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IT TRENDS REPORT

The Intersection of Hype & Performance

Worldwide | 2018

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Introduction

While today's industry hype cycle focuses on technologies like artificial intelligence (AI), machine learning (ML), and blockchain, in many cases it is possible that more traditional solutions—and more basic problems—are the most urgent priorities. Will these new technologies actually enable IT to reach optimal performance faster?

The SolarWinds IT Trends Report 2018: The Intersection of Hype & Performance explores IT professionals' views about what is happening in their technology worlds, how their organizations prioritize existing and emerging technologies, and the extent to which those technologies are disrupting IT and optimizing the performance of environments as organizations progress in their digital transformation journeys.

Building on the results of the SolarWinds IT Trends Report 2016 and 2017, which saw the anticipated permanent arrival of hybrid IT, cloud and hybrid IT remain the primary responsibility for IT professionals as technologies core to delivering business value in 2018. IT professionals also set their sights toward innovation in emerging technologies like AI and machine learning as key enablers of digital transformation strategies.

However, although a third of this year's respondents acknowledged that these emerging technologies are equally important, the results exposed a dissonance between the business leaders charged with setting the company's vision and the IT professionals tasked with executing that vision. Where the C-suite considers AI, ML, and deep learning to be fundamental elements of digital transformation, IT professionals are looking toward the technology and processes that underpin continuous integration and delivery—which ultimately enable enhanced performance and digital experience in today's environments. The results of this year's report shine a light on the ongoing need for greater collaboration between business leadership and IT professionals to overcome challenges introduced by technology, and the broader realization that now is the time to focus on people and processes.

The findings of this year's report are based on a survey of IT practitioners, managers, and directors at public- and private-sector small, mid-size, and enterprise companies, fielded in December 2017 by C White Consulting on behalf of SolarWinds. All regions studied in 2018, as reported on the SolarWinds IT Trends Index, were North America, Australia, Germany, Hong Kong, Singapore, and the United Kingdom, with 803 respondents across all geographies combined.

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Key Findings

CLOUD COMPUTING AND HYBRID IT WILL REMAIN A TOP PRIORITY FOR IT PROFESSIONALS FOR THE NEXT FIVE YEARS, BECAUSE THESE ELEMENTS MEET TODAY'S BUSINESS NEEDS WHILE SERVING AS THE BACKBONE TO TRENDS LIKE MACHINE LEARNING (ML) AND ARTIFICIAL INTELLIGENCE (AI).

- 94 percent of IT professionals surveyed indicate that cloud and hybrid IT are among the top five most important technologies in their IT organization's technology strategy today, with 51 percent listing cloud/hybrid IT as their most important technology.
- When ranking most important technologies today and for digital transformation over the next three to five years, as well as technologies with the greatest potential to provide productivity/efficiency benefits and ROI, IT professionals ranked cloud and hybrid IT as number one across the board (by weighted rank).
    - Automation ranked as the number two priority for technology strategy today, as well as for the greatest potential to provide productivity/efficiency benefits and ROI today.
    - IT professionals ranked big data analytics as number two when it comes to technologies/management tools needed for digital transformation over the next three to five years.

AT THE SAME TIME, IT PROFESSIONALS ARE PRIORITIZING INTERNAL INVESTMENTS IN CONTAINERS AS A PROVEN SOLUTION TO THE CHALLENGES OF CLOUD COMPUTING AND HYBRID IT, AND A KEY ENABLER OF INNOVATION.

- 44 percent of respondents ranked containers as the most important technology priority today, and 38 percent of respondents ranked containers as the most important technology priority three to five years from now.
    - The ability for container deployments to simplify application challenges introduced by hybrid IT has caused IT professionals' investment in container technology to skyrocket in the last 12 months. According to the 2017 SolarWinds IT Trends Index: Portrait of a Hybrid IT Organization, only 15 percent of respondents had planned to develop containerization skills in the year ahead.
- Concurrently, AI and ML investments are expected to increase in importance over the next three to five years.
    - 37 percent of respondents indicate that AI is the biggest priority and 31 percent of respondents indicate that ML is the main priority three to five years from now (compared to 29 percent and 21 percent today, respectively).
    - Cloud service providers such as Amazon Web Services™ and Microsoft® Azure® are investing heavily in AI technologies and capabilities, which presents an opportunity for IT professionals to leverage existing investment in cloud offerings to experiment with and deploy AI-based services in their organizations.

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THE RESULTS OF THE IT TRENDS SURVEY SUGGEST A DISSONANCE BETWEEN THE VIEWS OF IT PROFESSIONALS AND THEIR SENIOR MANAGERS ON PRIORITIES FOR IT INVESTMENT OVER THE NEXT THREE TO FIVE YEARS.

- On the weighted list of technologies IT professionals believe are needed for an IT organization's digital transformation over the next three to five years, AI did not even make the top five.
    - This contrasts with a recent CEO survey, which found that 81 percent of CEOs consider AI and ML to be a priority for their business, up from just 54 percent in 2016 (Fortune).
- As AI and ML continue to mature, IT professionals will be required to have a fundamental understanding of these technologies and their capabilities to act as an educated liaison for business leadership when it comes time to consider the benefits of adoption.

WHILE IT PROFESSIONALS CONTINUE PRIORITIZING CLOUD COMPUTING AND HYBRID IT, ADOPTION OF THESE TECHNOLOGIES HAS MADE IT CHALLENGING TO OPTIMIZE PERFORMANCE OF THEIR SYSTEMS AND APPLICATIONS.

- 58 percent of IT professionals surveyed indicated that by weighted rank, cloud/hybrid IT is the greatest challenge when it comes to implementation, rollout, and day-to-day performance. This is followed closely by automation and software-defined everything (SDx) technologies.
- Nearly half (47 percent) of all IT professionals surveyed think that their IT environments are not operating at optimal levels.
    - Over half of all IT pros surveyed spend less than 25 percent of their time proactively optimizing performance, and only one in 20 IT professionals spend 75 percent or more of their time doing so.
    - Nearly half of IT professionals spend 50 percent or more of their time reactively maintaining and troubleshooting their IT environment.
- This echoes findings from the 2017 SolarWinds IT Trends Report: Portrait of a Hybrid IT Organization, in which 35 percent of IT pros surveyed who migrated critical applications and infrastructure to the cloud ultimately brought back or left area(s) on-premises due to security concerns, budget, and performance issues.

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MANY IT PROFESSIONALS CITE A LACK OF ORGANIZATIONAL STRATEGY AND INADEQUATE INVESTMENT IN AREAS SUCH AS USER TRAINING AS THE MOST COMMON BARRIERS TO SYSTEM OPTIMIZATION.

- IT professionals who indicate that their environments are not optimized, 43 percent ranked inadequate organizational strategy as one of the top three barriers to achieving optimization, followed closely by inadequate investment in other areas, such as user and technology training (42 percent).
    - To achieve true performance and work toward a successful digital transformation, IT professionals require deeper strategic collaboration with business leaders.

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Recommendations

CONCENTRATE ON CONTAINERS:

With delivering organizational value as a constant goal, IT professionals should continue to prioritize container deployment—from both an investment and skills development perspective. IT professionals must remain grounded in the here and now, understanding that containers represent lower-hanging fruit in terms of investment, requirements, and barrier to consume. Specifically, containers enable application portability and promise consistent deployment, scalability, and development agility—all of which are key benefits in hybrid IT environments.

