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# How Cloudticity Oxygen™ Uses Automation & AIOps To Accelerate Healthcare On AWS And Azure

Cloudticity next-gen managed services deliver air-tight security, compliance, reliability, and cost-optimization

# A New Era Of The Managed Service Provider

**If you take a walk through a typical managed services provider (MSP) operation what you will probably see is a group of people sitting in swivel chairs watching dashboards all day, scribbling Post-IT notes, and responding to incidents based on a runbook or other source.**

This tried-and true way of managing infrastructure has served the industry well, but unfortunately is running out of gas, for four main reasons:

- The massive amounts of data in the modern IT infrastructure stretch the analytical capabilities of humans using database queries to the breaking point – and beyond.
- Human response time is far too slow for today's cyberthreats, for example, the average time it takes for ransomware to begin encrypting your files after execution is only three seconds.
- The model doesn't scale well. Adding staff with the right skill sets requires time-consuming and challenging hiring cycles. When there's gaps, customers can see their service quality diminish and time-to-remediation increase.
- Humans make mistakes. One slip of the finger – or a missed incident on a bathroom or lunch break – can mean downtime for your application, or worse, a security vulnerability that leads to a successful attack.

Because of this, the MSP industry is overdue for a new operating model. It's time for a completely new category of intelligent managed services; managed services that can be delivered almost entirely via automation in order to achieve the following:

- Increase the efficiency, speed, and scalability of service
- Reduce the risk of harmful human error
- Improve security and compliance time to remediation



# Cloudticity Oxygen™: Next-Gen Managed Services For Healthcare

In pursuit of fully automating managed services we developed Cloudticity Oxygen, our proprietary managed services, managed security, and managed compliance platform for healthcare. It's the first and only on the market to automate 99% of services delivery. While traditional MSPs consider themselves triumphant when they can achieve 35% automation, Cloudticity averages at 99% – and this number is steadily increasing. Each month we add 30,000-50,000 lines of code, always striving to automate more in order to improve the quality of service for our clients.

To understand why Oxygen is such a revolutionary platform, you need to look under the hood. What you will find there are two key ingredients: automation and AIOps.



**Put them in a blender and you have the secret sauce that makes Oxygen unique in the industry, and uniquely suited to navigate the challenges facing healthcare today.**

## What Is AIOps?

AIOps combines big data and machine learning to automate IT operations processes, including event correlation, anomaly detection, and causality determination. The basic operating model for AIOps is Observe-Engage-Act (Figure 1).

