SIP Trunking

Service Provider Scorecard

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Top Takeaways

In this *Scorecard* we look at the top SIP trunking providers in North America. Though much of the attention on business VoIP services is focused on the cloud, SIP trunking is equally important for providers in that it is the next generation of voice connectivity. It does not have the glitz and glamour of cloud UC but is becoming the fundamental backbone for businesses continuing with premises-based equipment.

The bulk of the SIP trunking installed base is concentrated with the large operators. In a service market based on lower-cost, scale is necessary for a successful business. The voice connectivity market has become dominated by incumbent and competitive operators; however a few smaller providers have carved out a space for themselves.

Though installed base of SIP trunks is important to the overall leadership score, financial stability continues to have a measurable impact on the overall standings; the providers with the strongest financials rise to the top. With features not a critical component of SIP trunking there are fewer things that differentiate one provider's offering from the next. A focus on security, interoperability, pricing, and reliability all remain key attributes.

For the first time, Level 3 leads the SIP trunking market in this year's report with the largest installed base of trunks. And following Level 3 are Verizon and CenturyLink in a tie, with only a small difference in installed base. Verizon stands out this year in mobile enhancements tied to its LTE network. AT&T and XO round out the top five providers. These providers have been consistent mainstays in this market, steadily growing their installed bases of trunks. One new addition to the scorecard is Twilio, widely known for its communication API enablement, who has steadily built a SIP trunking business in the last two years with no legacy services to cannibalize.

Background

This 8th annual *SIP Trunking North America Service Provider Scorecard* complements our *VoIP and UC Services and Subscribers* regional market tracker.

The purpose of this *Scorecard* is to determine which service providers currently lead the market for SIP trunking and are best positioned to succeed in the long term based on a set of criteria.

First, we determined the top service providers in terms of the number of lines/trunks for IP connectivity. We then evaluated them based on the following four criteria:

- Financial stability

- Market strategy

- Service capabilities

- Support options

Please see *Methodology* for definitions and weighting for each criterion, and a full description of how we evaluated each provider.

We rated each service provider in each of the four areas on a 5-point scale and then apply a weight; see *Methodology* for the specific rating definitions for each metric and the weights we assign; the following are general definitions:

- 5 = leading the market

- 4 = advancing

- 3 = moderately positioned

- 2 = limited position

- 1 = market laggard

- 0 = no activity/not applicable

The combined score for each provider was then tallied to provide their leadership score.

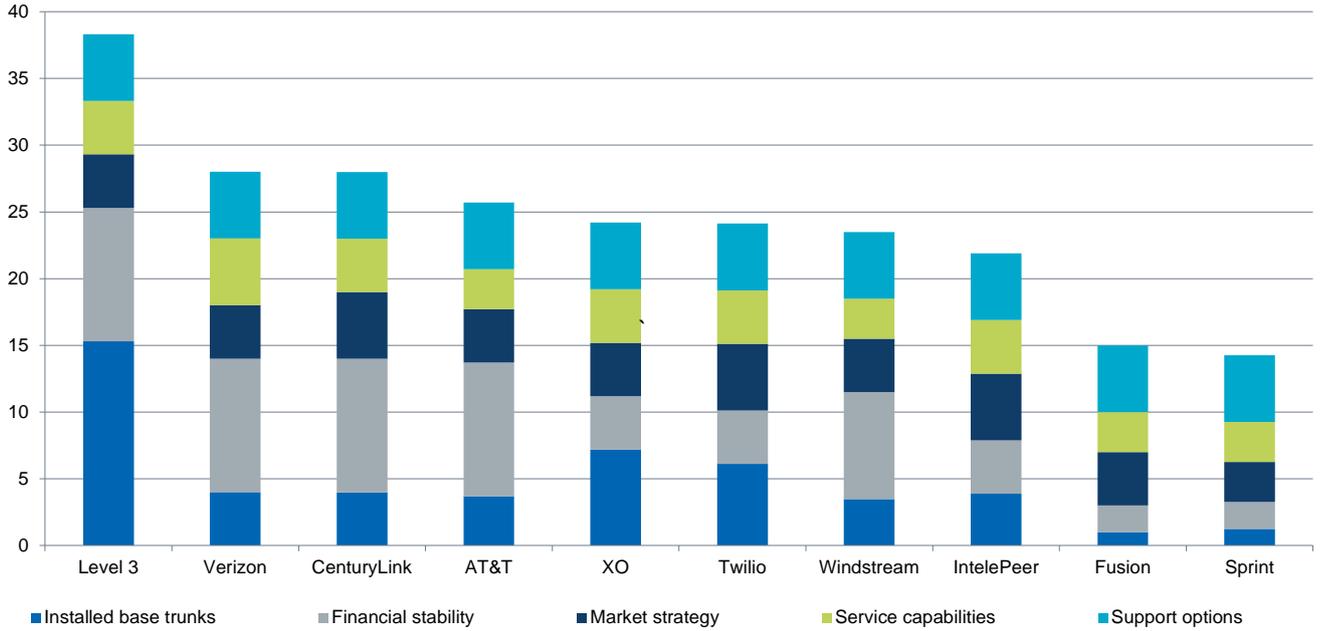## SIP trunking Service Provider Leadership Scorecard

SIP trunking has become the de facto next generation voice connectivity solution for businesses in North America. It has come to this point as the market evolved to IP connectivity through a series of VoIP protocols and connectivity types. The competitive landscape in North America is broad with incumbent operators, CLECs, cable MSOs, ISPs, and smaller VoIP providers.

Today there is very little that differentiates SIP trunking services. Most providers offer bursting and flexible options with pricing variations. And in the area of support options, it's a level playing field. The challenge for newer entrants is differentiating in a service that is quickly becoming a commodity item with little room for differentiation. Most providers are offering enhanced user features that put some UC capabilities in the cloud to complement premises-based PBXs that connect to the network with SIP. And to this end, many SIP trunking providers have gotten into full UC cloud services, which also give providers the opportunity to compete for hybrid deployments. We have seen innovation over the past year in new wireless capabilities, SIP connections over LTE, and SIP connections optimized for specific cloud collaboration services such as Cisco Spark.

The mix of top providers has been very consistent over the past few years, and from our 2015 report there is some shifting in the rankings. Many of the top providers consistently continue to do the right things, but most SIP trunking providers' strategic focus is on higher-margin services, particularly cloud UC. In that regard less work is going into service enhancements with SIP trunking, but work does continue on the back-end operations, especially in provisioning automation.

In this year's report, Level 3 rose to the top through the largest installed base of SIP trunks, in part due to consolidated growth including the Time Warner Telecom assets for the full-year 2015, along with an improved financial position. Verizon and CenturyLink tie for second (only 0.02 points separating them) with solid installed bases (albeit smaller than Level 3s) and strong financials. AT&T rounds out the top four; the providers with the strongest financial positions rise to the top. The newcomer to the report this year is Twilio.

Exhibit 1   **2016 North America SIP Trunking Leaders**

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Legend: ■ Installed base trunks ■ Financial stability ■ Market strategy ■ Service capabilities ■ Support options

Exhibit 2	2016 North America SIP Trunking Leadership Scorecard					
Service Provider	Installed Base	Financial Stability	Market Strategy	Service Capabilities	Support Options	Total
Level 3	15.3	10.0	4.0	4.0	5.0	**38.3**
Verizon	4.0	10.0	4.0	5.0	5.0	**28.0**
CenturyLink	4.0	10.0	5.0	4.0	5.0	**28.0**
AT&T	3.7	10.0	4.0	3.0	5.0	**25.7**
XO	7.2	4.0	4.0	4.0	5.0	**24.2**
Twilio	6.1	4.0	5.0	4.0	5.0	**24.1**
Windstream	3.5	8.0	4.0	3.0	5.0	**23.5**
IntelePeer	3.9	4.0	5.0	4.0	5.0	**21.9**
Sprint	1.3	2.0	3.0	3.0	5.0	**14.3**
Fusion	1.0	2.0	4.0	3.0	5.0	**15.0**

Source: IHS

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# SIP Trunking Service Provider Profiles

Level 3

Level 3 was focused on the wholesale market until it acquired Global Crossing in 2011, which gave it a position in the large enterprise space. It further strengthened its position in the enterprise space, and in particular SIP trunking, with the acquisition of tw Telecom in October 2014. Through 2015, Level 3 outpaced the market for SIP trunking through its Voice Complete service. The company has a long history of running and managing IP voice solutions, termination, and origination through the legacy Level 3, and enterprise solutions with Global Crossing and tw Telecom. In addition to growth in its installed base, improvements in its financials have resulted in the highest possible score in that category, putting it solidly at the top this year.

