

The Big 50-2016



by Jeff Vance

*Startup***50**

Introduction: 211 startups vie for 50 spots

The process started back in February. When I announced I was writing another Big 50 report, the nominations started flooding in. Overall, the Startup50 team received and reviewed 211 nominations for the Big 50-2016 Startup Report.

The market sector with the most nominations – in a landslide – was Big Data. There is almost certainly some selection bias skewing these results, since my last Big 50 report was the Big Data 50. Yet, that doesn't change the fact that this space is hot.

I ended up moving a number of startups out of the Big Data category because I felt that they fit better elsewhere, but even this is a positive sign for the space. It tells me that data analytics features are getting built into a wide variety of business software, from marketing automation to recruiting to app testing.

Cloud and cyber-security were the two other most active sectors, while trends such as virtual/augmented reality, drones, and cryptocurrencies lagged behind our expectations.

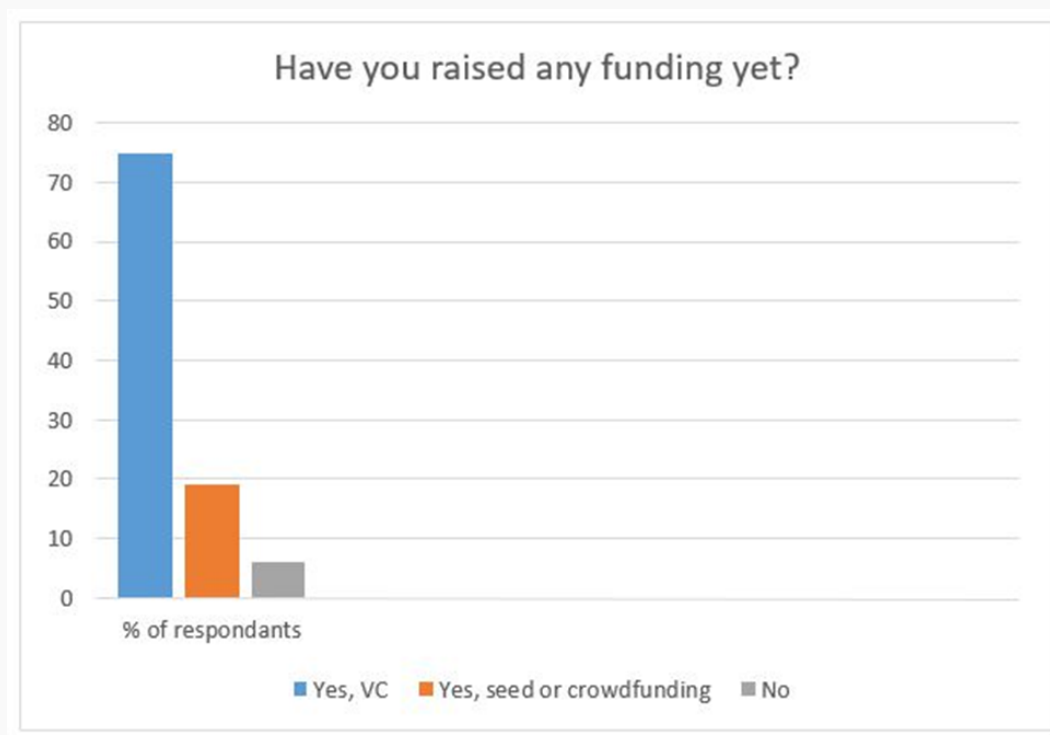
Methodology – How we picked the Final 50

To earn a spot in the Big 50-2016 final report, startups had to battle their way through three rounds of competition. The first round was the easiest, but it still resulted in the elimination of 54 of the 211 startups who applied.

First, the Startup50 team went after the low-hanging fruit, eliminating startups mainly because they didn't meet our criteria to enter the competition. Several startups were cut in round one because they were too old (kind of like Wooderson hanging around the high school kids in *Dazed and Confused*) or too new (those without a Minimally Viable Product ready for launch in the near-

term). Other cuts were made because these so-called startups were actually spin-outs, subsidiaries, or just side projects, rather than actual standalone startups.

We also designed the various questionnaires startups had to fill out to enter this competition with tripwires and other landmines that had the effect of revealing things about the startups that many startup insiders probably wished they hadn't.



For instance, if a startup failed to answer the question “What problem does this startup solve?” with an actual overview of the problem, they hurt their chances. Many startups simply pasted in product boilerplate, which is a bad sign. Best case, either the person who filled out the form was lazy, or just couldn't follow directions. Worst case, the company rep, and perhaps the entire startup, doesn't really understand their target market and the problems within it.

Another tripwire was when startups answered our competitive landscape question by saying “we have no competitors.” This response always raises a red flag. This answer usually means one of 3 things, none of them good. Either the startup is: 1) fibbing and trying to spin me into believing it is so unique that no one even comes close; 2) telling the truth, but is ignorant about the market; or 3) being truthful and really is a first mover with no competitors, but they don’t realize that [being a first mover doesn’t necessarily correlate with success](#). And, remember, having zero competitors definitely means there is no established market for your product yet.

In Round 2, the remaining 157 startups were lumped into 5 groups of roughly 30 or so, where they competed against related startups. Startup50 readers voted on the top startups in each Voting Group. The bottom half of each group was eliminated, cutting the remaining 157 startups down to 80. (You can read about the group votes on Startup50.com.)

Big 50-2016 by the Numbers

- **Total # of entries received:** 211
- **Market sectors w/ most nominees:** 1. Big Data, 2. Cloud, and 3. Cyber-security
- **Sectors with fewer nominations than I expected:** AR/VR, wearables, robotics/drones, sharing services (such Uber, Airbnb, WeWork, etc.), smart cities, cryptocurrencies
- **Percentage of nominees that have raised at least seed or crowdfunding:** 94
- **Percentage of nominees with VC funding:** 75
- **Percentage of Final 50 with VC funding:** 88
- **Number of Final 50 startups with more than \$100M in funding:** 4

In Round 3, my team whittled that 80 down to 50 based on a variety of factors. First, the quality of the answers we received was a top consideration. For instance, if you can't explain to us what you do in a couple of sentences or less, your startup probably isn't fully baked. And if you can't explain what you do in plain English without resorting to unsubstantiated hyperbole or jargon, that's a strike against you.

We also took more conventional data points into consideration, such as VC funding, named customers, the track record of key executives, etc.

Finally, we did our best to have a mix of startups in this report, featuring both well-funded startups that are borderline household names in their spaces, along with unproven, high-risk, high-reward startups. These pure upside startups may not have much funding or experience, but they do have ideas that shine a light on areas of market opportunity, sectors that should see even more startup activity in the next few years.

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About the Author

Jeff Vance founded Startup50.com in 2013 as a site that would focus on the substance behind the startup hype. The idea was to come up with processes that forced startups to dig beneath their spin and hyperbole to discuss the real issues people care about: their problems and how to solve them. Through a series of competitions and challenges, startups must address real people and the real-world problems they're struggling to overcome, or the startup gets eliminated from the competition.

Prior to founding Startup50, Jeff regularly contributed features stories to [Forbes.com](#), [Network World](#), [CIO](#), [Wired](#), [eWeek](#), and [many others](#).

Before Startup50, Jeff also founded Sandstorm Media, a copywriting and content marketing firm. He previously served as Head of Marketing Strategy for Aryaka, an SD-WAN startup, has consulted for numerous startups and Fortune 500 companies, taught creative nonfiction at New Mexico State University, and during the dotcom bubble, he was editor of *Telecom Trends* and *Mobile Internet Times*.



Big Data Startups

Big Data startups were overrepresented in the entry pool for the Big 50-2016. The lineup is even more skewed when you take into account the fact that I ended up moving a number of startups pitching themselves as “Big Data” startups out of the Big Data category because they fit better elsewhere, such as security.



This is a positive sign for the space overall, however. It tells me that data analytics features are getting built into a wide variety of business software, from marketing automation to HR recruiting tools to app testing.

In fact, I see echoes of the trajectory cloud computing has been on. Not that long ago, simply moving workloads to the cloud was the issue. Now, the cloud is an enabling technology. Really, it’s infrastructure, plain and simple.

Analytics will never be infrastructure, but analytic features will increasingly be layered into a wide variety of software and services, and it’s already happening with regularity in spaces like security and marketing automation.

Turning back to the Big 50, Big Data was by far the most competitive sector in the, with 66 entries vying for 11 spots.

Big Data Market Outlook

Analysts are almost universally bullish on this market sector. Here are some relevant predictions:

- [According to IDC, the Big Data technology and services market will grow](#) at a compound annual growth rate (CAGR) of 23% through 2019 to reach \$48.6 billion in annual spending by the end of that year. IDC estimates that the market reached
- [Wikibon, meanwhile, expects the Big Data to grow at a 17% CAGR until 2026](#), eventually topping \$84 billion in 2026. Wikibon notes that the market already climbed from \$19.6 billion in 2013 to \$27.4 billion in 2014.
- Transparency Market Research looked at a Big Data subsector, Master Data Management, and found that [the global market for master data management grew to more than \\$2 billion in 2015](#) and is expected to reach \$20 billion by 2024, expanding at a CAGR of 27.25% from 2016 to 2024.
- [Allied Market Research, meanwhile, believes that another subsector, the Hadoop market, will grow at a CAGR of 58.2% to top \\$50 billion](#) worldwide by 2020.
- And let's not forget that many of the technologies covered in this report often fit well together. According to Gartner, the [self-service data preparation software market \(or the cloud-based, on-demand market\) will reach \\$1 billion by 2019](#), with a 16.6% CAGR.

Here, then, are the 11 Big Data startups that through online votes, funding, on-the-record customers, executive experience, and market positioning have earned their way into the Big 50-2016 final report.

Note: The startups in this report are listed alphabetically by group. They are not ranked.

1. [Alpine Data](#)

What they do: Alpine Data helps companies solve business problems through analytics and machine learning. According to the



startup, “Unlike other platforms that focus primarily on algorithms, Alpine combines machine learning with operationalization, collaboration, and governance.”

Problem they solve: Data analytics tools increasingly drive business decisions. Well, at least in theory. The reality is that most businesses struggle to incorporate data analytics into their decision-making processes. When data drives decisions, it’s usually in a haphazard fashion, if at all.

According to Alpine Data, the typical enterprise believes that “90% of the value of a big data solution is in modeling, including searching for the perfect algorithm.”

Alpine Data argues that the reverse is true and claims it can prove it.

This misconception, though, has a cost. As a result, Alpine believes that many enterprises – and most especially many business decision makers – have developed an indifference to Big Data and machine learning projects. This indifference is sparked by the many business people think that machine learning is too new, too niche, or simply too complex to provide useful information about business problems.

How they solve it: For enterprises working to solve business problems with data, Alpine’s platform manages a repeatable process that connects machine learning to business behavior.

Unlike other platforms that focus primarily on algorithms, Alpine “combines machine learning with operationalization, collaboration, and governance.”

According to a company spokesperson, “Alpine has developed specific programs to help lead enterprise teams through a much more constructive process and help business people focus on the art of the possible rather than get mired in the challenges.

Alpine makes it far easier to operationalize machine learning across an entire company, so business people, partners and even customers can make difficult decisions that are backed by predictive analytics. This has helped companies in financial services, advertising, automotive, and other industries dramatically change how a business function can perform. For example, a health insurer has been able to automate 90% of millions of claims, giving doctors and nurses hours of their time back to focus on patients. The insurer was never able to accomplish this with its existing Big Data solutions.”

Headquarters: San Francisco, CA

CEO: Joe Otto, President and CEO. Prior to joining Alpine, he served for five years as the SVP of Sales and Services for Greenplum. He has also served in leadership roles at Sun Microsystems, Cisco Systems, and EMC.

Founded: 2011

Funding: \$23.5 million raised in two rounds (the most recent round was a \$16.5 M Series B, which closed in November 2013) from six investors: EMC Greenplum, Sierra Ventures, Mission Ventures, Sumitomo Corp. Equity Asia, UMC Capital, and Robert Bosch Venture Capital GmbH (RBVC).

Competitors include: RapidMiner, KNIME, Alteryx, and SAS.

Customers include: Morgan Stanley, Bosch, VMware, eviCore Healthcare, and Havas Media.

Why they're in the Big 50-2016: Alpine Data has solid VC backing, an impressive roster of on-the-record customers, and experienced, proven leadership. I also like Alpine Data's concept of connecting machine learning to business behaviors, something that could make predictive analytics easier to manage for many businesses.

2. [Altiscale](#)

What they do: Provide a Big-Data-as-a-Service platform.

Problem they solve: For the typical enterprise, providing access to Big Data for business analysts is complex, slow, and expensive. It often involves significant IT time and resources, as well as the use of pricey proprietary solutions that are not necessarily the simplest or fastest medium of communications between Big Data repositories and the data visualization applications most users rely on to interpret the data.

How they solve it: Through a cloud-based service, Altiscale believes that it can help any company "become a Big Data powerhouse."

Intended as a solution "that simplifies the connection between Big Data and the end user, the Altiscale Insight Cloud makes it fast and easy for business analysts to benefit from the rich, detailed data held in the Hadoop data lake."

For simplicity's sake, let's just say that Altiscale removes specialized middle men from the data value chain. Now, enterprises have the "critical missing bridge between Big Data and the business user: a rapidly queried data lake that enables business analysts to get critical answers using familiar business intelligence tools like Tableau and Excel.

The startup launched its latest service, a cloud-based analytics platform called the Altiscale Insight Cloud on March 15, 2016. The Altiscale Insight Cloud “makes it fast and easy for business analysts to benefit from the rich, detailed data held in a Hadoop data lake, removing the IT bottleneck and bypassing the need for expensive, proprietary solutions.”

Headquarters: Palo Alto, CA

CEO: Raymie Stata. Prior to Altiscale, Stata was CTO at Yahoo! Before that, he founded Stata Laboratories, maker of the Bloomba search-based e-mail client, which Yahoo! acquired in 2004. He has also worked for Digital Equipment’s Systems Research Center, where he contributed to the AltaVista search engine.

Year founded: 2012

Funding: Altiscale has raised \$42 million in 2 rounds of funding. Investors include Sequoia Capital, General Catalyst Partners, Accel, AME Cloud Ventures, Northgate Capital, and Wildcat Venture Partners.

Competitors include: Cloudera, Hortonworks, and Qubole. Hadoop has been a hot niche within the Big Data market, so expect plenty of other competitors to enter the fray in coming years.

