

Enabling data and analytics in the cloud

What's required – and why companies choose SAS® Managed Application Services to ensure their success



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Can your IT meet growing demands for analytics across the enterprise?

Organizations that can interpret and analyze enterprise data are equipped to win in the digital economy. They can empower people at all levels to make better decisions faster - even in real time. They can uncover ways to improve cost efficiencies and even automate processes with intelligent analytics. They can forecast and simulate scenarios to understand markets, drive strategy and respond effectively to threats, opportunities and changes. They can gain a holistic view of the business, monitoring and adjusting operations to maximize performance.

Every line of business has different analytics needs, which complicates things for today's busy IT departments. Each department head looks to IT to support their departmental needs with separate, standalone systems. Over time, this leads to large numbers of systems for IT to deploy, administer, secure and support. When IT departments can't meet requests quickly enough, departments can go rogue, procuring an on-premises or cloud application on their own and creating even more headaches and organizational risk. In our work with IT departments around the world, this is not uncommon. It's clear that IT leaders want to meet the growing demand for analytics within their enterprises, but they need a faster, easier way to deliver what's needed now - and in the future.

Sound like a familiar story? You're not alone. Deployment delays and maintenance and upgrade issues can create significant IT and analytics debt that impedes your organization's ability to be creative, agile and innovative. The longer you wait to deliver on new analytics capabilities - whether your organization is new to analytics or a mature organization seeking to reap the benefits of the latest innovations - the more your business will struggle to keep pace with innovation and compete successfully in today's digital economy.

Managing analytics in the cloud: Simplifying the analytics journey

The good news is that running analytics software in the cloud can vastly simplify the deployment, maintenance and adoption of analytics across the enterprise. It will support innovation, ideation, collaboration, sharing and more. This is because the cloud helps users focus on the process of analytics itself, while removing the internal challenges of getting environments up and running and simplifying access to software, thus increasing the speed of innovation.

In this way, analytics managed in the cloud drives business innovation and reduces technical debt by lightening the IT burden and providing business users the analytics technology they need affordably and quickly. Deployed effectively, analytics managed in the cloud can help alleviate performance and scalability issues that hurt adoption and frustrate users, as the cloud enables almost limitless scale and processing power when and where you need it.

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When you manage analytics in the cloud, it can also vastly accelerate how quickly and securely you can deliver ready-to-use analytics solutions, which is vital to reducing technical debt. Setting up a working, highly secure analytics platform on your own is a high-effort endeavor that can take months. Instead, IT can hand over the data processing, setup of the analytics environment and other redundant responsibilities to a cloud service provider to deliver the analytics software business users need quickly.

Then there are the innovation opportunities that analytics managed in the cloud affords. Because new analytics capabilities get released continuously - as they are created rather than as part of big upgrades - you can access new and emerging analytics and AI capabilities quickly. This helps you attract new users and discover new use cases where analytics can add value. You can use analytics managed in the cloud as a sandbox to safely build prototypes for new use cases, demonstrate their value, and roll them out quickly and efficiently.

And finally, managing analytics in the cloud can reduce maintenance hassles and costs - no small thing when it comes to analytics platforms. As with any IT implementation, they can require upgrades and migrations, which can be time-consuming maintenance activities that today's busy IT departments cannot afford. When you outsource this work to a trusted cloud provider, it frees your internal team to focus on other strategic efforts. And you can cut costs because there's no need to budget for IT infrastructure to handle spikes in consumption - you only pay for what you use.

The cloud simplifies - but it is *not* simple

However, managing analytics in the cloud does add another level of complexity to operations - complexity that someone has to manage. Figures 1 and 2 summarize the full range of tasks needed to successfully implement and manage a cloud analytics solution on an ongoing basis.