The Level 3 SIP trunking service, Voice Complete, is able to work with an extensive list of PBXs including Avaya, Cisco, and Microsoft. Level 3 SIP Voice Complete supports local and LD calling with local numbers and emergency services. It offers Voice Complete in the US, Western Europe, with additional SIP trunking services in Latin America. Level 3's strategy is to expand its Voice Complete SIP trunking services to all countries were it serves enterprise customers. Businesses can simplify their voice network by centralizing their traffic through a single connection. Level 3 supports direct ISDN connections to non-IP devices, and offers optional feature packs for its customers including mobility. The provider's SIP trunking comes with business continuity and disaster recovery built-in and the flexibility to use any US domestic number at any Level 3 service address. There is an array of enhanced calling services, along with failover and emergency calling offered on top of Voice Complete services.

Pricing for Voice Complete is based on the number of concurrent call paths that can be pooled globally and shared across Voice Complete locations. For access, Level 3 offers MPLS/IP VPN, dedicated internet access, or public internet peering. Alternatively customers can bring their own bandwidth and purchase just the SIP trunks from Level 3.

Level 3 has the advantage of a global direct sales force and channel partner program. The company maintains over 100 master/agent/VAR partners. The VARs and a few global system integrators provide professional services in migration to the cloud for UC, particularly for Cisco and Microsoft implementations.

Exhibit 3   **Level 3's Scores vs. Average Scores of All 10 SIP Trunking Providers**
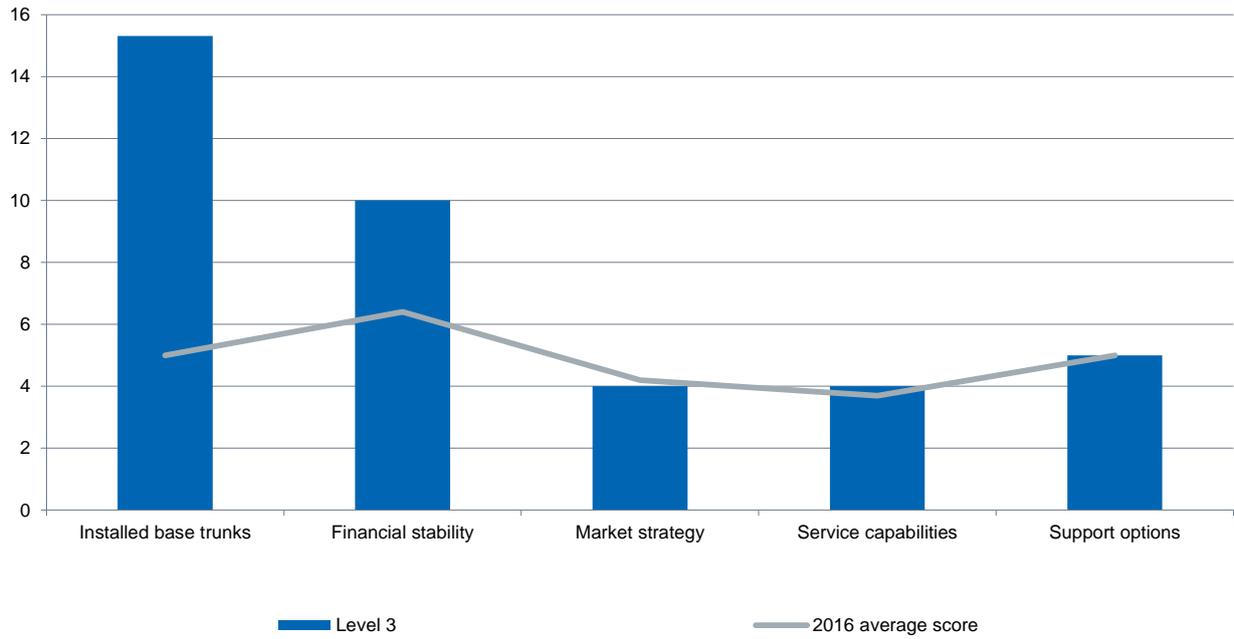
Source: IHS   © 2016 IHS
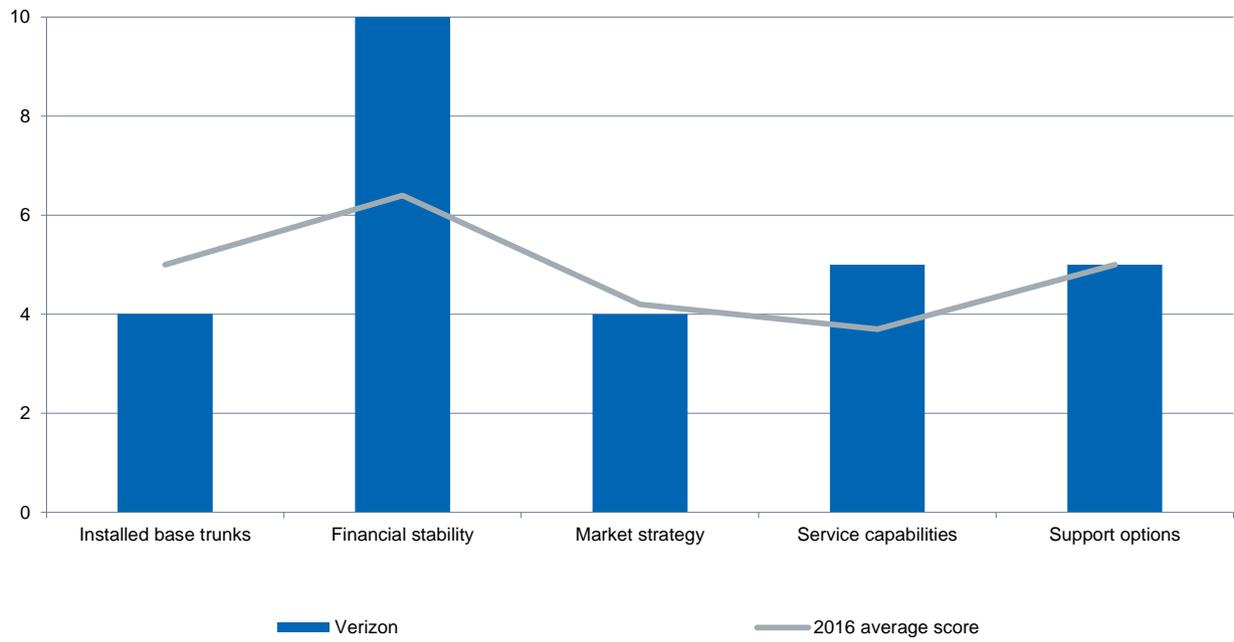
Verizon

Verizon had another strong year growing its SIP trunking lines; coming in third place in total business VoIP lines. The company's healthy financial position continues to be a pillar of strength in enterprise services. The operator has been selling various IP connectivity services for years. Its IP Trunking service is the premier service.

