

A complex network of light blue lines and nodes on a dark blue background, resembling a circuit board or data flow diagram. The nodes contain various icons: a database cylinder, a code symbol (</>), a bar chart, a computer monitor with a graph, and a dollar sign (\$).

Workload Automation

BUYER'S GUIDE

An overview of key considerations, features, and compliance factors to help you evaluate and select the right workload automation solution for your business.

Every day, organizations rely on batch processes to support critical business decisions. The accuracy of reports, prices, and database records often hinge on the successful execution of numerous IT processes repeatedly running in multiple applications. Processes such as inventory management, account reconciliation, and payment processing often leverage multiple steps to produce the desired output. Jobs and workflows such as these are integral parts of how each business runs. When one step fails, the results can have a significant impact on business outcomes.

Centrally managing jobs is vital because of the business impact of unsuccessful batch processes. Centralizing each job's source code, status, schedules, triggers, and dependencies limits the risks associated with storing critical business processes across a hodgepodge of tools. Organizations need to consider the security and reliability of their current scheduling tools for business and IT teams to achieve a high level of productivity. They also need to meet compliance requirements, such as HIPAA, PCI DSS, and FISMA.

Is it possible for organizations with these considerations to streamline hundreds or thousands of jobs while still meeting the needs of business users, customers, and regulatory agencies?

One answer could be to explore a centralized workload automation solution. These solutions handle all these requirements to make IT and business professionals' lives easier by establishing a strong set of standards for configuring and executing IT processes.



Table of Contents

Getting Started

About this Guide	05
What is Workload Automation?	06
Understand the Benefits	07

Pre-Search Considerations

On-Premises or the Cloud	09
Industry-Specific Requirements	10
Securing Jobs, the Way You Secure Data	12
Key WLA Features	13

In-Depth Evaluation

Create a Requirements Checklist	15
List Your Compliance Requirements	17
Determine Your Budget	18

Before You Buy

Read WLA Reviews	20
Request a Demo/Trial	21
Study Vendor Resources	22

After the Sale

Connect with Like-Minded Customers	24
Receive Product Training and Services	25



Getting Started



Getting Started

About this Guide

Finding the right solution for your business isn't always easy. There are many steps to undertake to choose a product that'll work best for you. You'll need to narrow down your product options, research their unique features, and evaluate them for potential success in your environment.

This guide strives to limit the information you'll need when evaluating different workload automation solutions. In its pages, you'll find various buying considerations and explanations, including industry- and compliance-specific concerns that will help you make an informed decision.

Exploring the content in this guide should take no more than 30 minutes. By the end, you'll have a better grasp of what centralized workload automation can do for your organization. We've also included a helpful, printable checklist to use when comparing solutions from different workload automation vendors.

Have questions? Email services@jamsscheduler.com.