Customers include: Glu Mobile, Devicescape, MarketShare, and Airpush.

Why they’re in the Big 50-2016: Solid funding, enthusiastic support in Startup50 online voting, a decent roster of on-the-record customers, and experienced, proven leadership.

3. [Cazena](#)



What they do: Cazena's Big-Data-as-a-Service tool integrates into an enterprise's existing infrastructure, giving businesses the ability to provide cloud data marts and data lakes on demand.

Problem they solve: Many Big Data tools have a steep learning curve, often requiring the assistance of data analysts to make sense of anything. Other Big Data tools require a ton of custom coding to set up. Both of these problems can significantly slow the time it takes to tap into the value locked in your data.

How they solve it: Cazena offers Big-Data-as-a-Service, one that integrates into an enterprise's existing infrastructure and provides cloud data marts and data lakes on demand. By connecting into a company's existing data flow and IT processes, Cazena grants users immediate data access, without forcing them to change how they work or to wait on a massive project.

Headquarters: Waltham, MA

CEO: Prat Moghe, who previously served as Senior VP of strategy, products and marketing at IBM Netezza.

Year founded: 2014

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Funding: \$28 million in total from Formation 8, Andreessen Horowitz, and North Bridge Venture Partners.

Competitors include: Qubole, Treasure Data, and Snowflake.

Why they're in the Big 50-2016: They've raised a solid amount of VC money from top-tier investors, and their leadership team includes some analytics heavy hitters.

4. [Elastic](#)



What they do: Elastic's mission is to make every type of data, structured or unstructured, usable in real-time. Businesses can use Elastic for search, logging, security, and analytics through its open-source software, the Elastic Stack.

Problem they solve: According to Elastic, traditional software products were not designed for the needs of today's data-driven developers. Making complex and large volumes of structured and unstructured data usable in real-time across a variety of mission-critical use cases is a stumbling block for many Big Data companies.

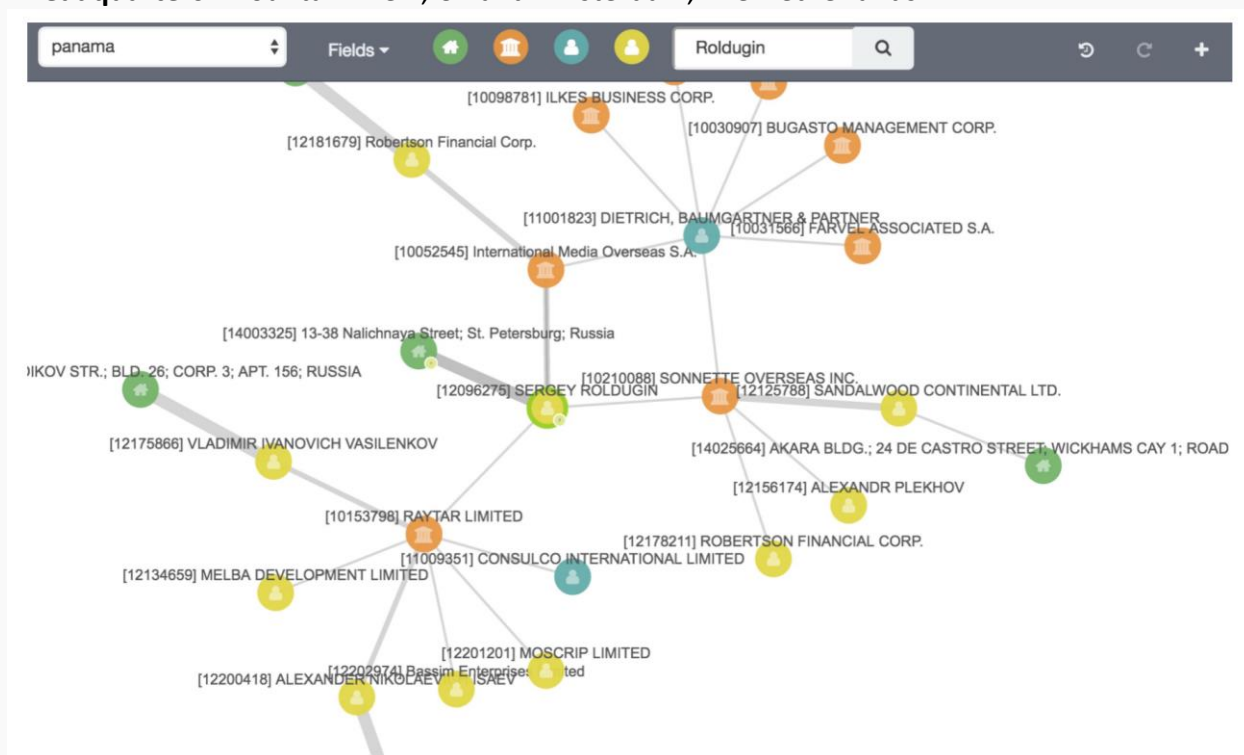
How they solve it: Elastic provides a suite of products engineered to solve the most common use cases – from website, mobile, or application search to more complex analytics use cases such as fraud, cyber-security, criminal tracking, drug and disease discovery to deciphering massive logs in systems like financial trading applications, ecommerce systems, inventory management systems, and retail systems.

Elastic's software has already been embedded into software from such brand names as Dell, eTrade, Guardian, Goldman Sachs, HotelTonight, Mozilla, MSN.com, NASA, NY Times, Spotify, Uber, Verizon, Yelp, Wikipedia, and much more.

Recently, Elastic launched a new extension for Elasticsearch and Kibana called Graph. This extension allows anyone to uncover, understand, and explore the relationships that live in their data. By combining the speed and relevance-ranking of search with graph exploration, Graph opens up a whole host of new use-cases with the Elastic Stack.

“We built Graph to help you ask new types of questions about the data you store in Elasticsearch,” said Steve Kearns, Sr. Director of Product Management at Elastic. “By looking at the relationships in your data through the lens of relevance, it becomes easy to answer questions that previously would involve multiple systems, batch jobs or machine learning.” A cool use case of Graph is to rely on it to analyze the Panama papers, which you can read more about in this [Elastic blog post](#).

Headquarters: Mountain View, CA and Amsterdam, The Netherlands



CEO: Steven Schuurman, CEO and co-founder. Before taking on the CEO role at Elastic, Steven was CEO of Orange11, which was acquired by Trifork A/S (TRIFOR.CO) in 2012. Prior to Orange11, Steven co-founded SpringSource, which was acquired by VMware in 2009.

Year founded: 2012

Funding: \$104 million raised in three rounds from Benchmark Capital, Index Ventures, and New Enterprise Associates. The most recent round was a \$70 million Series C, which closed in June 2014.

Competitors include: Through its open-source expansion strategy (similar to what Red Hat has done) Elastic has carved out a unique niche in the Big Data landscape. Elastic is often embedded within other enterprise solutions or heavily customized to meet the unique needs of the specific organization.

Since Elastic has software that operates in a range of niches – including search, logging/security, and analytics categories – competition comes from all over, but much of it is indirect.

For search, Elastic competes against Solr, enterprise search vendors, such as Endeca/Oracle, FAST/Microsoft, Automony/HP, and Google Search Appliance).

For Logging/Security/SIEM, indirect competitors include Splunk, SumoLogic, Arcsight/HP, are vendors who offer SIEM or logging solutions. Gartner represents that this is a \$1.6B market. Splunk has a \$6B market capitalization.

And in the Big Data analytics market, Elastic competes against the likes of Tableau, Cognos, Business Objects, IBM Watson, and others.

Customers include: Goldman Sachs, Mayo Clinic, New York Times, Activision, Cisco, NASA, USAA, Netflix, Adobe, and others.

Why they're in the Big 50-2016: Elastic is the best-funded of any of the Big Data startups in this report, and in Big Data circles, they're a household name. Moreover, they've raised over \$100 million in VC funding, and their customer roster is long and impressive.

5. [Paxata](#)

What they do: Provide a self-service data preparation platform for the enterprise.

Problem they solve: While companies are drowning in data, business teams are commonly starving for information they can actually use. Data-driven decision making isn't as easy as it sounds.

As a company spokesperson put it, "Getting enough data is not the problem, it's transforming data into information where things get really tricky."

A major reason for this is because data in its raw form tends to be messy, redundant, fragmented, and hard to analyze. In order to get data ready for analytics, most business and IT teams spend an inordinate amount of time on data preparation, on cleaning, organizing, and shaping data. Paxata estimates that the average businesses attempting to use data to drive decisions ends up spending about 80% of their time just on data prep.

The result is that there is very little time left over to actually get insights from that data. You're already behind, so you rush through the most important part of the workflow. Then, you revert to the old way of doing things: making decisions based on gut feelings and intuition because you simply can't wait for the data.

How they solve it: Paxata helps eliminate the pain of transforming raw data into actionable information by providing a data preparation application “built from the ground up to satisfy the demands of teams who want to dramatically increase their analytic productivity on ever-increasing data volumes, reduce risk of data chaos, and get greater value from the work they do.”

Customers include Cisco, Dannon, K2 Intelligence, Del Monte, New Relic, IQT, and Pabst Blue Ribbon.

Headquarters: Redwood City, CA

CEO: Prakash Nanduri, co-founder and CEO, previously co-founded and served as a VP of Velosel Corporation, which was acquired by TIBCO in 2005. Prakash led the post-merger integration effort at TIBCO. Then, he spent three years at SAP as the Head of Product and Technology Strategy within the Office of the CEO. At SAP, he was responsible for key strategic initiatives including the SAP Big Data (Hana) business strategy.

Year Founded: 2012

Funding: The startup has raised \$28 million in three rounds of funding. Investors include ACCEL India, Walden|Riverwood, and EDBI, the corporate investment arm of the Singapore Economic Development Board.

Competitors include: Alteryx, ClearStory Data, Datameer, Informatica, Platfora, Tamr, Trifacta, and Xplenty.

Why they're in the Big 50-2016: Paxata did very well in Big 50 online voting, and the company is positioned in a niche within the Big Data market with a ton of upside. With solid funding and

an experienced leadership team, Paxata should be a serious contender in the data preparation market.

6. [Reltio](#)

What they do: Provide cloud-based data management services.

Problem they solve: Data overload. As a company spokesperson put it, “It’s almost a cliché to say that we now drown in data, but we do.”

Agreed. It is a cliché. However, that cliché is one because it’s true.

The current data environment – which spans everything from mobile apps to social media to the Internet of Things to whatever other communications channel catches on tomorrow – now regularly generates data volumes that far exceed all content officially recorded throughout human history.

“It exceeds all sense of hype, and it never ends. To collect, collate and manage all this information, let alone derive true intelligence from it, is a technological nightmare,” Reltio argues.

How they solve it: Reltio helps companies use data to improve efficiency, stay competitive, and meet regulatory requirements. Reltio’s cloud-based data management platform lets users merge data from inside and outside of the company.

Reltio also delivers data-driven applications to frontline business users, which have the look and feel of consumer platforms, such as Facebook and LinkedIn. With no training, business

teams can collaborate and use a single pool of data for relevant insights. The applications offer recommendations for each user's role and goals.

Headquarters: Redwood Shores, CA

CEO: Manish Sood. Prior to founding Reltio, Manish led product strategy and management for the MDM platforms at Informatica and Siperian.

Year Founded: 2015

Funding: In July 2016, Reltio closed a \$22 million Series B round of funding. New Enterprise Associates led the round and was joined by existing investors Crosslink Capital and .406 Ventures. This brings Reltio's total venture funding to \$32M to date.

Competitors include: startups such as Ataccama, Semarchy, and Talend, as well as such incumbents as IBM, Oracle, SAP, and Informatica.

Why they're in the Big 50-2016: Reltio did extremely well in Big 50 online voting, finishing second in the Big Data group. They've also raised a decent amount of funding for a young startup, and Manish Sood's track record in MDM makes this startup one to keep an eye on.

7. [Snowflake Computing](#)

What they do: Provide cloud-based data warehousing services.



Problem they solve: According to a company spokesperson, “The data warehousing market has seen painfully little innovation in the last decade. It remains dominated by technology designed decades ago for a very different world.”

As more and more data migrates to the cloud, legacy data warehousing products struggle to keep up. Legacy data warehousing products were not designed for the cloud and for today’s data. In contrast to the cheap, always-on cloud, traditional data warehousing products have “been synonymous with being expensive, complex and difficult.”

At the same time, newer Big Data platforms were not designed to handle the data warehousing component and still require the specialized expertise of operations and data science experts.

How they solve it: Snowflake’s Elastic Data Warehouse is designed to take advantage of the elasticity, scalability, and flexibility of the cloud. By decoupling data storage from compute, Snowflake can independently scale storage and processing, making it possible to deliver the exact processing needed for each workload exactly when needed, while also providing low-cost storage of any volume of data.

Snowflake can handle both transactional and machine-generated data in a single system by bringing native storage of semi-structured data into a relational database that understands and fully optimizes querying of that data.

Headquarters: San Mateo, CA

CEO: Bob Muglia. Previously, Bob was president of Microsoft’s \$16 billion Server and Tools Business, responsible for products such as Windows Server, SQL Server, System Center and Windows Azure. Following Microsoft, he was EVP of Software and Solutions at Juniper Networks.

Year Founded: 2012

Funding: Snowflake has raised \$71M in two rounds of funding to date. The most recent round was in June 2015 when they raised \$45M, led by global investment firm Altimeter Capital and joined by existing investors Redpoint Ventures, Sutter Hill Ventures, and Wing Ventures.

Competitors include: Amazon Redshift, Cazena, and plenty of other Big Data and storage startups that will compete with them either directly or indirectly.

Customers include: Accordant Media, Adobe, DoubleDown, Kixeye, Revana, SOASTA, and WhiteOps.

Why they're in the Big 50-2016: Snowflake is situated in a fast-growth market sector, and they're backed by a boatload of VC cash. Moreover, their seasoned leadership team should help them navigate this chaotic, highly competitive market sector.

8. [StreamSets](#)

What they do: Provide software that manages data ingestion and mitigates the problem of “data drift.”



Problem they solve: Big Data introduces some major challenges when it comes to creating an efficient, reliable, and agile data operation using today's tools. A major issue is that Big Data sources mutate unexpectedly over time. That's because they are loosely structured and often generated by third-party systems – systems that can change often, without notice, and outside of your control.

This is the problem of “data drift.”

When you write custom code for data ingest flows in a world where data drift is common, things break frequently.

How they solve it: StreamSets software “helps companies easily pull data in from numerous sources and detect changes as they occur so that corrective action can be taken before analysis is polluted.”