Verizon continues to lead the market in rolling out enhanced capabilities for IP connectivity being the first provider to launch bursting (Burstable Enterprise Shared Trunking—BEST) and disaster recovery. In 2010 it launched VoIP IP Enterprise Routing (VIPER), which provides benefits of on-net calling to Verizon VoIP customers when calling other Verizon VoIP customers. In 2011 it added the ability to support inter-company high definition voice and video capabilities for calls between VoIP sites that leverage the VIPER feature. In 2012, Verizon added T.38 fax, additional business continuity capabilities, and advanced reporting features. An important focus for the provider over the past few years has been automation improvements for back-end processes and global provisioning. Verizon continues to make enhancements. In 2014, it increased the flexibility of IP trunking by offering shared concurrent call capacity at the enterprise level or the location level. It streamlined pricing with few rates and started including BEST in all packages, and BEST Plus was made available to enable bursting at the enterprise level. In 2015 Verizon provided customers the ability to make calls from a Verizon Enterprise VoIP site to any Verizon Wireless telephone number (US only) free of charge. In 2016, Verizon took it one step further by introducing SIP trunking over its QoS-enabled LTE network in March 2016. The service enables Verizon's SIP trunking customers to connect sites to the SIP network through a SIM card placed into one of its supported gateways. The QoS-enabled service delivers business-grade voice quality to users by ensuring that voice calls are given the highest priority. It's ideal for temporary, low-usage, or seasonal businesses that need to add locations to the network quickly.

Verizon offers a wide set of certified access and IP PBX equipment options with its SIP trunking service. They run over dedicated Internet access or Verizon's private IP network. Verizon IP Trunking service can be implemented at virtually any size site depending on CPE and data access at the serving site.

The service provider is focused on the medium and large enterprise segments, and its service development reflects that. Verizon has also been successful in selling its connectivity services to multinationals seeking to connect offices in the US, EMEA, and Asia Pacific. Verizon was one of the first providers to offer centralized multi-site multi-country designs, for example allowing a customer in Europe to implement an IP PBX in the UK that serves sites in France, Germany, and Switzerland. This design flexibility allows global customers to maximize their CPE and network configuration. Verizon IP Trunking is available throughout the US in over 360 MSAs, in 11 countries in Europe and 4 in APAC. Verizon sells the service direct and indirect to customers.

| Exhibit 4	Verizon's Scores vs. Average Scores of All 10 SIP Trunking Providers

Source: IHS

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CenturyLink

CenturyLink has shown that it has what it takes to be a perennial leader in the SIP trunking market. In this year's scorecard CenturyLink landed in a dead heat with Verizon, with the former just inching it out with only a slightly larger installed base. The company has steadily improved its financial stability to reach the highest score, which further shores up its position in the top of the standings.

For incumbent providers such as CenturyLink, having a SIP trunking service has become a must-have, with more and more businesses proactively seeking out the service option. The operator continues to place priority in its overall business VoIP services portfolio.

The CenturyLink IQ SIP Trunk is an integrated service running over CenturyLink's IP network with multiple business continuity options offered in centralized and decentralized deployment options. In 2015, the company made an over-the-top option available to allow customers to use the third-party network connections. Additionally, CenturyLink has launched a try-and-buy program wherein customers can trial the IQ SIP trunk service to test equipment and features before purchasing. From an enhanced options perspective CenturyLink provides users with CenturyLink Business Communicator, a UC client that includes a set of different features from the cloud to SIP trunking customers. Like a lot of providers, CenturyLink has made improvements to its customer portal to provide improved self-administration and end-user functionality.

CenturyLink will continue to sell and market IP connectivity solutions but its strategic focus is on higher value services such as hosted and managed VoIP offerings. It has a process for migrating customers from IQ SIP trunk to hosted VoIP when PBXs reach end of life. However, SIP trunking is the backbone for enhanced services such as Managed Enterprise.


Exhibit 5   CenturyLink's Scores vs. Average Scores of All 10 SIP Trunking Providers

Source: IHS   © 2016 IHS
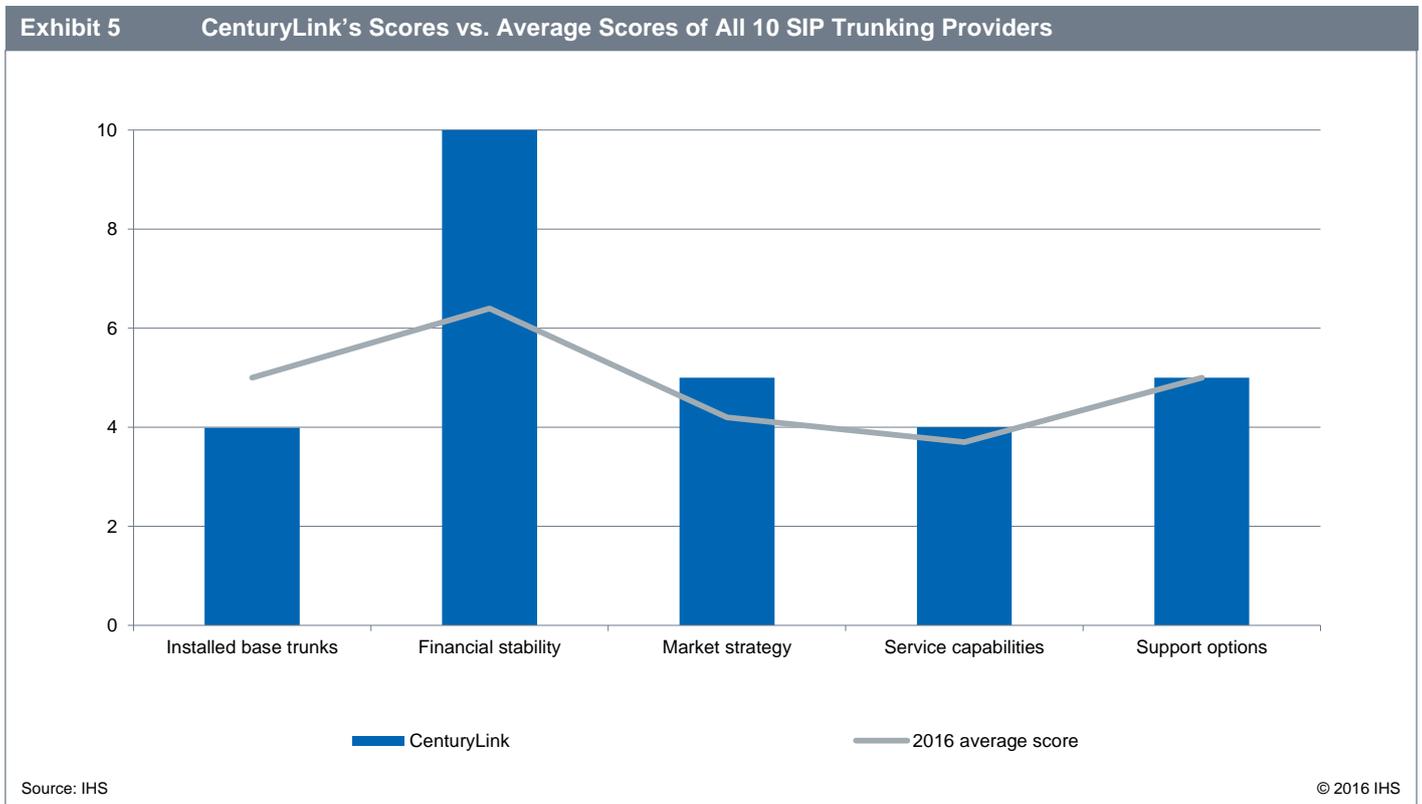
AT&T

AT&T continues to be a top provider in the SIP trunking market through the growth of its installed base, nationwide presence, and financial stability. AT&T's SIP trunking service falls under the AT&T IP Flexible Reach portfolio. Its size and reach are a competitive advantage over most other providers in the market.