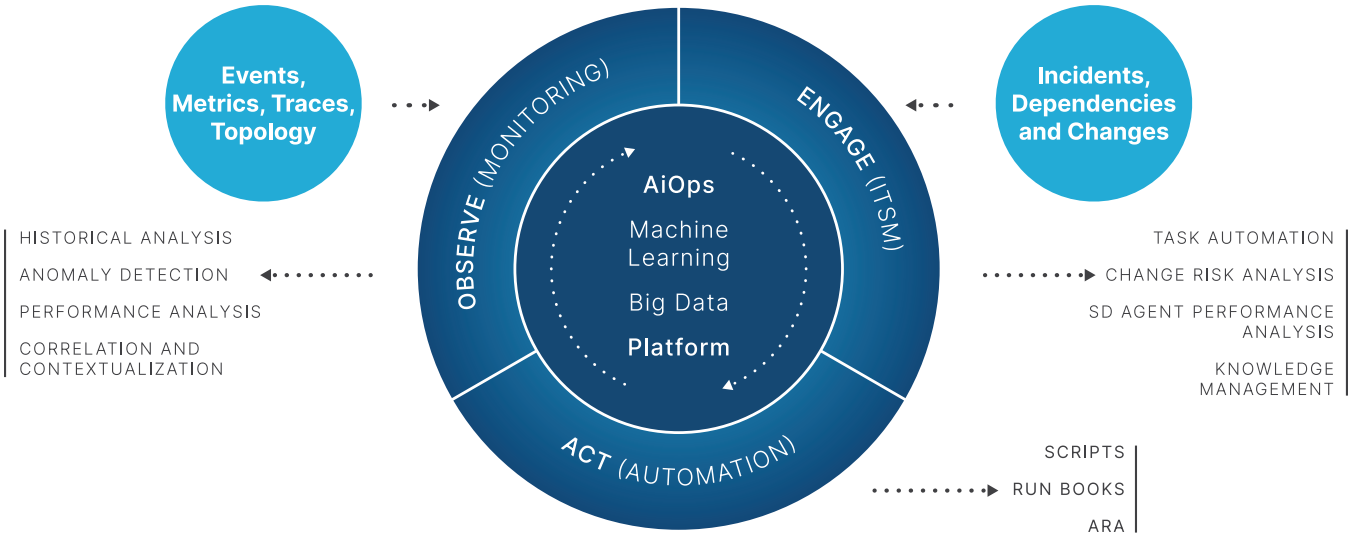



Figure 1. 3 Phases of AIOps

One main reason is that machine learning is particularly adept at finding patterns hidden in mountains of data that humans couldn't possibly work with. For example, spotting one server out of hundreds that hits 95% utilization at 3am every weekday night or identifying weirdly inconsistent traffic patterns involving a suspicious IP address.

## How Cloudticity Uses AIOps To Automate Infrastructure Operations

While the overall workflow is complex, this summary will give you a sense of how Oxygen uses AI and operational intelligence to automate remediation when possible and present clear choices to operations staff for the 1% of cases that cannot be resolved automatically (see Figure 2).

### AI Workflow

A. Ingest vast quantities of data, including PHI and healthcare messages.

B. Perform real-time analytics on the streaming data using machine-learning models.

C. Report anomalies to the recommendation engine.

D. Stores streaming data in a data lake.

E. Analyze historical data sets using machine-learning models.

F. Feed insights back to the real-time models to fine-tune accuracy.

G. Provide context information to the recommendation engine.

### Operations Workflow

H. (98% of cases) Automatically remediate the anomaly immediately.

I. (2% of cases) Send ticket to customer with three options: Do Nothing, Fix Now, Schedule

- Do Nothing: Take no action, delete ticket after 7 days.
- Fix Now: Implement the recommended actions immediately.
- Schedule: Perform the recommended actions during the next maintenance window.

