

Workload Automation: The Business Process Integration Hub in the Age of Cloud and Big Data

An ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) White Paper
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Workload Automation: The Business Process Integration Hub in the Age of Cloud and Big Data

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Introduction

Today, enterprise IT is all about delivering services to the business in a well performing, secure, compliant and reliable manner. These services often depend on data and applications located on a variety of operating systems and even 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 (WA) 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, WA is today's business process integration hub and therewith a central key for ultimate IT efficiency and effectiveness.

This white paper is based on the ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) WA research report from September of 2013 – [Workload Automation in an Era of Cloud, Analytics, Enterprise Mobility, DevOps and Big Data](#) – and will explore how organizations of any size and vertical can benefit by recognizing the importance of WA software within a cloud and big data context.

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EMA Research: The Old Approach to Workload Automation is Insufficient in Today's World of Cloud and Big Data

EMA research has shown that two thirds (67%) of organizations are experiencing increased pressure exercised by business units initiating IT projects that come with a complex set of WA requirements (see chart 1).

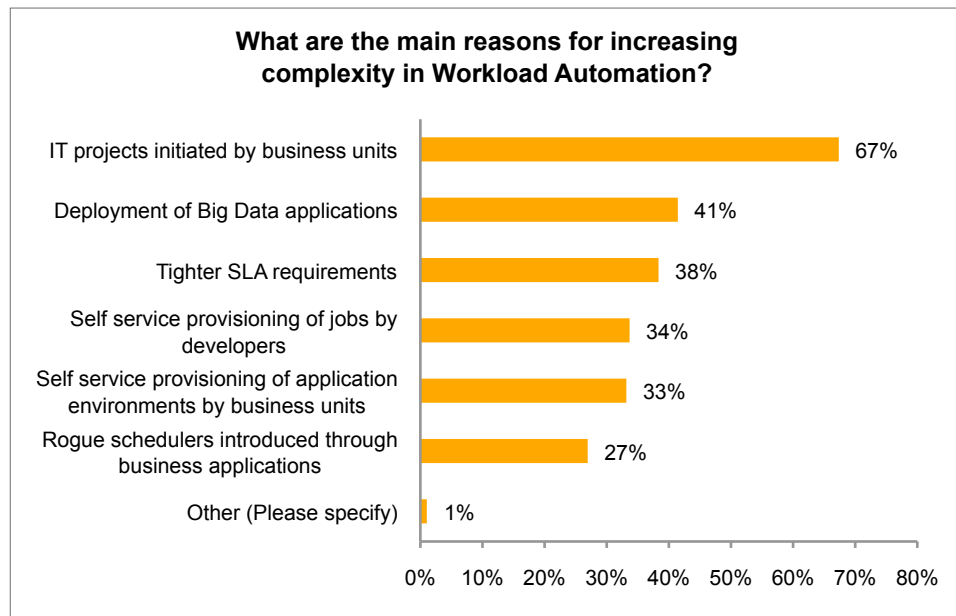


Chart 1: Complexity pressure created by business units

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Traditionally, the WA group is being asked to handle these new requirements, without getting in the way of the actual enterprise IT project and without WA tools that are sufficiently flexible to cope with this complexity increase. Generally, organizations do not believe that their current WA software lives up to its new role as a business process integration hub, specifically within a cloud and big data context. Only 19% are entirely satisfied with their WA solutions, while one third (30%) of organizations are looking for better WA software. Over half (56%) of organizations with the most mature WA solutions are ready to migrate to an alternative WA software platform (see chart 2). This illustrates that customers are now actively seeking out WA software that is better able to meet modern requirements in today's world of big data, cloud and DevOps.