AT&T IP Flexible Reach provides integrated access for IP and TDM PBXs along with data access. This is a converged service that runs over AT&T Dedicated Internet Service and AT&T VPN services to support a breadth of bandwidth requirements. On the voice side, SIP trunking is the current option offered within the AT&T IP Flexible Reach and can support non-SIP PBXs through either an AT&T-managed or a client-managed router. A variety of calling plans for local and long distance minutes are offered. The SIP trunking connections are optimized for Cisco UC, Microsoft Lync, and AT&T's UC services but can be used for a variety of on-premises PBXs.

AT&T heavily markets AT&T IP Flexible Reach as an integrated access service along with its MPLS VPN service. The two enhanced services it offers with AT&T IP Flexible Reach include virtual telephone numbers that allows businesses to assign telephone numbers to any user regardless of physical location and centralized call delivery that routes calls from different locations to a centralized call location. AT&T provides SLAs for the VoIP service and the underlying data transport.

Exhibit 6	AT&T's Scores vs. Average Scores of All 10 SIP Trunking Providers

Source: IHS   © 2016 IHS
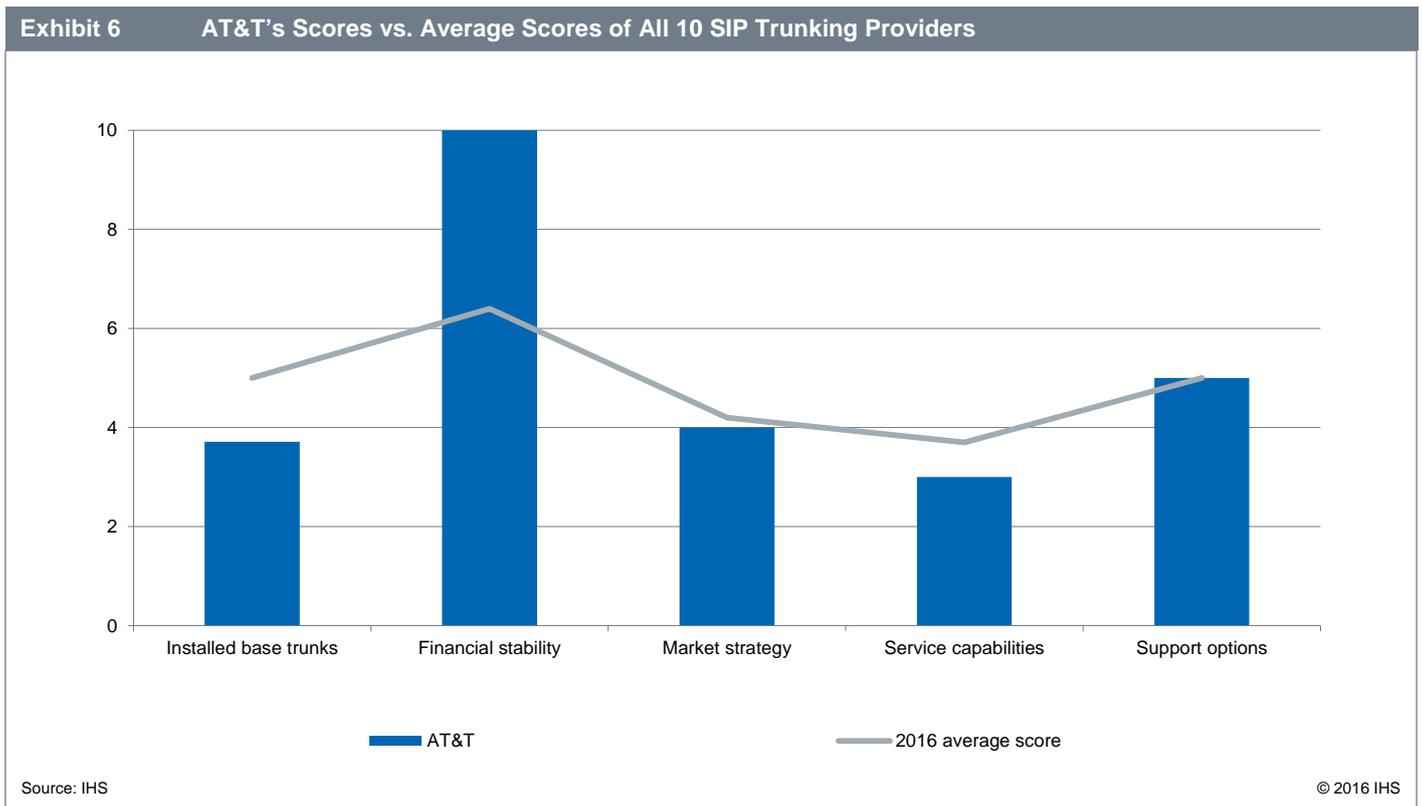
XO

XO has a large installed base of SIP trunks, which it has grown through a heritage of offering integrated access and VoIP services to businesses. In 2011, XO was taken a private and since its financials are not available, and its financial score remains low, keeping the provider lower down the list. In early 2016, Verizon announced its intent to acquire XO and the transaction is pending. The acquisition would further strengthen Verizon's position with a large installed base.

The IP voice business has been a shining star for XO, and the provider has done an excellent job of focusing on its installed base of TDM integrated access customers and upgrading them to IP, in addition to effectively marketing its service to businesses of all sizes. The XO SIP Trunking service is ideal for small and medium enterprises with more than 10 locations and 500 employees.

The service is available to businesses with an IP PBX supporting SIP and allows the convergence of voice, data, and Internet access over a single connection. XO has certified IP PBXs from 18 different vendors. XO Enterprise SIP is a centralized solution for medium and large enterprises which enables multi-location companies to centralize IP PBX resources in one or more primary locations and deliver services to branch offices using an existing private network or the XO MPLS network.

In 2013, XO moved to sessionless pricing for enterprise SIP customers. In simple terms, customers no longer pay for a set number of sessions but rather are charged based on a port speed, long distance package, and additional features. In July 2016, XO launched SIP bundles (SIPacks) that include ports/session and a variety of features for one flat price.

Much of XO's strategic focus and positioning is with its hosted PBX service. However, the provider does position hosted PBX in conjunction with SIP trunking, as hybrid solutions that allow businesses to migrate to the cloud for certain locations while maintaining premises-based PBX for other locations and tying them together through SIP trunking. XO leverages its direct sales force and a channel program that serves 2,700 cities across the US.

