

2016 IoT Predictions



KEY TOPICS

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- This feature is an adjunct to the general 2016 predictions feature from Dec. 8. [\(More...\)](#)
- IDC Software Licensing and Pricing Predictions 2016: Top 10 Predictions – And speaking of software, Amy Konary of IDC writes about focus areas like the growth of subscription and outcomes-based pricing, the real cost of licensing complexity, usage models in IoT, the business model impacts of the convergence of cloud, mobile, social, and big data technologies. [\(More...\)](#)
- Building on the growth of information generated by digital engagement platforms and data supplied by “Internet of Things” (IoT) devices, contextualized analytics will be a prevailing force in 2016. [\(More...\)](#)

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- IoT will drive the growth in data and companies will need to understand the data storage implications and not just focus on how many devices are connected to their networks. [\(More...\)](#)
- Perhaps the two most revolutionary advances in recent years to hit the device manufacturing industry revolve around intelligent and Internet-connected “Internet of Things” (IoT) technologies. [\(More...\)](#)

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KEY TOPICS

In order to give our valued readers a pulse on important new Internet of Things (IoT) trends leading into 2016, we here at insideBIGDATA reached out to all our friends across the IoT ecosystem to get their insights and predictions for what may be coming. [1] Now that IoT

companies have mastered hardware, 2016 will be the year of sophisticated, forward-thinking software. [2] In 2016, IoT companies will be forced to increase security features to ensure users' private information is safer than ever before. [2] In 2016, the IoT will continue to combine big data, analytics, the Cloud, Artificial Intelligence (AI), robotics, and automation to propel industries forward and create the next industrial revolution. [1] As we move forward through 2016 and beyond, more devices, agents, sensors, and people will join the IoT. Perhaps we will even progress as a society to a post-scarcity economy and information itself will become our commodity of trade. [1] Overall, the key theme for 2016 will be identifying the value niches within industries that can benefit from IoT technology rather than trying to change the entire industry. [1]

What better way to end the year and look into the future than by asking the industry for their predictions for the IoT in 2016. [3] Whereas last year's predictions focused on APTs and corporate attacks, IT security professionals should be consumed in 2016 keeping up with attacks involving IoT, ransomware, crimeware, haxposure, Windows 10, and critical infrastructure, among others. [4] Pentaho Corp. CEO Quentin Gallivan shared his predictions on the what we can expect in IoT in 2016. [5]

This feature is an adjunct to the general 2016 predictions feature from Dec. 8. [1] We even have one prediction about the 2016 presidential election (a campaign issue, not a prediction of who will win). [6] Editors from IDG Enterprises top sites offer up their IT predictions for 2016. [6]

By optimizing organizations' understanding of their equipment and physical assets, in 2016 industrial IoT will not only cut costs, but create completely new revenue opportunities. [1] As networked connections become more and more sophisticated, IoT will become more relevant and valuable than ever before. With 2016 on the horizon, there will be a seismic shift in how organizations embrace the power of technology— solutions and applications will be implemented on a large scale by companies looking to get ahead of the competition to touch every aspect of our daily lives. [7] IoT platforms like AT&T Flow Designer, will bring us quicker adaptation of open IoT systems and applications in 2016 and beyond. [8] In 2016, Vodafone expects that the use of M2M and IoT applications for customer experience will go mainstream across industries. [9] In 2016, we expect that PKI will become ubiquitous security technology within the IoT market. [3] Gartner believes IoT is a central tenet of top strategic technology trends in 2016. [3] "The IoT in medicine in 2016 will be reflected in deeper consumption of the biomedical features for non-invasive human body diagnostics. [3]

We asked for predictions aimed at the industrial side of the IoT. What new technologies will appear? Which companies will succeed or fail? What platforms will take off? What security challenges will the industry face? Will enterprises finally realize the benefits of IoT? We heard from dozens of startups, big players and industry soothsayers. [3] In this interview, Mike Martin, CTO, nrastructure, speaks with IT Briefcase about what he believes will be the top IoT trends and predictions for organizations of all sizes and their IT teams for the coming year. [7]

A. 2016 will be an interesting year for IoT in the world of security as organizations make the transition between prototyping/testing and into production. [7] What does 2016 hold for the Internet of Things (IoT)? Every week we round up the latest developments in the Smart World, from new developer platforms to smart city initiatives around the world. [5] "Prediction: PKI becomes ubiquitous security technology within the Internet of Things (IoT) market. [3] Based on an interview with Andrew Morawski, head of M2M for the Americas at Vodafone, we offer six predictions for the M2M market in 2016 and beyond. [9] Joining the annual list of predictions for the year ahead is Vodafone's Head of M2M for the Americas, Andrew Morawski, who has

put together an interesting list of predictions for 2016 that will touch on various aspects of both enterprise and consumer-focused companies. [10] In no particular order, here are the Internet of Things Predictions for 2016. [3]

IDC Software Licensing and Pricing Predictions 2016: Top 10 Predictions – And speaking of software, Amy Konary of IDC writes about focus areas like the growth of subscription and outcomes-based pricing, the real cost of licensing complexity, usage models in IoT, the business model impacts of the convergence of cloud, mobile, social, and big data technologies. [11] As we ring in the new year, Flexera Software has shared its top IoT predictions for 2016. [12]