For IT professionals seeking to concentrate on containers, they should first understand if the IT organization is already working with the technology. If it is, get to know the people involved and be hands-on. If the IT organization is not working with containers, IT professionals can simply go to Docker® and grab Docker CE for Mac® or Windows® for laptop-based experiments, learn from the tutorials provided by Kubernetes® (especially Minikube), or consume a platform like Amazon® ECS. There are also many communities like GitHub® where container experts freely share their knowledge. Once IT professionals learn how containers work, they should start learning about container automation and orchestration to enable a bridge into scaling the integration and delivery of distributed apps and cloud deployments, all while opening a path to greater understanding of how those workloads are managed.

CLOUD POWER-UP:

Early in the cloud adoption cycle, IT professionals in SMB and mid-market organizations focused primarily on new applications designed to transform business, as well as experimental proofs of concept or cost-sensitive projects. Now, they're beginning to consume different service delivery models—like moving from Microsoft® Exchange™ Servers to Office 365®—and migrate more of their mission-critical applications to the cloud. They delayed migrating these applications due to perceived risk and costs. Now, cloud service providers are making it increasingly affordable to run mission-critical applications in the cloud and enabling frictionless consumption of services, even offering assistance to organizations that may lack sufficient skills to bring them to value. For these reasons, and as revealed in the 2018 survey, the same businesses that have resisted these changes for the past five to 10 years are now moving forward. At the same time, more businesses are actually building their applications directly in AWS® or Azure®.

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In parallel with these changes, there must be increased observability—leveraging combined metrics, logs, and application traces for controllability—built into an organization's cloud monitoring strategy. This degree of monitoring with discipline must carry forward the same level of granularity and source of truth that has existed in on-premises environments for decades. For example, IT professionals must enable the same level of troubleshooting capabilities with the ability to correlate multiple events across multiple systems in their ever-changing cloud and hybrid IT environments. The key part of this process is establishing a baseline of observability within their hybrid IT environments across the entirety of their cloud-based applications.

BRIDGE THE LEADERSHIP GAP:

As we saw with cloud, executives are eager to implement technology that promises the benefits of disruptive innovation. Activating a new technology requires a knowledge of current capabilities, technical complexities, and the ability to anticipate deployment challenges. The best course of action for IT professionals is to become educators. Identify ways to discuss the basics, like what is AI and machine learning, the specific cost-benefit analysis of how the technology will benefit the business, and what it means for service integration and service delivery. It's the IT organization's job to provide clarity and guidance around the functional details of the technologies themselves.

One way to do this is to look outside of the organization. IT can leverage new vendor toolsets that facilitate and educate like AWS Deep Lens and Microsoft Azure Deep Learning to highlight real-world use cases for deep learning as well as how to apply them to the business beyond IT operations. This will help to contextualize and bring business leaders up to speed on what major companies are doing in this space to understand practical applications and what the future could hold. IT should always contextualize emerging technologies by illustrating how they solve a current business problem within the organization, as opposed to being quick to implement for the sake of being perceived as an innovator.

EMBRACE RESILIENCY AND RELIABILITY AS PERFORMANCE METRICS:

To achieve digital transformation success, it's imperative that IT professionals begin to embrace the resiliency and reliability of their environments as critical performance metrics. Resiliency is the ability to provide and maintain an acceptable level of service in the face of faults and challenges to normal operation. Reliability is the ability of a system to recover from infrastructure or service disruptions, automatically scale resources to meet demand, and mitigate service disruptions, including misconfigurations.

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Resiliency and reliability underscore the business value that IT professionals can bring to fruition for their organizations. They also represent measures of how well a distributed application was integrated and delivered, and because they also represent overall performance, these metrics translate into dollar values. Amazon®, for example, has calculated that a page load slowdown of just one second could cost its business $2 million in sales each minute, and the average small business can expect to lose $100,000 in IT downtime every year. With the stakes so high, the ability to ensure the end-user's digital experience is positive is essential: IT should look to leverage tools that deliver full-stack observability into the logs, metrics, and tracing data that underpin reliability and resiliency metrics, and ultimately optimize environments.

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Conclusion

It can be tempting to jump on board with current trends, especially emerging technologies that promise to meet the growing demands of business and make delivering services both more reliable and less painful. Experience will prevail, no matter the environment. The IT professional is responsible for expressing their knowledge in a way that all levels of decision-makers can understand.

In 2018 more than ever, IT professionals have an opportunity to continue identifying ways to optimize the digital experience for end-users in hybrid IT environments while prioritizing investments in technologies that will deliver business value visible well beyond IT. IT must also be the convening voice in business discussions, showcasing the ongoing value of IT professionals as the partners to the business, supplying expertise and experience on the technologies that will enable the business to deliver digital transformation success.

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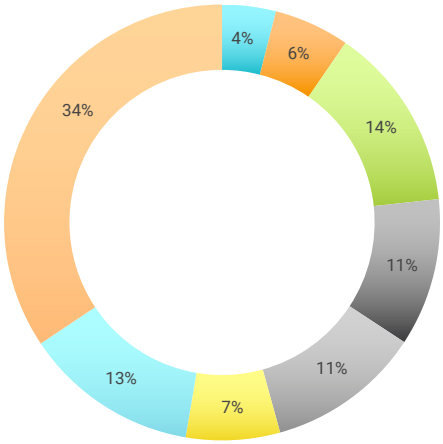
Demographics

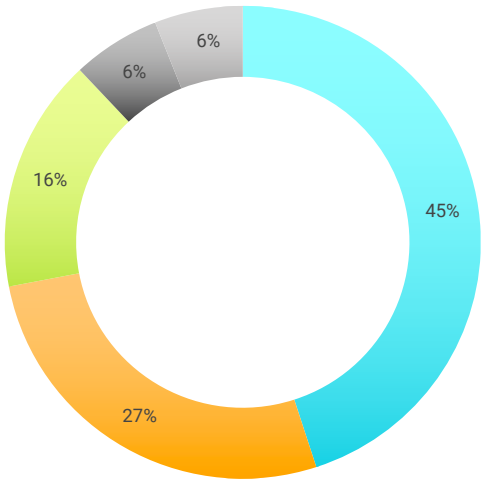
NORTH AMERICA RESULTS

803 IT practitioners, managers and directors WORLDWIDE from public- and private-sector small, mid-size and enterprise companies participated in a December 2017 online study



COMPANY SIZE

- 25-49 FTEs
- 50-99 FTEs
- 100-249 FTEs
- 250-499 FTEs
- 500-999 FTEs
- 1000-1499 FTEs
- 1500-4999 FTEs
- 5000+ FTEs



