

iPass Inc. (NASDAQ/IPAS)**BUY \$2.00 Price Target: \$3.00**

iPass is a mobile data communications company providing service in over 180 countries utilizing partner wifi networks and its own proprietary security software.

Sept. 4, 2018

Barry M. Sine**Senior Research Analyst****646-422-1333****bsine@dawsonjames.com****iPass Makes Wifi Work, Finally**

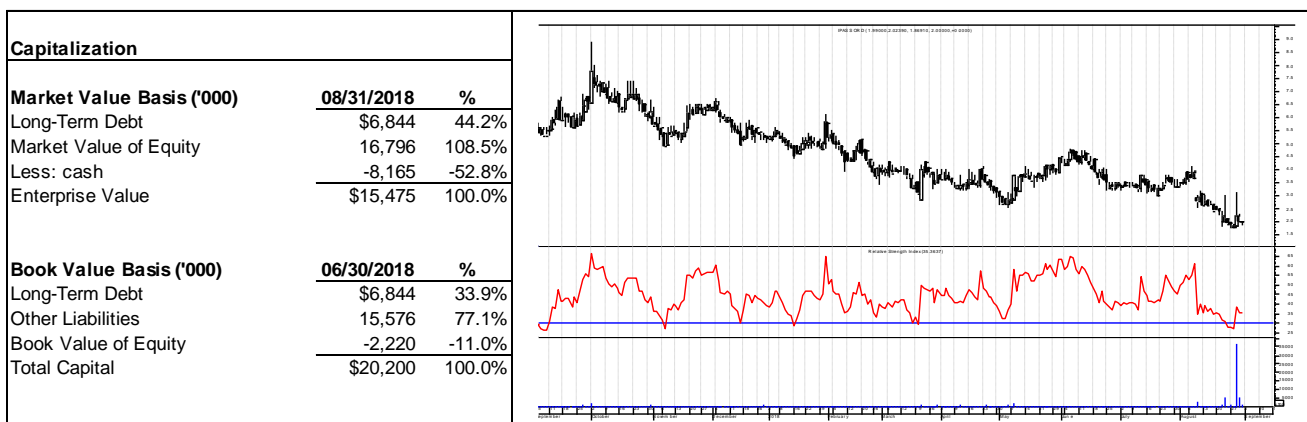
- We initiate coverage of iPass with a Buy rating and a \$3 price target.
- The company offers global wifi services to enterprise and carrier customers utilizing its network of 64 million hotspots with capacity purchased from major carriers globally such as AT&T, British Telecom, China Mobile, Comcast and Deutsche Telekom.
- The secret sauce is the company's SmartConnect software that automatically connects users to its network or free hotspots and block unsafe or poor performing hotspots.
- Bandwidth demand is still growing roughly 100% per year and wifi offers an economical way to serve much of this demand beyond what cellular networks can support even as 5G networks are rolled out.
- Another key advantage of iPass is security. Its users connect to the internet via a secure, practically unhackable VPN connected to iPass' cloud servers and then onto the broader internet. We think this will be increasingly important to CIOs whose companies are now responsible for data breaches.
- New management came on board in 2015 and dramatically revamped the company. Whereas then it was mainly a wifi network reseller, today it is primarily a software company which also offers network connectivity.
- It recently signed one of its largest contracts ever with Pareteum (TEUM - rated Buy by Dawson James Securities Senior Research Analyst Robert Wasserman) for software only and received a \$20 million capital infusion based on the value of its intellectual property by one of the most intellectual property savvy investment funds globally. This investment values the intellectual property at \$40 to \$60 mm, whereas the market cap is just \$20 million.
- We value IPAS shares at 8.1x our 2020 EBITDA estimate, less than of comps, but expect it to go higher as it begins making progress.
- iPass has had a difficult recent history with declining revenue and negative EBITDA hurting the stock price and leading to a delisting threat. It must achieve a share price of \$4.17 by March 2019 to avoid delisting (assuming an extension is applied for and granted, and no new shares issued).



iPass Inc.
 3800 Bridge Parkway
 Redwood Shores, CA 94065
 +1.650.232.4100
<http://www.ipass.com>

| | | | | | | |
|-------------------------|---------|--|-----------------|-----------------|-----------------|---------------|
| Rating | Buy | Earnings Per Share | | | | |
| Target Price | \$3.00 | Normalized to exclude unusual items | | | | |
| Ticker Symbol | IPAS | FYE - March | 2017 | 2018E | 2019E | 2020E |
| Market | NASDAQ | 1Q - June | (\$0.66) | (\$0.57) A | (\$0.24) | \$0.01 |
| Stock Price | \$2.00 | 2Q - September | (\$0.80) | (\$0.61) A | (\$0.17) | \$0.06 |
| 52 wk High | \$8.87 | 3Q - December | (\$1.01) | (\$0.30) | (\$0.09) | \$0.08 |
| 52 wk Low | \$1.76 | 4Q - March | (\$0.64) | (\$0.29) | (\$0.03) | \$0.09 |
| Shares Outstanding: | 8.4 M | Year | (\$3.11) | (\$1.77) | (\$0.53) | \$0.24 |
| Public Market Float: | 7.9 M | Revenue (\$mm) | \$54.4 | \$47.7 | \$56.3 | \$66.4 |
| Avg. Daily Volume | 117,603 | EV/Rev | 0.3X | 0.3X | 0.3X | 0.2X |
| Market Capitalization: | \$17 M | EBITDA (\$mm) | (\$16.5) | (\$9.7) | (\$0.3) | \$5.4 |
| Institutional Holdings: | 27.7% | EV/EBITDA | NM | NM | NM | 2.8X |
| Dividend Yield: | 0.0% | | | | | |

| Senior Executives | | Common Ownership Profile | | |
|--------------------------|--------------------------|-------------------------------------|----------------------|-------------------|
| | | Shareholder | Shares ('000) | % of Total |
| Gary A. Griffiths | Chief Executive Officer | C. Silk & Sons, Inc. | 645.0 | 7.7% |
| Patricia R. Hume | Chief Commercial Officer | Renaissance Technologies LLC | 355.4 | 4.2% |
| Darin Vickery | Chief Financial Officer | AMH Equity Ltd. | 295.0 | 3.5% |
| Blaz Vavpetic | Chief Technical Officer | The Vanguard Group, Inc. | 203.6 | 2.4% |
| | | Pratt Collard Advisory Partners LLC | 179.0 | 2.1% |
| | | Directors and Officers | 642.4 | 7.6% |



Source: Company reports, Metastock and Dawson James estimates.

Wifi Finally Works!

We initiate coverage of iPass with a \$3 price target and a Buy rating. iPass provides wifi internet access services globally to enterprise and wholesale customers using a network of 64 million hotspots owned by internet providers around the world. This is clearly a riskier turnaround story as the company just effected a 1 for 10 reverse stock split to avoid a delisting and still must achieve a \$35 mm market cap within six months, up from \$20 mm presently. Revenue has been declining and the company is unprofitable. But it just secured a major capital infusion based on its intellectual property from one of the most IP-savvy investment funds in the world which values the intellectual property alone at as much as three times the current market cap, and two major new contracts. Additionally, we think macro trends such as demand for security and surging bandwidth demand will allow the company to grow its customer base and revenue and return to profitability. Our \$3 price target is based on a multiple of 8.1x our 2020 EBITDA estimate whereas comps presently trade at 20.0x trailing EBITDA.

