# Workload Automation: The Business Process Integration Hub Supporting Digital Transformation

An ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) White Paper
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EMA™
IT & DATA MANAGEMENT RESEARCH,
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## Introduction

Information technology (IT) and business have a long and interesting relationship. IT impacted science and business differently in its early years. While science accelerated with growing compute power; in business, IT initially automated existing manual business processes but did not really change the way work was done. As IT advanced, its impact on improving business outcomes increased, which created entirely new ways for business to get things done. The advent of the Internet created a big leap forward in changing business operations and how businesses interact with customers. Recent emerging IT capabilities are creating even greater changes; a digital transformation of business. Entire industries were disrupted and IT is now a significant business differentiator.

Even more significant than the changes in business processes enabled by IT is how consumers adopt technology in their daily lives. WiFi connectivity is like oxygen to modern consumers, and personal and business interactions with companies changed radically. Customers have high expectations of digital service and convenience. They want to be surprised and delighted by new digital ways to interact. Increased alignment of business and IT became imperative to achieve the speed and agility customers have come to expect.

Digital transformation requires speedy development and effective automation of operations. Delivering on digital transformation means depending on data and applications located on a variety of operating systems in private cloud and public cloud services, such as Amazon EC2 or Microsoft Windows Azure. The more seamlessly, rapidly, and reliably these applications are able to exchange data, the better business units can take advantage of IT services and deliver value to their customers. Workload automation (WLA) should be seen as the plumbing that connects all of the operating systems, applications (custom and off the shelf), and data sources (relational and unstructured). In short, WLA is today's business process integration hub and a central key for ultimate IT efficiency and effectiveness. This white paper is based on the ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) WLA research conducted in December of 2016, *"Issues and Priorities in Modern Workload Automation: Supporting Analytics, Continuous Delivery, and Digital Transformation,"* and will explore how organizations of any size and vertical can benefit from recognizing the importance of WLA software in supporting digital transformation. Data from similar research in 2013 is also used to show trends in the use of WLA software.

## EMA Research: The Old Approach to Workload Automation is Insufficient in Today's World of Digital Transformation

EMA research shows that the biggest contributor to complexity in WLA is pressure by business units initiating IT projects that come with a complex set of WLA requirements (see Chart 1). While this declined slightly from 2013; the deployment of big data, the second-biggest contributor of complexity, increased. One-third of organizations experience complexity from digital transformation projects and another one-third from deploying containers. Modern IT requirements are clearly stressing WLA.

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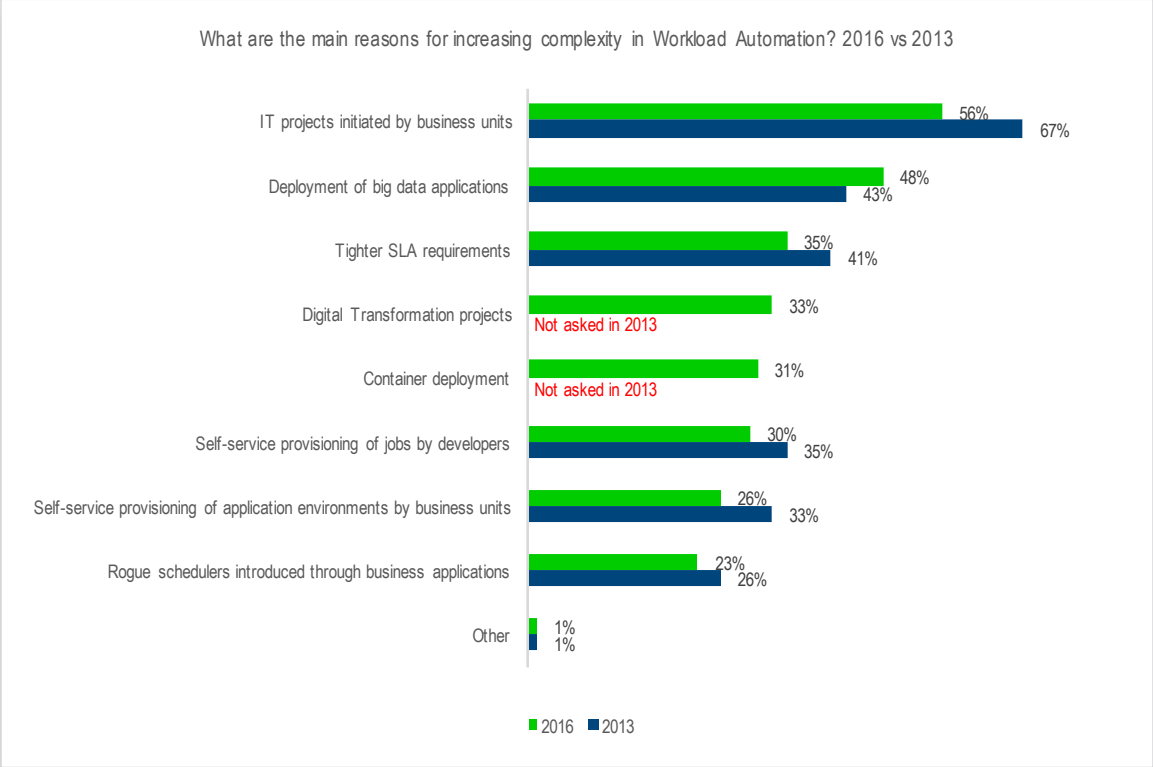