IT PRO'S ROLE

- Practitioner
- Manager
- Director
- IT Consultant
- Other IT-Related

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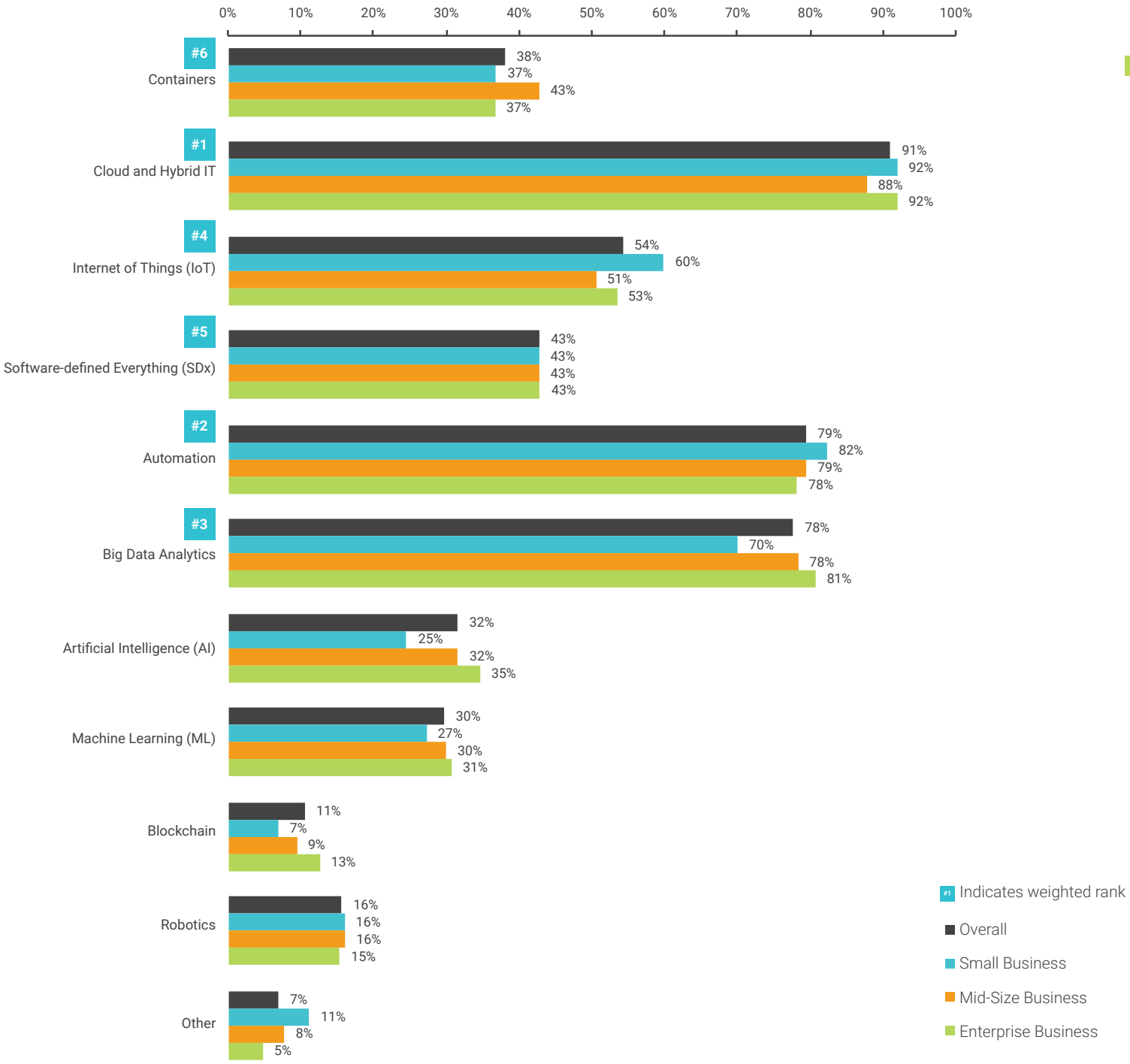
FULL SURVEY RESULTS

Important Tech Today

What are the five **most important** technologies/management tools to your organization's technology strategy **today**?



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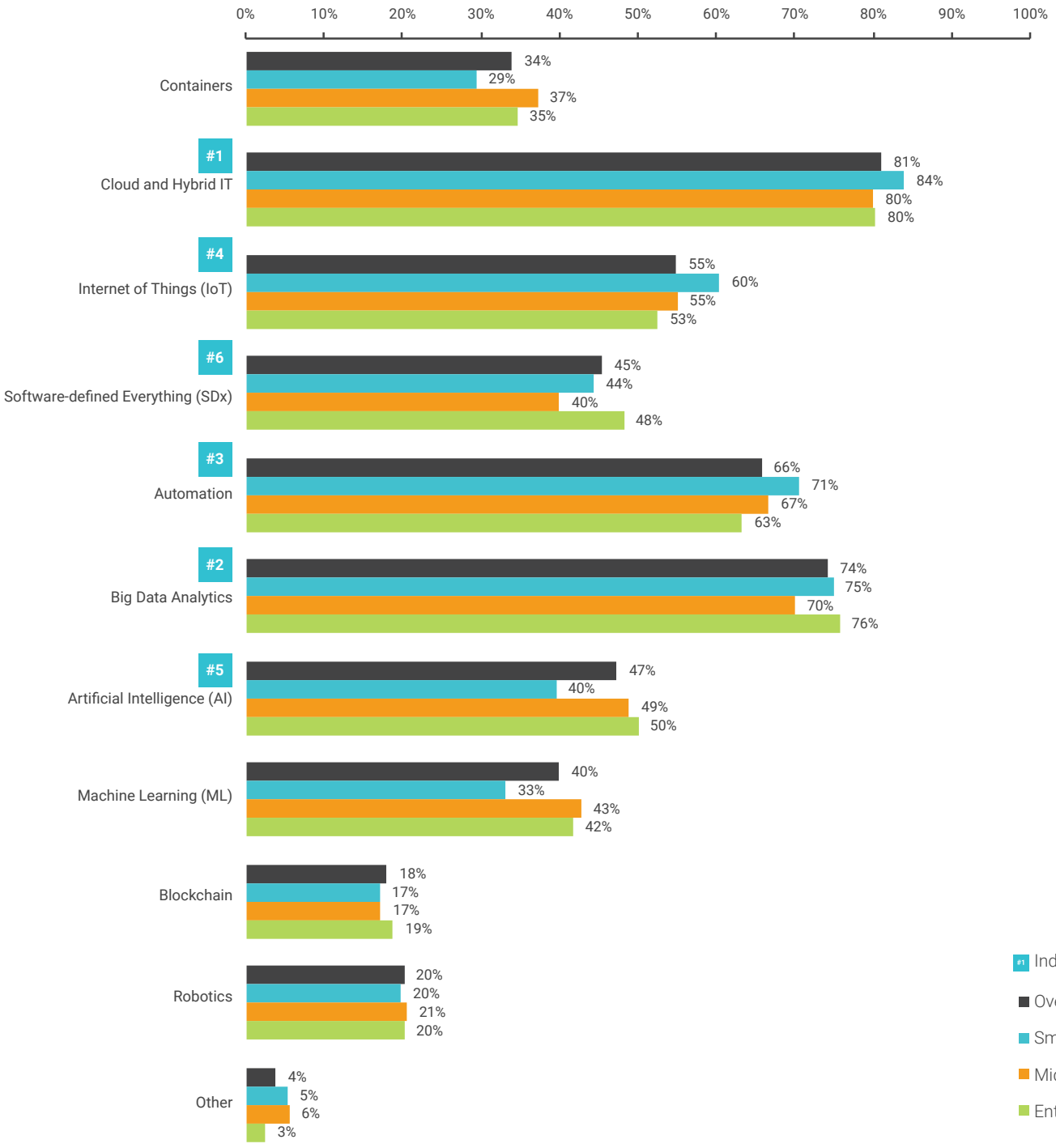
Transformational Tech

What are the **five** most important technologies/management tools needed for your organization's digital transformation over the **next 3-5 years**?



