EMA
IT & DATA MANAGEMENT RESEARCH, INDUSTRY ANALYSIS & CONSULTING

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From Scheduler to Automation Fabric for the Enterprise:
Workload Automation Transformation in 2023

May 2023 EMA Research Report

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Intelligent Automation

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Harnessing a Whirlwind of Change

Companies across all industries are undergoing digital transformation, using technology to optimize processes, improve customer experiences, and drive business growth.

Enterprise IT organizations are living with more change now than ever before. The pace of technological change and innovation is accelerating, and businesses are under constant pressure to adapt to new trends, technologies, and customer demands. Technological advancements, such as artificial intelligence (AI), machine learning (ML), blockchain, and cloud computing, are disrupting traditional industries and creating new business opportunities. Consumers are more tech-savvy and demanding personalized and seamless experiences across all channels. This is forcing companies to invest in IT infrastructure and develop new technologies to meet these expectations. Companies across all industries are undergoing digital transformation, using technology to optimize processes, improve customer experiences, and drive business growth.

Digital transformation often involves integrating and connecting multiple systems and applications across the enterprise, which can be challenging and time-consuming without automation. Automation can help to facilitate data integration, process automation, and communication between different systems, which are all critical components of achieving the seamless and agile operations required for digital transformation. AI and ML are often used in conjunction with automation to improve the effectiveness of digitally transformed processes. AI and ML technologies support automating decision-making processes, optimizing data analysis, and improving the accuracy and quality of operations, which makes them a powerful tool in support of automation. Adding intelligence to automation is critical to achieving the full benefits of digital transformation.

It generally takes more automation to effectively support digital transformation. Automation technologies used in support of digital transformation include:

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- Workload Automation (WLA)
- Robotic Process Automation (RPA)
- Business Process Management (BPM)
- Cloud Automation
- Workflow Automation

There is overlap between these automation technologies. For example, BPM tools often contain workflow capabilities, but also include modeling and analysis of business processes. WLA can also include workflow capabilities as well as cloud automaton capabilities. Sometimes capabilities are not duplicated within WLA, but WLA is used to orchestrate other automation tools, such as robotic process automation (RPA), infrastructure automation, or environment-specific scheduling software.

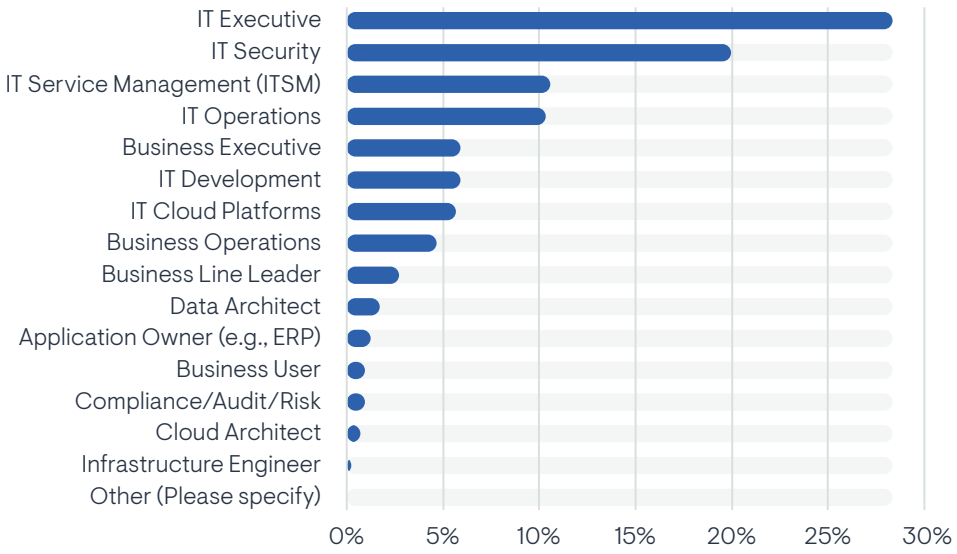
As WLA was enhanced to support cloud computing, data pipelines, DevOps, and other recent IT trends, it became a helpful tool to support digital transformation efforts. As digital transformation is deployed and operated, WLA software is continuously updated when new needs in support of digital services are identified. Leading WLA products are becoming a central orchestration point for many forms of automation. Today, WLA plays a key role in both developing and operating digitally transformed processes.

This research explores the changing role of WLA software as enterprises continue to deploy and mature digitally transformed processes.

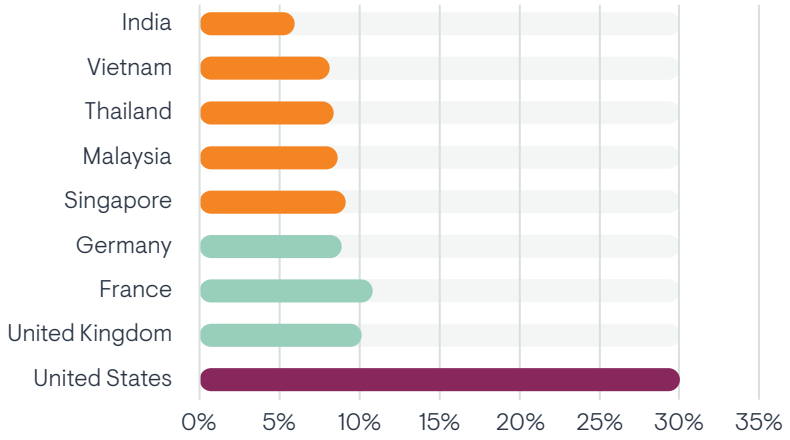
Methodology

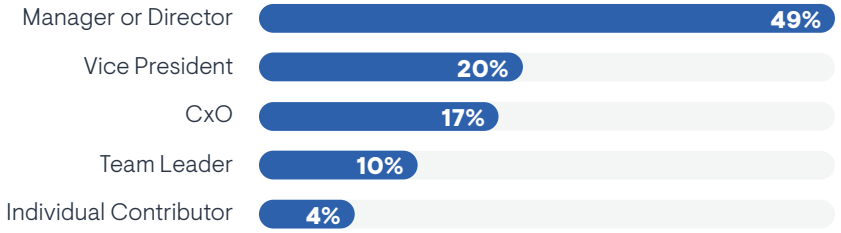
EMA conducted a global online survey of 406 IT and business executives, managers, and users during January 2023. IT roles account for 85% of respondents, with 15% from business roles.

WHICH OF THE FOLLOWING BEST DESCRIBES YOUR FUNCTION IN THE ORGANIZATION?

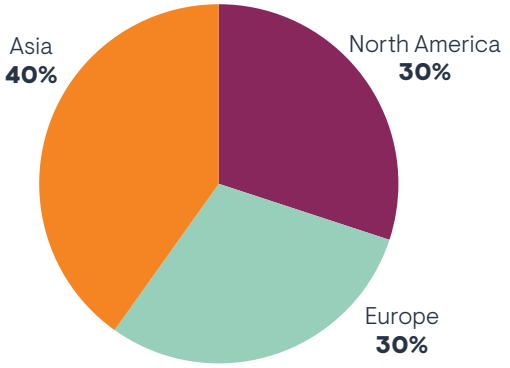


IN WHICH COUNTRY ARE YOU LOCATED?



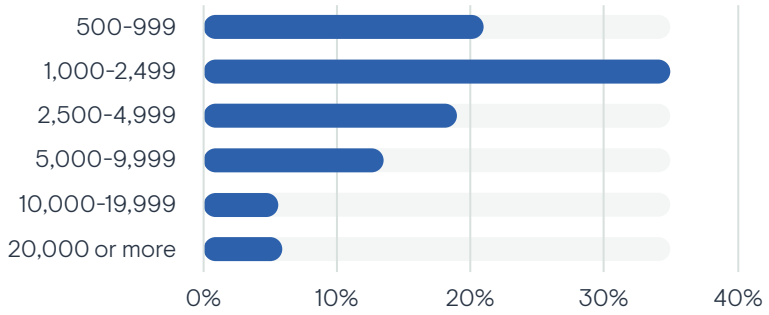


REGION

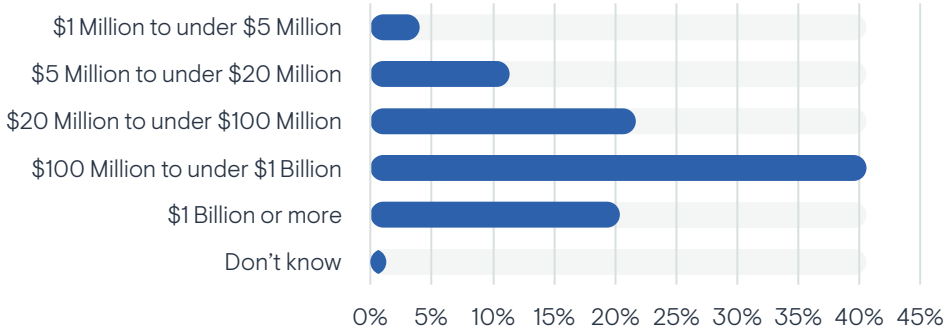


Sample Size = 406, January 2023

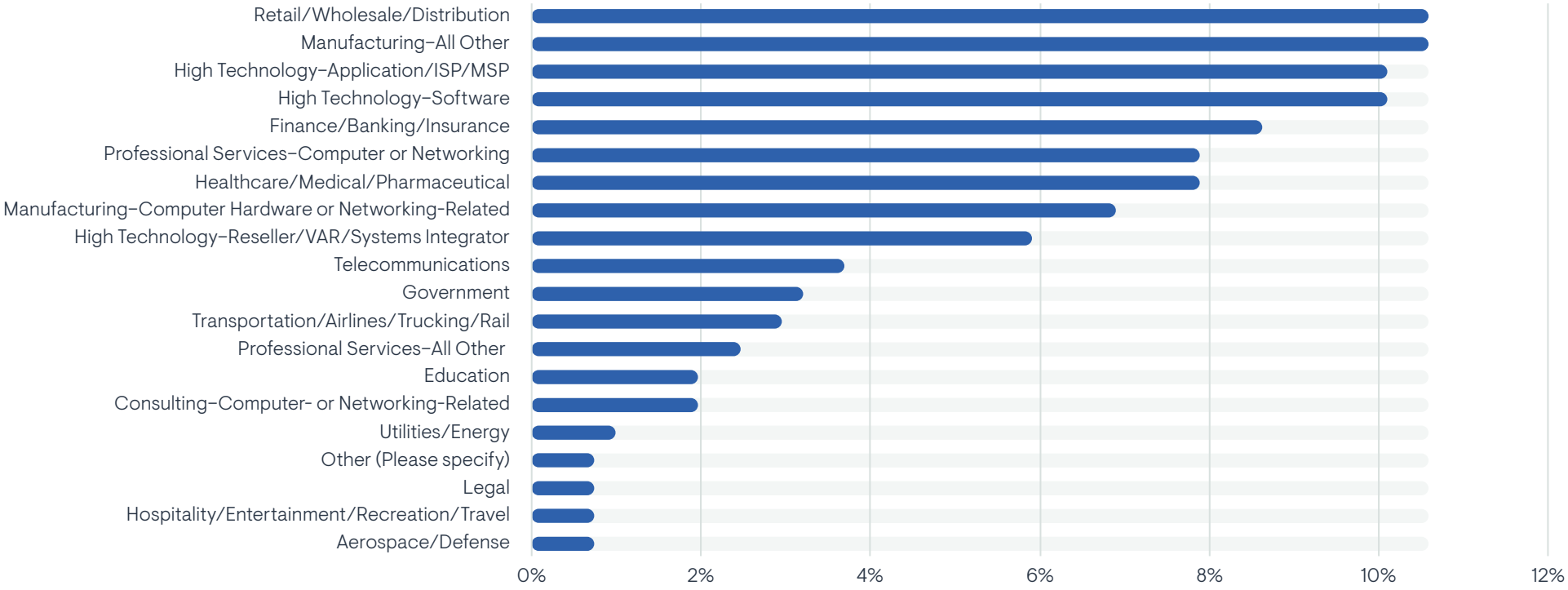
HOW MANY EMPLOYEES ARE IN YOUR COMPANY WORLDWIDE?



WHAT IS YOUR ORGANIZATION'S ANNUAL SALES REVENUE?



WHICH OF THE FOLLOWING BEST DESCRIBES YOUR COMPANY'S PRIMARY INDUSTRY?



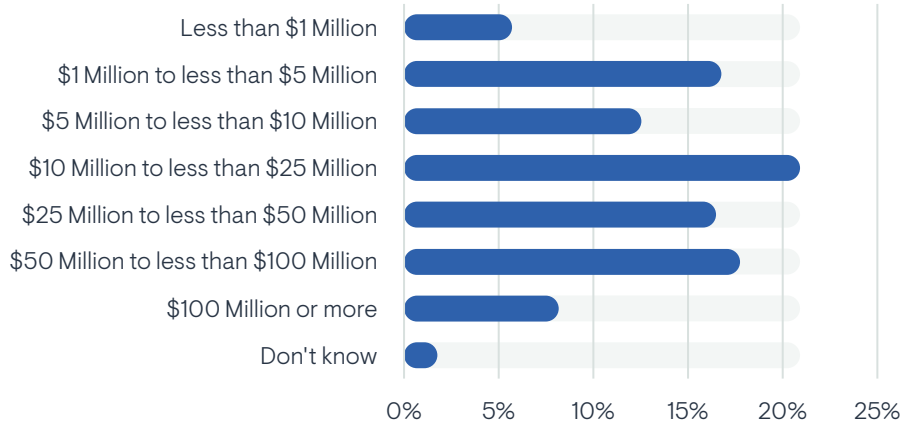
Sample Size = 406, January 2023

Analysis:

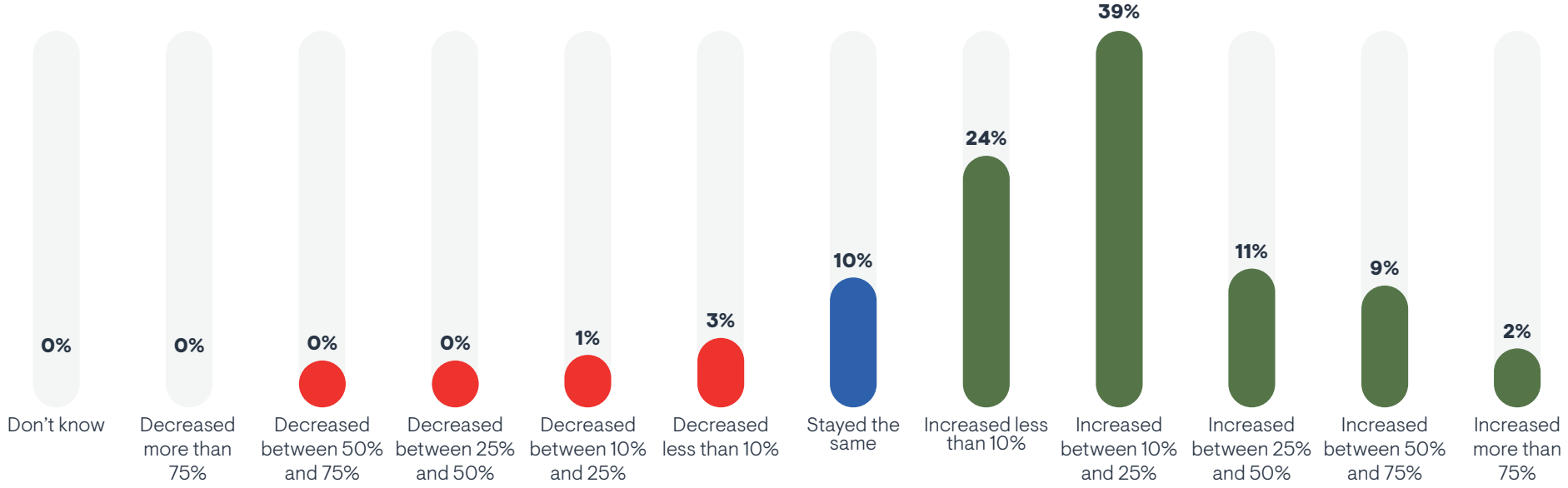
IT budgets are increasing for 84% of respondents, with 10% staying the same and 4% declining

The overall average is an increase of 18.7%

WHAT IS YOUR ORGANIZATION'S ANNUAL IT BUDGET?



WHAT WAS THE PERCENTAGE INCREASE OR DECREASE OF YOUR ORGANIZATION'S ANNUAL IT BUDGET FROM LAST YEAR TO THIS YEAR?



