Leverage Office 365 Monitoring Practices to Improve Availability and Eliminate Performance Challenges

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Initiatives: Infrastructure, Operations and Cloud Management and 1 more

A shift to Office 365 drives digital workplace maturity, but hidden availability and performance challenges impact end-user experience. To support new ways of work, I&O leaders must work with application leaders to improve visibility before, during and after the move to a collaborative cloud suite.

Overview

Key Challenges

- Application performance issues within Office 365 can occur in many locations and components, making it difficult for I&O leaders to identify the root causes of problems that can limit productivity.

- Legacy monitoring tools fail to cover the breadth and depth of functionalities included in Office 365, including voice, video and real-time collaboration platforms, limiting I&O leaders’ visibility into the user experience.

Recommendations

I&O leaders responsible for transforming IT infrastructure, operations and cloud management must:

- Identify issues that impact the end-user experience by implementing dedicated performance analysis tools to establish a performance baseline for office applications.

- Enhance visibility into the user experience by leveraging SaaS-based monitoring tools that focus on global, end-to-end usage and synthetic transactions.

Strategic Planning Assumption

By 2024, 50% of enterprises that use Office 365 will switch to a dedicated third-party solution for monitoring the Office 365 employee experience, up from less than 10% in 2020.

Introduction
Enterprises are consolidating their tenants to cloud-based digital workplace suites to establish a new work nucleus that will enhance their digital dexterity, reduce cost, improve collaboration and enable new ways of working (see "Create a Culture of Digital Dexterity With the ‘New Work Nucleus’"). But moving to Office 365 makes it harder for I&O leaders to track availability, performance and the impact of issues on employee productivity. ¹ More than a quarter of organizations migrating to Office 365 cited performance, reliability and availability as top concerns ² (see Figure 1).

**Figure 1. Top Concerns With Office 365 Migration**

<table>
<thead>
<tr>
<th>Concern</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security, Conditional Access, DLP, SSO, MFA</td>
<td>30%</td>
</tr>
<tr>
<td>Performance, Reliability, Availability</td>
<td>28%</td>
</tr>
<tr>
<td>Disappointed With a Product, Could Be Bugs, Defects, Features, Lack of Integration</td>
<td>23%</td>
</tr>
<tr>
<td>Deployment, Migration</td>
<td>18%</td>
</tr>
<tr>
<td>Rapid Change, New Features and Products</td>
<td>14%</td>
</tr>
<tr>
<td>IdM/AAD</td>
<td>14%</td>
</tr>
<tr>
<td>Network</td>
<td>13%</td>
</tr>
</tbody>
</table>

\[n = 166\]

Base: Gartner Research Circle Members who are using or planning to use Office 365, excluding “Don’t know/no answer.”

Q: Briefly tell us about 3 technical problems with Office 365 your organization has experienced or is concerned about. Coded open-text responses, multiple responses allowed.

Source: Gartner

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In addition, although uptime and performance on these services is higher than when they were hosted internally, outages continue to occur and IT teams have limited visibility into the root cause of the outage.

I&O leaders must work with application teams to bridge these visibility gaps to increase employee engagement and to improve users’ experience, satisfaction and productivity.

How can I&O leaders ensure that Office 365 functions at a level that enhances user experience, improving adoption and productivity? This research explains how to implement monitoring and
performance analysis to identify the root causes of issues and their impact on employees and applications that rely on Office 365.

Analysis

Implement Dedicated Performance Analysis Tools to Baseline Office 365 Performance

A Quick Start to Monitoring Office 365

To determine whether Office 365 performance is within acceptable limits, I&O leaders must baseline and monitor its performance. This can happen at multiple levels, with varying amounts of detail.

I&O leaders must:

- Track user experience by employing third-party tools to provide visibility into the various components of the Office 365 suite.

- Use specialized techniques, such as real-time analysis, to assess the performance of unified communications in Microsoft Teams or Skype for Business.

- Use artificial intelligence/machine learning (AI/ML) algorithms to distinguish between normal and abnormal behavior.

- Engage your enterprise architects to determine strategy, and to identify where these tools can be applied and how they mesh into the existing monitoring strategy.

Microsoft provides a status dashboard, but this is only accessible to admins for the account. It also does not address questions related to performance. Microsoft also provides information via a Twitter account “Microsoft 365 Status” @MSFT365Status. An example dashboard and tweet are shown in Figure 2 and Figure 3.

Figure 2. A Sample Microsoft Status Dashboard
# Service health

View the health status of all services that are available with your current subscriptions.