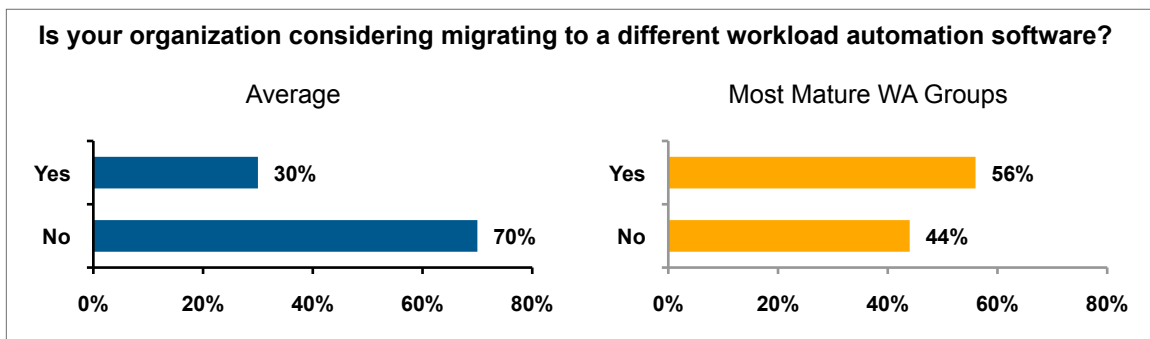


Chart 2: Likelihood to migrate to a new WA solution by WA maturity

Requirements for Workload Automation in the Age of Cloud and Big Data

EMA research has revealed four overarching requirements for WA to adapt to today's service-centric and application-driven data center:

1. Integration

WA 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 82% of organizations are looking to WA 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.

The fact that 60% of organizations are dissatisfied with their current WA tools' ability to rapidly add the required application or operating system agents explains the prevalence of hand written integration scripts (used by 79% of organizations; see chart 3).

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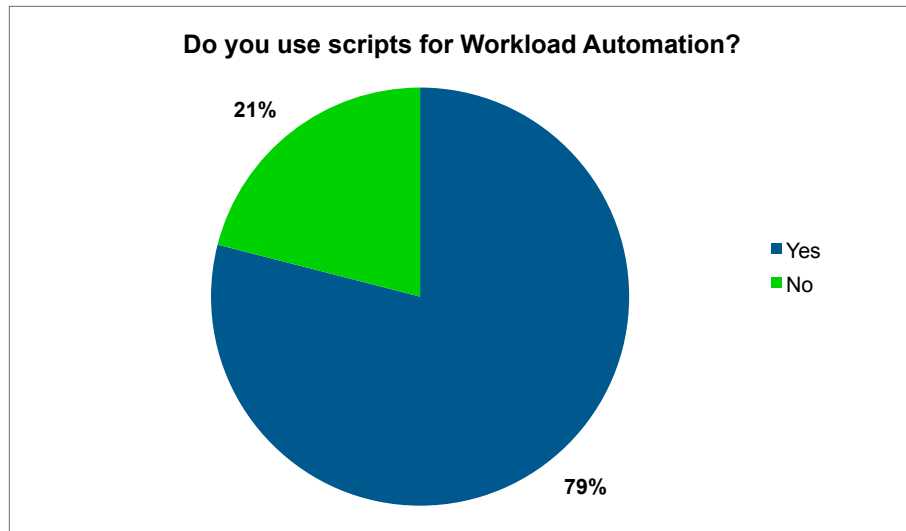


Chart 3: Use of scripts for Workload Automation

Integration via scripts leads to a myriad of significant challenges, ranging from documentation and reliability, to SLA management and upgradability. Instead, customers require their WA software to constitute a strong backbone for aligning enterprise IT with business requirements.

2. SLA Centricity

The more applications and data sources are connected via WA, 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 and based on business process requirements. These companies use a combination of scripts, operating system schedulers, application schedulers and custom schedulers to get the job done. Without a central pane of glass, the complexity 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, 58% of organizations allow business units to monitor workload health today. This number will increase to 81% by 2014 and demonstrates that turning a blind eye to WA is no longer seen as a viable option for business. To provide optimal SLA assurance, WA 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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3. Big Data

Big data today is regarded as business-critical, as it can deliver information that directly affects the way the organization competes in the market place. In its purest definition, the term “big data” refers to all data – relational or unstructured – that is 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 market place. Considering the rapidly rising importance of big data

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projects to the business, the fact that only 43% of organizations manage their big data projects centrally and in an SLA-driven manner is reason for significant concern. At the same time, almost two thirds of organizations (59%) have found that big data projects have increased WA complexity and 39% noticed that SLA-driven WA management has become harder due to big data project requirements (see chart 4).