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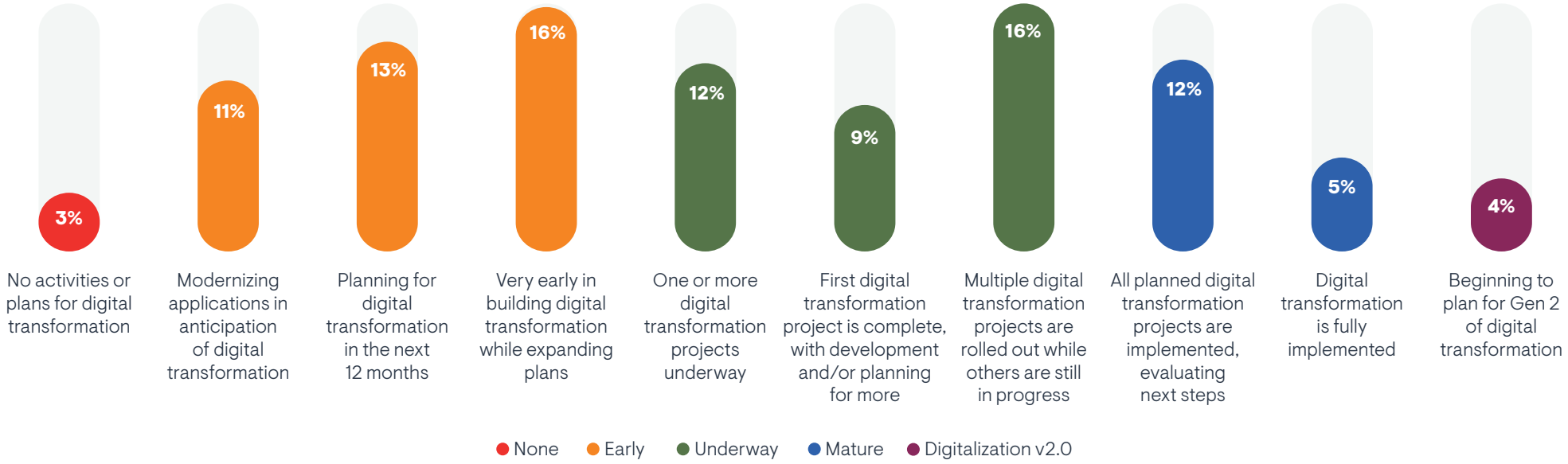
State of Digital Transformation

Digital transformation is a continuous process that involves the adoption and integration of digital technologies and cultural change within organizations to achieve business objectives. One of the earliest uses of the phrase "digital transformation" can be traced back to a 2011 report by Capgemini Consulting, titled "Digital Transformation: A Roadmap for Billion-Dollar Organizations." The report outlined the importance of digital technologies in transforming businesses. While the discussions and emphasis on digital transformation have been ongoing for over a decade, the progress made toward it varies across industries and organizations.

Some industries, such as e-commerce, digital media, and financial technology, have made significant strides in digital transformation, while others, such as healthcare and government, are still in the early stages of digital adoption. The pace of digital transformation also depends on various factors, such as organization size, business priorities, technology infrastructure, and talent readiness. Some organizations may have made significant progress in specific areas, such as automation or data analytics, but may still have a long way to go in other areas, such as customer experience or cybersecurity.

To assess the relationship between WLA and digital transformation, EMA first needed to gauge the state of digital transformation. Respondents were asked to select the statement that best describes the state of digital transformation in their organization from a list of 10 statements that progress from *no digital transformation* activities to *fully implemented* to *planning for the next generation of digital transformation*.

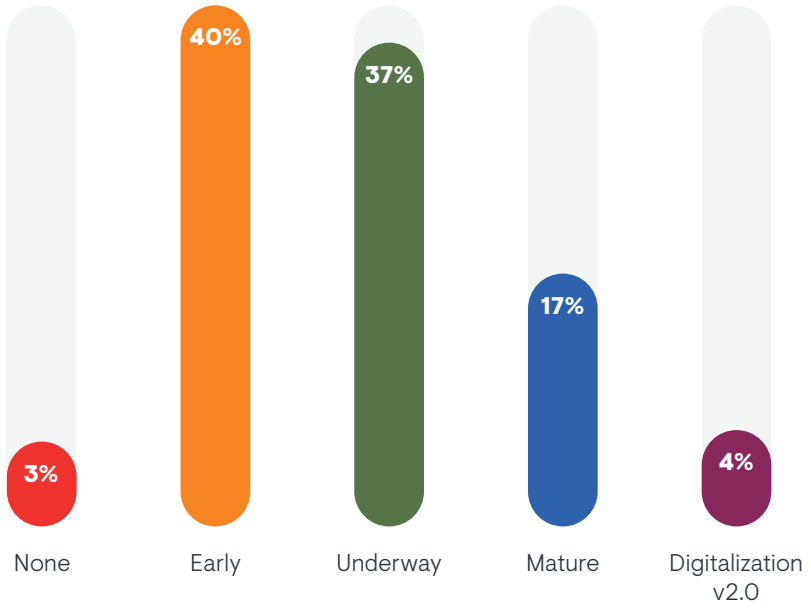
SELECT THE STATEMENT THAT BEST DESCRIBES THE STATE OF DIGITAL TRANSFORMATION IN YOUR ORGANIZATION



Sample Size = 406

These responses are color-coded into five categories. Digital transformation is clearly a significant focus for many in enterprise IT, with 97% taking action. However, while digital transformation has been discussed for over a decade, only 21% are mature or looking toward the next generation, with 77% in the early stages or just getting underway.

STATE OF DIGITALIZATION



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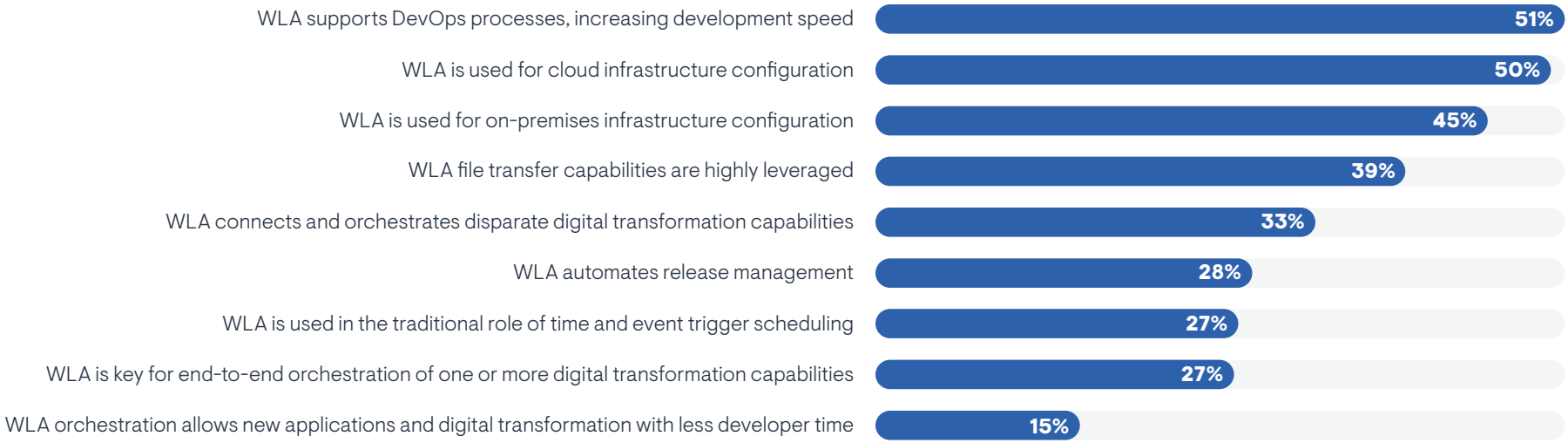
WLA and Digital Transformation

WLA plays a critical role in supporting the development and ongoing operations of digitally transformed processes.

WLA plays a critical role in supporting the development and ongoing operations of digitally transformed processes. During the development phase, workload automation tools can be used to streamline and automate various tasks in the software development life cycle, such as code builds, testing, and deployment. By automating these tasks, workload automation tools can help accelerate development cycles, reduce errors, and improve code quality. Regarding how organizations are using WLA to support digital transformation, WLA support of DevOps processes was the most mentioned by 51% of respondents. Configuration of cloud and on-premises infrastructure round out the top three. For 28%, WLA is also used to automate release management.

Some organizations are leveraging WLA to orchestrate automation in support of digital transformation. WLA is used to connect and orchestrate disparate digital transformation capabilities by 33% of respondents. Another 27% use WLA for end-to-end orchestration of digital transformation capabilities. EMA believes that if developers understood WLA orchestration, new applications and digital processes could be completed with less developer time. While just 15% of respondents used WLA in this way, EMA expects this trend to increase.

WHICH STATEMENT(S) BEST DESCRIBE(S) THE ROLE OF WLA SOLUTIONS IN YOUR DIGITAL TRANSFORMATION JOURNEY?



Sample Size = 297

Once the digital processes are deployed, WLA is used in its more traditional role to support ongoing operations by automating various IT operations tasks, such as system monitoring, error handling, and performance tuning. By automating these tasks, workload automation tools can help improve the overall efficiency and reliability of the digital processes and free up IT staff to focus on more strategic activities. WLA also helps support the scalability and flexibility of digital processes by automating the scaling of resources up or down based on workload demands. This ensures that the digital processes can handle peak demand periods without compromising performance or incurring additional infrastructure costs.

Those with the most mature digital transformation are more likely to test the limits of their WLA solution.

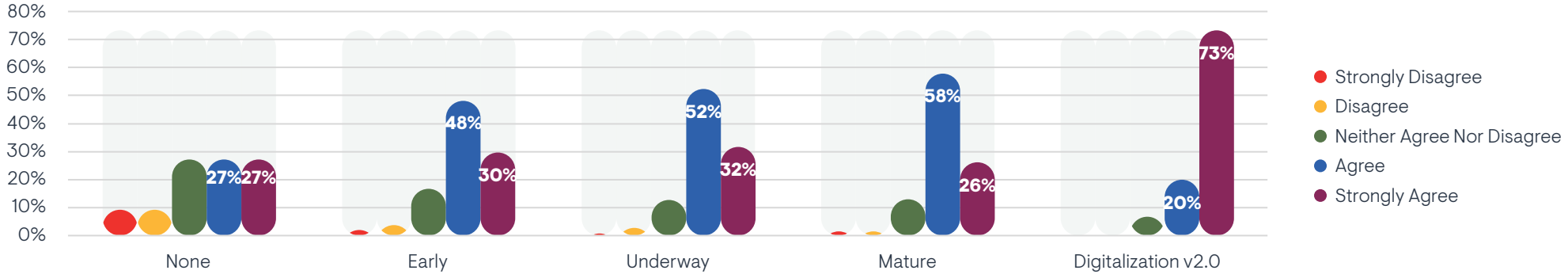
When asked if digital transformation is requiring more from scheduling and workload automation solutions, 81% agreed or strongly agreed, up from 78% in 2020.

Those with the most mature digital transformation are more likely to test the limits of their WLA solution. As organizations increasingly adopt digital technologies to improve business operations, the need for automation of various tasks and processes is increasing. With the growing complexity of digital operations, WLA is being pushed into use in new ways to ensure that all automated processes are coordinated and aligned with business objectives. WLA was traditionally used to automate routine tasks, such as batch processing and job scheduling, but with the rise of digital technologies, its role is expanding to include more complex tasks and processes and to coexist and interact with other automation tools.

WLA is a critical component of digital transformation, helping organizations to accelerate development cycles, improve operational efficiency, and deliver innovative digital processes to customers. WLA software vendors continue to enhance their products in support of digital transformation needs, further driving the transformation of WLA.

WLA is a critical component of digital transformation, helping organizations to accelerate development cycles, improve operational efficiency, and deliver innovative digital processes to customers.

STATE OF DIGITALIZATION
VS.
DIGITAL TRANSFORMATION IS REQUIRING MORE FROM OUR SCHEDULING/WORKLOAD AUTOMATION SOLUTION



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WLA and Cloud Computing

WLA has a complex relationship with the cloud. WLA is used to automate the configuration and support of cloud computing environments. WLA supports cloud-based applications, many of which are born in the cloud add-ons to provide remote access to services that mostly reside on legacy infrastructures. Over time, some legacy infrastructure and applications found their way to the cloud because they were either easy or necessary to move. Starting in 2020, EMA saw a significant increase in enterprises looking to move 100% of their IT operations to the cloud by 2025 to 2027, forcing a major modernization of the core infrastructure. Moving the legacy workloads to the cloud often results in hybrid cloud or multi-cloud infrastructures. WLA can bridge these environments and support end-to-end processes that cross environments. WLA itself can be hosted in the cloud, and SaaS WLA is an option growing in popularity. WLA touches the cloud from many angles.

Following is a look at several key cloud data points from this research.

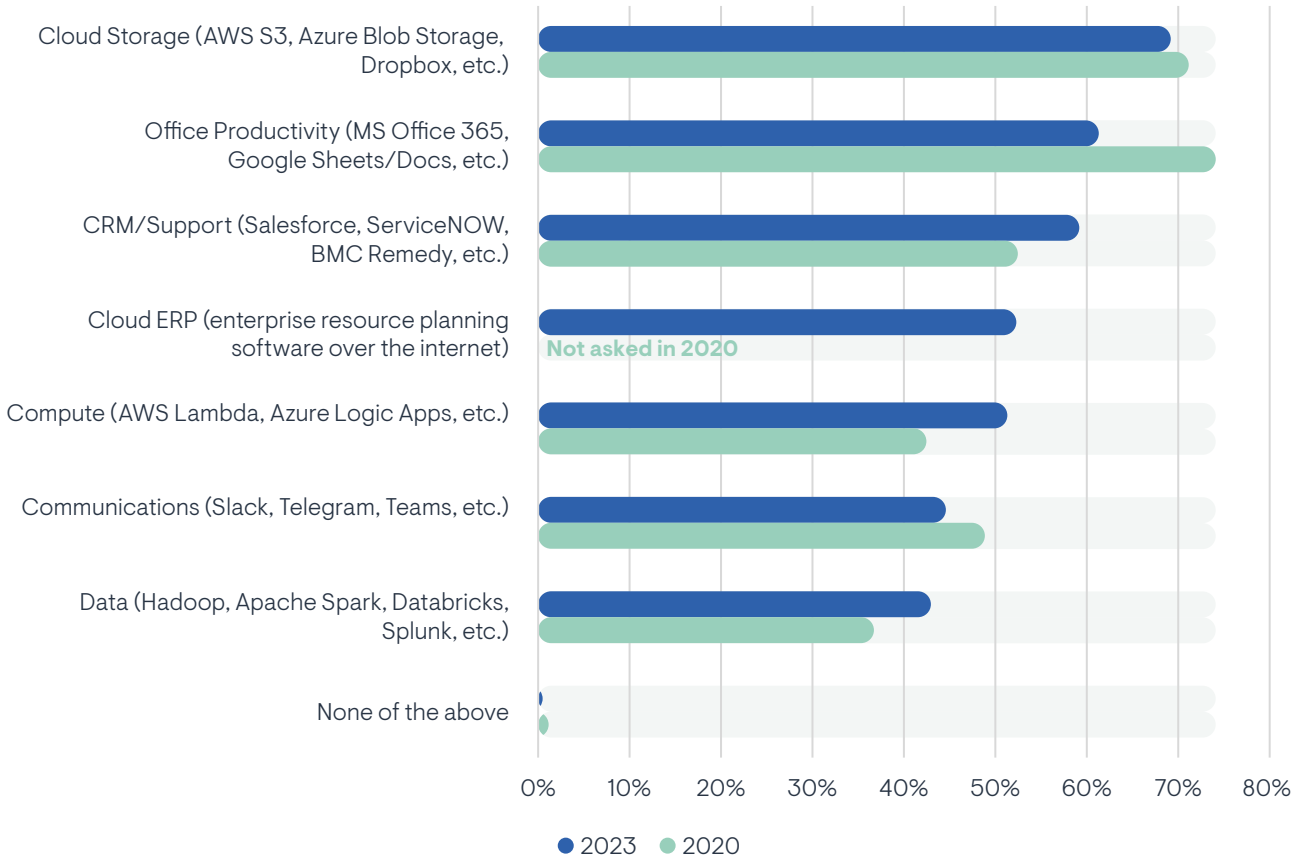
Analysis:

Cloud storage is the most used cloud service, with 69% of respondents using various cloud storage options. Cloud-based office productivity tools and CRM/support tools are also used by more than 50% of respondents. Cloud-based ERP is a growing trend as SAP S4 Hana adoption grows and other ERP solutions move to the cloud.

Commentary:

As the cloud matured, defined services addressed specific needs and some standardization emerged as similar services become available from leading cloud providers. Enterprises use a variety of cloud services to deliver cloud-based storage and compute infrastructure, to support employees with office productivity and communication/collaboration tools, to process data into usable insights, and to operate ERP applications.

WHICH OF THE FOLLOWING CLOUD SERVICES DOES YOUR ORGANIZATION CURRENTLY HAVE IMPLEMENTED?