CLEVELAND, Dec. 30, 2015 /PRNewswire/ — Certified Security Solutions (CSS), a global leader in enabling secure digital identity and access solutions for the Internet of Things (IoT) and the enterprise, names their 2016 PKI and IoT Security Predictions. [13]

Windows 10, mobile devices and devices connected through the Internet of Things (IoT) will be big targets for cyber criminals in 2016, Panda Security predicted in an announcement Tuesday. [14] In 2016, healthcare IT managers will be under pressure from 3LAs on three sides: fresh OCR HIPAA audits and penalties; more aggressive FDA action on vulnerable medical devices and pseudo-medical apps; and at least one FTC action against a wearable or IoT device or app used in wellness programs. [15] Operational Technology, or OT, is getting to be a hot topic here in the IoT and as we move into 2016, it's only going to be gaining ground. [16] For more information visit IoT Evolution World, follow us on twitter @IoTEvolution or attend IoT Evolution Expo on January 25-28, 2016 at the Greater Ft. Lauderdale/Broward County Convention Center in Fort Lauderdale, Florida. [16] As IoT moves mainstream in 2016, the "identity of things" will be a major topic. [17] We believe that a significant chunk of the value derived from these connected things will be through analytics; and the biggest potential for IoT analytics in 2016 lies in industries like medical, industrial, data centers, that have millions of machines increasingly getting connected to the internet. [18] Expect 2016 to be the year of the full-frontal assault on all things IoT though, where cybercriminals will find new ways of attacking unsuspecting victims through their new flock of "digital doo-dads". [15] Norwalk, CT—December 2, 2015—Rich Tehrani, Group Editor-in-Chief for IoT Evolution and TMC today announced his projections for IoT in 2016. [16]

"Moving to the cloud will lose its fear factor in 2016 and a number of previously untouchable infrastructure will be housed offsite," he said, leading to his second prediction. [19] Here are some best guesses about 2016 from more than a dozen vendors and analysts. (For an expanded version of the 2016 predictions, watch CSO's slideshow.) [20] This is the fifth in our series of cybersecurity predictions for 2016. [21]

Software-defined everything, security, IoT, APIs and other technologies top our experts' predictions for 2016 data center trends. [22] How many connected devices will there be on the IoT in 2016? This could be the topic for a prediction of its own (and I am sure these predictions abound out there, and that they all disagree with one another). [23]

Maturation of the Internet of Enterprise Things This year saw the birth of the Internet of Enterprise Things with smart devices entering the workplace for the first time, and in 2016 we will watch it mature as IoT technology spreads through the business lifecycle, from manufacturing hubs to the scions of Silicon Valley. [24] I've held off, but I think 2015 was a jumping-off point for the technology, and that 2016 is going to be the one where IoT devices flood into every corner of our lives they haven't already invaded. [25] In 2016, the IoT will continue to combine Big data, Analytics, The Cloud, Artificial Intelligence (AI), Robotics, and

Automation to propel industries forward and create the next industrial revolution. [26] Schools, iPhones and the IoT: WatchGuard Predicts New Hunting Grounds for Hackers in 2016 This website was optimized for IE7 and above. [27] Suresh Vasudevan, the CEO of Nimble Storage proclaims “in 2016 the IoT invades the datacenter.” [28] Wearable IoT will help to push the category in 2016 to levels where government won’t be able to ignore them, or at least shouldn’t. [25]

Forrester’s top 10 predictions for business in 2016 — and what they mean for tech — Computerworld summarizes Forrester’s top 10 predictions and how 2016 will be the year that the companies that thrive will be those advancing down the customer obsession path. [11] MOUNTAIN VIEW, Calif.—(BUSINESS WIRE)—BDNA, the leader in delivering the industry’s most authoritative enterprise IT data, today released its top 10 predictions for the enterprise in 2016. [24]

Predictions streaming in MapR CEO John Shroeder, whose company just added its own MapR Streams component to its Hadoop distribution, says “Converged Approaches Become Mainstream” in 2016.[28] Our predictions for 2016 outline how various IT habits will flourish or flounder, as well as new trends that organizations need to be mindful of in order to get ahead of their competitors, embarking on a successful year of innovation and promise.” [24] DDoS Predictions for 2016, IBM Insights – Also from Big Blue, they are sharing insight into new types of DDoS attacks that are to be expected during the coming year. [11] Seattle, WA – December 17, 2015 — WatchGuard® Technologies, a leader in multi-function firewalls, today revealed its full list of 10 new information security predictions for 2016. [27] Virtualization and Cloud executives share their predictions for 2016. [12]

Internet of predicted things It probably won’t shock you that the Internet of Things (IoT) was a big theme in this year’s round of predictions. [28]

Some of the other notable predictions include lists from eWeek (on IoT changes coming), CIO Magazine, Microsoft, Gartner, TheVarGuy (who says security still gets top bill in 2016), Forrester, SC Magazine, Varonis, Infosecprofessional.com and Threatstream. [29]

