Your business, your rules: Exploring the versatility of UiPath Automation Suite

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Introduction: The UiPath Business Automation Platform

Embracing cutting-edge AI-powered automation, fueled by robotic process automation (RPA) and allied technologies such as machine learning and natural language processing, becomes pivotal in propelling successful business transformation. The strategic choice of a versatile, rapidly deployable, and cost-efficient automation platform stands as a key determinant of success. For organizations aiming to automate business processes at an enterprise scale, a pivotal decision is how to deploy their automation platform. UiPath Business Automation Platform, an AI-powered, holistic, and seamlessly integrated solution not only meets but surpasses the prerequisites of the automation lifecycle at enterprise scale. From inception and development to seamless deployment and governance, the comprehensive UiPath Platform empowers organizations to harness automation's true potential.

Flexible deployment options to suit your needs

UiPath follows a principle of cloud-first customer choice, enabling customers to deploy the platform based on their policy and preferences. Although there are unique drivers and factors in every deployment, UiPath offers the following broad framework for customers to consider:

Automation Cloud

(SaaS)

This option offers the fastest time to value, the lowest cost of ownership, and the best ROI for most UiPath customers. This is especially true in the earliest phases of the ownership cycle, where installation costs and timeframes are minimized. Ongoing management needs and costs tend to be lower over time, and new capabilities are available sooner due to frequent updates with fewer integration and installation considerations. *For these reasons, we recommend Automation Cloud as the deployment choice wherever possible,* including for UiPath customers currently running standalone-installed servers who want to move to a full-platform solution.

Automation Suite

(on-premises, private or public cloud self-hosting)

This option is available for organizations who want an "Automation Cloud-like" full-platform experience but who have compelling reasons to avoid the SaaS model. As a completely self-hosted enterprise platform, Automation Suite is essentially "Automation Cloud in a box." It is designed for organizations that choose not to adopt a SaaS-based automation strategy. Automation Suite delivers many of the integration and platform benefits of Automation Cloud, while offering complete control of the entire environment, including the infrastructure itself.

No self-hosted solution can match SaaS in areas such as time-to-value and cost profile. Although Automation Suite has been designed with innovations to simplify implementation and maintenance wherever possible, choosing Automation Suite over Automation Cloud does require a more sophisticated implementation process and significant ongoing operational commitment. Therefore, UiPath experts recommend that organizations thoughtfully explore the Automation Cloud (SaaS) deployment option, emphasizing its significant potential for transformative benefits.

Automation Suite: Two full-platform delivery options, one logical model

If you have determined that self-hosting aligns with your organizational needs, it's crucial not to compromise on the capabilities and performance of the UiPath Business Automation Platform in areas such as integration, functionality, and security, that are synonymous with a cloud-first SaaS approach. This is where UiPath Automation Suite is the optimal solution.

In designing Automation Suite, UiPath followed the same logical, cloud native product architecture and behaviors as Automation Cloud. The functional characteristics are similar across both modes, but each has specific optimizations and tooling for its intended use case.

While many customers opt for the speed, simplicity, and cost profile of Automation Cloud, Automation Suite offers powerful self-hosting options in multiple alternative configurations for those who need a tailored approach, including:

- Installation on existing Azure Kubernetes Service / Elastic Kubernetes Service (AKS/EKS) in public cloud environments

- Installation on physical or virtual hardware running Red Hat Enterprise Linux (RHEL)

- Internet-connected or air-gapped configurations

- Eval mode (single-node) or production-ready multi-node configurations

Automation Suite includes many capabilities of UiPath Automation Cloud not previously available for self-hosting, including:

- All server products available in one suite*—making products such as Automation Hub and Process Mining available for self-hosting for the first time

- A single technical infrastructure including UiPath Portal and platform services across all products for tenants, authentication, and licensing

- A single installer that includes essential management tools and optionally featuring embedded Kubernetes for installations not on existing AKS/EKS infrastructure

Note: At present Communications Mining, Integration Service, and Studio Web are not included in Automation Suite.

Key considerations in the choice of Automation Suite

- The organization needs to control the entire environment and infrastructure and is prepared for the increased technical complexity and cost associated with self-hosting.
- The organization has regulatory or compliance restrictions that don't allow for a cloud-based, SaaS approach and requires all components to be on-premises.
- The organization wants a completely air-gapped solution with no interaction with outside infrastructure and applications.