Headquarters: San Francisco, CA

CEO: Girish Pancha, who formerly served as chief product officer of Informatica.

Year Founded: 2014

Funding: In September 2015, StreamSets raised a \$12.5 million Series A round of funding, led by Battery Ventures and NEA.

Competitors include: According to 451 Research, the “Total Data Market,” which consists of data platforms, data management, analytics, and data mining, will nearly double in size soon. 451 believes the market will grow from \$60 billion in 2014 to \$115 billion in 2019.

The Total Data Market is a relatively uncrowded niche under the Big Data umbrella. Cask and Confluent are two startup competitors, while the more established Hortonworks competes here as well.

Customers Include: Cisco, Lithium, and Planet Labs.

Why they’re in the Big 50-2016: StreamSets has raised a respectable amount of funding for a young startup, and their founding team is a strong one with the right experience. CEO Girish

Pancha served as chief product officer of Informatica, and CTO Arvind Prabhakar was an early employee and engineering leader at Cloudera.

9. [Trifacta](#)

What they do: Build “data wrangling” software that “enhances the value of an enterprise’s Big Data by enabling users to easily transform and enrich raw, complex data into clean and structured formats for analysis.”

Problem they solve: Pretty much any type of data has at least some inherent value, but the current processes of unlocking the potential value of data are incredibly painful and inefficient. According to a Trifacta spokesperson, “80% of any analytics project is spent on the preparation of data, not the actual analysis.”

As the data that makes up analysis continues to grow in scale, diversity and complexity, “this problem becomes more painful and is experienced by every individual and organization working with data.”

How they solve it: Trifacta’s “data wrangling software” helps unlock an enterprise’s data by enabling users to easily transform and enrich raw, complex data into clean and structured formats for analysis.

Headquarters: San Francisco, CA

CEO: Adam Wilson. Previously, Wilson served as GM of Informatica’s Information Lifecycle Management division.

Year Founded: 2012

Funding: Trifacta is backed by a total of \$76.3 million in VC funding from Accel, Greylock Partners, Cathay Innovation, and Ignition Partners.

Competitors include: Alteryx, ClearStory Data, Datameer, Informatica, Paxata, Platfora, Tamr, and Xplenty.

Customers Include: PepsiCo, GoPro, and Royal Bank of Scotland.

Why they're in the Big 50-2016: Trifacta did well in Big 50 online voting; they've raised serious VC money; and their management team has the kind of track record you look for in this space.

10. [Verato](#)

What they do: Help any organization that electronically stores records about people link together records that belongs to the same person. For example, if a hospital has two patient records – one for Mary Smith at 123 Main Street, and one for Mary Smith at 456 Elm Road – Verato can tell the hospital whether or not those two records actually belong to the same person and should be linked.

Verato can also do this for more complex cases, such as after name changes.

Problem they solve: Organizations that store customer data often have massive stores of customer, patient, or member data across disparate databases. As business agendas move toward optimizing service, care, experiences, or operations, it becomes essential to link this data across systems and enterprises to develop a single, longitudinal view of these customers, patients, and members.

However, each business unit, department, division, and enterprise maintains its own version of customer information with its own data formats and data governance standards. Additionally, customers' identity data is in a constant state of flux: names change as people get married and

divorced; addresses and phone numbers change as people move; even SSNs change as a result of identity theft.

Making matters worse, manual data entry means that identity data is often incomplete or inaccurate, often containing missing letters, inverted names, and transposed numbers. All of this leads to databases that are littered with inaccurate identity data and with duplicate records that contain old and incomplete information.

In fact, according to Verato, “over 30% of the identity data in the typical enterprise system is out-of-date or incorrect, including names, addresses, birthdates, email addresses, phone numbers, and SSNs. This is true across all industries and the public sector, and spans all types of systems, including CRM, customer support, e-commerce, medical record databases, financial systems, and loyalty systems.”

Verato points out that while MDM (Master Data Management) and MPI (Master Patient Index) technologies are currently used to attempt to uniquely identify individuals, these technologies depend on the available data, whether it is accurate or not.

How they solve it: Verato’s proprietary reference database, CARBON, combines the algorithms of MDM solutions with the massive dataset of information providers. CARBON contains a vast array of commercially available identity data for the entire U.S. adult population, and its algorithms ensure that the right identity data is associated with the right person.

The identity data in CARBON spans 30+ years and includes old and incorrect data, as well as new and accurate data. Importantly, Verato intentionally seeks out data sources for CARBON where the data is most likely to be accurate (e.g. the “credit header” data on top of a credit report).

All of this means that Verato can look at two records that contain different, incomplete, old, or inaccurate information about a person, and still be able to know that those two records belong to the same person because it matches that information against a much larger target.

Headquarters: McLean, VA

CEO: Mark LaRow. He was formerly at MicroStrategy, a BI software provider, for 14 years where he was the Executive Vice President of Products.

Year Founded: 2012

Funding: Verato is backed by a \$12.5 million Series A investment led by Columbia Capital and Bessemer Venture Partners. The round closed in January 2015.

Competitors include: [According to Gartner](#), the MDM (Master Data Management) market has reached \$500 million and is growing. While Verato has a head start on MDM and MPI (Master Patient Index) vendors, I won't be surprised if some of those vendors roll out similar features.

For now, however, Verato is uniquely positioned.

Customers Include: San Diego Health Connect.

Why they're in the Big 50-2016: Verato did very well in Big 50 online voting. They've raised a decent amount of VC funding, and they're uniquely positioned in a growing market. More importantly, they tackle an urgent real-world pain point (never a given with startups).

11. [Xplenty](#)

What they do: Provide a cloud-based data integration and analytics service.



Problem they solve: Analytics is driving forward-thinking businesses today, and smart data utilization is crucial in order to make good business decisions.

However, data comes from many sources and in many shapes and sizes – that dreaded “unstructured data.” In addition, data continues to get bigger and reside in more and more locations, so the need to make that data available and analytics-ready is a hard goal to achieve.

How they solve it: Xplenty “eases the pain that revolves around [data preparation] tasks and helps companies get more value more quickly from their data.” Xplenty helps data-driven companies connect, integrate, transform and prepare their data for analytics, using a simple, 100% SaaS cloud platform.

Headquarters: Tel Aviv, Israel and San Francisco, CA

CEO: Yaniv Mor, CEO and founder. He previously co-founded Strax Data, a Hadoop startup.

Year Founded: 2012

Funding: Xplenty is backed by \$3.5 million in funding from Magma Venture Partners and Waarde Capital.

Competitors include: Both incumbents like Informatica, Talend, and Pentaho, as well as such startups as Paxata and Trifacta.

Customers Include: Red Ventures, Foxtel, RealtyMogul, Work4Labs, Virgin Mobile Latin America, SheKnows Media, and more.

Why they're in the Big 50-2016: I like Xplenty's position in the crowded data integration market. Their cloud-based "data integration on-demand" service is where the market is heading, and Xplenty got there early.

However, some companies will avoid putting sensitive data in the cloud until security and privacy concerns are better addressed. This could cause the cloud analytics sector to lag a bit, but the market should still be plenty big enough to spur serious, sustained competition.

Cloud Startups

As cloud computing has evolved through various business models (ASPs, MSPs, SaaS, etc.), the market seems to be settling down into something both more boring and more useful: infrastructure.

Yes, many applications are being delivered from the cloud, and these service providers slap “cloud” on their marketing materials, but these aren’t really true cloud players. They’re still application vendors. The clouds they rely on are usually someone else’s (AWS, Azure, Rackspace).



This isn’t a critique. Far from it, but the space is maturing, and as it does, I predict that we’ll stop referring to many of the vendors included below as cloud companies. Instead, they’ll be SD-WAN or IT infrastructure monitoring or application delivery concepts.

Even as the cloud edges towards becoming a utility, however, there’s still a ton of room to grow.

Cloud Computing Market Outlook

Here's a look at what research firms are predicting for the cloud market in general and a few cloud sub-sectors in particular, subsectors represented by startups in this report:

- Gartner projects that the [worldwide public cloud services market will grow 16.5 percent in 2016](#) to total \$204 billion, up from \$175 billion in 2015. The highest growth will come from Infrastructure as a Service (IaaS), a sector projected to grow 38.4 percent in 2016.
- IDC believes that the [worldwide market for hosted private cloud](#) (gated), which amounted to \$8.9 billion in 2014, will grow at a CAGR of 35.4% to reach \$40.6 billion in 2019.
- Wikibon, meanwhile, found in a recent survey of IT leaders that the market size of "[True Private Cloud implementations](#)" is only \$7 billion, well below the IaaS Public Cloud market in 2015 (\$25B) and smaller than Public Cloud leader Amazon Web Services (\$7.9B in 2015).
- MarketsandMarkets expects the [global Application Delivery Network \(ADN\) market to grow from \\$3.23 billion in 2013 to \\$5.82 billion in 2018](#). This represents a Compound Annual Growth Rate (CAGR) of 12.5% during that timeframe.
- Global Industry Analysts forecasts similar ADN growth, predicting that the [global ADN market will top \\$6.2B by 2020, expanding at a CAGR of 16.5%](#). Growth will be driven by "the growing importance of enterprise mobility, datacenter consolidation and virtualization, and increase in cloud IT deployments."

- Gartner estimates the size of the [Network Performance Monitoring and Diagnostics tool market at \\$1.1 billion](#) (note: report is gated) and believes it is growing at a compound annual growth rate of 10%.
- According to IDC, the increasing use of cloud applications by businesses and the trend of employees accessing them via mobile devices is [fueling innovation in wide area networking technologies](#). IDC analysts estimate that worldwide SD-WAN revenues will exceed \$6 billion in 2020 with a compound annual growth rate (CAGR) of more than 90% over the 2015-2020 forecast period.
- Gartner estimates that [SD-WANs have less than 1% market share today, but predicts that up to 30% of users](#) will be managing their WAN through software within three years.

The 10 startups below are actively defining what the cloud is today and what it can be tomorrow. These startups are using the cloud to deliver everything from SD-WAN services to IT alert consolidation to network performance enforcement. Others can be classified more as cloud infrastructure, such as those offering app containers, cloud migration services, and managed OpenStack-based private clouds.

These startups also had the right mix of online votes, funding, on-the-record customers, executive experience, and market positioning to beat out 50+ other cloud startups to earn their way into the Big 50-2016 final report.

Note: The startups in this report are listed alphabetically by group. They are not ranked.

12. Acceleration Systems



What they do: Provide WAN optimization as a service.

Problem they solve: WAN optimization emerged a decade or so ago to overcome bandwidth limitations for branch offices and remote locations. According to Acceleration Systems spokesperson, in much of the world the “last mile connectivity is insufficient to allow businesses to operate in the modern cloud era. Businesses rely on Internet speed more than ever for a wide range of critical applications; however, the demand for bandwidth continues to outpace deployment of new infrastructure by telecommunications companies.”

I agree with this assessment – for the most part. The reality is that the last mile is actually getting much better in much of the world. But the problem still remains. We’ll always come up with new ways to overburden limited pipes.

Right now, cloud migration is one of the main culprits gobbling up enterprise bandwidth and creating new, often unexpected infrastructure bottlenecks.

How they solve it: Acceleration Systems method for optimizing bandwidth and accelerating applications relies on three main components to optimize bandwidth: a cloud-based server for bandwidth optimization, a patent-pending “Multi-Link Architecture to provide shared access to the acceleration engine,” and a client-side device, the Remote Business Accelerator, which communicates user requests to the Multi-Link Architecture.”

According to Acceleration Systems, “existing WAN optimization solutions work by manipulating the payload to reduce the volume of data traversing the link. Video (not compressible) and encrypted data (not accessible) are ignored by traditional solutions.”

The company recently released a new core component, Streambed, a satellite optimization technology that accelerates all data types, including streaming media, video, and encrypted data.

Streambed is said to improve the efficiency of the underlying connection, resulting in increased data transfer speeds without any sacrifice to resolution or modification of data security. It guarantees delivery regardless of network conditions, file size, or unreliable long distance connections, and Streambed transfers large data sets of small files as efficiently as large single files.

Headquarters: Cleveland, OH

CEO: Michael Kister, President and CEO. Previously, Kister served as President and CEO of Skycasters and VP and GM of Cycle Therapy.

Year Founded: 2013

Funding: \$4.5 million dollars in angel funding, which primarily came from Pete Musser, founder of Safeguard Scientifics and early investor in Novell

Competitors include: such incumbents as Riverbed, Citrix, Cisco, Bluecoat, and Silver Peak, as well as plenty of startups, including Aryaka, Viptela, Talari, CloudGenix, and VeloCloud.

Why they're in the Big 50-2016: Acceleration Systems squeaked into the roundup by finishing in the top 10 in online voting for the cloud group, and because I like some of the innovations they're pushing, such as satellite connectivity. This opens up a few key market niches, such as oil and gas (more on that in a second).

I was a bit on the fence about them, though, because as of now, they don't have any on-the-record customers. They'll need to start getting some soon, or this fact will raise a red flag. They also probably need to close on more VC funding, or they'll lag too far behind the WAN-as-a-Service pack to ever catch up.

Moreover, one of the key market sectors they're targeting, oil and gas, is being driven down by a price collapse, which obviously works against this startup for now.

13. [BigPanda](#)

What they do: The BigPanda platform consolidates alerts from multiple IT monitoring tools into related incidents. This approach not only provides engineers with a single pane of glass for alert management, but it also helps IT teams separate signal from noise in order to spot critical issues faster and reduce MTTR (Mean Time to Resolution).



Problem they solve: As computing and application environments have evolved over time, IT incident-response workflows and enterprise org charts have not. Enterprise infrastructure, in other words, is not keeping up with our cloud-based, mobile, and social world.

As virtualization, cloud, SaaS, and mobility have moved into the mainstream, Ops professionals have been forced into a reactive, firefighting role. Adding to the problem are other current trends, such as the rise of open-source software, micro-services, and the emergence of DevOps.

Open source, micro-services, and DevOps are not bad things – anything but – however, each carries with it risks that often undermine operational stability.

Further complicating this problem is the fact that Ops teams follow outdated incident-response workflows that were designed for dotcom-era production environments. As a result, many organizations hire personnel whose skills best map to that dotcom reality of yesteryear, skills that are inadequate for today's IT challenges. And, of course, Ops budgets have remained flat or have dropped, further eroding the Ops team's ability to monitor, maintain, secure, and manage all of the moving parts that make up today's complex IT infrastructures.

