



White Paper

Making Sense of the Evolving Business Services Market

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Introduction: The Digital Transformation of the Commercial Market

Even as it continues to expand, the business services market is rapidly changing. Driven by pressure on enterprises to transform their operations to become more agile and economic and take advantage of cloud-based services, large and small companies alike are now seeking to leverage more than just the basic data, voice and video services of yesteryear. Instead, businesses are increasingly looking to communications service providers deliver more sophisticated offerings, such as cloud-based and other managed services, as well as advanced IT services and software-based services.

Thanks to some notable advances in technology, network operators now have the ability to deliver the service velocity needed to seize the market opportunity. As enterprise decision makers look for partners to help carry out their digital transformation, companies are increasingly seeking stronger performance, assurance, security and reliability guarantees even for the most elementary services that they receive from telecom providers.

Given these developments, cable operators, telcos, fiber providers, wireless network operators and other communications service providers must adapt their strategies and approaches to meet the business market's changing needs, especially as providers move to enter the more complicated and demanding enterprise space. As the commercial market keeps shifting and evolving, service providers must find ways to shift and evolve right along with it, revamping, upgrading and honing their networks, equipment and service offerings to satisfy the more complex requirements of their increasingly sophisticated and demanding commercial clientele. In particular, service providers must develop new products and services that match the market's growing requirements for more advanced offerings.

Recognizing these new requirements, service providers are starting to take many of the necessary steps to keep pace with and cater to the swiftly changing commercial market. Service providers are expanding their product portfolios beyond basic data, voice and video services to encompass more advanced products and services, such as virtual private networks (VPNs), security firewalls, managed services, other IT products, infrastructure on demand/infrastructure-as-a-service (IaaS) and ever-evolving platform-as-a-service (PaaS) offerings, to name a few. Providers are also placing greater emphasis on strong service-level agreement (SLA) guarantees of service delivery and performance, even for their most basic service offerings. Further, they are developing more sector-specific products to meet the rising demand for specialized, even customized services.

In a recent global survey of 64 communications service providers conducted for NETSCOUT, Heavy Reading took a close look at how the commercial services market is swiftly changing and evolving and how communications providers are trying to respond to all these rapid changes. Specifically, the study tackled key issues as:

- How network operators will approach the commercial market
- Which market segments will move first
- What types of business services are most important to network operators
- Which technology platforms operators are considering
- What kinds of service offerings are they planning
- Where the biggest opportunities and challenges lay

This report will present those unique findings, analyze and interpret what the findings mean and attempt to place them in context with the greater forces that are shaping the North American commercial services market. Then the report will draw some conclusions about the direction in which service providers are heading and suggest some other ways that they should proceed in the increasingly competitive business space.

Resetting the Lens on Enterprise & Retail

Despite the strong, much-discussed focus on small-and-medium-sized businesses (SMBs) by cable operators and many of their rivals over the past decade, big business still accounts for the biggest share of commercial revenue for service providers overall. In the Heavy Reading survey, more than one third (nearly 36 percent) of respondents said enterprises with more than 500 employees generated the most revenue for them right now.

Mid-sized companies (those with 25 to 500 employees) generated the second most revenue for slightly more than a quarter (26 percent) of providers. Small companies (those with fewer than 25 employees) produced the most revenue for 19 percent of providers, while wholesale firms and carriers were the biggest revenue generators for the remaining 14 percent of operators.

Reflecting the current major **push upmarket** by cable operators and other network operators, service providers plan to focus even more on both the large and midsize business markets in the near future. Nearly two-fifths (39 percent) of providers are now targeting the enterprise space, naming it as their biggest commercial priority over the next year. Slightly more than a third (34 percent) are zeroing in on the midsize market, while 13 percent of providers are homing in on wholesalers and carriers and just 11 percent are concentrating on small firms.

Clearly, then, the enterprise market will see the most competition by service providers as they increasingly pursue the companies with the biggest purses. What will be interesting to see is how providers seek to stand out from each other, whether they will mainly rely on pricing, service features and quality, performance guarantees or some other means.

