

TRENDS IN MANAGED SERVICES

March 2020

Managed services hasn't been the new kid on the block in terms of business models in a long time, but its staying power and value to a broad swath of those in the business of technology cannot be denied. MSPs are at an interesting time too in their evolution. The era of cloud has both frustrated MSPs and fueled new growth opportunities. Emerging technologies such as internet of things, AI, and even drones are providing new potential revenue streams for MSPs that learn to harness those technologies. Challenges exist as well, from security threats to MSPs themselves to ongoing concerns about commoditization and margin erosion. In this report, CompTIA details findings and trends happening across the managed services landscape today.

KEY POINTS

Bread-and-butter services still reign supreme

Help desk. Network services. IT support. These three categories still top the list of offerings that today's managed services providers predominantly sell. Not necessarily sexy stuff, but these are bedrock services that constitute what the MSP market was built on. Their continued ubiquity in the MSP toolkit, along with managed device services, basic security, and storage, remain one of the main reasons that customers, especially SMB-sized companies, choose to work with a third-party provider. That said, many newer types of services are creeping into portfolios with the expectation that a variety of solutions will continue to blossom among providers. Case in point: two thirds of MSPs said they expect the mix of services they have in their portfolio will increase over the next year. Keep the basics, add the premiums seems to be the call.

Management of internet of things on the rise

Managed IoT is increasingly taking up space among the newer offerings that today's MSPs are placing bets on. And for good reason; the opportunity is significant and growing. In the U.S. market, managed IoT spending was \$1.6 billion in 2017 to what IDC expects to be \$3.7 billion by 2022. More than half of MSPs offering Managed IoT report seeing significant revenue opportunities today, which means they are both experiencing solid sales now and feel able to forecast out how much business this could bring in over the next few years.

Security specialization opens new doors

A segment of MSPs today have chosen to specialize in security services almost exclusively, donning the moniker of an MSSP, or managed security services provider. MSSPs apply security-specific expertise across all customer systems, infrastructure, applications, and data. Their portfolio spans a much more plentiful number of security services than the average MSP, including things like penetration testing, SIEM, ransomware protection, compliance audits and governance consulting. And most run a secure operations center (SOC) either internally or via a third party for added rigor and authenticity. Nearly 3 in 10 MSSPs said they expect significant growth in the MSSP part of their business in the next two years, with just over half predicting modest growth.

52% of MSPs say gaining more skills in cybersecurity will be the No. 1 action to help ensure solid market performance over the next two years

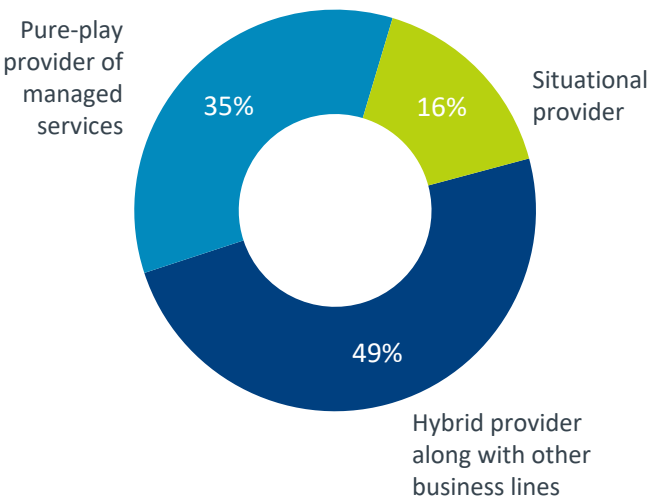
MARKET OVERVIEW

Managed services hasn't been the new kid on the block for business models in a long time, having been a part of the industry, and specifically the channel, for nearly two decades. But the market is still growing as companies in the business of technology follow the momentum behind services-based practices and consulting that drive recurring revenue and embrace the use of the cloud and emerging technologies.

In 2020, research firm IDC projects \$114.5B in spending on managed services in the U.S. market, up from \$112B in 2019, or 2.3%. Worldwide, IDC reported managed services spending at \$292.4B in 2019 and expects an increase of 2.7% to \$300B in 2020. One caveat to note: IDC's numbers likely include the very largest integrator and outsourcing firms – think Konica Minolta's All Covered or Wipro – and those firms' sales contribute heavily to these spending figures. By contrast, the typical MSP in the US is much smaller in size, on average below \$10M in revenue annually. Much of this report reflects the trends and experiences of that smaller group. In addition to IDC, Mordor Intelligence reports that the global managed services market is expected to reach \$319.5B by 2024, while researcher MarketsandMarkets predicts the space to grow to \$282B by 2023.

As an established category, managed services cuts across the broad spectrum of the IT channel, from thousands of SMB-sized providers to larger MSPs that in some cases manage business functions such as accounting or human resources for enterprise clients. Yet despite its established foothold, the MSP market is not without its share of change and volatility, especially of late. U.S.-based MSPs have undergone a slew of consolidation activity, while ongoing commoditization and pricing pressure have, for some providers, eroded margins. The increasing complexity and breadth of technology solutions also puts pressure on MSPs to hire or retrain staff with the requisite skills to meet those new demands. And finally, MSPs worry about a downturn or other adverse shift in the general economy.

