



WHITEPAPER

MANAGED SERVICES FOR STARTUPS, SMALL AND MEDIUM BUSINESSES

ABSTRACT

In this document, we explain why Managed Services is the most cost-effective solution for the SMB sector. We also describe the benefits of hiring an MSP in comparison with other traditional practices for IT Operations.

*Author: Dr. Javier Navarro-Machuca
javier.navarro@ioconnectservices.com*

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Introduction

I have often seen startups and small businesses having full-time employees taking care of the system and operational uptime of the software products and applications that are critical for their business. In many cases, these companies offer SaaS solutions to other organizations and end consumers. Therefore, any downtime results in substantial economic losses in the short-term, also impacting their reputation in the long-term. With full-time employees, it is difficult to coordinate any monitoring and system fix tasks outside of business hours like being on call during night shifts and weekends. Being available off-hours is a significant drawback for employees who are not used to having this kind of off-hours responsibilities, creating an atmosphere of unpleasant discontent among the team.

Medium-size businesses usually have a more mature process to reduce the risk of any IT service interruptions. However, it is still challenging for them to keep up with innovation and other digital transformation initiatives since some procedures tend to be very rigid. The rigidity is a frequent problem for highly regulated organizations. One main challenge for medium size companies is that although they have more proficient monitoring and alerting practices, their mechanisms to address any system disruption are reactive, causing downtime periods while the problem is fixed.



What is the acronym anyway?

Organizations take different approaches to monitor their IT infrastructure and assets for the sake of ensuring system uptime. The objective is to address any disruption as fast as possible. Commonly, IT teams apply one or more of the following practices and toolsets to do this job:

Network Operation Center (NOC)

Is a team that oversees complex networking environments that require high availability. Members are responsible for monitoring network conditions that may cause service degradation or disruption. Although the primary intention is to focus on the network service and connectivity, these teams have extended the monitoring to other types of infrastructure like database and application servers.

Information Security Operation Center (ISOC or SOC)

Alike NOC, this is a team, usually a centralized unit that deals with the monitoring of enterprise information systems. An ISOC is related to the people, processes, and tools that help to detect, contain, and remediate IT threats and incidents that could harm business.

Application Performance Management (APM)

Is the monitoring and management of performance and availability of software applications to ensure an expected level of service. Nowadays, software applications are very complex and often distributed. Thus full-stack visibility and metrics monitoring strategies are crucial for businesses for their digital transformation strategy.

Network Performance Management (NPM)

Is the monitoring and management of network that evaluates content and traffic by analyzing packets flowing through the system. This analysis happens based on network protocols and communication without considering application logic.



Site Reliability Engineering (SRE)

Is a practice popularized by the Google Engineering teams that define the ways that Google teams run production systems. The philosophy of SRE is to treat operations as a software problem. In other words, the SRE members access the source code to fix, extend, and scale the code to keep the apps working.



Standard practices for IT Operations in the SMB segment

As mentioned before, it is the responsibility of the IT team to provide business continuity of IT operations, network, infrastructure, and software applications. It is up to the IT executives to decide if these responsibilities will be taken care of in house, outsourced, or some hybrid model. An example of a hybrid model is a dedicated team performing operation monitoring during business days and a vendor covering the night and weekend shifts.

Below, I discuss some typical scenarios of how startups, small and medium-sized businesses, manage IT operations.

Practice 1: The Development team is responsible for 24/7 system uptime

24/7/365 system uptime is probably the most common scenario found in technology startups or small businesses where the development team creates custom apps for back-office business needs. Different factors could decide if this would be the best approach for an IT team. The success of the outcome is very much determined by the process of maturity and philosophy of the members. If the senior employees have a highly technical background, this may be the best and only approach to take, as the SRE practice at Google. However, teams often do not have this experience.

In many cases, I come across businesses where the development staff is reluctant to be available off-hours for on-call duty. Typically, when a service downtime is reported, it is difficult to find the person on-call to fix the problem on time.

Although this practice appears to be the most cost-effective one since the same development team is responsible for the 24/7 monitoring and service uptime, it usually provides subpar results because system disruptions last for extended periods, impacting the business economically and in reputation.