If There's Wifi, Chances Are Its Part of the iPass Network

iPass at a Glance

64 mm wifi hotspots globally

180 countries

85,000 hotels and convention centers

800 trains

3,000 planes

95 of the 100 busiest airports



Hotel Partners

Crowne Plaza
Hilton
Hyatt
Marriott
Sheraton Radisson

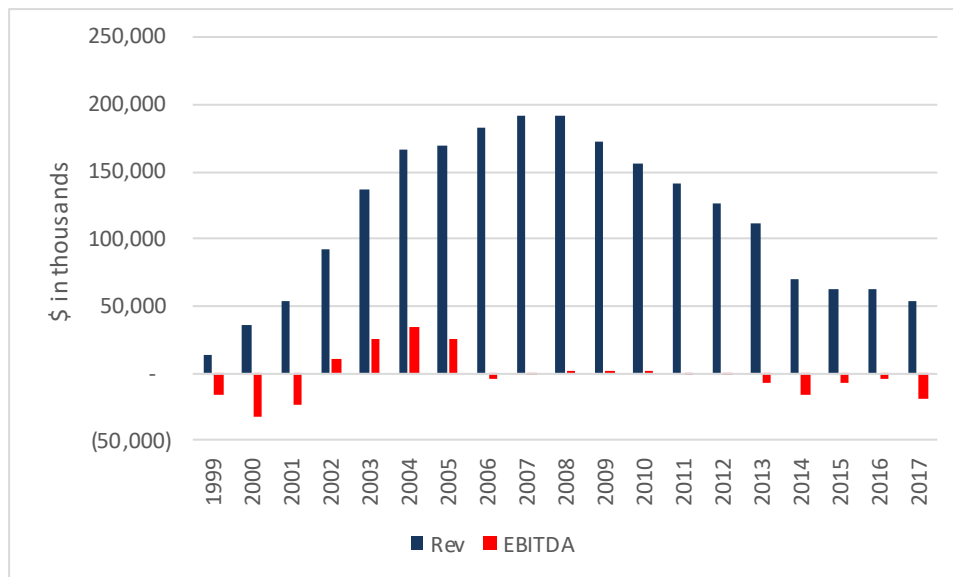
Networks

| | | | |
|---|--------------------------------|--------------------|----------------|
|  | at&t Your world. Delivered. | AT&T | USA |
|  | Boingo | Boingo | USA |
|  | British Telecom | British Telecom | UK |
|  | Charter | Charter | USA |
|  | China Mobile | China Mobile | China |
|  | China Telecom | China Telecom | China |
|  | Comcast | Comcast | USA |
|  | fon | fon | UK |
|  | G Connect | G Connect | UK |
|  | Gogo | Gogo | USA |
|  | GuestTek | GuestTek | Canada |
|  | HoistGroup | HoistGroup | Sweden |
| | LG | LG | South Korea |
| | Liquid Telecom | Liquid Telecom | Africa |
| | NTT Docomo | NTT Docomo | Japan |
| | Orange | Orange | Europe |
| | Panasonic Avionics | Panasonic Avionics | Japan |
| | SingleDigits | SingleDigits | USA |
| | SK Telecom | SK Telecom | South Korea |
| | SwissCom | SwissCom | Switzerland |
| | The Cloud Network | The Cloud Network | UK |
| | T-Mobile | T-Mobile | USA and Europe |
| | TTNet | TTNet | Turkey |
| | United Group | United Group | Balkans |

Source: Company reports and Dawson James estimates

iPass was founded during the height of the first internet bubble in January 1996 by Chris Moore and Karen Chakmakian. It completed its IPO in July 2003 at \$14 per share (\$140 pre-reverse split) raising \$98 mm. The company survived the internet crash and revenue peaked at \$192 million in 2007 while EBITDA had peaked several years prior with \$33.8 mm in 2004. From inception through last year, the company has generated a collective EBITDA loss of \$34.8 mm. 2014 and 2015 were difficult years with angry shareholders prompting a strategic review prompting the ouster of the CEO who had been in place for the prior six years and the installation of current CEO Gary Griffiths from the board and chief commercial officer Patricia Hume, both of whom are still in place.

In 22 Years, iPass Has Never Achieved Sustainable Success



Source: Company reports and Dawson James estimates

Salvation seemed at hand in 2015 when Microsoft signed a deal to sell wifi service to its customers using iPass’ network. Salvation was short-lived, however, and Microsoft pulled the plug last December shortly after killing its own cell phone and mobile operating system business. Another negative event occurred in early 2017 when AT&T and Verizon joined T-Mobile and Sprint in offering unlimited data plans. iPass is still recovering from this, and as we discuss in this report we do not think that unlimited, or upcoming 5G networks for that matter, will be the death knell of wifi and iPass.

iPass is both a technology (software) company and network company, although it leases all network access from other providers. By purchasing data capacity in bulk, iPass offers its customers access to over 64 million hotspots globally in 180 countries. By contrast, cable industry leader Comcast boasts 18 million and Boingo has 1 million, both of which are included in iPass’ service. iPass’ network includes the hotspots of major telecom carriers globally from AT&T to China Telecom and most major hotel brands from Hilton to Hyatt. Its hotel coverage includes 85,000 hotels and convention centers. It also includes inflight wifi on over 3,000 aircraft with wifi in 95 of the 100 busiest airports globally. On the ground, it includes wifi on over 800 trains. In addition to paying owners of wifi hotspots for access to their networks, iPass maintains a database of safe and reliable open, free hotspots that it connects users to.

But the network without overriding intelligence is not worth much and this is where the company's SmartConnect software and database comes in. SmartConnect technology performs five functions, the most important of which is, in our view, security.

1. First it identifies the best hotspots. As noted, iPass' network includes over 64 million hotspots but its database has information of over 350 mm as its customers' devices log and report this data back to iPass. This database knows what versions of wifi standards each hotspot supports and what types of speeds it offers. So, it ignores the bad hotspots and only connects to quality, secure connects ensuring a secure, strong connection seamlessly.
2. SmartConnect then automatically connects to the best hotspots without the user having to enter passwords or select the hotspot. It just works.
3. SmartConnect is constantly adding new hotspots, including free, open hotspots such as, for example, if a local coffee shop offers free wifi to its customers.
4. Reduces costs. By effectively routing traffic over the best, and most economic connection, SmartConnect reduces costs. This is not important for enterprise customers who also purchase connectivity, but very important for customers who only purchase SmartConnect and for strategic customers such as MVNOs who are charging their customers on a flat rate, and so need to carefully watch costs.
5. Security is the most important. Most wifi connections are open and hackers can use radio signals to intercept wifi communications. SmartConnect encrypts the data and uses a VPN to connect directly to iPass network servers, which then pass the data from websites to the user. So, the customer device is only communicating encrypted data via VPN, while the actual connection is from websites to an iPass server in the cloud.

iPass' database is populated by a related software tool called Veri-fi (get it, kind of a combination between the words verify and wifi). According to the 2017 press release introducing Veri-Fi it "collects more than 150 network-related parameters, including device location and operating system, as well as hotspot names, locations, venue types and network performance." So in other words, it knows what make and model of phone or other device was used, what software it was operating including apps, where the hotspot was, what kind of location was it and how well did the hotspot work. This enables iPass to offer customers three distinct services:

1. Network providers can see how well their customers are connecting to wifi and how often they use wifi versus cellular.
2. Network operators get this data on a real-time basis and can use it to manage networks. This can be used for network repairs or upgrades or to adjust capacity to respond to major crowd events or disaster related usage. Operators can also see what devices are being used, for how long, where they came from and where they go next, which could be helpful in network management as well as advertising.
3. Veri-Fi is also very valuable to the rapidly growing mobile ad industry. Mobile advertising companies like SITO gain their data from agreements with apps makers, but iPass can provide much deeper data. For example, instead of just knowing the longitude and latitude of a wifi hotspot in a mall, it knows what floor it is on, what store it's in and who owns it.

SmartConnect also solves a problem we have noticed in our own usage. This analyst uses T-Mobile for cell phone service and subscribes to Charter's Spectrum-branded

residential internet service. Spectrum operates over 250,000 wifi hotspots around the U.S. and also provides its customers with access to wifi networks from some other cable companies including Comcast and Altice USA. The Spectrum app automatically detects the presence of one of these hotspots and logs customers on using the app automatically. But if iPass' service is called SmartConnect, we would refer to Charter's as dumb connect, in our experience. Comcast and other cable companies which do not use iPass have the same problem. The issue is that a hotspot will become visible and connectable to a device whether the connection is strong enough or not to allow internet access. So, what happens is if for example one is travelling Manhattan in an Uber, the device is constantly connecting to Spectrum hotspots. But frequently websites cannot be accessed from the web browser because the signal is too weak. So, the user has no internet connectivity even though there is a great cellular network with fast speeds available. The solution is to turn off wifi and use cellular data, defeating the value of having so many wifi hotspots available. Admittedly this is more of an issue for mobile usage, but it also becomes an issue for stationary usage if the nearest hotspot is not within a very short distance. When the user is very close to a hotspot, such as in a small coffee shop with a hotspot, this service works great. But by then, wifi has been turned off on the device.