Chart 1: Complexity pressure created by business units

Traditionally, the WLA group was asked to handle these new requirements without getting in the way of the actual enterprise IT project and without WLA tools that are sufficiently flexible to cope with this complexity increase. Generally, organizations do not believe that their current WLA software lives up to its new role as a business process integration hub, specifically within a cloud and big data context. In 2013, only 19% were entirely satisfied with their WLA solutions and while this increased to 29% in 2016, the number of organizations looking to migrate to better WLA software also increased from 32% in 2013 to 52% in 2016. Chart 2 shows that a steady 56% of mature WLA organizations are considering migrating to a new WLA solution; however, the big change from 2013 to 2016 (30% to 53%) is a jump in the average users who are looking to make a change. This illustrates that customers of all types are now actively seeking out WLA software that is better able to meet modern requirements in today's world of big data, cloud, DevOps, and other impacts of digital transformation.

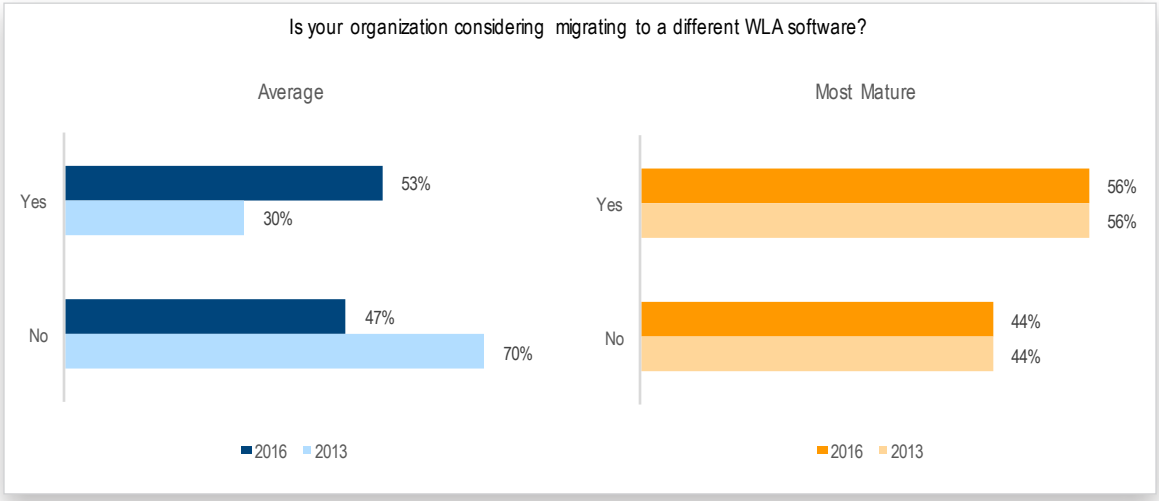


Chart 2: Likelihood to migrate to a new WLA solution by WLA maturity

## Requirements for Workload Automation in the Age of Digital Transformation

EMA research revealed four overarching requirements for WLA to adapt to today's business and application-driven data center:

### 1. Integration

Organizations want to take advantage of all the new digital capabilities, but cannot rip and replace the many legacy systems in the process. Incorporating the old with the new increases the importance of integration beyond the traditional need to integrate WLA with applications. WLA software must easily integrate with today's massively heterogeneous IT environments, consisting of numerous operating systems, applications, cloud-based resources, and mainframes. Basic integration with the most popular systems (Hadoop, SQL Server, SharePoint, Oracle, SAP) should always be offered through out-of-the-box connectors, while more sophisticated integration capabilities should be enabled through plugins to development tools, such as Eclipse or Microsoft Visual Studio.