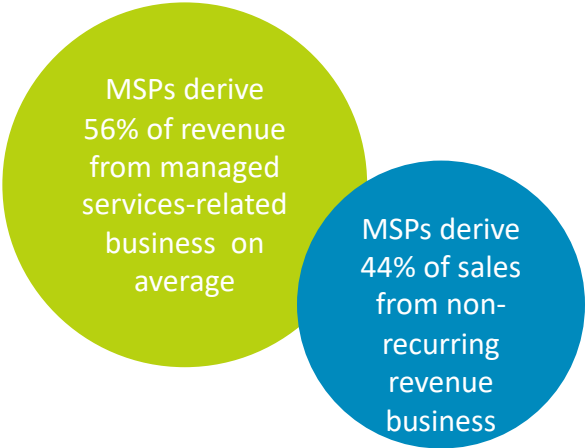
Level of involvement with managed services



MSP perceptions of how the managed services market has performed during last 2 years

	Total	Hybrid provider	Pure-play provider	Situational provider
Excellent performance	39%	31%	58%	24%
Solid performance	46%	54%	32%	51%
Average or fair performance	15%	15%	9%	26%

For the most part, however, MSPs are optimistic about their business prospects and the future of the market as a whole. Forty-four percent of respondents to this CompTIA study predict "excellent" performance results to come from the managed services market overall in the next two years, while another 4 in 10 expect performance to be "solid." Not surprisingly, the pure-play MSPs demonstrate the most positivity, with 62% of them banking on excellent market performance in the next two years.



They have their reasons. Among them are several exciting new areas that promise major opportunity for MSPs: emerging tech services, chiefly around internet of things; security specialization; and the addition of premium business services such as C-level consulting that aid customers in their digital transformation journey.

Consider that MarketsandMarkets expects the global managed IoT services space to grow from \$21.85 billion in 2016 to \$79.60 billion by 2021, at a Compound Annual Growth Rate (CAGR) of 29.5% during the period 2016–2021. And while the market will feature major systems integrators and some of the industry's largest services firms, the downstream business opportunity is also very real for the average-sized MSP.

All three of these newer trends are discussed in detail in this report.

FACTORS THAT COULD IMPACT MSP SUCCESS

Ask anyone who runs or has run a business and they'll invariably tell you it can be a crap shoot. Lots of unknowns, lots of unanticipated crises – some of their own creation, some the fault of outside forces. But there are lots of great highs too: that unexpected windfall, a big customer win, the perfect new hire. Operating a managed services business is no different, obviously. Both highs and lows abound.

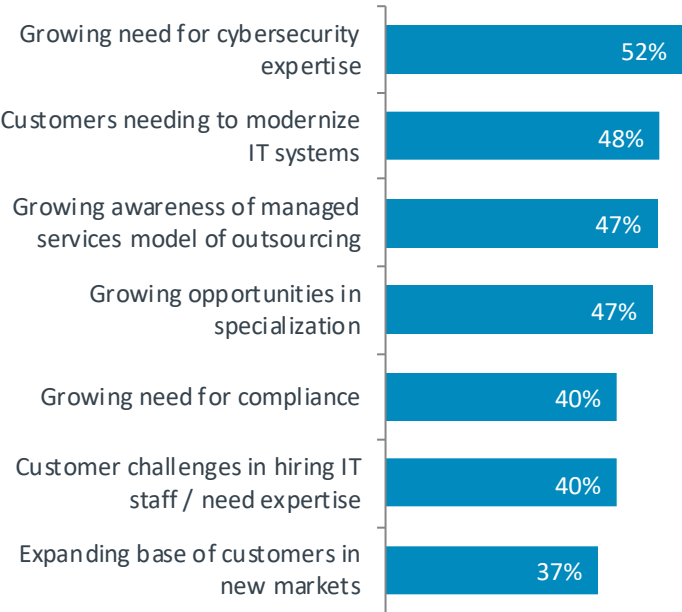
As detailed in the Market Overview section of the report, today's managed services providers largely take an optimistic view of both the current state of their market and the prospects for its continued solid performance over the next two years. MSPs cite a host of reasons for that positivity, ranging from opportunities in cybersecurity to the potential that lies in entering new market segments.

Just more than half of respondents (52%) said the No. 1 factor that will help keep performance strength up in the MSP space over the next two years will be the development or enhancement of cybersecurity skills. That's no surprise. Cybersecurity is one of the hottest segments in the tech industry today, and easily the most critical. The need to keep pace with the sophistication of bad actors attempting to steal data and otherwise hack systems requires advanced skills that many small end-user firms do not have. They need help. An MSP that has those skills is sure to be in high demand and at a premium price point. This is the reason that many general MSPs have decided to specialize as managed services security providers (MSSPs). Consider that nearly 4 in 10 respondents with security services in their portfolio described themselves as pure-play MSSPs, meaning that's all that they do. More on MSSP trends will be discussed later in this report.

Other factors that will contribute to a healthy MSP market are customer-driven in nature. One involves modernization. Many customers today are facing on-premises equipment that is aging and needs updating. But rather than replace all the hardware as a capital expense, many customers are looking to transition a portion, if not all, to the cloud. For hardware-intensive channel firms, which includes a not-insignificant number of non-pure play MSPs, this migration could be viewed as a threat – and it might be. MSPs know it; nearly half of them identified this exact possibility as one of the factors that could hurt MSPs over the next two years.

But on the positive side, MSPs can avoid that fate if they position themselves as the hub in this transition, then manage ongoing interactions with cloud providers and technical needs for their customers. Gartner points out in a recent report that many customers are struggling to hire internal IT staff with the right skills for such a cloud migration, chiefly IaaS. Gartner recommends that these customers consider working with MSPs to help fill the skills gaps that enable a smooth cloud transition. The other reality in play is that not everything can live in the cloud. Companies need devices as workstations for their employees, and many MSPs, pure play or not, will opportunistically upgrade that infrastructure for their clients as

Perceived drivers of positive MSP performance



Roughly half of respondents said that an increased awareness about MSPs and their value proposition is another factor that, if it happens, will help maintain solid market performance over the next two years. Overcoming customer unfamiliarity has always been a challenge in the managed services space. The name alone is vague, which makes it difficult for many end customers to determine whether provider X is even a business that provides technology services. And what does the “managed” part mean? This can be particularly confusing for line of business executives that represent a growing force behind the technology spend for their organizations yet aren’t as educated about the IT provider landscape as an internal IT staffer.