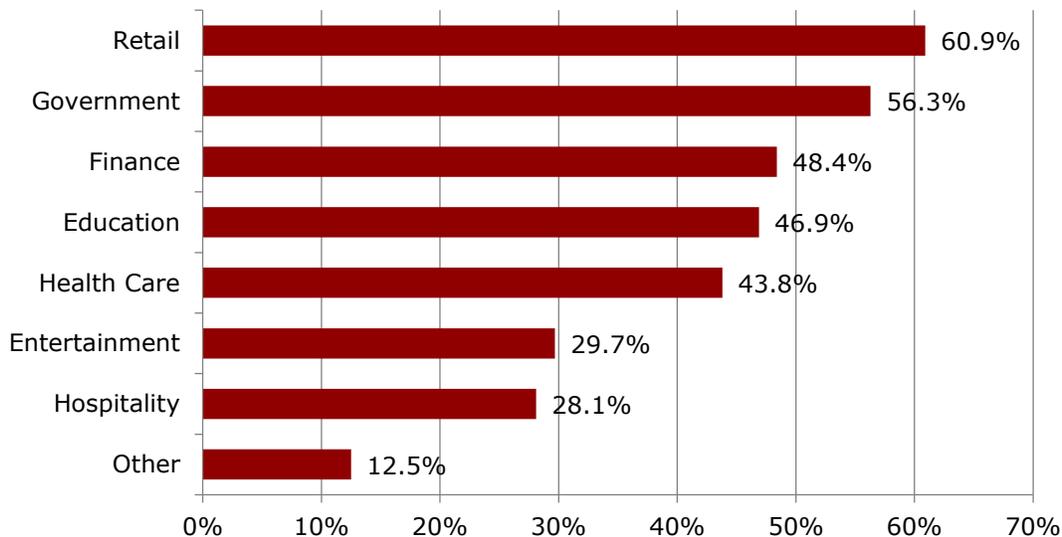
Moving on to vertical markets, cable operators and telecom providers frequently speak about their concentration on certain key sectors of the economy, such as finance, education, local and state government and health care. As the Heavy Reading survey shows, all four of these verticals are major revenue generators for service providers, with each one scoring high in the respondents' rankings.

Surprisingly, though, **none of these sectors is the vertical cited the most as a big revenue contributor.** Instead, that honor goes to the oft-overlooked retail sector, which outscored the other six verticals listed in the survey. More than three fifths (61 percent) of respondents said the retail business is a major revenue producer. Slightly fewer (56 percent) checked the government sector, **while 48 percent cited finance and 47 percent cited education. The health care vertical finished a surprisingly low fifth** in the rankings, with 44 percent of providers terming it a major revenue producer for them. Only the entertainment (30 percent) and hospitality (28 percent) business sectors scored lower on the scale.

Perhaps even more surprisingly, it looks like retail will actually be an even more dominant player in the near future. When asked to list the vertical sectors that will be a

high priority for their companies over the next year, nearly two-thirds (64 percent) of service providers selected retail, putting it well ahead of the other six sectors. The government and finance sectors finished in a tie for second, with each getting picked by a bit more than half, or 53 percent, of the providers. Health care did rise a bit, climbing into a fourth-place tie with education at an even 50 percent. Once again, the hospitality (39 percent) and entertainment sectors (31 percent) brought up the rear, although both are on the rise, particularly hospitality.

Figure 1: Major Revenue Generators



This indicates that retail clearly hasn't been getting the credit that it deserves. Despite all the enthusiasm about tackling the other sectors, cable operators and telecom providers are apparently more focused on retail than any other sector right now and will continue to be in the short run.

There are at least two good reasons for retail's surprising strong popularity and likely continued ascendancy. First, many network operators are still heavily focused on catering to local Mom-and-Pop shops. So, while these businesses may not be counted as retail establishments in some surveys because of their small size, they still are genuine retail operations.

Second, the emergence of the Internet could be playing an influential role here. Even if they are not serving more brick-and-mortar retailers, operators could well be serving more e-commerce providers, thereby expanding their retail clientele. This has implications for the development of more cloud-based services.

As for the healthcare sector's relatively unhealthy performance in the survey, that can be explained by the fact that network operators started from a low base. In addition, some operators may feel intimidated about entering the sector because of fears about too much government regulation, too many technical requirements and/or too many dominant players in the field. But, at the same time, the health care and hospitality sectors are clearly on the rise with providers, as well. So, if those trends continue, the landscape could look quite different several years down the line.

Rating Business Services & Features

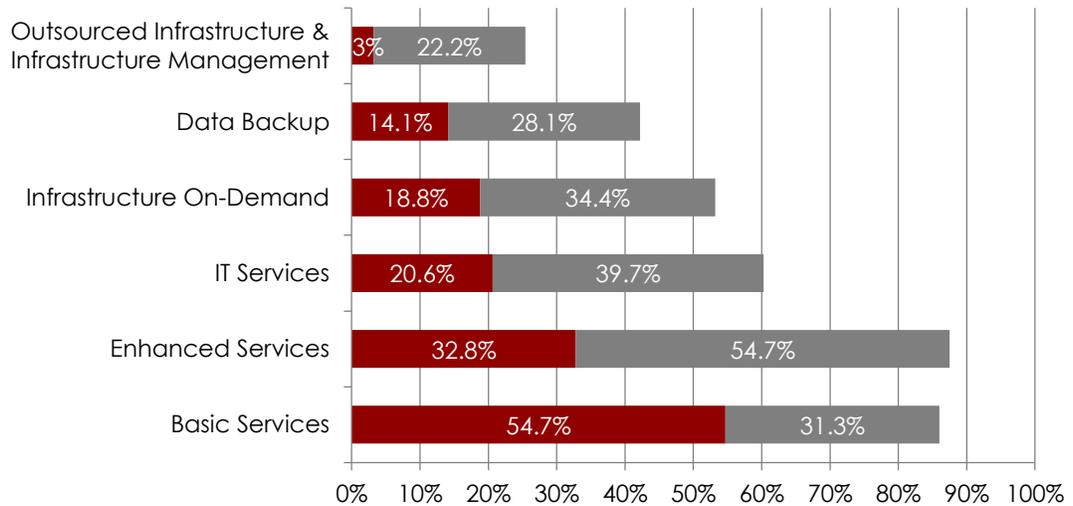
This section delves into the basic and more advanced services that communications service providers see as the most important ones for them to offer right now. We gauge providers' views of how important these SLAs are for delivering these services today, as well as how important they expect the SLAs will be in the future. We also spell out the various features that service providers are offering in their SLAs right now.