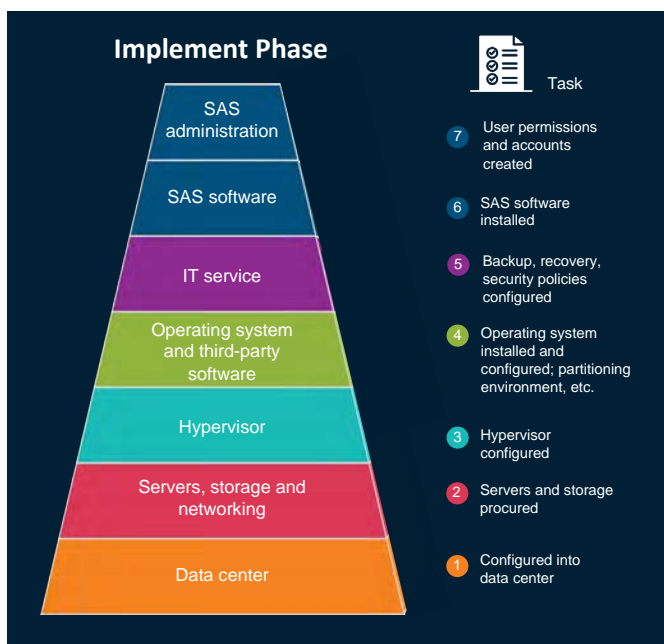


Figure 1: Tasks required to implement a cloud analytics solution.

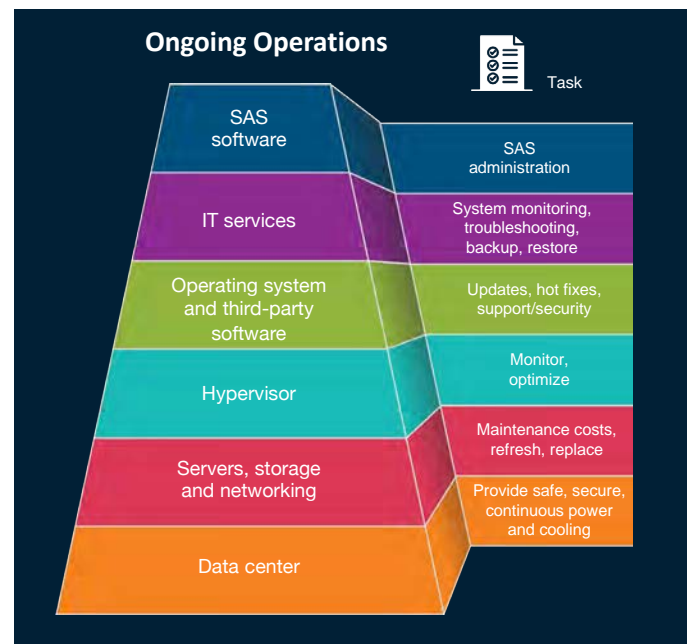


Figure 2: Tasks required to manage a cloud analytics solution.

Handing these tasks over to third-party experts simplifies life for your corporate IT department, no doubt. But what's rarely understood is that the services of public cloud providers such as GCP and AWS aren't sufficient. They provide foundational services only, focusing on the data center (the orange layers in the figures above), and servers, storage and networking (the red layers in the Figures 1 and 2).

In reality, you also need:

- Access to experts in continuous monitoring and optimization.
- Updates and hot fixes for operating systems, security and third-party software.
- IT services for system monitoring, troubleshooting, auditing and backups.
- Day-to-day software administration.

These are not services that public cloud providers typically provide - but they are vital to running your software safely, and with a high level of performance, optimization, security and reliability.

That's why many organizations are seeking to outsource the deployment and ongoing maintenance and management of their cloud analytics solutions to experts - a managed application service provider, such as SAS Managed Application Services. They want experts who not only own and run the physical data center that can host their cloud software but also have the expertise to handle ongoing maintenance, warranty management, infrastructure replacement, storage management and more.

Everything you need from one service provider

The SAS Cloud delivers the value of analytics software in a SAS-managed environment on Microsoft Azure. Flexible deployment models enable you to choose a SAS Cloud offering to meet your organization's unique needs. SAS Cloud helps organizations:

- Deliver value and agility in the fastest time possible to meet your changing business demands.
- Maximize the return on investment in SAS software because you can entrust the installation, configuration and management to the SAS Managed Application Services team.