<table>
<thead>
<tr>
<th>Name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchange Online</td>
<td>3 advisories</td>
</tr>
<tr>
<td>Skype for Business</td>
<td>1 advisory</td>
</tr>
<tr>
<td>Azure Information Protection</td>
<td>Healthy</td>
</tr>
<tr>
<td>Identity Service</td>
<td>Healthy</td>
</tr>
<tr>
<td>Microsoft 365 suite</td>
<td>Healthy</td>
</tr>
</tbody>
</table>

Source: Microsoft

**Figure 3. A Screenshot of the Microsoft 365 Status Account on Twitter**
While somewhat useful, neither the dashboard nor the Twitter account are suitable for enterprise monitoring. They are reactive (someone must actively access the dashboard), may lack regional or geographic context or information specific to tenants, and are slow to update. Most importantly, they represent the service provider's perspective and not the end-user experience. End users accessing Office 365 services can experience problems at multiple points, such as poor home or office connections, misconfigured ISP routing, DNS problems, etc. Challenges also may be encountered due to regional regulation (governmental internet policies — The "Great Firewall of China," data sovereignty and privacy requirements in Europe). These problems are not picked up by the above methods.

Microsoft recently added two new features that assist with understanding the employee perspective within the O365 framework. The first of these is the "productivity score," which combines end-user information with technology monitoring to provide a benchmark of the performance. The second is the "network connectivity" in the Admin Center, which helps clients
understand network performance problems. Both of these solutions show promise and continue to be developed. 5 Microsoft also provides M365 Network Connectivity Principles, which can be useful for assessing performance requirements in the design phase, but are not a suitable tool for the operations phase.

To understand system performance in a way that is proactive and responsive to employees’ experiences, I&O leaders have no choice but to use third-party tools that measure availability, latency, etc. to provide visibility into the different components of the Office 365 suite.

I&O leaders should prioritize evaluation of criticality of performance of O365 applications and build out the implementation of these third-party monitoring tools. In many cases, there already may be pockets of monitoring inside organizations using these methodologies for other applications (SaaS or otherwise). For many enterprises, third-party monitoring or SaaS management tools are required. Schedule time with your IT operations architects or engineers to discuss and plan implementation and integration rollouts.

**Availability Monitoring**

Availability monitoring is the simplest form of monitoring and indicates whether a service is available or not. In an on-premises environment, it would be possible to instrument the servers that were running the applications (such as Exchange). With the transition to SaaS, I&O leaders must explore other options.

A quick option is to use a collective intelligence tool, such as Downdetector or StatusGator, that presents a view for Office 365 (and other SaaS applications). This allows administrators to see problems with Office 365 reported by other organizations and if the issue is related to specific functions or regions.

Additional availability monitoring options can be found in synthetic monitoring tools. Synthetic monitoring tools have the most value when used to measure end-user response times, but they also can be used to perform simple up/down testing at low cost for SaaS applications and proactively alert when there is a problem. There are also differences in the protocols used between the native and web clients, and hence the monitors should be configured accordingly. Example vendors for this style of monitoring include UptimeRobot and StatusCake.

**Latency Monitoring**

Beyond understanding the uptime of Office 365 services, other tools enable I&O leaders to understand the normal latency of Office 365 (the baseline) and use these values to troubleshoot when Office365 cannot be reached or if performance is degraded. This method of monitoring focuses on the network. It involves ping tests from the client machine to the egress point (often a proxy server), and from the egress point to the Office 365 cloud.

This test also should include checking whether the DNS from your ISP or enterprise is causing problems. Windows “nslookup” is a useful utility to check this as a point solution. Microsoft
provides a tool, the **Office 365 Network Onboarding tool**, that provides insight into factors affecting network performance. Third-party vendors offer solutions that inject synthetic network traffic to understand the end-to-end path to Office 365 locations and identify disruptions along the way. Example vendors that offer this include ThousandEyes and AppNeta.

**End-User Experience/Endpoint Response Time**

The most detailed and granular way to monitor Office 365 performance is to use digital experience monitoring (DEM) tools (see "Market Guide for Digital Experience Monitoring") to understand end users’ experience with the Office 365 service. These tools provide response times of common Office 365 tasks like logging in, opening a mailbox or measuring round-trip email time. Third-party DEM tools accomplish this using a variety of methods (see Figure 4).

![Third-Party DEM Tools That Monitor Office 365 Performance](image)

Figure 4 shows a number of ways that Office 365 can be monitored:

- **Synthetic transactions.** Synthetic application scripts mimic user journeys in Office 365 and replay those from within your data center, branches, endpoints or from cloud-hosted locations. (Sample vendors include Catchpoint and Apica.)

- **Browser telemetry.** Browser plug-ins installed on client browsers report on page load times and break down those times into download time, DNS time or rendering time. (Sample vendors include Dynatrace and Cisco AppDynamics.)

- **Endpoint agents.** Agents installed on client machines track client OS metrics as well as the performance of SaaS apps like Office 365. (Sample vendors include Nexthink and Aternity.)
In addition to tools that offer these capabilities broadly, several tools — including Exoprise, Martello-GSX and ENow — are focused exclusively on Microsoft environments.