As the IoT continues to gain momentum in 2016, the companies that shape it will continue to deploy new API infrastructure to support connected devices, scaling this infrastructure for the billions of objects and the gazillions of data points collected. [23] Alex Hawkinson, CEO and cofounder of SmartThings, an IoT firm that integrated functionality for more than 200 discrete devices into Samsung’s TVs, explained why this could lead to an explosion of interest and activity in IoT in 2016.[30] According to a Tuesday (Dec. 29) statement from Samsung, that’s exactly what it plans to do — every new television model released in 2016 will come shipped with IoT hub functionality. [30] The promise of IoT is fantastic, so in 2016 look to early adopters to work out the kinks and deliver results.[31] The Internet of Things (IoT): IoT, the connecting of all manner of devices to the Internet, will continue to grow in 2016 thanks to an increase in user-oriented computing. [32] The Internet of Things (IoT) is at the peak of the Gartner Hype Cycle, but in 2016 I expect this hype to hit reality. [31]

Jenna Reck, a spokeswoman for Target, told Luxury Daily that stores across the country will start to showcase Target’s “Open House” concept, a showroom-style exhibit of all the smart home IoT products the retailer will carry in 2016. [30]

Building on the growth of information generated by digital engagement platforms and data supplied by “Internet of Things” (IoT) devices, contextualized analytics will be a prevailing force in 2016. [33] This year saw the birth of the Internet of Enterprise Things with smart

devices entering the workplace for the first time, and in 2016 we will watch it mature as IoT technology spreads through the business lifecycle, from manufacturing hubs to the scions of Silicon Valley. [34] Intelligent automation, including both physical robots and virtual software agents, will gain traction in 2016 and experience a similar level of enterprise attention as IoT did in 2015, and big data before that. [35] The IoT era is upon us, but in 2016, we'll be connected in even more ways than we've ever imagined. [36]

I really like Trend Micro's presentation of their 2016 security predictions. [29] Correspondingly, with predictions season in full force, here are five digital business trends which I expect to shape 2016, their implications for business and technology leaders and recommendations for how to prepare for and maximize these trends to your advantage. [35] Here's an industry trend prediction: Fortune Magazine says that the cybersecurity start-up boom will end in 2016. [29] Here's my edited version of IDC's 2016 predictions, based on the IT Industry, Digital Transformation, and CIO Agenda webcasts. [37] Leading his 2016 prediction list were: "Greater focus on cyber supply chain security, and the consumerization of authentication." [29] An impressive Symantec list of 2016 security predictions overall. [29] As top security companies, technology magazines, cyber experts and security bloggers came out with their predictions for 2016, it is clear that the global cybersecurity industry continues to lose ground to the bad guys online. [29] Yet most companies are still dabbling on the edges, still fighting against restrictive silos and old IT. As you evaluate your data strategy for 2016, here are four data predictions to keep in mind, as well as a look on the start-up industry feeding us data solutions. [36]

Last year, the hacking critical infrastructure theme was much more muted in security predictions for 2015 than in predictions for 2016. [29] For the second straight year, we're excited to release our list of the top 10 enterprise IT predictions and trends for 2016. [34] Forrester's top 10 predictions for business in 2016 — and what they mean for. [35] Issuing IDC's top 10 predictions for 2016, chief analyst Frank Gens advised enterprises to transform or die, noting that the overarching theme for 2016 is "digital transformation scales up." [37]

This next prediction relates to a topic we are very excited about?The Internet of Things (IoT) and the percentage of mobile apps talking directly to IoT devices increasing over the next several years. [38]

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IoT will drive the growth in data and companies will need to understand the data storage implications and not just focus on how many devices are connected to their networks. [1] To avoid overwhelming users with a deluge of alerts from their smart devices, IoT companies will need to organize, prioritize and streamline data – and then present it properly. [2] What alerts are most important? When should they be shared? How should they be shared? These are questions IoT companies need to ask themselves to ensure a pleasant user experience and balance of informed and happy users. [2] Once IoT companies have implemented these security features, it will be essential to effectively communicate how secure their products are, to convert nervous consumers into buyers. [2] As IoT products continue to connect more and more aspects of our lives, it means more and more of our private information is being entrusted into the hands of IoT companies. [2]

Though this may have some Orwellian overtones, the IoT is really about the Zen of Things—our application of software and technology to help customers consume products and to help businesses build better products and deliver better services. [1] IoT companies will start to broaden the value of their hardware platforms with the addition of advanced upgrades and

integrations with professional software services tied to their markets. [2] While we've found ways to profit from some IoT applications many still have no true ROI, but with this faster, more integrated analytics platform running tighter within databases, will be able to find better ways to profit from IoT as it runs in the background of the rest of our applications. [1]

There is more security and event data than ever before, and the addition of personal IoT (think fitness trackers and teapots) comes with its own vulnerabilities. [1] Highly secure IoT cloud services will also help manufacturers create new products that safely take action on the analyzed data without human intervention. [1] As the volume of IoT data grows, so does the potential for insights. [1] Many examples of hyper distributed data environments can be found in the IoT. From terabytes of data created by sensors in offshore oil wells to extremely time sensitive data created by robots in manufacturing facilities. [1] IoT devices and sensors can highlight failing machines or dangerous conditions before they become serious issues. [1] Traditional IoT devices, or those that have been available for a while, such as Belkin's WeMo smart switch, did not appear on Adobe's list. [39] Not only have they used the IoT devices, they like them, according to Adobe's CMO publication. [39] Credit: Comcast Half of smartphone users have already used the IoT in their homes, while digital personal assistants like Apple's Siri are on the rise, Adobe said in a new report. [39]