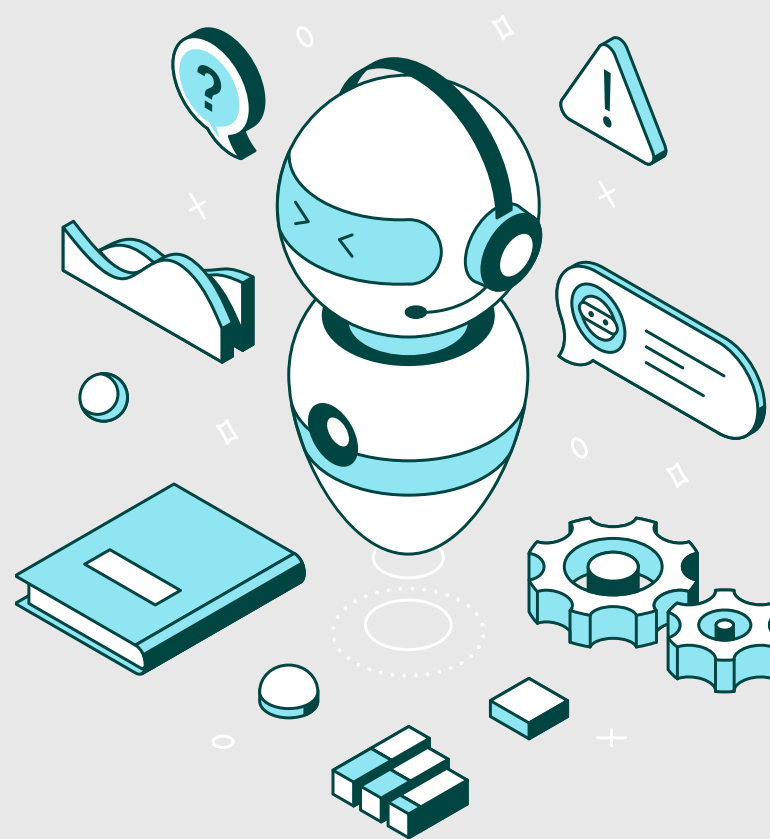
Getting Started

What is Workload Automation?

Workload automation (or WLA) solutions are products that encompass all aspects of scheduling, monitoring, and managing jobs and tasks that execute on different platforms and in various applications. They use industry-standard protocols to run jobs securely.

What does “workload” in workload automation mean? It refers to any task, process, batch job, or executable (or a combination thereof) that an enterprise repeatedly runs to support its business. Organizations typically begin automating workloads with native tools included with their servers and applications, such as Windows Task Scheduler, Cron and SQL Agent.

Organizations of all sizes can use a WLA solution for jobs ranging from a simple command to multi-platform workflows that run across dozens of servers and rely on many different business applications. WLAs can replace native schedulers that lack advanced automation features, eliminate time-consuming monitoring and reporting tasks, and secure IT jobs that are integral to the business.



Getting Started

Understand the Benefits

According to a survey conducted by Enterprise Management Associates (EMA) in July 2018, IT operations is the most automated function with 64 percent of respondents saying it's automated in their organizations.

The Shifting Role of Workload Automation, Enterprise Management Associates (EMA) Research, September 2018

Many organizations struggle to maximize the efficiency of their technology platforms and business applications. IT processes help solve these business problems but can also create new challenges, including determining how to run them reliably, automate them, and connect them to other business activities. With these concerns, IT teams are desperately looking for ways to automate and manage jobs while minimizing the need for multiple tools.

A WLA solution can help do this by providing the following benefits:

Eliminate Manual Processing

Relieve IT personnel of repetitive tasks, including job monitoring and reporting so they can focus on higher-value projects.

Run Jobs on Multiple Platforms

Implement your automation on-premises, in the cloud, or in a hybrid environment—wherever you need flexibility and scalability to match the growth of your business.

Meet Enterprise Security Requirements

Keep login credentials, connection strings, and job source code secure, and eliminate the all-too-common practice of giving automation tools elevated privileges.

Beat SLAs

Simplify and automate a high volume of jobs with workflows that deliver valuable information to business users, customers, and partners without delay.

Reduce Costs

Eliminate the need for single-platform automation tools, custom scripts and programs, and manual processes—all of which can be costly to maintain.

Meet Compliance Requirements

Maintain a comprehensive audit trail of every job execution and definition, helping you comply with regulations like PCI DSS, FISMA, HIPAA/HITECH, GBLA, SOX, and GDPR.