EMA research shows that 84% of organizations are looking to WLA to provide simple but robust integration between ERP, CRM, FTP, e-commerce platforms, databases, and custom applications. Modern business services often consist of numerous applications and their respective data sources. The better these applications are integrated and the easier data can flow between them, the more bottom-line impact the resulting business service can have.

Survey results indicate that WLA tools saw an increase in out-of-the-box integration with popular software products and improved API capabilities to address the critical need for integration. While these improved integration capabilities were welcomed, they barely made a dent in the number of scripts used in the scheduling of workloads. In 2013, 80% of organizations in North America were using scripts. In 2016, that number dropped slightly to 74% and remains at 79% overall (see Chart 3).

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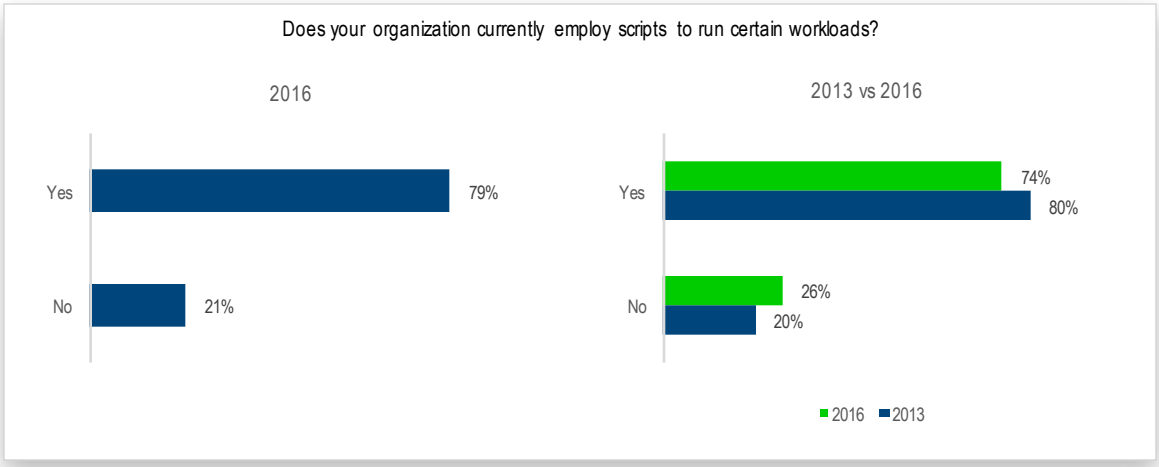


Chart 3: Use of scripts for workload automation

Integration via scripts leads to a myriad of significant challenges that can have a direct impact on business, ranging from documentation and reliability to SLA management and upgradability. Instead, customers require their WLA software to constitute a strong backbone for aligning enterprise IT with business requirements, underpinned by an extensive set of out-of-the-box and custom integrations to their strategic applications.

## 2. Big Data

Big data today is regarded as business-critical because it helps organizations differentiate from competition by using information to personalize the delivery of services to customers. In its purest definition, the term "big data" refers to all data (relational or unstructured) created within the organization. The quicker and more comprehensive this data is collected and analyzed, the more the organization will be able to achieve competitive advantages in the marketplace. Data scientists will often refer to the Four Vs – volume, variety, velocity, and veracity – as challenges that need to be addressed when managing big data. Many organizations incorporated big data workflows into their environments and took advantage of improved WLA software capabilities to handle big data's Four Vs. Even with these improvements, 53% of organizations find that big data projects increase WLA complexity (down from 59% in 2013). Increased adoption of big data workflows increased the concern over the strain on resources, from 56% of organizations in 2013 to 63% in 2016. Those who feel big data workflows increased the difficulty of SLA management also grew from 39% of organizations in 2013 to 42% in 2016 (see Chart 4).