Eliminating that confusion is critical for future success. In fact, 40% of MSPs believe continued fuzziness about their business mission, or even their existence at all, will harm the overall ecosystem’s performance over the next two years. One of the ways to avoid this fate is to be proactive with customer education and awareness. Research has shown that MSPs that heavily leverage marketing activities to introduce their brand and services in clear, easily understood terms are much more successful at demand generation. This means greater investment in social media and website design.

Top perceived factors that could negatively impact MSP market over next 2 years

1. Economic conditions / pull back in customer spending
2. Ongoing shifts to the cloud
3. Confusion about managed services model
4. Customers unhappy with past MSP engagements
5. General customer move away from outsourcing

MANAGED SERVICES OFFERINGS

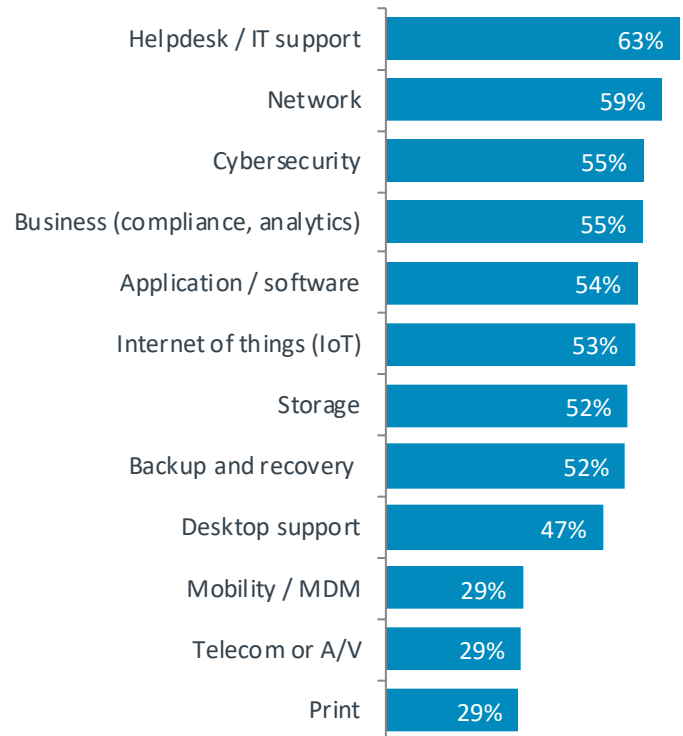
When it comes to the managed services portfolios that most MSPs sport today, the general palette of offerings has remained unchanged for the most part. Network services and help desk support still constitute the bread and butter of what the majority of MSPs provide to their customers. Other services, including those around emerging tech like managed internet of things, have begun to take a place in the lineup, however, and will continue to assume more room there as MSPs attain the skills necessary to support them and customer demand increases.

One of the main selling points for many MSPs is their ability to assume the role of IT staff/department for SMB customers that often lack anyone devoted internally to the role. That explains the continued fixture of help desk and IT support services, along with general network management offerings, in the typical MSP's portfolio. This reality isn't limited to MSPs serving only small customers, however. The largest MSPs in the industry today also count those same services heavily among their mix of offerings. Specifically, while 7 in 10 micro-sized MSPs offer help desk support services, slightly more of their much larger brethren (77%) do as well. In the case of the more sizeable MSPs, they often work with customers that are also on the larger side. And while these midmarket or enterprise customers do have internal IT departments, many find value in working with an MSP or other third party for basics like IT support and help desk needs. The reason? It frees up their internal staff to work on strategic projects, such as a cloud initiative or IoT deployment, for example.

Among other portfolio offerings, security services are reported as in the fold by 55% of MSPs. Frankly, that number should be higher. Security wraps around all other types of technology deployments and should be an automatic consideration when designing and managing solutions for the customer. That's why it's surprising that it is not reported by more MSPs as a core discipline that they offer. Now, a subset of MSPs have decided to specialize around security, forming the category of providers known as managed security services providers (MSSPs), but rank-and-file MSPs nonetheless should be steeped in security as a practice area. They are being entrusted to oversee a customers' network, devices, and data. It just makes sense. (Trends related to MSSP segment of the market are covered later in this research report.)

A bright spot on the list of MSP offerings includes the 55% of respondents that say they are providing business-related services today. These services include such things as compliance work, data analytics and reporting, which are all high-opportunity, high-margin type offerings. Data analytics, in particular, represent an area where MSPs can specialize and differentiate. On top of providing network services, a segment of MSPs are turning it up a notch, taking the data they collect in the course of these management duties and turning the information into actionable business advice for their customers. Consulting-related work like this is an effective way to combat one of the oddities of the MSP business where doing a stellar

Reported service offerings of MSPs



job can render an MSP unintentionally invisible to their clients. It's an out of sight, out of mind mentality that can unfortunately lead a customer to wonder if they still need to spend on said provider if "everything is working so fine." But by getting in front of customers with proactive insights based on their data – with business and technology advice involved – MSPs establish presence and relevancy.

As for how MSPs today are delivering their services? Most maintain an internal network operating center, despite existing in the era of easy hosting access via the cloud. Fifty-four percent use their own NOC to manage services for their customers, compared with 29% of those using a cloud provider and 17% that deliver services based on a mix of the two.