We discussed this issue with CCO Patricia Hume and she was well familiar with it. She explained in detail to us how SmartConnect prevents this from happening. The software knows the strength and coverage limits of pretty much any hotspot before a user connects to it. If the user is mobile, and the hotspot is not, as we experience, SmartConnect will not connect even if the hotspot signal is strong with a safe, high bandwidth connection to the internet. If the hotspot is mobile, say on a passing bus or train, and the user is not, it will not connect. If both the device and hotspot are mobile and travelling together, again on a bus or train, and the hotspot provides a known quality connection, it will connect. We think this intelligence is particularly important for the many companies, like Comcast and Charter, that now offer their own wireless service hoping to rely mainly on their own hotspots but allowing their customers to connect to cellular, in this case Verizon Wireless, when needed but incurring high data costs for the service provider.

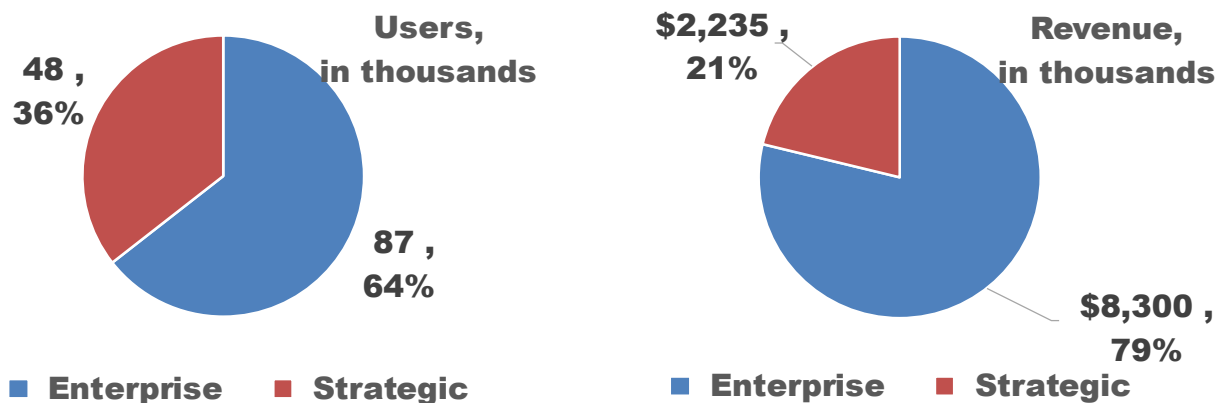
The value of SmartConnect and Veri-Fi was just ratified with a \$20 mm investment by Fortress Investments on June 14. The investment takes the form of loans up to \$20 mm with an interest rate currently at roughly 13%, or 11% plus the 30-day prime rate. Fortress also received warrants to buy 278,493 shares at \$3.022 per share. A rough rule of thumb for such investments is that they are made at two to three times the estimated value of the intellectual property. This implies a \$40 mm to \$60 mm valuation whereas the market cap for the whole company is just \$16 mm. Fortress is one of the largest investors in technology intellectual property and is respected as one of the most knowledge IP investment firms in the world. So we view their investment as a ratification of iPass' technology.

iPass Services Major Enterprise Customers and Sells to Other Providers on a White Label Basis

iPass serves both enterprise and strategic customers but does not sell directly to consumers. It will sell wifi service bundled with SmartConnect or just its software or data alone, but to date, nearly all revenue has come from data usage contracts. In the just completed second quarter, enterprise was 64% of users and 79% of revenue. However, as shown in the chart below, enterprise revenue and subscribers have been declining due to the impact of unlimited cellular. In the days where cellular data was expensive, and additional usage increased costs, CIOs relied on iPass as a way to manage costs. With

unlimited data, they believed they could save the cost of paying iPass, while their users still had access to as much data as they needed.

Most Users and Revenue Are Enterprise Customers



Source: Company reports and Dawson James estimates

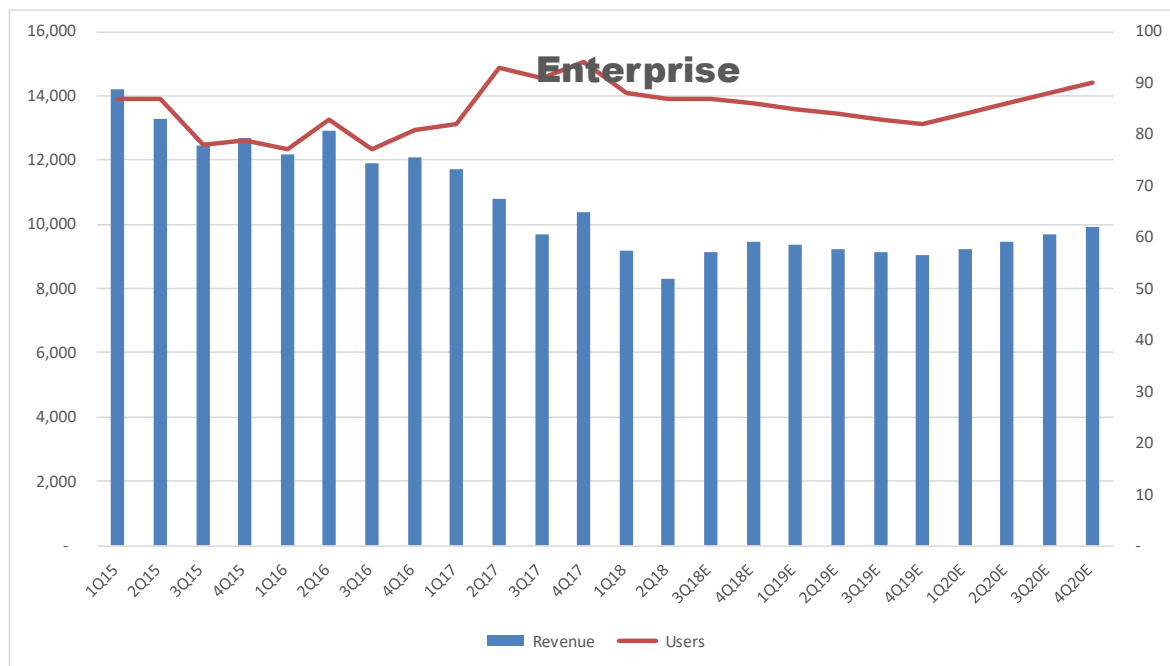
As any cellular customer knows, the reality of so-called unlimited data plans is very different. As firefighters fighting wildfires in California using Verizon data plans recently found out the hard way, wireless carriers will throttle back data speeds to unusable levels just when data usage is mission critical and heaviest. Further, despite the claims of remarkable data speeds and ubiquitous coverage, cellular data is still slow and non-existent in many places. For example, try using wireless data at an airport where cellular carriers have trouble getting permission to place cell sites. When a good wifi hotspot is available, such as in a hotel room or restaurant, it typically greatly exceeds cellular data speeds. So despite the CIOs’ best intentions, road warriors needing fast high speed data access are again turning to wifi, only this time on their own. What is happening is that they are then subject to sometimes dangerous open wifi networks and in many cases outright fraudulent hotspots designed solely to steal their data and/or passwords. This is happening just as data security requirements for major enterprises is increasing with recent legislation imposing massive fines for data breaches. Even worse, the reputational hits to companies like Equifax who expose millions of highly sensitive customer records to hackers through negligence is enormous. Despite the best efforts of CIOs, a careless employee who for example uses a rogue hotspot, can expose company secrets or customer data to hackers or even open access to the company’s network.

CIOs are typically far behind their own users in understanding requirements and how technology actually works in practice. But they do catch up eventually. iPass is having multiple discussions with dozens of major enterprise customers about the trends we discussed. By signing with iPass, their users will have secure invisible access to the best, safe hotspots globally, but will not be able to connect to weak or unsafe hotspots. iPass’ technology utilizes an iPass VPN to connect to iPass servers at data centers through encrypted connections. So even a hacker monitoring their connection will only be able to collect encrypted, unintelligible data. The connection back to corporate servers or the rest of the internet is made from secure iPass servers, not the end user device.

iPass seldom announces named customer wins, but management does drop quite a few names during the course of their quarterly earnings calls. In the 1Q 2017 earnings call, management noted that 91% of backlog, or what they call ACV was enterprise indicating

good sales traction, as we would expect. Since the start of last year the company has called out Airbnb, XPO Logistics, AT Kearney and Aetna as enterprise customers. Aetna was notable as they signed a contract for all their employees, not just their road warriors.

Unlimited Cellular Hurt Enterprise, But We Expect a Rebound



Source: Company reports and Dawson James estimates

The other segment is strategic which was 36% of users and 21% of revenue in the most recent quarter. This segment is mainly larger telecom carriers who include iPass in their wireless or fixed internet offerings under a white label basis. One example is large wireless carriers such as AT&T which include iPass to give their customers additional data options especially when they are travelling globally. Third world carriers such as Egypt’s Ooredoo and India’s Tata are also major customers as data networks in their regions may not be as reliable as in developed countries.