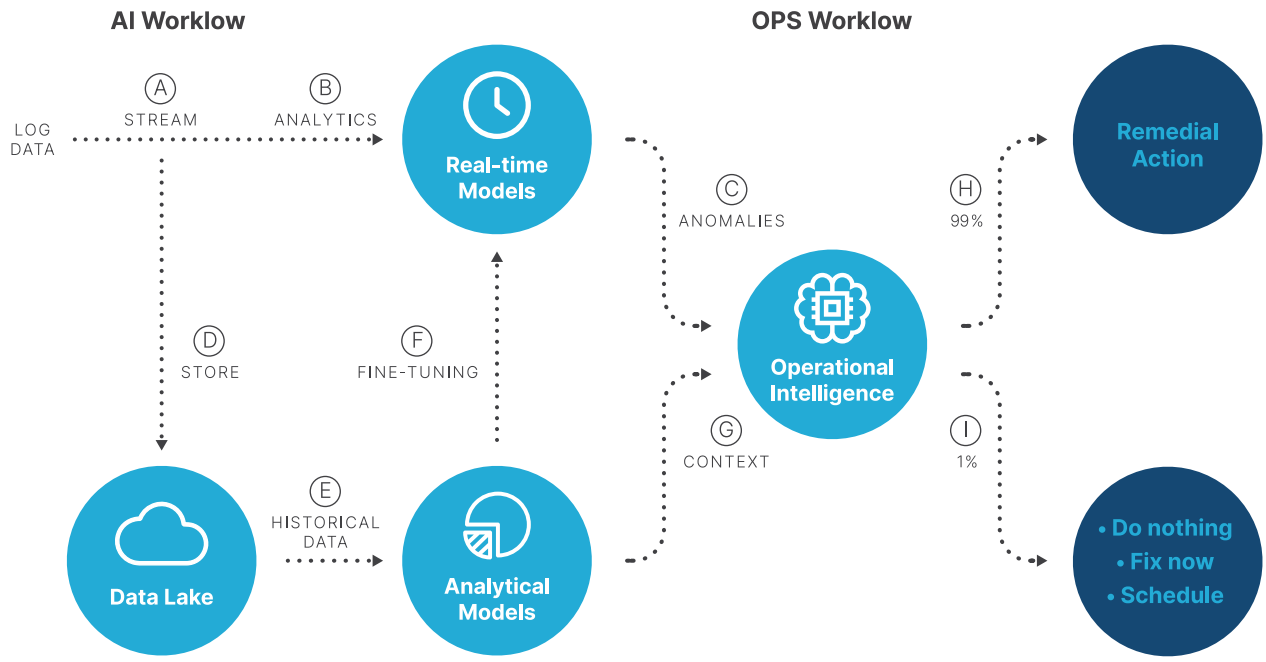



Figure 2. Oxygen AIOps Workflow

# What's In It For You? The Benefits Of Automated Managed Services

In the past, many organizations turned to MSPs to offload the burdensome and complex tasks of managing infrastructure – outsourcing a problem, as it were. With Oxygen, managed services become a strategic resource that contributes to the organization's success. Our clients are more agile, able to respond to changing circumstances faster than competitors. They are confident that their applications and data are secure and available, and have the cost management capabilities to drive success.

Oxygen delivers the following core benefits:

cloudticity Oxygen

Intelligent Managed Service Delivery





## 1. Agility

Oxygen helps organizations respond agily in three ways. First, Oxygen automates previously manual monitoring and remediation activities, freeing IT staff from burdensome and repetitive tasks such as monitoring backups, tracking CPU utilization, and managing firewall rules. Now those resources can be redeployed to initiatives that directly contribute to the organization's core mission. In addition, AIOps gives Oxygen unprecedented flexibility to adapt to changing requirements with a minimum of human intervention. Machine learning continually provides insights to drive automated configuration changes and remediation activities. Finally, Oxygen allows developers to experiment in ways they couldn't do before.



## 2. Reliability

Oxygen is designed around the premise of 100% availability – something that many of our clients have achieved. Oxygen uses machine learning to constantly monitor the system for component failures. When they occur, auto-remediation ensures that the system continues to operate with no perceptible degradation in performance. Also, we work closely with our clients to eliminate single points of failure, which further improves availability.



## 3. Security and Compliance

The Oxygen platform uses machine learning to identify drifts in configuration and deviations from baseline performance that represent potential compliance violations, then remediates those situations automatically and accurately. Not only does this approach keep the system continually in compliance, it avoids the inevitable human errors that occur when security staff has to initiate manual remediation tasks.

Furthermore, Oxygen is exceptionally fast: 99% of our service tickets are resolved through automation, with 70% resolved within the first hour. In most cases, the only way the client knows that something has occurred is when they receive an email from us letting them know that the problem has already been solved.



