

Executive summary

Game-changing technologies designed to reduce complexity and maintain overall business health

Modern digital infrastructures are becoming more and more complex, with IT teams tasked with keeping an ever-increasing number of business-critical applications running smoothly.

Cloud-native environments add microservices, containers, and orchestration platforms to a complicated landscape. This makes it impossible to get a 360-degree view of the health and performance of the whole IT estate with traditional troubleshooting and monitoring tools.

The big challenge is that IT operations (ITOps) need to know what is happening, how to solve an issue, and what works and doesn't work to improve IT health scores in the fastest and easiest way possible. But they are struggling with a sprawl of monitoring tools. Enterprises juggle between 11 and 30 tools for monitoring applications, network infrastructures, and cloud environments¹.

Observability is the next evolution of monitoring. It gives context to data collected from any IT and business source, helping IT and Business teams identify and address issues more efficiently. This includes on-premises, hybrid and multi-cloud environments, leveraging all data from any source at scale. This has been made possible with technologies such as automation, machine learning (ML), and artificial intelligence (Al), providing a platform for much more in-depth data analysis.

Observability has become a must-have for organizations looking to reduce downtime, optimize spending, better manage resources, and maximize business outcomes. Deploying it, however, is not as easy as it sounds. The issue is that there is no standard accepted definition for observability, notes Gartner. This has resulted in vendors offering platforms with different capabilities, causing confusion and leading to adoption headaches².

Observability can then be used to address mission-critical use cases first that directly affect business value, recommends the analyst firm. It is thus advisable to collaborate with a digital transformation partner like Orange Business. They are equipped to identify the necessary data sources, prioritize use cases and workloads, and even construct the solution for you. With their extensive experience in digital and data project implementations, Orange Business will provide support in ensuring data quality and integrity, maintaining data security and compliance, managing data lineage, conducting audits, enabling real-time monitoring, ensuring scalability, and facilitating change management.

This eBook looks at how observability and Al-powered insights into IT operations can help businesses deliver better results faster.











Why has Orange chosen Splunk as a partner for observability?

- Splunk is data source agnostic and works at scale across a hybrid tech landscape.
- This approach enables Splunk to provide customers with comprehensive visibility of their data from end-to-end with business context based upon a full fidelity approach with no blind spots. This allows Customers to identify, understand act on any issue even if they haven't thought about it in advance
- Building on this visibility, Splunk provides robust capabilities that power rapid detection and investigation and helps optimize responses
- Teams can collaborate through the lifecycle of an incident more easily with shared data and tooling



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Why ITOps is becoming more complex

While IT infrastructures are becoming more complex, IT Operations (ITOps) is being asked to do more with less. At the same time, accelerated migration to the cloud and development of applications running in the cloud and microservices have turned on the pressure.

For example, delivering satisfactory employee experience has become a challenge in the enterprise space, pushed by the trend for hybrid working and demand for office Wi-Fi as fixed office seating decreases.

Managing day-to-day operations now needs observability

ITOps is there to ensure that IT supports business needs and runs smoothly. But it doesn't come without its challenges. These include ensuring the availability of resources, managing multi-vendor IT environments, shoring up security, and enhancing efficiency. ITOps needs to meet these head-on while controlling costs.

In today's dynamic environments with cloud connectivity, devices, and applications continually changing, ITOps teams cannot maintain accurate visibility of their IT landscape. Observability enables them to rapidly see, pinpoint, and act on an issue, such as a network device misconfiguration, understand the possible impact on the overall infrastructure, and fix it. This real-time visibility enables them to overcome the challenges we have already mentioned.















Robust AIOPS is powered by comprehensive observability

Traditional monitoring tools created for on-premises infrastructures do not have the intelligence or speed to deal with these large amounts of data being generated today. Organizations typically adopt numerous monitoring tools to get more insight, leading to tool sprawl and even less visibility overall. This makes it impossible to predict downtime or identify root causes quickly. AlOps is taking monitoring to the next level by providing holistic visibility and interconnection across the entire ecosystem, as well as leveraging artificial intelligence for quicker understanding of events and automation for faster execution.

Enterprise workflows have grown significantly, and quickly pinpointing where the issues are using AI to find them is critical. According to Gartner, infrastructure downtime costs \$5,600 per minute and can go as high as \$540,000 per hour³.