Practice 2: DevOps owns the responsibility

Organizations that embrace digital transformation trends have a DevOps team, practice, or some members who are responsible for development operation (DevOps) tasks. DevOps is a set of practices and automation that helps to shorten the development life cycle and provides continuous software delivery with high quality. In this scenario, DevOps members are responsible for monitoring the system uptime and addressing any downtime. In my experience, with this model, monitoring is focused mainly on the end-consumer applications.

This model tends to work well since the team has an operational mindset and creates automated mechanisms to monitor, alert, and compensate for service degradation and disruption. This automation facilitates prevention measures instead of reactive procedures. Also, the more mature the team is in processes, the better they are in applying best practices and achieving efficiency.

The common challenge in this practice is the number of resources that are needed to provide 24/7 support. With full-time employees or in a staff augmentation model, you need at least two people to cover nightly and weekend shifts. DevOps is a very sophisticated job skill that is in high demand, and therefore the resource costs are usually high. On average, a team requires three DevOps engineers to cover a 24/7 calendar. Another problem is the team's lack of expertise, especially when the team members are more junior or inexperienced in IT operations. Evolving skills for system and application architecture, automation, fault-tolerance, and resiliency can take years for professionals to develop.

Practice 3: There is an IT Operations team

This practice can be found mostly in medium and large businesses. Having a fully dedicated IT Operations team working 24/7 is a considerable investment. Large and global organizations generally take advantage of different office locations distributed in different



time zones; this helps to cover 24/7 operational support with a reduced overhead of shift rotation or being on-call. Having a dedicated IT Operations team is a costly option for SMB.

In this model, organizations have the structure of a NOC with some APM tools to extend monitoring to the application level. One frequent challenge for IT Operations is the different toolsets that are used to cover all the technologies. Security operations and automated scalability are other pain points that most IT Operations teams face. Not all organizations can afford employees with this kind of specialized knowledge that is essential to proactively prevent disruptions caused by peaks of workloads or malicious activity.

Practice 4: IT Operations are outsourced

Outsourcing is a good strategy when you want to delegate the responsibilities and risk to a third-party. Risk is mitigated via contractual terms, and organizations can focus on their primary business operations alleviating the IT operational management and costs.

Companies usually see the outsourcing option as cost-effective; the challenge is the selection of the right vendor. Changing vendors who have an in-depth knowledge of your IT infrastructure is not a trivial task; this often requires a significant effort in transition planning and execution. On the other hand, outsourcing is not an optimal option for businesses with rigid regulatory requirements or secrecy because confidential data would be provided to a third-party vendor, therefore putting the security of the company at risk.



A Managed Services Provider (MSP) as an optimal option for the SMB

Managed Services is the practice of outsourcing the responsibility of maintaining and anticipating the need for functions and resources to improve operations and cut expenses. This is usually contracted in a subscription model, where the client and the MSP define contractually service level agreements (SLAs) that indicate the quality of metrics of their relationship.

This delivery model is ideal for organizations that look beyond traditional outsourcing criteria to get long-term benefits expected from the solutions provider. The Managed Services model allows SMBs to outsource the management, operations, and delivery of processes effectively and reduces costs.



Figure 1. Managed Services Overview.



Benefits of hiring an MSP

24/7 on-demand support

The MSP is responsible for supporting the client's IT needs at any time. 24/7/365 coverage is a common requirement for companies that run their business online or globally. Some modern MSPs provide real-time communication with their clients via instant messaging communication tools and other channels.

Cost-effective

The price for an MSP offering is usually a fraction of the costs of dedicated resources. An MSP frees up more budget for other areas and allows organizations to focus on their core business instead of their IT needs. Startups, small, and medium enterprises will benefit from the MSP offerings since the billing consolidation, and subscription model pricing can help to allocate a fixed cost of the services, thus facilitating the budget allocation and streamline expenses.

Simplified IT expense and billing

Most of the MSP packages cover all the IT needs of your business. Startups, small, and medium-sized companies benefit from the MSP offerings since the billing consolidation, and subscription model pricing help allocate a fixed cost for the services, thus facilitating budget allocation and streamline expenses.

Highly qualified and experienced MSP staff

Good MSPs continuously invest in the development of the skills and training of their personnel. This model provides access to a full team of technology experts with a variety of skills and certifications.

Proactive monitoring and management

A critical characteristic of the MSP offering is that infrastructure capacity, as well as service scaling and availability, are taken care of proactively, reducing the number of service outages substantially. A robust MSP provides a more wholistic monitoring approach. The central monitoring areas are network, infrastructure, and applications.