Monetizing the exchange of information, micro-licensing, and transactions become prominent tasks as our automation and machine-to-machine networks take care of daily needs. Imagine algorithms as apps for applying big data analysis over the connected masses of information generated by the IoT and its billions upon billions of connected devices in every aspect of our lives. [1] Big Data and IoT will continue to be too big to ignore – While the term Big Data has been over used, the reality is that not many enterprises in B2B have taken the plunge. [1] IoT + Cloud Big Data Killer App. Big data cloud services are the behind-the-scenes magic of the internet of things (IoT). [1]

In 2016, it will continue to become a basic commodity in any data pipeline, fading into the background of the Internet. [1] As I look ahead to 2016 – between streamlined alerts, software integrations, improved security measures and product refinements and extensions – I know smart homes are only going to become more insightful and more connected than ever before. [2] Providing clear details on how their products are secure and why users don't need to worry about the safety of their information will be absolutely key in 2016. [2]

We're no different here at IDG Enterprise – we asked some of the top editors from the IDG enterprise brands (Computerworld, Network World, CIO.com, CSO) to take a few minutes out of their busy day to predict a few trends for enterprise IT in 2016. [6]

The video above shows their final predictions, which includes trends in cloud computing, security, the Internet of Things, wireless, big data/analytics, and mobile devices. [6] The company's digital marketing and media arm said in its recently released Adobe Digital Trends Report that “51% of smartphone owners have already interacted with a home IoT device.” [39] At least, it didn't show in the top nine products in terms of popular home IoT device social mentions. [39]

Industrial IoT market is in the nascent stage and shows a great potential across different industry sectors. [1]

Creating secure protocols and methods to exchange data and control these systems will be the next big challenge the security industry needs to address in order to enable IoT deployments. [7] “Surge in connected devices will flood the network – the increasing volume of

data and need for bandwidth for a growing number of IoT connected devices such as healthcare devices, security systems and appliances will drive traditional networks to the breaking point. [3] Each organization needs to examine the capabilities of the platforms security offerings, and choose the one that meets their needs. The IoT industry and technologies are so new that organizations need to dedicate resources to focus on security, and be ready to upgrade/change security strategies quickly in order to stay ahead of attackers. [7] As organizations embrace IoT and start creating IoT applications, devices, prototypes, etc., security will become a major focus and critical component of a successful deployment. [7] A. Organizations need to start thinking about security in the initial stages of IoT deployments to ensure successful production deployments. [7] The IoT will complicate all aspects of security and privacy, causing even more organizations to outsource those functions to professional providers of security and privacy services.” [3]

We showed what’s possible with IoT like connected wheelchairs, luggage tracking devices, smart bins, IoT developer apps, and smart car sensors. [8] IoT connected sensors and microcontrollers will enable the effective and efficient management of a true mesh network of building and community level microgrids, which in turn will enable the greater use of distributed renewable energy sources like solar, wind, bio fuel micro-turbines and fuel cells. [3]

IoT solution development and engineering organizations still want the flexible benefits offered by PaaS development, but they also require a breadth of out-of-the-box integrations to mitigate the downstream engineering and deployment hassles caused by heterogeneous IoT systems and networks topologies. [3]

A great place to start is by investigating IoT concepts with potential to either improve the customer experience or generate new data that supports new, valuable business insights. [7] This year, M2M adoption in the retail sector grew 88 percent, as retailers and marketers began to realize the value of IoT for customer experience. [9] M2M adoption in the retail sector grew an astounding 88 percent in 2015 as retailers and marketers started to understand the value of IoT for customer experience, understanding that M2M can strengthen the shopping experience through personalization, smarter payment methods and digital signage. [10] Leaders in every industry are recognizing the potential of IoT and M2M technologies as they are increasingly used to transform businesses. [9] It highlights some of the IoT activities we’re exploring that will not only make your life easier, but have the potential to change the way you live, work, and travel. [8]

There will be an increased interest in PKI, how it plays in the IoT market and how it needs to advance and scale to meet the demands of billions of devices managed in the field.” [3] While the term “Internet of Things” is well-known among system integrators and system builders, vendors are still exploring market niches and applications where IoT products will be the most profitable. [40] “The maturation of the IoT will cause entirely new business models to emerge, just as the Internet did. [3]

Key medical IoT words for next year are the following: image processing, ultrasound, blood analysis, gesture detection, integration with smart devices. [3] Mobile devices will also serve as the hub for most end user interactivity with IoT devices with one’s smartphone being the aggregation point for everything from home automation devices to medical sensors and wearables. [7] In 2015, the Internet of things (IoT) made its mark on both enterprises and consumers and became a driving force for innovation in our cities, homes, cars and workplaces. [9] Security and safety are real concerns for the Internet of Things (IoT) and especially in the Industrial Internet of Things (IIoT). [3] Machine to Machine (M2M) and the Internet of Things (IoT) space has boomed in 2015, but bigger things are ahead as the market

continues to explode and reach into every aspect of our lives, even down to things like Internet-enabled light bulbs. [10] In 2015, the AT&T Foundry team's Internet of Things (IoT) work changed how we live our lives and do business. [8] The Internet of Things (IoT) was one of the most widely talked about technology phenomena of 2015, touching every industry, business and consumer. [7] One of the biggest technology trends in 2015 was the development of the Internet of Things (IoT) as the number of connected devices exploded. [40]