Pre-Search Considerations

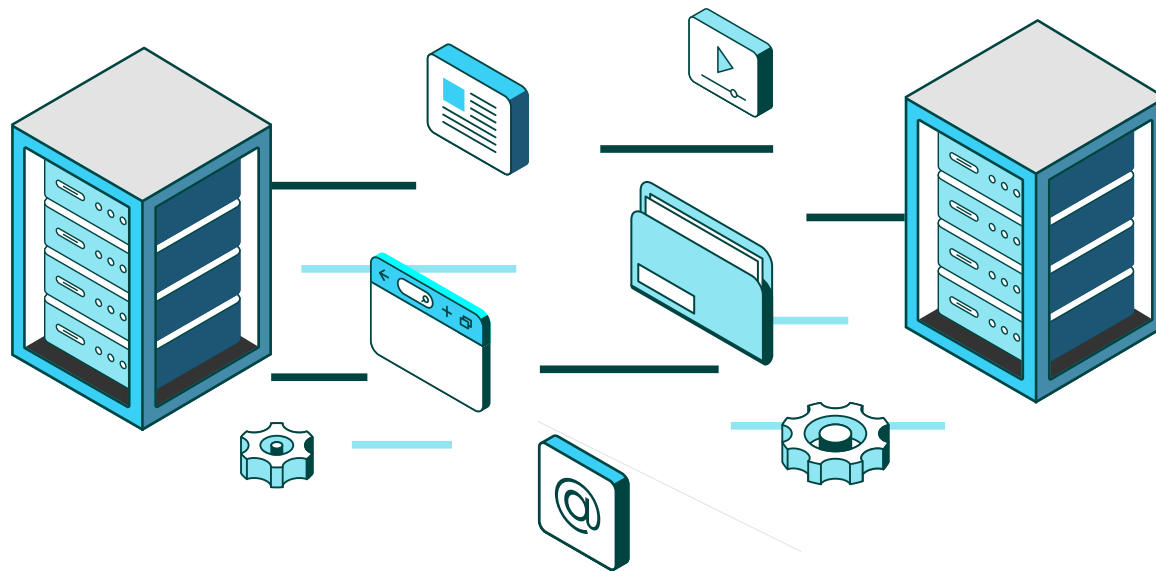
Pre-Search Considerations

On-Premises or the Cloud

In an IT Priorities survey from TechTarget, 22% of survey users said they planned to deploy cloud-based applications in 2018 as part of their software initiatives. LinkedIn Group Partner's Cybersecurity Trends 2017 Spotlight Report echoed these trends with 33% of businesses reporting that they planned to make investing in cloud infrastructure security a priority in 2017 and beyond.

With the cloud growing in popularity, WLA vendors are working hard to ensure organizations have the flexibility needed to meet their business requirements. This flexibility includes the ability to run jobs in multiple environments, from on-premises, the cloud, or somewhere in between (hybrid).

Determine which environment you plan to integrate your WLA solution in before you start your search. Ask questions about how a solution works in your chosen environment and check how difficult migrating would be if you start on-premises and later want to move to the cloud (or vice versa).



Pre-Search Considerations

Industry-Specific Requirements

Consider your industry-specific needs and keep these in mind when evaluating WLA solutions. Keeping these in mind will make the decision processes easier because you can vet what will and won't work right away. To get started, here are a few important requirements to consider in the following industries:

Healthcare

Healthcare organizations need to ensure jobs that access or modify medical records adhere to the same security as if an individual user performed those same tasks. WLA solutions should segment users by role, provide secure authentication methods, and offer detailed auditing and reporting for global data protection regulations (like HIPAA in the U.S., the EU's Directive of Data Protection, and Canada's PIPEDA).

Logistics

Distribution and warehouse organizations must be able to automate the exchange of orders and EDI documents with their customers and partners. Centralized workload automation can streamline these processes by triggering jobs immediately upon the success of other jobs. This triggering-upon-completion ensures the receipt of all files needed before the next job begins. You can also get a detailed audit trail and send alerts when critical job steps fail.

Higher Education

Post-secondary schools must process data across multiple universitywide systems to deliver exceptional student experiences. Centralized workload automation helps schools run jobs across ERP, student management, and financial aid systems, many of which involve integrations with state and federal tax agencies. Detailed audit logs, centralized user administration, and enforced password policies help universities connect these systems securely.

Insurance

The insurance industry must meet onerous compliance burdens and find a way to simplify and automate the jobs they execute repeatedly. An effective WLA solution will help insurance companies meet SOX, GLBA, HIPAA, and HITECH requirements, secure data in compliance with the Dodd-Frank Act, maintain the integrity of files in motion for OIG, Medicare, and Medicaid, transfer data in bulk for ETL and migrations, and more.

Banking and Finance

Banks and financial institutions understand the importance of protecting sensitive data. The right WLA solution will help you achieve PCI DSS and GLBA compliance, provide tracking, auditing, and delivery requirements for Basel III, and execute jobs on core banking and custom finance applications.

Pre-Search Considerations

Industry-Specific Requirements

Manufacturing

Product manufacturing frequently requires precise job scheduling to maximize profit margins. Any WLA solution you consider should provide ways to eliminate slack from your manufacturing process, from supply chain management to regulatory reviews and tax filings. Centralized jobs and workloads can help manufacturers meet ISO 9001 certification and other ANSI standards.

