Cloud Automation Use Cases

Across and between cloud, multi-cloud, hybrid cloud, and containerized microservices environments

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> "Siloed automation programs work when targeting on-premises servers, mainframes, and applications. However, the cloud (both public and private) added a whole new layer of complexity, requiring organizations to think through how they orchestrate automated workflows that span between both on-premises and cloud environments."
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> Stonebranch *2022 Global State of IT Automation* Report
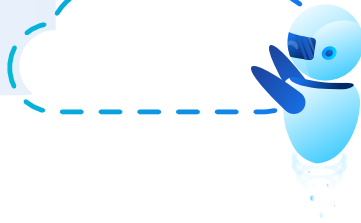
10 years ago, automation was almost exclusively done on-premises. Today, more than 90% of enterprises use multiple public and private cloud service providers (CSP), in addition to their on-premises systems.

This dramatic shift to the cloud has its advantages: unlimited storage, improved backup and data recovery, convenient as-a-service licensing, and enhanced employee and customer touchpoints. But for all its benefits, there's no mistaking the inherent complexity that comes with the cloud, such as multi-cloud environments, cloud infrastructure, hybrid cloud data transfers, cloud migrations, containers and microservices, and cloud infrastructure-as-a-service.

It's certainly possible to automate each of these activities individually. But by centrally orchestrating these tasks, transfers, workflows, and schedulers with a **service orchestration and automation platform** (SOAP), you minimize complexity — and maximize return on investment for your existing systems — without having to re-architect anything.

Let's explore how a SOAP like the Stonebranch Universal Automation Center (UAC) can help manage the complexities of the cloud.

Common Cloud Automation Use Cases

Multi-Cloud Orchestration

Automate and schedule workloads in Amazon Web Services (AWS), Google Cloud Platform (GCP), and Microsoft Azure. Break down silos with workflows that connect CSPs, SaaS, and on-premises applications.

Multi-Cloud Data Transfer

Transfer data directly to, from, and between one cloud bucket to another — without redundant intermediate storage. Enable real-time workflows that span CSPs, SaaS, and on-premises applications.

Hybrid Cloud Data Transfer

Schedule and move data between on-premises and cloud enviornments — in real-time. Connect legacy on-premises applications to modern cloud applications.

Cloud Infrastructure Automation

Automate remote server provisioning and configuration (infrastructure as code). Schedule third-party, pure-play integration management solutions like Ansible, Puppet, and Terraform. Redirect overflow traffic with cloud bursting.

Simplify Cloud Migrations

Use a single solution to automate on-premises and cloud resources. Automatically register and allocate resources at runtime.

Containers/Microservices Automation

Deploy agent technology in containers to connect containerized microservices to apps and databases outside the container. Combine with scheduling technology to deploy containers and trigger jobs.

Cloud Infrastructure-as-a-Service (Cloud IaaS)

Empower non-IT staff to turn cloud infrastructure on and off — while still maintaining central control and visibility. Reduce the burden on your helpdesk and control costs by using a templated approach.

Multi-Cloud Orchestration

When people think of a multi-cloud approach, they typically refer to a mix of major public CSPs, namely AWS, GCP, and Microsoft Azure.

While the above is correct, the cloud is also made up of a myriad of non-CSPs. Examples include SaaS tools, cloud storage, infrastructure management, cloud-native database tools, and a whole lot more.

The trick to automation in the cloud is finding an orchestration platform that allows you to connect each system, service, or application. Once integrated, that platform can centralize the management of all automated cloud processes — enabling workflows that span across and between your multi-cloud environment. And by connecting automated processes, enterprises can do everything from move data in real-time, to automate backup systems, to connect the dots between otherwise siloed cloud IT applications and processes.

Multi-cloud data transfer: connect the dots between clouds in real time, without redundant intermediate storage.

The Stonebranch UAC allows users to move data to, from, and between any of the major private and public cloud providers, as well as popular cloud applications and distributed file systems. It's easy to connect to any cloud solution using pre-built integrations. In addition, data can be moved in real-time based on system events. Say goodbye to time-based batch automation.