To put it simply: IT Ops professionals get too many alerts from too many places far too often to make sense of them. This signal-to-noise imbalance creates huge risks.



How they solve it: BigPanda has developed a data science platform that centralizes and intelligently correlates high volumes of IT alerts, enabling teams “to detect and resolve critical issues up to 90% faster than with traditional approaches.”

BigPanda enables IT teams to keep up with the explosive scale and complexity of modern data centers by centralizing alerts and events into one platform, while also automatically correlating alerts across various monitoring tools.

Ops teams also receive contextual data with alerts mapped to code deployments and infrastructure changes. Teams are able to automatically route notifications to popular collaboration and ticketing tools, such as Jira, Slack, PagerDuty, and ServiceNow.

Headquarters: Palo Alto, CA

CEO: Assaf Resnick, founder and CEO. Assaf was previously a principal at Sequoia Capital and an analyst at Moody's.

Year Founded: 2012

Funding: BigPanda is backed by \$30 million in VC funding. In May 2016, the startup secured \$5M in follow-on funding from Pelion Venture Partners, adding to its \$16M Series B, which it announced in October 2015. Other investors include Battery Ventures, Mayfield Fund, and Sequoia Capital. Mayfield Fund and Sequoia Capital also funded BigPanda's \$7M Series A.

Competitors include: Moogsoft and PagerDuty (although in many ways, PagerDuty and BigPanda are complementary tools)

Customers Include: Wix, Caesars Entertainment, Gap, NewsCorp, Autodesk, Getty Images, GrubHub, Rocket Fuel, Inrix, and Endurance.

Why they're in the Big 50-2016: BigPanda did well in online voting, have raised a respectable amount of funding, have a solid roster of customers, and they are uniquely positioned to tackle the very real pain point of IT alert overload. In fact, most of their stated competitors actually complement BigPanda, which is a rarity and a unique advantage.

14. [CloudPhysics](#)

What they do: Provide a cloud-based IT ops management solution for vSphere.

Problem they solve: As more and more workloads are virtualized, virtual server sprawl is becoming an even bigger problem than server sprawl was in the old days.

How they solve it: CloudPhysics continually analyzes vSphere environments, tracking changes, projecting trends, and proactively surfacing the trouble spots that should be addressed now – before they cause problems.

Delivered as a SaaS application, CloudPhysics relies on a proprietary operational analytics platform that is intended to “drive out risk and cost in your infrastructure, especially in problems related to configuration changes.”

Headquarters: Santa Clara, CA

CEO: Jeff Hausman. Prior to CloudPhysics, Jeff was senior vice president at Symantec responsible for the \$1 billion Information Availability and Intelligence group.

Year Founded: 2011

Funding: \$27.5 million raised in three rounds. Investors include Icon Ventures and Kleiner Perkins Caufield & Byers and Mayfield.

Competitors include: Splunk and Sumo Logic

Customers Include:

Why they're in the Big 50-2016: CloudPhysics did well in online voting, have raised a respectable amount of funding, and are in a relatively uncrowded market niche.

15. [CloudVelox](#)

What they do: Develop software that automates many of the manual processes required to migrate workloads into the cloud and protect them post-migration. The goal is to reduce the risks associated with the cloud, while also increasing IT productivity and resilience.

Problem they solve: According to CloudVelox, traditional approaches to disaster recovery and cloud migration increase the risks and costs of these projects because they're based on manual processes and scripts.

According to Gregory Ness, VP of Worldwide Marketing for CloudVelox, this process “results in billions of dollars wasted each year on idle or underutilized data center capacity because effective use is restricted by extensive, onerous processes and risks.”

While the cloud has already tapped into the on-demand, pay-as-you-go model for new workloads, an estimated \$1 trillion+ in existing workloads are still trapped beneath “complex layers of legacy headaches, requiring massive investments in manual processes, processes that degrade business case and increase risk,” Ness added.

How they solve it: CloudVelox’s software automates cloud migration, recovery, and many development and testing processes. With automation, IT can now move currently trapped workloads to the cloud without resorting to error-prone, tedious manual processes.

Headquarters: Santa Clara, CA

CEO: Raj Dhingra, who previously served as CEO for NComputing and as a VP and GM for Citrix.

Year Founded: 2012

Funding: The company is backed by approximately \$33 million in VC funding raised from Mayfield Fund, Third Point Ventures, Pelion Venture Partners, and Cisco.

Competitors Include: Racemi and Zerto

Customers Include: MyPoints, Exar Semiconductor, and the City of Asheville, NC

Why they’re in the Big 50-2016: CloudVelox startup has solid VC backing, and I like their market niche. As the cloud continues to become more of a utility, unlocking “trapped” workloads is a smart move. Moreover, IT automation is a must as the cloud continues to scale up beyond anyone’s expectations.

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16. [Docker](#)

What they do: Develop software that enables developers and system administrators to build, ship, and run distributed applications.

Problem they solve: Applications have traditionally been developed to reside within monolithic server environments. As a result, portability isn't really their strong suit. Moreover, any single change may break another working piece of the app. As a result, all code must be built and shipped as a single unit.

How they solve it: Docker's "containerization platform" breaks apps down into smaller, more usable chunks, making development and portability much easier.

Docker claims that it can help IT organizations "shrink application delivery from months to minutes, frictionlessly move workloads between data centers and the cloud."

Headquarters: San Francisco, CA

CEO: Ben Golub, who previously served as President and CEO of Gluster, which was acquired by Red Hat.

Year Founded: 2013

Funding: Docker is backed by \$180 million in total funding. It's most recent round, a \$113M Series D, closed last fall. Insight Venture Partners led the round, which also included Goldman Sachs, Coatue Management, and Northern Trust as investors.

Competitors include: CoreOS, Joyent, and Canonical

Customers Include: BBC News, eBay, ING, Lyft, New Relic, and Uber

Why they're in the Big 50-2016: Docker pioneered the container movement, and an entire ecosystem is already starting to spring up around the Docker platform.

Docker also did extremely well in Big 50 online voting. The startup finished first in the raw vote total for the cloud group (Webscale won the weighted ranking with significantly more 1st place votes).

They're also backed by a ton of VC funding, with a valuation over \$1 billion, and their customer roster is a long and impressive one.

17. [Platform9](#)

What they do: Provide a Managed OpenStack cloud service.



Problem they solve: According to Gartner, [95% of enterprise IT teams struggle \(or fail\) when implementing private clouds](#). This is typically due to technical complexity, inability to drive organizational change, or technology that just doesn't stand up to the demands of the enterprise.

Private clouds also tend to lock businesses in with proprietary software and APIs, and many require specific hardware or appliances. Others still try to force you to forklift upgrade your entire infrastructure.

How they solve it: Platform9 offers OpenStack private clouds as a SaaS-based managed service. Platform9 embraces the open-source movement. Their service is hardware-, OS-, and platform-agnostic.

Platform9 Managed OpenStack is intended to make it easy for enterprises to create an AWS-like private cloud, but using their own on-premises virtualized infrastructure. Enterprises can pool resources in a single data center or across multiple regions.

Platform9 hosts the OpenStack control plane, removing the need for customers to install, monitor, troubleshoot, or upgrade OpenStack themselves.

Other features of the Platform9 cloud include cloud visibility and control tools, reusable automation frameworks for various OpenStack offerings, multi-hypervisor management capabilities, SSO integration, persistent storage, isolated networking, and image management.

Platform9's latest product, Platform9 Managed Kubernetes, is a container management platform that orchestrates containerized workloads, while providing mission-critical features for deploying and managing Docker containers in production and at scale.

Headquarters: Sunnyvale, CA

CEO: Sirish Raghuram. Before co-founding Platform9, Sirish was an early engineer at VMware, where he held technical and management leadership roles and helped ship multiple vSphere products.

Year Founded: 2013

Funding: \$14.5 million in two rounds from Menlo Ventures and Redpoint Ventures.

Competitors include: Mirantis, Stratoscale, and ZeroStack.

Customers Include: Box, PubMatic, IdenTV, Moz, and Tango.

Why they're in the Big 50-2016: Platform9 finished in the top third in Big 50 online voting for the cloud group, and they've raised enough funding to be competitive in this space for the time being.

I also like their focus on simplifying OpenStack and Docker. OpenStack complexity, for instance, usually forces enterprises to contract a bunch of consultants to set up and maintain OpenStack-based clouds.

18. [Saisei](#)

What they do: provide “network performance enforcement” software.

Problem they solve: As more devices come online, network visibility and control becomes a messier problem. Mobility, streaming video, and gaming bring along parity issues, with certain users often able to hog bandwidth.

In business settings, this can lead to serious losses in productivity.

How they solve it: Saisei makes it easier for operators to see what’s happening on their network.

“Basically, what people are doing on the Internet, what websites they go to, what applications they're using at specific times, and, most importantly, our software tells operators when something on their network isn’t working very well. Our software can see when networks aren’t performing well and react before users complain,” said Laura Stiff, Communications Director.

Saisei’s Network Performance Enforcement software is able to enforce policy on “the millions of applications, users, and devices populating networks today.”

Headquarters: Sunnyvale, CA

CEO: John Harper. Prior to Saisei, John led engineering at Anagran, overseeing the creation of their advanced flow-based traffic managers. He previously served at Cisco as the VP of IOS Routing, where he directed the strategy and development of routing protocols, multicast and IPv6 among other areas.

Year Founded: 2013

Funding: \$12.6 million from Oxygen Ventures and individual investors.

Competitors include: NetScout/Arbor Networks, Bivio Networks, and Accedian Networks.

Customers Include: NHN Entertainment, First Cagayan, and Sunway Digital Wave.

Why they're in the Big 50-2016: SaiSei finished in the top 10 of the Big 50 online voting for this group, and I'm bullish on the network monitoring and deep packet inspection spaces. Saisei is well positioned in what I think will be a high-growth market.

19. [Versa Networks](#)

What they do: provide a suite of suite of Virtualized Network Functions (VNFs) for building SD-WANs.



Problem they solve: Currently, it is expensive and takes forever to deploy traditional WAN solutions, such as MPLS. The traditional WAN model was also designed for a different era, one that didn't have to contend with the cloud and mobility.

Moreover, Versa argues that proprietary WAN hardware from the likes of Cisco and Juniper doesn't embrace advanced features, such as Network Functions Virtualization (NFV).

How they solve it: Versa Networks enables service providers and large enterprises to build WAN and branch networks based on a broad set of VNFs.

For service providers, Versa enables managed services for virtual customer premises equipment (vCPE), managed SD-WANs, and managed security.

For enterprises, Versa provides carrier-grade solutions for SD-WAN and branch security projects.

Versa also offers network management, visibility, monitoring, and analytics capabilities.

Headquarters: Santa Clara, CA

CEO: Kumar Mehta, who previously served as VP of Engineering at Juniper Networks.

Year Founded: 2012

Funding: \$43 million in Series A and B rounds from Sequoia, MayField, and Verizon Ventures.

Competitors include: Aryaka, CloudGenix, Viptela, Talari, and VeloCloud are the startups Versa will compete against. Riverbed, Cisco, and Juniper are a few of the incumbents they'll also run up against.

Customers Include: As of now, the majority of their named customers are in the service provider space (they also compete for enterprise private WANs). These include Colt, Orange, and CenturyLink.

Why they're in the Big 50-2016: Versa finished third in Big 50 online voting for the cloud group. They've raised a solid chunk of VC funding, have a seasoned management team, and are well positioned in an expanding and turbulent market, one where new opportunities and use cases pop up frequently.

20. [Viptela](#)

What they do: Provide SD-WAN (Software-Defined Wide Area Networking) services.

Problem they solve: The traditional hub-and-spoke approach to WANs was designed for an era when users were in branches and applications were located in a centralized data center. Today, applications can be pretty much anywhere and users are increasingly mobile.

This has created entirely different traffic patterns that cannot be accommodated by inflexible WANs infrastructures.

How they solve it: Viptela has applied Software-Defined Networking (SDN) technology to tackle this WAN management problem. Viptela supports anywhere-to-anywhere secure communications over any transport technology (MPLS, Broadband, LTE, etc.) while providing full application-based control.

With SD-WAN solutions such as this, enterprises are able to combine multiple transport technologies (MPLS, broadband, Wireless, etc.) and manage them as if they are one network, all at a cost that is significantly less than traditional WAN services.

Headquarters: San Jose, CA

CEO: Amir Khan. Prior to Viptela, Amir led the enterprise routing business and product management for MX and M series routers at Juniper. Before Juniper he served as Director of Product Management at Cisco.

Year Founded: 2014

Funding: In May 2016, Viptela raised a \$75 million Series C round of financing. The round brings the company's total funding to nearly \$110 million. It was led by Redline Capital with participation from new investor Northgate Capital and existing investor Sequoia Capital.

Competitors include: Viptela competes most closely with a band of fellow startups including VeloCloud, CloudGenix, Cybera, Versa and Talari as well as established vendors such as Cisco, Riverbed Technology, Silver Peak and Citrix.

Why they're in the Big 50-2016: For starters, Viptela finished fourth in Big 50 online voting for the cloud group. They're also one of the better funded startups in the SD-WAN/WAN-as-a-Service space, with a solid management team to boot.

One thing holding them back, though, is the lack of named customers.

21. [Webscale](#)

What they do: Provide a cloud-based application delivery platform.

Problem they solve: Consumers demand a friction-less user experience when shopping online. Slow, non-responsive websites unable to handle sudden marketing-driven surges in traffic will turn a consumer away in seconds, and they'll take your potential revenue with them. Most mid-market e-commerce businesses use static hosting solutions, which makes the preparation for these traffic surges expensive and restrictive.



WEBSCALE

Many also pay for reserve capacity in the cloud, capacity that goes unused for long periods of time. This problem is compounded by a lack of control because business owners don't have adequate insight into the daily demands placed on their site and are unaware of the benefits of moving to the cloud.

Of the e-commerce businesses that understand the value of moving to the cloud, many don't know how to get there, either because they are not large enough to have a trusted IT team to guide them, or they simply don't trust the technology enough to depend on it.

How they solve it: Webscale is a cloud service deployed between a company's websites and the Internet. Webscale monitors e-commerce websites for various issues. Are they



experiencing a traffic surge? Do they need to scale up capacity? Has a server instance failed? Does it need to be replaced? Are page loads too slow because of bloated images or javascripts?

Webscale proactively resolves those issues, and the startup contends that it is the “only company using predictive analytics in this way.” The goal is to spot and resolve these issues before they cause

disruption, “ensuring the website stays fast and live.”