SAS® Managed Application Services: The premier service in SAS® Cloud

SAS Managed Application Services is our premier service in the SAS Cloud, providing cutting-edge technology combined with dedicated service and support. The vast team of experts that provides these services has been managing solutions in the cloud for more than 20 years and continuously enhancing the service based on emerging technologies, services and security requirements. SAS Managed Application Services helps organizations deliver value to their organization in the fastest time possible, providing a SAS-managed environment on Azure. As a result, you get high availability from an always-on environment with a 99%-plus uptime service level.

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SAS Managed Application Services includes two options:

- **Hosted Managed Services** provides SAS software deployed on Microsoft Azure infrastructure that has been tuned specifically for the solution, with dedicated expertise providing comprehensive service and support across the environment and the complete analytic solution stack.
- **Remote Managed Services** is for customers that are unable to host their solution off-premises. They may have a relationship in place with Microsoft Azure or another preferred cloud provider and unable to move outside of that. SAS Remote Managed Services can remotely monitor and manage your SAS solution on your tenant 24/7, resolving any issues quickly and painlessly, and help you maximize your uptime - with a 99% software availability guarantee.

As explored in the following sections, many teams work globally in different business areas to deliver these services, including account management, architecture and build services teams, data integration and automation experts, and operations administrators. Each team brings deep expertise and extensive experience to the essential services it provides and the tasks it manages.

Exploring the value: A deeper dive into SAS[®] Managed Application Services

To understand the full value of SAS Managed Application Services - and to contextualize and compare their value and costs relative to the limited services from a public cloud provider, let's explore these services in more detail. Figure 3 provides an overview of the primary service areas SAS supports.