To achieve end-to-end visibility across applications, infrastructure, and network layers, it is essential to be able to measure outputs and predict and prevent problems, such as bottlenecks. Observability helps with finding the "unknown unknowns" in the data (the missing data you need to make the systems observable) and that will fuel the AlOps algorithms that will give the power to the IT teams to understand behavior patterns. i.e., Moving your monitoring from an on/off to a normal/abnormal approach. Identifying the right root cause of the problem from the patterns and creating the optimum alert structure

Consequently, AlOps goes way beyond traditional network and infrastructure monitoring. It provides an in-depth health check into all your IT systems – identifying what is not performing optimally or is simply broken. It is instrumental in reducing unplanned downtime and resolving instances in minutes instead of days. AlOps use cases run from detection and resolution to overall service improvement.











Greater confidence in delivering on performance

Observability gives organizations a view of how their systems and applications operate, enabling them to perform analysis to improve operations. As a result, observability can be applied to many areas, from infrastructure and cloud migrations to customer journey analytics. Splunk can provide real-time streaming technology with Splunk observability cloud which focuses on observable short-life elements such as serverless functions and containers.

Early adopters' next move is to introduce observability to business areas to analyze internal and customer data to determine opportunities to improve cost efficiencies, optimize processes and performance, reduce downtime, and support innovation. It can be used to ensure critical component uptime in smart industries, for example, and ensure continuous service improvement to support customer experience (CX).

As IDC points out, organizations are now looking for new developments in Al-powered operations, and observability provides insights into internal operations and their business data⁴.



A leading semiconductor manufacturer transformed from siloed to transparent operations

A world leader in memory and semiconductor technology had much of its data in silos, limiting its teams' abilities to identify, resolve and prevent IT issues. It needed to make its operations faster, more cross-functional, and easily accessible to maintain high service quality, enhance customer experience, and maintain its competitive edge.

They chose the Splunk Platform for advanced analytics & a service centric approach in their IT operations (AlOps).

Thus, the customer reduced business-impacting IT incidents by more than 50%, slashed mean time to resolve major IT incidents by 32% and reduced the number of major IT incidents by 23%; the new IT operations strategy has enabled the company to catch issues early to avoid problems impacting business.







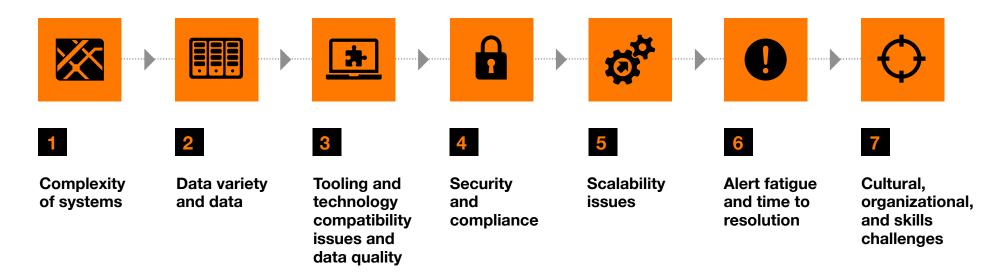


Key considerations for adopting an Observability and AIOPS strategy

As we have mentioned, there are numerous areas to think about when to creating an observability strategy, amplified by the lack of a standard definition in the marketplace.

In line with the rising complexity of broader IT environments, 81% of respondents to a recent survey said the number of observability tools and capabilities they use has been increasing recently, with 32% saying the increase is significant⁵. This makes managing vendors and tools difficult. And challenging to get a holistic view of the IT landscape health.

Here are the top seven points you need to consider when creating an observability strategy









Key considerations for adopting an Observability and AIOPS strategy

1 Complexity of systems

Modern enterprises typically have complex, distributed systems that span multiple data centers, clouds, and edge devices. Managing and monitoring this complexity can be an arduous task.

Data variety and data volume

Observability data comes in various forms, including logs, metrics, and traces. Integrating and correlating data from different sources can be complex, especially when using different tools and technologies. As systems scale, the volume of data generated for monitoring and Observability also increases exponentially. Handling and analyzing this vast amount of real-time data can seriously strain existing infrastructure and tools. Seeking advice on what data to ingest and which Dashboards will add the most value is important.