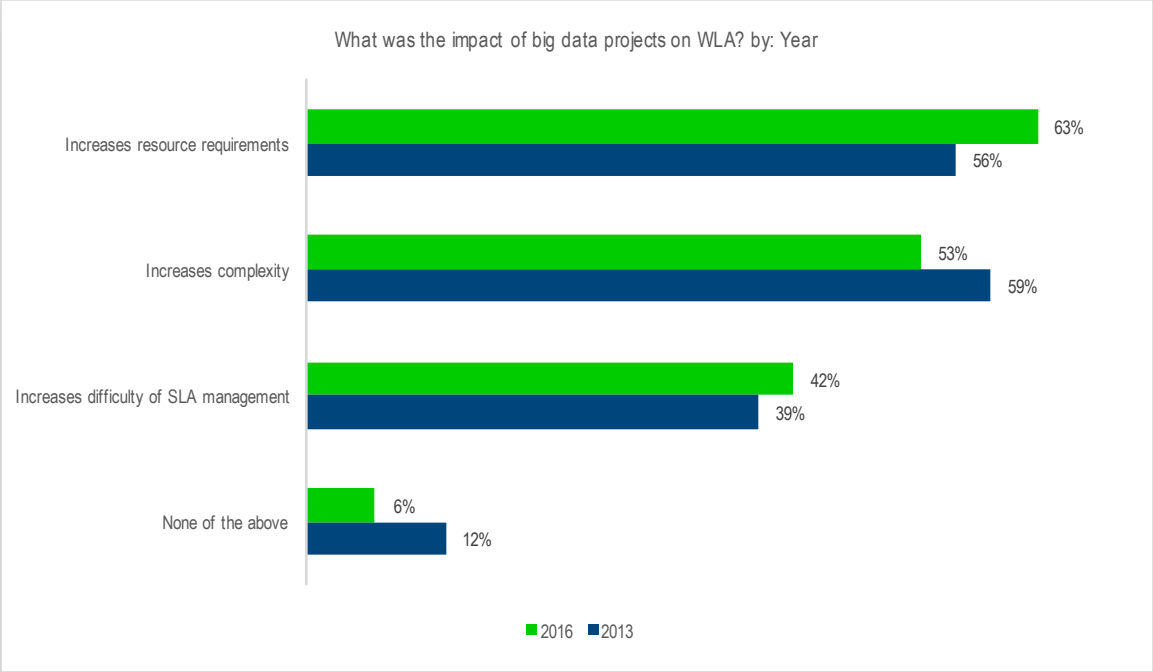


Chart 4: The impact of big data on workload automation

When evaluating WLA solutions, organizations should take a close look at the WLA software provider's big data integration capabilities.

## 3. Cloud Scalability

Modern enterprise IT does not end at the walls of the data center, but often includes a variety of public resources such as Amazon EC2 servers, Microsoft Azure platform services, or Salesforce business management dashboards. Automating and aligning massively heterogeneous IT environments is the opportunity for WLA software to shine. The number of organizations using cloud resources for permanent production jobs increased to 53% in North America and 43% in Europe. Those taking advantage of WLA to rapidly provision additional peak time workloads is more consistent globally at 54%. While "elasticity," "scalability," and "speed" are the key business reasons for organizations to take advantage of cloud for WLA, a large share of more mature IT organizations already noticed the need for automatic resource reclamation.

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When discussing the possibilities offered through private and public cloud, it is essential to remember that workload gravity is still a significant challenge, with over 87% of job workloads still tied to a specific piece of hardware (see Chart 5). Only once all workloads are truly mobile, so their definitions can be abstracted from the underlying infrastructure and physical systems, will organizations be able to fully take advantage of the individual economics of various private and public cloud resources. "Improved job virtualization" and "improved resource pooling" are considered the key remediation factors for this issue. EMA believes that these capabilities should constitute essential decision criteria when evaluating the purchase of WLA software.