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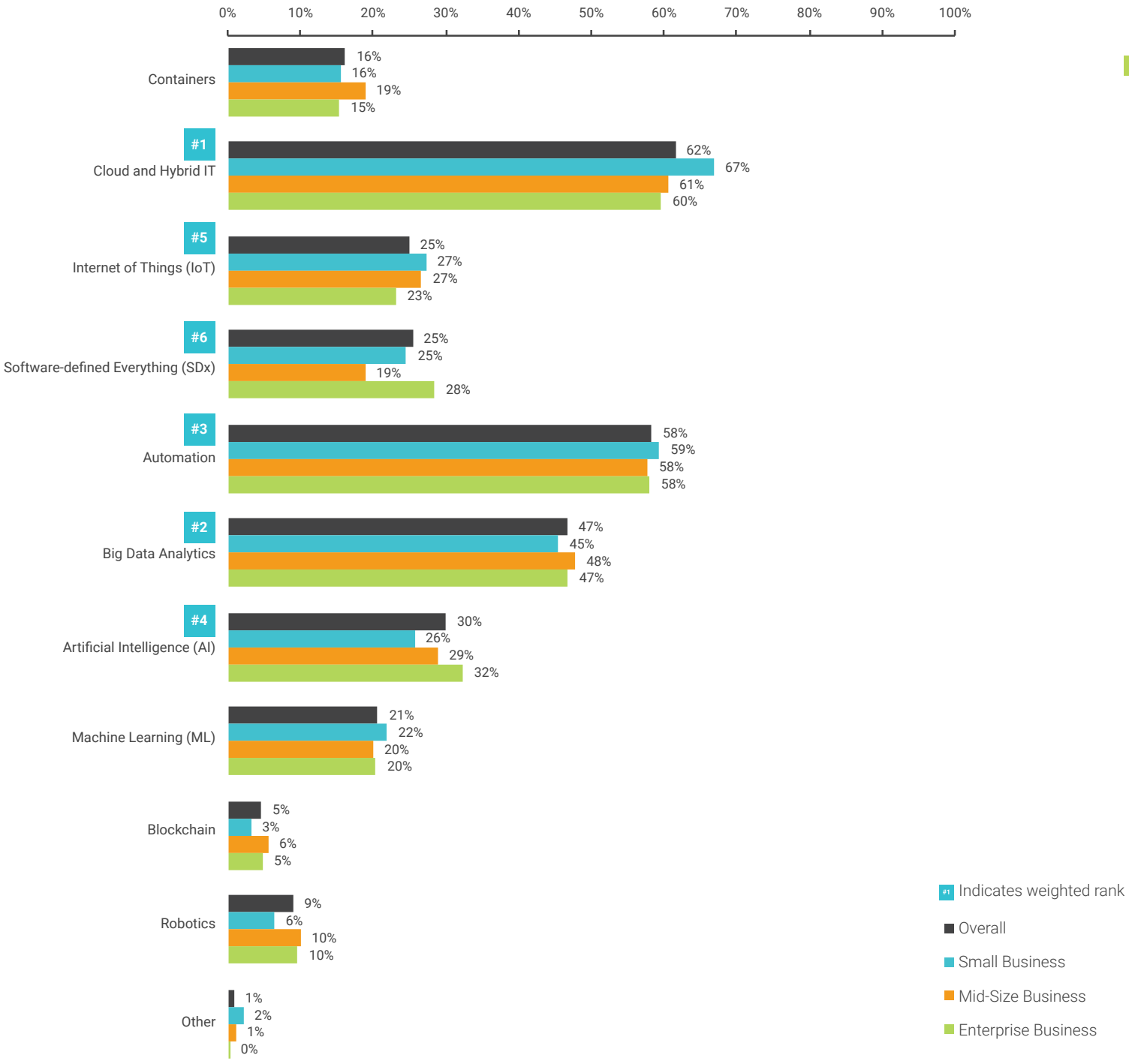
Productivity Potential

Which **three** technologies/management tools have the **greatest** potential to provide productivity/efficiency benefits to your organization?



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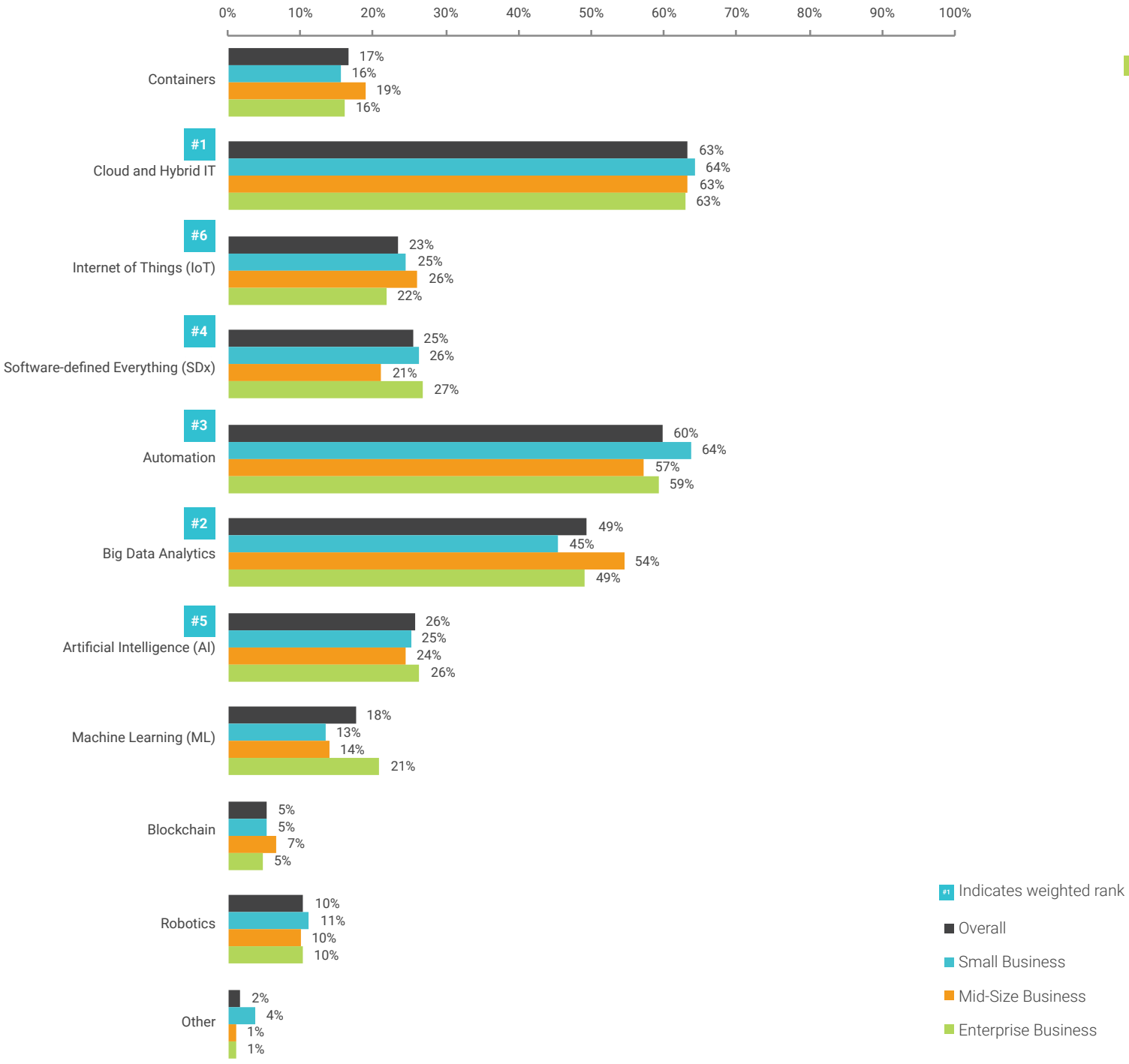
ROI Potential