| Exhibit 7	XO's Scores vs. Average Scores of All 10 SIP Trunking Providers

Source: IHS
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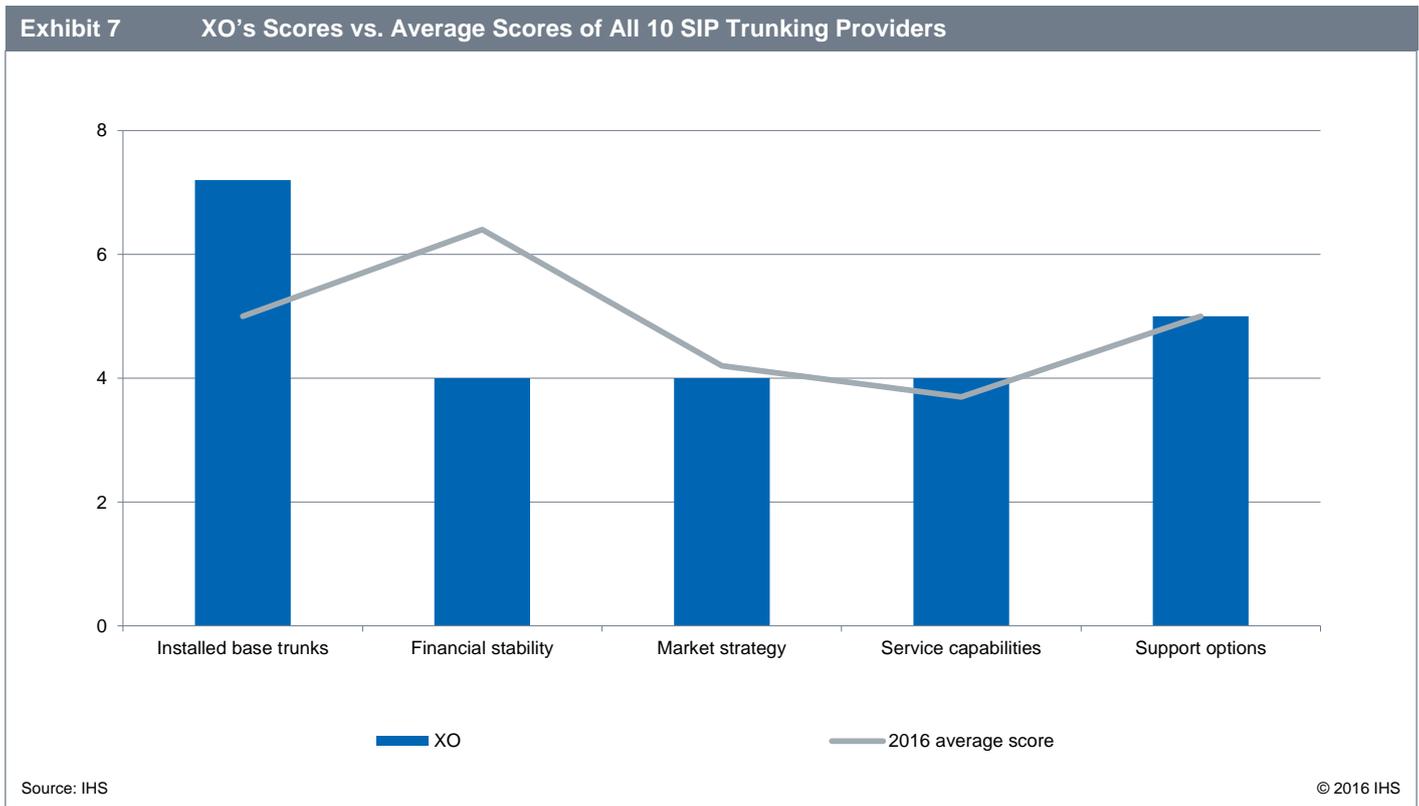
Windstream

As a large incumbent provider in the US, **Windstream** has quickly evolved its focus to be heavily on business services. It has gained a strong position in business VoIP through a broad portfolio of hosted, managed PBX and connectivity services. Windstream has a slightly weaker financial position relative to its large peers but rises above most of the pack.

Windstream's core solution in this space is Dynamic IP SIP Trunking, which is designed for businesses that use an PBX or UC solution. The service is scalable beyond 1,000 SIP trunks per location with G.711 or G.729 codecs. Windstream supports dedicated enterprise SBCs and has an extensive IP PBX certification program. Though Windstream has rolled out enhanced capabilities such as mobility packages, call center support, and disaster recovery, most of its focus has been on its hosted UC and PBX offerings as it continues to expand its capabilities in this area.

Windstream's success has been through focusing on medium and large enterprises nationwide, and its service development is a reflection of that.
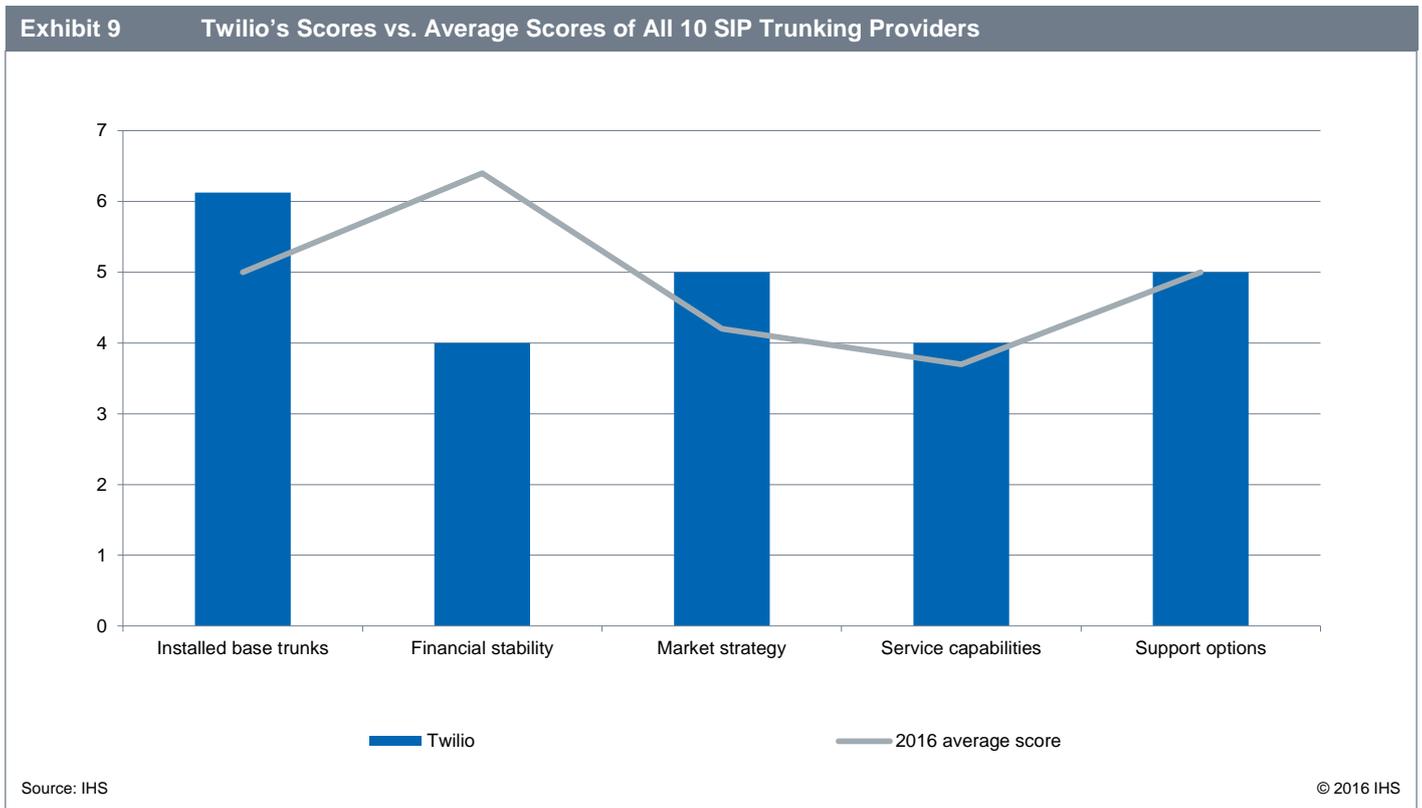
| Exhibit 8 | Windstream's Scores vs. Average Scores of All 10 SIP Trunking Providers |