In our opinion, a more important and up and coming market are so-called MVNOs or mobile virtual network operators. They range from Republic Wireless, which is an iPass customer, to Comcast, which is not presently. Some are standalone wireless providers using the ubiquity of wifi to offer wireless service to their customers at rates below those of the big four network-based carriers. Others, like Comcast, are telecom providers who have not offered wireless services, or incurred the massive costs to build a wireless network, but now believe that they need to offer wireless in their quad play bundle to remain competitive.

The benefits for traditional wireless carriers are twofold: first offloading data from their own networks and managing usage to be able to provide a good customer experience and minimize their own capital spending. And second, to provide their customers with access to data usage in areas outside their own markets, particularly abroad.

Comcast is the largest cable provider in the U.S. and brands its cable internet and video offerings under the Xfinity brand. Last year, it began including wireless services for Xfinity customers as part of its bundle, but not on a standalone basis. Charter has also

begun offering wireless under its Spectrum brand. Both wireless carriers operate under an old MVNO agreement with Verizon Wireless. The problem with this agreement is that it was signed in an era when data was measured and priced in megabits, while usage today is in gigabits and typically offered on an unlimited basis. So Charter and Comcast, and other similar MVNOs are stuck paying by the megabit, while their customers consume unlimited gigabits of data. Their solution is to rely heavily on their own wifi networks and those of other cable companies. When it introduced its wireless offering to investors, Comcast noted that about 70% of wireless usage is at locations such as home or work, where wifi exists, and that average usage is only seven gigabits per second. If this held, we believe that their service would be profitable. However, as noted in our experience, without a service like iPass' patented SmartConnect, users often are connected to unusable wifi hotspots and must turn wifi off to access the internet via cellular. However, one needs to later turn wifi back on, and if our experience is any indication, this does not occur until the user enters an area with weak cellular coverage. So, we, and presumably other users, wind up using cellular data at home, not wifi. The other assumption, of an average of seven gigabits of data usage per month is dated as usage is increasing by roughly 100% annually due to mobile viewing of video with this trend intensifying. iPass would go a long way to solving these issues as SmartConnect ensures that users only connect to wifi when it works and gives users access to a much larger number of wifi hotspots than just those of a handful of cable companies. For example, in Miami Beach, the cable company is Atlantic Broadband, and their wifi hotspots are not included in the Charter and Comcast network. So when Comcast customers travel from neighboring Miami or from colder climates such as New York, they connect to the Verizon network.

Strategic Customer Growth Should Increase with the Rise of MVNOs and IOT



Source: Company reports and Dawson James estimates

Beyond current wireless carriers and MVNOs, we also see IoT as a major opportunity. IoT stands for the internet of things and will comprise billions of devices from cars to vending machines to drones to aircraft engines all with a demand for access to data networks. Cellular can and will provide much of this connectivity, but in the large number of locations where wifi is available, we believe it offers better and cheaper

connectivity. For example, we would guess that most Coke machines are in areas with wifi connectivity. However, it would be prohibitively expensive for Coke's IT department to figure out which have safe, reliable wifi available, and to sign contracts with all these network owners. iPass has already done this. So, Coke could sign a deal with iPass and embed SmartConnect in all their Coke machines. Similarly, GE is looking to monitor thousands of datapoints from its aircraft engines every second on a real time basis. It could sign deals to access multiple wireless networks or even better, it could sign a deal with iPass to embed SmartConnect in its engines and use the onboard wifi on the over 3,000 aircraft where iPass currently has agreements. It's hard to predict where technology will go next, but we think it's a safe prediction that IoT will require lots of secure wireless connectivity. For devices like Coke machines or drones, the price of wireless connectivity will be an issue and wifi is the lowest cost option available.

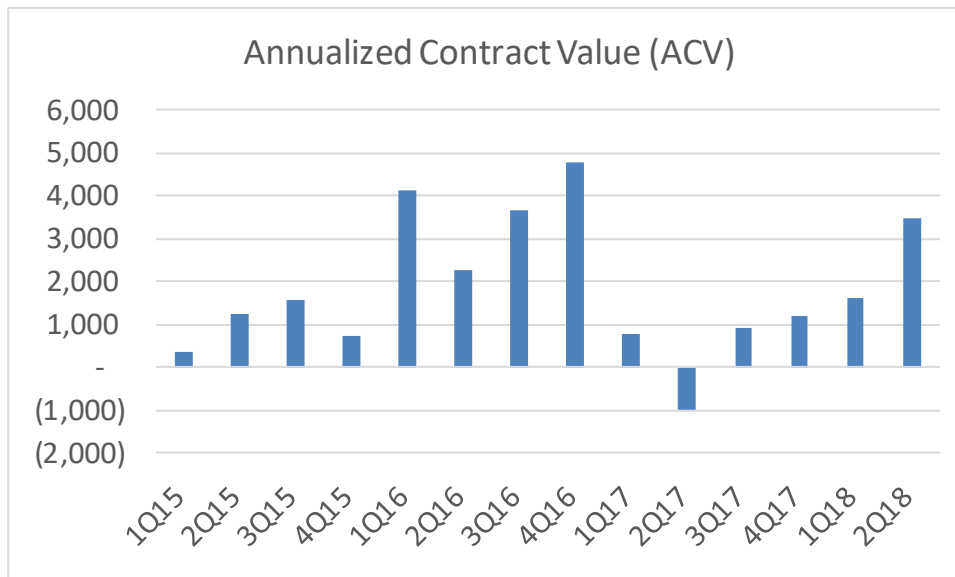
iPass Serves a Number of Major Customers Around the World

| Company | Ticker | Revenue \$ millions | Market Cap. \$ millions | | Company | Ticker | Revenue \$ millions | Market Cap. \$ millions | |
|-----------------------------|----------|------------------------|----------------------------|-------------|-------------------|------------|------------------------|----------------------------|-----------|
| Vivo | VIVT4-BR | 13,533 | 16,410 | Brazil | Hewlett Packard | HPE-US | 28,939 | 25,298 | USA |
| TravelSIM | private | | | Estonia | Tech Data | TECD-US | 36,775 | 3,392 | USA |
| United Group | Private | | | Netherlands | Telstra | TLS-AU | 19,888 | 28,222 | Australia |
| Bezeq | BEZQ-IL | 2,721 | 3,417 | Israel | Ooredoo | OOREDOO-KW | 2,299 | 1,328 | Kuwait |
| Etisala Data Clearing House | private | | | Dubai | Diners Club | DFS-US | 11,547 | 27,091 | USA |
| TATA | private | | | India | Lycamobile | private | | | UK |
| BSNL | private | | | India | Republic Wireless | private | | | USA |
| SITA | private | | | Switzerland | Uber | private | | | USA |
| Telrite | private | | | USA | Hitachi | 6501-JP | 84,530 | 31,705 | Japan |
| Deutsche Telekom | DTE-DE | 84,535 | 78,796 | Germany | Life Wireless | private | | | USA |
| XPO Logistics | XPO-US | 15,381 | 13,625 | USA | AT&T | T-US | 160,546 | 238,411 | USA |
| AirBNB | private | | | USA | Parateum | TEUM-US | 14 | 154 | USA |
| AT Kearney | private | | | USA | Freenet | FNTN-DE | 3,956 | 3,547 | Germany |
| Aetna | AET-US | 60,543 | 64,733 | USA | | | | | |

Source: Company reports and Dawson James estimates

In our opinion, the best forward-looking data point iPass provides is ACV or annualized contract value which is “defined as the annualized sales value under committed contract for newly acquired or significant upsell customers”. The graph below shows ACV over the last three years. This number is reported on a net basis, so on the occasions when the company experienced significant cancellations, it can go negative. ACV was on the upswing all through 2015 and 2016 based largely on the trends we have discussed. However, when the time came to install some customers, iPass' own IT teams were not up to the job of integrating with customers' own internal networks. Thus, cancellations occurred which were in some cases sizable. The company has turned over some customer relationships to Trend Micro, which has the resources to service and on board the customers it is taking on board. After this 2Q17 setback, ACV has again trended higher.

