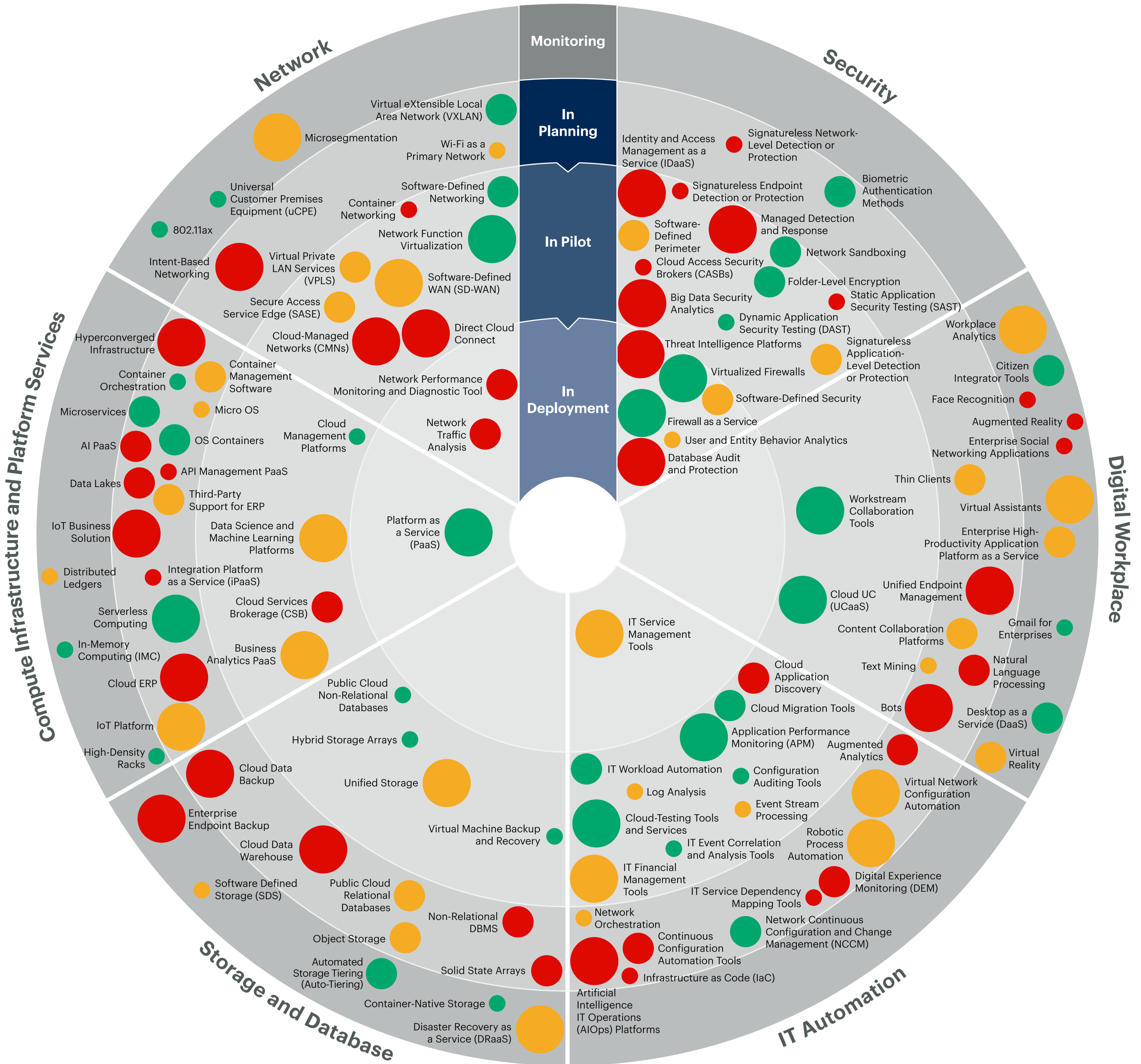


2020 to 2022

Emerging Technology Roadmap for Midsize Enterprises

IT professionals from 218 midsize enterprises (MSEs) collaborated to map the adoption of 112 emerging technologies by deployment stage, deployment risk and enterprise value.