Sample Size = 406, January 2023

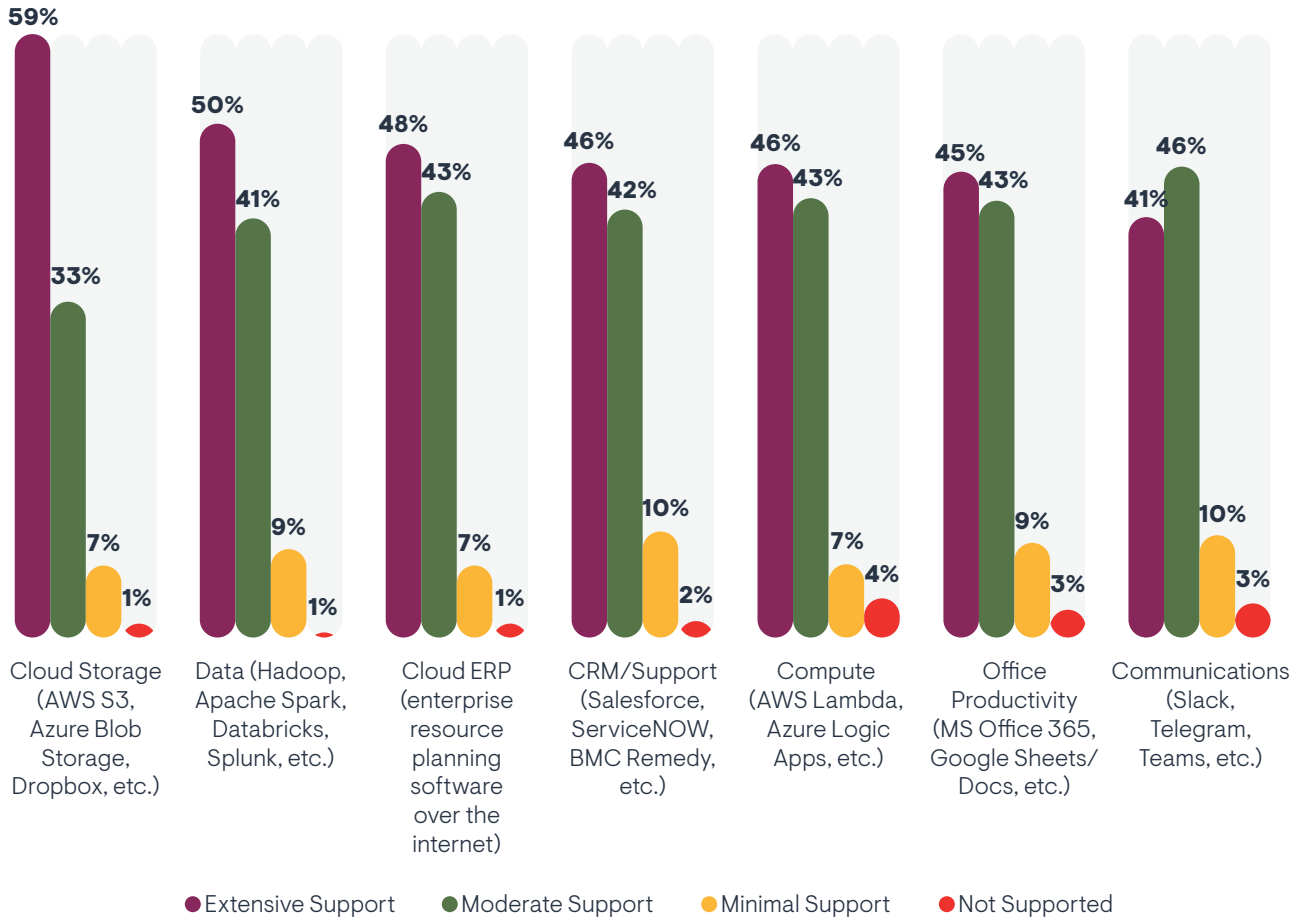
Analysis:

Cloud storage, the most used cloud service, is also the cloud service WLA most supports. While cloud services for data handling are the least used at 43%, WLA is relied upon significantly to manage these data pipelines. In fact, WLA significantly supports all the cloud services.

Commentary:

Enterprises rely heavily on WLA to support cloud services. From infrastructure configuration to scheduling data movement or backup, WLA automates routine tasks across the spectrum of cloud services. WLA also provides a means to monitor progress through end-to-end processes and alert relevant stakeholders if issues arise.

WHICH OF THE CLOUD SERVICES IMPLEMENTED BY YOUR ORGANIZATION DOES WLA SUPPORT?



Sample Size = 406, January 2023

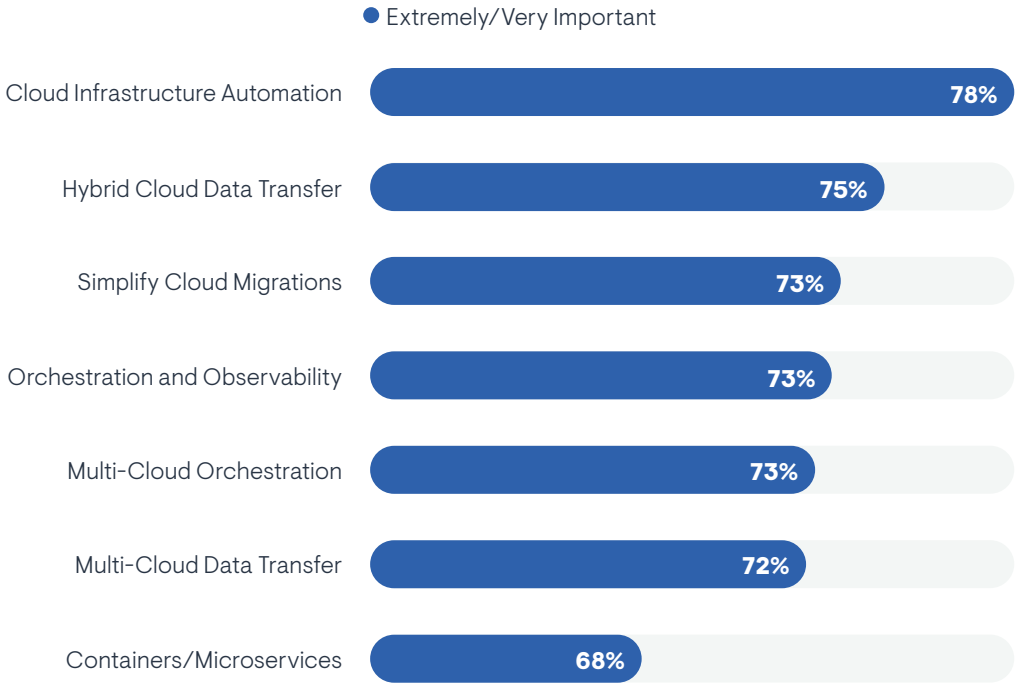
Analysis:

Cloud infrastructure automation has become a key role for WLA in supporting cloud operations, with 78% leveraging these capabilities. The distributed nature of cloud computing means moving a lot of data. Hybrid cloud data transfers and moving data between legacy infrastructure and the cloud are used by 75%, and 72% use multi-cloud data transfer to move data between clouds. Orchestrating automation across these environments and ensuring observability are also important roles for WLA. Many organizations are utilizing WLA to support deploying and managing microservices.

Commentary:

Cloud computing offers organizations many benefits, including scalability, cost savings, accessibility, reliability, security, and flexibility. These benefits have made cloud computing an essential part of many organizations' IT strategies. While there are many benefits, cloud computing also added a new complexity because hybrid cloud and multi-cloud both refer to many more environments to manage and coordinate. WLA provides the automation to handle the extra work required to support these distributed, flexible environments.

HOW IMPORTANT ARE EACH OF THE FOLLOWING WLA CLOUD USE CASES TO YOUR CLOUD OPERATIONS?



Sample Size = 406, January 2023

Analysis:

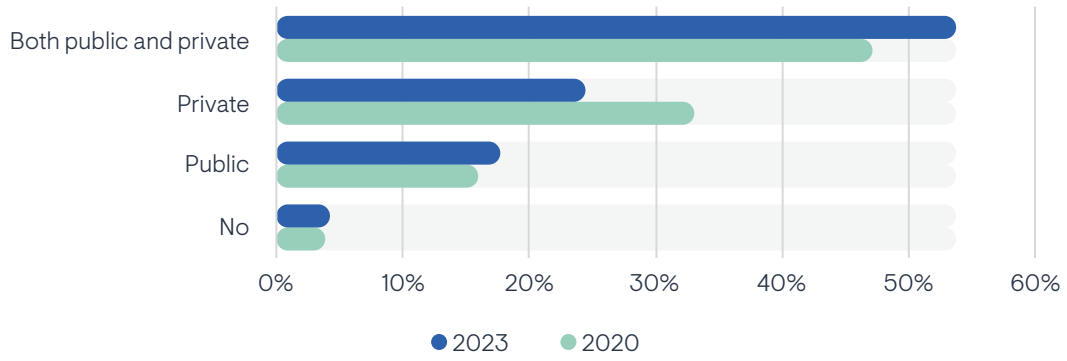
For 54% of enterprises, cloud means both public and private cloud. Adding those using only public cloud (18%) reveals that 72% of enterprises run production workloads in public cloud. Private cloud as the sole cloud type is declining as more add public cloud.

Enterprises are using a variety of public cloud providers.

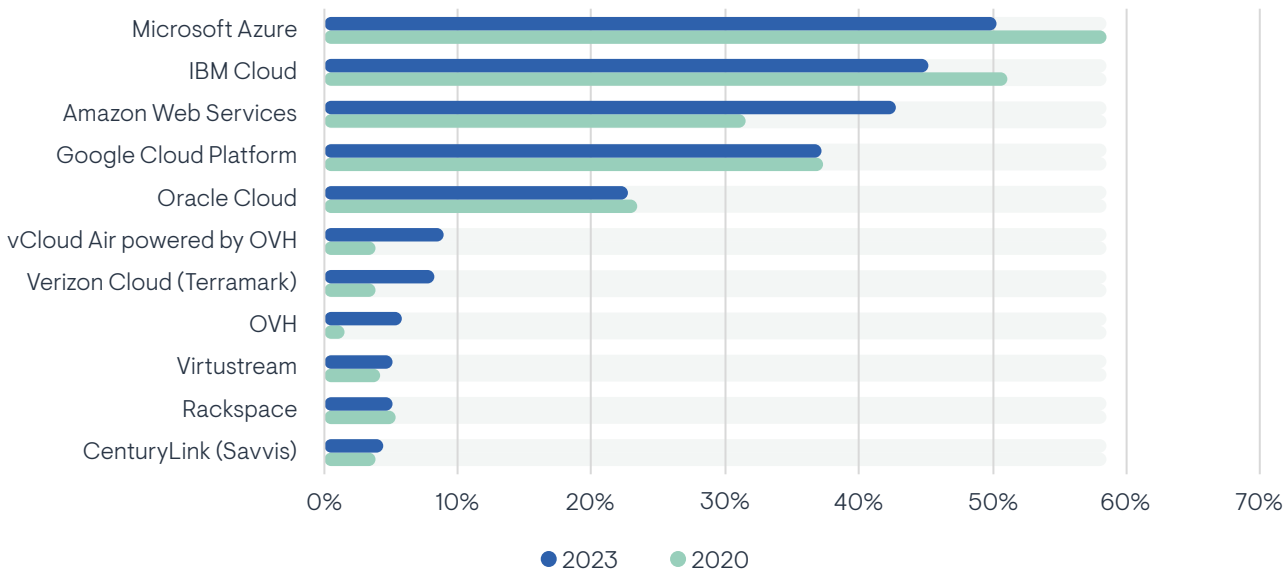
Commentary:

Enterprises are constantly reevaluating how they utilize private and public cloud resources. Early predictions called for a hybrid cloud model, connecting legacy on-premises environments with a chosen public cloud provider. This has given way to the modern multi-cloud environment since most large organizations work with several cloud providers to take advantage of different strengths of cloud providers, such as specialized services or geographic coverage. It also helps to avoid vendor lock-in and reduce the risk of downtime or service outages.

IS YOUR ORGANIZATION CURRENTLY TAKING ADVANTAGE OF ANY PRIVATE OR PUBLIC CLOUD RESOURCES TO RUN SCHEDULED JOBS?



WHICH PUBLIC CLOUD PROVIDERS ARE YOU USING?



Sample Size = 406, January 2023

Analysis:

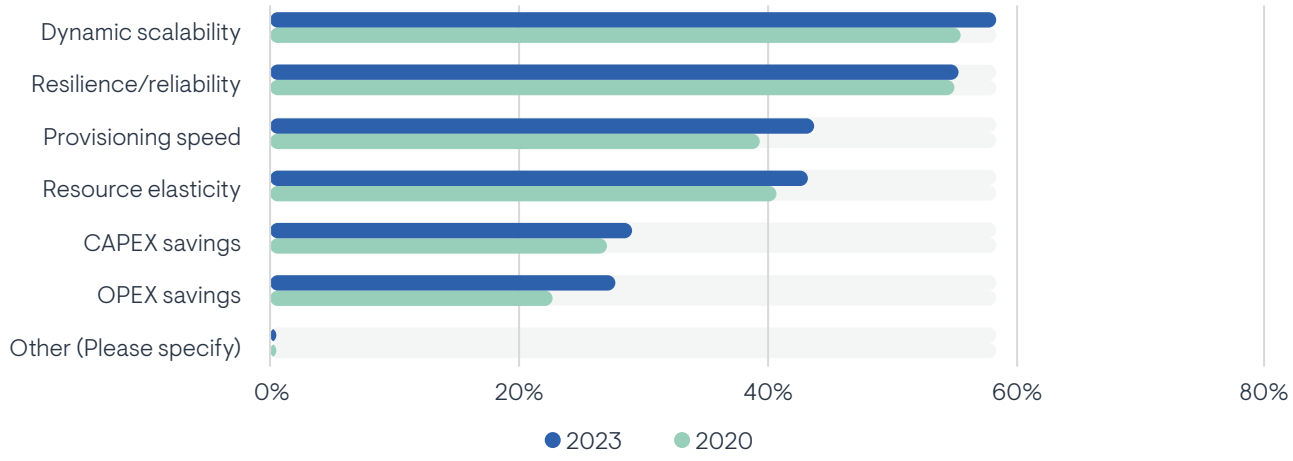
Scalability, reliability, and provisioning speed are the top reasons to run production jobs in the cloud.

Using cloud for additional capacity during peak times (59%) is still the top use for private and public cloud for production workloads. This refers to a long-term strategy for peak volumes. Also important is ad hoc cloud bursting (37%), which refers to addressing sudden increases in demand. Just 51% are currently running permanent product jobs in the cloud.

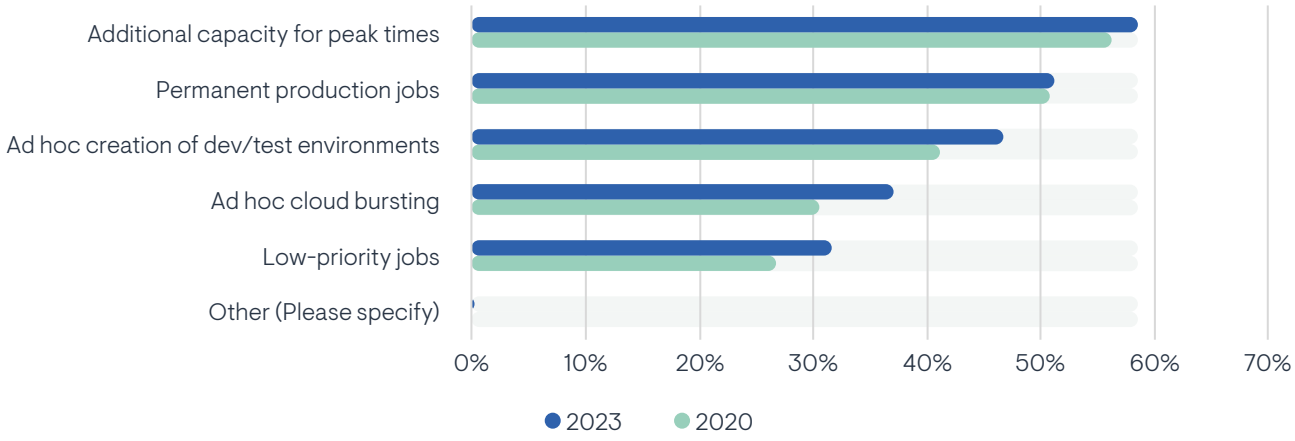
Commentary:

Cloud computing has served organizations looking for temporary extra capacity, as well as those looking for permanent compute and storage. While this data shows the permanent production jobs stable at 51% of respondents from 2020 to 2023, EMA expects this will start to grow because more organizations are now planning for 100% of their infrastructure to be cloud-based. Also of note is the increasing role of WLA to support cloud infrastructure automation since more organizations are using cloud for ad hoc creation of dev/test environments.

WHAT ARE THE MAIN BUSINESS REASONS FOR USING PRIVATE AND PUBLIC CLOUD RESOURCES TO RUN SCHEDULED JOBS?



HOW IS YOUR ORGANIZATION USING PRIVATE OR PUBLIC CLOUD RESOURCES TO RUN WORKLOAD AUTOMATION JOBS/PROCESSES?