On-Premises
aws

Public Cloud

Public Cloud

SaaS
Applications
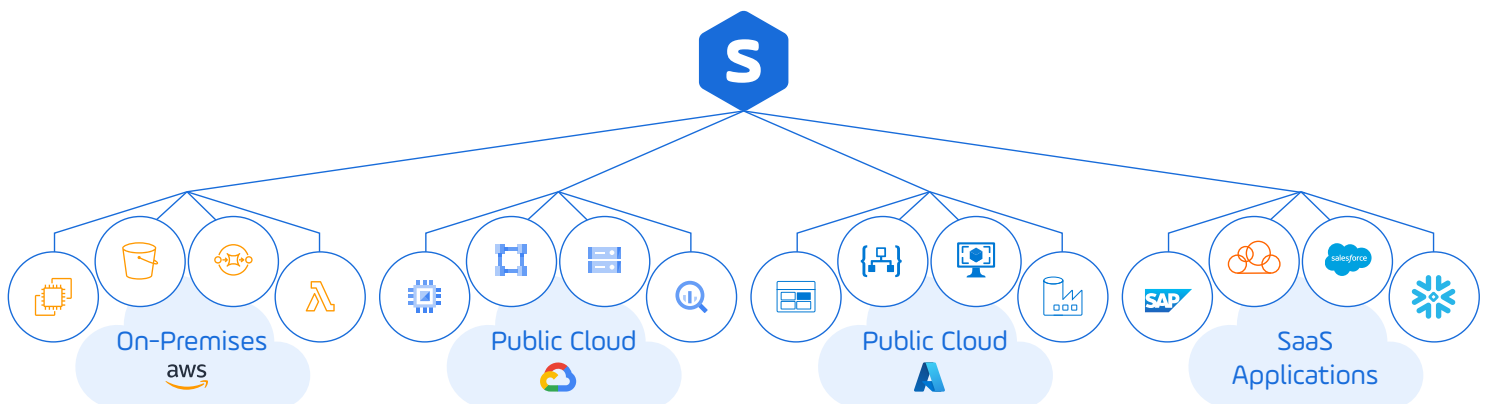
Hybrid Cloud Data Transfer

One of the biggest challenges companies face in a hybrid cloud setup is moving data between their on-prem environment and cloud service providers. This is especially true when you store data on-prem that is regularly used by applications in the cloud, or vice-versa.

Centrally manage data transfers and updates between legacy on-premises systems and modern cloud applications — in real time.

Securely transfer data between:

- Local systems like file servers, mainframes, and SANs
- Cloud service providers such as AWS, Azure, and GCP
- Cloud storage platforms including Dropbox, SharePoint, Hadoop, and OneDrive
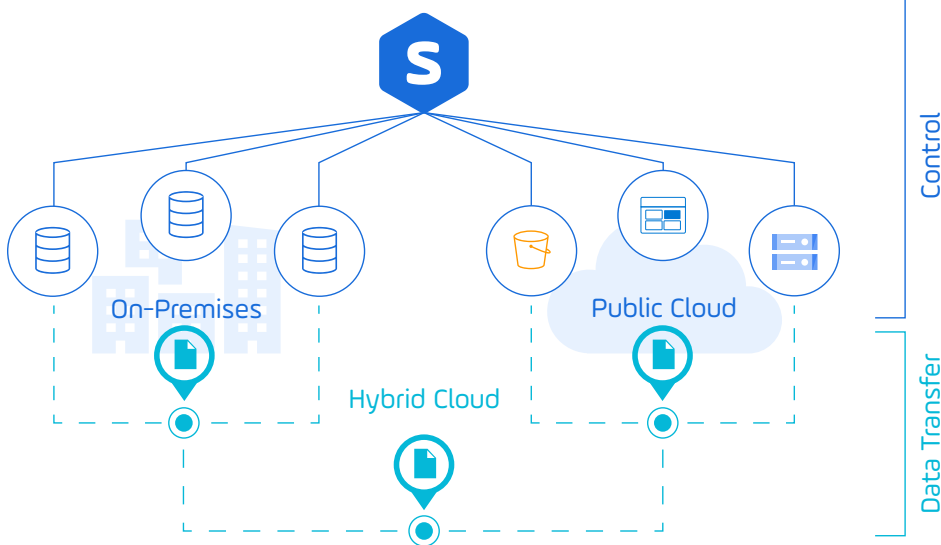
Integration Spotlight
Inter-Cloud Data Transfer