Key capabilities

Automation Suite is the UiPath Platform of choice for a self-hosting experience with lower complexity and TCO than standalone product installation and maintenance—and to simplify the transition between on-premises and SaaS deployments as customer needs change.

In the past, organizations that chose to self-host UiPath products have usually installed individual server products "standalone" on-premises and managed them individually. However, the complexities of this approach multiply when additional products are needed:

- Each product requires its own deployment, with dedicated hardware and system software

- Platform capabilities such as role-based access control, licensing, and reporting are managed at a per-product level

- Products must usually be configured to connect to each other, and serviced/updated and monitored independently

To simplify self-hosting, UiPath built Automation Suite to offer its products in one package, including:

- Shared suite capabilities that enable automatic integration between products and centralized administration of users, licensing, and tenants

- Built-in enterprise capabilities such as high availability architecture, disaster recovery solutions (including Active/Passive configuration), backup/restore functionalities, and pre-configured monitoring and alerting tools

The following products are part of the Automation Suite bundle:

- Action Center
- AI Center
- AI Computer Vision
- Apps
- Automation Hub
- Automation Ops
- Data Service
- Document Understanding
- Insights
- Orchestrator
- Automation Suite Robots
- Process Mining
- Task Mining
- Test Manager

Deployment flexibility: Tailoring Automation Suite to your needs

Recognizing the unique needs, capabilities, and limitations of each organization, UiPath has meticulously crafted two specialized deployment options for the Automation Suite:

- Automation Suite on Azure Kubernetes Service / Elastic Kubernetes Service (AKS/EKS)

- Automation Suite on Linux

These options are designed to accommodate the diverse range of infrastructures and levels of IT expertise found across businesses. The overarching goal is to provide a consistent and seamless automation experience to every business, regardless of their existing IT infrastructure, fostering accessibility and adaptability in the automation journey.

Automation Suite on Azure Kubernetes Service / Elastic Kubernetes Service (AKS/EKS): Bring your own Kubernetes cluster

For organizations that prefer to use their existing Kubernetes environment for greater control and flexibility, UiPath offers Automation Suite on AKS/EKS. Certain enterprises have adopted specific flavors of Kubernetes (K8s) as their standard, allowing only these versions within their IT environments. Such organizations possess in-house expertise and extensive knowledge of their existing Kubernetes environment and infrastructure. With this option of Automation Suite, you can leverage your AKS/EKS infrastructure and expertise, your managed cloud for storage, and any third-party components you prefer. Automation Suite on AKS/EKS also empowers you to leverage your current infrastructure investments, especially concerning Kubernetes (K8s) and associated standard operating procedures (SOPs).

Automation Suite on AKS/EKS is designed exclusively for businesses wanting to streamline their Kubernetes cluster management for Automation Suite. Within this offering, we've

organized the stacks into three distinct sections:

- **UiPath managed:** This segment is comprised of UiPath optimized services and components tailor-made for Automation Suite These resources are not only provided by UiPath but also fully supported, ensuring a seamless experience.

- **Optional to install:** For those who already have these components pre-configured within their Kubernetes clusters, you have the flexibility to skip the installation process via Automation Suite. By doing so, you take charge of managing the lifecycle of these components and maintaining control over your environment.

- **Customer-managed:** This section outlines the prerequisites necessary for deploying Automation Suite on your cloud infrastructure. Here, you assume the role of manager and provider, taking charge of your cloud's maintenance and support, particularly in supported AKS/EKS configurations.