Sample Size = 406, January 2023

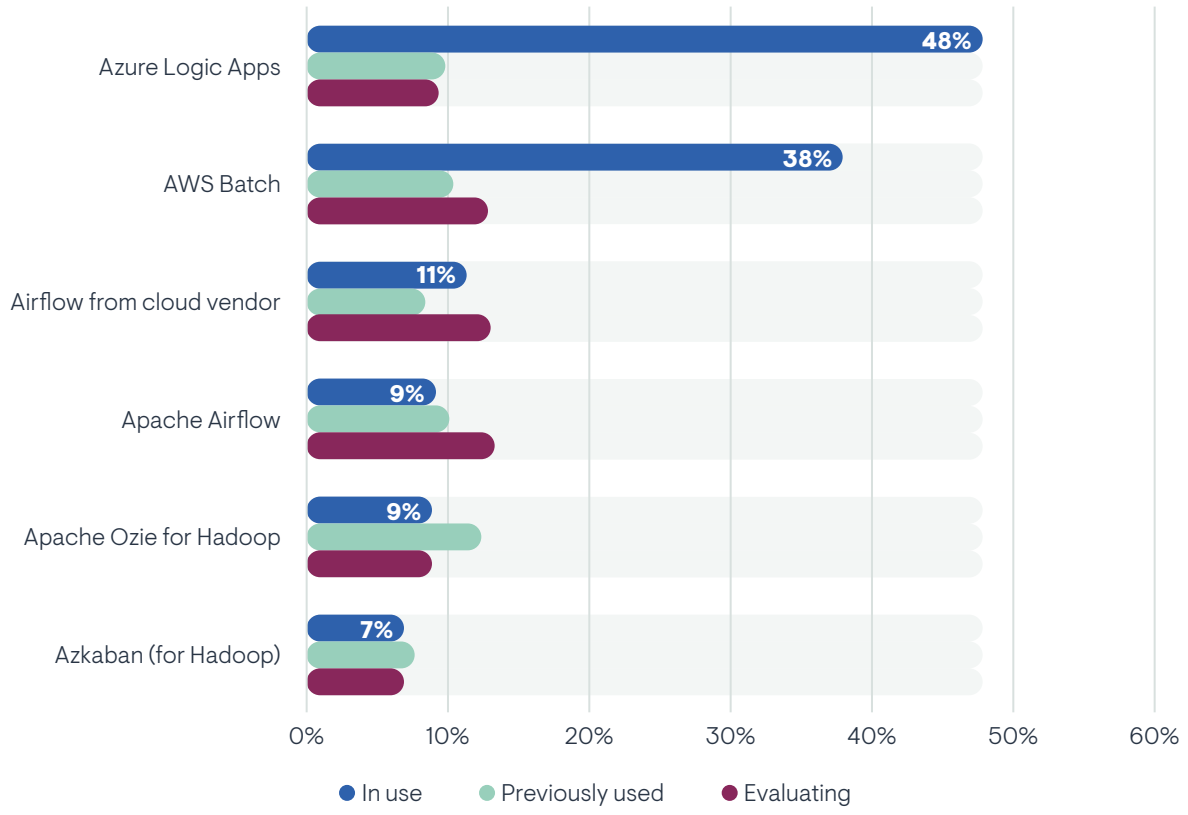
Analysis:

As public cloud matured, environment-specific schedulers for public cloud became popular. Azure Logic Apps and AWS Batch are most used, followed by Airflow in its various forms.

Commentary:

Environment-specific schedulers exist in nearly every computing environment. Linux has cron, Windows has Windows Task Scheduler, and cloud environments also have a native scheduler. While the cloud versions can contain sophisticated capabilities, they lack visibility and control beyond their specific environment. In most cases, these tasks will eventually be brought into the fold of a WLA tool. This can happen by redefining the job completely within a WLA tool or by using the WLA tool to orchestrate the job within the native scheduler. This accounts for the churn in using these tools. Often, developers reach for the easy scheduler in the environment in which they build apps, and later operations teams move the job or add the WLA wrapper to gain sophisticated controls and end-to-end process visibility.

PLEASE INDICATE WHICH OF THE FOLLOWING CLOUD SCHEDULING SOLUTIONS YOUR ORGANIZATION IS USING, HAS USED, OR IS EVALUATING.



Sample Size = 406, January 2023

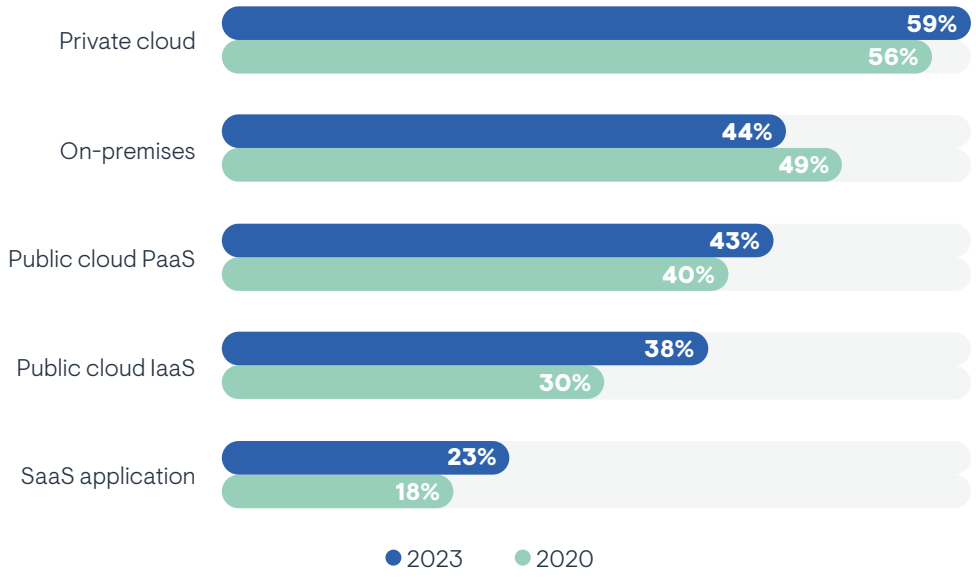
Analysis:

Adding public cloud PaaS and IaaS together shows that 81% are using public cloud to host WLA, while 59% host WLA in private cloud. IaaS is the fastest growing of the cloud options, going from 30% in 2020 to 38% in 2023. On-premises hosting of WLA is declining, with 44% hosting WLA on-premises in 2023, down from 49% in 2020. SaaS hosting for WLA is also growing, with 23% using SaaS in 2023, up from 18% in 2020.

Commentary:

Hosting WLA on-premises is declining as many enterprises move their WLA instance to private or public cloud. EMA expects this trend to continue, but believes 30% or so will stay with on-premises hosting for the foreseeable future.

WHERE DO YOU HOST YOUR WORKLOAD AUTOMATION SOLUTION?



Sample Size = 406

Analysis:

Of the 77% of organizations that do not use SaaS WLA, 92% are very likely or somewhat likely to consider SaaS WLA in the next two years. Just 2% are very unlikely.

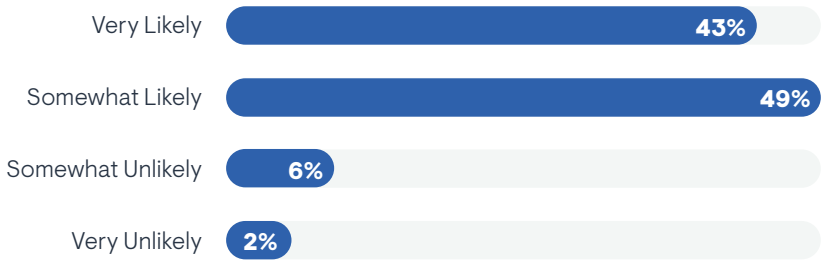
Digitalization maturity is positively correlated with the likelihood to consider SaaS WLA.

Commentary:

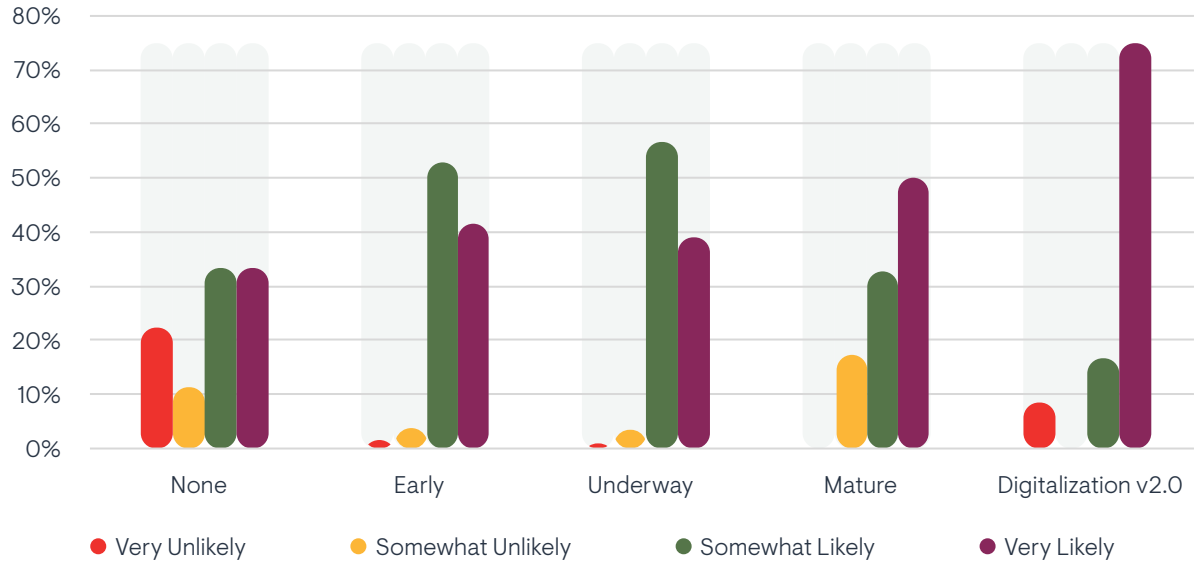
SaaS WLA is available from many leading WLA vendors, and EMA believes SaaS WLA will continue to grow in popularity.

Those with more mature digitalization are more likely to consider SaaS WLA in the next two years.

DO YOU EXPECT TO CONSIDER SAAS WLA SOMETIME IN THE NEXT TWO YEARS?



DIGITALIZATION
VS.
LIKELIHOOD OF SAAS WLA IN NEXT 2 YEARS



Sample Size = 314, January 2023

Impact on WLA

As enterprises address digital transformation and mature their cloud computing strategies, the additional stress on WLA shows up in several ways. One result has been a steady increase in the number of jobs run within WLA. Another result is an increase in the number of WLA products used. Digital transformation requires more advanced features and better integration from workload automation tools. Many organizations are adding a WLA tool or changing to a new WLA tool to get the features and characteristics required.

Using multiple WLA products means having a fragmented view of automation results. This is particularly troubling for processes that start with jobs in one WLA product and end with jobs in a different WLA product. The additional stress on WLA is showing up in the form of more frequent job failures and missing more SLAs. Many organizations are using predictive analytics to manage the increasing complexity.

Analysis:

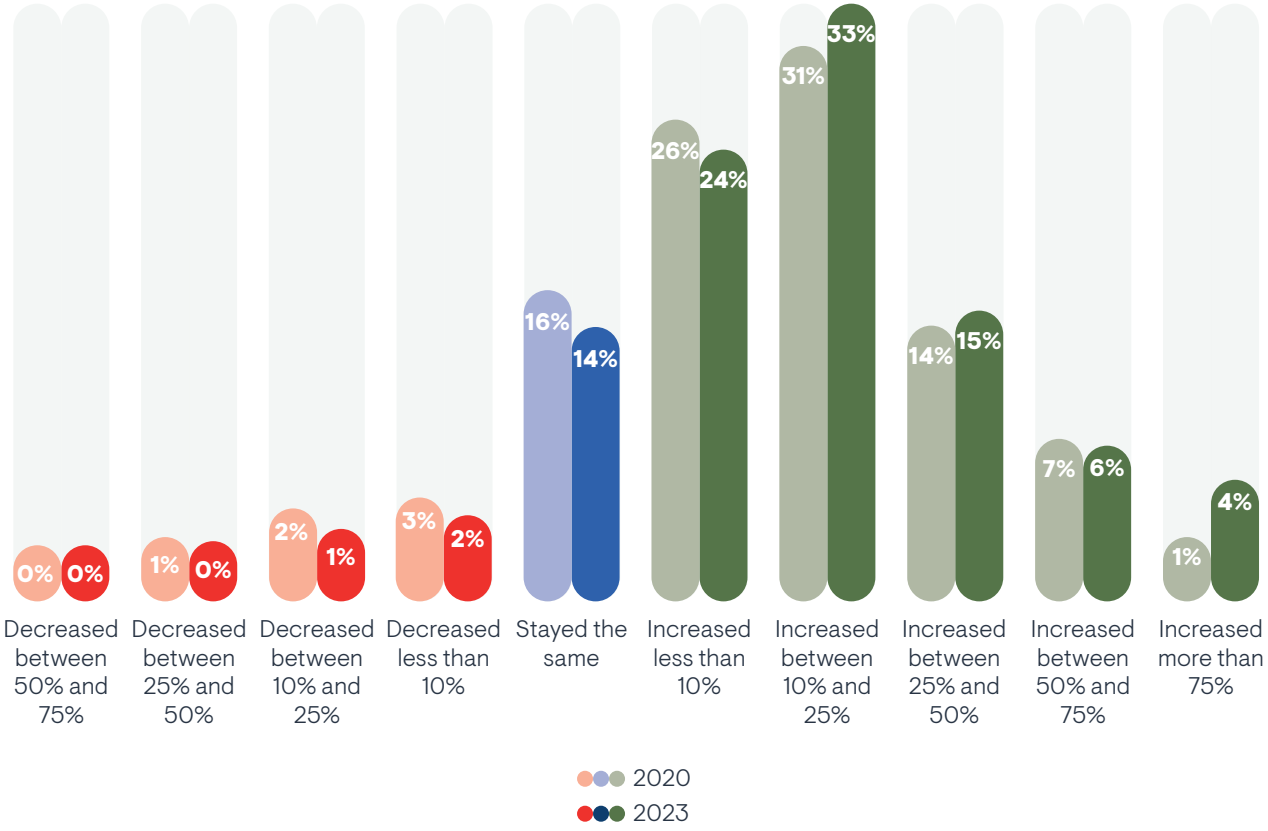
In 2023, 82% of respondents saw an increase in monthly jobs in the past 12 months, up from 77% in 2020.

The average increase in 2023 is 19.8%, up from 16.5% in 2020.

Commentary:

Jobs are increasing at an increasing rate as cloud environments proliferate and the role for WLA continues to expand.

HOW HAS THE NUMBER OF JOBS RUN IN PRODUCTION EACH MONTH CHANGED OVER THE PAST YEAR FOR EACH WORKLOAD SOFTWARE YOU USE?



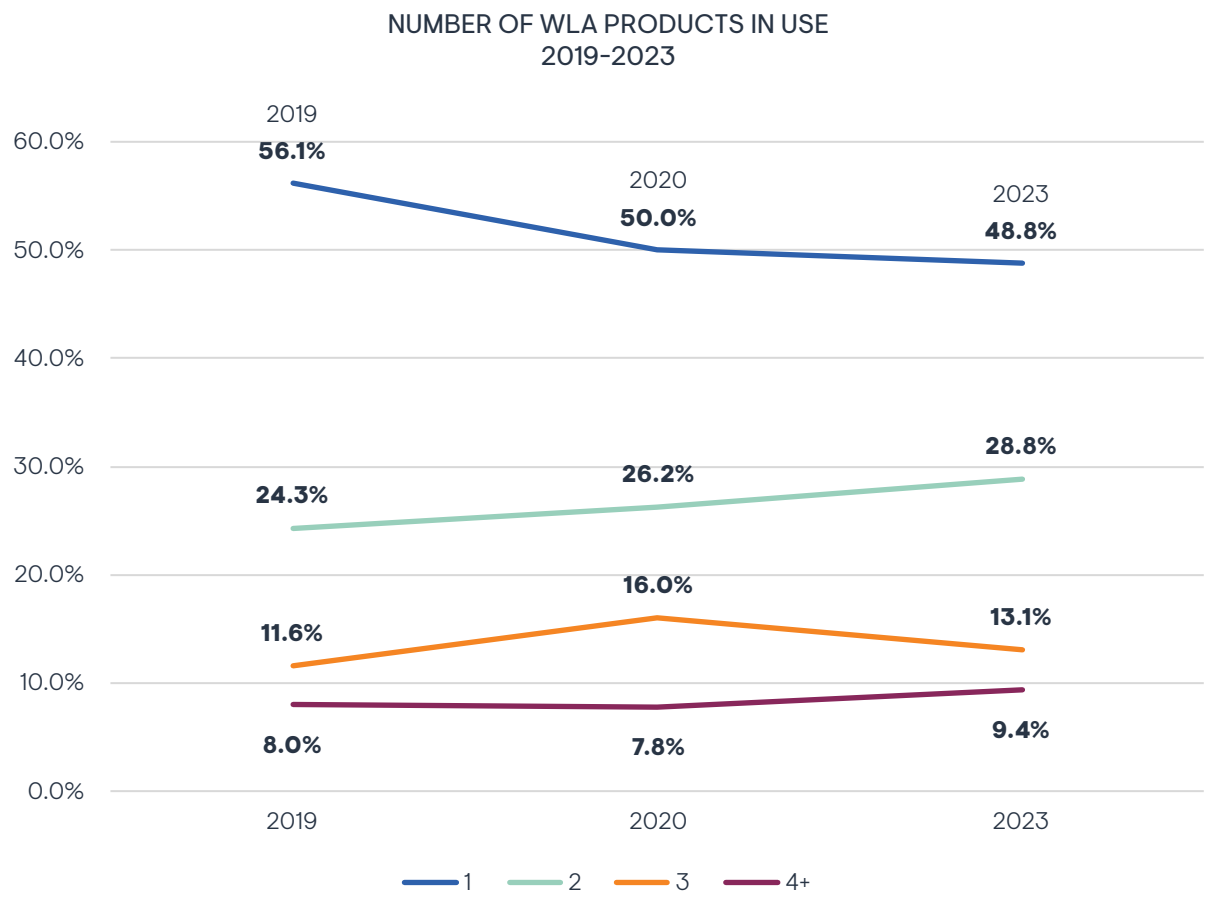
Sample Size = 406, January 2023

Analysis:

In 2019, 56.1% used one WLA product, with 43.9% using more than one WLA product. In 2023, 48.8% use one WLA product, with 51.2% using more than one WLA product.