Stream data from one object store to another without intermediate storage.

- Supports encryption, caching, compression, and chunking.
- Preserves timestamps and checksums.
- Dynamic token updates for SharePoint connections.

On-Premises

Public Cloud

Hybrid Cloud

Control

Data Transfer

Cloud Infrastructure Automation

There's no shortage of automation and integration solutions out there. You probably already have an in-built scheduler for one specific kind of task and an open-source scheduler for another. You may even be using the cloud scheduler offered by each of your CSPs, as well as your legacy job schedulers for on-prem systems. But none of these tools enable your entire IT system to work as one unified force.

Quickly provision, configure, and deploy complex infrastructure services across your hybrid environment.

There are two primary ways UAC does this:

1. Meta-orchestrate workflows that connect pure-play integration management solutions like Puppet, Chef, Ansible, and Terraform with each other and your broader IT environment.

2. Directly automate and schedule workloads across CSPs when there are no pure-play integration management solutions in place. Simply connect UAC to AWS, GCP, and Azure, then create workflows using infrastructure-as-code.
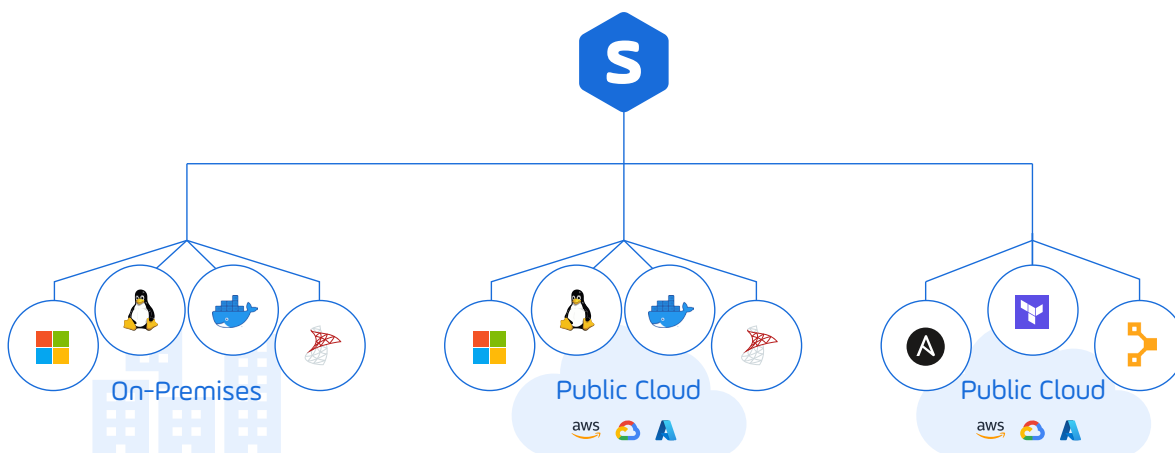
Integration Spotlight
Ansible: Execute and Manage Playbooks

Red Hat Ansible

Execute Ansible playbooks and run other Ansible modules or commands directly from the UAC's intuitive interface.

Automated Process Example

Stonebranch UAC monitors cloud utilization, then automatically provisions new instances when demand peaks, redirects overflow traffic, and de-provisions those instances when demand wanes.

On-Premises

Public Cloud

Public Cloud

Simplify Cloud Migrations

Nearly all enterprises have some sort of cloud footprint today. That said, migration to the cloud is an ongoing, often multi-year initiative.