Which **three** technologies/management tools have the **best** potential to deliver the highest return on investment (ROI) for your organization?



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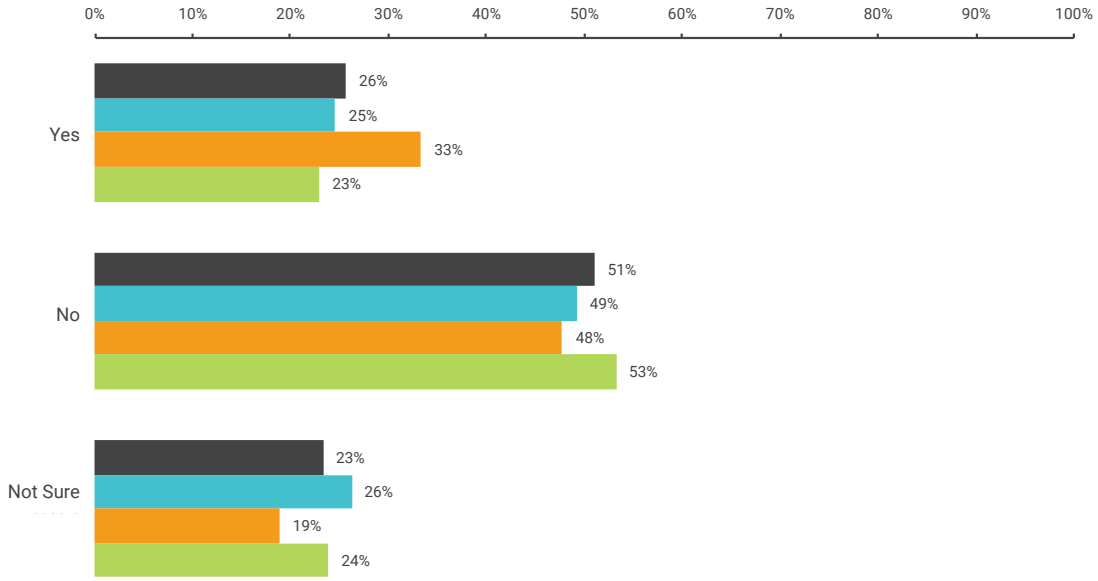
Performance

Is your IT environment performing at its optimal levels?



Overall
Small Business
Mid-Size Business
Enterprise Business

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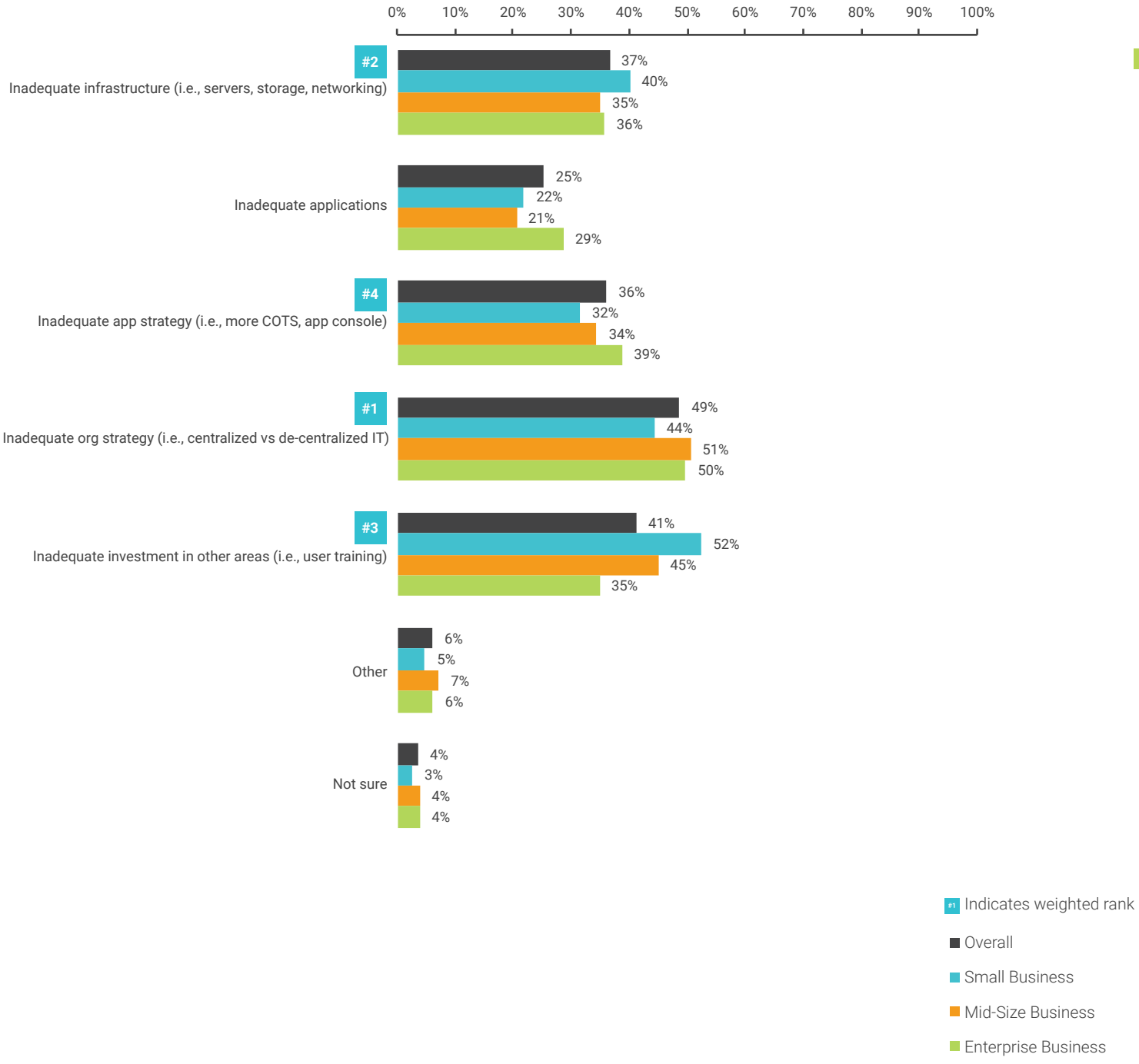
Performance Barriers

Which **two** of the following areas are the biggest barriers to achieving optimal performance within your organization's IT environment?