MSP expectations for mix of services in next two years

	Size of Firm				
	Total	Micro	Small	Med-ium	Large
Increase	64%	54%	62%	71%	67%
No change	36%	46%	36%	28%	33%
Decrease	1%	0%	1%	1%	0%

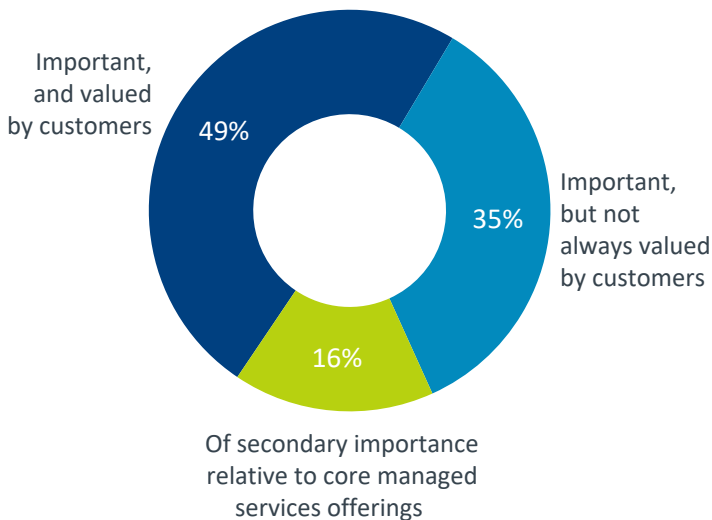
TAKING IT TO NEXT LEVEL WITH SERVICES

As discussed previously, when most people think about managed services, it is basic horizontal offerings that come to mind. Remote network monitoring, storage, backup and disaster recovery, device management, software updates, security patches. It is the classic MSP portfolio, staples that continue to represent the lion's share of activities today.

The basics have worked well and continue to do so for many MSPs. But this is a rapidly commoditizing market, with margins on network services decreasing. Faced with that environment, many MSPs are looking for ways to differentiate to woo customers, maximize revenue, and yes, boost profit margins. To do so, many of these organizations are discovering that a focus on innovation and a willingness to try new things around consulting and specialization are what will stem the tide of downward pricing and slim margins.

Practically speaking, this means adding a slate of higher-end services to their menu. These types of services, most of them consultative in nature, will require new skills sets internally along with other heavy lifting to get up to speed.

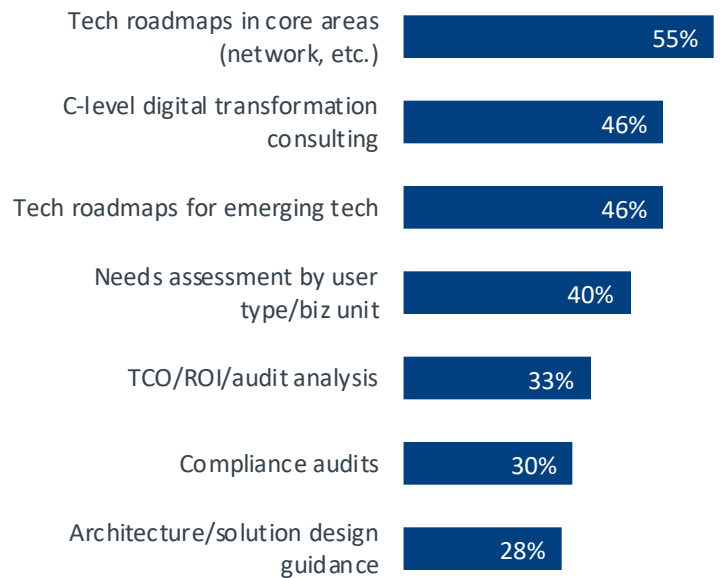
Customer perceptions of higher-end services



Premium services can also be a tough sell to customers, just as any add-on to a consumer product you might buy can be. Think about the car-buying experience and the attempts at upsell that happen there. And yet, many MSPs say they deal with customers that demonstrate genuine interest in services that will cost more: digital consulting to C-level clients, compliance audits, ROI assessments, for example. That curiosity, however, doesn't always translate into them writing a check.

Beyond financial pushback, which a solid 45% of respondents say is the main reason their customers choose not to invest in higher-level services, there are other inhibitors. Nearly 3 in 10

Types of higher-end MSP services



MSPs say their customers don't know what they don't know regarding the need for this next tier of services, which underscores the need for those MSPs to educate their clients and to use forecasting and proactive methods to show them what will help them in the future. Another 15% take a pass on these services because they prefer to handle strategic planning internally, while a smaller percentage (8%) view their MSP relationships as purely tactical.

How do you combat this natural buyer's reticence? One of the beauties of the MSP business model is that it is iterative and based on ever-changing customer needs. This reality affords the classic upsell a major role to play here. Many very small customers onboard with an MSP by adopting the basic horizontal set of network services, perhaps as minimal as help desk capabilities only. But as these customers grow and scale, they experience the need for more capacity for storage and network infrastructure, or to accommodate an increase in users and devices. They need to add new types of software applications services. And that's where an MSP can introduce a service like technology roadmap advice for both core infrastructure needs that are imminent or emerging tech needs that will be coming down the road. This is also where an MSP can convince their customers of the importance of conducting needs assessments based on user role in their organization. Some users are heavy knowledge users of technology; some need desktop-only support. But without these types of thorough assessments, the concept of higher-level managed services can be fuzzy math for customers.

But it's not just the technology needs that change as a customer expands. These customers often need business advice to keep up with operational and financial considerations that didn't exist at the same level when they were an SMB or smaller. This is where the next level of services offered by an MSP can play a role.