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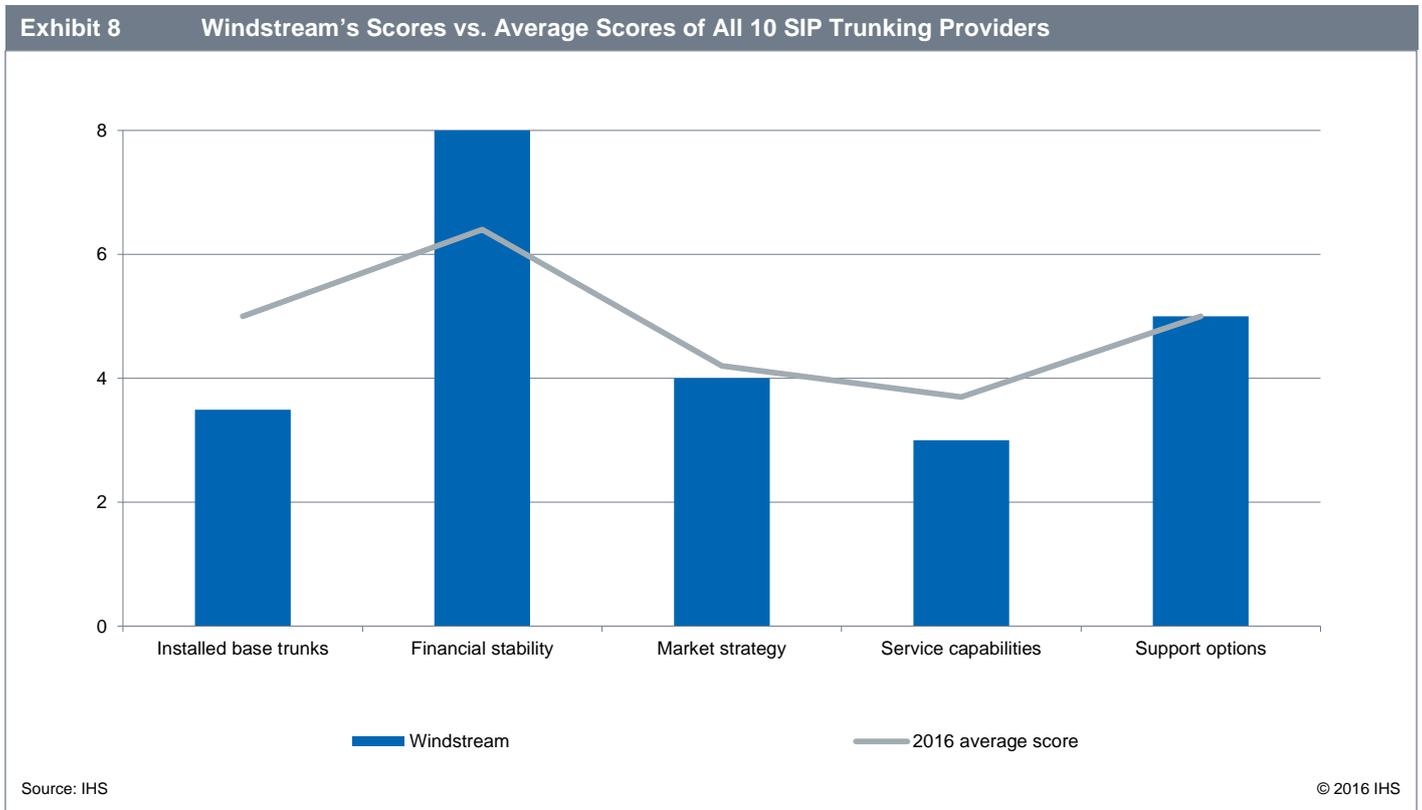
Twilio

Twilio is a new entrant to the *Scorecard* this year and is an unconventional player in a space dominated by traditional telcos. Twilio's core business is helping companies build communication capabilities into applications through APIs. In 2014, Twilio launched its Elastic SIP Trunk service aimed at businesses of all types.

Since Twilio does not own a data network, the service is delivered fully from Twilio's cloud. Twilio does not offer any data services, unlike most SIP trunking providers, but does offer customers the ability to connect over an MPLS or other private connections to the Twilio Cloud. Twilio customers manage failover by configuring primary and backup infrastructure options, as well as connecting to any one of six SIP trunking POPs. They can also replicate their PBX functionality in Twilio's cloud through its Voice API service as back-up; customers pay only when those capabilities are used.

The service is sold purely on a metered basis without per trunk or per port charges. There is no need for bursting or overages since Twilio's service establishes elastic connections from its cloud to support customers' calling requirements. The provider supports more than eighty infrastructure variants and maintains interoperability guides with six IP PBXs and eSBCs from nine vendors to help support connections. Other enhancements include emergency services, call recording, and auto-provisioning API for SIP trunks for channel partners.
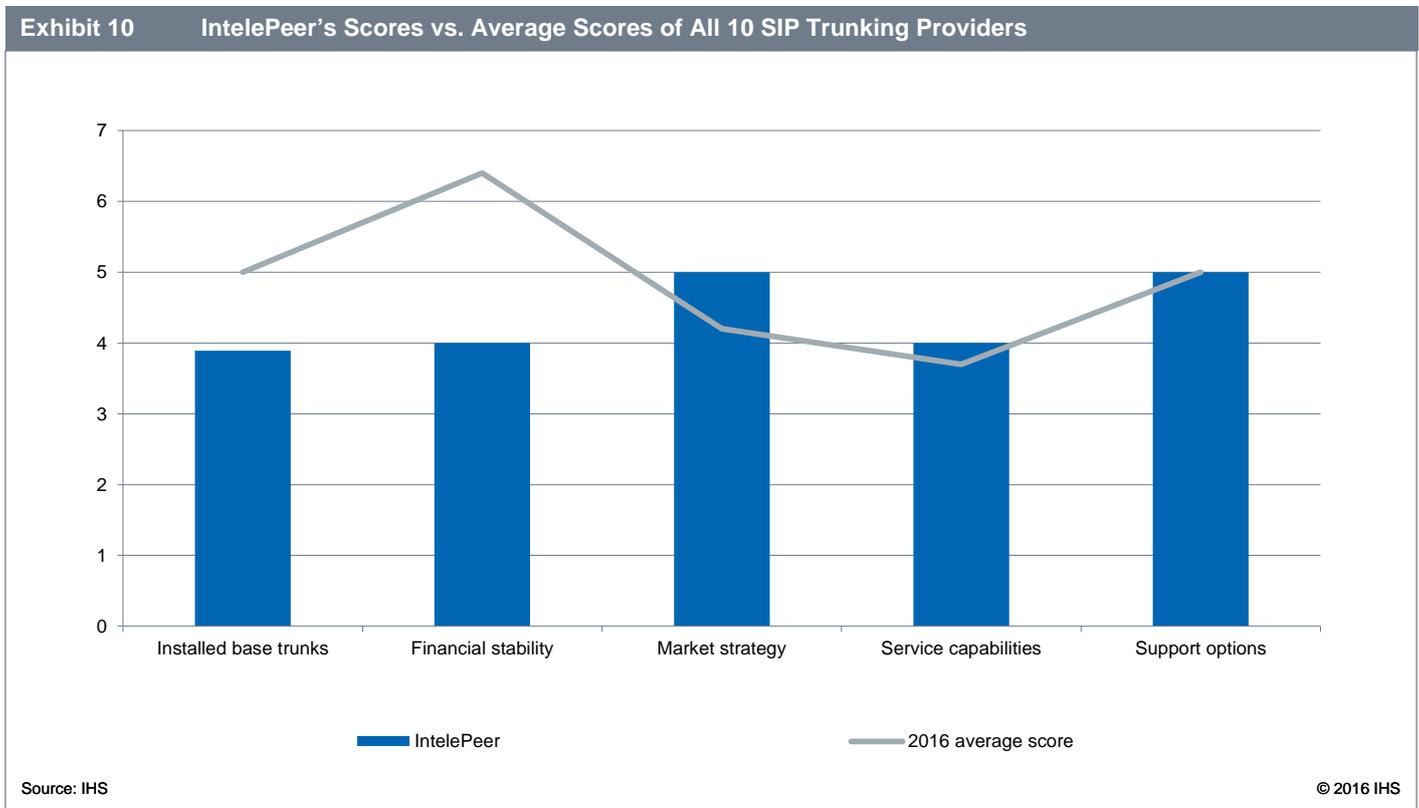
Many of Twilio's customers find their way directly to the service on their own, ordering through the customer portal. Twilio offers traditional direct sales for outreach along with channel activity through its "X as-a-service" customers that bundle the SIP connections with their services. Twilio offers an extensive set of support options, and due to its unique business model these range from basic support for free, which includes e-mail support during business hours, up to highly personalized support for $5K per month, which includes one hour of guaranteed response time, 24x7 e-mail/phone support, a named support engineer, and a support escalation line.