First, though, let's take a look at the types of services that network operators see as the most important parts of their commercial portfolios right now. Not surprisingly, as the survey shows, providers rank the basic voice, data and video services as their most vital offerings. In fact, more than five sixths of respondents (or 85 percent) rate these basic services as critical or important products, with more than half (or nearly 55 percent) calling them critical.

Notably, enhanced services, which we define as basic services carrying SLA, rank a very strong second on the survey scale. Nearly a third of all providers (or almost 33 percent) label enhanced services as a critical offering. Plus, more than one half of the respondents (or almost 55 percent) view them as an important offering. Taking those two metrics together, enhanced services actually score a touch higher than basic services, with more than combined 87 percent of providers ranking them "highly."

IT services placed a strong third in the rankings, drawing critical or important responses from about three fifths (or 60 percent) of providers. Infrastructure on demand (53 percent) came in fourth, while data backup (42 percent) and outsourced infrastructure and infrastructure management (24 percent) brought up the rear. Other types of services, such as security, were not covered in this study.

Figure 2: Importance of Types of Services



What's most noteworthy in these results is that service providers clearly see SLA guarantees as key components for commercial customers, even for their most basic business products. Thus, we can expect to see providers place greater and greater stress on SLAs over the years ahead as business customers become more and more insistent upon them.

In case there were any doubts about this, the answers to the next two questions in the survey should put them to rest. When asked how important SLAs are to their business services portfolio today, more than two fifths (42 percent) of respondents called them critical, meaning that most of their commercial customers now require these written, strictly enforceable service guarantees. Another 50 percent called them somewhat important, meaning that many of their commercial customers demand them. Fewer than 8 percent of respondents termed SLAs marginal or not important at all right now.

Looking ahead, service providers overwhelmingly agree that SLAs will play a big part in their commercial product portfolios. More than three fifths (62 percent) of respondents said SLAs will be a critical offering in the future, while the remaining 38 percent said the guarantees will be somewhat important. No respondents think they will be marginal or not important at all going forward.

Given the obvious importance of SLAs in the commercial environment, we next looked at some of the leading features that network operators offer to business customers in their SLAs. Performance reports emerged as the top feature, with about five sixths (nearly 83 percent) of respondents saying they now provide such reporting. Analytics came in a strong second, drawing votes from close to two thirds (nearly 64 percent) of the respondents, while business intelligence lagged well behind in third, drawing votes from slightly less than a quarter (almost 24 percent) of respondents.

So, service providers clearly see performance reporting and analysis as necessary features to provide in their SLAs for commercial customers. It will be interesting to see whether business intelligence takes on added importance over the next few years, as well as which other features emerge as critical SLA components for providers to offer in the future.

Tackling Technology Platforms

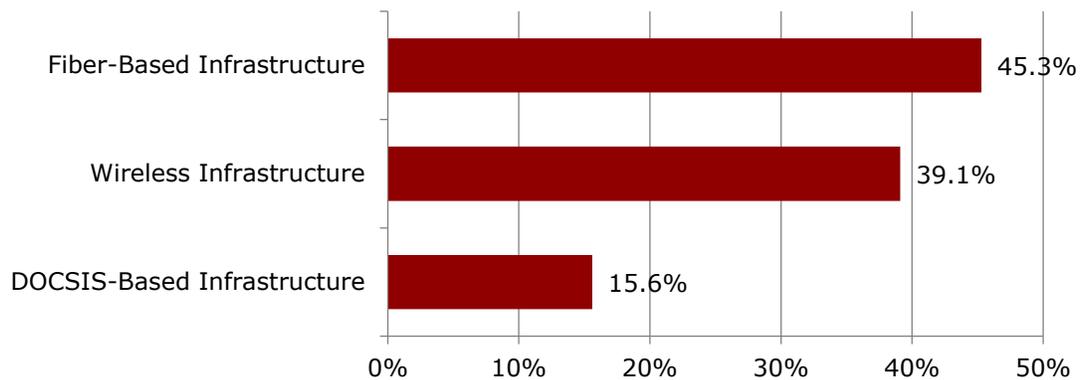
For commercial customers, it's not just about the specific services that are offered or the performance and reliability guarantees that are promised with those services. Most businesses are also quite concerned about how those services get delivered or, more precisely, which type of network or architecture is used to deliver them. Service providers definitely understand this. That's why many, if not most, of the leading providers are now beefing up their service delivery architectures with more fiber lines, improved coax or copper connections and/or enhanced wireless networks.