Public Sector

Government agencies run jobs that impact massive populations – jobs that affect licensing, tax liability, program eligibility, and court proceedings. Organizations in the public sector must meet compliance requirements for FIPS 140-2, SOX, GLBA, PCI DSS, and HIPAA. They're also accountable for FISMA, a mandate that requires them to create, document, and implement a plan to ensure their automated IT jobs are secure. The right WLA solution can help with all of this—and more.

Retail

Retailers face increased competition and consumer demand. These market pressures heighten the need to use innovation to automate the buying process while still safeguarding customers' data and credit card information. Workload automation enables retailers to leverage cutting-edge e-commerce, customer management, logistics, and customer service systems, while helping them comply with PCI DSS, SOX, and FTC regulations.



Pre-Search Considerations

Securing Jobs, the Way You Secure Data

With data breaches rising at an alarming rate across many industries, IT teams are focused on implementing strong cybersecurity practices in their organizations. The stringency with which organizations look at their third-party applications, software, and networks is greater than ever—as is the need for proper encryption practices.

When evaluating workload automation solutions, consider what vendors offer for security and how their solution prevents malicious individuals from using automated jobs to gain access to data. Make sure they're putting security first and ask how they'll work with you to protect the sensitive information your jobs can access.

Here are a few questions to get you started:

- What types of encryption standards are supported?
- Can I authenticate users against LDAP or Active Directory?
- Can I segment my jobs into multiple security zones?
- Can I define various permissions for separation of duties?
- Can I perform multi-factor authentication?
- Can I restrict users to specific directories and subfolders?
- Does this solution offer notifications (e.g., email and SMS) for login failures, rejected files, and other irregular activity?
- Does this solution track all user events and file activity?



Pre-Search Considerations

Key WLA Features

There are several WLA solutions on the market. How should you determine which is best for your organization? When it comes to exploring your options, here are some features to evaluate.

Auditing and Reporting

Audit logs help you monitor the activity in your environment for all automated and ad hoc jobs. Reporting metrics provide statistical details, graphs, and charts of this activity.

Real-Time Monitoring

A centralized job monitor lets you see the status of every job in one place. It enables you to address problems quicker without needing to dig through multiple tools and servers, each of which may require a different login.

Multi-Platform Support

Enterprise WLA solutions include agents and execution methods that allow you to run jobs on all the server operating systems you use.

Agent Architecture

Remote agents can execute jobs and workloads on systems throughout your enterprise. They are managed by a central deployment of the scheduler, allowing you to run processes across multiple locations.

Extensive Security Controls

Enterprise-level security will help you meet stringent in-house policies and compliance requirements. Make sure the WLA solution you evaluate comes with features that safeguard your jobs and restrict users to only the areas of the product they need.

Event-Based Scheduling

A WLA solution with comprehensive automation will allow you to determine exactly when your jobs execute. Look for an option that can run multiple jobs concurrently, trigger jobs when other processes complete, and checks dependencies before kicking off new jobs.

Flexible Web Client

A browser-based interface allows you and your business users to manage jobs through HTTPS. This type of interface may give your team the most flexibility because it doesn't require a desktop client installation. Additionally, look for a solution with excellent mobile support so that you can monitor and manage jobs activity on-the-go from any device, including tablets and smartphones.

Business Application Integration

Execution methods or pre-defined job types ensure the solution integrates with not only the platforms you use, but also the ERP, CRM, BI tools, and Data Warehouse applications used to run your business.

Cloud Support

Cloud deployment gives you the flexibility to automate jobs in the cloud. Look for a solution that scales with your organization and works with popular cloud computing platforms like Amazon Web Services and Microsoft Azure.

Some WLA solutions also offer built-in integrations for popular web and cloud applications like Informatica, SharePoint, and Microsoft Dynamics. These integrations make it easy to run jobs on the services you use every day.

Load Balancing & Clustering

Load balancing enables you to process high volumes of job executions by spreading the workload across multiple systems. Clustering (active/passive) provides a secondary scheduler that automatically takes over all automated processes in event that the primary scheduler goes down.



In-Depth Evaluation

In-Depth Evaluation

Create a Requirements Checklist

It's helpful to create a checklist of requirements after you identify the deployment, industry, and cybersecurity features your organization needs in a WLA solution. Refer to this checklist when evaluating different WLA solutions.

