth
- Telemedicine

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To help you make the right decision, consider the following buying criteria when evaluating network providers:

1) Types of Customers

Does the provider have a blend of residential, small business and enterprise accounts? As a healthcare organization, you want to be sure that your packets aren’t fighting for the same network resources as thousands of residential subscribers or small businesses.

2) Oversubscription

Some providers place bets on capacity planning and are willing to oversubscribe their network figuring that spikes in traffic are rare and in most cases network traffic won’t exceed available capacity. The problem is that in a world where uptime and performance are everything, even occasional hiccups on the network can have a dramatic impact on quality. The best providers not only have full capacity but have sufficient capacity to account for redundancy, growth and spikes in traffic.

3) Redundancy

When you look at a provider’s network map, the provider should be honest and transparent with you about the possible single points of failure and how to build solutions to eliminate as many as possible. Don’t glaze over the redundancy conversation — it can mean the difference between hours of downtime or a fully functional network solution.

4) Service Level Agreement

A good SLA should have availability, latency and jitter targets. However, a sound SLA is not a substitute for proper due diligence. Even the shoddiest network can have an impressive SLA, because it’s simply a target that has some consequences, but downtime has a much higher cost than whatever service credits may be coming your way.

5) Peering & Caching

When it comes to the performance of Internet access, peering points and caching can make a significant difference. Consider the arrangements that your ISP has with major content providers and upstream networks. Would you rather have an efficient route that never leaves the provider’s network or a low-cost, high-bandwidth solution that has significant delay and inefficient routing?


No, this isn’t a Red Sox / Yankees reference. In this region, many providers converge their network through Boston and eventually New York. Day to day, this may not be a problem, but if there were ever a major disruption in either of these cities, your Internet connection to the world could be lost. For better assurance, get proof that the provider has redundancy out of this region that geographically avoids major points of failure in urban areas such as New York and Boston.
Important Metrics

Numbers can often tell the story about the quality of the connection that you’ll receive from a provider. When application performance, access to data and real-time communications are at stake, these are the metrics that can make all the difference:

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<tr>
<th>Metric</th>
<th>Definition</th>
<th>Why It's Important</th>
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<tr>
<td>Network Latency</td>
<td>The time it takes for a packet of data to get from one designated point to another.</td>
<td>High levels of latency will slow network performance and negatively impact users.</td>
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<tr>
<td>Bandwidth</td>
<td>The amount of data that can be carried from one point to another in a given time period.</td>
<td>Bandwidth is often a measurement of speed, but in reality it represents the size of the pipe, and often does not tell the entire story in terms of network performance.</td>
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<tr>
<td>Jitter</td>
<td>Variations in the delay of received packets.</td>
<td>High levels of jitter can indicate a problem on the network, and can also interfere with real-time communications like voice &amp; video</td>
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<td>Availability</td>
<td>The commitment of the provider on how much uptime to expect with the service</td>
<td>“Always on” is the expectation of your users and executives. With the high cost of downtime, doing all that you can to keep your organization connected is paramount.</td>
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What can FirstLight do for you?

Find out why FirstLight is the preferred choice for healthcare organizations looking for network, voice, data center and cloud solutions.

E-mail us at sales@firstlight.net, call 800-461-4863 or visit us at FirstLight.net