OPERATIONAL MATURITY

You ever just wake in the middle of the night, stressed and wondering, “Am I running my business in the right way?”

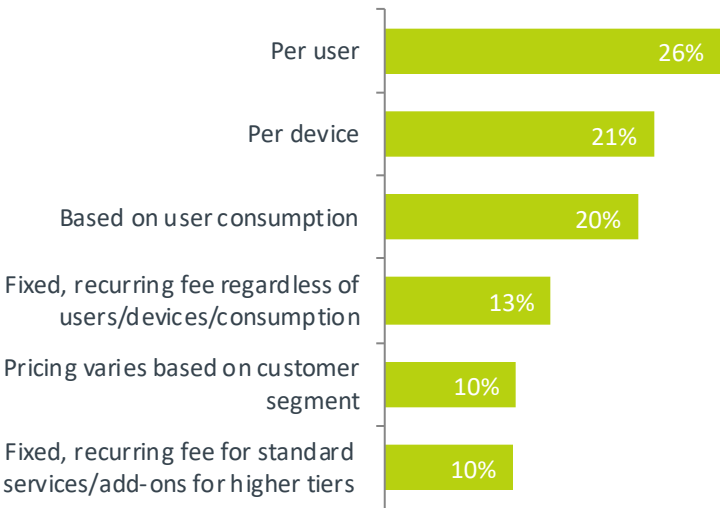
Sure you have. It’s textbook angst for any responsible business owner, no matter what lifecycle phase the company is in. And for good reason. It’s long been recognized that businesses operating optimally across their various functional areas tend to reap higher profits.

A 2018 study by MSP strategy firm, Service Leadership, found that MSPs ranking in the top quartile for profitability consistently delivered EBITDA about three times higher than MSPs with median profitability. A low EBITDA margin usually indicates a business is experiencing profitability or cash flow troubles; a higher one points to stable profits.

Flush with more stable profits and mature business functions, companies, including MSPs, are in a far better position to focus on innovation, marketing efforts, new market pursuits, and other strategic endeavors.

Operational maturity is especially critical in the managed services space where maximum profits are predicated in large part on running a very well-oiled machine internally and externally. Unlike other channel business models that drive revenue by maximizing the number of billable projects and break/fix hours that staff is working on, the MSP model ironically reaps more when doing less. It’s not that MSPs are lazy – in fact, they they are often in 24/7 mode -- but the nature of remote management of a large volume of customers’ infrastructure and data compels automation as much as possible. Inefficiency in such an environment – lack of automated processes and no uniform approach to managing multiple customers – can be a drain on the bottom line. Areas where MSPs feel they are doing the best job include customer retention, which makes sense given the contractual nature of managed services. Unless an MSP really fouls up an engagement, whether technically or in billing or pricing, a customer.

Range of managed services pricing models in use



MSP self-assessment of maturity across business operations

	Somewhat Mature	Mostly Mature	Very Mature
Customer retention	17%	40%	43%
Hiring / onboarding	25%	37%	38%
Sales effectiveness	19%	44%	37%
Process efficiency: technical	22%	44%	34%
Cost containment	21%	45%	34%
Pricing/SLA structure for recurring revenue	22%	45%	32%
Process efficiency: business	19%	50%	31%
ROI on new business lines (e.g. IoT)	30%	39%	31%
Maximizing margin	25%	45%	30%

is typically going to renew when the contract is up. Reason? Human nature, for the most part. Consumers tend not to want to extract themselves from a functioning provider relationship., shop around for another, then onboard again if they don’t have to.

Where MSPs appear to need the most work reaching maturity is in the maximization of profit, where just 3 in 10 companies deem themselves “very mature.” This is unsurprising and speaks to the need to shore up all the attendant business functions such as sales effectiveness, cost containment, and process efficiency that have such a strong impact profitability. As stated before, operational maturity begets profitability.

Among different size MSPs, the widest deltas in their assessment of operational maturity across nearly all categories exists among micro-sized companies (fewer than 10 employees) and the very largest firms. In most cases, more than twice the number of large firms reported being “very mature” in these function areas compared with the micro firms. It’s an obvious apples to oranges comparison, given that larger firms have had more years in business to stabilize operations, and more cash and borrowing power to carry out change.

Top reported reasons for relying on MSP support tools (e.g. PSA, RMM, BDR, etc.)

- 1. Customer-facing reporting
- 2. CRM
- 3. Customer billing / payments
- 4. Customer support tickets
- 5. Sales and marketing
- 6. Financial / accounting

MANAGED INTERNET OF THINGS SERVICES

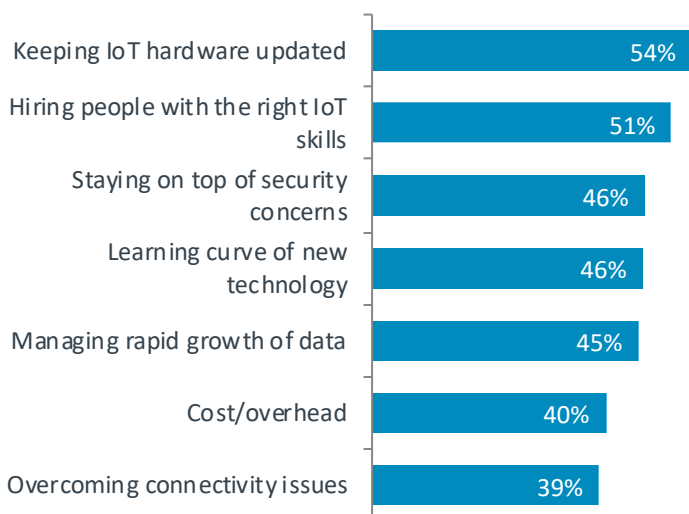
Managed services related to the internet of things, or Managed IoT, is increasingly taking up space among the newer offerings that today's MSPs are placing bets on. And for good reason: the opportunity is significant and growing. IDC reports that worldwide spending for managed IoT services was worth \$3.5 billion in 2017 and is increasing at a five-year compound annual growth rate of 23.7% to \$10.1 billion by 2022. In the U.S. market, managed IoT spending was \$1.6 billion in 2017 and is increasing at a five-year CAGR of 17.7% to what IDC expects to be \$3.7 billion by 2022.