Tooling and technology compatibility issues and data quality

Enterprises often use a mix of monitoring and observability tools, which may be incompatible or cannot provide a unified view of the system. Integrating these tools can be complex and time-consuming. Look to adopt a single extensible platform that will easily integrate into the infrastructure. Ensuring the quality and consistency of observability data is crucial. Inaccurate or incomplete data can lead to incorrect conclusions and troubleshooting difficulties.









4 Security and compliance

As for anything in IT, security & compliance are key points to consider. Observability and OpenTelemetry can help organizations see what exactly is collected and be in control. However, decisions and policies on how to handle things like GDPR or HIPAA as part of your observability solution still need to be made.

5 Scalability issues

Scalability challenges can arise when monitoring rapidly growing or fluctuating workloads. Scaling observability tools and infrastructure to meet demand is essential and requires optimization Balancing the need for detailed data with efficiency and creating Business impact is essential.

Alert fatigue and time to resolution

As systems grow, so does the potential for alerts and notifications. Managing alert fatigue and ensuring that teams can focus on critical issues. With increased scale, identifying and resolving issues promptly becomes more critical. Efficiently triaging and diagnosing problems can be challenging in large, complex environments.

7 Cultural, organizational, and skills challenges

Observability often requires a cultural shift towards Agile methodologies & DevOps practices and a cross-functional approach. Resistance to change within an organization can slow impede progress. Finding and retaining personnel with the necessary skills to manage Observability at scale can also be problematic in the current talent shortage.



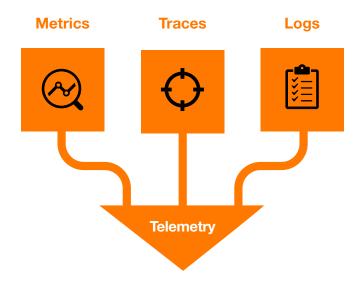






How to successfully build Observability and AIOPS into your IT landscape

Observability is a journey of incremental refinement and enhancement. It is a step-by-step approach of continuous improvement that will give you more insight into your IT estate and extend to additional business cases as data availability grows, such as understanding cloud usage and begins with establishing a baseline understanding of your IT estate and gradually evolves as data availability grows and business needs change. By adopting a step-by-step approach, organizations can incrementally enhance their observability capabilities, ensuring that insights remain relevant and actionable over time.



In summary, building observability into your IT landscape entails a methodical approach focused on continuous improvement, comprehensive telemetry coverage, and scalability. By prioritizing metrics, traces, and logs as foundational elements of observability, organizations can gain deeper insights into their IT systems, optimize performance, and proactively address operational challenges to drive business success.

A comprehensive Telemetry Strategy which will enable a robust observability strategy is essential. This encompasses three key categories of telemetry:

Metrics



Metrics are numerical measurements that provide real-time quantitative insight into the health and performance of applications or infrastructure components. These may include metrics such as CPU utilization, memory usage, network throughput, and response times. By monitoring metrics, organizations can quickly identify performance bottlenecks, anticipate potential issues, and optimize resource allocation to meet service level objectives or agreements.

Traces



Traces enable organizations to track the end-to-end behavior of a request as it traverses through a distributed system. Traces capture data about the interactions between various microservices, APIs, and components involved in processing a request, allowing for detailed analysis of latency, dependencies, and error propagation. By correlating traces, organizations can pinpoint root causes of latency or failures, optimize service orchestration, and enhance overall system reliability.

Logs



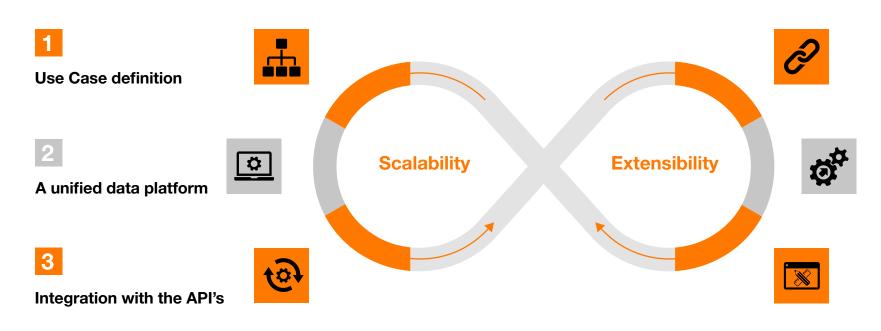
Logs are basically descriptions of how systems are behaving at a specific time They provide textual descriptions of system events, activities, and errors occurring within applications or infrastructure components This enables troubleshooting, debugging, and forensic analysis. By aggregating and analyzing logs, organizations can gain insights into user behavior, application workflows, security incidents, and operational issues, facilitating proactive incident response and compliance monitoring.