Software updates and patches

These tasks are also proactively executed. Moreover, as technology advances, an MSP will help you stay up to date. Installing updates and patches is also a crucial task to address security vulnerabilities.

On-premise, multi-hosting, and multi-Cloud support

Startups use cloud-based technologies as their primary strategy to build and host their software solutions, receiving immediate benefits like pay-as-you-go pricing and elasticity, among others. More traditional small and medium businesses opt-in for more conservative options like on-premise hosting, owning the data center, or multi-hosting, having their software and applications with different hosting providers. More complex scenarios are hybrid hosting topologies that combine on-premises or other hosting providers with one or more cloud platforms.

Multi-Cloud solutions are popular as well. A good example is to have SaaS products like Salesforce integrated with Active Directory in Azure for user access that feeds a data lake in AWS. An MSP can manage access and perform user onboarding tasks to different Clouds and manage platforms like the AWS, Azure, and Google cloud at the same time.

Disaster Recovery optimization and execution

Data backups and restoration are standard MSP practices. Besides, some MSPs can help put together a solid recovery plan and perform periodic tests that are required for some standards and regulatory entities.

Compliance and security

Data backups are stored securely, encrypted, and role access policies. MSP personnel also are responsible for applying security patches, maintenance, log management, and security best practices that facilitate compliance audit verifications.