Here's an example requirements checklist to get you started:

Requirement	Vendor #1	Vendor #2	Vendor #3
The solution can run jobs on _____ platforms (e.g., Windows, IBM i, Linux, Microsoft Azure).			
The solution has a role-based administration that allows for separation of duties.			
The solution can help guarantee the successful execution of jobs.			
The security standards I need, such as _____ (e.g., OpenPGP, SFTP, FTPS, and AS2), are supported by the solution.			
The solution produces detailed audit trails of all activity.			
The solution has configurable error handling (e.g., auto-retry, continue, run recover job, and send an email alert).			
The solution monitors folders for dependent files and can call modify workflows accordingly.			
The solution includes integrated key and certificate management tools.			
The solution allows users to execute ad-hoc jobs securely.			
I can install and start using the solution without assistance from the vendor's technicians.			
The solution helps my organization comply with critical industry and governmental regulations.			
I can create business processes that I want to perform without creating a script.			
I can set password policies and expiration intervals for the product.			
I can authenticate users against _____ (e.g., LDAP or AD).			
The solution offers notifications for login failures, invalid parameters, and other strange activity.			
The solution allows me to segment my organization into multiple security zones (with features like users, groups, roles, and domains).			

Requirement	Vendor #1	Vendor #2	Vendor #3
The solution allows me to track all user events and file transfer activity.			
I can authenticate server connections with a combination of passwords, SSH keys, and SSL certificates.			
I can easily integrate with the web and cloud applications I use every day (e.g., Informatica or SharePoint).			
I can monitor job metrics and system activity anywhere from any device (including smartphones and tablets).			
The solution has customers or contacts I can talk to and/or the vendor can provide links to 3rd party sites where their customers have submitted product reviews.			
The vendor offers 24/7 software support (including on weekends).			
The vendor has professional services (e.g., product training, project consulting, migration assistance) to help me get the most out of the product.			
The vendor invests in the product through frequent enhancements and support.			



Helpful Tip: If you have questions about any of these items, contact the vendor's support team or your sales representative. Pay special attention to their response time and what kind of answer you get. A vendor that is helpful during the evaluation period will likely be helpful after purchase, too.

In-Depth Evaluation

List Your Compliance Requirements

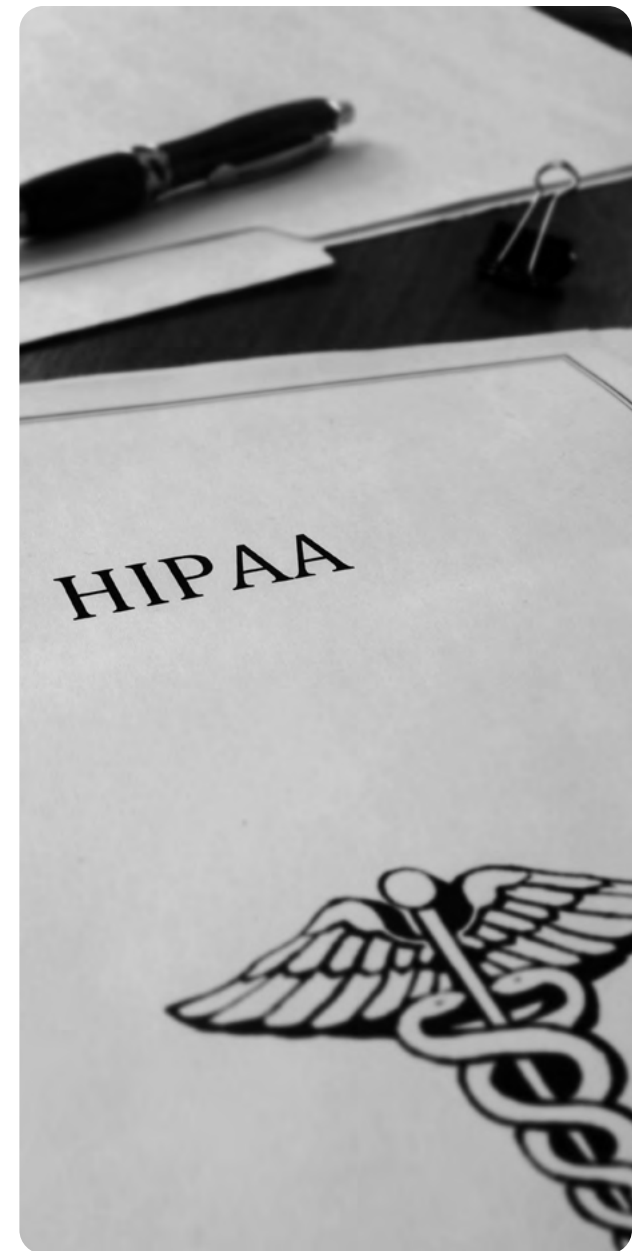
The WLA solution you're evaluating may seem perfect on the surface, but you'll want to make sure that it meets your compliance requirements as well.