How to successfully build Observability and AIOPS into your IT landscape



4

Link to data governance and data management strategy

5

Use Case implementation

6

Get the dashboard build right using Observability & AlOps

Scalability and Extensibility

As organizations embrace cloud-native architectures and adopt distributed microservices-based applications, the scope and complexity of observability requirements continue to expand. Therefore, it's essential to design observability solutions that are scalable and extensible, capable of accommodating growing data volumes, diverse telemetry sources, and evolving business use cases.







Use Case definition

As we start the Journey on observability, it is important to take a step back and look at what the Business would like to achieve in terms of Business outcomes. First list the areas that need to improve which can be further organized into use cases.

Use cases would help to define the key performance indicators (KPIs) and metrics that need to be tracked to measure the success of observability efforts and provide a basis for testing the observability system to ensure it meets the defined requirements and can handle the specified scenarios effectively.

A unified data platform

You must have a unified solution to harvest insight from all three pillars - metrics, traces and logs coming from diverse data sources to get a comprehensive picture of your IT estate's health across the entire IT stack from end to end.

A unified approach enables different teams to access the same information. and the system coherently analyzes and visualizes data, making it easily actionable. This provides a single source of the truth and consistent data metrics.

Integration with the API's

Overall, integration with APIs is a fundamental step in building a successful observability solution into your IT landscape. It enables seamless data flows across the data IT operations data Journey ensuring interoperability, efficiency and productivity

Adopting different approaches including Open Telemetry and API to ensure that the entire ecosystem is fully integrated in a seamless way, including Provider, Customer and 3rd party IT ecosystems.















Link to data governance and data management strategy

Gartner points out that successfully adopting data observability needs both connection and alignment to the overall data governance and data management strategy. This demands an understanding of the guardrails and maturity of Data OPS practice.[1]

These success factors may not exist or be mature within your organization and may need to be singled out to work on.

Don't forget the importance of historical data. The overall approach around Observability and AlOps is not just about real-time data. For example, historical data is crucial in tracking trends and forecasting future issues