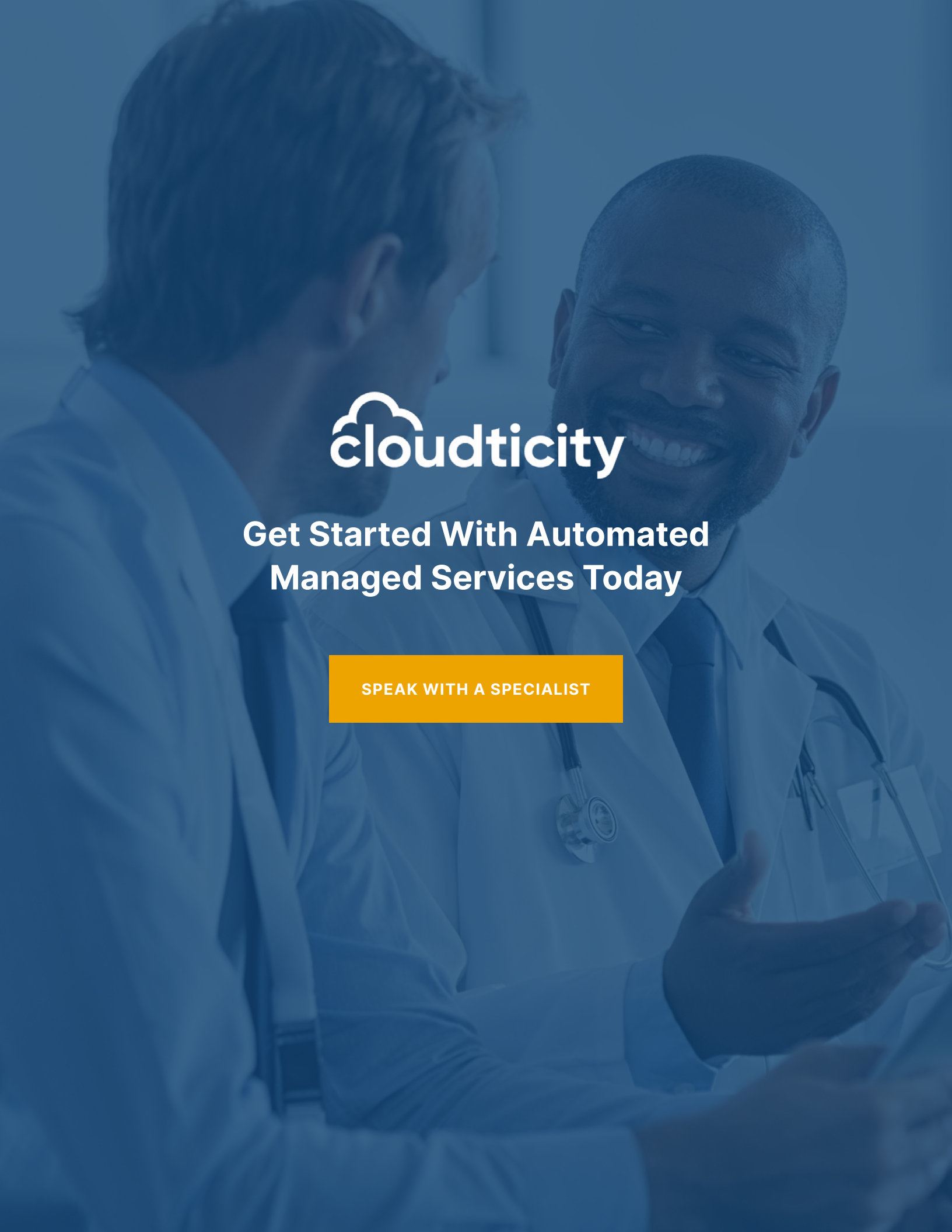
## 4. Performance

The Oxygen platform features deep integration with cloud-native services like AWS CloudFormation, Azure Resource Manager, Azure API Management, and AWS Config, along with third-party solutions such as Trend Micro Deep Security and CloudHealth, to deliver a fully automated end-to-end managed services platform for healthcare. One of the byproducts of this deep level of automation is more predictable and reliable performance of the platform.



## 5. Cost Optimization

Oxygen relies on machine learning to identify anomalous spending patterns, then uses automation to remediate the situation before it results in a significant cost problem. Oxygen helps our clients avoid both underprovisioning and overprovisioning while maintaining the required levels of performance and availability.


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Get Started With Automated Managed Services Today
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