Commentary:

Some are on a path to standardize on a single product but are only part way through that process. Others are deciding to accept multiple products and add a WLA product when specific features are required, with no intention to move legacy workloads to the new WLA.



Sample Size = 406, January 2023

Analysis:

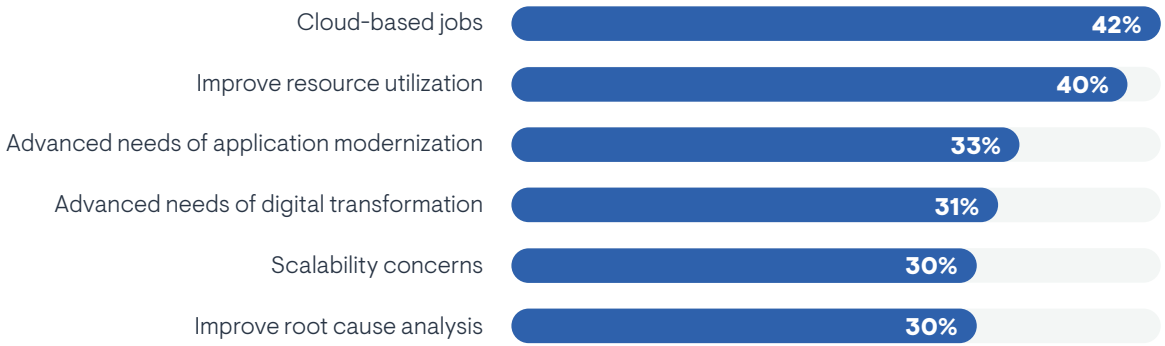
Cloud-based jobs, resource utilization, and application modernization top the reasons to change a WLA product.

Cost, features, and management complexity top the reasons to discontinue a WLA product. ERP changes and the advanced needs of digital transformation also drive those to leave a less featured product.

Commentary:

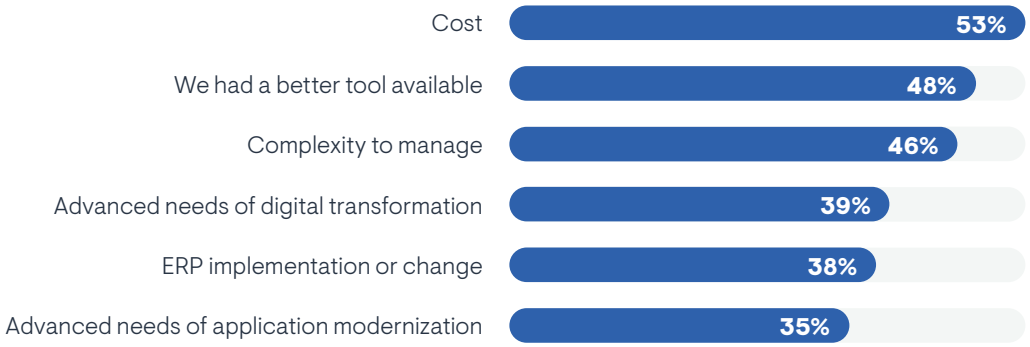
As enterprises adopt cloud computing and digitally transform their business processes, more is required from WLA software. Enterprises address these issues by adding a new WLA product with the required features. Some will migrate legacy workloads to the new WLA product and discontinue one or more WLA products, others will only put the challenging new workloads on the new product. Many look to address cost and management complexity concerns at the same time.

WHAT IS DRIVING THE NEED TO ADD OR CHANGE TO ANOTHER WORKLOAD AUTOMATION SOFTWARE? (TOP 6)



Sample Size = 144

WHY DID YOU DISCONTINUE USE OF A WLA PRODUCT(S)? (TOP 6)



Sample Size = 215

Analysis:

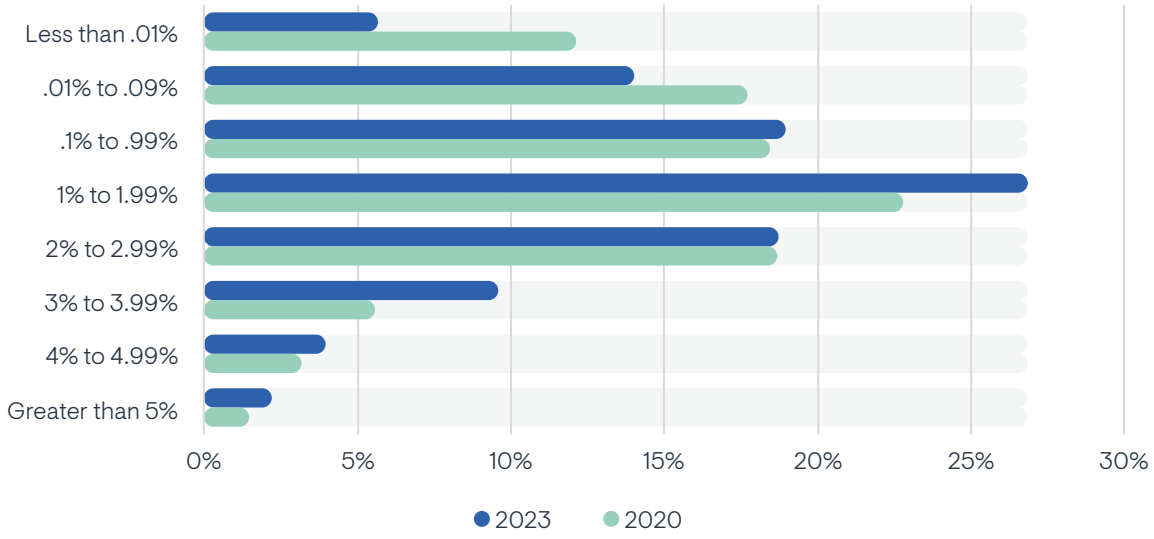
Job failure rates increased from 2020 to 2023. In 2020, the average failure rate was 1.3%, increasing to 1.58% in 2023.

Missed SLAs due to job failures also increased. In 2023, 89% of organizations missed one or more SLA due to job failures, up from 84% in 2020.

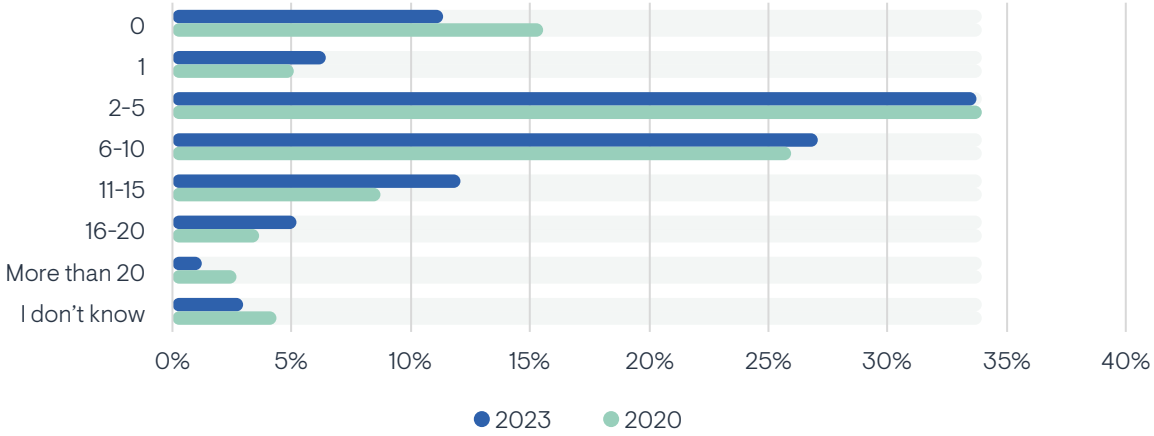
Commentary:

Increased job volumes and utilizing multiple WLA products upsurge the complexity of managing automation. Organizations are experiencing greater job failure rates and are missing more SLAs as they lean on WLA to support expanding cloud environments and increase digitally transformed business processes.

WHAT IS YOUR JOB FAILURE AND JOB RERUN RATE OVER THE PAST 12 MONTHS?



HOW MANY TIMES HAVE JOB FAILURES OR OTHER WLA PROBLEMS RESULTED IN MISSED SLAS IN THE PAST 12 MONTHS?



Sample Size = 406, January 2023

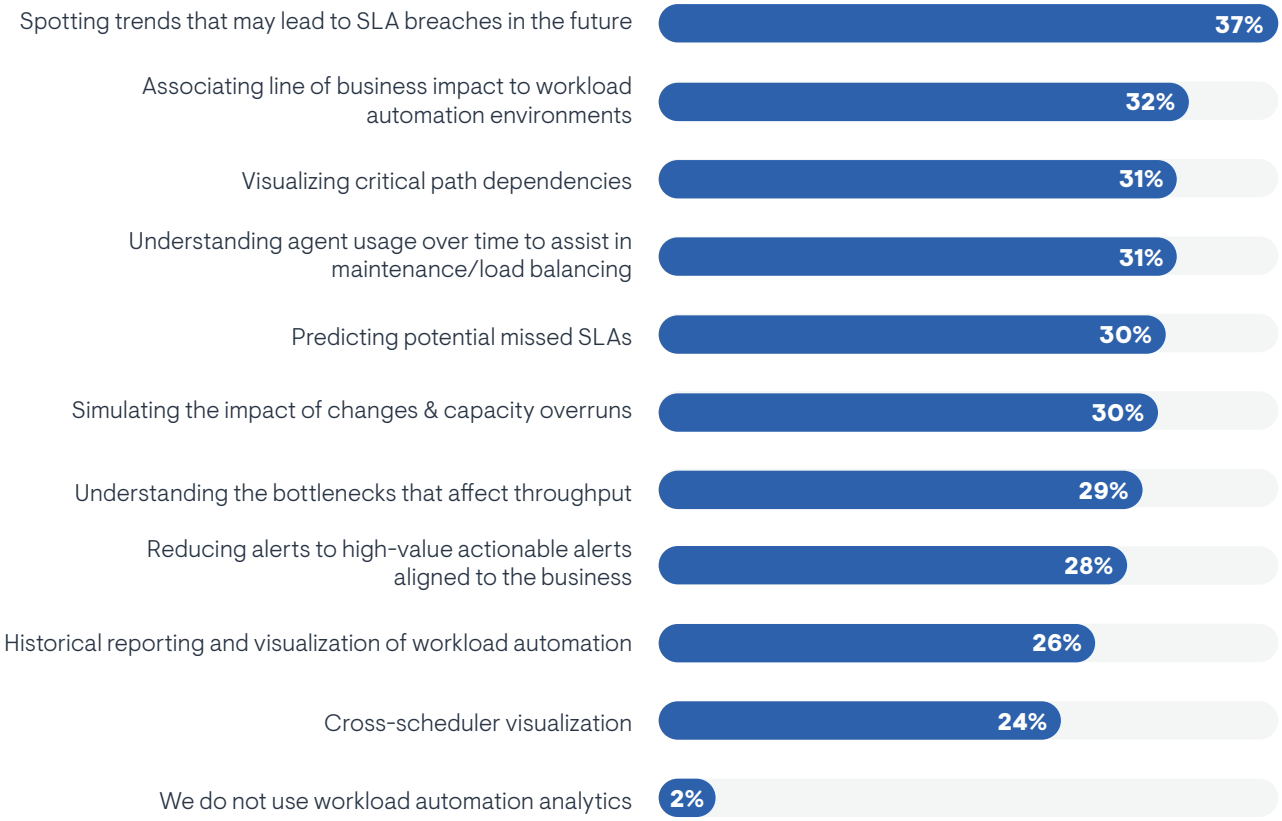
Analysis:

With only 2% who do not use WLA analytics, there are 98% who are using analytics with their WLA. However, many are challenged by limited capabilities because this is a relatively new feature set in many products. Trending and prediction capabilities are still maturing, and not all products help to visualize the critical path or contain features that assist with bottlenecks and load balancing. For those using multiple WLA products, they may lack cross-scheduler visualization.

Commentary:

Most WLA products have some form of analytics built in. Some organizations add a WLA-specific analytics tool made to complement WLA products. Others augment built-in capabilities with general purpose analytics tools. As AI/machine learning mature within these products, many of these challenges will be addressed.

WHAT CHALLENGES DO YOU FACE WITH WORKLOAD AUTOMATION ANALYTICS (I.E., WHERE DOES YOUR CURRENT SOLUTION FALL SHORT)?



Sample Size = 406, January 2023

WLA Reaches Across the Enterprise

The number and makeup of WLA users is also changing, with some organizations seeing hundreds of users interacting with WLA from across IT and business operations. The shift from a small team of IT operations staff interacting with WLA to a broad group of users from different IT and business roles has resulted in a variety of access methods, including integration with ITSM applications, integration with chat and other collaboration tools, custom portals, and homegrown applications. Many organizations are striving to provide a more self-service experience targeted at the specific needs of these different users. Any way you look at it, WLA is a critical tool that supports every major business function, and no longer is this support "behind the scenes."

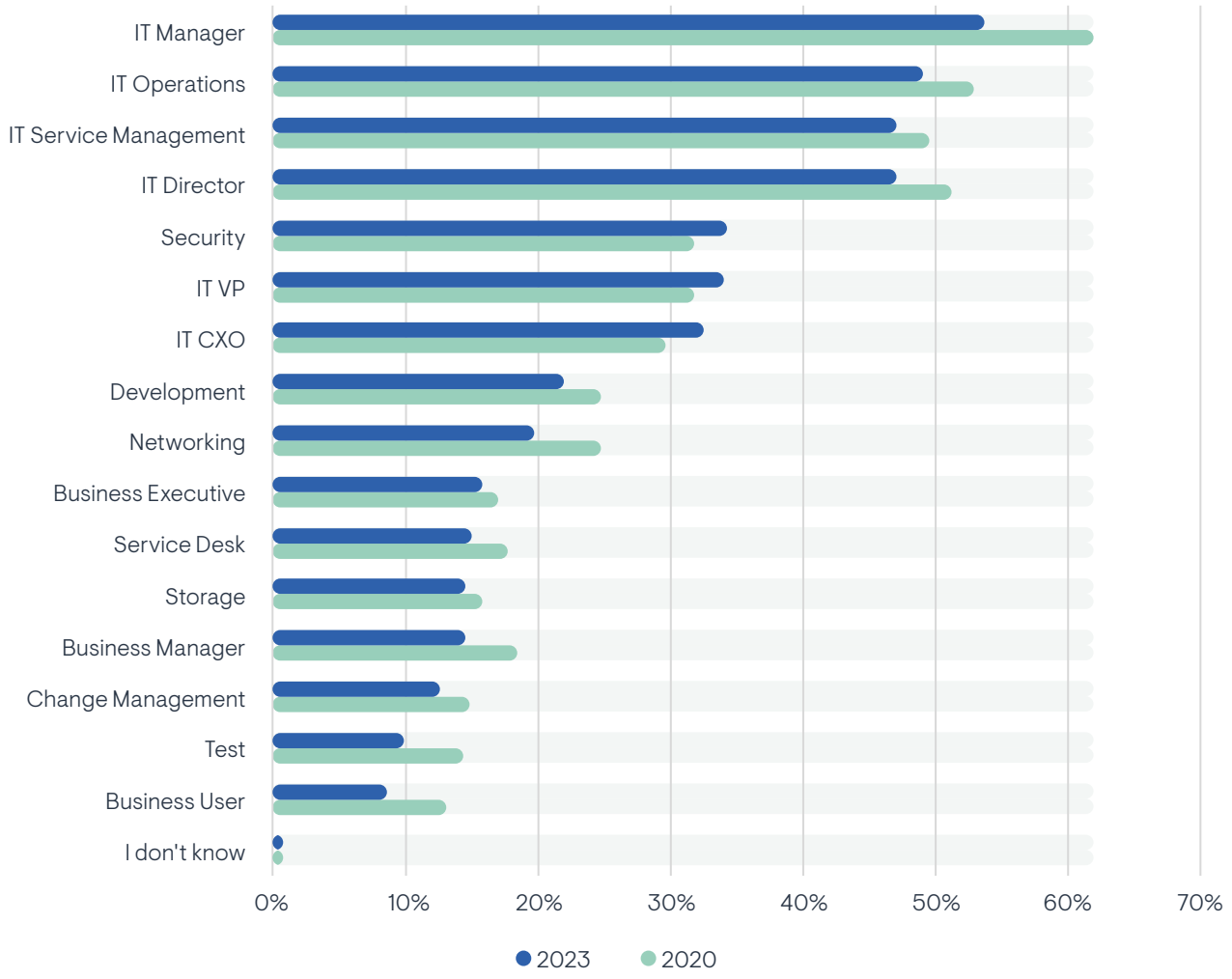
Analysis:

WLA has users from across the IT organization, and many organizations include business executives and other business users as well. While IT managers and IT operations staff represent the most common user types, IT service management uses WLA in almost half of organizations. Security and IT executives are common in more than 30% of organizations. Developers interact with WLA in just over 20% of organizations.