Traditionally, each modification to IT infrastructure meant rebuilding automations from scratch to ensure critical tasks are executed in the correct environment. Manually re-calibrating workload definitions in this way is both time-consuming and resource intensive.

Move workloads to the cloud — without ever missing out on the benefits of automation.

The Stonebranch UAC offers real-time automation based on event triggers that allocate the resources needed to execute workloads at runtime — without ever changing workload definitions. In other words, the right resource is called up only when it is needed, and actions are performed on it only when certain criteria are met.
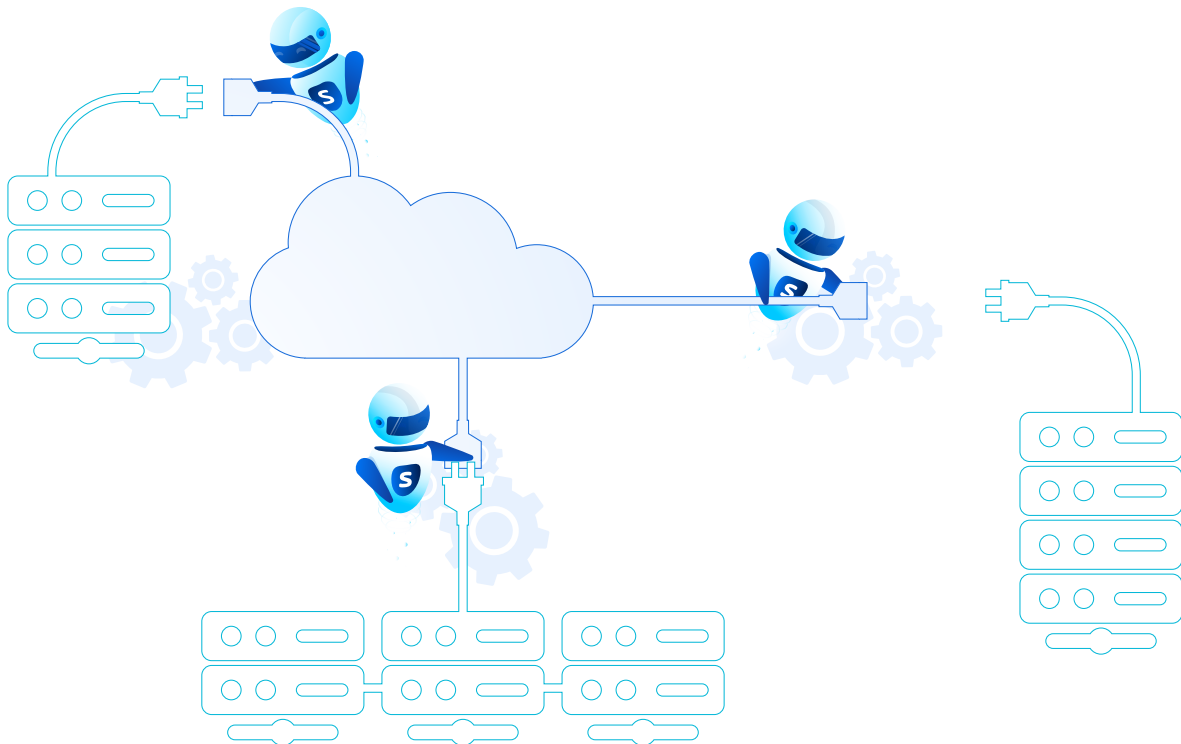
Containers/Microservices Automation

With the rise of containerization and microservice architectures, applications are stripped down to specific functions for temporary usage. These transient environments (and their related management platforms) can be difficult to coordinate without a centralized automation solution.

Seamlessly orchestrate containers as part of larger automated workflows. Plus, easily connect to and automate applications within a container.