With these options, we aim to empower your business with the flexibility and control to optimize your Automation Suite deployment according to your specific needs and resources.
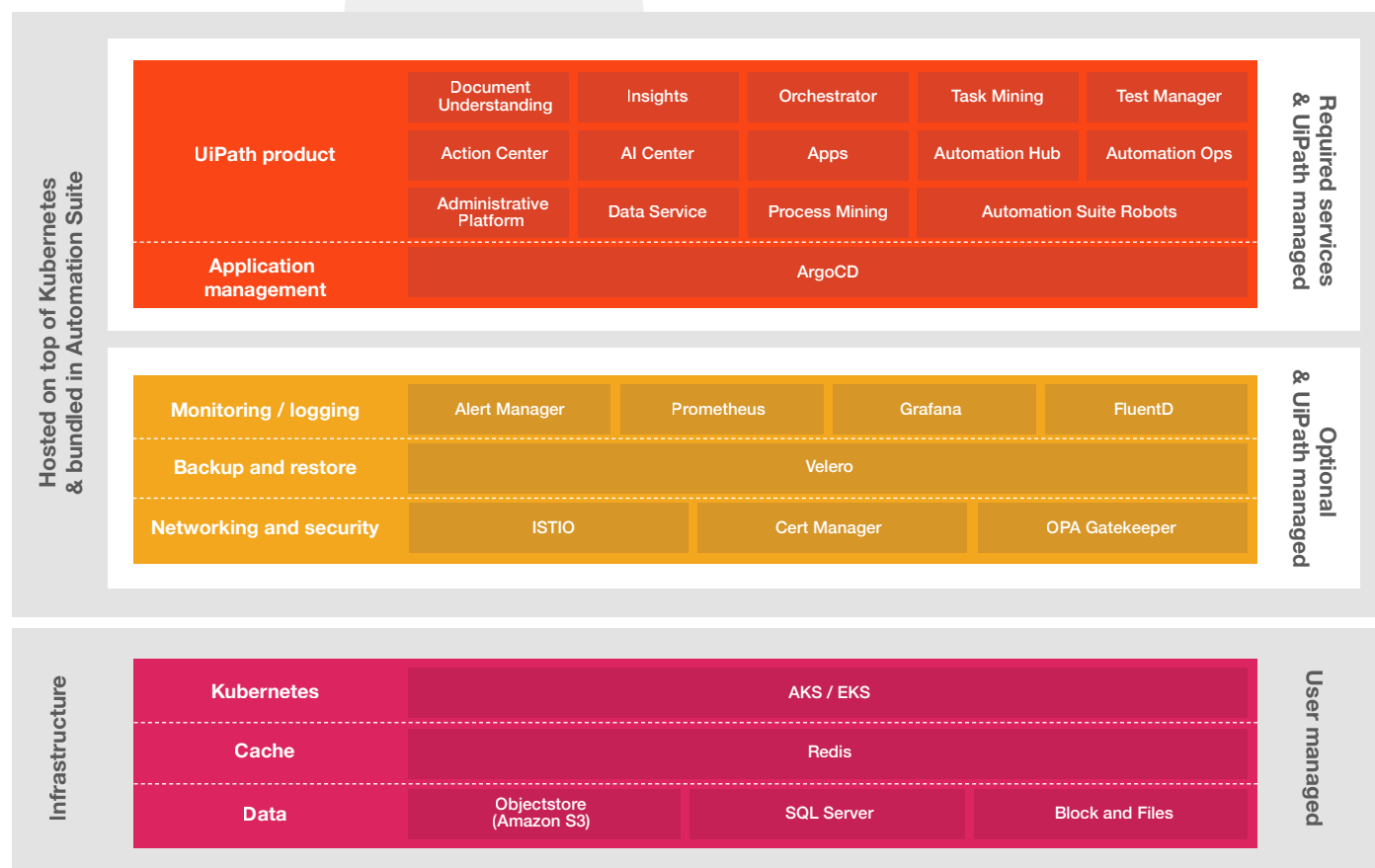
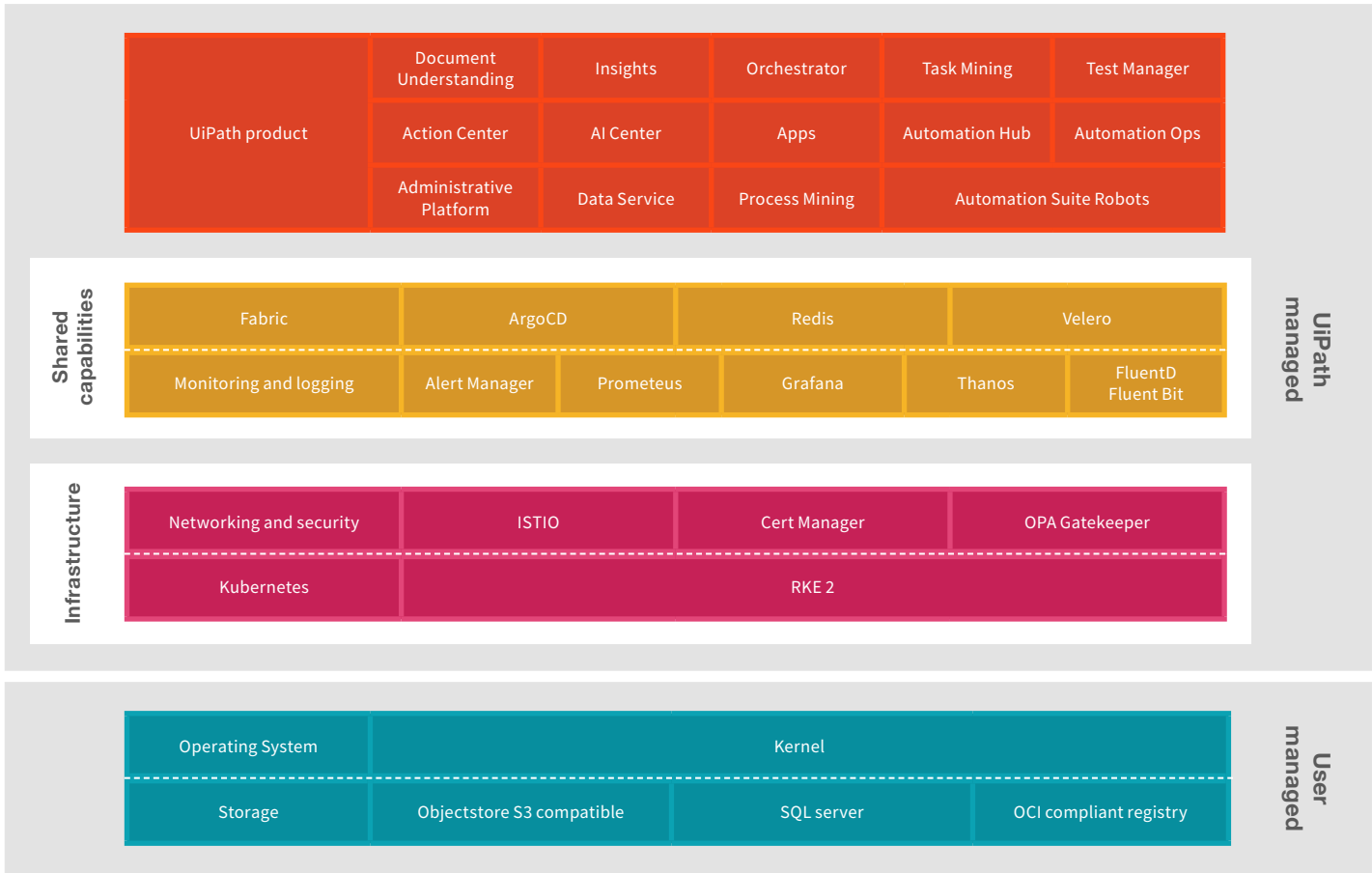*High-level architecture of Automation Suite on AKS/EKS*