Commentary:

As the use cases for WLA expanded in support of digital transformation and cloud computing, the types of users across the enterprise also expanded.

WHICH TYPES OF USERS HAVE LOGINS TO THE WLA SOFTWARE (INCLUDING THE CENTRAL TEAM, IF YOU HAVE ONE)?



Sample Size = 406, January 2023

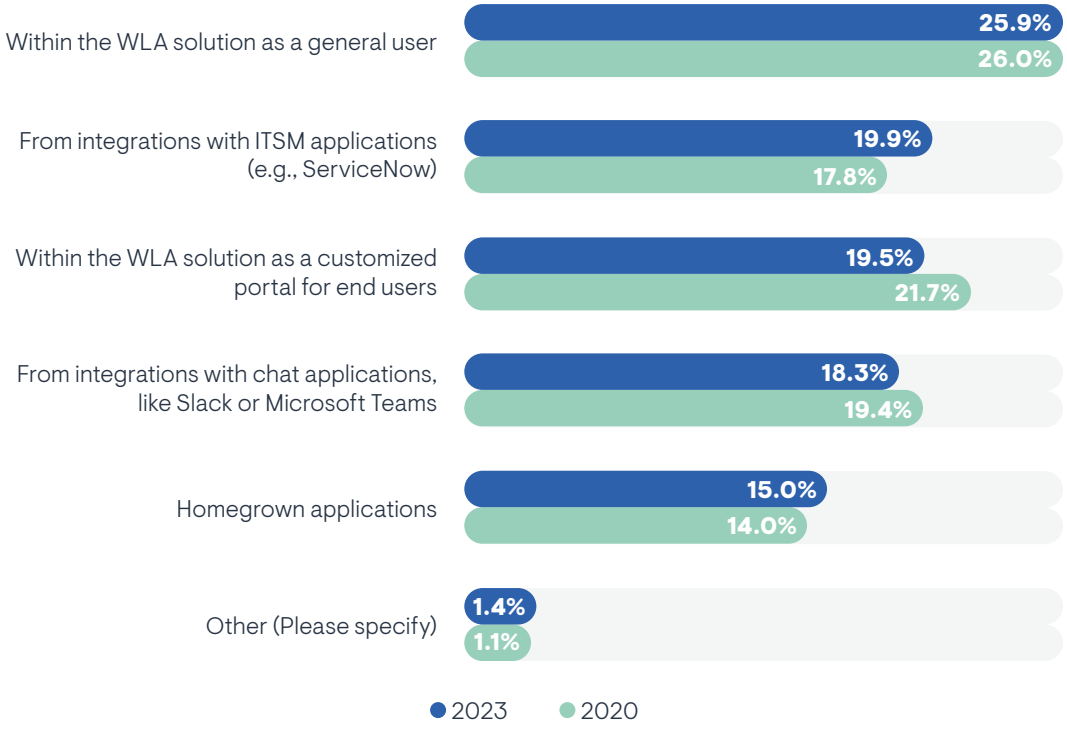
Analysis:

Those accessing WLA tools as a general user represent 26% of all users. Service management is becoming a larger group of users at almost 20%, with access through ITSM application integration with WLA. Access via a customized portal represents another 20%, while 18% access WLA from collaboration tools.

Commentary:

As the types of WLA users expand, different roles are served through different access methods appropriate for each role. WLA is well-integrated with other IT infrastructure tools and custom applications to allow staff to interact with WLA by the most appropriate means for their needs.

PLEASE INDICATE THE PERCENTAGE OF END USERS THAT ACCESS YOUR AUTOMATION SOLUTION BY EACH OF THE FOLLOWING ACCESS METHODS.



Sample Size = 406, January 2023

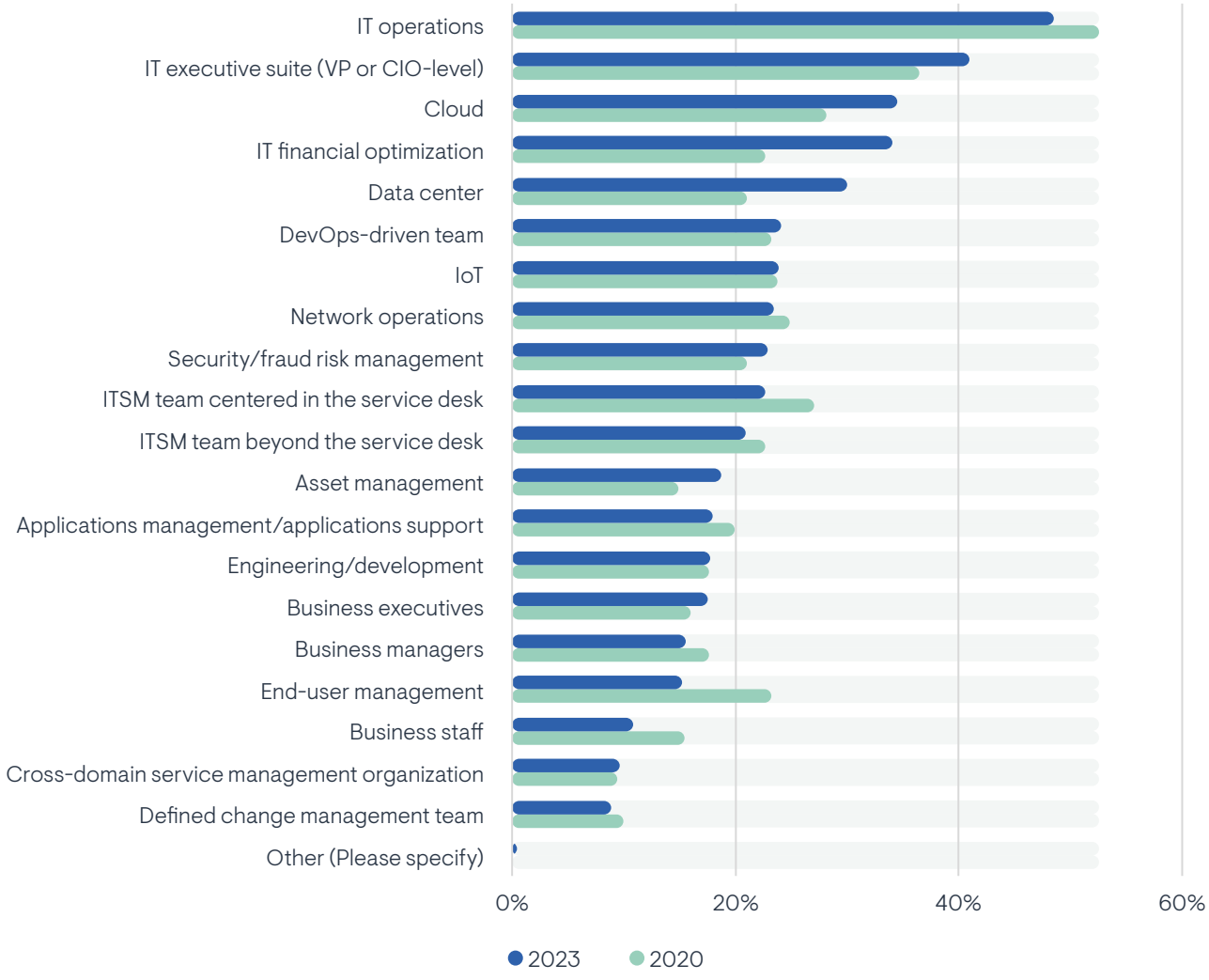
Analysis:

IT operations are the most common user of self-service automation, with 50% of organizations providing self-service capabilities to this group. Cloud, IT financial optimization, and data center are rising in self-service automation use.

Commentary:

Whether through custom portals, dashboards, or integration with other IT tools, WLA is growing in users across many enterprises.

WHICH ROLES CURRENTLY USE SELF-SERVICE AUTOMATION?



Sample Size = 406, January 2023

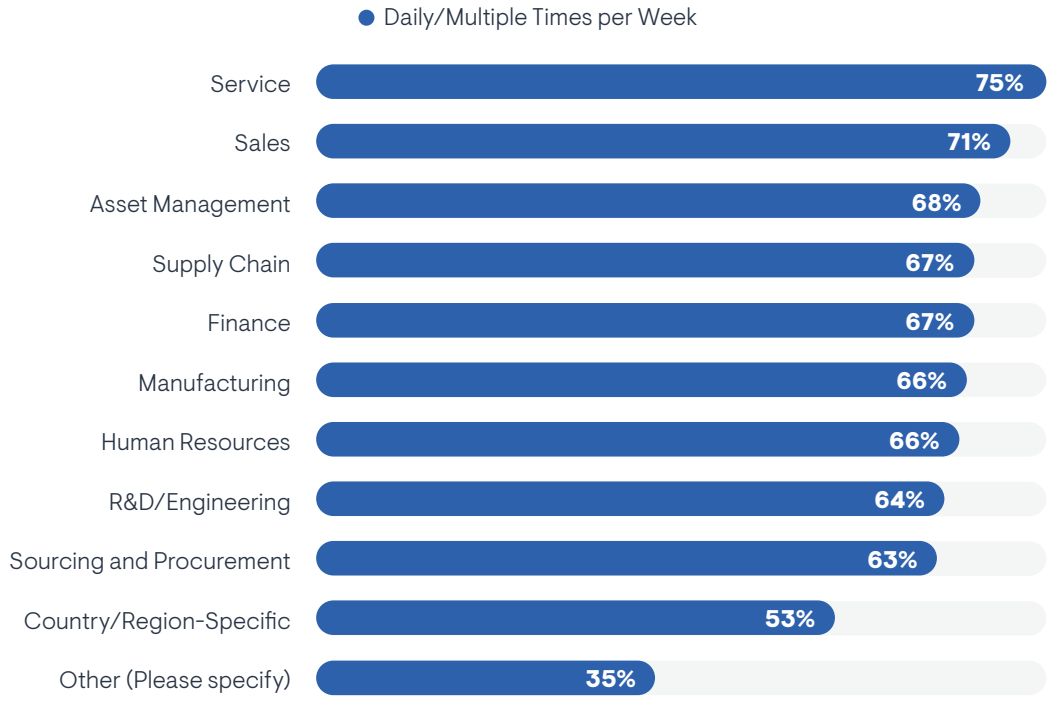
Analysis:

Drilling in on self-service access of WLA by business users reveals Service as the most active, with 75% of organizations seeing Service teams access WLA daily or multiple times per week. Surprisingly, Sales is the second most active business role, with 71% of organizations reporting Sales teams accessing WLA self-service daily or multiple times per week.

Commentary:

As WLA becomes involved in orchestrating more business processes, the importance of this class of software to business users is rising.

HOW WOULD YOU DESCRIBE SELF-SERVICE USE OF WLA BY EACH OF THE BUSINESS FUNCTIONS LISTED?



Sample Size = 406, January 2023

Analysis:

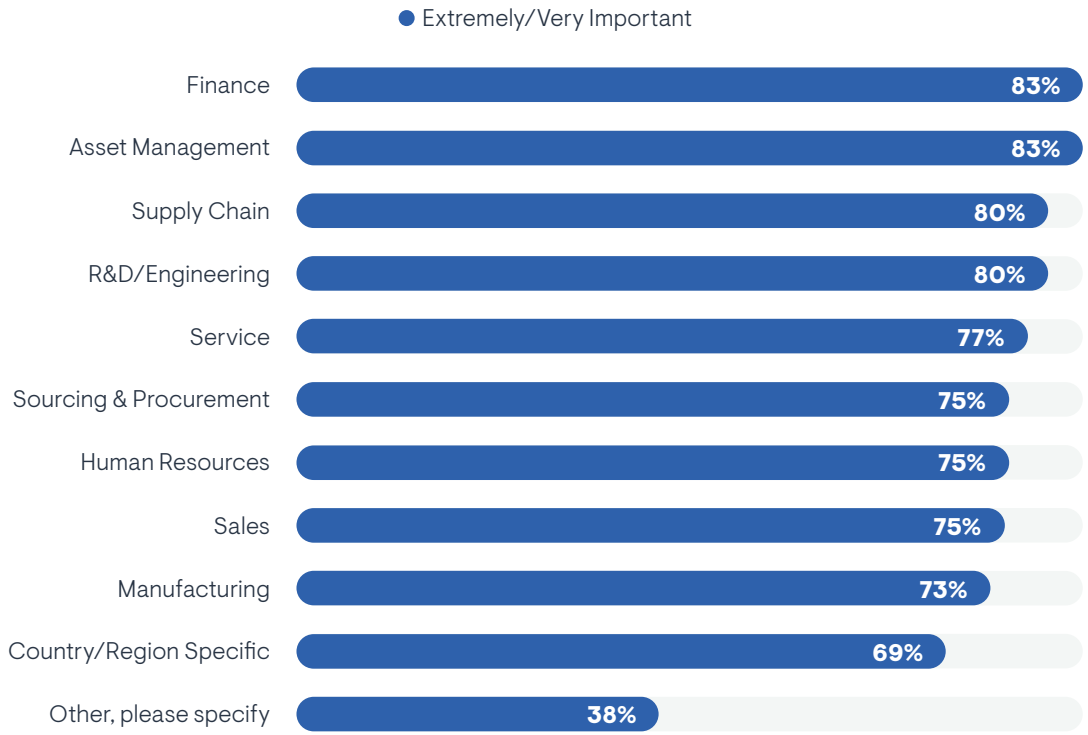
Finance and Asset Management top the list of business areas that rely most on WLA. However, every major area of a modern enterprise relies on WLA.

Commentary:

Large enterprises rely on ERP software to manage and integrate their core business processes, such as finance, human resources, procurement, inventory, sales, and production. Behind every ERP system is a scheduling capability to ensure everything happens at the right time and in the right order. The relationship between WLA and ERP is so strong that many organizations will consider a new WLA when in the process of moving to a new ERP system.

WLA software is a critical tool for modern enterprises because it helps organizations optimize and streamline workflows across departments, improving operational efficiency, reducing costs, and increasing productivity across all functional areas.

HOW IMPORTANT IS YOUR WLA SOFTWARE FOR SCHEDULING WORKLOADS FOR EACH OF THE BUSINESS PROCESS AREAS LISTED?



Sample Size = 406, January 2023

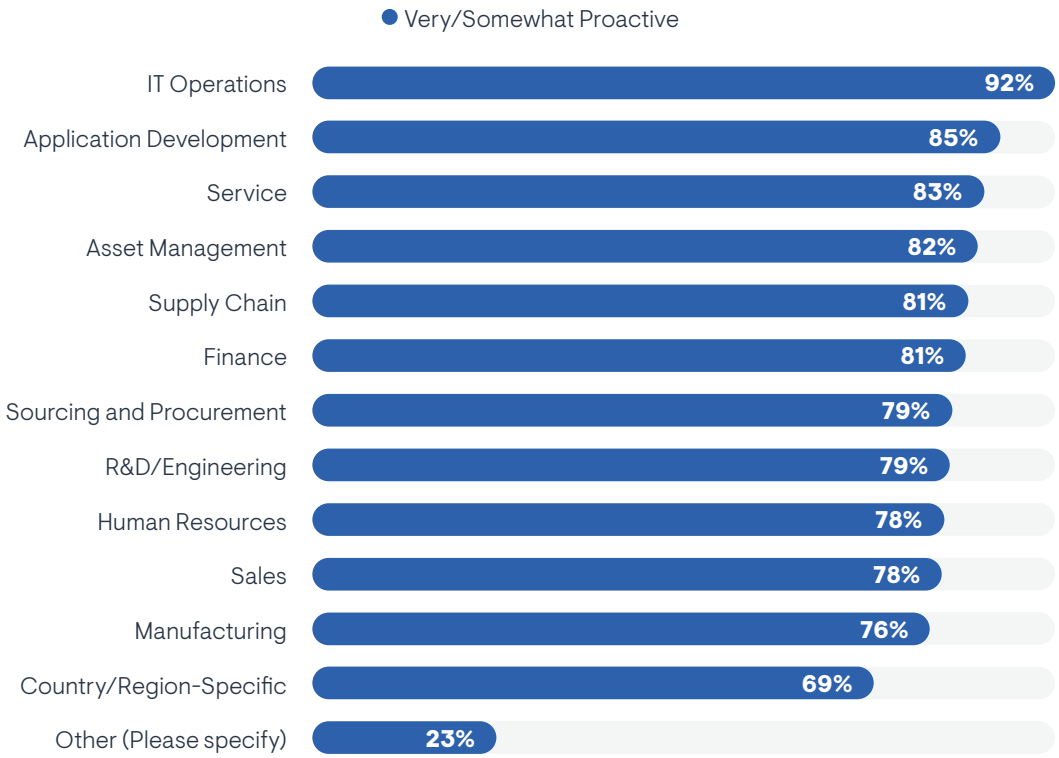
Analysis:

It should come as no surprise that IT Operations sponsors the most WLA initiatives (92%), with Application Development not far behind (85%). What might surprise some readers is how WLA heavily supports every major part of a modern enterprise.

Commentary:

WLA has been quietly in the background supporting the whole enterprise. If you rely on the outcome of an IT process, WLA is likely involved in many parts of making that outcome happen on schedule.

WHICH FUNCTIONAL AREAS OF YOUR ORGANIZATION ARE MOST PROACTIVE IN SPONSORING OR DRIVING NEW WLA INITIATIVES?