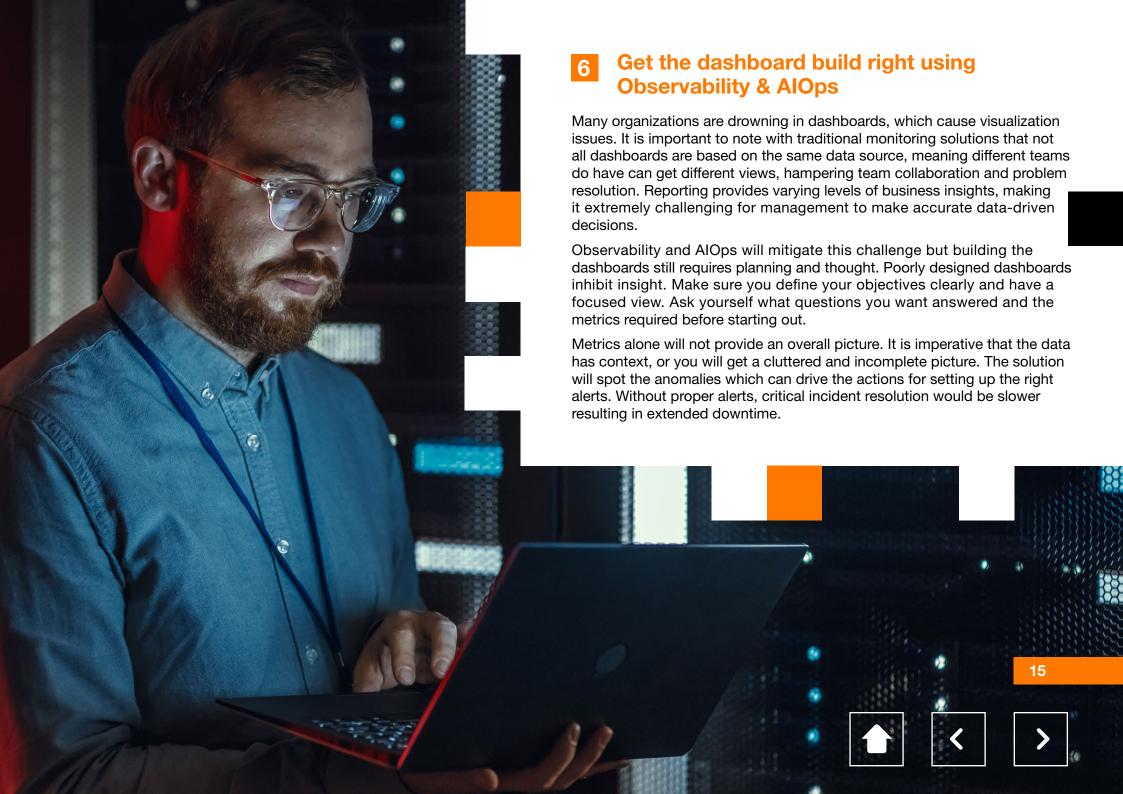
Use Case implementation

As per what is defined primarily in the use case (Step 1), its vital to not lose sight of the expected Business outcomes

Use cases help validate the design of the dashboards by ensuring that they address the specific scenarios and requirements identified earlier in the process. Also adopting a User-Centric Approach: Use cases guide the development of dashboards focusing on the information and insights that are most valuable to stakeholders. Ensuring that each dashboard provides actionable insights that support decision-making and problem-solving.

Key to also outline a framework for iterative refinement of dashboards based on feedback and evolving requirements which are aligned with the overarching objectives of the initiative and the organization's broader business goals.





Elevating your business operations with AlOps

AlOps combined with the application of observability to IT

AlOps combines big data and machine learning to automate IT operations processes, including event correlation, anomaly detection and causality determination. AlOps platforms utilize big data, modern machine learning and other advanced analytics technologies to directly and indirectly enhance IT operations (monitoring, automation and service desk, etc.) functions with proactive, personal and dynamic insights

Whilst there is such a commonly agreed definition for Observability, we would argue in the context of IT, it refers to the ability to measure the internal states of a system by examining its outputs. AlOps applies observability by leveraging data collected from various IT operations tools and platforms to gain insights and predict issues before they impact the business. Within traditional IT operations & processes the overall combination of Al Ops & Observability in context of IT is essential to improve efficiency, enhance and facilitate proactive problem-solving within IT environments.

Organizations can bridge the gap between technical performance and business outcomes by extending AlOps from IT to holistic observability across all business areas. This enables them to adapt, innovate, and thrive in an increasingly interconnected and dynamic landscape, not only in the area of IT Operations but also on the broader business spectrum.