Automation Suite on Linux: "Kubernetes inside"

Kubernetes (K8s) remains an evolving technology, adopted to varying extents across customer environments. When Automation Suite was initially introduced, our aim was to ensure applicability across diverse IT environments, particularly Linux. Consequently, Automation Suite embedded all essential dependencies, including K8s, management and monitoring for Kubernetes and other platform components, meticulously optimized and validated to host UiPath products. This strategic approach allows customers to seamlessly install packaged software on Linux machines, guaranteeing full support from UiPath. With the "embedded" deployment option for Automation Suite, UiPath has already completed the bulk of the required integration work, including containerization of the products and provisioning of the entire Kubernetes stack. This means you can install everything once with Kubernetes infrastructure and tools embedded (in Linux), which also simplifies ongoing upgrades and patch management. UiPath performs the needed validation and compatibility checks. This

approach also includes pre-built, pre-installed integrations for third-party applications. UiPath provides end-to-end support for this option and acts as a single point of contact for the resolution of any issues.

The architecture of Automation Suite on Linux offers two distinct sections:

- **UiPath managed:** This category encapsulates UiPath's finely tuned services and components, exclusively designed for the Automation Suite. This encompasses robust monitoring and logging capabilities, along with the underlying infrastructure for network and security. These resources, not only supplied by UiPath but also fully supported, offer a smooth and reliable experience.