I believe 2016 will be the year that connected technology becomes a household term, but perhaps not with the term Internet of Things. [41] The Internet of Things is changing, and 2016 is going to be an exciting year for business, analytics and growth. [41]

A. In 2016, mobile will continue to be the center point of the Internet of Things in the consumer space as well as the enterprise. [7] Vodafone and other companies like Skypatrol predict this momentum will continue into 2016 and beyond. [9] As M2M moves outside the IT department and plays a larger role in customer experience and competitive advantage, Vodafone predicts that by 2016 more than a third of businesses will describe their M2M projects as innovation projects, rather than IT projects. [9] Going into 2016, organizations considering M2M will need to take a sophisticated approach – and vendors will be expected to deliver. [9] Those organizations who have not yet taken a sophisticated approach to M2M will do so in 2016 to keep up with their competitors, and vendors will be expected to deliver. [10]

As we move into the 2016, it's not a matter of "if," but "how," companies are using M2M to transform their businesses. [9]

I don't believe that 2016 will be the year that mainstream America will adopt connected devices in their day-to-day life. [41] All Samsung smart TVs sold in 2016 will be IoT-ready, meaning they'll be able to talk to compatible appliances around the home, Samsung said Tuesday. [3]

We Live Security is promising a full paper – available soon – providing a detailed analysis of each prediction and trend. [4] For more interesting predictions in the enterprise space, stay tuned to SiliconANGLE in the coming few weeks as we share insights from a range of industry leaders. [10]

Veterans from Google, Apple and Nest have banded together and developed Afero (Afero, Inc.), a platform for IoT that incorporates a secure Bluetooth Smart module, scalable cloud services, mobile apps and a range of development tools. [5]

Network edge devices are a security weak point for both IoT and IIoT. Industrial applications have a tougher time with this because they have a long life and so they refresh very slowly. [42] IoT is not a single technology but the latest convergence of tiny computing devices like sensors with wireless networks leveraging the tremendous processing power of the cloud. [16] A technology, like Blockchain, that relies on a network of computers and has privacy at its core will be an important enabler of IoT and any organization's digital transformation as it further streamlines operations for greater agility and customer responsiveness. [17]

It is now clear that IoT analytics can dramatically improve business efficiency in everything from operations to product development and customer service. [18] IoT analytics will be successful in any application that brings new levels of customer intimacy and business intelligence through better customer service and support. [18]

Blockchain was a key word in many startups two years ago and it is poised for renewal when one looks at the predicted increase in IoT and the need to engage securely among devices and have a

record of those engagements. [17] Many IoT devices lack significant memory space or OS capability, so treating them like endpoint agents will fail. [20]

Few industries are able to claim responsibility for ushering in the next industrial revolution, but IoT, with its loosely connected sensing products and smart software, can. [16] IoT is at the heart of the third industrial revolution, but more importantly it will continue to disrupt the way organizations work. [16] IoT security will continue to make headlines, but if your digital “e-bear? toy gets hacked you are in no certain peril, aside from a trip to the store to return it. [15] If you ask Christian Heiter, CTO for Hitachi Digital Systems Federal, he’ll tell you the number of IoT connected devices is set to rise by 30 percent next year, but that that’s not the issue. [19] In my last post, I wrote about the progress Glassbeam has made this year, leveraging the increasing interest in IoT analytics in a wide range of industries. [18] As the quality of analytics engines improve, speeding the integration of new types of data and production of new insights, IoT analytics will be relevant to an increasing number of industries and in an increasing range of functions within businesses. [18]

After 2015’s high-profile demonstrations of weaknesses, demand for cloud and IoT security skills in particular will accelerate even further. [19] While growth in the consumer space (e.g., personal gadgets, sensors in the home) is rapid, IoT in the industrial realm may, in fact, be the bigger story. [21] As IoT sensors and smart devices proliferate and interact with us in critical areas, such as the healthcare and automotive industries, they will help simplify — and maybe even save — our lives and improve customer experiences. [17]

Although the Internet of Things (IoT), an element of digital transformation, has plenty of potential, it is still early days. [17] Gartner predicts the Internet of Things (IoT) market will grow from about 4.8 billion connected devices in 2015 to 25 billion in 2020. [21]

In 2016, Unisys predicts, rogue intelligence officers will emerge as a separate threat category that business and government organizations will need to monitor and control in a different way than they would for a state-sponsored attack. [19] HONG KONG, Dec. 28, 2015 /PRNewswire/ — CA Technologies (CA) today announced the top five areas where it predicts will drive the technology and business agenda in 2016. [17]

Beginning in 2016, services using new network technologies like SDN and NFV will become commercially available from some carriers, and these new services can include greater protection for edge devices. [42] New devices will not have anywhere near sufficient security baked in until long after the 2016 timeframe. [15] Tom Patterson, vice president of global security at Unisys, thinks 2016 will be the year “rogue intelligence officers will use government-owned spy capabilities for their own purposes.” [19] The growth in the use of cyber technology for terrorism, hacktivists and other actors, combined with the weakness of ICS security generally, combined with the potential impact of bringing down a power facility or water treatment plant (hello, California), makes the critical breach of an ICS in 2016 extremely concerning and increasingly likely. [19] The surprise of 2016 will be the resurgence of Blockchain technology and its refinement to where it can truly find a home outside of the Bitcoin transaction ledger. [17]