In our survey, we asked network operators which technology platform they view as the most important one for their business services efforts going forward. Not surprisingly, fiber emerged as the leading infrastructure choice, with nearly 46 percent of respondents selecting it from the three options offered. Thus, it seems reasonable to expect that the great fiber build-outs of the past few years will continue.

Somewhat more surprisingly, though, wireless infrastructure came in a very strong second in the survey. Encompassing 4G, WiFi, LTE, U-LTE and other technologies, wireless was the pick of nearly two fifths (39 percent) of the respondents. So, the current wireless network push seems likely to continue for at least the foreseeable future.

Docsis-based infrastructure placed a lowly third, with just under 16 percent of all respondents citing it as important for the future. Those relatively poor results, however, may well reflect the fact that PON-oriented telcos, rather than Docsis-oriented cable operators, made up the great bulk of the survey participants.

Figure 3: Most Important Technology Platform



In a reflection of the importance of expanding these respective technology platforms, most service providers plan to invest heavily in platform upgrades over the next few years. Indeed, as our survey revealed, 61 percent of network operators plan to invest significantly in platform deployments, upgrades or expansions. Plus, nearly a third (31 percent) of the rest plan to invest somewhat in deployments, upgrades or expansions. Only about 8 percent do not plan to step up their efforts.

Thus, the current major network upgrade drive by cable operators, telcos and wireless operators seems bound to go on, no matter which network may be their focus. The commercial market is far too important a priority for providers right now to try and get by with a business-as-usual approach.

Beaming Business Services from the Cloud

This section delves into the nitty-gritty of commercial product offerings, looking at the types of services that network operators are offering to their commercial customers now or plan to offer soon. Specifically, we detail which types of cloud-based, software-as-a-service (SaaS), platform-as-a-service (PaaS) and infrastructure-as-a-service (IaaS) offerings providers are now delivering or plan to deliver in the near future. We then analyze the trends in service offerings and draw some conclusions from them.

Looking first at three basic types of cloud-based commercial services, our survey found that IaaS is by far the most popular choice of service providers. More than four fifths (or 81 percent) of respondents named IaaS as the cloud-based type of offering their company now offers or plans to offer in the future. As a result, look for IaaS services to rule the day, at least for now.

But IaaS is not alone: Nearly three fifths (or 58 percent) of service providers say they now offer or plan to offer PaaS in the future. Thus, like IaaS, PaaS should soon be a widespread type of cloud-based offering, even if it isn't already.

Lastly, SaaS is not exactly a slouch either. While ranking third behind IaaS and PaaS, SaaS is still a fairly popular choice among network operators. More than two fifths (or nearly 44 percent) of respondents indicated that they now offer or intend to offer SaaS in the future. So, while it's lagged behind IaaS and PaaS, SaaS still stands poised to be a prevalent type of cloud-based offering, as well.

When service providers are asked to specify which cloud-based commercial products they either offer or aim to offer soon, many examples emerge. Starting with SaaS offerings, providers cite Internet of things (IoT) applications and accounting software as their top choices. Nearly two thirds (or 63 percent) of respondents chose IoT applications like sensor monitoring and maintenance/repair as cloud-based services they're either delivering now or plan to deliver soon, making it the leading choice. Accounting software placed second, winning votes from 48 percent of providers.

No other SaaS products appear to be all that popular with network operators quite yet. Nearly 26 percent of operators picked manufacturing software as a service they are either deploying or planning to deploy soon, while a mere 15 percent selected HR-related software, and nearly 19 percent chose the "other" category.

Moving on to the PaaS collection of services, a larger number of cloud-based offerings made the grade. VPN offerings easily led the pack, drawing votes from about five sixths (or 84 percent) of service providers. So VPN services already appear to be almost table stakes for providers in the commercial world.

But VPNs are far from alone. Other PaaS offerings also seem to be quite popular with network operators, with two of them – security and service management – both scoring well above 50 percent. Nearly two thirds (or 65 percent) of providers said they are either delivering or planning to deliver security to their commercial clientele, while slightly more than three fifths (or 61 percent) said they are either providing or intending to provide service management.

Even the two least popular PaaS service offerings – storage and on-demand scalability – are in fairly decent demand. Nearly half (or 48 percent) of all respondents either offer cloud-based storage services now to business customers or aim to do so in the future. And more than two fifths (or 42 percent) of respondents either provide on-demand scalability services now or plan to provide it in the future.

Similar to the PaaS group, the IaaS batch of cloud-based services are getting a lot of attention from network operators. In this category, cloud sourcing heads the list. In our survey, more than two thirds (or 71 percent) of service providers said they either offer or plan to offer cloud sourcing to their business customers, putting it comfortably ahead of all other cloud-based offerings.