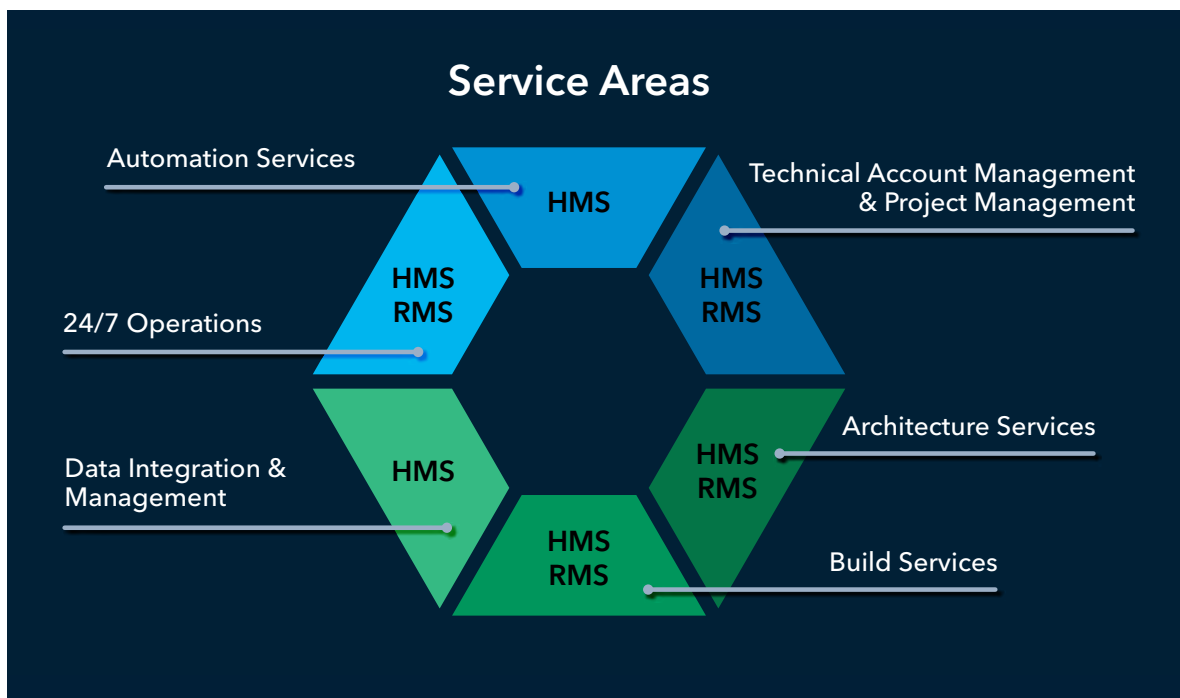


Figure 3: Service areas covered by SAS Managed Application Services.

Project management

With more than 20 years of experience delivering managed application service offerings, the project management team has extensive SAS solution and cloud delivery expertise. They are the key drivers when it comes to delivering value from the managed application service as quickly as possible and removing any project obstacles. The project managers act as the point person during the project delivery phase and ensure that the right SAS resources are available at the right time so that your project delivers value quickly. Since the PMs are involved from the beginning of every engagement, they understand your project's critical success factors and can manage and mitigate risk at the micro level. At the same time, they know when a customer may need more attention, as they have insights based on experience from previous projects and solution deployments.

Technical Account Management Services

While the PM team handles the tactical details, the Technical Account Management (TAM) team is the primary point of contact for all managed application service engagements and operates at a strategic level. The TAMs don't just look at the critical success factors for delivering projects; they also understand the overall customer objectives and look at how to help customers achieve the holistic value they seek.

The TAMs are the customer advocates when it comes to SAS product and service strategies. For example, they look at the SAS portfolio and help customers determine what solutions to deploy to realize optimal performance and growth. The TAMs use data to understand the health of SAS solutions and their supporting services and will apply improvements proactively and consistently, when and where they are needed. The TAMs also provide guidance on best practices and focus on identifying and addressing potential problems before they occur.

Architecture Services

Architecture services are available during the planning and delivery of an engagement to provide direction on technical decisions related to SAS software. Our approaches to sizing cloud resources, remotely providing on-premises support, monitoring a fleet continually, protecting data at rest and in transit, and restoring operations following a disruptive event result in highly successful outcomes.

Build Services

Our team of experienced SAS administrators and engineers install and configure SAS software based on decades of experience hosting SAS solutions. This work is done using vetted and up-to-date best practice standards that enable us to provide the highest time-to-value return on your investment.

We leverage a whole-company approach, continuously working with product development, technical support, security and compliance - as well as our 24/7 operations teams - to ensure we are applying best practice standards for every deployment. During the software installation, Build Services uses SAS cloud

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automation methodology and tools to deliver consistent results and comprehensive quality assurance, validating not only that your deployment was performed properly but also that all appropriate system monitoring is fully functioning and the documentation for the environment is complete. This supports smooth onboarding for each customer and efficient, effective life cycle support.

ETL Operation Services

This team provides additional support services above the SAS stack that improve the overall operational health of each customer's business processes. Support of custom deliverables can be difficult for customers who do not have the technical expertise to diagnose and resolve issues on their own. Any customers who have global delivery teams implement automations that are critical to their business benefit from these services, as they can handle any issues encountered after project delivery and sign-off. Experienced and highly trained SAS support resources can ensure the appropriate monitoring, alerting and resolution of customer issues, preventing any business impacts.