With Pareteum, ACV Surged in 2Q - Another Jump Expected on Bank Win in 3Q



Source: Company reports and Dawson James estimates

The surge in 2Q18 ACV is another matter and represents a major success in iPass management’s efforts to become more of a SaaS company and less of a wifi reseller. The new customer is well known to Dawson James clients as it is covered by Senior Research Analyst Robert Wasserman and is known as Pareteum. Pareteum is a mobile cloud services operator headquartered in New York and operating in Europe and other regions. Pareteum signed a \$3 mm software licensing contract with iPass in 2Q with just \$850k recognized in that quarter. The deal is notable for two reasons. First, the remaining \$2.15 mm in revenue was booked as deferred revenue and should be recognized over the next two quarters, meaning 8% of our forecasted revenue for the rest of this year is now booked. Second, and more importantly, this is solely a software licensing deal so there are almost no further expenses associated with it. Unlike wifi service clients, iPass does not need to secure wifi network access from network owners. For Pareteum, its SmartConnect software will manage connections to wifi networks where Pareteum has a relationship with the owner or to open networks that are free to all. This type of software licensing deal is something that iPass has talked about for a long time and has striven to reach. It is also, hopefully, a sign of things to come. And, we believe that this deal validated the commercial value of iPass’ intellectual property for Fortress.

Just last week, the company announced that it has won a contract for a major U.S. bank and a major Latin American airline. Presumably iPass did not have permission to disclose the name of the bank so it could range anywhere from #100 Independent Bank Group with 924 employees to J.P. Morgan with 243,000 employees. The press release did reveal that the contract is for both the company’s software, as well as access to its global wifi network. Management had expected to win two to four major new contracts to hold revenue constant with last year. Its not clear whether this counts as one of those major wins or not.

The identity of the airline was not disclosed either. The good news is that it too is for both connection management and actual network connectivity to iPass’ network of 64 million hotspots. The bad news is that it is only for the airline’s pilots, not their entire

workforce. Again the description of the customer could refer to a major new customer such as regional giant LATAM Group, or a much smaller company such as Boliviana.

iPass' expenses fall into three categories: NAC or network access costs, SG&A and R&D. Network access costs are the costs iPass pays to wifi hotspots owners to access their networks. They typically pay for data on a per gigabyte or terabyte basis predicting demand from their customer base in advance and committing to a fixed amount of capacity. In 2Q, they paid \$6.3 mm for 75 terabytes of data. They also incurred another \$1.4 mm in internal network management costs for a total of \$7.7 mm. We note that network costs are coming down dramatically and that iPass is managing its purchases more strategically. It does need to over-purchase data since it cannot afford the customer experience of having a customer not have access to a network. iPass also purchases data from over 100 network providers so it must predict how much data to buy from each.

The second expense category is SG&A which was \$5.1 mm in the second quarter. iPass does break this out between sales and marketing at \$2.6 mm or 19.4% of revenue and G&A and \$2.5 mm or 18.9% of revenue. The sales organization is composed of 45 employees across North America, Europe and EMEA and we do not expect this expense should decline in absolute terms as we believe the company has a saleable product in a strong environment. It should, however, fall relative to sales as more sales are software licensing.

Lastly, the company spent \$8.0 mm in R&D last year, or 14.6% of revenue, with 18 employees in the U.S and the bulk, 42, in India. We think its notable that a company experiencing cash flow issues and having to raise expensive debt and equity capital would continue to spend such a high proportion of revenue on future-oriented R&D. Our takeaway is that management is showing more confidence in the future than the market seems to be, and the company has an intellectual property base worth building on.

If we put all this together, we forecast a slow rebound in revenue starting in the next few quarters with margins expanding. The Pareteum deal will offer a boost to revenue, and an even bigger boost to margins. Management expects to book two to four more similar contracts this year, building momentum towards 2019. We forecast revenue of \$47.7 mm in 2018, growing to \$56.3 mm in 2019 and \$66.4 mm in 2020. Management has said it expects revenue to rebound to 2017 levels or \$54.4 mm, but again this will require inking at least a couple of large deals, in our opinion.

There are several tailwinds to margins. First, management is aggressively managing network costs. Per byte costs are already declining having fallen an average of two-thirds over the last three years and we expect this trend to continue. The company will not need to purchase data access at all for software licensing deals. Second, the company has outsourced some customer management to Trend Micro, allowing it to cut its in-house customer service costs with the cuts presumably greater than what it will pay Trend Micro. And third, management is slashing costs to the bone. It recently ended its contract with its external investor relationships provider who, in our experience, had done a good job. As we note below in our section on management, the compensation plans of the senior executives are well below what we have seen at similarly sized companies and below what we think they could make elsewhere, given their experience.

Management Working for Peanuts to Turn iPass Around

One thing that really stuck us as we assembled the data on management was the low salaries of management with the CEO and CCO only bringing in around \$280,000 all in last year. We know that management has been travelling the globe meeting with partners

and prospective clients, as the company has faced delisting and perhaps even insolvency before the recent investment. The CEO is a Naval Academy grad and cut his teeth at IBM before getting bitten by the entrepreneurial bug. We think he could command at least four or five times his salary elsewhere. He does own 4.2% of the company which is today worth \$630k and holds options on nearly 3 million shares, but his average strike price is below our target. So, either he knows something we don't, or he is a glutton for punishment. CCO Patricia Hume is even more of a road warrior and is a very passionate salesperson for the company's unique technology. She owns just 1.7% of the company. CFO Darin Vickery owns another 1.4%.

Delisting – The Grim Reaper is at the Door

A major potential risk factor investors should not ignore is the potential for a delisting from the current listing on the NASDAQ Capital Market to the Pink Sheets. The company already recently moved from the NASDAQ Global Market to the Capital Market due to the latter's less stringent listing requirements. The company needs to achieve two goals to avoid delisting: a stock price above \$1.00 and a market cap above \$35 mm. The stock price issue was resolved with the reverse one-for-ten reverse split taking the stock to a comfortable \$1.83 per share, versus less than thirty cents a week ago. Meeting the market cap requirement would mean over a 127% increase in the share price, but the company has time to get there. The company can request a second and final 180-day extension on or before September 17, and these are typically granted. This would give the company until next March to hit the market cap goal. Between now and then the company should report both third and fourth quarter results. Management has said it expects to close between two and four more major customers, along the lines of the recent Pareteum win, based on the funnel in its pipeline. They also expect to stabilize revenue at or above 2017 levels of \$54.4 mm and return to operating profitability by the end of this year. Strategic deals like Pareteum that only involve licensing should be a major driver as they do not require network expenses.

We Value IPAS at \$3 Per Share – Which Would Still be a 50% Discount to Comps

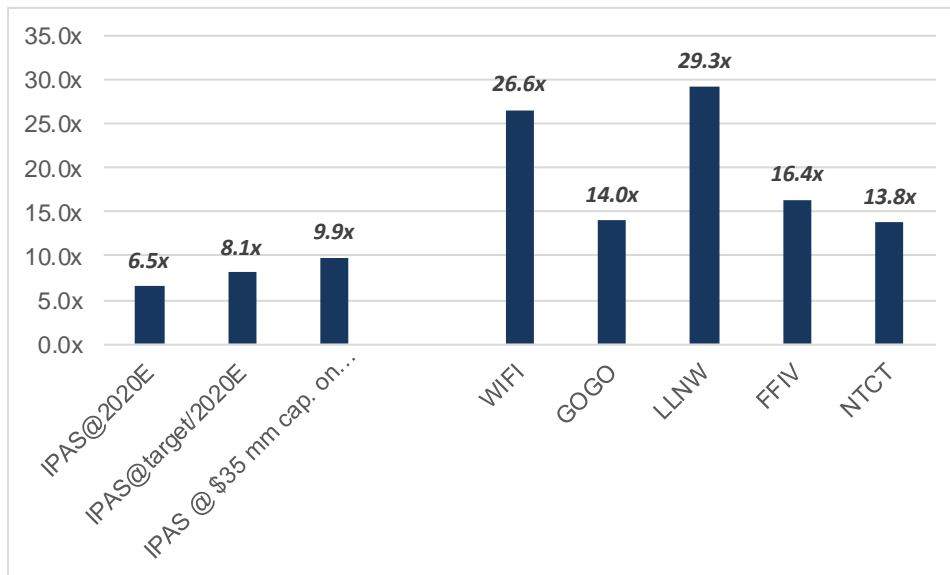
The chart and table below outline the current multiple of five IPAS comps, and multiples for IPAS under three scenarios. The first two comps, Boingo and Gogo are obvious as they are wifi service providers. However, neither offers the advanced software that iPass does. Limelight is a content delivery network or CDN, essentially a smaller version of industry dominant provider Akamai. Limelight's service is a mix of network assets (servers) and intelligent software, so it is an indirect comp. F5 and NetScout are more software providers. So, while none is a direct comp, together the five provide an indirect synthetic comparable version of iPass. One key difference is that these companies are profitable and do not suffer from the delisting risk that IPAS does. However, when, and if, iPass hits our estimated revenue and EBITDA levels, it would be profitable and in less danger of delisting.