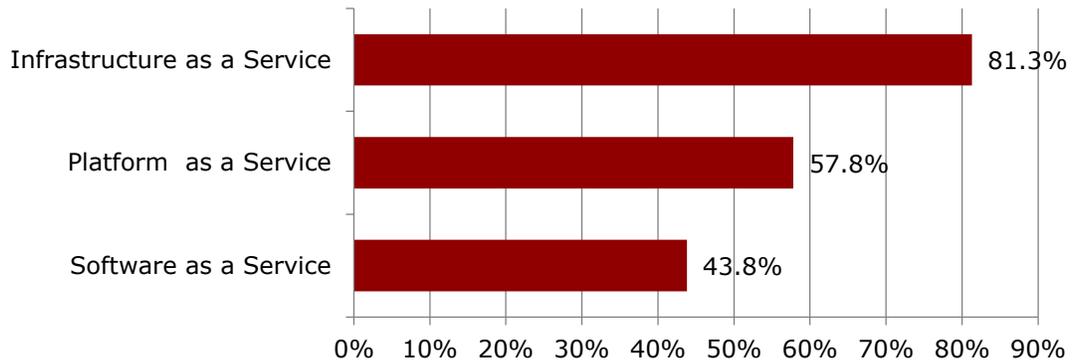
Firewalls run a very strong second in the rankings. More than three fifths (or 62 percent) of providers either deploy or intend to deploy virtual or cloud-based firewalls, making it another popular offering.

Two other IaaS offerings – DNS/DHCP/routing and cloud storage – also score high on the scale. More than half (or 57 percent) of network operators either provide or aim to provide DNS/DHCP/routing, while a nearly equal amount (or 56 percent) either offer or plan to offer cloud storage.

Once again, even the two least popular IaaS offerings (virtual data centers and authentication) are already in good demand. Nearly half (or 49 percent) of operators either deliver or intend to deliver virtual data centers to their commercial clientele. And more than two fifths (or 44 percent) of operators either provide or intend to provide cloud-based authentication services to business customers.

Thus, the survey results show once again that service providers are most prepared to bring IaaS offerings to their customers, both generally and specifically. That's a clear acknowledgement by providers that the access infrastructure, be it physical or virtual, must be in place first before other types of services can be offered to customers.

Figure 4: Most Popular Type of Cloud-Based Services



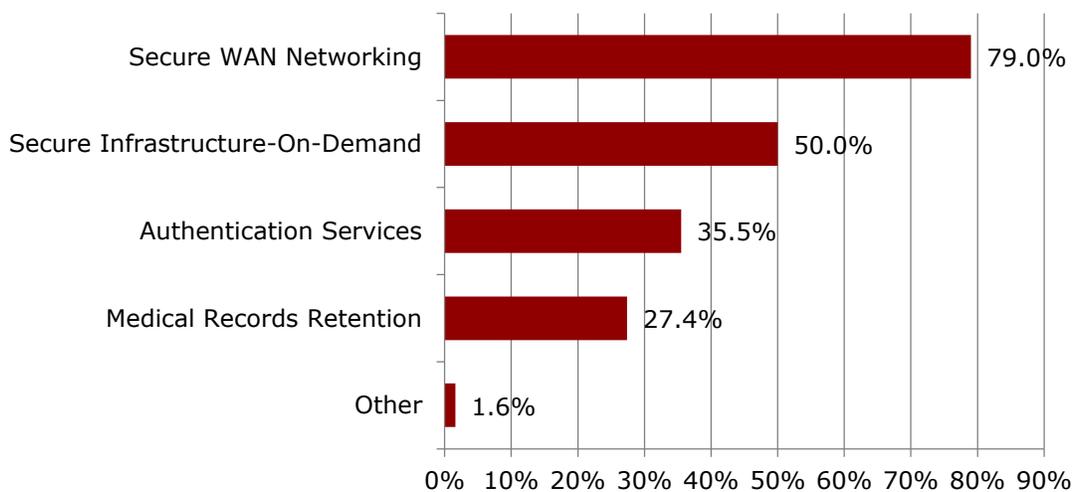
Plotting the Biggest Opportunities

Given all these factors, where do service providers envision the biggest opportunities for growth in the overall commercial market? In this section, we will break down the potential opportunities by vertical sector, describing where the most promising opportunities appear to be in the health care, education, government, hospitality, finance/banking and retail sectors. Further, we will spell out the specific services in each vertical sector that providers think will be the biggest wins for them.

Health Care

Looking first at the health care arena, most service providers believe that secure WAN networking offers great promise. More than two thirds (or 70 percent) of providers cite that as a big opportunity for developing and deploying new services for hospitals, medical offices and other health care players.

Figure 5: Most Promising Health Care Services



A hefty portion of providers think secure infrastructure on demand will reap strong benefits. About half (or 50 percent) of providers view **that** offering as a major opportunity for catering to health care establishments. Authentication and medical retention services bring up the rear, drawing support from 36 percent and 27 percent of providers, respectively.