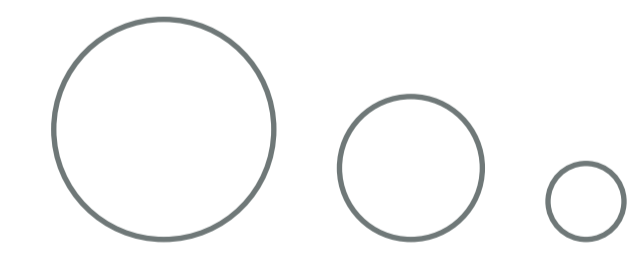


Deployment Risk



Based on analysis of where the technology represents potential risks in marketplace/vendor maturity, architectural fit/complexity, security risk, talent availability, implementation cost, regulatory compliance challenges and disruption to existing processes and services to risk factors.

Enterprise Value



Based on analysis of where technology has the potential to increase cost efficiency, improve speed and agility, enhance employee productivity and increase revenue through improved products and/or services

Key Takeaways

Remote Work

1. MSEs invest in network modernization initiatives to support a remote workforce: CIOs plan to modernize their network infrastructure through investments in container networking, secure access service edge (SASE), and virtual eXtensible local area network (VXLAN). MSEs plan to make faster progress than their large enterprise peers in deploying these technologies at scale, with 2021 as the expected timeline.

2. CIOs are piloting cloud-delivered secured access service edge (SASE) to secure increased remote work and secure edge investments: After successfully deploying cloud and software-defined WAN (SD-WAN) solutions, CIOs are now exploring SASE to evolve remote access and augment traditional VPN investments. Despite the high perceived risk, forty-nine percent of MSE CIOs are piloting or deploying SASE to prepare for edge technologies, like IoT, AR, and VR, and secure increased remote work.

Productivity

3. CIOs are democratizing tasks, including development, analytics, and integration, to business teams that crave speed and agility: Seventy percent of MSE CIOs plan to deploy citizen integrator tools by the end of 2020 to enable business teams to perform the simple application, data and process integration tasks while adhering to enterprise standards. CIOs expect data and application integration to be the first step toward democratizing traditional IT tasks and enabling citizen development, with plans to deploy low-code/no-code tools no later than 2022.

4. CIOs are investing in IT automation and AI tools to streamline product delivery and enhance employee productivity: MSE CIOs plan to pilot IT automation technologies such as IT event correlation and analysis, and IT workload automation. Bots and natural language processing (NLP), however, still remain in the planning phase. CIOs look to deploy these tools by 2021 to balance work between humans and machines, freeing up time for employees and boosting their productivity.

5. MSE CIOs plan investment in monitoring technologies to improve their understanding of the employee experience: More than fifty percent of MSE CIOs are piloting digital experience monitoring (DEM) application performance monitoring (APM) and artificial intelligence IT operations (AIOps) platforms to have a centralized view of performance. Additionally, 85% of MSE CIOs plan to deploy enterprise-wide workplace analytics solutions by 2021 to leverage machine learning algorithms to better understand employee experiences and diagnose root causes of productivity problems.

Operations

6. CIOs are investing in front-end operations technology while modernizing legacy back-end infrastructure: Three in four MSE CIOs plan to deploy serverless computing, OS containers, and microservices at scale by 2021 to support their cloud infrastructure and changing application development processes. CIOs view serverless computing as a low-risk, high-value investment that allows administrators to spend less time on infrastructure management.