52%

of respondents cited improved IT/business alignment as a top benefit of AlOps⁶

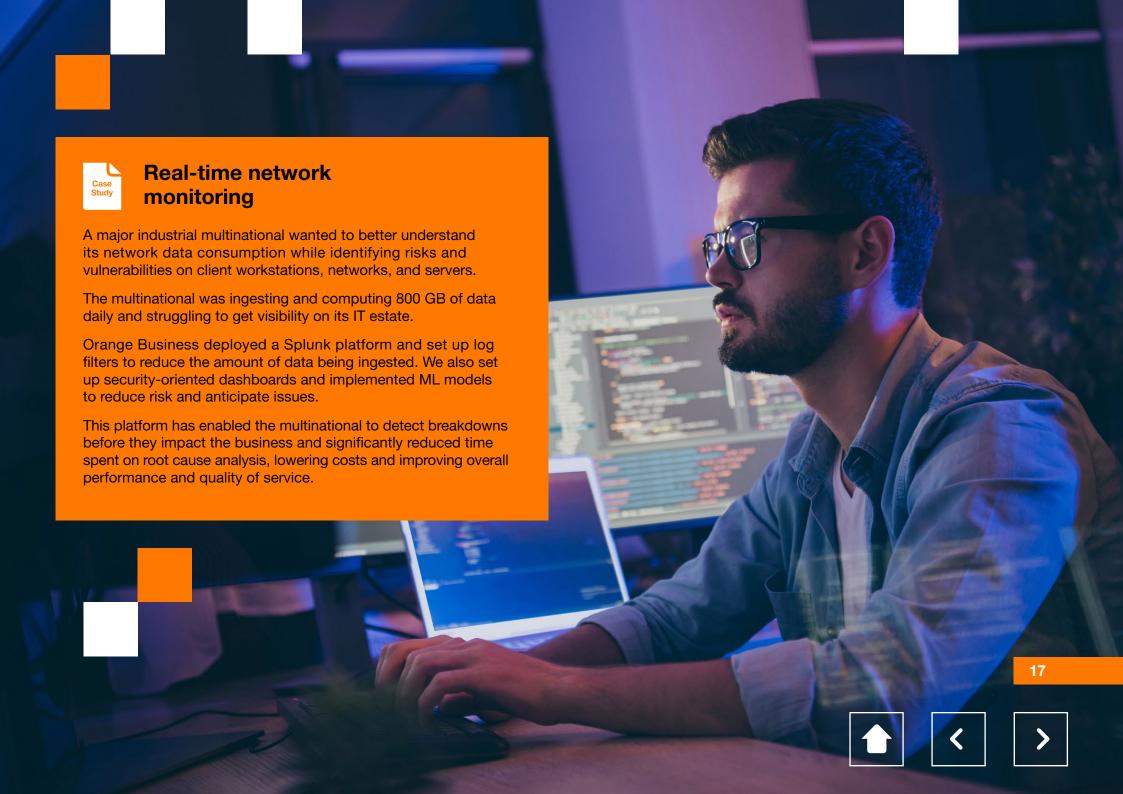


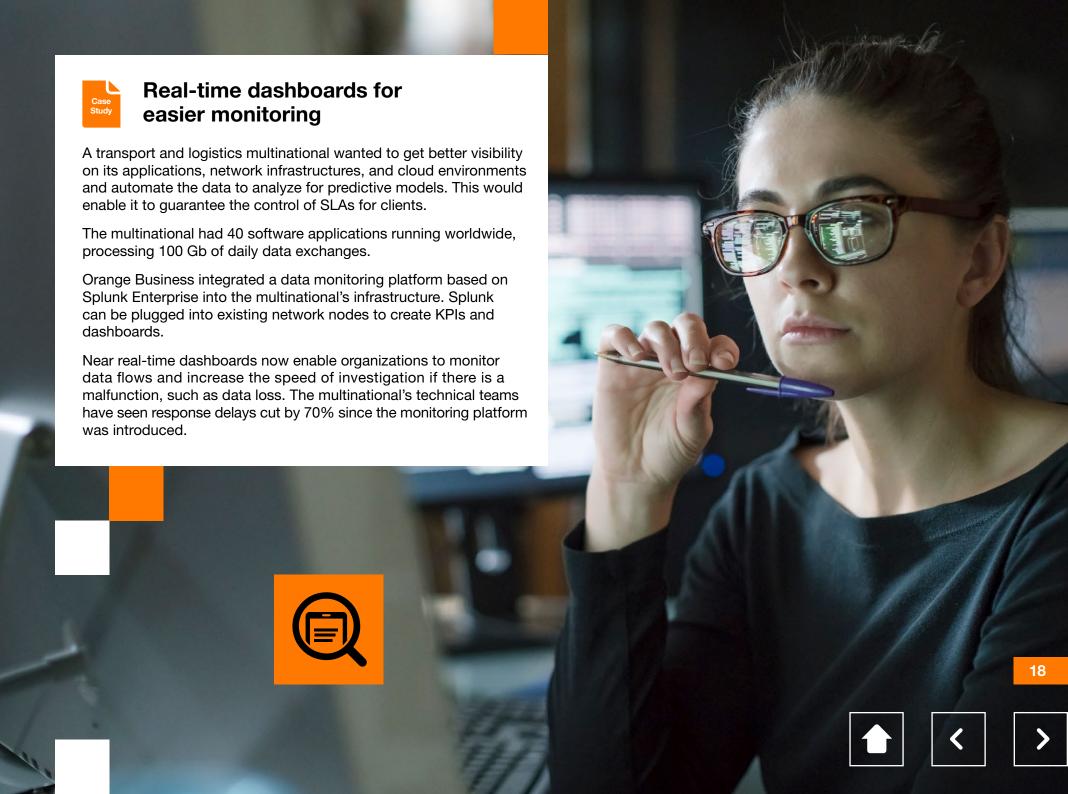












Practical steps for implementing AIOps

Implementing Observability and AIOps can transform the way your organization manages and monitors its IT landscape. Careful execution is required, however, for success.