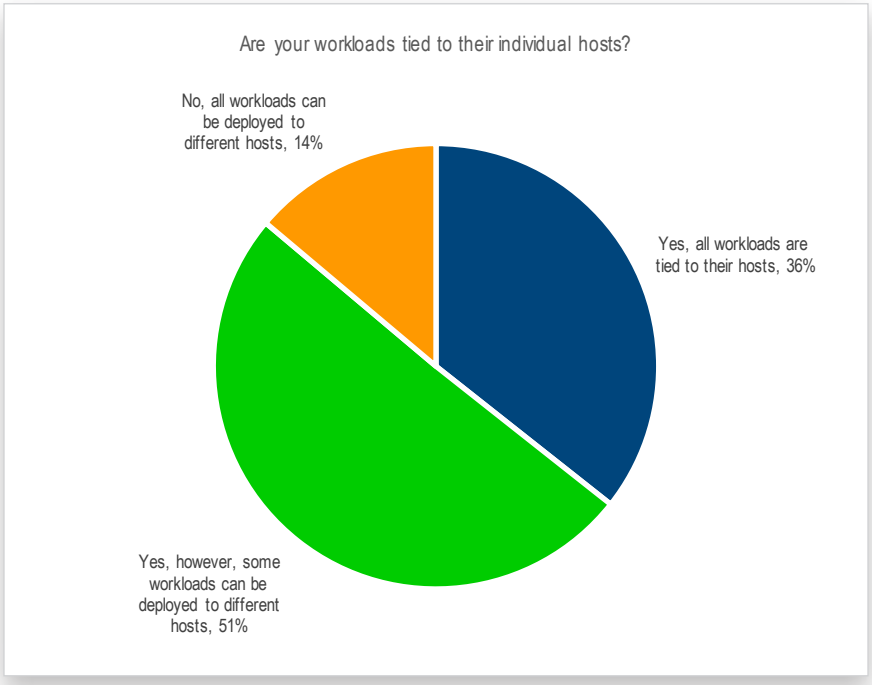


Chart 5: Workload gravity

### 4. Visibility and Control

The more applications and data sources are connected via WLA, the more complex performance tracking becomes and the more significant the impact of SLA violations. Almost two-thirds of organizations do not currently have any capabilities to manage job workflows centrally based on business process requirements. These companies use a combination of custom-developed scripts, outdated/legacy WLA utilities, operating system schedulers, packaged application automation, and service desk management tools to get the job done. Without a central pane of glass, the complexity and pressure exerted by business unit projects will inevitably lead to application and service performance and availability issues. The fact that 55% of organizations are unable to manage jobs within the context of the performance and capacity of their server, network, and storage environment further aggravates this situation.

However, 52% of organizations allow business units to monitor workload health today. This number will increase to 71% by 2018 and demonstrates that turning a blind eye to WLA is no longer seen as a viable option for business. To provide optimal SLA assurance, WLA software must enable central job management with awareness of server, network, and storage resources. This centralized management approach provides the transparency required for effective health and performance management.

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## How the Automic Workload Automation Software Fits the Bill

The *"EMA Radar for Workload Automation Q1 2016"* showed that Automics's WLA portfolio offers conclusive solutions to all of the described challenges. The following are the highlights of the Automic solution within the context of this EMA research:

### 1. Robust and Highly Scalable Architecture

Automic's clustered architecture is scalable and ensures high availability and unlimited capacity. The centralized automation engine can dispatch workloads in active-active mode across any number of CPUs or physical servers and cloud platforms. Third-party tools are not required. With deep multitenant capability, Automic Workload Automation means clients can securely handle multiple end customers, regardless of whether they are internal (multiple departments or business units) or external users within one automation environment. All scheduling data, including a full audit trail, is stored in the backend repository, which can be Microsoft SQL Server, Oracle, or the DB2 database. Updates can be accomplished with zero downtime, allowing for continuous operations without the need for a maintenance window.

### 2. Workload Abstraction

Automic's modular architecture integrates and automates business application workloads that span on-premises and cloud environments. Workload definitions can be configured to include reusable objects and parameters. Modularizing workflows makes administration simpler and reduces errors. Automic enables abstracting workloads to create templates of automated processes. Templates can be used to simplify replication of workflows that are repeated across multiple entities within an organization. They can also be used to model strategic business processes such as financial close and reporting, as well

as industry-specific workflows including retail merchandizing or utility billing. Abstracting processes allows portability for workloads to move freely across available resources and to ramp up or down to meet surge demands. Automic Workload Automation provides the flexibility to change cloud-based providers to manage costs and meet ever-changing business conditions.

## 3. SLA-centricity and Unified Automation Dashboard

"Easier workflow design" (39%) and "lower annual operations costs" (36%) are the top reasons for organizations to migrate to another WLA platform (see Chart 6). Automic Workload Automation brings ease of use and consistency into enterprise IT automation by extracting information for all business-relevant functional modules (SLA management, analytics, and policy management) from the actual automation workflows. This allows business users to work with IT teams to create central policy, compliance, and SLA guidelines that are automatically applied across all existing and newly-created jobs and workflows. This consolidated and centralized approach to automation enables governance and saves time that may otherwise be spent clicking through existing workflows to find and manage SLA-relevant parameters. Even better, Automic allows users to attach actions such as VM or application provisioning to each SLA item, so in case of an impending violation, additional processing resources can be spawned. Automic's ease of workflow design and administration efficiencies address these key drivers head on.