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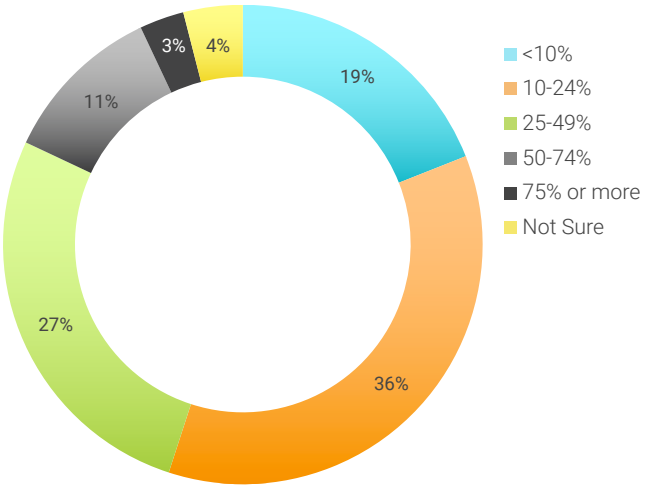
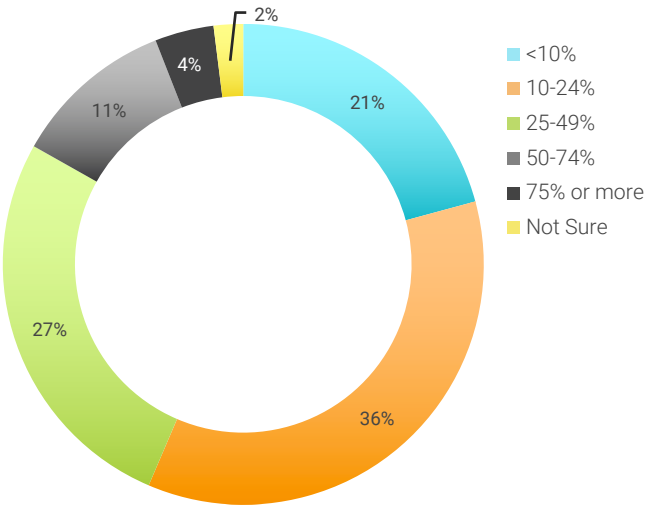
Time Consumption

How much of your time is spent proactively optimizing your IT environment?

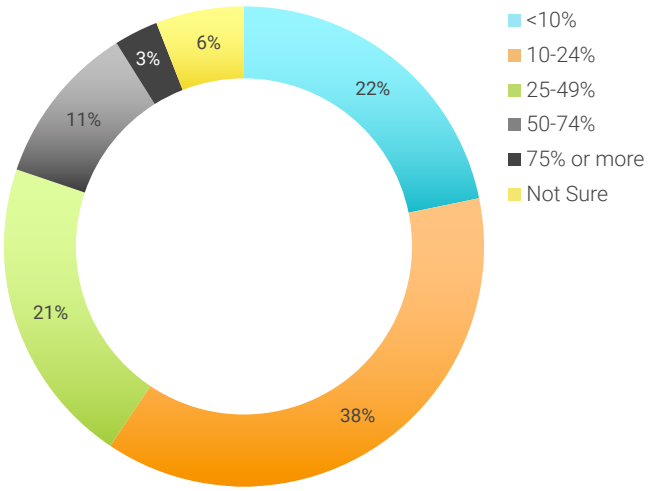
PROACTIVELY OPTIMIZING (OVERALL)



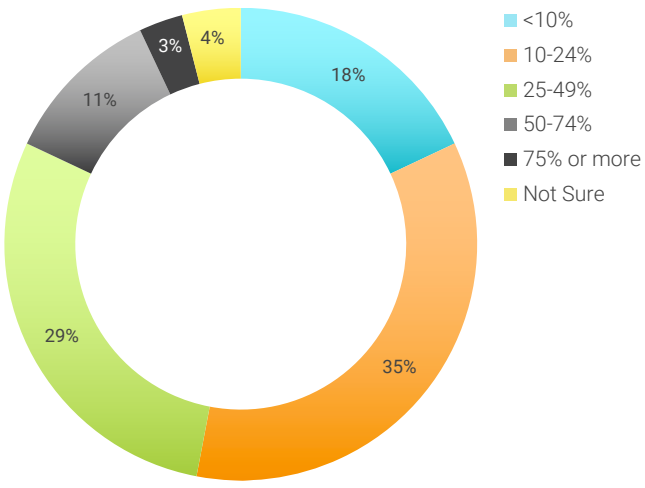
BY BUSINESS SIZE: SMALL



BY BUSINESS SIZE: MID-SIZE



BY BUSINESS SIZE: ENTERPRISE



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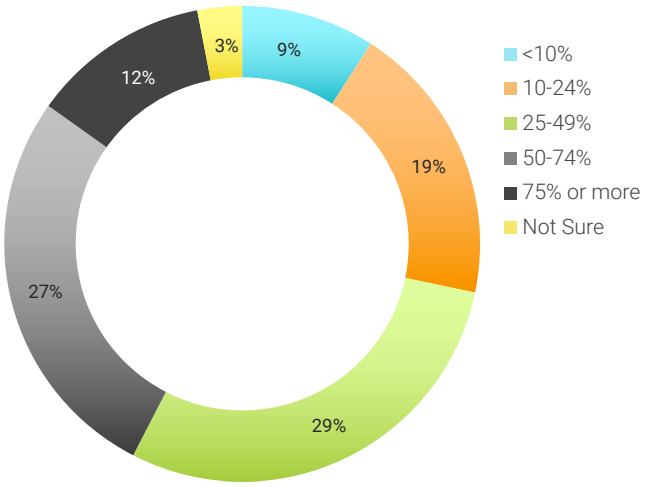
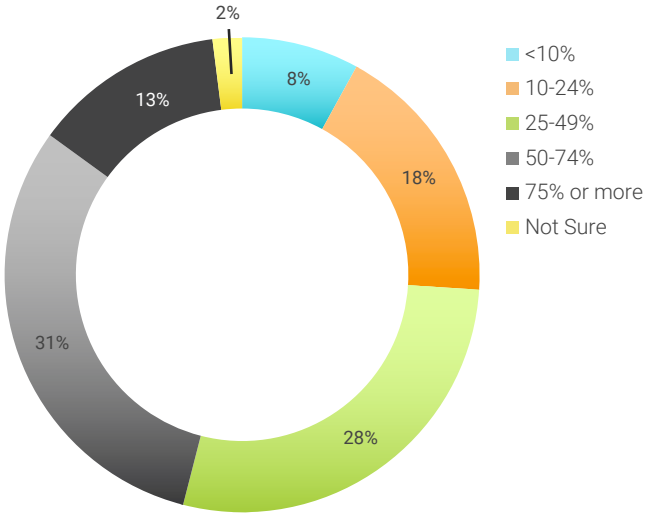
Time Consumption

How much of your time is spent reactively maintaining and troubleshooting your IT environment?