I&O leaders must use specialized techniques, such as real-time analysis to assess the performance of unified communications in Microsoft Teams or Skype for Business (see “Reduce the Visibility Gap for Microsoft Skype for Business With the Right Monitoring Strategy”). Microsoft offers its own Call Analytics and Call Quality Dashboard to provide some of this visibility. 6 Third-party solutions, such as Unify Square and IR Prognosis, also can be used here. I&O leaders interested in monitoring performance in real time should select monitoring tools that can support this, as not all do. For example, Teams provides call/session performance information 30 minutes after a call/session is completed, allowing “postmortem” analysis of call quality.

The options listed previously involve baselining and monitoring, with users setting thresholds within their monitoring tools to identify various performance levels. However, advances in artificial intelligence for IT operations (AIOps) techniques enable the use of AI/ML algorithms to detect anomalies by setting adaptive baselines and automatically distinguishing between normal and abnormal behavior (see “Use AIOps for a Data-Driven Approach to Improve Insights From IT Operations Monitoring Tools”). When evaluating the various monitoring methods, consider the vendor’s use of these techniques (see “Market Guide for AIOps Platforms”).

Enhance Visibility Into the User Experience

Office 365 contains multiple complex applications. New ways of working are extending office collaboration tools beyond email. There is growing interest in other areas, including unified communication and collaboration solutions, meeting solutions, collaborative workstream, and document management tools.

Historically for most enterprises, email has been the key form of communication both internally and externally. SharePoint has also formed the backbone of many corporate file sharing systems. These components traditionally have had the strongest coverage from monitoring tools. However, the rise of new work nucleus environments has seen uptake of new services like Teams (whose usage jumped 70% during the COVID-19 pandemic, 7 OneDrive, etc., which have had less focus from monitoring tools than the more established components.

Office 365 services are not all used equally (see Figure 5), and all outages will not impact the business in the same way. Each requires different levels of performance monitoring. I&O leaders must categorize the various Office 365 services and assign a level of monitoring required for each.

Figure 5. Microsoft Office 365 Core Services
Each component has various metrics that are important to monitor. I&O leaders must determine which metrics are important to measure, what performance is acceptable and how to measure change over time. A list of sample metrics is shown in Figure 6.

Table 1: Example Metrics for the Performance for Each Component
Source: Gartner

I&O leaders must:

- Assess the business criticality of each Office 365 product.
- Prioritize level of monitoring based on the business criticality.
- Reassess every six months, or earlier as required.

Evidence

An analysis of 500 Gartner inquiries from April 2018 through April 2020 showed an increase of 20% in calls relating to Office 365 monitoring year over year.

1  “ENow Software Blog,” ENow.

2 Gartner conducted an online survey in January 2019 to understand how IT decision makers view Office 365. This research was conducted among Gartner Research Circle Members — a Gartner-managed panel composed of IT or IT-business professionals. In total, 223 members qualified to participate, but only 204 were currently using or planning to use Office 365 in the near term. Qualified participants made or influenced decisions regarding Microsoft Office server software products or Office 365 for their organization. Business end users with either an IT or an IT-business
focus as a primary role were invited to participate. Respondents were primarily located in North America and Western Europe.

The survey was developed collaboratively by a team of Gartner analysts and was reviewed, tested and administered by Gartner’s Research and Data Analytics team. The results of this study are representative of the respondent base and not necessarily the market as a whole.

3 “How to Check Microsoft 365 Service Health,” Microsoft Docs.


5 “Enterprise Network Insights and Network Score in the Microsoft 365 Admin Center,” Microsoft Tech Community.

6 The Microsoft Call Analytics dashboard provides network, device and connectivity details to assess the performance of a particular Microsoft Teams and Skype for Business session/call/meeting. Microsoft Call Quality Dashboard aggregates call/voice quality, server-client streams’ and client-client streams’ performance information to help provide a view of networkwide Teams and Skype for Business performance.

7 “Microsoft Teams Jumps 70 Percent to 75 Million Daily Active Users,” The Verge.

Recommended by the Authors

Use Monitoring for SaaS Despite Its Limitations
Solution Comparison for Microsoft Office 365 Monitoring Solutions
Market Guide for UCaaS Monitoring
Guidance for Exchange Online (Office 365) Implementations
Create a Culture of Digital Dexterity With the ‘New Work Nucleus’
Apply Gartner’s ACME Framework to Make New Work Nucleus Technology Decisions
The Role of Workstream Collaboration in the New Work Nucleus
Collaborative Work Management in the New Work Nucleus
How to Organize IT to Support Office 365, G Suite and Other Digital Workplace Applications
How to Effectively Support Office 365

Recommended For You

Revitalize IT Compensation Practices to Compete for Digital Talent
Define Clear Business Goals and Metrics to Measure and Demonstrate the Business Value of Strategy Execution
Diversity & Inclusion as a Strategic Partner of HR: An Interview with Ameren’s CHRO and CDO

Agile Product Management Teams Require Combined Generalist and Specialist Skills to Succeed

Essential Considerations When Identifying People to Excel in a Growing Product Management Function