Our five comps trade at an average of 20.0x trailing EBITDA with a range of 26.6x for Boingo and 14.0x for Gogo. iPass presently has negative EBITDA so this metric is not relevant for it. If we value IPAS on our 2020 EBITDA estimate of \$5.4 mm, it would be valued at 6.5x. At our \$3.00 target, 8.1x. To get to the minimum market cap for delisting the stock would need to trade at \$4.17 or 9.9x. All of these are well below the average of comps and even the lowest multiple comps presently trade at, so we view our target, and

the stretch goal of hitting the required \$35 mm in market cap without raising dilutive equity, as achievable.

At Our \$3 Target, IPAS Would Still Trade at More Than a 50% Discount to Comps

| Company Name | Fiscal Period | Price | Shares Outstanding | Market Value | Enterprise Value | Sales | EBIT | EBITDA | Enterprise Value/Sales | Enterprise Value/EBIT | Enterprise Value/EBITDA |
|------------------------------|---------------|----------|--------------------|--------------|------------------|---------|--------|--------|------------------------|-----------------------|-------------------------|
| iPass | 06/30/2018 | \$2.00 | 8.4 | 16.8 | 15.5 | 48.6 | (19.3) | (18.2) | 0.3x | - | - |
| IPAS @ 2020E | 12/31/2020 | \$2.00 | 8.4 | 16.8 | 35.5 | 66.4 | 0.1 | 5.4 | 0.5x | 433.6x | 6.5x |
| IPAS @ target on 2020E | 1/1/2021 | \$3.00 | 8.4 | 25.2 | 43.9 | 66.4 | 0.1 | 5.4 | 0.7x | 536.3x | 8.1x |
| IPAS @ \$35 mm cap. on 2020E | 1/2/2021 | \$4.17 | 8.4 | 35.0 | 53.7 | 66.4 | 0.1 | 5.4 | 0.8x | 656.1x | 9.9x |
| Boingo Wireless, Inc. | 06/30/2018 | \$33.08 | 42.3 | 1,398.5 | 1,401.9 | 204.4 | (19.8) | 52.8 | 6.9x | - | 26.6x |
| Gogo Inc. | 06/30/2018 | \$4.49 | 87.4 | 392.2 | 1,141.1 | 699.1 | (64.3) | 81.2 | 1.6x | - | 14.0x |
| Limelight Networks, Inc. | 06/30/2018 | \$5.07 | 112.6 | 571.1 | 525.5 | 184.4 | (2.6) | 18.0 | 2.9x | - | 29.3x |
| F5 Networks, Inc. | 06/30/2018 | \$189.12 | 60.8 | 11,501.9 | 10,417.4 | 2,090.0 | 577.1 | 634.0 | 5.0x | 18.1x | 16.4x |
| NetScout Systems, Inc. | 06/30/2018 | \$25.00 | 80.5 | 2,013.4 | 2,153.4 | 986.8 | 2.3 | 155.8 | 2.2x | 937.9x | 13.8x |
| Average | | | | | | | | | 3.7x | 478.0x | 20.0x |

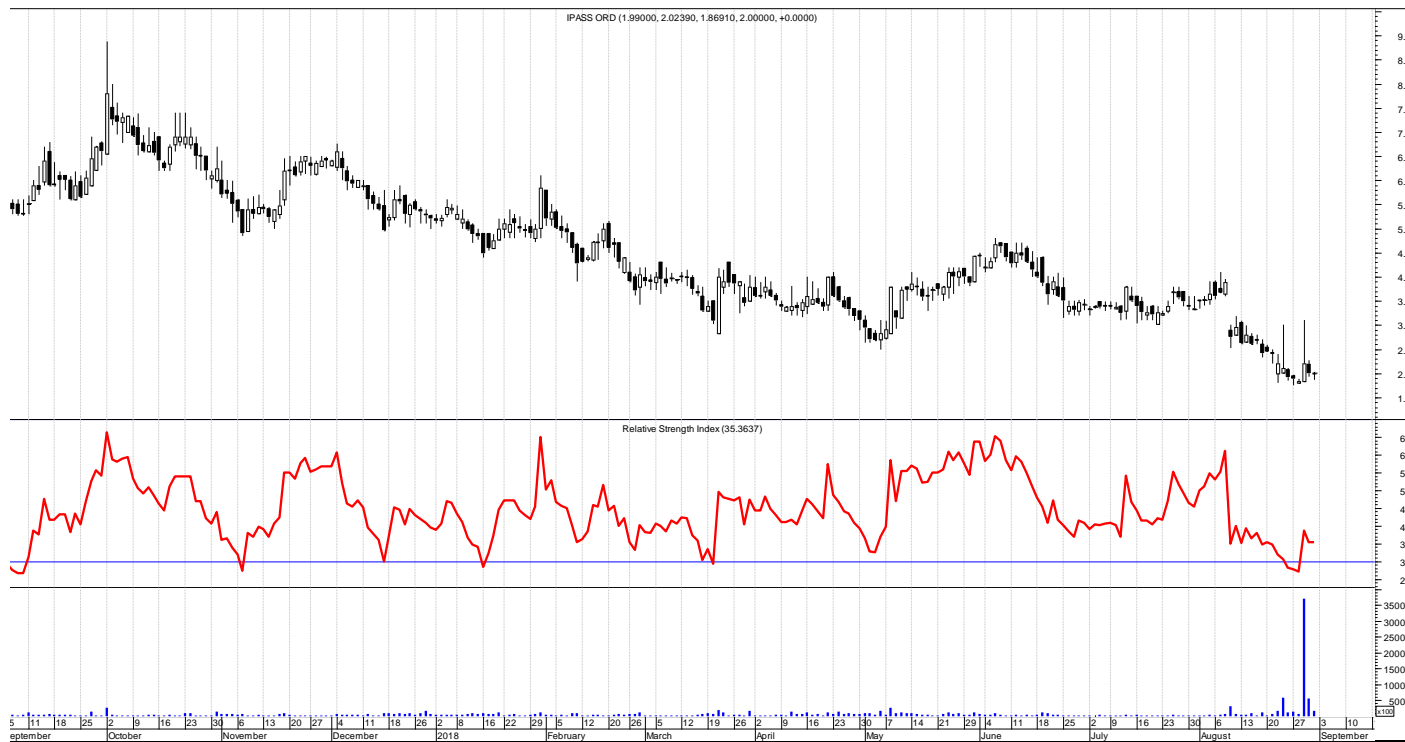


Source: Company reports and Dawson James estimates

Technical – IPAS Near Its All-Time Low

Prospective investors in iPass don’t need to worry about getting in at the top with the stock off 90% since its \$18.90 high in October 2016. In fact, IPAS shares are near their all-time low, adjusted for the recent 1 for 10 reverse split. In our experience, and that of the largest shareholder who opined on the 1Q earnings call, reverse splits generally lead to more selling and this one was no exception. Prior to the split, the stock closed at \$0.22 or \$2.20 adjusted for the split. On Friday, it closed at \$2.20, reflecting a further decline of 10%. We intentionally held off publishing this initiation in anticipation of this effect but with the stock recently in technical oversold territory (RSI below 30), we view this as a good entry point.