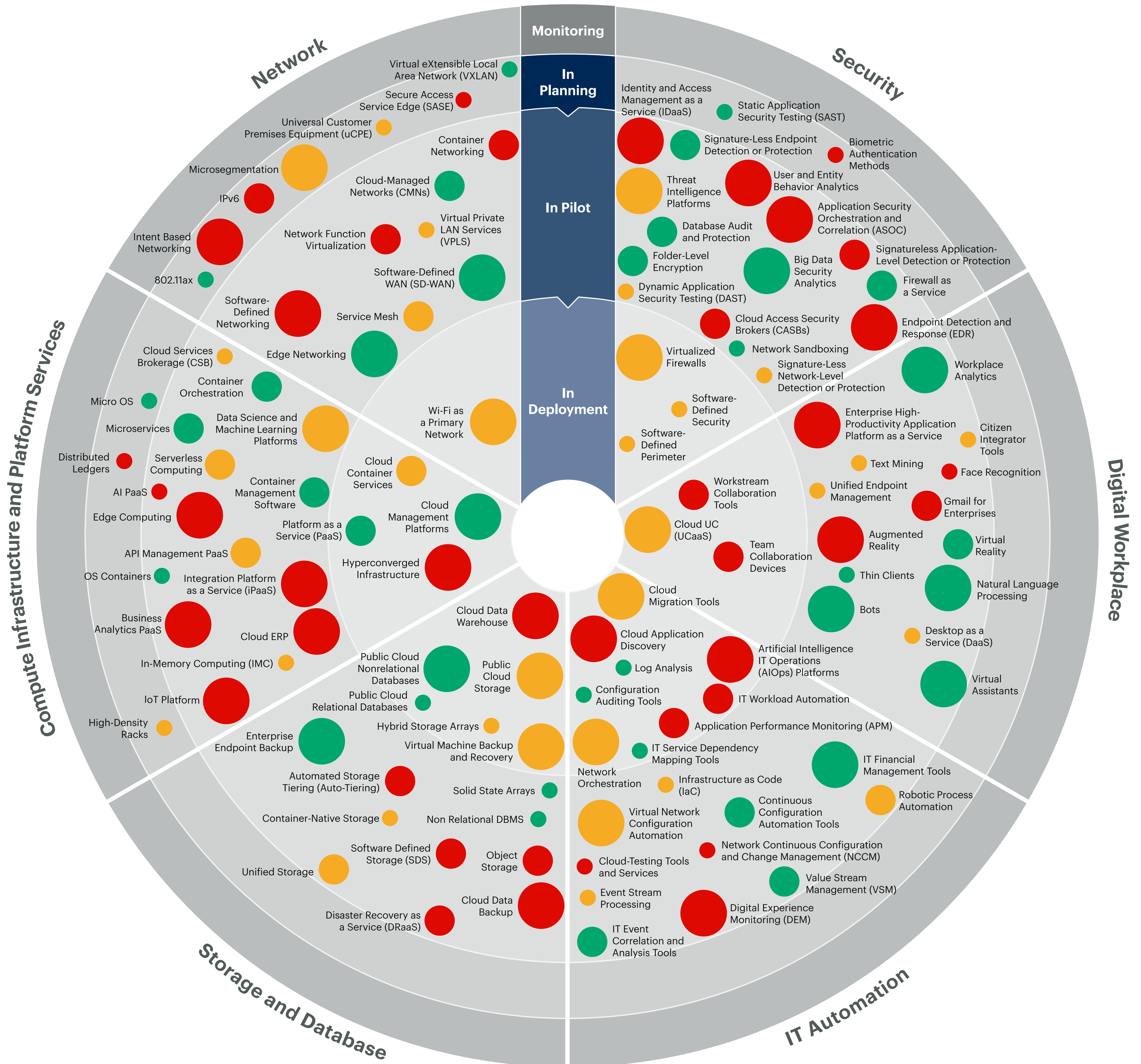
7. Virtualization and edge investments prompt MSE CIOs to redesign security practices: MSE CIOs have caught up to their large enterprises in deploying virtualized firewalls, software-defined security, and firewall-as-a-service solutions to simplify the provisioning of security services. Four in five MSE CIOs plan to centralize the governance of policies that support the mixed workloads with different security environments by 2021.