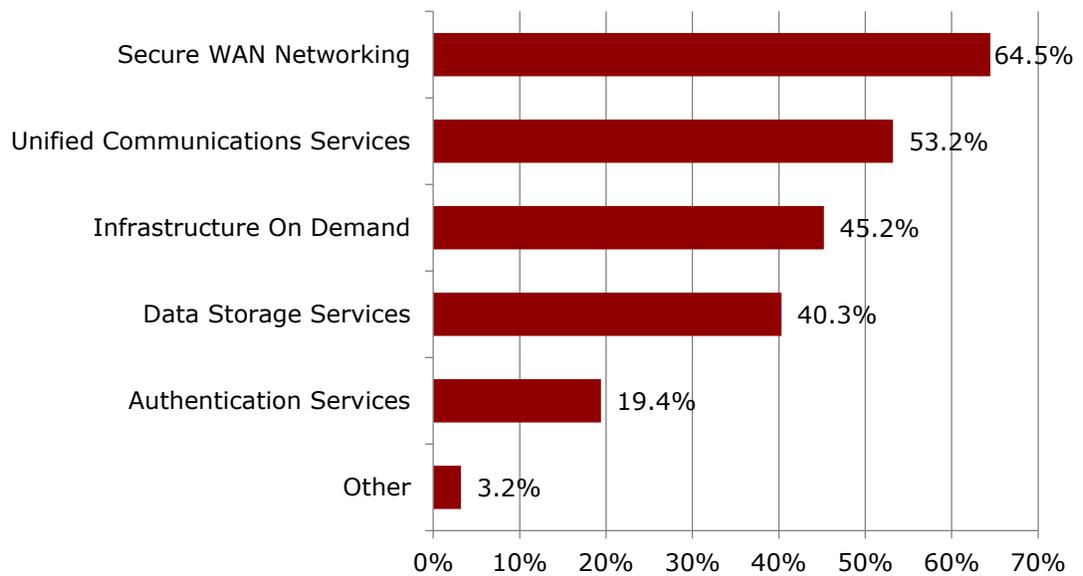
Education

Turning to the education sector, secure WAN networking stands out as the most popular choice of network operators, leading all other options again. Nearly two thirds (or 65 percent) of operators say that secure WAN networking will offer a great opportunity for supplying services to schools, colleges, universities and other academic institutions.

Many network operators also think that unified communications services, such as remote learning, should prove promising in the education space. More than half (or 53 percent) of operators see unified communications services as a big opportunity for reaching the education community.

Infrastructure on demand and data storage services, such as storage for massive open online courses (MOOC), are also seen as potential opportunities by sizable segments of operators. More than two fifths (or 45 percent) of operators cite infrastructure on demand as a strong opportunity, while about two fifths (or 40 percent) cite data storage services as promising.

Figure 6: Most Promising Education Services



Government

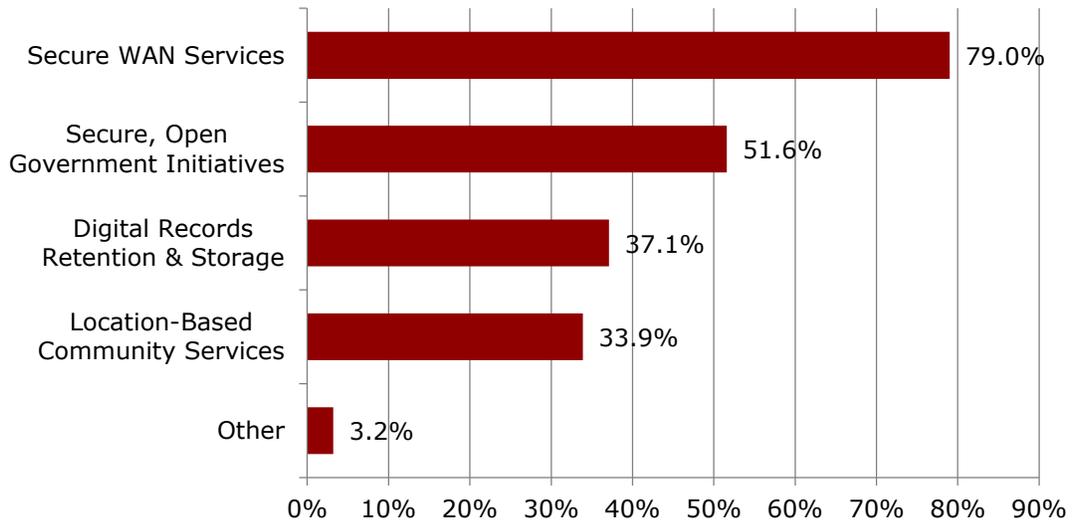
In the government sector, secure WAN services once more stands out as the most popular choice, dominating the competition. Do we see a pattern emerging here? In our survey, nearly four fifths (or 79 percent) of service providers chose secure WAN

services as a big opportunity for engaging with local, regional, state and even federal government bureaus, offices and agencies.