In June, Webscale launched its Multi-Cloud DR service. This adds disaster recovery services to its existing feature set, which includes application control, predictive auto-scaling, security, and single screen management of application delivery controllers (ADC) and web application functions All of this is handled in the cloud.

Webscale's Multi-Cloud Disaster Recovery (DR) solution provides backend disaster recovery services across various cloud providers and regions. The initial release of the Webscale Multi-Cloud DR solution focuses specifically on the needs of e-commerce customers, enabling them

to automatically failover during disaster scenarios to an alternate location with minimum downtime and data loss.

Headquarters: Mountain View, CA

CEO: Sonal Puri, CEO. Sonal previously served as CMO for Aryaka Networks. Prior to that, she ran global business operations, channels, and business development for Speedera Networks, where she also helped coordinate Speedera's exit when that startup was acquired by Akamai.

Year Founded: 2012

Funding: Webscale has raised \$7.86 million in funding, with backing from Mohr Davidow Ventures, Grotech Ventures, and individual angel investors. The startup is currently in negotiations to raise additional funding.

Competitors include: NGINX, AVI Networks, Appcito, and the integrated offerings from various large cloud providers, such as Amazon ELB.

Customers Include: PlayStation, ThinkGeek, Fresh Produce, Skinit, and Michael Todd Beauty, among others.

Why they're in the Big 50-2016: Webscale won the Startup50 online voting competition for the cloud sector – in a landslide. In fact, Webscale earned the most votes of any startup in any of the Big 50-2016 online voting groups. The company also has a strong management team with a solid track record in this space, as well as a long roster of e-commerce customers.

Finally, I believe it's only a matter of time until pretty much every application delivery platform moves to the cloud. I'm sure there will be some use cases that demand an on-premises solution, but most will not. Webscale has first-mover advantage for e-commerce app delivery, staking a big early claim in this fast-growth market sector.

22. [ZeroStack](#)

What they do: Provide on-demand private clouds delivered as a managed service.

Problem they solve: According to ZeroStack, the way enterprises currently build private clouds requires them to stitch together complex software stacks along with hardware components. This process often takes 3-6 months, or longer. Moreover, maintenance and management then become ongoing headaches that many enterprises aren't equipped to handle.

How they solve it: The ZeroStack Cloud Platform is an automated self-service private cloud environment that "increases agility while eliminating the challenges of operating an on-premises cloud."

The platform provides an AWS-like experience while keeping sensitive user data on-site.

ZeroStack's model of building a private cloud combines "on-premises hyper-converged infrastructure and a SaaS platform for operations, monitoring and consumption." The on-premises hardware consists of compute, storage, networking, and management software running across the set of nodes in a distributed manner.

ZeroStack has also built a proprietary control plane to manage, monitor, and auto-heal the system in case of any service or hardware failures. The SaaS component also collects events and health monitoring data from servers. It runs analytics on the data to provide capacity planning, spot anomalies, and help with operations.

According to a ZeroStack rep, "users can build a private cloud in minutes, no prior experience required."

Headquarters: Mountain View, CA

CEO: Ajay Gulati. Previously, Ajay was a senior architect and R&D lead at VMware, where he designed flagship products including Storage I/O control, Storage DRS, and DRS.

Year Founded: 2014

Funding: ZeroStack has raised \$21.6 million in funding from two investors, Formation 8 and Foundation Capital.

Competitors include: Both incumbents such as HP (Helion), VMware (vCloud suite), and Microsoft (Azure Pack) and startups like Platform9, Nutanix, and SimpliVity.

Customers Include: Florida Atlantic University.

Why they're in the Big 50-2016: ZeroStack finished fifth in Big 50 online voting for the cloud sector. They have solid VC backing, and a solid management team.

What catches my eye about ZeroStack, though, is how they balance the convenience vs. privacy conundrum so many enterprises are struggling with.

Exposing sensitive, proprietary data to the cloud has been a big sticking point for many enterprises, so this approach could pay off in the near term. Long term, I think cloud providers will bolster security and privacy, but that could take a good long while, and perception will certainly lag behind reality.

ZeroStack has carved out a good niche for itself in a high-growth market.

That said, they'll need to get some more on-the-record customers ASAP.

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Security and Storage Startups

With high-profile cyber-attacks constantly in the headlines, such as the recent Democratic National Committee (DNC) hacks and the Banner Health breach, security startups continue to remain a smart investment.

Cyber-security was one of the most active sectors in the Big 50 competition, trailing only Big Data and very narrowly trailing cloud computing entries. The security landscape is shifting, with startups relying on technologies like Artificial Intelligence (AI), machine learning, and even “deep learning” to bolster their ability to spot things like zero-day threats and Advanced Persistent Threats (APTs).

With as much as 80 percent of U.S. businesses experiencing a successful hack each year, [according to a Duke University/CFO Magazine Global Business Outlook Survey](#), and with Lloyd’s of London estimating that [global attacks cost businesses \\$400 billion each year](#), the stakes are obviously high.

One successful breach can do immense damage, from bad PR to fines to lost trade secrets.

Another problem startups are eying is the fact that the attack surface is getting larger each and every day. With industrial control systems now networked and with the IoT phenomena connecting everything from cars to home door locks to medical devices, modern day attackers enjoy a target rich environment.

On the storage side of things, the explosion in connected devices is leading to a corresponding explosion in data creation, data that must be stored and easily accessible. Not as many storage startups were nominated as security ones, but there was still plenty of activity in this sector.

Security and Storage Market Outlook

According to a new report from Gartner, [worldwide spending on information security products and services will reach \\$81.6 billion](#) in 2016, an increase of 7.9 percent over 2015.

Meanwhile, Market and Markets estimates that the [global cyber-security market will reach \\$170 billion by 2020](#).

Now, you'll also notice that we lumped storage startups in with security ones. Mostly, this is just for pragmatic reasons. We wanted 5 voting groups, with 10 startups (give or take) from each group making the final report. Security and storage fit together better than some of the alternatives. After all, poorly secured data that is stored in some sort of unencrypted fashion is at the root of plenty of breaches.

The storage market was shaken up in 2015 when Dell announced its intention to acquire EMC for \$67 billion. That move was just approved by EMC shareholders a few weeks ago.

Consolidation of massive incumbents typically means two things: 1) the incumbents get stronger, but 2) these large-scale shakeups often create daylight

for startups, as the incumbents worry more about merging two companies than defending their turf from startups.

According to IDC's Worldwide [Quarterly Enterprise Storage Systems Tracker](#), enterprise spending on storage declined 2.2% year over year to \$10.4 billion during the fourth quarter of 2015 (4Q15).



The storage market is in further turmoil still, as technologies shift, especially towards flash and cloud-based storage services. Startups will have plenty of opportunities to outflank incumbents as this market continues to evolve.

Below are the 12 security and storage startups that made it through the Big 50 gauntlet to earn their spots in the final report:

Note: The startups in this report are listed alphabetically by group. They are not ranked.

23. [Anonabox](#)



What they do: Provide personal VPN devices.

Problem they solve: If you or someone close to you has ever been hacked, dealt with your bank account being compromised, or had your identity stolen, then you know that protecting your personal information is a big deal. The problem is worsening as hackers leverage at previously unavailable information such as geolocation and social network status updates. And with the proliferation of poorly secured public WiFi networks, more and more people are exposing sensitive data simply by checking email or Facebook.

How they solve it: Anonabox personal VPN devices add a layer of privacy and anonymity by routing the user's Internet traffic over the Tor network (using a random series of exit nodes, instead of one predictable exit node) or using a VPN where you can choose your IP address from anywhere in the world.

Anonabox devices cloak the user's IP address and physical location, which can help users bypass censorship, deter big data collection, easily access to the Deep Web, and evade government snooping.

Many people argue that we shouldn't worry about government snooping, unless we have something to hide.

A company spokesperson pushed back on this idea: "Even if we 'don't have anything to hide,' knowing our government has access to our information may make many people uneasy."

It certainly makes me uneasy. It's just too easy to abuse this sort of mass data collection.

Headquarters: Chico, CA

Leadership: August Germar, who was previously CTO of 2interactive.

Founded: 2014

Funding: The company is backed by an undisclosed amount of seed funding.

Competitors include: Invizbox, Cloak, and raspberry Pi routers.

Customers Include:

Why they're in the Big 50-2016: Anonabox did well in online voting for the security and storage group. I also like the potential of this market, but, that said, this space could become quickly commodified, so Anonabox will probably need to ramp up quickly to stay afloat.

24. [Comilion](#)

What they do: Provide a unified messaging platform for security teams.



Problem they solve: Sharing and collaboration is a longstanding practice in the cybercrime underground where zero-day exploits, vulnerabilities, malware, and offensive capabilities are sold and shared.

Legitimate organizations must use the same techniques to level the playing field. However, technical, governmental, data privacy, compliance, and corporate policy obstacles block security collaboration across company, country, and industry boundaries.

To date, ad-hoc collaboration between organizations exists, but primarily via email, phone, or face-to-face interactions. There is currently no easy way for organizations to share meaningful threat information in a way that integrates with existing security appliances, especially when corporate policy and data privacy laws are taken into consideration.

How they solve it: Comilion has developed a decentralized, automated platform that enables secure and private bidirectional collaboration on security threats within and among organizations in regulated environments.

The platform removes governmental, compliance and corporate policy obstacles that currently prevent security collaboration across company, country, and industry boundaries.

The Comilion platform enables like-minded organizations to create private Slack-like networks to share real-time cyber-threat intelligence, and to collaborate on threat mitigation across the entire kill chain.

Headquarters: Tel Aviv, Israel and New York, NY

CEO: Kobi Freedman, who was previously VP of Business Development and Marketing at Comitari Technologies.

Year Founded: 2013

Funding: \$2.6 million in early stage funding from U.S. Venture Partners and angel investors.

Competitors include: Comilion has unique positioning – for now. Other messaging platforms will eventually add more privacy and security features. Meanwhile, security vendors are already starting to build more robust messaging capabilities into their platforms, but Comilion has first-mover advantage.

Why they're in the Big 50-2016: While I don't think security messaging represents a massive market opportunity, Comilion has first-mover advantage, and this is a pressing real-world problem. A head start here could serve as a beachhead for other security offerings on down the road.

25. Cybereason

What they do: Provide a real-time threat-detection platform.

Problem they solve: New types of cyber-threats, especially Advanced Persistent Threats (APTs), aren't easily combatted by traditional perimeter-based security. They're hard to detect and nearly impossible to fend off using traditional tools.

Meanwhile, hackers are getting more sophisticated and have automated toolkits and even botnets they can rent to attack or exploit increasingly complex IT environments.

How they solve it: Cybereason's real-time threat-detection platform automatically detects malicious activity and presents it back to IT in an intuitive way.

Sensors are deployed on endpoints and servers and collect data from across an organization, 24/7 and in real time. Meanwhile, the system relies on Artificial Intelligence, attack model libraries, and behavior detection to better detect both known and unknown threats, while also delivering actionable remediation info to security teams that provide the end-to-end context of an attack campaign.

Headquarters: Boston, MA

CEO: Lior Div, who previously served in unit 8200 of the Israeli Intelligence Corps as a commander of a cyber security team.

Year Founded: 2012

Funding: \$89.4 million raised in three rounds. Investors include CRV Ventures, Spark Capital, Lockheed Martin, and Softbank.

Competitors include: CrowdStrike, Confer, Tanium, Carbon Black, and many others.

Customers Include: Lockheed Martin and Softbank.

Why they're in the Big 50-2016: Cybereason finished in the top 10 in Big 50 online voting for the Security and Storage group. They've also raised nearly \$90M in funding and are positioned in a land-grab niche within the cyber-security space. APTs are becoming an ever-increasing problem for many enterprises, and Cybereason is well positioned to take advantage of the growing awareness of this problem.

26. Deep Instinct



What they do: Apply “deep learning” to cyber-security for zero-day protection.

Problem they solve: Zero-day attacks are getting harder and harder to fend off. Malware toolkits are readily available on the dark web, and often all it takes to fool today’s security tools is a very minor change to existing malware.

How they solve it: Deep Instinct takes concepts from machine learning, more specifically deep learning, and applies them to cyber-security. Deep learning, or deep structured learning, is a technique that mimics the way our brains learn to recognize objects.

“When you see a picture of a dog, you identify it immediately, in real-time and with full confidence, even if a percentage of the pixels is modified. Nearly all of new malware is based on small mutations of known malware, which can be identified by cyber-security solutions, whereas the mutated malware cannot,” noted Maya Schirmann, CMO of Deep Instinct.

Headquarters: Tel Aviv, Israel

CEO: Guy Caspi. Caspi previously served in the Israel Defense Forces and was President and GM of a division at Comverse/Verint Group.

Year Founded: 2014

Funding: The company is backed by an undisclosed amount of seed funding from UST Global and Blumberg Capital.

Competitors include: AV incumbents, such as Symantec and Kaspersky, as well as a range of startups, including machine learning security startups like Darktrace.

Why they're in the Big 50-2016: Deep Instinct did well in online voting for the security and storage group, and I really like their concept of applying deep learning to zero-day threats.

27. [Illumio](#)

What they do: Provide an “adaptive security platform.”

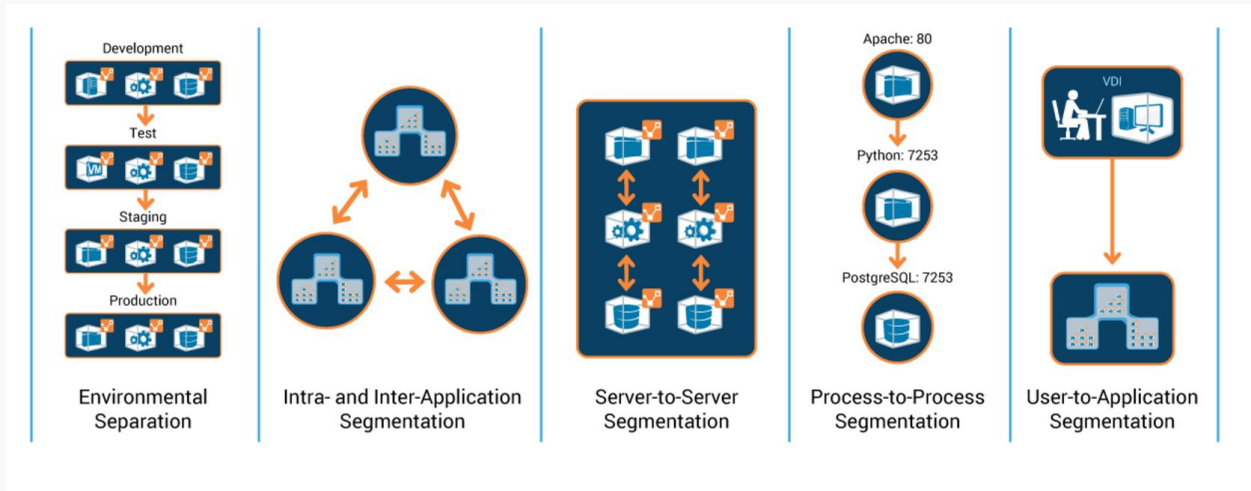


Problem they solve: According to Illumio, there are more than 250 million servers inside data centers and clouds that are poorly secured and need protection against rapidly evolving threats. Security professionals are burdened with the sheer number of firewall rules, zones, VLANs, and subnets.