IPAS Trading Near Its All-Time Low, But Volume is Suddenly Picking Up



Source: Company reports and Dawson James estimates

iPass Inc. Income Forecast

Dollars in thousands, except per share data

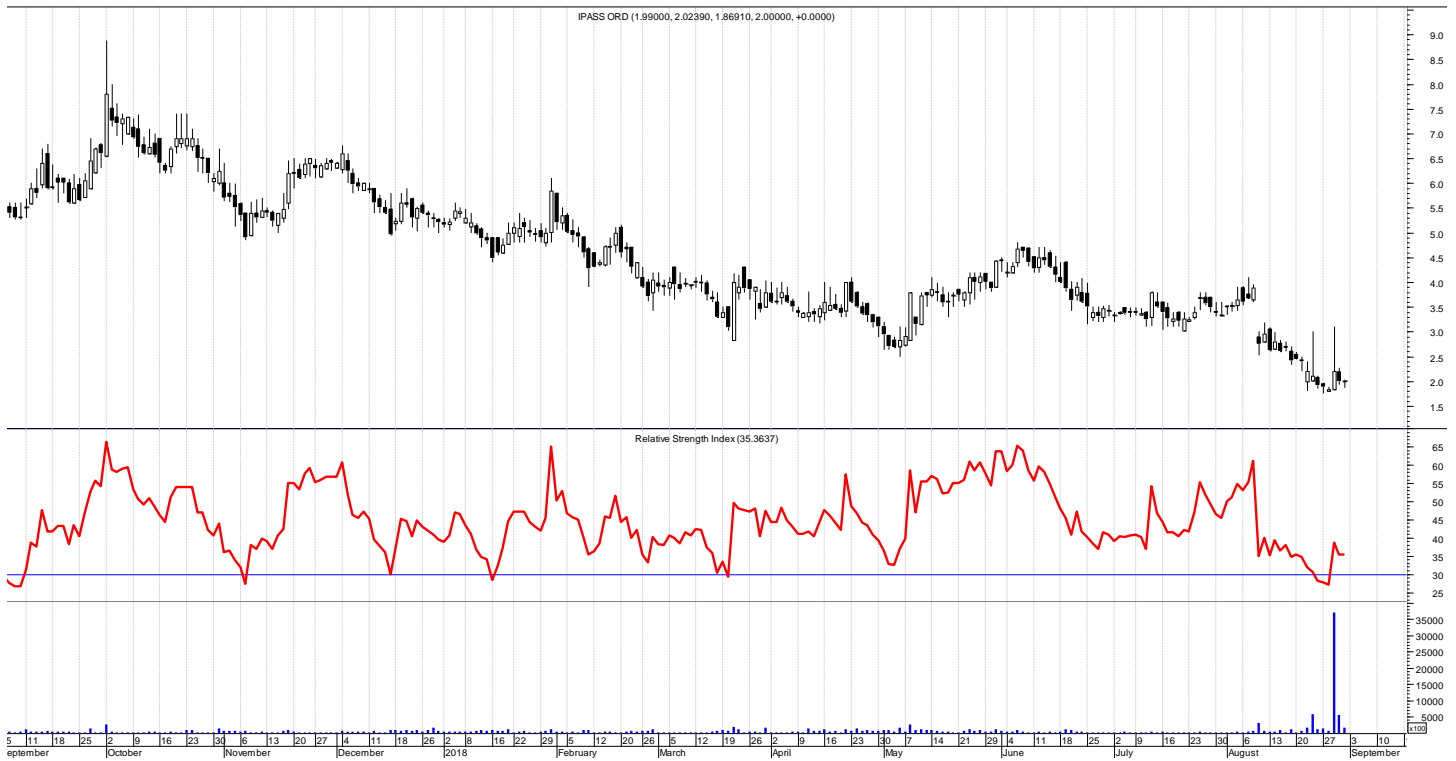
Fiscal years ended December 31

| | 2018E | | | | | 2019E | | | | | 2020E | | | | |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------|---------------|---------------|---------------|---------------|
| | 1QA | 2QA | 3Q | 4Q | YEAR | 1Q | 2Q | 3Q | 4Q | YEAR | 1Q | 2Q | 3Q | 4Q | YEAR |
| Revenue | | | | | | | | | | | | | | | |
| Enterprise | 9,200 | 8,300 | 9,135 | 9,460 | 36,095 | 9,350 | 9,240 | 9,130 | 9,020 | 36,740 | 9,240 | 9,460 | 9,680 | 9,900 | 38,280 |
| YoY growth | -21.4% | -23.1% | -5.8% | -9.0% | -15.3% | 1.6% | 11.3% | -0.1% | -4.7% | 1.8% | -1.2% | 2.4% | 6.0% | 9.8% | 4.2% |
| Seq growth | -11.5% | -9.8% | 10.1% | 3.6% | 381.6% | -1.2% | -1.2% | -1.2% | -1.2% | 407.3% | 2.4% | 2.4% | 2.3% | 2.3% | 386.7% |
| Strategic | 2,227 | 2,235 | 3,000 | 4,125 | 11,587 | 4,275 | 4,640 | 5,100 | 5,580 | 19,595 | 6,300 | 6,720 | 7,150 | 7,920 | 28,090 |
| YoY growth | 1.9% | -1.7% | -9.1% | 45.1% | 9.3% | 92.0% | 107.6% | 70.0% | 35.3% | 69.1% | 47.4% | 44.8% | 40.2% | 41.9% | 43.4% |
| Seq growth | -21.6% | 0.4% | 34.2% | 37.5% | 280.9% | 3.6% | 8.5% | 9.9% | 9.4% | 351.2% | 12.9% | 6.7% | 6.4% | 10.8% | 354.7% |
| Legacy IPC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Revenue | 11,427 | 10,535 | 12,135 | 13,585 | 47,682 | 13,625 | 13,880 | 14,230 | 14,600 | 56,335 | 15,540 | 16,180 | 16,830 | 17,820 | 66,370 |
| YoY growth | -20.0% | -21.8% | -9.4% | 2.6% | -12.4% | 19.2% | 31.8% | 17.3% | 7.5% | 18.1% | 14.1% | 16.6% | 18.3% | 22.1% | 17.8% |
| Seq growth | -13.7% | -7.8% | 15.2% | 11.9% | 351.0% | 0.3% | 1.9% | 2.5% | 2.6% | 385.9% | 6.4% | 4.1% | 4.0% | 5.9% | 372.4% |
| Netw ork access costs | 6,844 | 6,339 | 6,068 | 6,793 | 26,043 | 6,813 | 6,662 | 6,546 | 6,424 | 26,445 | 6,527 | 6,634 | 6,732 | 7,128 | 27,021 |
| As a percent of revenue | 59.9% | 60.2% | 50.0% | 50.0% | 54.6% | 50.0% | 48.0% | 46.0% | 44.0% | 46.9% | 42.0% | 41.0% | 40.0% | 40.0% | 40.7% |
| Netw ork operations | 1,384 | 1,379 | 1,214 | 1,359 | 5,335 | 1,363 | 1,388 | 1,423 | 1,460 | 5,634 | 1,399 | 1,456 | 1,515 | 1,604 | 5,973 |
| As a percent of revenue | 12.1% | 13.1% | 10.0% | 10.0% | 11.2% | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | 9.0% | 9.0% | 9.0% | 9.0% | 9.0% |
| Research and development | 1,953 | 1,967 | 1,820 | 2,038 | 7,778 | 1,635 | 1,666 | 1,708 | 1,752 | 6,760 | 1,865 | 1,942 | 2,020 | 2,138 | 7,964 |
| As a percent of revenue | 17.1% | 18.7% | 15.0% | 15.0% | 16.3% | 12.0% | 12.0% | 12.0% | 12.0% | 12.0% | 12.0% | 12.0% | 12.0% | 12.0% | 12.0% |
| Sales and marketing | 2,469 | 2,439 | 2,427 | 2,445 | 9,780 | 2,453 | 2,498 | 2,561 | 2,628 | 10,140 | 2,797 | 2,912 | 3,029 | 3,208 | 11,947 |
| As a percent of revenue | 21.6% | 23.2% | 20.0% | 18.0% | 20.5% | 18.0% | 18.0% | 18.0% | 18.0% | 18.0% | 18.0% | 18.0% | 18.0% | 18.0% | 18.0% |
| General and administrative | 2,589 | 2,980 | 2,427 | 2,717 | 10,713 | 2,725 | 2,498 | 2,277 | 2,190 | 9,690 | 2,486 | 2,427 | 2,525 | 2,673 | 10,111 |
| As a percent of revenue | 22.7% | 28.3% | 20.0% | 20.0% | 22.5% | 20.0% | 18.0% | 16.0% | 15.0% | 17.2% | 16.0% | 15.0% | 15.0% | 15.0% | 15.2% |
| Restructuring charge | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Operating Income | (3,812) | (4,569) | (1,820) | (1,766) | (11,967) | (1,363) | (833) | (285) | 146 | (2,334) | 466 | 809 | 1,010 | 1,069 | 3,354 |
| Operating margin | -33.4% | -43.4% | -15.0% | -13.0% | -25.1% | -10.0% | -6.0% | -2.0% | 1.0% | -4.1% | 3.0% | 5.0% | 6.0% | 6.0% | 5.1% |
| Investment income | 7 | (43) | (400) | (400) | (836) | (400) | (400) | (400) | (400) | (1,600) | (400) | (400) | (400) | (400) | (1,600) |
| Foreign exchange loss, net | (143) | 150 | - | - | 7 | - | - | - | - | - | - | - | - | - | - |
| Pretax Income | (3,948) | (4,462) | (2,220) | (2,166) | (12,796) | (1,763) | (1,233) | (685) | (254) | (3,934) | 66 | 409 | 610 | 669 | 1,754 |
| Taxes | 65 | 61 | - | - | 126 | - | - | - | - | - | - | - | - | - | - |
| Net income - continuing ops | (4,013) | (4,523) | (2,220) | (2,166) | (12,922) | (1,763) | (1,233) | (685) | (254) | (3,934) | 66 | 409 | 610 | 669 | 1,754 |
| Net income margin | -35.1% | -42.9% | -18.3% | -15.9% | -27.1% | -12.9% | -8.9% | -4.8% | -1.7% | -7.0% | 0.4% | 2.5% | 3.6% | 3.8% | 2.6% |
| Diluted shares outstanding | 6,985 | 7,423 | 7,423 | 7,423 | 7,313 | 7,423 | 7,423 | 7,423 | 7,423 | 7,423 | 7,423 | 7,423 | 7,423 | 7,423 | 7,423 |
| Seq change | 261.0 | 437.4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EPS diluted - continuing | (\$0.57) | (\$0.61) | (\$0.30) | (\$0.29) | (\$1.77) | (\$0.24) | (\$0.17) | (\$0.09) | (\$0.03) | (\$0.53) | \$0.01 | \$0.06 | \$0.08 | \$0.09 | \$0.24 |
| EBITDA | | | | | | | | | | | | | | | |
| Net income | (4,013) | (4,523) | (1,820) | (1,766) | (12,922) | (1,763) | (833) | (285) | 146 | (3,934) | 66 | 809 | 1,010 | 1,069 | 1,754 |
| Interest income | (7) | 43 | - | - | 836 | 400 | - | - | 0 | 1,600 | 400 | - | - | - | 1,600 |
| Income tax expense | 65 | 61 | (0) | (0) | 126 | - | (0) | (0) | 0 | - | - | 0 | 0 | 0 | - |
| Depreciation of property and equipment | 198 | 148 | 150 | 150 | 646 | 160 | 160 | 160 | 160 | 640 | 170 | 170 | 170 | 170 | 680 |
| Stock-based compensation | 344 | 311 | 350 | 350 | 1,355 | 350 | 350 | 350 | 350 | 1,400 | 350 | 350 | 350 | 350 | 1,400 |
| Prior period adjustment to revenue | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Non-recurring costs | - | 236 | - | - | 236 | - | - | - | - | - | - | - | - | - | - |
| EBITDA | (3,413) | (3,724) | (1,320) | (1,266) | (9,723) | (853) | (323) | 225 | 656 | (294) | 986 | 1,329 | 1,530 | 1,589 | 5,434 |
| EBITDA margin | -29.9% | -35.3% | -10.9% | -9.3% | -20.4% | -6.3% | -2.3% | 1.6% | 4.5% | -0.5% | 6.3% | 8.2% | 9.1% | 8.9% | 8.2% |
| YoY growth | 0.1% | -14.6% | -73.1% | -66.6% | -41.0% | -75.0% | -91.3% | -117.1% | -151.8% | -97.0% | -215.7% | -511.6% | 578.8% | 142.3% | -1949.0% |