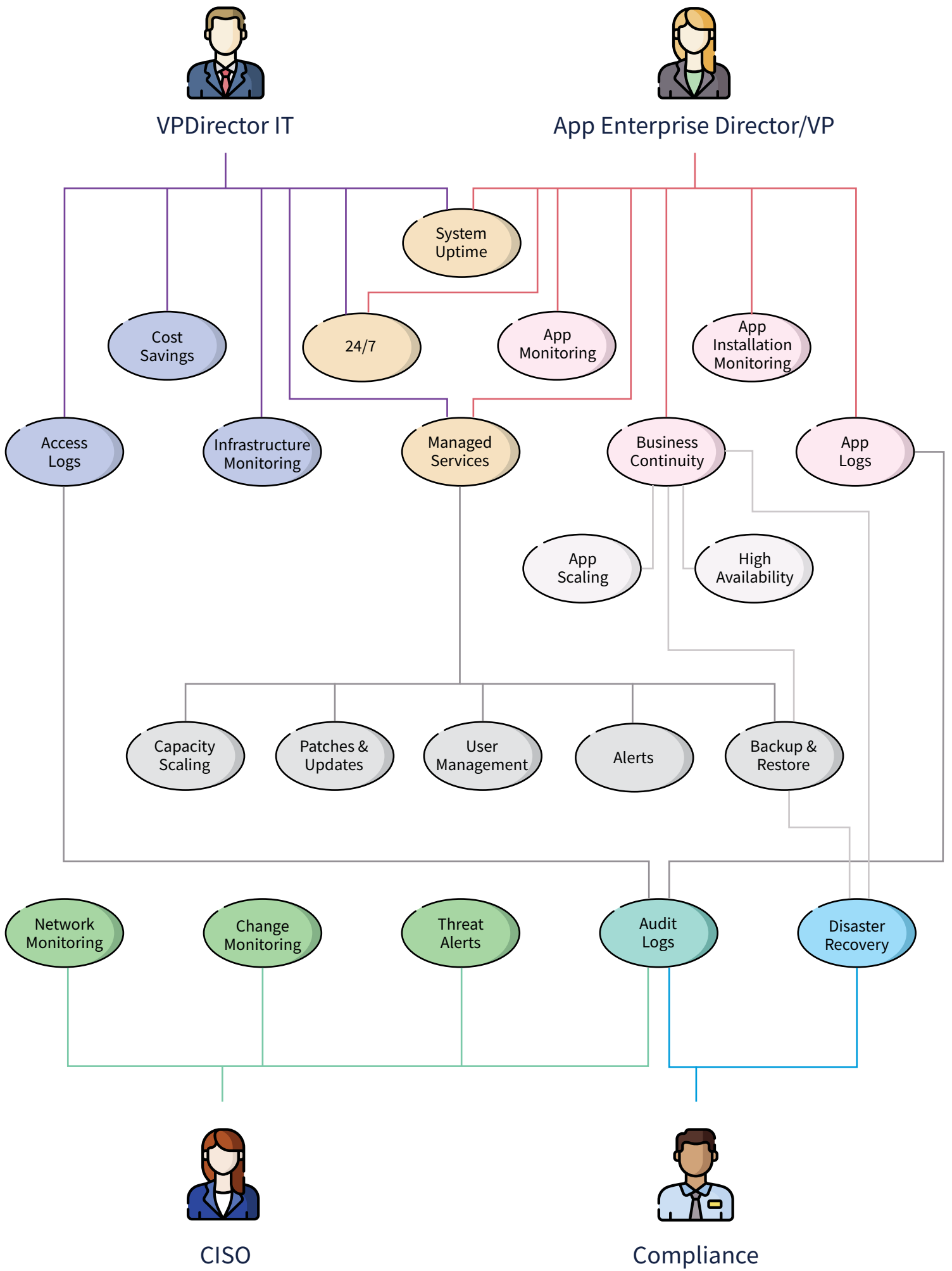


Figure 2. A wholistic view of how different stakeholders benefit from the coverage of a robust MSP offering.

Common types of Managed Services

There are different types of Managed Services on the market. Depending on the scope of the business IT needs, the company may outsource a single service to an MSP or decide to contract a more comprehensive multi-service package.

Here are the different types of Managed Services:

Managed networks or infrastructure

These services eliminate the cost of owning and running a data center. They focus mainly on network technologies and appliances. Management of VPNs, subnetting, load balancers, Internet, firewalls, and NAT devices, among other equipment, are provided for the network. Application hosting, servers, and storage are part of this category. One significant benefit is that the MSP will help the organization reduce the total cost of ownership of the IT infrastructure and operations.

Managed application services

Like networks and infrastructure, the focus of these services is to provide a cost-effective management solution on software and applications. Many applications need to guarantee a constant SLA in performance metrics for customer experience purposes, and these apps need to scale in and out, failover, and fix any outage or delay in responses.

Managed Cloud platforms

The MSP personnel manage the client's computing, storage, networks, servers, and operating systems. It also may include controlling the tools and application stacks like web server, package software, databases, and DevOps tools that run on top of that infrastructure. Clients with multiple Cloud solutions and platforms can delegate the management of all these areas to one MSP.



Managed support services

The MSP handles traditional help desk responsibilities, including trouble ticketing for IT problems among employees and resolution mechanisms.

Managed security services

This type of Managed Service provides a broad range of solutions like patch and updates installations, malware prevention, email and spam filtering, incident management, and remediation.



Conclusion

Managed Services is an excellent option for startups, small and medium businesses. The benefits of hiring an MSP depends on the type of business, the IT needs, and corporate culture, but there are many scenarios where an MSP would be a great fit.

Whether an organization needs to address IT complexity, offload the work of IT Management, or add a new Cloud infrastructure and applications, Managed Services is one of the most cost-effective options. MSPs always allow companies to focus on other business areas while maintaining state-of-the-art proactive IT support.



About us

As your trusted partner, **IO Connect Services** can manage your systems and networks remotely, so that you can focus your efforts on your business objectives at a fraction of the costs of dedicated resources.

Proactive Monitoring

- **24/7**
- Infrastructure
- Network
- Application
- System Uptime
- Installations

Business Continuity & Disaster Recovery

- Capacity Scaling
- App Scaling
- High Availability
- Backups
- Restore

Consolidating Billing

- **Flat fee**
- Reduced Costs
- **Subscription Discounts**
- **Optimization Analysis & Reports**

Compliance & Security

- Threat Alerts
- Config Monitoring
- Audit Logs
- Access Logs
- App Logs

Support

- **Real-time** & Multichannel Support
- Patches & Updates
- User Management

Digital Transformation

- Tools & Automation
- Latest Technology Trends
- Best Practices

Cloud Platforms

- **Advanced Partnerships**
- **Certified Experts**
- AWS, GCP, Azure, Cloudhub & more!

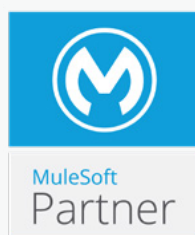
Our Partnerships

Amazon Web Services



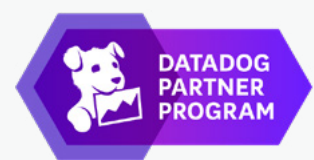
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www.ioconnectservices.com



contact@ioconnectservices.com