Firstly, it is vital to understand your organization's pain points and map out clear goals and objectives that AlOps can directly address. This may significantly enhance response times, for example.

Secondly, consider the flexibility and compatibility of your tools. Evaluate your data sources, ensure they provide precisely what you require for AlOps analysis, and select the right AlOps platform for your business needs.

Ensure you can seamlessly integrate your chosen data sources into the AlOps platform. A robust integration strategy is paramount and, in most cases, demands a skilled integration partner.

Observability and AIOPS is a continuous journey

Implementing AIOPs and observability is a continuous process that organizations undertake to improve their IT operations, enhance system performance, and adapt to evolving technological landscapes.

Organizations may scale in terms of size, complexity, or geographic spread. A continuous approach ensures that AlOps and observability solutions can scale alongside the organization, providing flexibility to adapt to changing requirements.

The volume and variety of data generated by IT systems continue to grow. Regularly assessing and adjusting AlOps algorithms helps fine-tune performance-related aspects, ensuring efficient resource utilization and optimal IT and Business performance – monitoring their effectiveness and measuring key metrics such as workflows and incident response times to optimize performance.

Feedback from end users with a continuous improvement approach to AlOps includes refining incident response processes, learning from incidents, and implementing proactive measures to prevent similar issues in the future.

Working with a partner like Orange Business, with its extensive consulting and integration capabilities, can help to integrate automation and ML models, provide continuous improvement and skills development, evaluate compliance and security considerations, and look at performance effectiveness and gradual scaling, for example.

Transforming operations

AlOps can radically transform operations, optimizing efficiencies and supporting proactive incident management to provide an outstanding digital experience.

As organizations increasingly rely on technology to do business, AlOps and observability are essential in providing teams with the visibility they need to provide the continuity, performance, security, and user experience of today's business demands.



Benefits of AlOps in transforming business operations

Automation as part of AlOps takes the pressure off ITOps teams by reducing manual tasks while observing and managing increasingly complex infrastructures.

It essentially provides a layer of intelligence to quickly pinpoint issues, identify problems, and deduce time to fix. It is also invaluable in tracking business trends to identify opportunities, such as changes in customer behaviors that can inform new product development.

4x

Leaders are 4x as likely to resolve instances of unplanned downtime or serious service issues in just minutes versus hours or days⁷.



Deploying AlOps for IT transformation

AIOPs can potentially improve trust and transparency by taking away complexity, while focusing on delivering business outcomes to enhance strategic decision-making processes, according to IDC.

Overall, Al enhances AlOps by providing advanced capabilities for managing complex IT environments, leading to improved operational efficiency, reduced risk, and a stronger alignment with business objectives.

"By deploying AlOps for IT transformation, organizations can revolutionize their operational processes. AlOps combines advanced analytics, machine learning, and automation to streamline IT operations, enhance observability, and drive proactive decision-making. With AlOps, IT teams can gain real-time insights into system performance, predict and prevent potential issues before they impact users, and optimize resource allocation for improved efficiency. This transformative approach not only reduces operational overhead but also enhances overall system reliability and agility, enabling organizations to meet the demands of today's dynamic digital landscape with confidence."

From an organizational standpoint, outages and performance degradation present risks of regulatory failure, lost revenue, poor customer experience, and damage to brand reputation.

An observability approach in your organization with AlOps will enable you to eliminate poor visibility and ineffective management tools that lead to inefficient cross-functional communications and slow remediation times.

AlOps enables IT teams to:

- AlOps allows teams to proactively detect and respond to incidents in real time, helping teams achieve fewer incidents and faster resolution.
- Automate Routine Processes: Streamline and automate repetitive tasks, freeing up IT resources for high-value projects.
- AlOps optimizes the IT Team's productivity.
- AlOps helps teams identify, analyze, and resolve vulnerabilities faster, enhancing overall security posture.









A unique Observability & AlOps offering with Splunk & Orange

As IT estates grow increasingly complex, AIOps can provide valuable insight into infrastructures, identify problem areas, and boost performance. However, there are many moving parts for a successful deployment, so working with a trusted partner who understands how the technologies integrate to map, observe, and successfully manage distributed IT environments is advisable.