Look to see what resources the solution offers for compliance. Do they have datasheets, checklists, or an FAQ that describes how their product helps organizations meet certain regulation requirements?



Beware of vendors who have labeled their WLA solution as certified (e.g., "HIPAA Certified" or "GDPR Certified"). Most compliance regulations do not offer these certifications. Furthermore, a vendor can never guarantee their product will make your organization compliant; they can only help you take steps toward compliance.

Ultimately, the responsibility to become and remain compliant rests on you and your organization.



In-Depth Evaluation

Determine Your Budget

Workload automation solutions come in all sizes and packages, from small, free open source tools to enterprise-sized solutions that cost hundreds of thousands of dollars.

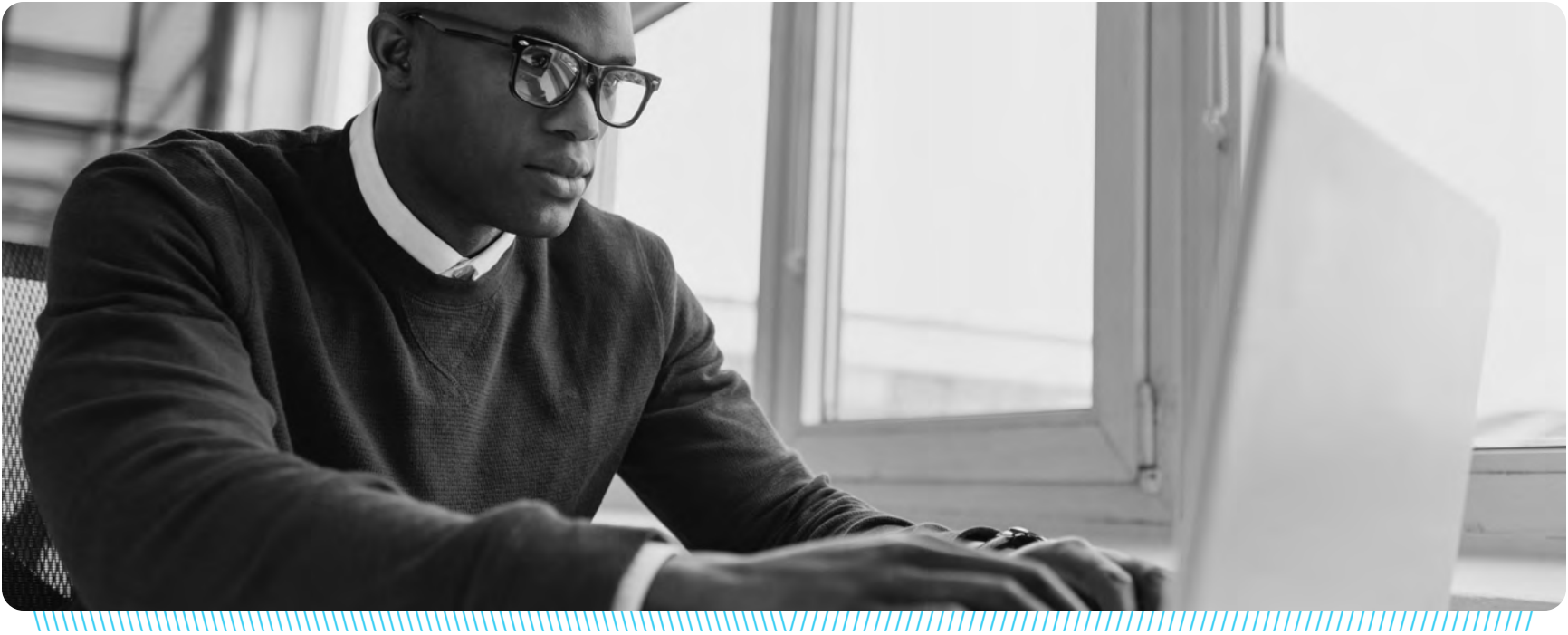
Consider what is (and isn't) included when determining how much to spend on a WLA solution.