Trend Micro’s Senior Vice President and General Counsel Felix Sterling noted the prevalence of cyber crime in 2015 and predicts 2016 will be the year Congress and legislative bodies around the world take bolder action. [19] In a recent release, Gartner predicts that 6.4 Billion things will be in use in 2016, up 30% from this year. [18]

Regrettably, if 2016 unfolds like previous years, not enough will happen, as far as end users and businesses actually doing anything to protect themselves. [15]

In 2016, an era where the “demographic of one” will emerge and enable organizations to personalize services, pricing, sales and products in real-time for the individual versus larger segments. [17] As we close out 2015, let’s take a look at major trends that will gain prominence for service providers in 2016. [21]

Businesses have the potential in 2016 to exceed customer expectations on every level by living agile practices and digitally transforming their operations. [17]

It’s that time of the year when the information security industry takes part in its annual tradition: coming up with cybercrime predictions and trends for the next 12 months. [15] Please stay tuned to We Live Security as the full paper will soon be available with a detailed analysis of each prediction and trend. [15] For any community of experts, that’s bound to lead to predictions as people think about the topics and trends that dominated the last year and what they think (and hope) will be the focus of the next 12 months. [19] Prevention is pass and even detection technologies will be supplanted by prediction, with machine learning becoming a key tool to help organizations anticipate where hackers will strike. [20]

Perhaps the two most revolutionary advances in recent years to hit the device manufacturing industry revolve around intelligent and Internet-connected “Internet of Things” (IoT) technologies. [12] Intelligent and IoT devices also leverage software, software licensing & entitlement management, and Internet connectivity in ways that address many of the big challenges respondents reported earlier in this report. [12] Each IoT product is comprised of (at least) three separate application components: the software embedded in the device, the backend service, and the mobile application for the end user’s controls. [11] Software is also the vehicle enabling IoT makers to bundle product offerings, services and feature sets in new and creative ways. [12] The VerdeTT? IoT and enterprise identity platforms, software, and managed services simplify the design, deployment, monitoring, and management of trusted digital identities, making authentication scalable, flexible, and affordable. [13] **Intelligent Device Makers Will Look More Like Software Companies to Garner IoT Profits:** Increasingly, the value of physical devices is defined by the embedded software inside of those devices, or the control software that helps to manage those physical goods. [12] **New Awareness of Medical Device as an Avenue to Exploit Enterprise Networks** Smartphones, smartwatches, smarthomes – the world as a whole is becoming “smarter,” with the IoT onslaught now spilling over into medical devices, allowing patients and doctors to track information like heart rate, blood pressure and glucose levels, all in real-time. [24] The IoT device count is in the billions but will not traverse the service providers’ networks. [11] **IoT Hacking Will Make More Headlines – Increasing Pressure on Device Makers to Focus on Security and Remediation:** Recently, much attention has been paid to potential security threats facing smart internet-connected devices – from refrigerators to Jeeps. [12] IoT continues to grow, with the proliferation of smart homes, wearables, smart cars, mHealth devices and more. [11] The tiny little IoT devices are already in everything from home appliances to traffic lights to temperature sensors at the office. [25] According to some sources, there will be an estimated 780 million wearable devices worldwide by 2019, with many of them finding homes in the U.S. That is only a drop in the bucket of the total number of IoT devices, with Gartner predicting 21 billion will come online by 2020. [25] **Government should be concerned because security is sometimes a complete afterthought with IoT devices.** [25] While more organizations are choosing to implement their own PKI to add digital certificates to their IoT security profile, many continue to struggle with how to manage the PKI, as well as millions of digital certificates used for identity authentication. [13] **Certified Security Solutions (CSS) leads the market in Internet of Things**

(IoT) and enterprise digital identity security for data, devices, and applications. [13] Consumer IoT applications provide data about the user that just doesn't exist in traditional PC or mobile web applications. [11] Organizations already struggle with the simple collection of data resulting from the proliferation of IoT, lacking the right infrastructure to manage it. [11] This rich data, or "context," enables the highly personalized consumer experiences that characterize many consumer IoT apps. [11]

Maybe that's why the folks at DataArt say "the IoT industry will a year of competition, as platforms strive for supremacy." [28] A gracious reply came back, explaining that "IoT devices using this approach can transact directly and securely with each other. such a peer-to-peer configuration can eliminate potential bottlenecks and vulnerabilities." [28] That helped a bit, and it incidentally shines a light on just how early-stage IoT technology still is, with respect to security and distributed processing efficiencies. [28] It just so happens that IoT may be the technology that can help do that," stated Dave McCarthy, Director of Products at Bsquare Corporation, in this SYS-CON.tv interview at @ThingsExpo, held November 3-5, 2015, at the Santa Clara Convention Center in Santa Clara, CA.[11] As businesses continue to brace against cyber-adversaries and look to secure the IoT landscape, PKI is making a resurgence as an economical, reliable, and proven technology that delivers a secure and high-performance solution. [13] IoT Spending to Continue to Grow With the uptick in connected devices, including the adoption of wearables and smarthomes, IoT spend is going to continue to rise.[24]