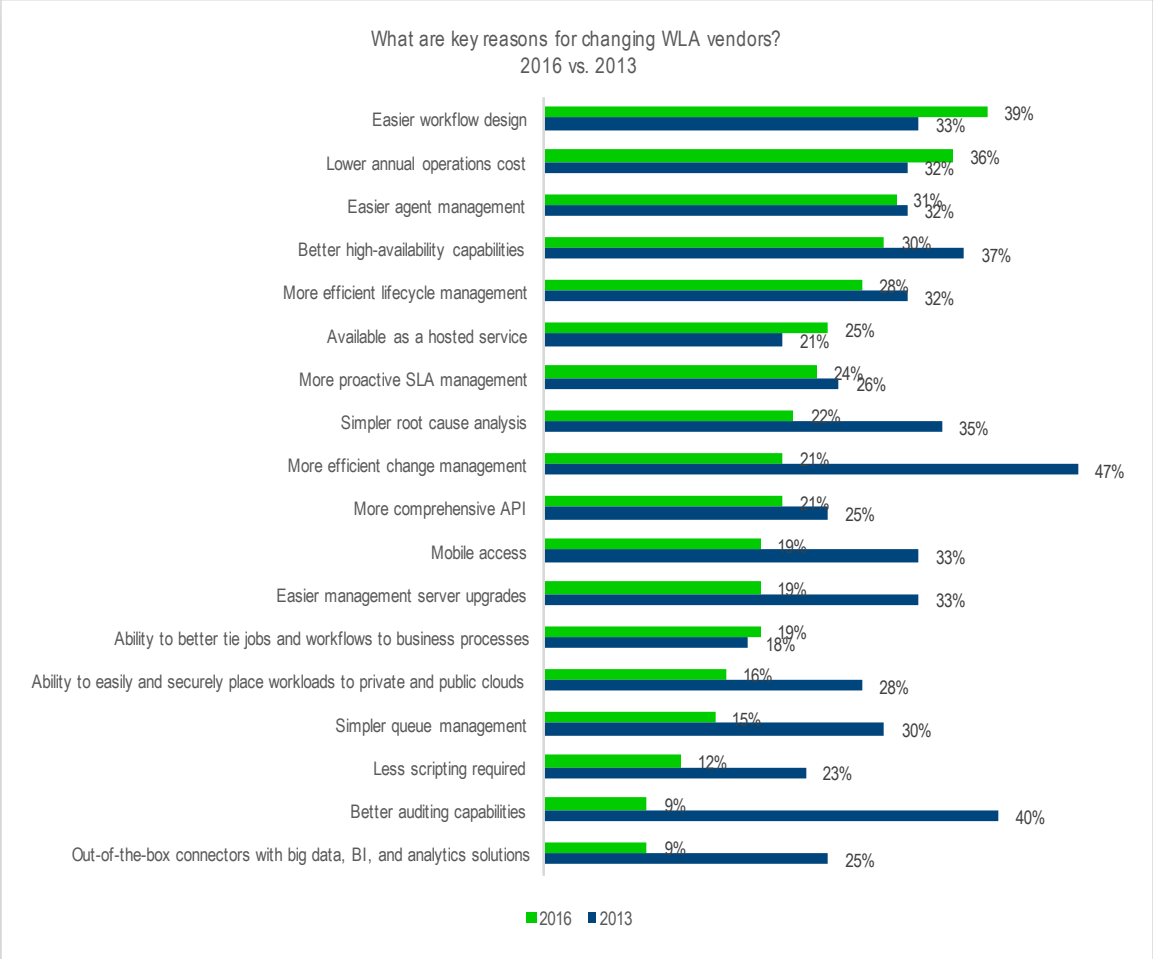


Chart 6: Why migrate to a new workload automation vendor?

## 4. Big Data

Business intelligence and big data are supported by Automic with out-of-the-box adapters for enterprise data warehousing, business intelligence applications like Informatica and SAP Business Objects, and integrations into big data technologies like Hadoop, HortonWorks, and in-memory databases. All this functionality is augmented by rich and powerful RESTful application programming interfaces that allow users to create custom integrations for other open-source or internally-developed big data repositories. Managed file transfer capabilities combined with dynamic workload management ensure that resources are not overwhelmed by the exceptional processing demands that managing big data can present.