Source: Gartner

2020-2022

Emerging Technology Roadmap for Large Enterprises

IT Professionals From 438 Organizations Collaborated to Benchmark Adoption Plans, Anticipated Value and Risk for 111 Infrastructure and Operations Technologies



Deployment Risk

Based on analysis of where the technology represents potential risks in marketplace/vendor maturity, architectural fit/complexity, security risk, talent availability, regulatory compliance challenges, implementation cost and disruption to existing processes and services

Enterprise Value

Based on analysis of where technology has the potential to increase cost efficiency, improve speed and agility, enhance employee productivity and increase revenue through improved products and/or services

Key Takeaways

- 1. I&O organizations see a need to continue technology investments in order to support the accelerated transition to a new virtual work environment, despite delays in some technology adoption plans caused by the economic impacts of COVID-19.** Across all technology domains, 40% of I&O organizations expect to have to delay some technology investments due to COVID-19. Of the remaining 60%, 29% plan to increase investments while 21% plan to decrease investments.
- 2. The number of technologies in pilot and in deployment this year has increased, in spite of the delays in investment expected as a consequence of the economic impacts of COVID-19.** Sixty six percent of technologies on the roadmap are in pilot this year compared to 46% in 2019. Also, 23% of technologies on the roadmap are in deployment, as compared to 22% in 2019.
- 3. The importance of resiliency and reliability have increased; however, improving speed and agility remains the primary driver for technology adoption.** Two thirds of I&O leaders state that due to the current crisis, the importance of enabling resiliency and reliability will either somewhat increase or increase while making technology investments in the next 12-18 months.
- 4. Experimentation in digital workplace technologies is accelerating in order to ensure employee productivity in the post-COVID shift to remote work.** The number of digital workplace technologies on the roadmap that are in pilot have almost doubled to 82% this year as compared to 44% in 2019.
- 5. Many IT automation technologies have moved from evaluation to deployment as organizations prepare to cope with the rapid pace and scale of digital business.** In 2020, 45% of all IT automation technologies are in deployment with the remaining 55% in pilot. This is a drastic change from 2019 when 17% of IT automation technologies on the roadmap were in deployment and 72% were in pilot.
- 6. Organizations are looking to re-shape their networking infrastructure in the medium to long term to effectively support the increasing volume and variety of traffic from the cloud, edge, IoT, and a remote workforce.** 69% of all network technologies on the roadmap expect to help improve speed and agility.
- 7. Organizations are being cautious about deploying new network technologies as their short-term focus shifts to ensuring resiliency.** Half of all network technologies surveyed are in pilot, and only one technology (Wi-Fi as primary network) is currently in deployment.
- 8. Organizations are actively investing in a hybrid compute environment and containers to support flexibility with multiple hosting options that align better with business needs.** Consistent multi-year investment in cloud technologies continues in 2020. Moreover, investments in hyper converged infrastructure, edge computing, and container technologies continue in parallel.
- 9. Storage and backup investments focus on supporting a hybrid environment through cloud and modernized on-premise storage.** The multi-year trend of adopting cloud-based storage and database technologies remains consistent in 2020. I&O organizations are also deploying hybrid flash arrays and piloting solid state arrays, thus modernizing existing on-premise storage solutions.
- 10. Investments in AI, Edge, and IoT have increased due to interest from the C-Suite outside IT.** Technologies such as AIPaaS, Edge Computing and IoT platforms are in pilot, and AIOps platforms are in deployment in this year's roadmap. These technologies have jumped ahead in adoption as compared to in 2019 when most of these technologies were in planning or being monitored for adoption.

Source: Gartner
Note: Large enterprises are defined as organizations with more than \$1 billion in revenue.