The Stonebranch UAC centralizes the orchestration of container deployment and automates containerized applications by integrating with Docker and Kubernetes, as well as container management platforms like Red Hat OpenShift.
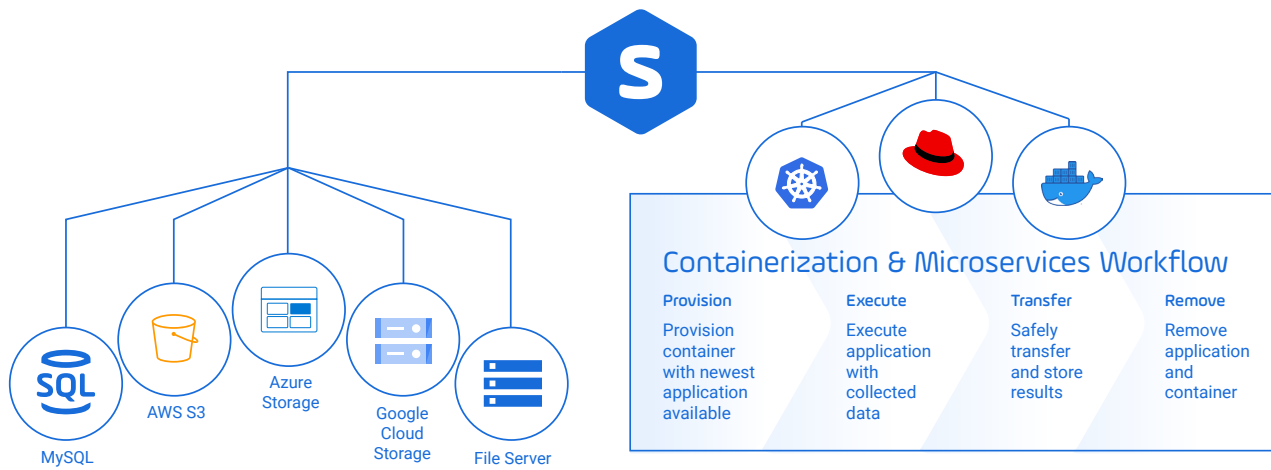
UAC integrations deploy within a container to (1) automate within the container, and (2) connect to broader workflows across multiple on-prem and cloud applications and systems. These workflows include real-time container deployment, data transfer to and from containers, and container removal.

Integration Spotlight
Dynamic Container File Monitoring and Transfer

Monitor and transfer files for containerized applications running in any container-management solution.

- Launch agent file-monitor triggers when specific containers start.
- Transfer files to or from a container.
- Clean up agent file-monitor triggers when specific containers stop.

Containerization & Microservices Workflow

Provision
Provision container with newest application available

Execute
Execute application with collected data

Transfer
Safely transfer and store results

Remove
Remove application and container

MySQL
AWS S3
Azure Storage
Google Cloud Storage
File Server

Cloud Infrastructure-as-a-Service (Cloud IaaS)

Business users have historically relied on IT to manage infrastructure and automation for specific tools and platforms. Manual interventions and ticket management tasks are an unnecessary burden on helpdesk and cloud service teams, especially when there are so many other priorities that can't be automated.

Empower non-IT staff to turn cloud infrastructure on and off — while still maintaining central control and visibility.

Allow end-users, including developers, data teams, and even business users, to spin up temporary cloud infrastructure. The best part is they can do it with the tools they natively use every day — including Teams, Jira, Slack, and ServiceNow.

Meanwhile, operations teams gain a whole new level of cost-control and visibility with:

- Templated virtual machine (VM) deployments standardized for any public or private CSP
- Proactive control of resource consumption costs through pre-approved templates that match specific end-user scenarios (versus arbitrarily spinning up too much or too little cloud space)
- Workflows designed to manage the entire infrastructure lifecycle, including shutting down infrastructure to reduce VM sprawl