Exhibit 9   Twilio's Scores vs. Average Scores of All 10 SIP Trunking Providers

Source: IHS

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IntelePeer

IntelePeer, founded in 2003, is privately backed by a handful of venture capitalists, with total funding of over $50M. The provider sells direct to large enterprises and contact centers and uses channel partners down market. Though IntelePeer is smaller than incumbent providers in the *Scorecard*, it has worked to develop a portfolio of business voice services and contact center software solutions through its cloud communications platform and is proving nimble and willing to try new things. A big step in 2016 is IntelePeer's partnership with Cisco that makes it a premier SIP trunking partner for Cisco's Spark and Meraki services, which should be a strong driver of new growth.

IntelePeer's Atmosphere SIP service connects a variety of UC and PBX solutions from vendors including Asterisk, Avaya, Cisco, Microsoft, Mitel, and ShoreTel and its SIP services complements contact center solutions with vendors such as Interactive Intelligence, Genesys, Varolli, and Five9. Atmosphere® SIP is available as an OTT option with direct connections to SIP-ready PBXs, over private IP, or MPLS network connectivity. IntelePeer's SIP customers have access to features such as TLS/SRTP encryption, failover/redundancy, SMS support, portal analytics, and provisioning APIs. IntelePeer's SIP trunking service has been a launch pad to additional enhanced services such as cloud UC.

Exhibit 10	IntelePeer's Scores vs. Average Scores of All 10 SIP Trunking Providers

Legend: IntelePeer — 2016 average score
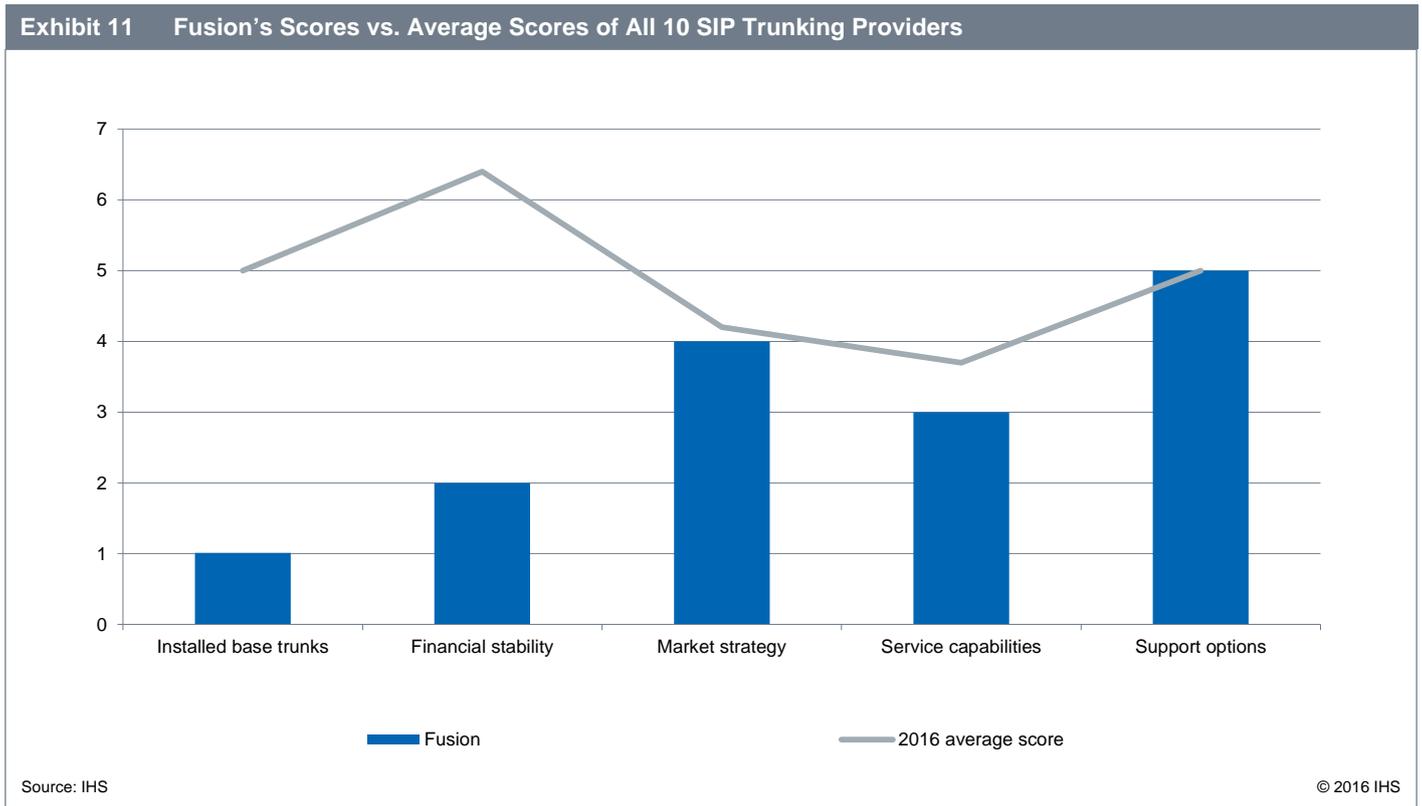
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Fusion

At the end of 2013, **Fusion**, a cloud services company, acquired BroadVox's retail business, which strengthened its position in the SIP trunking market. Since 2014, Fusion worked hard to increase its orientation toward business VoIP services including further acquisitions including PingTone and Fidelity. Services have all been rolled up under the Fusion brand as it continues its acquisition strategy. Fusion is a publicly traded company; it is currently operating at a net loss, which hurts them in the overall scoring. Branding under the Fusion name has been a big focus for the company over the past two years, as it is up against more established incumbent and competitive providers.

The FusionSIP solution offers trunking to more than 40 different PBXs and is available under 3 service packages, with a burstable SIP trunking option. Pricing is based on the number of concurrent call paths, local/long distance plans, and capacity allocation across customer locations. Through the SIP Trunking portal, administrators can manage and maintain DID groups, trunk groups, call routes, and trunk plans. Customers can provide their own bandwidth or run it over dedicated Internet access from Fusion. With dynamic trunks, Fusion offers bursting up to 3x the SIP trunk commitment. The company used IADs for PBXs that don't support SIP. Through its own data network, FusionSIP is usually sold with Fusion's MPLS or direct internet access but can be used with a customer's own network.

Fusion sells heavily through the channel but has started to build up more of its direct capabilities. The company sells to businesses of all sizes but has found its sweet spot to be the middle to large enterprise, especially businesses with multiple locations.

Exhibit 11	Fusion's Scores vs. Average Scores of All 10 SIP Trunking Providers

Source: IHS   © 2016 IHS

Sprint

Sprint is a top provider of enterprise services and offers a suite of VoIP services. Sprint Global SIP Trunking uses the Spring Global all-IP Network, which reaches more than 157 countries. Sprint SIP Trunking primarily targets medium-to-large businesses with 75 employees or more. The service is offered in the US and Canada and in 12 European countries. Sprint's solution is designed to be aggressively priced on an international basis and allows customer-directed routing. In addition to per-trunk charges, off-net outbound calls are a per-minute flat rate. There are no additional charges for on-net calls, calls to other Sprint Global SIP Trunking customers, or for real-time Class of Service. Traffic aggregation across an entire enterprise enables sites to share and use SIP trunking capacity. When extra capacity is needed, Sprint enables bursting up to 125% of contracted number of trunks. Customers only pay based on the amount they burst above their trunk capacity.