In-depth: Top 10 Internet of Things companies to watch – We started with IoT and figured I'd caboose this with another. [11] "The problem with IoT today is that people aren't looking to buy IoT, what they're really trying to do is buy a business outcome or trying to figure out ways to improve the business outcome. [11] Many people want to know: how is the IoT influencing me already? That's one of the themes of this week's conversation between Electric Cloud CTO Anders Wallgren and Software Engineering Daily Host Jeff Meyerson. [11] Snehal Antani, CTO at Splunk, predicts that "Industrial IoT will fundamentally disrupt the asset intelligence industry." [28]

According to a recent Flexera Software survey, over the next two years the proportion of revenue associated with services is poised to increase for IoT makers – indicating device makers' commitment to evolve into solutions providers. 38 percent of respondents say that half or more of their revenues derive from hardware today. [12] Analytics and the emerging Internet of Things (IoT) are driving exponentially increased demands on datacenters and developers alike, as we cross the zettabyte horizon this year. [11] Simply selling more device units will not result in the massive spike in profits manufacturers are hoping for as they make a play to compete in the Internet of Things (IoT). [12] The Internet of Things (IoT) continues to be a major topic of discussion in the tech industry. [11] The Internet of Things (IoT) has made its way into most business models today. [12] CloudTweaks is recognized as one of the leading influencers in cloud computing, infosec, big data and the internet of things (IoT) information. [26] Developing software for the Internet of Things (IoT) comes with its own set of challenges. [11]

In 2016, the need for trusted digital identities will become paramount to the overall security within the global Internet. [13] The top security threats of 2016 – ZDNet digs into McAfee's 2016 cybersecurity threat report covering areas like hardware, ransomware, cloud services, connected cars and the warehouses of stolen data. [11] The enterprise will no longer be confined to specialized hardware for data center services in 2016, Pandey predicts. [43] The Rising Profile of the Chief Data Officer Traditionally relegated to the wings, the CDO has taken on an increasingly vital role within enterprise IT just as data has become a central focus, and in 2016 this trend will lead to a significant restructuring of the C-suite. [24]

From DevOps to automation, security, and open API – these experts discuss new and continuing developments, changes, and trends that will impact that software industry in 2016. [11] This month, we reached out to people from different areas of the software industry to get their thoughts on what to expect in 2016. [11]

In 2016, C-level executives will refocus their cybersecurity strategy to identify vulnerable software still in the enterprise and take steps to eliminate it. [24] Whether integrated or converged, Phu Hoang, the CEO of DataTorrent predicts 2016 will bring an ROI focus to streaming technologies, which he summarizes as “greater enterprise adoption of streaming analytics with quantified results.” [28] IBM predicts tech world of 2016 – At number 5, IBM has published its 6th annual Five in Five – where it predicts five innovations that will change all of our lives in the next five years, with mind-reading machines apparently set to be interpreting our thoughts by 2016. [11] Amit Pandey, CEO of cloud application delivery specialist Avi Networks, says 2016 will be the year of the “new IT.” [43] The confluence of cloud environments and applications, along with technologies like software-defined networking, are going to rewrite the rules for IT in 2016, he says. [43]

In 2016, many OT will move or continue to move into a networked setup like IT networks. [25]

In 2016, we expect malvertising attempts to triple, and to succeed more regularly through the use of HTTPS. If your organization does not have security controls that can monitor HTTPS, plan to update as soon as possible. [27] If organizations concentrate on following basic security best practices, they will avoid a majority of the attacks in 2016. [27]

Moving into 2016, open-source users must become fully educated about the license requirements associated with their assets, and software developers need to provide transparency around what can and can't be done with their code. [24] In 2016, IT asset management will marry the two worlds to give enterprises better ways to manage their hybrid systems. [24] The transformation has been underway for some time, but Pandey says that in 2016, CIOs and other tech leaders will have to revamp the way they approach IT if they want their companies to keep pace and remain competitive. [43]

In 2016, CEOs will become the drivers of digital transformation initiatives, incorporating them in their corporate strategies and all parts of the business. [26]

At the end of each year, PR folks from different companies in the analytics industry send me predictions from their executives on what the next year holds. [28] This year, I received a total of 60 predictions from a record 17 companies. [28] One thing I have learned so far this holiday season is that a 15 pound turkey is too big for only 4 people! I love this time of year as it's a chance for me to take time and read a number of the predictions articles that have come out in recent weeks. [11] Each year, IDC publishes its top ten predictions for the next three years. [44] A number of predictions that stood on their own were there too, speaking to issues as far-reaching as salaries for Hadoop admins to open source, open data and container technology. [28] Predictions around cloud, self-service, flash storage and the increasing prominence of the Chief Data Officer were in the mix as well. [28] A roundup of big data and analytics predictions and pontifications from several industry prognosticators. [28] What's clear from almost all the predictions, though, is that the market is starting to take basic big data technology as a given, and is looking towards next-generation integration, functionality, intelligence, manageability and stability. [28] Growing up Though admittedly broad, the category with the most predictions centered on the theme of value and maturity in Big Data products supplanting the fascination with new features and products. [28]