And it's not just the sheer numbers that are a problem, but the complexity of modern networks, as companies migrate to the cloud and embrace a wide variety of new services and technologies.

Automation and hybrid environments break traditional perimeter and legacy solutions, and the expanding attack surface created by today's network segmentation model leaves as much as 90 percent of computing assets open and exposed to outside attackers.

How they solve it: Illumio's Adaptive Security Platform (ASP) attaches adaptive segmentation and enforcement to workloads, allowing security pros to secure individual applications and processes without changing subnets, firewalls rules, zones, VLANs – or any other infrastructure settings.



Illumio ASP further reduces risks in data center and cloud environments by delivering application traffic visibility, adaptive segmentation, and encryption – all with no dependency on the network or hypervisor.

This is a distributed software platform designed to continuously protect communications within and across tiers of applications, wherever they are running. It creates secure and granular segmentation to compartmentalize workloads and applications, reducing the attack surface exposed to cyber vulnerabilities.

Thus, Illumio ASP is completely decoupled from infrastructure, meaning no more risks will be introduced through untested updates and misconfigurations.

Headquarters: Sunnyvale, CA

Year Founded: 2013

Funding: \$142 million raised in three rounds (the most recent being a \$100M Series C, which closed in early 2015). Investors include BlackRock Funds, Accel Partners, Formation 8,

Andreessen Horowitz, and General Catalyst. Individual and angel investors include Microsoft Chairman John W. Thompson, Salesforce CEO Marc Benioff, and Yahoo co-founder Jerry Yang.

Competitors include: VMware (NSX), Palo Alto Networks, Skyport Systems, and Cisco.

Customers Include Morgan Stanley, Salesforce, Plantronics, King Entertainment, NetSuite, and Creative Artists Agency.

Why they're in the Big 50-2016: Illumio finished second in online voting for the security and storage group. They've raised an impressive amount of VC funding, and their management team and board knows this space inside and out, having earned their stripes at VMware, Cisco, Juniper, McAfee, Palantir, Symantec, Palo Alto Networks, Nicira, and other security and infrastructure companies.

28. [Indegy](#)



What they do: Provide a security monitoring platform for industrial control networks (dams, power grids, oil/gas facilities, manufacturing plants, etc.).

Problem they solve: Most industrial networks were designed years ago, before cyber threats even existed. They were built to be reliable and safe, but not with cyber-security in mind.

For instance, out-of-date operational networks with unsecured Programmable Logical Controllers (PLCs) and RTUs (Remote Terminal Units) – which manage the lifecycle of entire industrial processes – open core infrastructure to serious risks.

Unauthorized changes to these controllers can have disastrous consequences. Meanwhile, monitoring changes to controllers due to malicious activity or human error is extremely difficult.

Currently, security and operations teams lack the visibility and control needed to respond to critical events caused by controller modifications.

How they solve it: Indegy provides real-time visibility into changes that are made to the devices that control key processes, such as water treatment, pharmaceutical manufacturing, and oil/gas refining.

The platform helps engineering and security staff quickly pinpoint logic changes, configuration changes, firmware uploads and downloads, and changes in the state of industrial control devices. The goal is to prevent operational disruptions and physical damage.

Indegy detects, logs, and alerts on (based on policy) all changes made to critical controllers – regardless of whether they are performed over the network, locally on the device, or by malware.

Headquarters: Tel Aviv, Israel

CEO: Barak Perelman. Before co-founding Indegy, he worked in R&D at Stratoscale and served as a project manager and R&D team leader in the Israel Defense Forces.

Year Founded: 2014

Funding: In July 2016, Indegy closed a \$12M Series A round of financing led by Vertex Ventures Israel with participation from Silicon Valley-based Aspect Ventures and SBI Holdings of Japan, as well as previous investors Magma Venture Partners and Shlomo Kramer. The company has raised \$18M to date.

Competitors include: Lockheed Martin Industrial Defender, PAS, and NexDefense.

Why they're in the Big 50-2016: Indegy did well in Big 50 online voting, finishing third in the security and storage group.

I also really like the problem they tackle and their answer to it.

Cyber-attacks on critical infrastructures – energy, water utilities, petrochemical plants, manufacturing facilities, etc. – can have devastating consequences. Many of these are acts of cyber-espionage, such as the U.S. releasing Stuxnet to disrupt Iran’s nuclear program and Russia’s shutdown of Ukraine’s power grid.

But it doesn’t take a nation-state to launch these attacks, which is what’s most troubling. Software like that from Indegy should have been in these facilities years ago.

29. [Menlo Security](#)

What they do: Provide cloud-based security.



Problem they solve: Corporate networks and enterprise security policies rely heavily on threat detection tools to alert administrators to attacks, but the continuing onslaught of successful attacks makes it clear that it isn’t possible to reliably distinguish good or safe content from malware.

Conventional threat prevention products attempt to distinguish between “good” and “bad” content, and then implement policies intended to allow the good content through, while blocking the bad stuff. This approach always lags behind threats, though, since attackers are always searching for new ways to avoid detection.

How they solve it: Rather than trying to sort good content from bad, Menlo’s security platform executes all risky content on an “isolation platform in the cloud, instead of on the user device.”

The Menlo Security Isolation Platform (MSIP) specifically focuses on the threat of malware from the Web and email, the two most prevalent threat vectors.

The MSIP is deployed between a user’s device (e.g. desktop, laptop, tablet, or smartphone) and the Internet. User Web requests are proxied via the MSIP, which accesses the Web on the

user's behalf and executes the user's session. Only safe, malware-free rendering information is sent to the user's endpoint.

The Platform, which provides isolation for both clear-text (HTTP) and SSL-encrypted (HTTPS) Web content, is available as a public cloud service and can also be delivered as a virtual appliance for deployment in an organization's data center.

Headquarters: Menlo Park, CA

CEO: Amir Ben-Efraim, who previously served as VP of cloud security at Juniper Networks.

Year Founded: 2013

Funding: \$45 million to date. Their most recent round was a \$20M Series B that closed in June 2015. Investors include General Catalyst, Sutter Hill Ventures, and Osage University Partners.

Competitors include: Bromium, Spikes Security, and Invincea, as well as a slew of other endpoint and email protection vendors.

Customers Include: First Community Bank and Tribune Media.

Why they're in the Big 50-2016: Menlo Security did well in Big 50 online voting for the security and storage group. They have solid VC backing, and a security solution that's well tailored to address many of today's most troubling threats.

30. [Morphisec](#)

What they do: Provide endpoint threat prevention software.

Problem they solve: Signature- and perimeter-based security protections are failing to keep up with attackers. Yet, the new defenses we've come up with, such as Data Leak Prevention and behavior-based protection, only tackle pieces of the overall problem.

How they solve it: Morphisec's Moving Target Defense technology uses a malware technique – polymorphism, or the ability to constantly change – to hide targets from attackers during application load time.

Morphisec's Endpoint Threat Prevention solution, which launched in February, 2016, protects Windows-based endpoints from all exploit-based memory injection attacks to 32-bit applications, such as browsers and productivity tools. It prevents evasive attacks, zero-days, and attacks targeting known but unpatched vulnerabilities. It does so in a deterministic manner, via a lightweight 1MB agent that installs on the fly and does not rely on rules, signatures, databases or learning algorithms.

Headquarters: Be'er Sheva, Israel

CEO: Ronen Yehoshua. Before co-founding Morphisec, Ronen was a partner at Cedar Fund.

Year Founded: 2014

Funding: In October, 2015, Morphisec closed a \$7 million Series A funding round led by JVP (Jerusalem Venture Partners) and joined by GE Ventures (NYSE: GE), Deutsche Telekom (XETRA: DTE), Portage Advisors, and OurCrowd.

Competitors include: Cylance, Bromium, Invincea, and Palo Alto Networks (Traps).

Why they're in the Big 50-2016: Morphisec finished in the top 10 in Big 50 online voting for the Security and Storage group. I also really like that with Morphisec's technology, attackers are now the ones hunting for a constantly morphing target. Thus, they're also wasting resources chasing after targets can't seem to find.

31. [Niara](#)

What they do: Provide a behavioral analytics based security platform.



Problem they solve: Legacy threat discovery and incident investigation tools are falling behind today's sophisticated cyber-attacks. Relying on rules and signatures, legacy tools are ineffective against unknown attacks.

Meanwhile, security personnel are drowning in time-consuming, inefficient activities, exacerbated by systems generating excessive alerts on the basis of identifying potentially suspicious activities. As such, it's no longer sufficient for technologies to just flag suspicious actions and leave security analysts with the tough task of determining the critical nature of those actions.

Worse still, in the age of Big Data, these tools can't scale to handle the massive amount of data that needs to be analyzed to detect these attacks. Moreover, much of the critical data that provides context is spread across siloed systems – if it has been captured at all.

As a result, attacks can go undetected for months, if not years.

How they solve it: Niara's behavior analytics platform applies machine learning techniques to data collected from an organization's network and security infrastructure. The goal is to automate the detection of attacks that have bypassed an organization's perimeter defenses, dramatically reducing the time and skill needed to investigate and respond to security events.

The platform applies machine learning algorithms and forensics to detect compromised users, entities, and malicious insiders.

Headquarters: Sunnyvale, CA

CEO: Sriram Ramachandran, who previously served as VP of Engineering and then VP of Strategic Initiatives at Aruba Networks. Prior to that, he was VP of Engineering, Security Products for Juniper.

Year Founded: 2013

Funding: Niara is backed by \$29.4 million in total VC funding. The most recent round, a \$20M Series B, closed in April 2015. Venrock led the Series B, with participation from Series A investors New Enterprise Associates and Index Ventures.

Competitors include: Exabeam, Fortscale, and Securonix.

Why they're in the Big 50-2016: Niara did well in Big 50 online voting for the Security and Storage group. They've raised a decent amount of VC funding, and they have a solid management team.

I also like their machine-learning-based analytics approach. Being able to analyze relevant security data from a “combination of network and log data (i.e., packets, flows, logs, files, alerts, endpoints and/or threat feeds) from multiple perspectives to create comprehensive risk profiles for all entities (i.e., users, hosts, and devices)” seems like the sort of thing that is unique today but will be table stakes in the not-so-distant future.

32. [PernixData](#)

What they do: Develop scale-out storage products.

Problem they solve: To keep up with today's exploding data demands, IT administrators need a way to efficiently scale out storage performance using virtualization in the same way they scale server compute and memory.

How they solve it: PernixData is developing “analytics-driven storage, where storage is architected to be dynamic, scale-out and predictable based on real-time application and infrastructure data.” Their flagship product, PernixData FVP, brings a “scale-out, microsecond-level storage acceleration tier to every workload, in every virtualized data center.”

Headquarters: San Jose, CA

CEO: Poojan Kumar. Before co-founding PernixData, he worked at VMware, where he led all data products.

Year Founded: 2012

Funding: The company has raised a total of \$62 million in VC funding, the most recent round being a \$35 million Series C that close in August 2014. Investors include Menlo Ventures, Kleiner Perkins Caufield and Byers, and Lightspeed Ventures.

Competitors include: EMC, NetApp, and many others.

Why they're in the Big 50-2016: PernixData edged their way into the Big 50 on the strength of big VC funding and a strong founding team.

33. [Qumulo](#)

What they do: Develop data-aware scale-out NAS software.

Problem they solve: Traditional NAS appliances pay no attention to data. This makes it harder for them to scale-up to keep up with today's explosive data growth. Data management is a much bigger challenge than basic storage.

How they solve it: Qumulo's scale-out NAS technology allows companies to "store and manage huge amounts of digital data, while also offering instant insight into how the data is being used."

Headquarters: Seattle, WA

CEO: Peter Godman, who was previously VP of Engineering and later CEO of Corensic.

Year Founded: 2012

Funding: In June 2016, Qumulo closed a \$32.5 million Series C funding round. Allen & Company, Top Tier Capital Partners, and Tyche Partners are new investors. Existing investors Kleiner Perkins Caufield & Byers (KPCB), Madrona Venture Group, Highland Capital Partners, and Valhalla Partners all participated as well. To date, Qumulo has raised \$100 million.

Competitors include: EMC (Isilon), NetApp, and Quantum (StorNext), among others.

Customers Include: Atomic Fiction, Blind Studios, Institute for Health Metrics and Evaluation (IHME) at the University of Washington, MSG Networks, Sinclair Oil, and UConn Health.

Why they're in the Big 50-2016: Qumulo was the highest ranking storage company in Big 50 online voting for the security and storage group, finishing ninth overall.

They've also raised a boatload of VC funding, have a customer list a mile long, and have a solid management team, many of whom came to Qumulo from the likes of Isilon, AWS, and EMC.

34. [Skyport Systems](#)



What they do: Provide a “remotely managed platform that establishes a secure enclave for the enterprise’s most critical applications.”

Problem they solve: Cyber-security is an ongoing problem for organizations of all sizes. Application security is a newer security niche, but one with plenty of issues still plaguing it.

How they solve it: According to the startup, the Skyport SkySecure platform “provides secure enclaves that protect key business applications without compromising performance.” Skyport claims to have “rearchitected the x86 hardware and software stack, transforming it into a turnkey, trusted system with embedded security.”

Skyport moves security from the network perimeter to directly around the application itself. The application runs in a secure compartment on hardened infrastructure on the user's on-premises equipment.

Security and infrastructure management are integrated and delivered as a service. In essence, the user gets the benefits and ease of use of the cloud, without having to give up control of their data.

Headquarters: Mountain View, CA

CEO: Art Gilliland. He previously served as the SVP & GM for the Enterprise Security Products group at Hewlett Packard. Prior to that, he was the SVP of Information Security Products for Symantec.