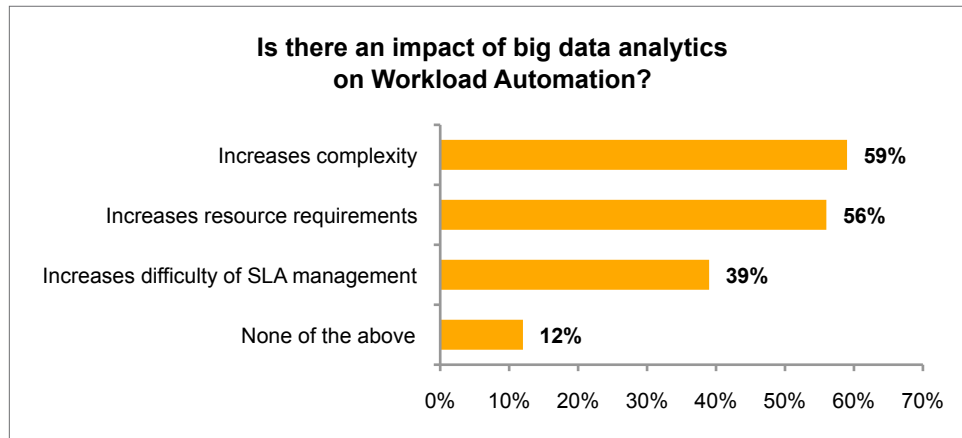


Chart 4: The impact of big data on Workload Automation

In addition, big data projects have drastically increased server, network and storage requirements, leading to additional scalability and elasticity demand. Consequently, two thirds (63%) of organizations want “deeper integration of WA with big data, analytics and BI tools,” in order to ensure SLA compliance and to collect, process and analyze more data sources in a faster manner. When evaluating WA solutions, organizations should take a close look at the WA software’s big data integration capabilities.

4. 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 WA software to shine. A surprisingly high share of organizations are currently taking advantage of WA to rapidly provision additional peak time workloads (60%), but also “permanent production jobs” and “dev/test environments.” While “elasticity,” “scalability” and “speed” are the key business reasons for organizations to take advantage of cloud for WA, a large share of more mature IT organizations have already noticed the need for automatic resource reclamation.

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When talking about the possibilities offered through private and public cloud, it is essential to remember that workload gravity is still a significant challenge, with over 90% of job workloads still being tied to a specific piece of hardware (see chart 5). Only once all workloads are truly mobile 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 WA software.

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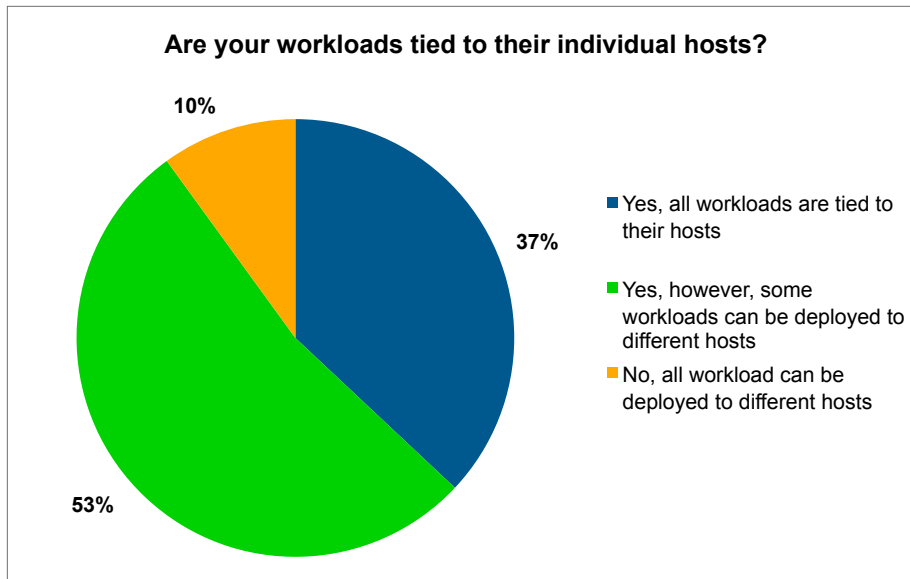


Chart 5: Workload gravity

How Automic’s Distributed Workload Automation Software Fits the Bill

The *EMA Radar for Workload Automation* has shown that Automic’s WA portfolio offers conclusive solutions to all of the above described challenges. In the following, we will discuss the highlights of the Automic solution within the context of this EMA research:

1. Scalability through Distributed Architecture

Especially in modern heterogeneous data center environments, Automic’s approach provides the elasticity and scalability to take advantage of private and public cloud infrastructure. The Automic distributed architecture facilitates easy agent deployment at cloud scale, enabling customers to seamlessly tie together heterogeneous sets of business applications, wherever they are located –physical, virtual, private cloud or public cloud.