Despite the spotlight currently shining on the consumer IoT market, IoT in the enterprise will become an increasingly important vertical for IoT spend and innovation as it proliferates throughout the business world. [24] Over the last decade, CSS has served as a trusted advisor to more than half of the Fortune 500, helping them implement infrastructure and platforms to manage trusted digital identities for IoT innovations and systems. [13]

RCRWireless digs in to the top players in both Industrial IoT and Consumer IoT. Many of the names are familiar: Cisco, IBM, ATT, Google, GE, Samsung and a few others are already hedging their future on all these connected nouns. [11]

Are you ready to take on the challenges of the IoT? If you need to learn more about Internet of Things platforms, security, and integration, speak to an Ingram Micro specialist today. [45] Now that the IoT is bringing more and more appliances online, from household thermostats to entire automobiles to potentially lifesaving devices like pacemakers, IoT device and platform makers must ensure that they have taken all precautions to prevent hacking and interference from third parties. [45] The ability to interface with and harvest and process data from a broad selection of devices will be key to successfully leveraging the IoT. [45] While these cutting-edge devices might show the future of IoT to homeowners, they're not always the best ways to introduce non-tech-savvy consumers to a world where all of their previously inert electronics, appliances and furnishings can communicate with each other. [30] If one compares the growth of the IoT, they would realize that it is on a similar trajectory than the advent of APIs — essentially the preferred and standardized way for devices to communicate. [23] As IoT grows, the growing use of sensors must thrill cybercriminals, who use these devices to hack in using a slow but insidious Trojan Horse approach. [31] IoT is all about sensors capturing data to feed programs that find problems or create useful information from the data. [22]

Several pioneering electronics companies have already demonstrated a commitment to pushing in-home IoT-enabled products as parts of their upcoming product releases, and how they interact might accelerate consumer-facing IoT products for years to come. [30] The question over IoT is how do companies prepare for the inevitable onslaught of IoT services? The answer is to not use x86 for everything. [22] In order to best leverage the rising IoT tide, VARs should focus on familiarizing themselves with the capabilities of existing IoT platforms and the most common use cases for the IoT within the verticals that they service. [45] This is where value-added resellers (VARs) stand to benefit the most: From planning and deployment support to ongoing monitoring and service contracts, IoT is not something that every enterprise will be able to handle without external assistance. [45] The growth of the IoT market means a proliferation in “smart” connected devices across all verticals and from the consumer all the way up to the enterprise level. [45]

Customers won't even have to take the leap of buying a new TV to experience the possibilities of IoT in their homes. [30] The growth of IoT will directly impact the growth of other areas of IT such as big data and analytics. [32] Especially in today's iPhone-obsessed culture, it's the headline-grabbing tentpole product releases of brand names that capture the public's imagination, whereas the potential of IoT is much more a sum of its parts. [30]

The surge of the Internet of Things (IoT) in consumer and business applications also promised major stresses on data centers. [22] Importance of Data Science for IoT business – Dec 14, 2015. [31]

Context: Location and context has been important to data security, but in 2016, responsive systems outside of security use-cases will continue to develop. [32] Industry analysts predict that things will continue to grow through 2016, with experts forecasting nearly 7 percent growth the

coming year. [32] In 2016, more enterprises will adopt an API strategy, with the goal of enabling greater agility and efficiency within their organizations and driving more innovation to compete with emerging startups that continue to erode their value proposition. [46] Top 2016 trends include Machine learning established in the enterprise, Internet of Things hype hits reality, and Big data moves beyond hype to enrich modeling. [31] Big Data: Big data and analytics are not going to slow down in 2016. [32]

We can connect you with the professionals you need to drive your business forward in 2016. [32] In 2026, 2016 may very well become known as the birth of the smart home. [30] In 2016, that potential could finally — and literally — come home to roost. [30]

In 2016, many industries will turn to an omnichannel strategy to attract and retain customers by creating improved consumer experiences. [46]

What you will learn: Insight into the top trends that will shape the telecom ecosystem for 2016 on a wide variety of fronts from virtualization, voice over LTE and Wi-Fi, to 5G, the Internet of Things and more. [47]

RANKED SELECTED SOURCES

(47 source documents arranged by frequency of occurrence in the above report)

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13. (7) **2016 Public Key Infrastructure (PKI) and Internet of Things (IoT) Security Predictions by Certified Security Solutions (CSS) – Tucson News Now**
14. (7) **ESET predictions and trends for cybercrime in 2016**

15. (7) **The Top 16 Security Predictions for 2016**
16. (6) **Rich Tehrani, Group Editor-in-Chief for IoT Evolution Predicts, 2016 is the Year of IoT**
17. (6) **Predictions for IoT analytics in 2016**
18. (6) **Internet of Things, OT and Artificial Intelligence: Government and Technology Predictions for 2016 – Nextgov.com**
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21. (5) **Vodafone's Andrew Morawski shares some interesting M2M IoT predictions for 2016 | SiliconANGLE**
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29. (4) **2016 Internet of Things Predictions: How the AT&T Foundry Stays Ahead of the Pack...and the Future | AT&T**
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- Original article – <http://bostoncommons.net/2016-iot-predictions/>