Source: Company reports and Dawson James estimates.

Source: Company reports and Dawson James estimates

Important Disclosures:



Source: Metastock

Price target and ratings changes over the past 3 years:

Initiated – Buy – September 4, 2018 – Price Target \$3.00

Dawson James Securities, Inc. (the “Firm”) is a member of the Financial Industry Regulatory Authority (“FINRA”) and the Securities Investor Protection Corporation (“SIPC”).

The Firm does not make a market in the securities of the subject company (s). The Firm has NOT engaged in investment banking relationships with IPAS in the prior twelve months, as a manager or co-manager of a public offering and has NOT received compensation resulting from those relationships. The Firm may seek compensation for investment banking services in the future from the subject company(s). The Firm has NOT received other compensation from the subject company(s) in the last 12 months for services unrelated to the managing or co-managing of a public offering.

Neither the research analyst(s) whose name appears on this report nor any member of his (their) household is an officer, director or advisory board member of these companies. The Firm and/or its directors and employees may own securities of the company(s) in this report and may increase or decrease holdings in the future. As of August 31, 2018, the Firm as a whole did not beneficially own 1% or more of any class of common equity securities of the subject company (s) of this report. The Firm, its officers, directors, analysts or employees may effect transactions in and have long or short positions in the securities (or options or warrants related to those securities) of the company(s) subject to this report. The Firm may effect transactions as principal or agent in those securities.

Analysts receive no direct compensation in connection with the Firm's investment banking business. All Firm employees, including the analyst(s) responsible for preparing this report, may be eligible to receive non-product or service specific monetary bonus compensation that is based upon various factors, including total revenues of the Firm and its affiliates as well as a portion of the proceeds from a broad pool of investment vehicles consisting of components of the compensation generated by investment banking activities, including but not limited to shares of stock and/or warrants, which may or may not include the securities referenced in this report.

Although the statements in this report have been obtained from and are based upon recognized statistical services, issuer reports or communications, or other sources that the Firm believes to be reliable, we cannot guarantee their accuracy. All opinions and estimates included in this report constitute the analyst's judgment as of the date of this report and are subject to change without notice.

VALUATION

Our \$3 price target is based on a multiple of 8.1x our 2020 EBITDA estimate.

RISK FACTORS

1. Revenues are presently insufficient to cover cash operating expenses and therefore the company is incurring EBITDA losses. Some combination of revenue growth and expense reduction will need to occur or the company could exhaust its existing capital by the end of 2019.
2. As stressed in this report, iPass has received a delisting notice from the NASDAQ. The late August reverse stock split has satisfied the requirement for a minimum \$1 share price. We expect the company to receive another six-month extension in September, but by March it would need to bring its market cap above \$35 mm from \$20 mm today. At existing share counts, this equates to roughly \$4.17 per share.
3. IPAS shares are illiquid and volatile. Bad news can send them down significantly and quickly.
4. Again, as we note in this report, current management is working at relatively low compensation levels to turn the company around. If the CEO, CCO or CFO left, a turnaround would be in doubt.

The securities of the company discussed in this report may be unsuitable for investors depending on their specific investment objectives and financial position. This report is offered for informational purposes only, and does not constitute an offer or solicitation to buy or sell any securities discussed herein in any jurisdiction where such would be prohibited. Additional information is available upon request.

Ratings Definitions:

- 1) **Buy:** the analyst believes the price of the stock will appreciate and produce a total return of at least 20% over the next 12-18 months;
- 2) **Neutral:** the analyst believes the price of the stock is fairly valued for the next 12-18 months;
- 3) **Sell:** the analyst believes the price of the stock will decline by at least 20% over the next 12-18 months and should be sold.

The following chart reflects the range of current research report ratings for all companies followed by the analysts of the Firm. The chart also reflects the research report ratings relating to those companies for which the Firm has performed investment banking services in the last twelve months.

| Ratings Distribution | Company Coverage | | Investment Banking | |
|----------------------------|------------------|------------|--------------------|-------------|
| | # of Companies | % of Total | # of Companies | % of Totals |
| Market Outperform (Buy) | 25 | 89% | 8 | 32% |
| Market Perform (Neutral) | 3 | 11% | 0 | 0% |
| Market Underperform (Sell) | 0 | 0% | 0 | 0% |
| Total | 28 | 100% | 8 | 29% |

Analyst Certification:

The analyst(s) whose name appears on this research report certifies that 1) all of the views expressed in this report accurately reflect his (their) personal views about any and all of the subject securities or issuers discussed; and 2) no part of the research analyst's compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the research analyst in this research report; and 3) all Dawson James employees, including the analyst(s) responsible for preparing this research report, may be eligible to receive non-product or service specific monetary bonus compensation that is based upon various factors, including total revenues of Dawson James and its affiliates as well as a portion of the proceeds from a broad pool of investment vehicles consisting of components of the compensation generated by investment banking activities, including but not limited to shares of stock and/or warrants, which may or may not include the securities referenced in this report.