Exhibit 12	Sprint's Scores vs. Average Scores of All 10 SIP Trunking Providers

Source: IHS   © 2016 IHS
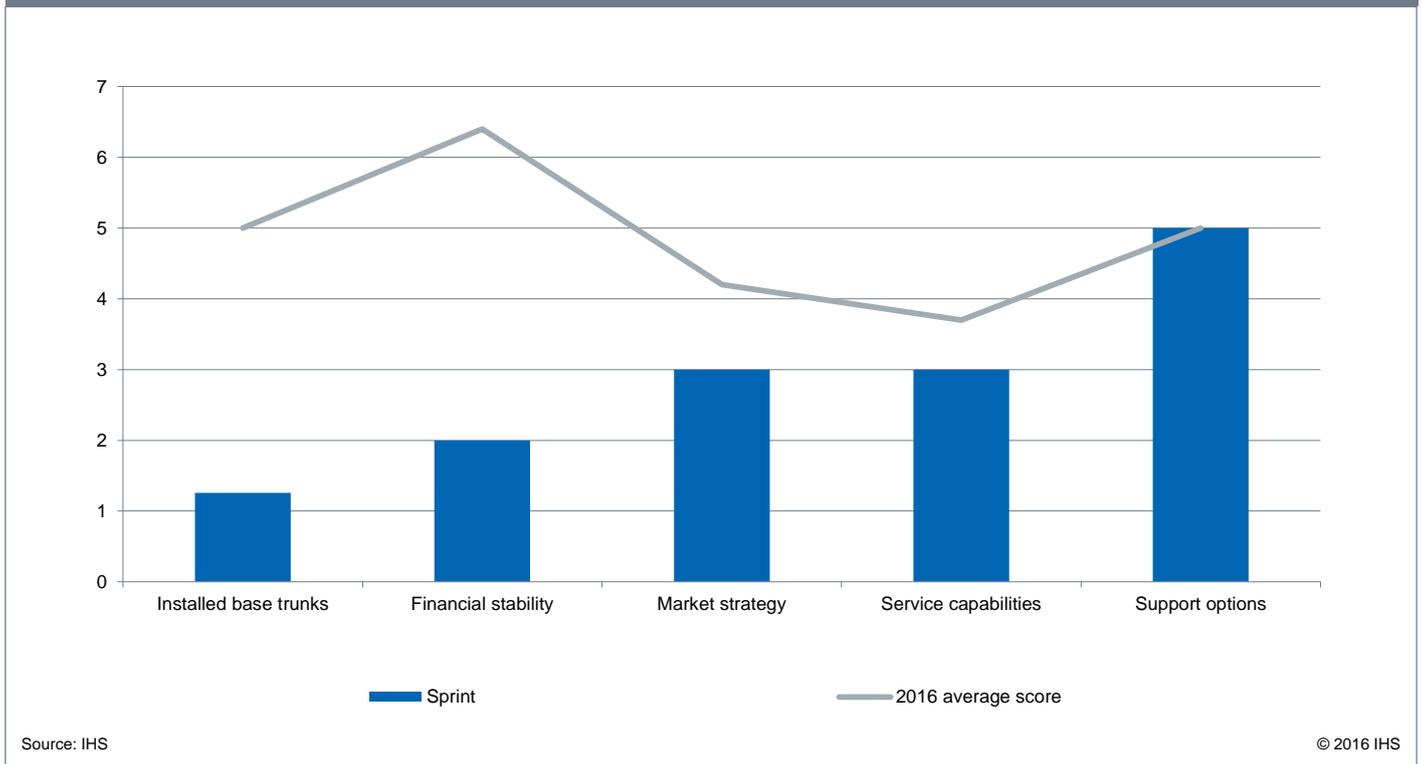
Methodology

The SIP trunking market leadership was based on the following steps:

1. Identified the top service providers by the installed base of business trunks or seats based on actuals provided by operators and Infonetics estimates

2. Calculated each of the service providers' share based on total trunks, which was then converted to points (e.g., 50% = 5 points)

3. Determined four metrics (in addition to installed base) important to leadership and long-term success: financial stability, market strategy, service capabilities, and support options (see the next section for definitions)

4. Rated each provider on a 1–5 scale for the 4 categories, based on Infonetics Research's opinion. See the next section for the specific rating definitions for each metric; the following are general definitions:

   - 5 = leading the market

   - 4 = advancing

   - 3 = moderately positioned

   - 2 = limited position

   - 1 = market laggard

   - 0 = no activity/not applicable

5. Weighted each metric (based on relative importance in determining market leadership): installed base of lines/trunks or seats (5), financial stability (2), market strategy (1), service capabilities (1), and support options (1)

6. Calculated results

Leadership Metric Definitions

The leadership metrics are defined as follows:

Installed base: Determined the top service providers based on number of trunks reported as of the end of calendar year 2015.

> *Measurement:* Share of trunks in relation to the other service providers studied

Financial stability best positions a provider for long-term success (i.e., provides the ability to maintain the business as a standalone entity and to take advantage of investing in new services and infrastructure). Financial stability is also extremely important for business customers that are entering into multi-year contracts.

> *Measurement:* Review for profitability, positive cash flow, and a strong balance sheet with capital to invest in development (or alternatively, fresh capital influx). A market leader (rating of 5) has consistent profitability over the past 2 years, positive cash flow, and access to capital. A moderately positioned (3) service provider demonstrates profitability over the past year and has limited capital. A rating of 1 is for a service provider with debt and financial instability who has had consistent negative earnings over the past 2 years. Private companies are evaluated based on longevity and current funding

Market strategy: While voice services continue to experience downward pricing pressure and competition abounds from other providers and alternative solutions, VoIP providers must have a strong market differentiation for long-term success and commitment to the market. How a service provider executes its market strategy is extremely important and includes channel programs, target market development (e.g., verticals or customer size segmentation), and geographical strategy.

> *Measurement:* First, whether the service provider defined its market strategy (e.g., is it using channels, has it defined its target market and geographic strategy), and second, whether it is executing that strategy (e.g., has interoperability with Avaya PBXs and uses the Avaya channel to sell connectivity, or targets large enterprises and can illustrate success, or focuses on a specific vertical such as auto dealerships and demonstrates success). Providers that have a well-defined market strategy and are executing on that strategy are rated a 5, providers that have defined a market strategy but have not fully executed as described are rated a 3, and those providers with no clear strategy are rated a 1.

Service capabilities: Service differentiation provides the ability to maintain or increase average selling prices. For business connectivity, we look at the degree to which the service provider is adding new interop approved premises equipment, rolling out overlay features/enhanced service capabilities such as bursting, disaster recovery, hosted features, remote worker options, and business application integration.

> *Measurement:* First, determine if service provider is offering enhanced service offerings for business connectivity. If no capabilities exist it would warrant a 0, if there is a roadmap or vision for moving in that direction, then a 1 rating applies. Second, for providers with enhanced solutions, we assess current availability and competitive positioning. A provider with a full suite of enhanced solutions/overlay capabilities (e.g., bursting, hosted features, and Web 2.0 integration offerings for business connectivity) commercially available is rated a 5. A service provider with a limited set of enhanced capabilities commercially available is rated a 3.

Support options: Business customers' top buying criteria include reputation, reliability, and service and support. Comprehensive service and support policies are critical in maintaining customers and reputation of high quality services will position providers in maintaining customers.

> *Measurement:* At a minimum, service providers must offer 24/7 telephone support and a customer self-service portal, which would garner a 3 rating. Lacking either of these options brings rating to 2, and lacking both brings it to a 1. Beyond the 2 core support options, a 5 rating includes options such as online chat support, self-diagnostic tools, and SLAs, and a 4 rating would have 1 or 2 of these additional options.

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