Questions to ask the vendor's sale team include:

- Can I license specific modules?
- Are clustered and load balancing licenses discounted?
- Do you discount non-production licenses?
- Can you accommodate CAPEX and OPEX purchasing requirements?
- Do you offer options for environments where the number of jobs or agents fluctuates?

Account for any optional investments you'd like to put into the product when determining your budget. These investments could include professional services (e.g., migration and implementation assistance, software training) or add-on modules that expand what you can do with your WLA solution.





Before You Buy

Before You Buy

Read WLA Reviews

By this point, you've selected which features are important to you, completed your requirements checklist, determined how much to spend, and stacked each of these up against potential WLA solutions.

Once you've narrowed down the search, look at reviews to see what customers are saying. Are they happy with the WLA solution you're considering? What do they think the product's strengths and weaknesses are? Pay special attention to the "cons" customers mention. Is there a trend among reviewers? Is the perceived negative a deal-breaker for you?

Some useful software review websites for WLA solutions are:



Before You Buy

Request a Demo/Trial

Decide which solutions you want to request a demo or trial for after reading reviews. Choosing a demo or trial (or both) fully depends on how much time you have during your evaluation period.

A demo is a live, one-on-one meeting with the vendor's product experts that usually lasts an hour. Demos give you time to ask any questions that haven't been answered by previous research. It also lets the vendor show you areas of the product you're especially interested in, so you can see the solution in action.

A trial is a 14- to 30-day period that allows you to test the product to see how it performs, how long it takes to set up an automated job, what the encryption process looks like, and more. A trial is more hands-on than a demo, allowing you to explore features on your own time on your system. Professionals often need trials to go from "considering buying" to "invested in buying."

How should you approach demos and trials?

To avoid getting overwhelmed with different solution details, we recommend first attending a demo with two or three vendors at the top of your list. Setting up a trial in your environment can be timeconsuming; a demo will help you determine which solutions appear to be the best fit for your organization.

After you narrow your options to one or two vendors, use the trial period to set up some jobs, test encryption methods, and ensure the solution works for you.



Before You Buy

Study Vendor Resources

Finally, take some time to explore the vendor's WLA resources. Helpful resources, such as online documentation and educational videos, indicate the vendor is not only dedicated to developing powerful software, but also to helping you understand everything the product can do for your organization.

Look for materials like these. They should be easy to locate:

- Case studies and user testimonials
- Product videos
- Support forums
- Training resources
- Professional services
- On-demand webinars
- A blog with helpful, up-to-date information
- Product documentation (e.g., user guides, support articles)
- Approved Cloud Marketplace offerings





After the Sale

After The Sale

Connect with Like-Minded Customers

Congratulations! You successfully purchased a WLA solution. Once the software is up and running in your environment, you might think the process is over. However, it doesn't have to be.

If you want to maximize your new investment, consider connecting with other like-minded customers who use WLA of your chosen vendor.

Some vendors offer a customer portal that gives access to community forums. In these forums, you can brainstorm with other customers on questions you have, suggest enhancements and fixes to the product, and share templates or workflows you create.

You might also learn how others have tackled specific WLA projects on websites like:

[Stack Overflow](#) | [Reddit](#)



After The Sale

Receive Product Training and Services

Some WLA vendors offer product training and professional services, both online and on-site, for a fee. When choosing a WLA solution, see if the vendor provides training and services to help your team get proficient with the solution and put it into production promptly.

Training should give you in-depth knowledge of the solution. When you request details on the training, consider asking the vendor the following questions:

- Are the training costs the same regardless of how many people attend the session?
- Is the training interactive or demonstrated by the trainer?
- Are there course outlines you can review before purchasing the sessions?
- Can you customize the content included in the training?

Professional Services teams usually provide integration, development, and consulting services. Be sure to ask the vendor if they have implementation and migration services if you don't have the resources necessary to do it yourself.





About JAMS

JAMS orchestrates IT and data processes with control, visibility, and reliability. JAMS Software delivers elegant, easy-to-use, powerful software that our customers want to use again, again, and again.