IoT represents one of the more mature of the current crop of emerging technologies that include artificial intelligence, drones, virtual reality, and much more. More than half of MSPs offering Managed IoT services, they are seeing significant revenue opportunities today, which means they are both experiencing solid sales in this area and able to forecast out how much business this could bring in over the next few years. Another portion of MSPs, however, remain cautiously optimistic, predicting that Managed IoT, at least for them, will really break through in another year or two. A small percentage (8%) are still unsure if Managed IoT will deliver at all.

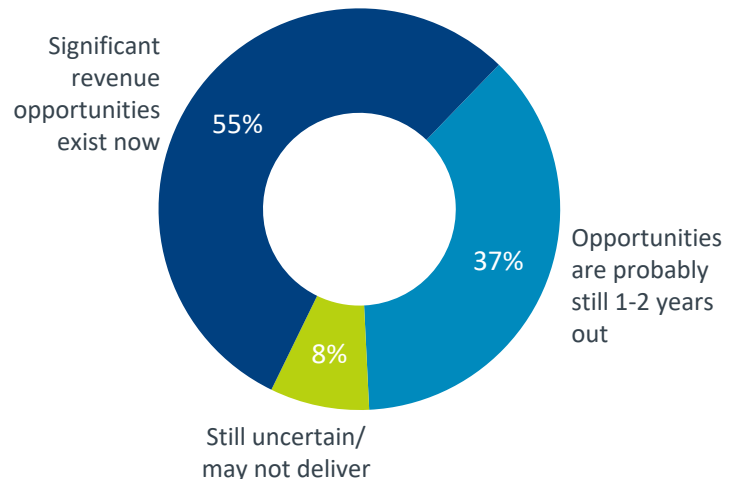
What's interesting about the early adopters is that the percentage of respondents in that group is consistent across all company sizes: micro, small, medium, and large. One would expect the larger organizations to be farther along than smaller ones in getting Managed IoT practices off the ground. This assumption would be based on greater resource availability and already having staff with the appropriate skills to allocate to the discipline. There's a reason, however, for the parity across company sizes.

Generally speaking, IoT is not just one technology, but an amalgam of different, yet connected technologies that providers can tap into. There's the hardware component, those sensors and devices that are deployed as part of an IoT engagement at a manufacturing plant or an agricultural setting.

Reported challenges to running a managed IoT practice



MSPs believe significant managed IoT revenue opportunities exist now



Then there is then a management component, where services are provided remotely to monitor, track, troubleshoot, and update the hardware. And finally there is the software element, specifically data collection and analytics. An MSP, depending on its skill set can be involved in one or all three of these IoT components. So a smaller company may deal strictly in the devices and their management in a consumer setting, such as a smart home, while a large MSP may create a practice heavy on the analytics piece and implementations with many end points.

Much of the end customer activity in IoT in the commercial space is in large industrial segments such as utility companies, manufacturing firms, etc. The number of connected devices and endpoints is vast. Adding in a whole system of smart IoT devices and sensors ups the complexity of the network. Many CIOs are looking for outside providers to monitor and manage these newer devices as they would a traditional network, hence the demand. Conventional MSPs, with some additional training and skills, are a natural fit to manage these more sophisticated networks.

There are challenges, of course. It's critical to have top-notch security skills to succeed in Managed IoT. Other challenges are perennial: finding workers with the right skill sets for Managed IoT, and planning adequately for what will continue to be a firehose of more and more data that will need to be protected and analyzed.

Top reported managed IoT services offered in full production today

1. Monitoring/mgt. of new IoT devices on network
2. Monitoring/mgt. of "smart" equipment
3. Predictive maintenance
4. Monitoring/mgt. of logistics and supply chain
5. Monitoring/mgt. of HVAC and building systems
6. Real-time asset tracking

MANAGED SECURITY SERVICES

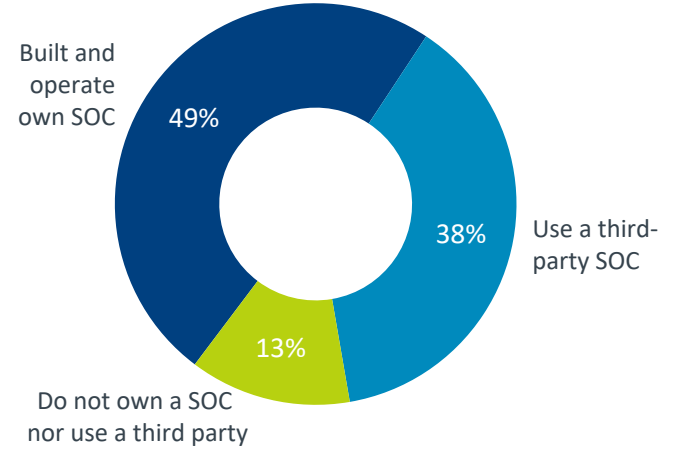
A segment of MSPs today have chosen to specialize in security services almost exclusively, donning the moniker of an MSSP, or managed security services provider. What’s the difference between the two, you might ask? Largely, the depth and sophistication of the latter’s security practice.