- **Customer-managed:** In this section, we delineate the components necessary for deployment within your infrastructure. You can capitalize on the flexibility of utilizing your Amazon S3-compatible Object store/Azure Storage and an SQL server. Additionally, you have the option to bring your own OCI-compliant Docker registry, providing a tailored approach to suit your specific needs.

Category					
UiPath product	Document Understanding	Insights	Orchestrator	Task Mining	Test Manager
	Action Center	AI Center	Apps	Automation Hub	Automation Ops
	Administrative Platform	Data Service	Process Mining	Automation Suite Robots	

Shared capabilities (UiPath managed)

Fabric	ArgoCD	Redis	Velero
Monitoring and logging	Alert Manager	Prometeus	Grafana	Thanos	FluentD Fluent Bit

Infrastructure (UiPath managed)

Networking and security	ISTIO	Cert Manager	OPA Gatekeeper
Kubernetes	RKE 2		

User managed

Operating System	Kernel		
Storage	Objectstore S3 compatible	SQL server	OCI compliant registry

High-level architecture of Automation Suite on Linux

Business automation continuity with Automation Suite

UiPath places a strong focus on maintaining uninterrupted business automation. Automation Suite is designed to withstand potential failures, whether they occur at the node-level, data center, or even across different regions. When we discuss availability within the context of Automation Suite, it encompasses two crucial deployment configurations: high availability (HA) and disaster recovery (DR).

High availability

The focus here is maintaining uninterrupted business operations, regardless of any potential disruptions. UiPath works to ensure that our services remain accessible even when one or more nodes within the Automation Suite cluster encounter issues.

Disaster recovery

This dimension focuses on our ability to swiftly restore the entire system with minimal data loss following a catastrophic event. Disaster recovery breaks down into two key components:

- **Active/passive configuration:** To ensure high resilience, it's essential to configure Automation Suite in a multi-site deployment mode with an active/passive setup. By deploying Automation Suite on Linux in active/passive mode, you can achieve enhanced disaster recovery capabilities and be better equipped to withstand the failure of nodes, entire data centers, and even regions.

- **Backup and restore:** Even if a secondary cluster is not in place, the backup-and-restore mechanism ensures that the cluster can be rebuilt using backed-up data within a minimal recovery time objective (RTO).

These aspects of availability collectively fortify Automation Suite, ensuring it remains robust and resilient in the face of various challenges, from node failures to catastrophic events, thus safeguarding business continuity and data integrity.

Security and governance

You can install everything in the Automation Suite package or choose the services you want. All the tools for monitoring, alerting, and backup are included, and you can integrate them with external systems using the following service-design principles:

- **Data encryption:** All data is transmitted over protected channels. Installations can be customized to only allow specific versions of SSL/TLS and specific ciphers. The use of transparent data encryption for SQL Server is also supported for data-at-rest encryption of application data. Environmental secrets for Kubernetes are encrypted at-rest by default.

- **Identity and access management:** Automation Suite supports account creation through a variety of identity service providers, such as Active Directory (AD), Microsoft Entra ID (previously Azure AD), Google Auth, federation via SAMLv2, and through native accounts. After account creation, our services manage a given user's access rights using application-managed, role-based access control checks. With tenant management in Automation Suite, you have RBAC controls available for a seamless experience when managing user roles and access.

- **Tenant and organization data isolation:** You can define separate organizations each with their own administration, data, users, and licenses. From within an organization, you can further define tenants. Data from each tenant is logically separated from others in our service so UiPath can enforce access and authorization controls for all tenants as they access data inside our service.

- **Logging:** Automation Suite includes several levels of logging that align with the levels of hierarchy available in the product. Audit logs are available at both the host level and the individual organization level. These audit logs will capture login and administrative events such as changes in licenses, settings, and accounts. Additional logging is available per product within Automation Suite that is best suited for that individual product.

- **Monitoring:** Automation Suite includes several tools for monitoring the health of the underlying components. These include the ability to create customized alerts and send them to a centralized source.