Splunk provides several ways of utilizing Al/ML across the product portfolio. AlOps is a mature approach to observability incident management and response. Splunk's AlOps solution leverages ML in several areas, including adaptive thresholding for generating baselines that describe typical KPI behaviors, anomaly detection, and predictive analytics.

By combining Splunk's powerful data processing capabilities with Orange's expertise in digital transformation and IT services, a unique Observability and AlOps offering can deliver significant value to enterprises looking to optimize their IT operations. An Observability and AlOps offering with Splunk and Orange would also largely focus on integrating comprehensive observability, event management, and analytics to enable proactive incident resolution and streamline IT operations.

Splunk offers several modules and capabilities that are central to Observability and AlOps, which are leveraged in collaboration with Orange to create a robust end to end solution.: By integrating Splunk's comprehensive modules with Orange's service framework, the combined AlOps & Observability offering would be positioned to deliver significant benefits to businesses seeking data-driven insights for proactive IT operations management.

The overall platform would have a strong foundation of AlOps using the Splunk ITSI (IT Service Intelligence) module and further enhanced by the Splunk Observability Suite as required, which is supported by Orange's Services and Integration capabilities

Splunk IT Service Intelligence (ITSI) is a premium, scalable IT operations monitoring and analytics solution that provides actionable insight into the performance and behavior of your IT services. The monitoring tools in ITSI are used to detect problems, simplify investigations, triage issues, and accelerate resolutions.



Splunk Observability Cloud provides full-fidelity monitoring and troubleshooting across infrastructure, applications, and user interfaces, in real-time and at any scale, to help keep Business services reliable, deliver great customer experience & innovate faster.

- Infrastructure Monitoring which will primarily monitor the health of your cloud and on-premises infrastructure components supports a broad range of integrations for collecting all kinds of data, from system metrics for infrastructure components to custom data from your applications.
- Application Performance Monitoring monitors comprehensively the performance of the applications and code, collects and analyzes every span and trace from each of the services to give you full-fidelity access to your application data.
- Real User Monitoring provides insights about the performance and health of the front-end user experience of your application, collects performance metrics, web vitals, errors, and other forms of data to allow you to detect and troubleshoot problems in your application, measure the health of your application, and assess the performance of your user experience.
- Synthetic Monitoring is key for the users to optimize performance of API's web services and several user interfaces & synthetically measure performance of your web-based properties.

Splunk Observability leverages the benefits of Open Telemetry which makes it a compelling combination with Splunk's powerful analytics and the service expertise of Orange Business.

Open Telemetry provides a unified and real time data collection streaming and better instrumentation to applications. This is designed to be scalable, making it ideal for growing enterprises and complex environments. Integrating Open Telemetry is key to allowing businesses to observe their systems more comprehensively, leading to better performance optimization and decision-making.











"Orange Observability & AlOps powered by Splunk", designed to have a positive impact. Leveraging the combined strength of Splunk modules and end to end Integration capabilities from Orange Business makes it a comprehensive, powerful and scalable solution targeting to accelerate your Business outcomes

Orange Business, together with Splunk, brings consultancy, interoperability, integration, and migration skills together with management models that will enable enterprises to achieve the benefits that the observability and AlOps journey offers.

Orange Business provides extensive support around consulting and professional services with solutions across vertical industries. Capabilities include business case mapping to improve ROI, cloud and data integration, use case identification and modeling, and lifecycle management. Expertise includes DevOps and customized user requirements.

What sets Orange Business apart – the rigor of a network and connectivity expert, combined with the agility of a digital solutions integrator. "Our ambition: to become the leading network and digital integrator in Europe, making the digital transformation of businesses efficient and sustainable."

Find out more about Orange Business and how its network and digital integrator skills, alongside the unique capabilities of partner Splunk, can make data from your systems more easily interpretable. Together, we can make your organization more resilient, better prepared to tackle digital disruption, and dramatically improve overall performance

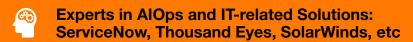
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Get started today with Orange Business









Certified security and privacy experts

80+ Splunk Certified experts

100 + Observability projects executed

8,000 connectivity, 2500 cloud & 2700 security experts worldwide

5 major service centers covering all continents







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