While traditional MSPs typically offer basic antivirus, patch management and malware prevention services, an MSSP elevates the discipline to a much higher level, in theory. MSSPs apply security-specific expertise holistically across all customer systems, infrastructure, applications, and data. Their portfolio spans a much more plentiful number of security services than the average MSP, including things like penetration testing, SIEM, ransomware protection, compliance audits and governance consulting. And most run a secure operations center (SOC), either their own or via a third party, for added rigor and authenticity.

That said, there is some nuance and overlap between traditional MSPs and MSSPs. Three models have emerged: pure play MSSPs (38%), meaning that’s largely all the work that they do; MSPs that maintain a separate MSSP subsidiary or side business (35%); and MSPs that offer a few higher-level security services on top of the routine parts of their portfolio (27%). It’s important to note that respondents self-selected which model fit them, and as a result interpretations may vary based on the individual company.

The largest firms were most likely to claim pure-play MSSP status. Four in 10 companies with more than 250 employees identified as such, while micro-sized companies (fewer than 10 employees) were more likely to describe their MSSP services as just an add-on to their traditional MSP offerings. This makes sense given the disparity in resources between these two company types, especially in the case of needing to invest in a pricey SOC or hire a chief information security officer or other high-salary specialist. Now is a good place to point out that some in the industry might debate whether these smallest firms count as true MSSPs (some might, some might not), but the reality is that the tech industry in general still wrestles with a single, hard-and-fast definition for the category.

MSP SOC operational models



Reported security offerings of MSPs today

	Firm Size			
	Micro	Small	Medium	Large
Antivirus	77%	56%	51%	53%
Firewall / UTM	66%	56%	58%	56%
Backup, DR, business continuity	68%	56%	53%	59%
Data loss prevention (DLP)	66%	50%	55%	59%
Email services (anti-phishing, etc.)	72%	51%	46%	45%
SIEM	43%	52%	53%	50%
Encryption tools	57%	48%	47%	53%
Ransomware protection	49%	46%	36%	50%
Web filtering	49%	46%	39%	48%
Intrusion prevention / detection	51%	43%	36%	41%
Identity and access management	36%	49%	38%	47%
Analytics / packet analysis	40%	40%	43%	48%
Emerging tech security (e.g. IoT)	34%	41%	48%	36%
Penetration testing	43%	44%	36%	42%
Patch management	40%	43%	38%	33%
Compliance audits/governance	40%	34%	43%	42%
Cyber-insurance	23%	32%	45%	39%

Other variations of the MSSP practice also exist. For example, 62% of respondents characterized their portfolio as a broad, general suite of many different security services. Call it more of a horizontal approach. Another 36% said they specialize in one or a small handful of targeted security areas. One example of the latter approach would be those MSSPs that lead with compliance and governance services for a specific industry such as banking.

There are many reasons to build an MSSP practice, chief among them being the high demand for all things security, the competitive differentiation, and the revenue opportunity. Nearly 3 in 10 MSSPs said the expect significant growth in that part of their business in the next two years, with just over half predicting modest growth. Just 3% forecast a decrease in security revenue, while 15 expect status quo. Typically MSSPs can charge a premium for many of their services, offering various tiers to customers from basic on up. Much revenue is made from ongoing consulting in which a provider continually assesses the customer’s security posture, conducts risk assessments, ensure compliance, etc. These services are often are done on retainer, with the consulting receiving a recurring fee every month.

RESEARCH METHODOLOGY

This quantitative study consisted of an online survey fielded to workforce professionals during December 2019. A total of 400 businesses based in the United States participated in the survey, yielding an overall margin of sampling error proxy at 95% confidence of +/- 5.0 percentage points. Sampling error is larger for subgroups of the data.

As with any survey, sampling error is only one source of possible error. While non-sampling error cannot be accurately calculated, precautionary steps were taken in all phases of the survey design, collection and processing of the data to minimize its influence.

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CompTIA is the leading provider of vendor-neutral skills certifications and education of the world's IT workforce. CompTIA has four certification categories that test different knowledge standards, from entry-level to expert, in cloud computing, mobility, Linux, networking, security, help desk and technical support, servers, project management and other mission-critical technologies.

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Through its public advocacy efforts, CompTIA champions member-driven business and IT priorities that impact the continuum of information technology companies – from small IT service providers and software developers to large equipment manufacturers and communications service providers. CompTIA gives eyes, ears and a voice to technology companies.

[CompTIA Advocacy](#)



APPENDIX I

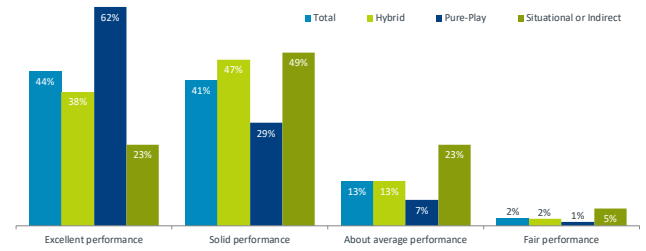
Factors Contributing to Good Performance – By Firm Size

	Size of Firm				
	Total	Micro	Small	Medium	Large
Growing need for cybersecurity expertise	52%	60%	49%	48%	55%
Existing base of customers in need of modernizing their IT systems	48%	55%	39%	50%	58%
Growing opportunities in specialization, e.g. by vertical, technology	47%	54%	46%	48%	42%
Growing customer awareness of managed services	47%	54%	46%	48%	42%
Growing need for compliance, e.g. GDPR, PCI	40%	41%	38%	35%	55%
Customer challenges in hiring internal IT staff contributing to demand for outsourcing	40%	43%	35%	36%	58%
Expanding base of customers in new market segments	37%	36%	35%	44%	32%
Growing sophistication of MSPs to serve all types of customers	34%	38%	29%	33%	42%

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Source: CompTIA's Trends in Management Services | n = 400 IT and business professionals in the U.S.