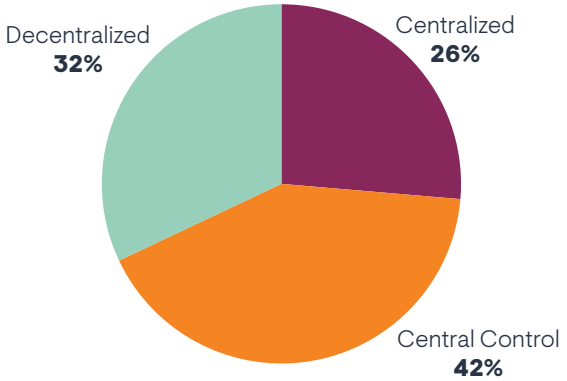
Sample Size = 406, January 2023

Changing Attitudes Toward WLA

As the use of WLA has expanded to new use cases with increasing job volumes and a broader user group, many organizations are rethinking how they organize the teams with primary responsibility for managing and operating WLA software. Some enterprises are undergoing a shift in the way they buy and implement WLA software. Several leading WLA software vendors have added features to more directly engage developers to define application scheduling parameters in code. The relationship between developers and WLA is growing. Following is a look at several key data points from this research highlighting the changing attitudes toward WLA.

Analysis:

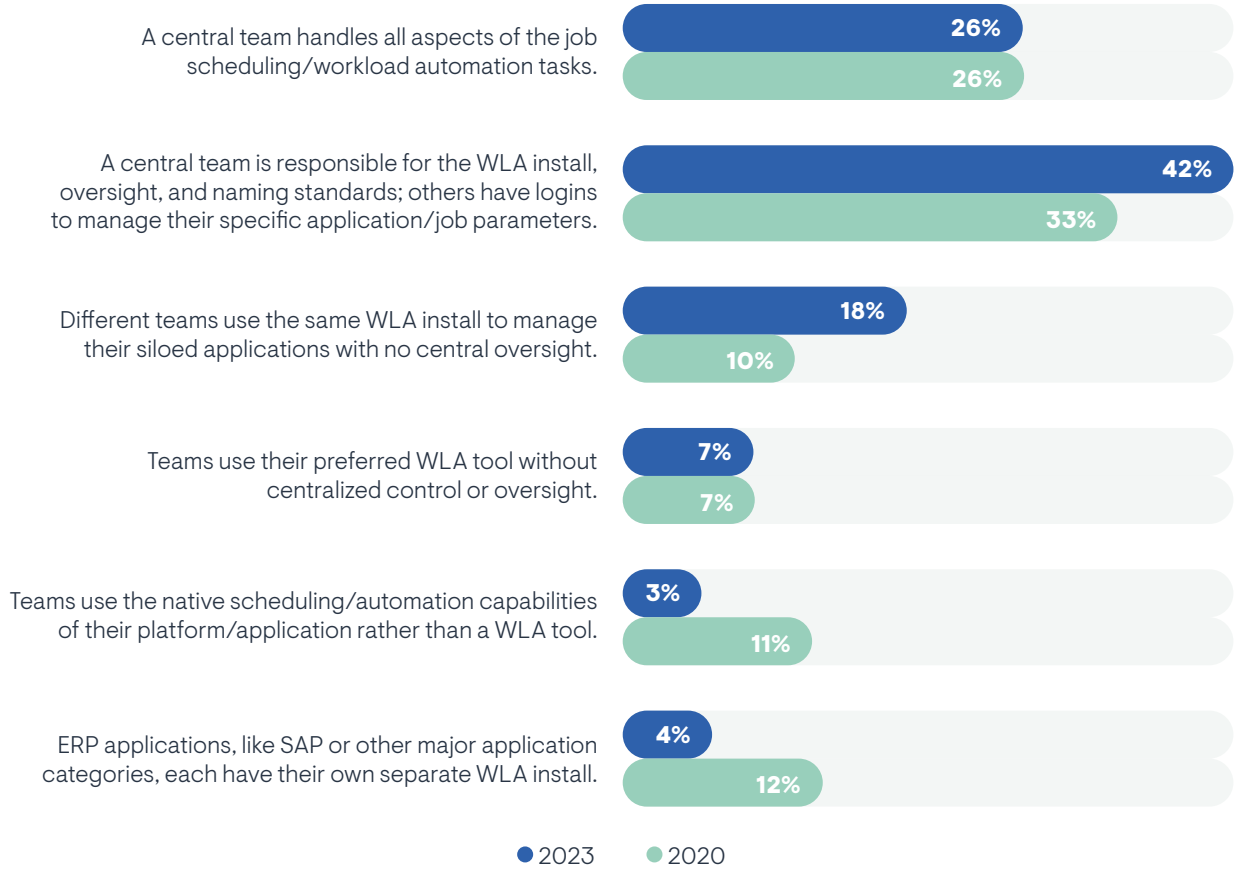
For 26%, all WLA tasks are handled by a central scheduling team within IT operations (Centralized). Forty-two percent have a central team to manage WLA and set naming standards for a broad group of users (Central Control). The remaining 32% are decentralized in various forms.



Commentary:

The Centralized form of organization is the old-school form of managing WLA. This can exist in many types of organizations but dominates in manufacturing, particularly in Asia. The Central Control form of organization is growing in popularity and EMA believes will be the dominate form as organizations work through cloud and digital transformation changes over the next several years. However, the need for specific WLA features for new digital use cases often drives new, decentralized WLA teams. This can be a temporary situation that eventually becomes absorbed within the central control team.

HOW IS THE WORKLOAD AUTOMATION FUNCTION MANAGED IN YOUR IT OPERATIONS?



Sample Size = 406, January 2023

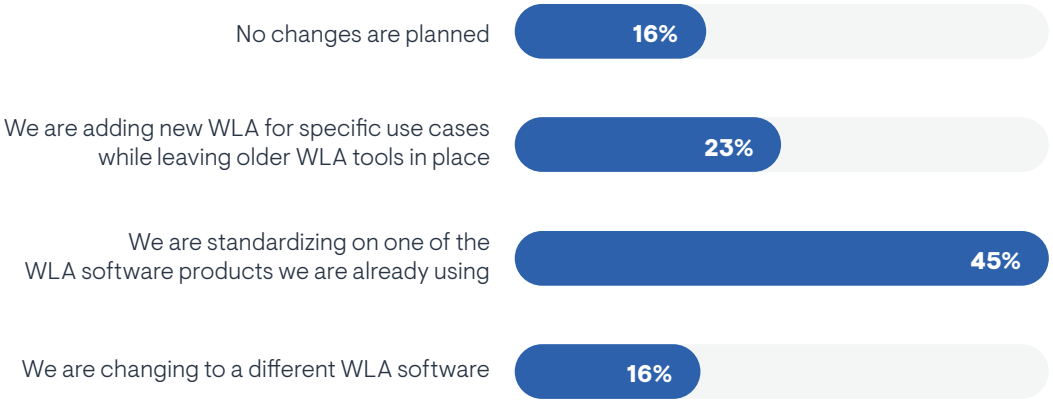
Analysis:

Many organizations changed to or added a new WLA software to address modern needs. In 2023, 23% are adding a new WLA for specific needs, but leaving legacy tools in place. Another 16% are planning to move to a different WLA software. The bulk of the market (45%) is in the process of standardizing on one of the WLA software products already in use. Just 16% are planning no changes.

Commentary:

The traditional approach to WLA was to pick a tool for each environment (mainframe or distributed) and standardize on as few tools as possible. As many WLA tools became capable of handling multiple environments, many organizations planned to standardize on a single WLA tool. However, acquisitions, cloud computing, and digital transformation have disrupted this approach. Some now take a "point solution" approach to add a new WLA software with the features needed for their digital transformation efforts and accept, at least for now, that they will have multiple WLA tools.

ARE YOU SHIFTING YOUR APPROACH TO WLA SOFTWARE?



Sample Size = 406, January 2023

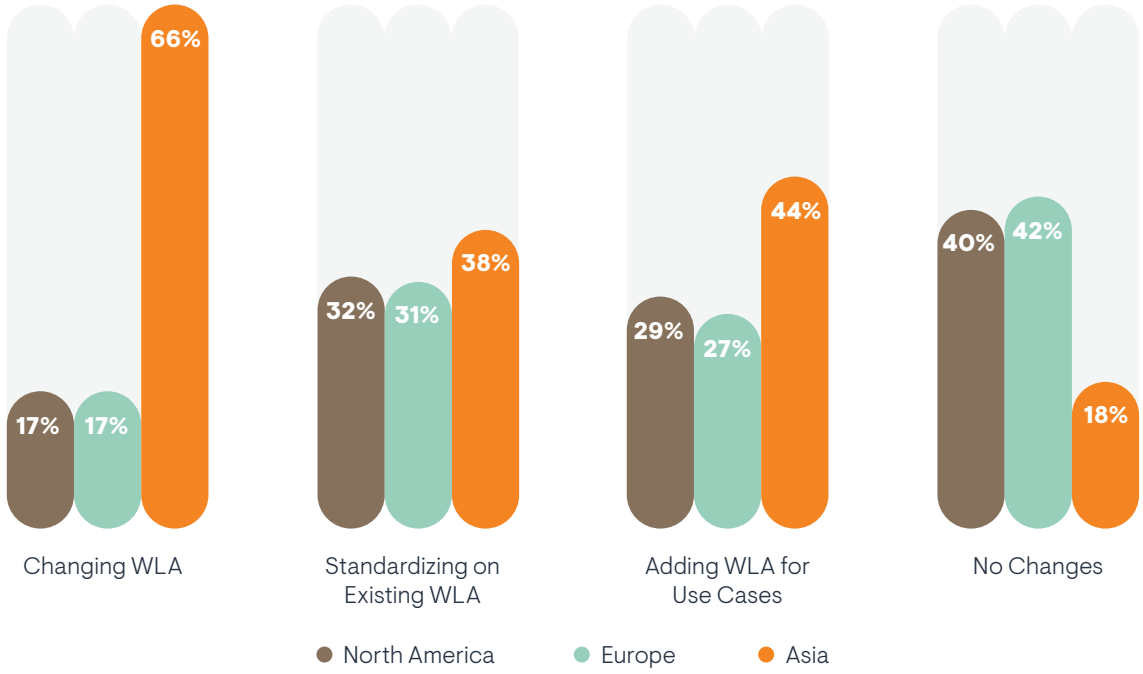
Analysis:

Looking at the approach to buying WLA software by region, 66% of those intending to change are in Asia, with just 17% from North America and 17% from Europe. Asia also leads the group looking to add a new WLA for a specific use case at 44%, with North America at 29% and Europe at 27%.

Commentary:

EMA has been tracking buying intentions for WLA software for over a decade. Europe and North America saw over 50% of organizations looking to change to a new WLA software from 2015 to 2020. This trend started later in Asia, but organizations in Asia are now walking the same path. Therefore, many organizations in Europe and North America have made their strategic product choice and are in the process of standardizing on this choice.

WLA SOFTWARE APPROACH BY REGION



Sample Size = 406, January 2023

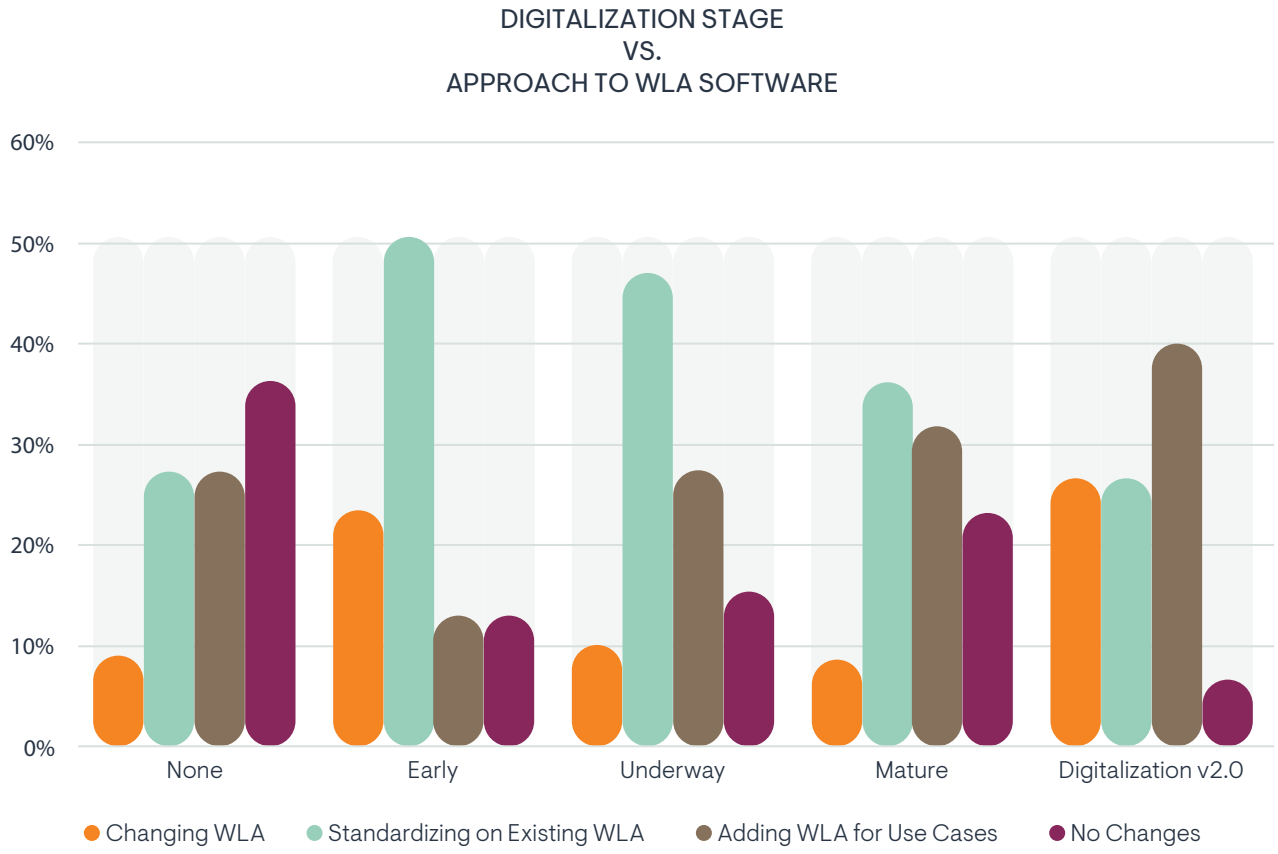
Analysis:

The majority of those actively looking to change to a different WLA are in the Early or Digitalization v2.0 stage, with both groups planning for new digital transformation.

Conversely, the majority of those planning no changes to WLA are those with no digital transformation plans, followed by those with Mature digitalization. The former have no new needs, while the latter in many cases have made their new WLA choice.

Commentary:

There is a clear link between digital transformation and WLA software changes. Some organizations start down the path of digital transformation and then learn of the need for better automation controls, while others realize the need earlier in the process and make a strategic automation choice and work to standardize toward that choice as they roll out digitally transformed processes. However, like many standardization efforts within enterprise IT, new requirements often create exceptions. As organizations move further down the digital transformation path, many find they must consider additional WLA software for specific use cases even after selecting their strategic platform.



Sample Size = 406, January 2023

Analysis:

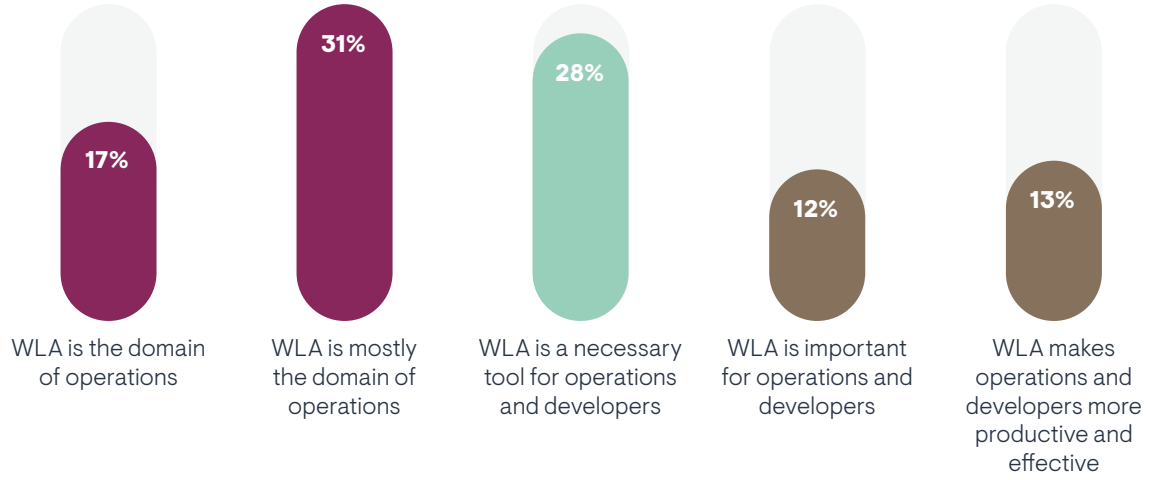
Almost half of organizations view WLA as a tool primarily for IT operations. For 28%, WLA has some value for developers, but 24% see more significant value to developers.