Compliance practices

UiPath addresses the following aspects of security and compliance to uphold the highest standards for data security, privacy, and availability:

- **A secure development life cycle:** The UiPath security and development teams address security threats throughout the development process of UiPath Automation Suite. Teams perform threat modeling during service design. They adhere to design and code best practices and verify security in the final product using a multi-pronged approach that leverages internally built tools, commercial static and dynamic analysis tools, internal penetration testing, and external bug bounty programs. UiPath also monitors vulnerabilities introduced in our code base through third-party libraries and minimizes our dependency on these libraries and corresponding exposure. Because the security landscape is continually changing, our teams stay current with the latest in best practices. We also enforce annual training requirements for all engineers and operations personnel working on UiPath Automation Suite. UiPath is also committed to addressing all vulnerabilities that may be reported to us.

- **Release cadence and patching:** Previously, UiPath issued two major releases each year, one in the spring around April and one in the autumn around October. Going forward, a new version of Automation Suite will be released once a year. The release will offer new features and functionality. Additionally, patches are released every two months for updates and bug fixes. Security fixes are rated by the severity of the vulnerability they are fixing using CVSS. They may be included in a regular patch or an out-of-band hotfix release if the next patch cycle is too far away.

- **Compliance certifications and attestations:** UiPath has obtained the ISO 27001:2013 certification (including alignment with the additional control sets for ISO 27017:2015 and ISO 27018:2019) for our information security management system (ISMS) and the ISO 9001:2015 certification for our quality management system (QMS). Automation Suite on AKS can be installed on FIPS 140-2 enabled nodes. You can review our Trust Portal for reference. While not specific to this product, UiPath has also obtained a SOC 2® type 2 report that can be shared with customers and prospects under NDA. UiPath will continue to obtain SOC 2® Type 2 reports indefinitely.

Shared responsibilities for Automation Suite administration

Automation Suite deployment is versatile, spanning Linux environments from bare metal machines to on-premises virtual machine infrastructures, as well as cloud subscriptions with major providers. To empower administrators to effectively manage Automation Suite on Linux, we recommend the following competencies:

- Linux system administration skills

- Network management skills for configuring DNS, load balancers, managing certificates, enforcing security policies, maintaining firewalls, and other components

- Basic Kubernetes competency (enough to help troubleshoot)

- SQL Server competency

- Experience with major cloud providers (such as AWS, Azure, and GCP) for a cloud-based deployment

To provide clarity on the UiPath role in various deployment activities and delineate responsibilities between UiPath and the customer for both Automation Suite options, we've developed a Responsibility Matrix. This tool serves as a guide, aiding in your preparation and outlining the necessary steps for a seamless deployment of Automation Suite.

Responsibility Matrix for Automation Suite on AKS/EKS

If your organization lacks any of these essential competencies, we suggest considering Automation Cloud. Should you choose to proceed with Automation Suite, you have the option to engage our Professional Services team or partners to assist with deployment and management. For further information, please contact your account managers or UiPath support.

Note: The suggestions offered here are merely recommended guidelines. Depending on your deployment type and the involvement of third-party products, you may require additional competencies.

Best practices and tips for implementation

Automation Suite is a new server deployment with rich embedded capabilities in cluster management and monitoring. As a result, a successful deployment may require some additional education and preparation. UiPath recommends the following approach in planning an Automation Suite deployment:

1. Engage your infrastructure and security teams in the initial stages of deployment to proactively address any potential obstacles they might encounter. This collaborative approach ensures a smoother deployment process and minimizes disruptions.

2. Read the online help to familiarize yourself with the Automation suite products, capabilities, and deployment option specifics.

3. Identify the products desired to be part of the initial deployment and expected usage.

4. Use the online capacity planning calculator to identify the hardware resource needs for the deployment.

5. Acquire the necessary hardware and ensure all prerequisites are in order, encompassing DNS configuration for the deployment URL, certificates, and load balancers. These elements are vital for a seamless production deployment, and having everything prepared during installation will contribute to a more efficient and hassle-free process.

Before deployment, it's prudent to perform a comprehensive pre-deployment prerequisites check. This step ensures that all essential conditions are met, laying the foundation for successful implementation.

Conclusion

With Automation Suite, you have access to the full UiPath Business Automation Platform—or just the components you need—in a single, self-hosted package. This containerized version of the UiPath platform offers shared suite capabilities and pre-built integration between UiPath products, with centralized management of user administration, licensing, and tenants—and the highest levels of security and governance. You have full deployment flexibility from public cloud to air-gapped on-premises, with end-to-end support from UiPath.

For more information:

Visit our online Automation Suite Admin Guide

Read Automation Suite Documentation

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