2. Workload Abstraction

Automic abstracts jobs from the underlying hardware resources by offering administrators the creation of generic queues. Jobs are then distributed to a pooled set of servers that ensure the performance, compliance, security, configuration and software configuration these jobs require to run.

3. SLA-centricity and Central Dashboard

“More efficient change management” (47%) and “better auditing capabilities” (40%) are the top reasons for organizations to migrate to another WA platform (see chart 6). By eliminating scripts and enabling easy agent deployments, Automic captures most or all jobs under its central dashboard. Centralizing job management is vital for an optimal change management and auditing solution, which based on EMA research, must be at the heart of a successful WA solution.

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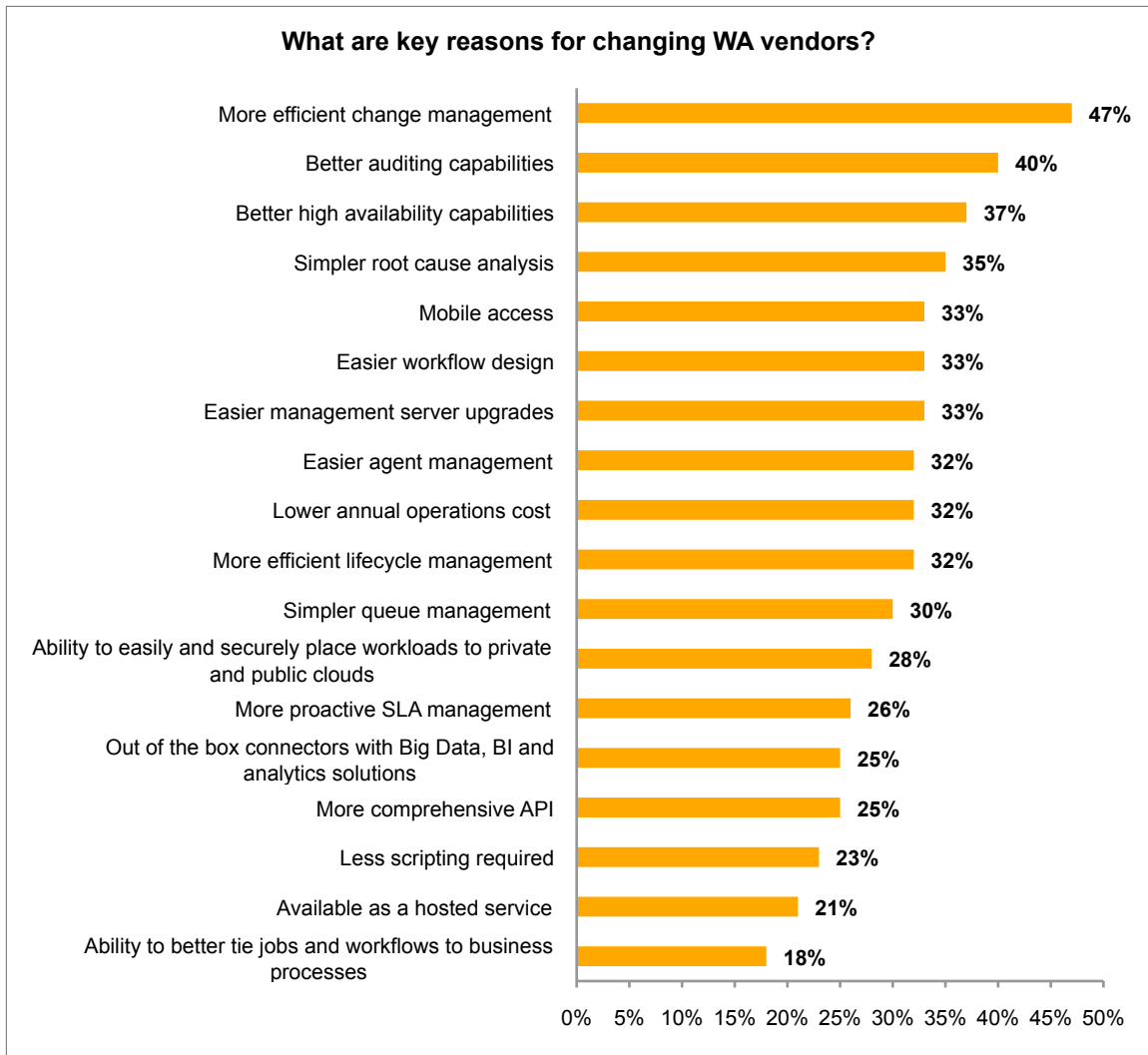