Providers also see promise in supporting secure open initiatives by various levels and bodies of government. Slightly more than half (or 52 percent) of providers view support of secure open initiatives as a big opportunity for serving government offices.

Other potential service offerings are seen as lesser opportunities for catering to government agencies right now. More than a third (or 37 percent) of network operators view the retention and storage of digital records retention and storage as a major opening. And a bit less (or 34 percent) see location-based community services as something promising.

Figure 7: Most Promising Government Services



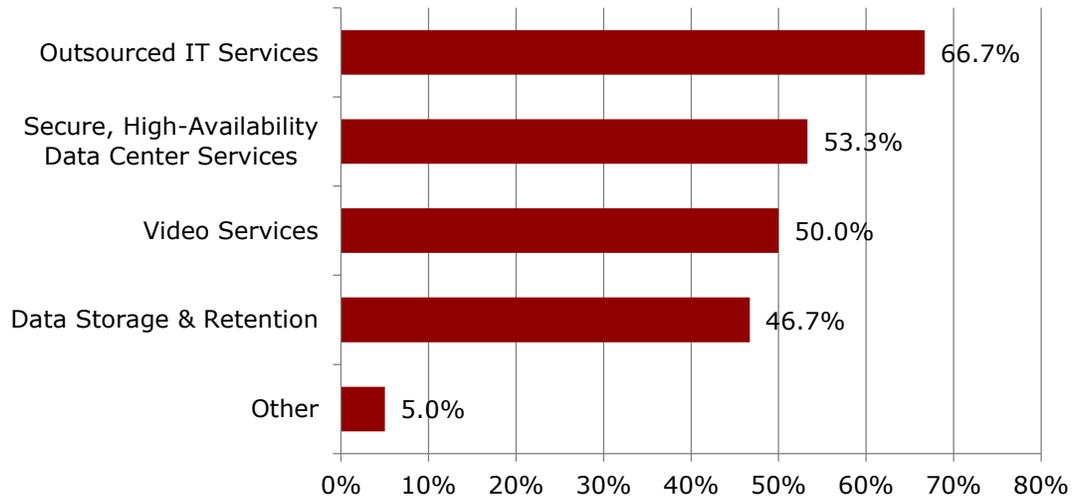
Hospitality

The landscape looks somewhat different in the hospitality market. In that vertical, service providers see three types of offerings as pretty promising, with a fourth one following not too far behind.

Specifically, service providers see outsourced IT services, including WiFi services, as a great way to win business from hotels, motels, resorts, casinos and the like. Exactly two thirds (or almost 67 percent) of providers named this offering as a big opportunity for them in this sector, making it the most popular choice by a substantial margin.

Besides outsourced IT services, providers also seem excited about the potential of delivering secure, high-availability data center services, video services and data storage and retention to the hospitality market. Slightly more than half (or 53 percent) of providers think secure, high-availability data sources represent a big opportunity, while exactly half (50 percent) of providers view video services the same way and slightly fewer than half (or 47 percent) picture data storage and retention as a major opportunity.

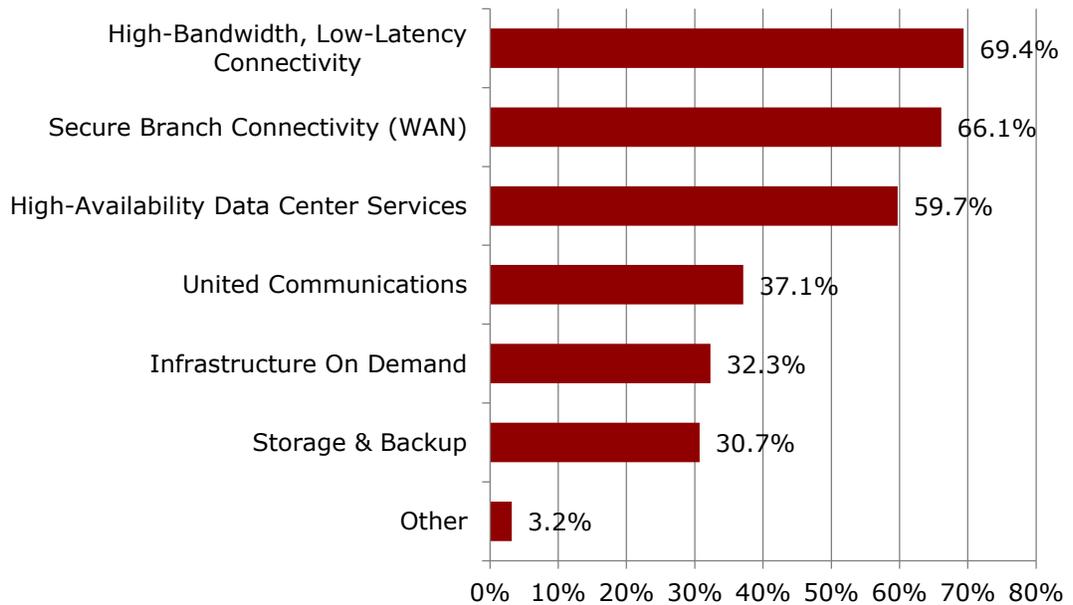
Figure 8: Most Promising Hospitality Services



Finance/Banking

Moving on to the finance/banking sector, several types of service offerings stand out as quite promising by survey respondents. For one thing, more than two thirds (or slightly over 69 percent) see high-bandwidth, low-latency connectivity as a great way to reach banks, investment banks, insurance companies and the like. That made it the most popular choice among respondents.