Year Founded: 2013

Funding: Skyport is backed by \$67 million in VC funding from Cisco Investments, GV, Index Ventures, InstantScale Ventures, Intel Capital, Northgate Capital, Sutter Hill Ventures, and Thomvest Ventures.

Competitors include: Skyport will compete against incumbent security providers, such as Symantec, RSA, and Cisco.

They'll also compete against managed/cloud security and application security companies, including Veracode and Blue Coat, as well as such startups as Illumio and Ixia.

Customers Include: NPD, Rambus, Plex, and Juniper.

Why they're in the Big 50-2016: Skyport finished first in Big 50 online voting for the Security and Storage group. That alone cemented their spot in this report. I'm also impressed by their hybrid remotely managed/on-premises approach, which borrows from the hybrid cloud concept to bolster security through managed services, while also eliminating many of the privacy and regulatory headaches that come when you move key assets to the cloud.

Skyport also has a solid VC funding haul, as well as a seasoned management team with experience at all of the usual suspects in networking and cyber-security (i.e., Symantec, Cisco, Juniper, etc.).

AI, Machine Learning, Automation, Sustainability, and IoT Startups

This group doesn't cohere as neatly as, say, the cloud or Big Data groups. In late 2015 and early 2016, the Startup50 team attended several events that attracted startups looking for initial investments. From the Silicon Beach Fest to Lean Startup Week to Eureka Park at CES, we investigated numerous Artificial Intelligence (AI), Machine Learning, wearables, Internet of Things (IoT), sustainability, and Drone startups.

Several are represented in this section of the report.

Many of the startups we met with,

however, were still in the science-project phase. They had good ideas, but were too far away from Minimally Viable Products (MVPs) to include in a report like this. We hope they'll apply again for future roundups, but for now, they're not a fit.

The startups listed below are tackling everything from data collaboration driven by machine learning to HR automation to water filtration.



Automation, IoT & Sustainability Market Outlook

While this broad umbrella doesn't lend itself to easy market analysis, here are a few research tidbits:

- According to IBISWorld research, [employment and recruiting agencies in the US bring in \\$28 billion](#) in revenue annually.
- According to research by Markets and Markets, [by 2020 the incident and emergency management market will reach \\$101.33 billion](#).
- Research by the Freedonia Group found that the worldwide demand for [water treatment projects reached nearly \\$65 billion in 2015](#) and is forecasted [to grow 5.9 percent per year to \\$13.0 billion in 2017 in the US](#) alone.
- Gartner forecasts that IoT wearables [will generate revenue of \\$28.7 billion](#) by the end of 2016.
- According to Markets and Markets, the gesture recognition and touchless sensing market is expected to [grow at a compound annual growth rate \(CAGR\) of 28.2%](#) between 2015 and 2020, from \$5.15 billion in 2014 to \$23.55 billion.

Below are the 9 startups from the AI, Machine Learning, IoT, et al Group. These startups may not be as well funded as those in other groups, but they're on the cutting edge of where the tech market is heading.

35. [Alation](#)



What they do: Provide a data catalog for collaboration.

Problem they solve: Alation argues that data lacks value unless it can be understood, easily accessed, and put to proper use. Understanding the context of how data is used in an

organization is key to making proactive recommendations to increase analyst productivity in an organization, yet context is exactly what's missing from many analytics tools.

How they solve it: With Alation, analysts are able to search, query, and collaborate on their data. Alation automatically captures the rich context of enterprise data, including what the data describes, who has used it, and what the fit is between the data and different types of analysis.

Headquarters: Redwood City, CA

CEO: Satyen Sangani, who previously ran the Financial Services Warehousing and Performance Management business at Oracle.

Founded: 2012

Funding: \$9 million from Costanoa Venture Capital, Data Collective Venture Capital, Andreessen Horowitz, Bloomberg Beta, and General Catalyst Partners.

Competitors include: Alpine Data Labs, Collibra, Trifacta, Paxata, and Maana.

Customers Include: eBay, Square, MarketShare, and Inflection.

Why they're in the Big 50-2016: Alation did well in Big 50 online voting for the AI/Machine Learning group. They also have an impressive roster of well-known customers, and solid positioning in a market with a ton of upside.

36. [Bixi](#) (Bluemint Labs)

What they do: Develop gesture-controlled smart devices.

Problem they solve: When your hands are occupied, you often have to pause an activity to interact with a smart device. In some situations, such as accessing a phone while driving, this sort of task switching can be dangerous.

How they solve it: Allowing users to access smart devices via gesture control helps avoid user distractions, while also helping to boost productivity in certain cases.

Their first device, a smart remote called Bixi, senses your hand gestures to control everything from smart TVs to connected home devices to in-car entertainment systems.

Headquarters: Grenoble, France

CEO: Vijayaraghavan Narayanan, who previously did SoC Architecture at STMicroelectronics.

Founded: 2015

Funding: The company has raised an undisclosed amount of seed funding and is planning to launch as Kickstarter campaign soon.

Competitors include: Leap Motion, Thalmic Labs, and voice recognition engines like Siri, and Google Now.

Why they're in the Big 50-2016: This space is a land grab, and Bixi looks to be the sort of simple, versatile device that can appeal to a wide range of customers.

37. [Gild](#)

What they do: Develop HR recruiting software that automates manual, time-consuming processes, while also leveraging data analytics to help recruiters make smart hiring decisions.

Problem they solve: Recruiters spend an inordinate amount of time on manual, repetitive tasks. To keep up with the changing hiring market, they need to offload and automate tedious manual work, but this automation must also be smart enough to help them figure out how to hire the right people to help their companies succeed.

How they solve it: Gild uses data science and automation to accelerate routine hiring processes. Predictive analytics and business intelligence are used to empower recruiters to make more informed decisions. Gild's databases draw information from all over the Web and

are constantly refreshing profiles, so every candidate profile always has complete, up-to-date data.

Headquarters: San Francisco, CA

CEO: Sheeroy Desai, who was previously a founding member and COO at Sapient.

Founded: 2011

Funding: \$25.9 million in total. The most recent round, a \$13.5 million Series B, closed in June 2014 and was led by Menlo Ventures. Other investors in Gild include Baseline Ventures, Globespan Capital Partners, Draper Nexus Ventures, Correlation Ventures, and Sapphire Ventures.

Competitors include: CareerBuilder, COMPAS Technology, and HiringSolved, among others.

Customers Include: Facebook, Red Hat, IBM, and Splunk.

Why they're in the Big 50-2016: Gild has solid VC backing, and have an impressive customer roster, proving that they've already gained traction in this turbulent, highly competitive space.

38. [H2O.ai](#)

What they do: Provide an open-source machine learning platform that “makes it easy to deploy smart applications and take them into production.”

The logo for H2O.ai features the text 'H2O.ai' in a bold, sans-serif font. The 'H' and 'O' are black, while the '2' is a smaller black font. The '.ai' is in a lighter gray color.

Problem they solve: Smart knowledge-based companies are automating as many routine tasks as possible, while also turning to their organizational data to unlock new business opportunities.

According to company spokesperson Yotam Levy, “Companies compete as much on their data and algorithms as they do on their products.” For example, in the insurance and financial

sectors, “being able to price a line of credit or insurance policy based on just a slightly better model can be the difference between success or failure.” However, most companies don’t have the in-house expertise to effectively compete “on data and algorithms.”

How they solve it: H2O.ai’s learning platform is intended to “bridge the worlds of the data scientist and the developer.” The startup’s open-source platform, H2O, allows developers to import machine learning algorithms and packages and layer them directly on top of their applications.

Headquarters: Mountain View, CA

CEO: SriSatish Ambati, who previously co-founded Platfora.

Founded: 2011

Funding: \$33.6 million in total. The most recent round, a \$20M Series B, closed in November 2015. Investors include Paxion Capital Partners, Nexus Venture Partners, Transamerica Corporation, and Capital One Growth Ventures.

Competitors include: SAS Institute, Dato and Skytree.

Customers Include: Capital One, Transamerica Corporation, Progressive Corporation, Zurich North America, and Nielsen Catalina Solutions.

Why they’re in the Big 50-2016: H2O.ai is backed by solid VC funding. They also have a strong management team, and a number of high-profile on-the record customers.

39. [RapidSOS](#)

What they do: Develop emergency communication devices.

Problem they solve: Over 180 million 911 calls come from mobile devices annually, all relying on voice connections. These calls provide limited or no additional information, including

location data. The FCC estimates that over 10,000 lives are lost annually when 911 callers can't be located.

In the Internet of Things era, this is clearly unacceptable.

How they solve it: The RapidSOS system uses predictive algorithms to identify patterns in emergency occurrences, with the aim to preempt emergencies before they happen and ensure that first responders are one touch away from callers. The RapidSOS Haven app transmits GPS location and other important information to 911 dispatcher systems, without the need for additional training, equipment, or cost to the dispatcher centers.

Headquarters: New York, NY

CEO: Michael Martin, who was previously a co-founder of MS Consulting.

Founded: 2013

Funding: \$5.5 million from Highland Capital Partners.

Competitors include: Life360, LiveSafe, and Rave Mobile Safety.

Why they're in the Big 50-2016: RapidSOS did well in Big 50 online voting, and I like that they're pushing the IoT paradigm in a way that could benefit the public at large.

40. [Stringify](#)



What they do: Develop software that “brings your physical and digital Things together to create automated experiences that help you save time, save money, stay healthy, and have a little fun.”

Problem they solve: As the connected home concept catches on, what's missing is one central place to control all your smart things. The cellular carriers and mobile phone vendors are trying

to remedy this with various remote control apps, but these tend to be complicated and only work with certain devices.

How they solve it: The Stringify app connects multiple products and services into a single experience. You're able to then manage these experiences. Not only can you control your devices and services through the app, but you can also create what Stringify calls "Flows" in order to automate various experiences.

For example, Stringify just added support for Amazon Alexa so you can set Stringify to turn the LIFX color lights to 15% brightness and warm white when you tell Alexa to start a movie.

You can set up more complicated Flows, relying on if-then decisions, for things like dimming the lights and sending an SMS alert if a door has been open for more than 20 minutes. And if it is, say, below 50 degrees outside, you could also shut off the heat or AC, so you aren't heating or cooling the great outdoors.

Stringify also works with services and not just physical products. For instance, you can set it up to email you the title and link every time a new business story is posted to CNN.

Headquarters: Los Gatos, CA

CEO: Mike Yurochko, who was previously SVP, Digital User Experience at JP Morgan Chase.

Founded: 2014

Funding: \$9.3 million in funding from Artis Ventures, OurCrowd, and various strategic investors.

Competitors include: IFFT, Zapier, various remote control apps from the likes of Samsung and Apple, and even virtual personal assistants like Siri and Alexa.

Why they're in the Big 50-2016: Stringify did well in Big 50 online voting for the AI/Machine Learning/IoT group, and I like the idea of a connected device controller, one you can set up to accomplish relatively complicated tasks.

41. [Theatro](#)



What they do: Theatro is producing a voice-controlled wearable computer, packaged as a SaaS, to be used by hourly service and manufacturing workers.

Problem they solve: Enterprises with large hourly workforces within sectors – such as retail, hospitality and manufacturing – have yet to realize the same massive productivity gains from smart mobile devices as those enterprises with large professional workforces.

Hourly service and manufacturing workers tend to be slowed down if required to carry a smartphone or tablet while doing their job because they need their hands free and their eyes focused on their work.

How they solve it: Using wearables that are voice-controlled, employees do not have to look at a screen to access information, and, therefore, can stay focused on the customer in front of them or the task at hand. Theatro enables real-time assistance for employees to provide a better customer experience by giving them in-the-moment information such as inventory counts, sales updates, price checks, and access to store management.

Headquarters: Dallas, TX

CEO: Chris Todd, who was previously the CEO of AppTrigger.

Founded: 2011

Funding: \$8.8M from Khosla Ventures angel investors.

Competitors include: Motorola Solutions and Zebra Technologies.

Customers Include: The Container Store, Cabela's, and Bass Pro Shops.

Why they're in the Big 50-2016: Theatro did well in Big 50 online voting, they have a solid customer list, and I like their market positioning.

42. Unanimous A.I.



What they do: Provide a social platform that merges social

networking and artificial intelligence in a way that makes it possible for online groups to combine their thoughts, opinions, insights, and intuitions in real time.

Problem they solve: Billions are being spent on AI research aimed at replacing aspects of human intelligence with technologies that are purely digital. While the potential applications of traditional A.I. are vast, so are the risks.

Over the past year, luminaries have spoken out from all directions. Physicist Stephen Hawking declared Artificial Intelligence a grave danger to the human race, warning we could easily lose control over any intellect that surpasses our own. In an op-ed coauthored with Nobel laureate Frank Wilczek, MIT physicist Max Tegmark, and computer scientist Stuart Russell, Hawking warned, “the short-term impact of AI depends on who controls it, the long-term impact depends on whether it can be controlled at all.” Even Elon Musk has jumped into the fearful fray, calling the AI danger “increasingly probable” and said that its likely humanity’s “biggest existential risk.”

How they solve it: While it would be a fool’s errand to try to put the AI genie back in the bottle, that doesn’t mean we shouldn’t try to mitigate risks.

Unanimous A.I.’s approach to building intelligent systems is one that keep humans in the loop. Their mission is to leverage the very real benefits of computational infrastructure without losing the very human qualities of creativity, empathy, morality, and justice.

Unanimous A.I.’s social platform, UNU, merges social networking and artificial intelligence in a way that makes it possible for online groups to combine their thoughts, opinions, insights, and intuitions in real time. This enables groups of all sizes to pool their combined knowledge and form a unified intelligence that can “think as one” to answer questions, to make predictions, generate ideas, and even play games.

The technology works by creating dynamic feedback loops around user-groups, enabling a real-time negotiation among many minds at once, everyone pushing and pulling on the boundaries of the decision-space until they converge on insights and conclusions that reveal the collective wisdom of the participants.

Unanimous A.I. refers to this process as “Artificial Swarm Intelligence.” In the natural world, groups form real-time systems (swarms, flocks, and schools) that tap the wisdom of its members, achieving a level of intelligence that exceeds the capacity of the individuals. But unlike natural swarms, the glue that holds groups together inside the UNU platform are the networking technologies and swarming algorithms. Because a Swarm Intelligence is a form of A.I. that keeps people in the loop, it instills human emotions and sensibilities into the emergent intellect.