Chart 6: Why migrate to a new workload automation vendor

4. Integrated Solution for All WA Requirements

Automic offers one integrated solution for managing highly complex enterprise job workflows and simple tasks through a single pane of glass. This two-pronged approach curbs the need for scripts by making the Automic WA solution affordable even for simple tasks, while offering a much more powerful solution for higher-end WA tasks. Adjusting cost points to actual requirements, by offering two differently priced solutions addresses “cost” as the most significant reason for the use of scripts (mentioned by 58% of organizations; see chart 7).

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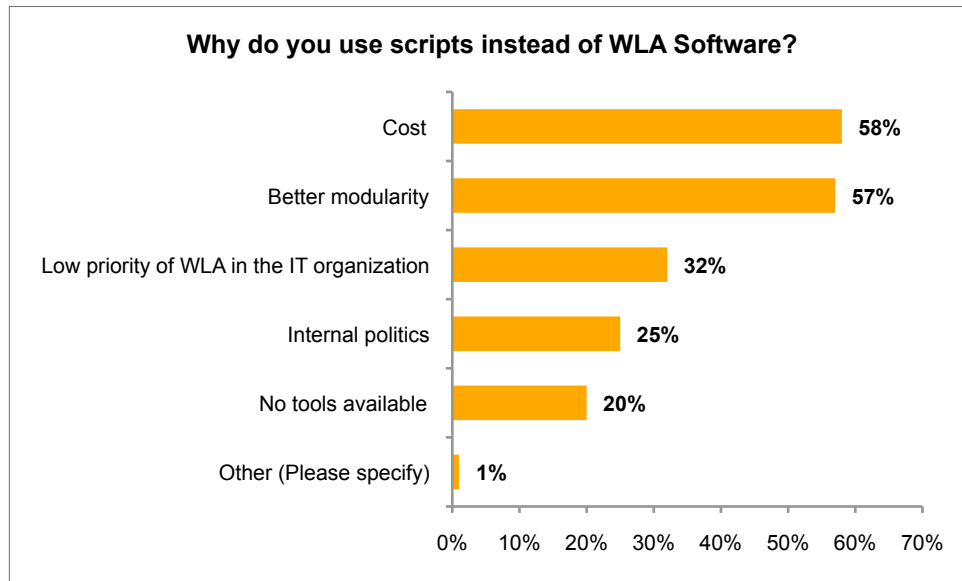


Chart 7: Why Organizations use Workload Automation scripts

5. Big Data

Automatic offers application integration with big data solutions using REST and SOAP-based Web Services with automatic parsing of JSON and XML messages and sample job templates, eliminating the need for manual scripting. A distributed architecture is ideally suited to big data deployments such as Hadoop which are heavily distributed, unlike traditional DBMS solutions that struggle to achieve the scalability needed to process massive data volumes. This enables Automatic customers to dynamically provision and load balance big data workloads to ensure timely completion of processing in accordance with operational service levels.

6. Capacity & Performance Management

With Sysload and Streamcore, Automatic provides customers with a strong toolkit for performance and capacity planning, monitoring, reporting and management. The ability to identify bottlenecks in servers, network, virtualization, applications, private- or public cloud infrastructure is essential for intelligently placing, operating and managing business critical workloads.

EMA Perspective

In today's world of virtualized environments, with a multitude of cloud hosting options for almost every workload and big data projects taking center stage for an increasing number of organizations, it is essential to ensure SLA-centric WA operation and management. Automatic offers this type of business integration hub that is robust and scalable on the one hand, and sufficiently flexible to constitute the business process integration backbone for complex big data analytics projects. Therefore, EMA believes that Automatic will be one of the beneficiaries of the rapidly increasing willingness of organizations to move toward a new WA 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 its 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](#) or [Facebook](#).

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