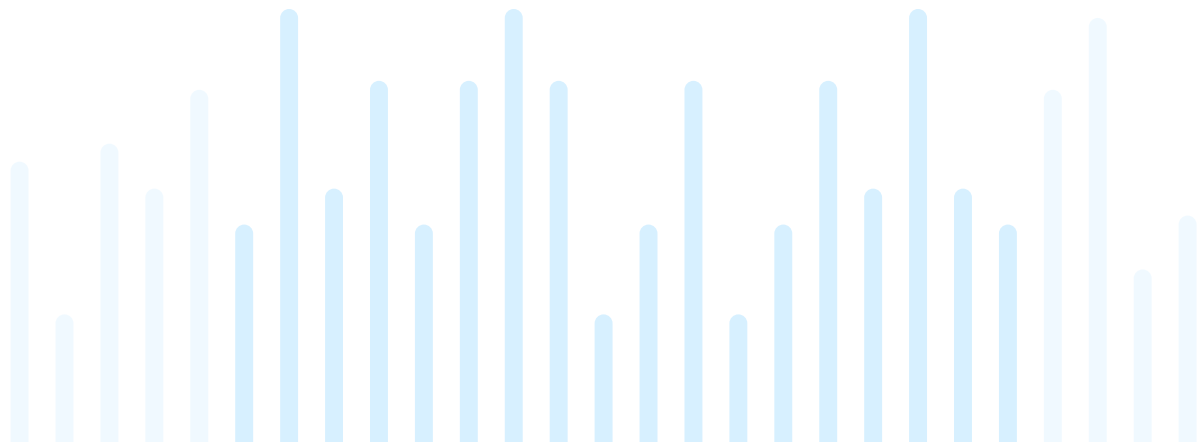
24/7 Operations team

Customers need their SAS environments to be available and reliable to support their business outcomes. Not every customer can field a dedicated SAS administrator or SAS administration team. The 24/7 Operations team provides global operational support for SAS hosted and remote managed customer solutions to help customers fully realize the value of their SAS investments. 24/7 Operations support can also reduce the costs and overhead of managing SAS investments, freeing customers to focus on using SAS software to solve critical business problems.

Monitoring and automation

The Automation team offers scalable automation services to ensure an optimal cloud delivery experience. The services include:

- Process automation.
- Web services development to support cross-functional integration.
- Web applications to provide one-stop shopping experiences for automation.
- Automated health checks to monitor the availability of SAS applications.
- Data engineering, analysis and visualization.



The benefits of SAS® Managed Application Services

So what does all this mean to you? With SAS Cloud and SAS Managed Application Services, you can outsource every aspect of your SAS Cloud analytics solution - from deployment and hosting to end-to-end management and optimization. Unlike public cloud providers, SAS offers a far more comprehensive scope of services and access to sought-after experts when and where you need them. The result is far more business value that justifies the relative cost increase over public cloud provider services.

Comparing the costs by comparing services and value

Service area	Public cloud providers	SAS Managed Application Services
Data center services	X	X
Server provisioning, storage and networking	X	X
Monitoring and optimization services		X
Operating system and third-party software management (including updates, hot fixes, support and security)		X
IT services (including system monitoring, troubleshooting, backups and restorations)		X
SAS administration (including hiring and training of staff)		X

In fact, SAS customers report that moving to SAS Managed Application Services available in the SAS Cloud reduces their overall costs. For example, Gavilon Group, a commodity management firm that manufactures fertilizer and provides related services, reduced workloads and operational costs by migrating to the SAS Cloud on Azure.

Tony Vojslavek, Chief Risk Officer at Gavilon Group, says, "A comprehensive understanding of risk is critical for monitoring and managing our exposure during these very volatile times. To serve our stakeholders, we need to manage large volumes of data and risk calculations in real time, as well as adapt to new use cases over time. We've had a long collaborative partnership with SAS. To position ourselves for the future and reduce our workload and operational costs, we migrated to the SAS Cloud on Azure. It's a no-brainer for Gavilon to make the switch - we are transitioning support, server upgrades and application monitoring to SAS, and we can take advantage of new features and enhancements in SAS® Viya®."

Learn more about how Gavilon Group wins with SAS Managed Application Services and Azure: sas.com/MAS.