Headquarters: San Francisco, CA

CEO: Louis Rosenberg, PhD. Rosenberg earned a PhD from Stanford University, where his doctoral work focused on robotics, virtual reality, and human-computer interaction.

Founded: 2015

Funding: The company is backed by an undisclosed amount of seed funding.

Competitors include: IBM (Watson), Google (through the DeepMind acquisition), and Vicarious Systems.

Why they’re in the Big 50-2016: Unanimous A.I. did well in online voting, and their swarm intelligence concept is a unique and compelling one. Unanimous A.I. is certainly a startup to keep an eye on as they build their platform out, one that could help lead the AI space in a new direction.

43. [WAVVE Stream Inc.](#)

What they do: Develop products that remove harmful chemicals and heavy metals from water.

Problem they solve: Access to potable water is becoming a bigger and bigger issue for much of the world's population. Less than 1% of the water supply on earth can be used as drinking water, and there are currently 3.4 million people dying each year from drinking contaminated water.

Even in developed nations, evolving issues with climate change, drought, and territorial conflicts reduce the access to and availability of potable water.

How they solve it: WAVVE Stream's Bio-beads aim to complement and/or substitute current materials used for water treatment. These Bio-beads offer a low-cost method that can simultaneously remove several contaminants, possesses easily modifiable chemistry to adapt to different water contamination needs, and can be incorporated into a range of existing water filtration systems, making it accessible to numerous applications and geographical areas.

According to WAVVE Stream's CEO, Eric Beydoun, "Regeneration and disposal methods for our technology, two of the main concerns in water treatment, will be inexpensive and simple, since these new Bio-beads are non-cytotoxic, biodegradable and can be easily regenerated." During the regeneration process, it is possible to "recover the nitrates and phosphates to sell as fertilizers to the agricultural sector, which could result in additional profits and lower total treatment costs, since regeneration of most water treatment technologies can reach more than 70% of the total cost of treatment."

Headquarters: Houston, TX

CEO: Eric Beydoun, who previously founded Conversitting.

Founded: 2014

Funding: An undisclosed amount of seed funding.

Competitors include: Gradek Energy, Water Lens, Liquidity, SimpleWater, and Baswood.

Why they're in the Big 50-2016: WAVVE Stream was highly ranked by Big 50 online voters, and despite the fact that WAVVE Stream is still in the early development stages, clean water access will be a serious issue in the near future. Actually, it's already a serious issue in much of the world.

I also wanted to feature a sustainability startup or two in this report. Of those that applied, WAAVE Stream was the only one that I thought was ready (well, nearly ready) for primetime.

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On-Demand Services and EdTech Startups

The On-Demand Services and EdTech Group shows that pretty much everything in our physical world now has an analog online. If Uber, TaskRabbit, and Airbnb weren't enough to convince us



that the on-demand/gig economy wasn't going to go away, these startups prove that we're just scratching the surface of this trend.

We lumped EdTech startups in with the On-Demand Services startups because these startups seem to be following a similar trajectory. You can now learn about anything from anywhere at any time, and EdTech

startups are already unleashing the underused capacity of educators out there, many of them previously driven out of education because of low pay and subpar working environments.

On-Demand Services Market Projections

The on-demand market is a wide and varied one. The research below looks at various ways the market is taking shape, as well as looking at the current market being disrupted.

- According to IBISWorld research, [office staffing and temp agencies in the US bring in \\$151 billion](#) in annual revenue.
- IBISWorld research found that [janitorial services alone generate \\$51 billion annually](#) in the US.

- According to the Association for Talent Development (ATD), [\\$164.2 billion is spent on training and development by U.S. companies annually.](#)
- Forrester states that in the US alone, [the consumer packaged goods \(CPG\) industry](#) generates revenues of more than \$2 trillion annually.
- According to Markets and Markets research, the public safety and security market is projected to grow globally at an estimated compound annual growth rate (CAGR) of 10.9% from 2015 to 2020, [to increase from \\$220.82 billion in 2015 to \\$370.64 billion](#) by 2020.
- Markets and Markets also believes that the [global mobile marketing market will grow at a Compound Annual Growth Rate \(CAGR\) of 28.1%, from \\$28.63 billion in 2016](#) to \$98.85 billion by 2021.
- According to the American Staffing Association, [total staffing and recruiting industry sales have reached \\$130 billion](#) annually in the US.

Below are the 7 On-Demand and EdTech startups with the right combination of online votes, funding, vision, and market positioning to claim a spot in the Big 50-2016 final report.

44. [Aivvy](#)

What they do: Develop “smart music technology platforms.”

Problem they solve: Today’s streaming services, whether on-demand services like Spotify or radio-like experiences through Pandora, are complex and require a lot of set up before users get the music experiences they want.

In addition, the services require connectivity via WiFi or mobile, unless you’ve already downloaded playlists. Finally, these services also drain device batteries because of constant connectivity.

How they solve it: Aivvy's AI music platform removes the complexities of streaming all together and allows users to listen to music at any time, in any place. Aivvy turns devices into smart music players. Aivvy acts as your own personal DJ, curating songs based on your interests, and it gets "more in tune with you the more you listen."

Headquarters: Redwood City, CA

CEO: Crusoe Mao

Founded: 2014

Funding: An undisclosed amount of seed funding.

Competitors include: Spotify, iTunes, Pandora, etc.

Why they're in the Big 50-2016: Aivvy did well in online voting, and I like the idea of using AI to tailor services to our often unstated preferences. I also met with the company at CES, where they'd scored a prime piece of real estate in the Monster booth to show off their smart headphones, which automatically updates your music when charging and which, I have to admit, sounded great.

45. [BlueCrew](#)

What they do: Provide an on-demand staffing platform that automates the screening and matching of temporary workers.

Problem they solve: It can be difficult for employers to fill temporary positions with trusted and competent workers. It's also increasingly difficult for many temporary blue collar workers to get temporary employment that leads to full-time work with a legitimate career path.

How they solve it: BlueCrew's on-demand staffing platform combines "smart staffing algorithms" with a mobile application process to automate the screening and matching of temporary workers with new jobs. These job seekers are all classified as W2 workers (and

receive associated benefits), so employers get “the most qualified and trusted candidates for the right jobs in minutes not days.”

BlueCrew screens all candidates, runs background checks, and makes sure they have the right qualifications, such as forklift certification, for the job.

Other features of the BlueCrew platform include: a mobile management app that gives shift managers easy access to information on the performance of BlueCrew workers including on-time record, shifts worked, and other performance metrics; a GPS timecard solution, so workers can automatically clock in and out directly from the BlueCrew mobile app on their smartphones; and workforce analytics tools that help employers maximize operational efficiency.

Headquarters: San Francisco, CA

CEO: Gino Rooney, who earned his MS in Electrical and Electronics Engineering from Stanford and previously served as a Quantitative Engineer Intern at Gelber Group LLC.

Founded: 2015

Funding: \$2.7M from investors including Y Combinator, Index Ventures, and Ashton Kutcher.

Competitors include: Shiftgig, Workpop, and Wonolo, as well as traditional staffing agencies.

Customers Include: Zephyr Express, Six Flags, Munchery, and Brix Beverage.

Why they're in the Big 50-2016: BlueCrew had strong support in Big 50 online voting, they have a good list of customers, and I like their niche in the staffing market. That said, the management team could probably use an infusion of more seasoned executives, which will likely happen when they seek more funding.

46. One Month

What they do: Provide an online school for entrepreneurs.

Problem they solve: Knowledge jobs increasingly require at least some ability to code. For instance, we journalists need to know at least some basic HTML if our stories are going to render properly online.

One Month believes virtually every white collar job, and many blue collar ones, will require some level of coding within the next 5-10 years. People who don't have these technical skills will have a tough time making it in this new job market.

How they solve it: One Month's online school helps entrepreneurs learn key skills that will increase their chances of success.

One Month offers a variety of courses designed to help entrepreneurs quickly learn new business and software skills, such as Ruby, growth hacking, and content marketing, within 30 days.

According CEO Mattan Griffel, what sets One Month apart is the "shortness and intensity of the courses we offer and the fact that they are all done online." Griffel explains that One Month focuses on content, teacher quality, and that, "instead of training people for job placement, we focus on skills that people need to actually build their own products and companies."

Headquarters: New York, NY

CEO: Mattan Griffel, who was previously a partner at GrowHack.

Founded: 2013

Funding: \$2.68 million from Cornerstone Innovation Fund, Arena Ventures, and Idea Blub Ventures.

Competitors include: Lynda.com, Skillsoft, General Assembly, PluralSight, and Apollo Education.

Why they're in the Big 50-2016: One Month did well in Big 50 online voting, and I like their focus on training for entrepreneurs. Many of the skills they teach don't need to be mastered. Rather, entrepreneurs need to get comfortable enough to hire (and then manage) the right people to do them.

47. [Panorama Education](#)

What they do: Develop research-based surveys and analytics tools that help education experts analyze best practices.

Problem they solve: After years of No-Child-Left-Behind cookie cutter education standards, many educators and school districts are pushing back. While standardized testing has probably reached its peak, educators still need tools that will help them figure out what works and what doesn't.

How they solve it: Panorama Education work with schools and districts to collect and analyze data that administrators and educators use to improve teaching and learning, school climate, family engagement, and social-emotional learning.

Panorama's research-based survey content and set of research-based best practices helps schools match their curriculum to what actually works.

Headquarters: Boston, MA

CEO: Aaron Feuer

Founded: 2012

Funding: In August 2015, Panorama Education raised \$12 million in funding, bringing the total raised to \$16M. Investors include Owl Ventures, Google Ventures, and Spark Capital.



Competitors include: K12 Insight

Customers Include: 6,500 schools across 40 states, including Chandler Unified School District (AZ), Dallas Independent School District (TX), and Prince Georges County Public Schools (MD).

Why they're in the Big 50-2016: Panorama Education did well in online voting and has raised a respectable amount of funding. I'm also bullish on the EdTech space, and Panorama was one of the few EdTech startups to enter this competition.

48. [SceneDoc](#)

What they do: Provide mobile software for data collection and retrieval for public safety agencies.



Problem they solve: Police and other public safety agencies are often behind the times when it comes to mobile technology. Many rely on *all* paper reporting, which then needs to be uploaded to a Record Management System and then photocopied and shipped to prosecutors or commanders.

This is a time-consuming, error-prone process, which can have disastrous results.

How they solve it: SceneDoc enables public safety personnel to complete electronic paperwork, create scene drawings, add video or audio files, and take text or voice-recorded notes. SceneDoc then relays this data in real-time to investigators, incident commanders, and prosecutors.

Headquarters: Mississauga, Canada

CEO: Alex Kottoor, previously an Enterprise Account Executive for CDW Canada.

Founded: 2011

Funding: SceneDoc has raised a total of \$5.95 million. The most recent round, a \$4M Series A, closed in January 2015. Investors include iGan Partners/Rowanwood Ventures and Motorola Solutions Venture Capital.

Competitors include: myEvidence, iCrimeFighter, and CrimePad.

Customers Include: United States Environmental Protection Agency, US Fish & Wildlife Service, and Palm Springs Police.

Why they're in the Big 50-2016: SceneDoc generated very enthusiastic support in Big 50 online voting; they have a solid roster of on-the-record customers; and I can see a technology like this becoming standard issue in the very near future.

49. [SessionM](#)

What they do: Provide a marketing automation platform.

Problem they solve: According to Forrester Research, there are more than 30 billion “mobile moments” happening each day in the U.S. alone. From an advertiser’s point of view, many of these moments are currently missed opportunities.

SessionM argues that brands miss opportunities to directly connect with customers because they are not able to leverage real-time data and deliver contextually relevant and personalized messages.

How they solve it: SessionM allows brands to natively integrate into any mobile app or website in order to increase relevance and engagement, motivate and influence high-value behaviors, and maximize the lifetime value of a brand’s customer base.

Headquarters: Boston, MA

CEO: Lars Albright, who was previously a member of the executive team of iAd, Apple’s mobile advertising business unit.

Founded: 2011

Funding: \$38.5 million total. The most recent round was a \$12M Series C, which closed in May 2015 from Causeway Media Partners, Commerce Ventures, Charles River Ventures, Highland Capital Partners, Kleiner Perkins Caufield Byers, and NTT Docomo Ventures.

Competitors include: startups such as Leanplum and Swrve, as well as such incumbents as Marketo and Salesforce.com (through ExactTarget acquisition).

Customers Include: Cricket Wireless

Why they're in the Big 50-2016: They did well in online voting, have reeled in big VC funding, and have a unique take on mobile marketing.

50. [Shiftgig](#)



What they do: Provide a cloud-based, on-demand labor marketplace that connects businesses with qualified, vetted workers.

Problem they solve: With 20 million Americans working in part-time jobs, the hourly worker market has expanded rapidly in the past few years. Typical hourly workers may desire to work additional shifts beyond their regular jobs, but most don't know how to properly hunt through zillions of Internet postings, many of them scams, in order to find a good gig, one that is a proper fit for them.

How they solve it: Businesses are able to connect to workers on the Shiftgig platform for food service, hotel, experiential marketing, retail, and warehouse jobs. Business managers have the ability to manage roster changes in real-time and communicate with each team member through their mobile phones, enabling seamless communication from start to finish.

According to a company spokesperson, “Shiftgig does not field an army of administrators, but instead uses an efficient Uber-like delivery model to connect businesses with competent, pre-qualified, and dynamic workers.”

Striving to be a technology-focused, low-overhead operation (isn’t everyone striving for those things these days?), Shiftgig has been able to quickly expand into 8 cities, including Chicago, Dallas, and Miami.

Headquarters: Chicago, IL

CEO: Eddie Lou, previously a general partner with OCA Ventures and founder of PlanetHVAC.

Founded: 2011

Funding: Shiftgig is backed by \$35 million in total funding. The most recent round, a \$22M Series B, closed in November, 2015. Investors include Renren Inc., DRW Venture Capital, Chicago Ventures, Garland Capital Group, GGv, KGC Capital, The Pritzker Group, and Wicklow Capital.

Competitors include: Shiftgig, Workpop, and Wonolo, as well as traditional staffing agencies.

Customers Include: Ackland Financial Group, Doubletree by Hilton Miami Airport, Inktel Contact Center Solutions (Miami), and Marriott - DFW South (Dallas).

Why they’re in the Big 50-2016: They’re backed by big VC investments, and as the economy increasingly shifts to gig work, Shiftgig is well positioned to take advantage of this trend. This is a crowded market sector, but for now anyway, it looks like a land grab.

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