Commentary:

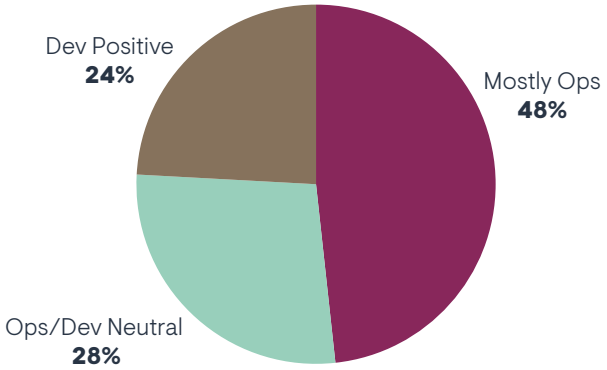
Historically, WLA was an IT operations tool almost exclusively. Over time, other roles came to find value in WLA. Today, many roles have logins to WLA including service desk and business process owners. WLA evolved to play a role in the DevOps process and some products allow developers to interact with the WLA software with "jobs as code" features to define scheduling parameters.

EMA believes organizations would benefit from engaging developers further with respect to WLA and automation orchestration. If developers had a better understanding of WLA orchestration capabilities, WLA could be better leveraged to orchestrate automated processes with less developer time and less new code. This could speed digital transformation and deliver more manageable automation.

HOW DO YOU THINK DEVELOPERS IN YOUR ORGANIZATION FEEL ABOUT WLA SOFTWARE?



DEVELOPERS AND WLA



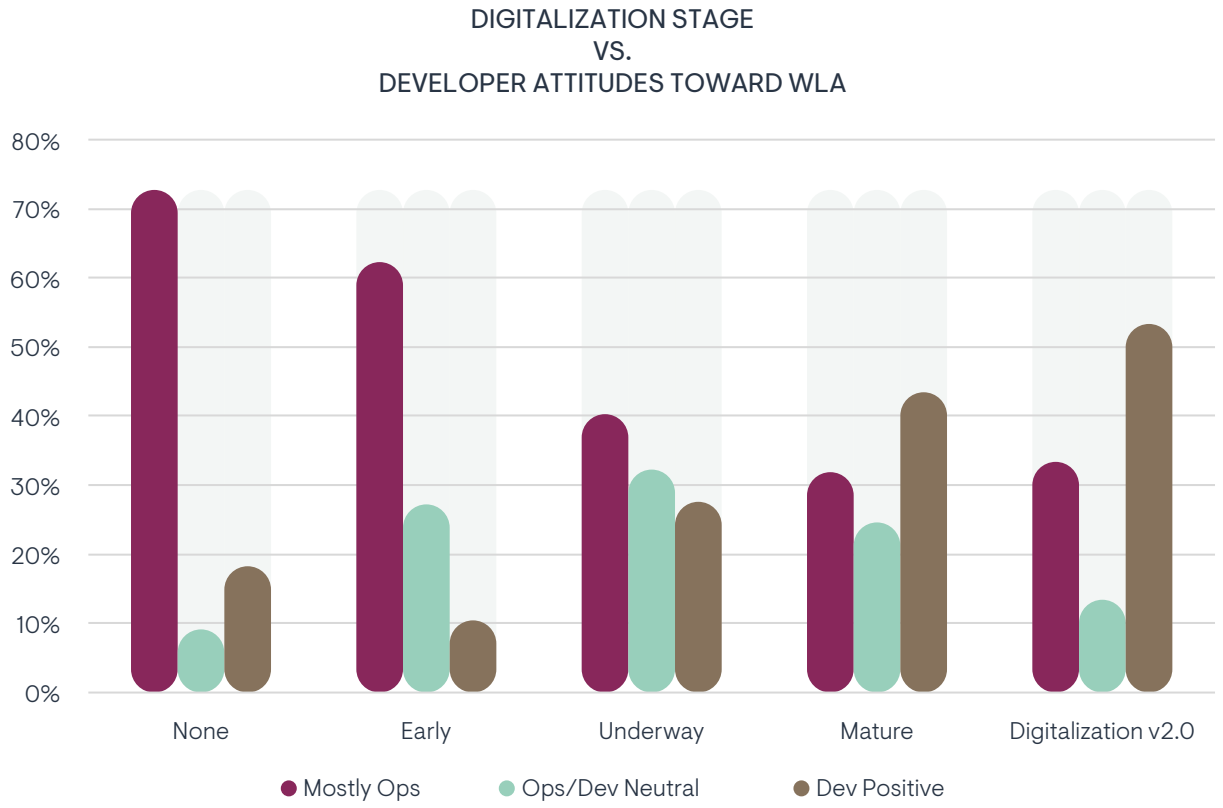
Sample Size = 406, January 2023

Analysis:

Comparing digitalization stage with developer attitudes toward WLA reveals a strong correlation between digitalization maturity and developers that feel positively toward WLA.

Commentary:

Organizations with developers that feel positively toward WLA are further along with digitalization. EMA believes that developers who understand WLA and leverage WLA capabilities can deliver new automation faster because they will have less code to write if they properly leverage WLA capabilities. Operations will find it easier to support these new digital processes if they are managed and monitored within the WLA tool that the operations team knows and uses.



Sample Size = 406, January 2023

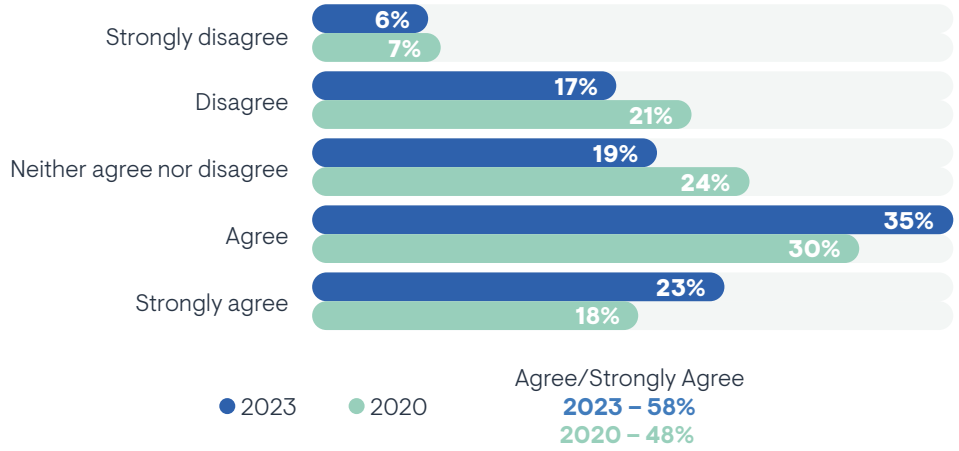
WLA Transforming Into an Orchestrator of Automation

Automation tools are proliferating across enterprises. This is not just multiple WLA tools or the addition of cloud environment-specific schedulers. Robotic process automation, business process automation, workflow tools, and custom-built applications to automate specific functions are finding their way into every corner of the modern enterprise. While each tool is intended to bring value to the organization, siloed automation is difficult to coordinate and each tool comes with its own requirements to configure and manage.

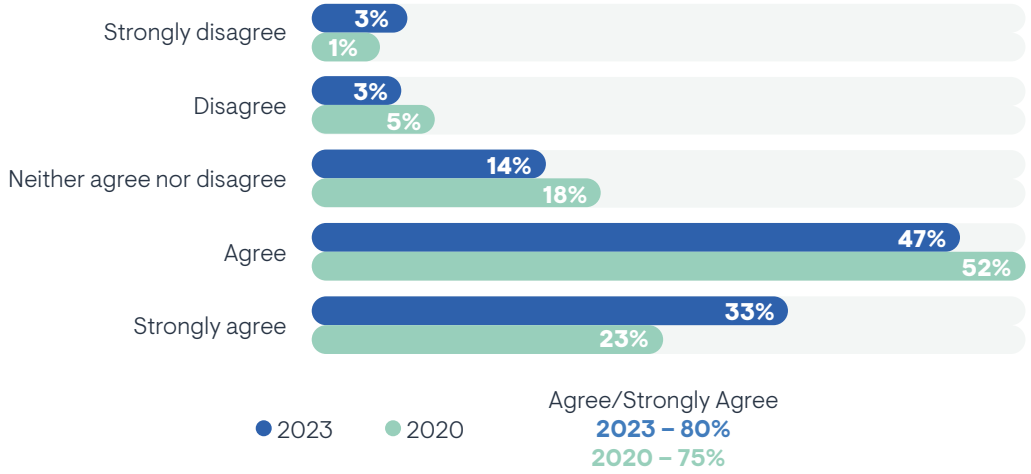
When asked if their organization has too many scheduling and automation tools, 58% agreed or strongly agreed in 2023, up from 48% in 2020.

When asked if their organization could be made more efficient by consolidating scheduling and automation tools, 80% agreed in 2023, up from 75% in 2020.

OUR ORGANIZATION HAS TOO MANY SCHEDULING AND AUTOMATION TOOLS IN PLACE.

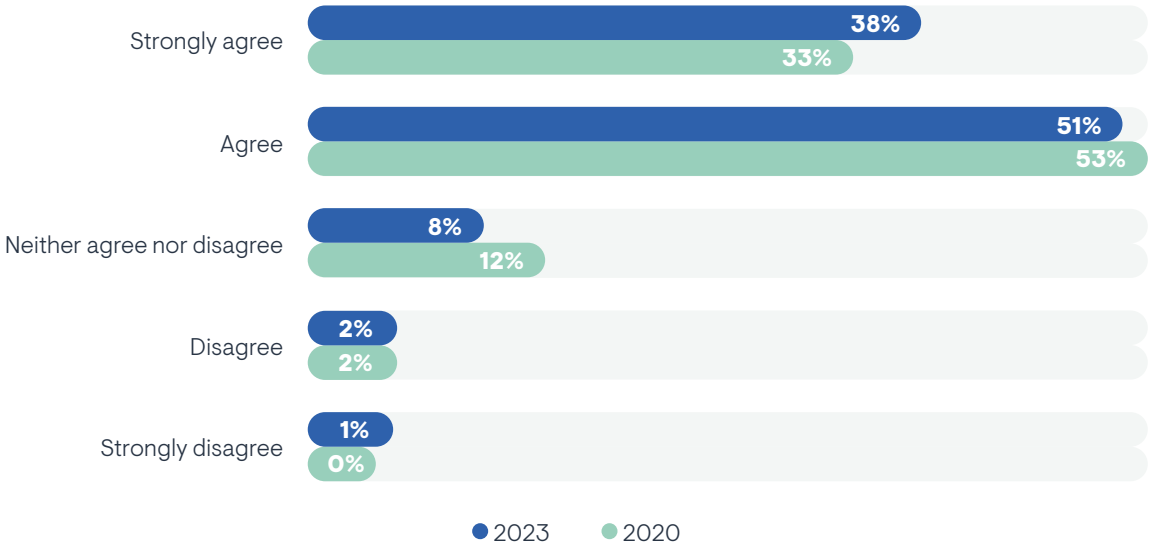


OUR ORGANIZATION COULD BE MORE EFFICIENT BY CONSOLIDATING SCHEDULING AND AUTOMATION TOOLS.

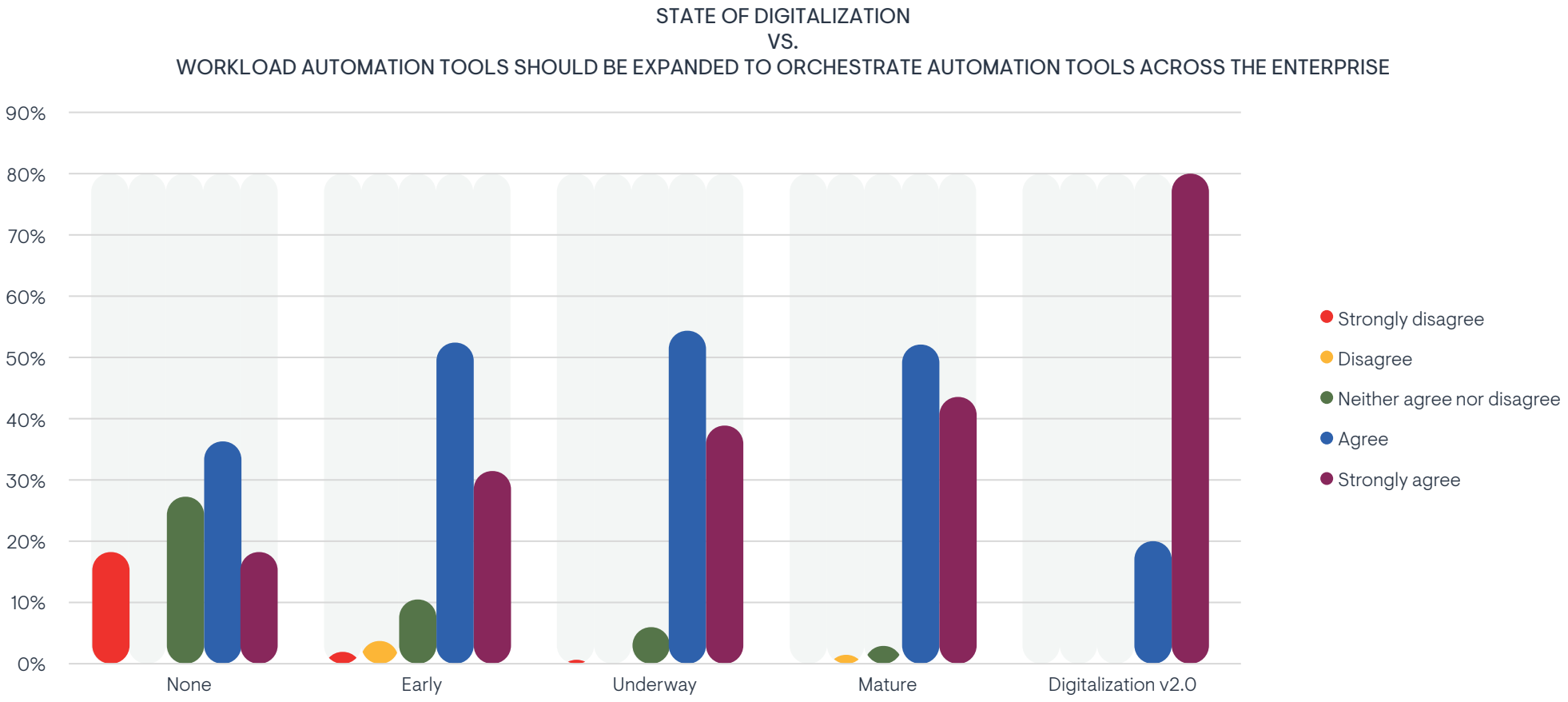


As automation tools proliferate across the enterprise, many are recognizing the need for a central orchestration point to manage, monitor, and coordinate automation processes. Support for WLA as an automation orchestrator is significant and growing. When asked if workload automation tools should be expanded to orchestrate automation tools across the enterprise, 89% agreed or strongly agreed, up from 86% in 2020.

WORKLOAD AUTOMATION TOOLS SHOULD BE EXPANDED TO ORCHESTRATE AUTOMATION TOOLS ACROSS THE ENTERPRISE.



Those experienced with digital transformation are more likely to agree that WLA should evolve into the role of automation orchestrator.



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EMA Perspective

Workload automation is transforming as organizations increasingly move toward digital transformation and automation. Workload automation traditionally focused on scheduling and managing batch jobs on a single platform and matured into a cross-platform capability. WLA is evolving again as it transforms into an orchestrator of automation that spans across the enterprise. The transformation is being driven by the need for organizations to automate more complex and diverse workloads across hybrid IT environments. As a result, workload automation solutions are now incorporating features such as workflow orchestration, cloud automation, and workload optimization. Furthermore, workload automation solutions are integrating with other automation tools, such as robotic process automation (RPA), IT service management (ITSM), and artificial intelligence/machine learning (AI/ML) to provide end-to-end automation capabilities. Using a modern WLA with orchestration capabilities is enabling organizations to improve operational efficiency, reduce errors, and accelerate digital transformation initiatives.

The transformation of WLA will continue to evolve as more organizations deploy digitally transformed processes and new challenges are identified. For WLA to emerge as a broad orchestrator of automation, EMA believes that developers need to be more aware of the operational requirements for ongoing care of automated processes and have access and training on any WLA software used by their organization so they can leverage these capabilities as part of their development plan.

WLA is becoming critical in the DevOps processes of many enterprises as it automates creation of environments, test data handling, and release management. Many products support jobs-as-code to enable developers to engage WLA from their text editor to define parameters in data serialization languages, like JSON or YAML, or in programming languages, like Groovy or Python. This is a great start to bringing developers into the fold.

To become the "automation fabric" for the enterprise, WLA needs to be top of mind for architects and developers at the planning stages of digital transformation projects. This research shows that those further down the digital transformation journey recognize the need to centrally manage automation. Organizations with developers who understand and value the role of WLA tend to be farther down the digital transformation path. WLA products can go further to embrace the developer community and provide clear APIs and processes to allow developers to lean on WLA for common automation requirements so more of the new digital processes are plugged into the central automation orchestration point.

To become the "automation fabric" for the enterprise, WLA needs to be top of mind for architects and developers at the planning stages of digital transformation projects.

About Enterprise Management Associates, Inc.

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help EMA's clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise line of business users, IT professionals, and IT vendors at www.enterprisemanagement.com. You can also follow EMA on Twitter or LinkedIn.

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