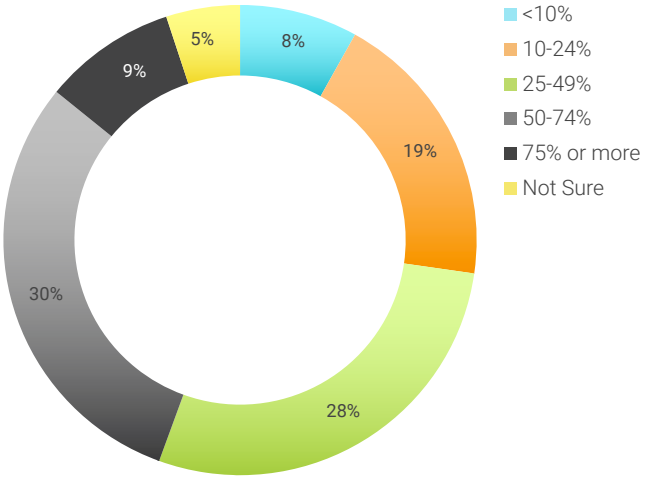
REACTIVELY MAINTAINING (OVERALL)



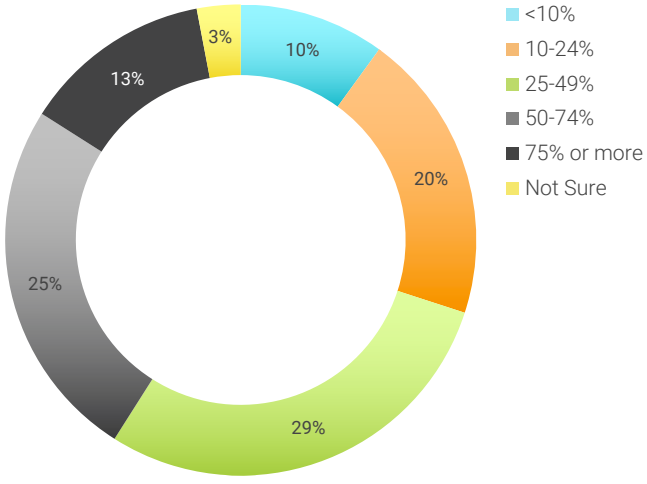
BY BUSINESS SIZE: SMALL



BY BUSINESS SIZE: MID-SIZE



BY BUSINESS SIZE: ENTERPRISE



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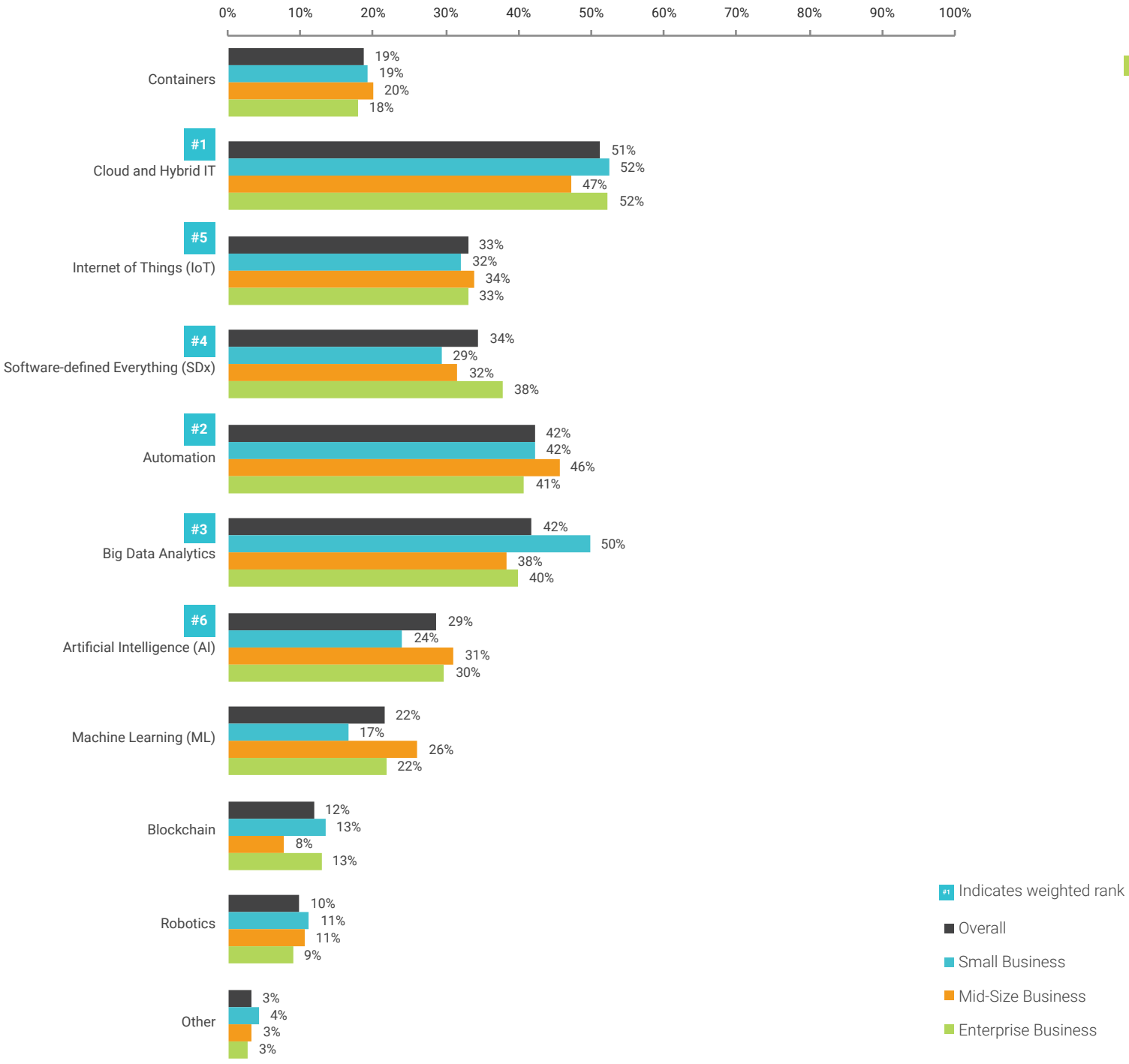
Implementation Challenges

Which **three** technologies/management tools create the **greatest challenges** regarding implementation, rollout, and day-to-day performance?