When you take advantage of the full range of SAS Managed Application Services, you also benefit from:

- **Improved agility.** By optimizing the SAS environment and SAS jobs, we can dramatically increase customers' throughput of analytics, improve their ability to quickly respond to business issues and free up analysts to produce more insights.
- **The simplicity of a single provider service engagement.** With SAS Managed Application Services, you have one service level agreement and a single organization with which to engage if any incidents occur so they can be resolved faster.
- **SAS expertise.** When you choose SAS Managed Application Services, you gain access to all our people and their deep expertise - all under one roof with one point of contact. For example, you can have dedicated technical account managers to support your SAS Cloud solution.
- **Optimized infrastructure.** At SAS, we help customers optimize the storage and compute services used, where customers pay for the optimal hardware for their specific needs rather than purchasing hardware that either sits idle or isn't sufficient.
- **Accelerated time to value.** We're there to get customers up and running quickly with your SAS solution in the SAS Cloud so customers can realize that value from running their analytics workloads in the SAS Cloud running on Azure infrastructure.
- **High availability.** SAS Managed Application Services, as part of SAS Cloud, provides an always-on environment with 99% SLA, combined with the best SAS talent in the world. The result is a resilient, highly available analytics environment that maximizes user productivity and reduces risk for critical processes.

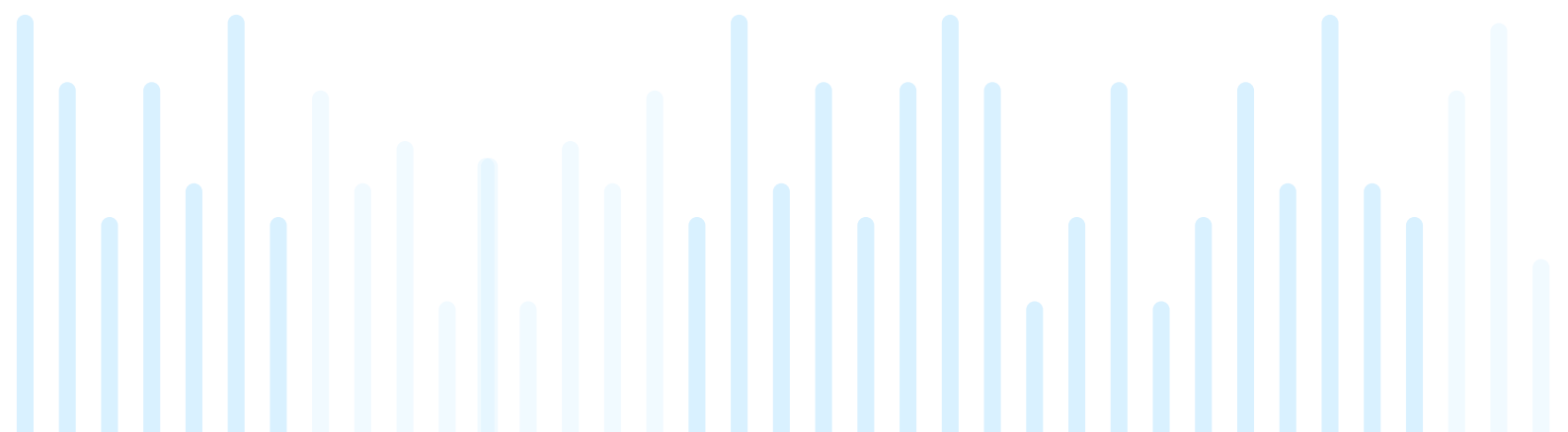
The 99% uptime service level agreement is across the entire stack, with a 30-minute response for Priority 1 incidents.

Learn more

In our discussions with customers, it's clear that there are many unknowns and misconceptions about what is involved in a managed application service for analytics in the cloud. This paper aims to educate customers with foundational information so they can:

- Make an informed decision about what cloud analytics IT tasks you want to outsource versus handle in-house.
- Choose the right managed application services provider that can fully support all of them.
- Accurately compare the services, costs and value of limited public cloud provider services to comprehensive services such as SAS Managed Application Services.

To learn more about SAS Managed Application Services and how they can help your IT department meet growing demands for analytics across the enterprise, visit sas.com/cloud.



Learn more about SAS Managed Application Services at sas.com/MAS.