## 5. Enterprise Cloud Solution for all WLA Requirements

Automic's platform can provide shared service automation that is open, object-oriented, and allows multi-tenancy. These features underpin the Automic product portfolio, allowing connectivity to any application, database, operating system, or infrastructure, and delivering scale and performance. The centralization of these business-critical components illustrates Automic's ultimate vision of providing a completely business-driven automation platform for spanning end-to-end business processes. Automic is focused on integrating the automation needs of enterprises that are driven by new applications and new infrastructure technology. Automic Workload Automation provides the most comprehensive set of integrations to business applications and databases. Automic is SAP-certified and validated on Oracle E-Business Suite, PeopleSoft, JD Edwards, and Oracle Retail, with integrated solutions for Oracle Utilities Customer Care, Billing, and PeopleSoft. Since all integrations are not major software products, Automic also has the Automic Marketplace (https://marketplace.automic.com/), a one-stop shop where customers, partners, and independent consultants can browse, buy, download, or contribute plugins to drive automation across their enterprises. Automic has the most mature and feature-rich community space in the workload automation sector, providing a forum through which new content can be made available and shared among users.

Cost and modularity are two of the most common reasons for using scripts (see Chart 7). Rich integration capabilities and the availability of reusable plugins can significantly lower cost and increase modularity, diminishing the reliance on scripts.

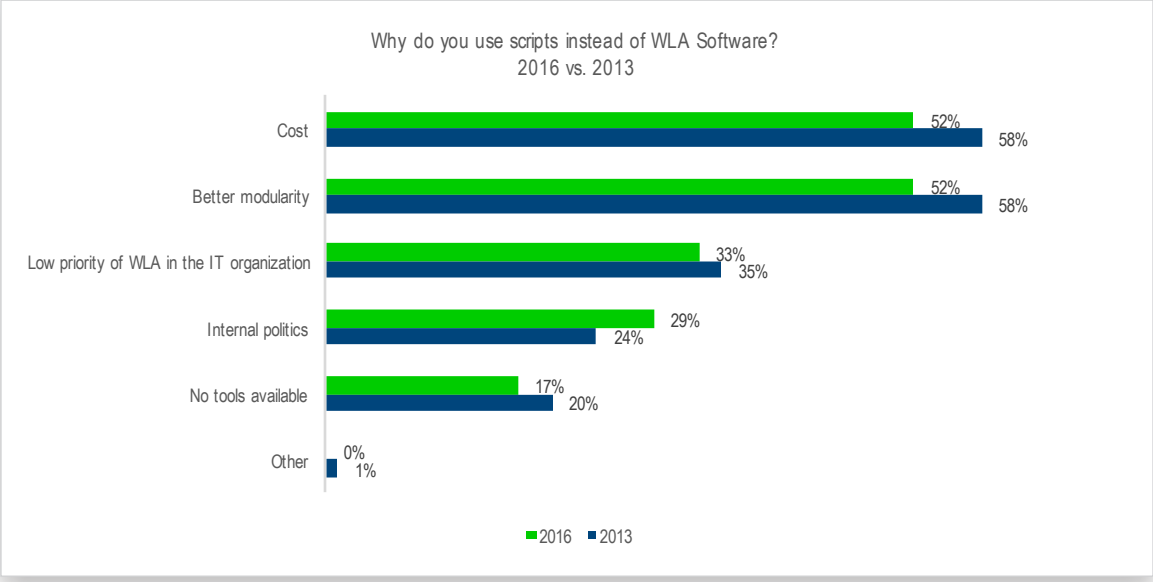


Chart 7: Why organizations use workload automation scripts

## EMA Perspective

Speed and convenience drive today's business environment and are often achieved through digitally-driven services, which put tremendous pressure on IT to support business objectives through digital transformation. The right WLA tool can dramatically improve a company's ability to support the speed of innovation and deliver the desired competitive advantages. Automic offers an automation tool that is robust, scalable, and sufficiently flexible to constitute the business process integration backbone for complex digital transformation projects. Therefore, EMA believes that Automic will be one of the beneficiaries of the rapidly-increasing willingness of organizations to move toward a new WLA solution that better supports their performance, compliance, agility, reliability, and security needs.

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## 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 or blogs.enterprisemanagement.com. You can also follow EMA on Twitter, Facebook, or LinkedIn.

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