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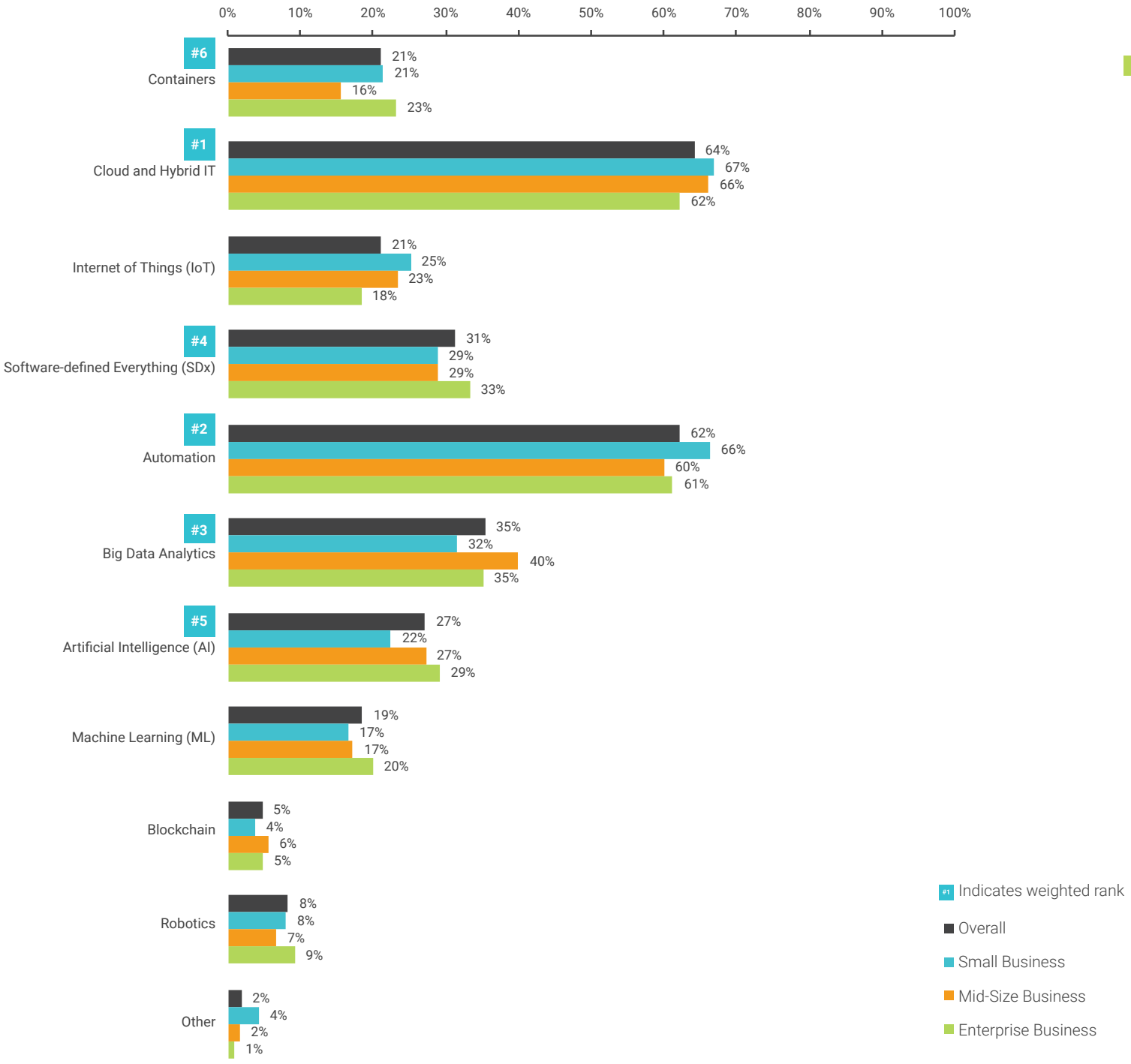
Efficiency Opportunities

Which **three** technologies/management tools offer the **greatest opportunities** to create/increase efficiencies regarding implementation, rollout, and day-to-day performance?



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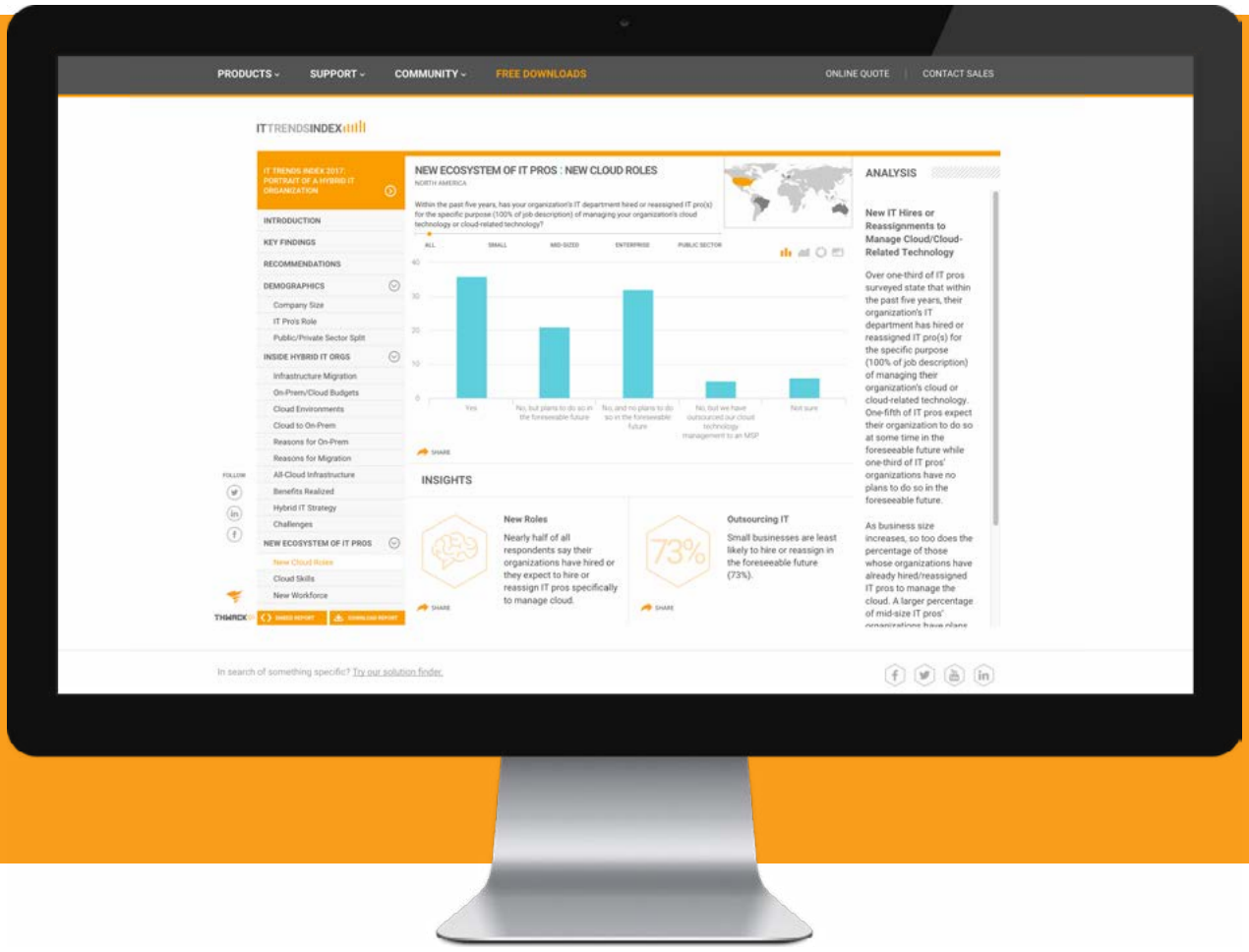
interactive data visualizer



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