Performance Expectations by Firm Type In Next Two Years

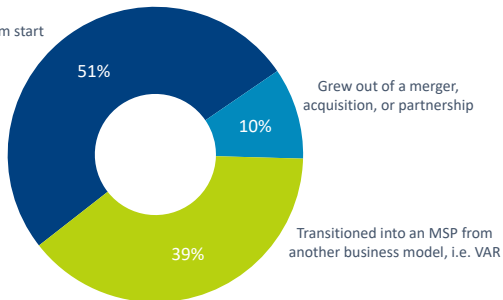


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Source: CompTIA's Trends in Management Services | n = 400 IT and business professionals in the U.S.

Entry Points for Creating a Managed Services Business

Business formed as MSP from start

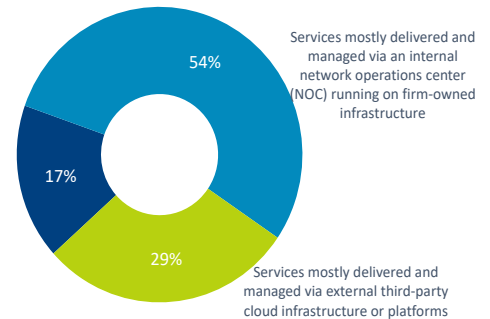


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Source: CompTIA's Trends in Management Services | n = 400 IT and business professionals in the U.S.

Types of Delivery and Management of Services Portfolio

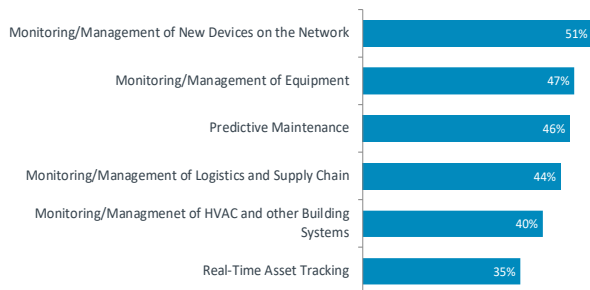
About an equal mix of internal and external



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Source: CompTIA's Trends in Management Services | n = 400 IT and business professionals in the U.S.

IoT Managed Services Offered at Full Production



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Source: CompTIA's Trends in Management Services | n = 400 IT and business professionals in the U.S.

Plans for Offering Specific Managed IoT Services

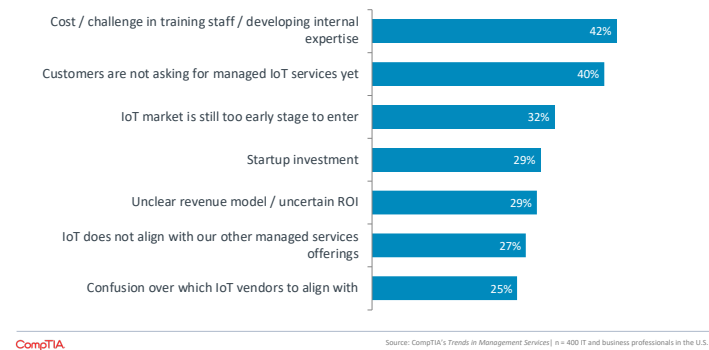
	No Plans Currently	Working Toward Offering	Currently Offer
Monitoring/Management of New Devices on the Network	14%	35%	51%
Monitoring/Management of Equipment	12%	41%	47%
Predictive Maintenance	11%	43%	46%
Monitoring/Management of Logistics and Supply Chain	16%	41%	44%
Monitoring/Management of HVAC and other Building Systems	21%	39%	40%
Real-Time Asset Tracking	12%	53%	35%

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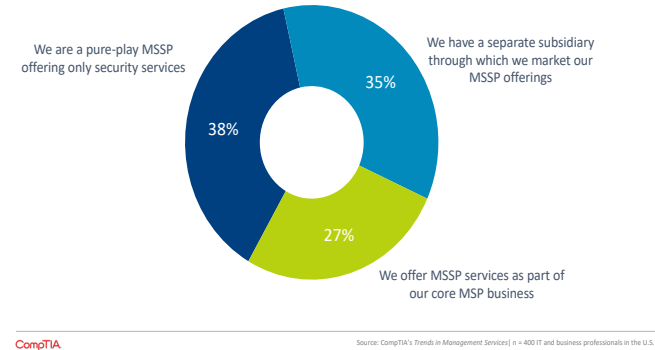
Source: CompTIA's Trends in Management Services | n = 400 IT and business professionals in the U.S.

APPENDIX II

Reasons for not Moving into Managed IoT Services



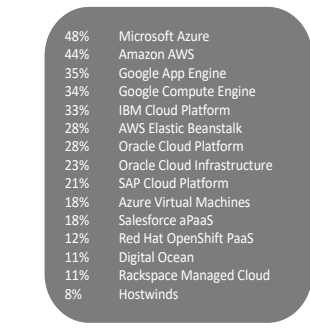
Types of Firms Offering Managed Security Services



Incidence of Security-Related Job Roles in Today's MSSP Businesses



MSPs' reported incidence of selling or using the following IaaS/PaaS cloud services in the last year



MSPs' reported incidence of selling or using the following SaaS cloud services in the last year