Figure 9: Most Promising Finance/Banking Services



But it's far from the only popular choice. Secure branch connectivity (WAN) followed closely behind, drawing votes from about two thirds (or 66 percent) of the respondents. Then came high-availability data center services, which scored well again at 60 percent.

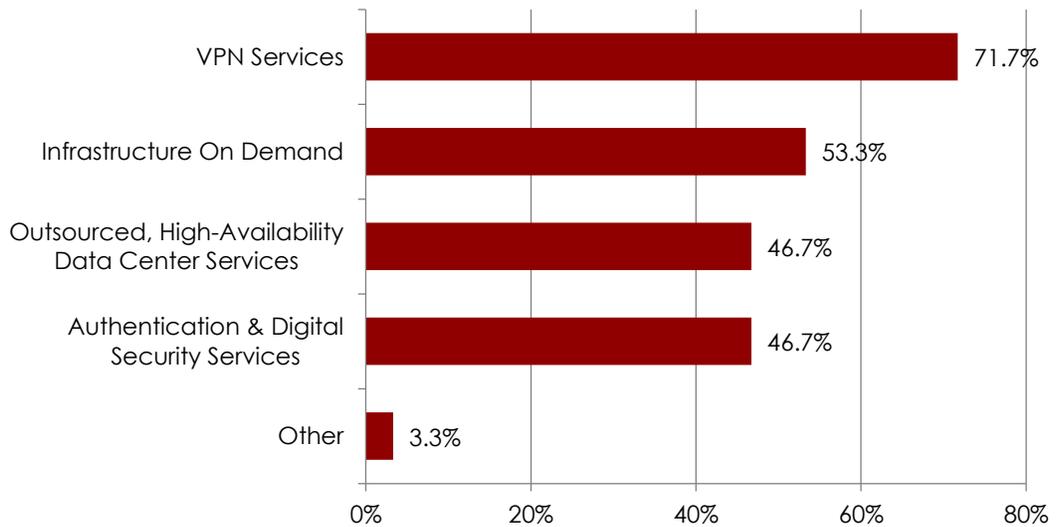
The three remaining service offerings – unified communications, infrastructure on demand, and storage and backup – trailed well behind. But even all three are seen as big opportunities by at least 30 percent of providers.

Retail

Finally, in the retail market, providers see some big opportunities, as well. In particular, they believe strongly in VPN services. More than seven out of 10 providers (or nearly 72 percent) view VPN services as a great way to cater to stores, restaurants, boutiques and other retail establishments, making it the most popular choice by far.

Infrastructure on demand is also seen as an appealing offering for the retail sector. More than half (or slightly over 53 percent) of service providers view infrastructure on demand as a big opportunity in this sector, making it a strong second. And two other product offerings – outsourced, high-availability data center services and authentication and digital security services – followed right behind, with each attracting nearly half (or almost 47 percent) of providers.

Figure 10: Most Promising Retail Services



Conclusion

As we have seen, the business services market is swiftly changing, forcing cable operators, telcos, wireless carriers and other service providers to change along with the ever-evolving market. Network operators are seeking to adapt their approaches and strategies by crafting new products, rolling out more advanced services, developing greater capabilities and providing stronger guarantees of service

quality. Whether they're more interested in the retail sector, finance sector, government sector, health sector or some other vertical, operators are also slicing and dicing the commercial market more and more, honing in on what different sections of the market are increasingly needing and demanding.

These developments are evident in several ways. As our survey shows, network operators are increasingly going beyond their basic-service offerings to bring more enhanced services to their commercial clientele, especially cloud-based, software offerings. Operators are also placing much greater emphasis on strict SLA reporting and guarantees and strengthening the performance measures in those SLAs.

Similarly, network operators are increasingly beefing up their service delivery architectures so that they can deliver more advanced and higher-value products, services and features, whether it be over fiber, coax, copper or wireless connections. In particular, it seems clear that the rush to install more fiber lines will continue indefinitely, fueling continued waves of network upgrades.

As a result, look for service provider investment in commercially-oriented networks, software, products, services, features and guarantees to keep building over at least the rest of the decade. With providers still seeing so much opportunity for growth, and so many promising areas for expansion, the sky really does appear to be the limit right now.

Service assurance solutions that seamlessly support cloud-based service delivery are essential components of a service provider's strategy to win a greater share of the enterprise business segment. Given the importance of providing SLAs for enhanced services, as well as assuring the quality of service for all cloud-based service delivery, having real-time performance monitoring, troubleshooting and analytics is paramount.