As a win-win for everyone, end-users gain speed while operations gain a whole new level of control.
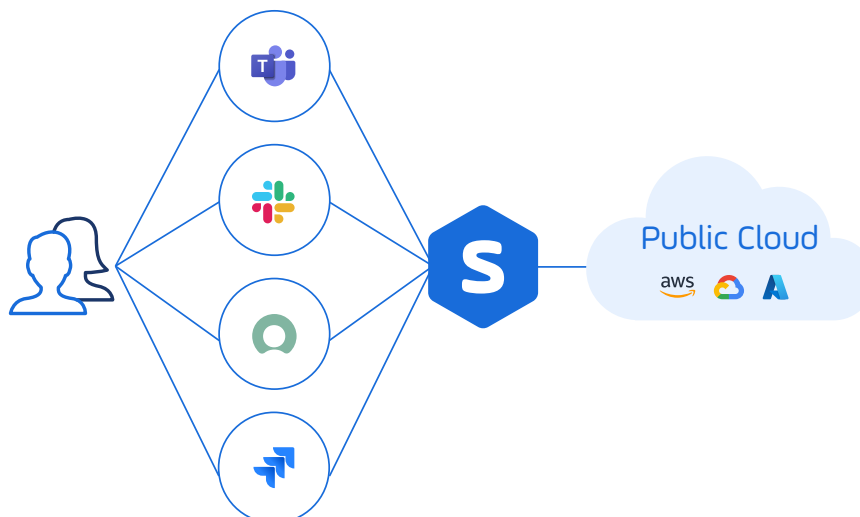
Integration Spotlight
Self-Service Automation via Teams and Slack

Send notifications to citizen automators in the apps they use most and allow them to send approvals back the same way.

- Notify users of job failure, late start/run, and other important events.
- Resume interrupted workflows by responding to the approval message in Teams or Slack.

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Integrations: For Whatever Comes Next

There's no denying that today's IT environments are complex, but that's no reason to settle for disconnected data and workloads, random acts of automation, or unnecessary manual interventions.

Unify and orchestrate automation workflows throughout your multi-cloud and hybrid IT environments.

The Stonebranch UAC offers pre-built integrations for cloud service providers, infrastructure management tools, and SaaS applications. Visit the **Stonebranch Integration Hub** to learn more.

Cloud Platform	Containers	Infrastructure	Managed File Transfer
Big Data Pipeline	DevOps	Self-Service	UAC Utilities
Application	Database	IT Service Management	All Integrations

Stonebranch Universal Automation Center

UAC is designed for today's challenges and whatever comes next.

- Integrate and control any cloud service provider, SaaS application, or infrastructure management platform
- SaaS-based or on-prem deployment options
- Intuitive web-based drag-and-drop workflow creation
- Native Managed File Transfer (MFT)
- DevOps lifecycle management with built-in dev, test, prod promotion
- Pre-built integrations for CSPs, infrastructure management tools, and SaaS applications
- Role-based access to support collaboration between cloud architects, developers, IT Ops, and more

To learn more, browse through our **customer success stories**, fill out a **contact form**, or reach out to the Stonebranch sales team for a **demonstration** of the platform.

Workflow Automation & Orchestration

Self-Service Automation

Event-Driven Automation

Infrastructure & Service Automation

Analytics & Visibility

Manage Data Pipelines

About Stonebranch

Stonebranch builds IT orchestration and automation solutions that transform business IT environments from simple IT task automation into sophisticated, real-time business service automation. No matter the degree of automation, the Stonebranch platform is simple, modern, and secure. Using the Stonebranch Universal Automation Platform, enterprises can seamlessly orchestrate workloads and data across technology ecosystems and silos. Headquartered in Atlanta, Georgia, with points of contact and support throughout the Americas, Europe, and Asia, Stonebranch serves some of the world's largest financial, manufacturing, healthcare, travel, transportation, energy, and technology institutions. For more information about Stonebranch, visit **www.stonebranch.com**.

UAC works in hybrid IT environments across multiple platforms and business applications in real-time. Available on-premises or as a SaaS-based deployment, the UAC is a modern platform built to scale with your business.

To learn more about how an automation platform can drive your business forward, contact us today.

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