EBOOK

MANAGE 'EVERYTHING' WITH TRULY UNIFIED ENDPOINT MANAGEMENT — DISCOVERY, VISIBILITY AND MONITORING

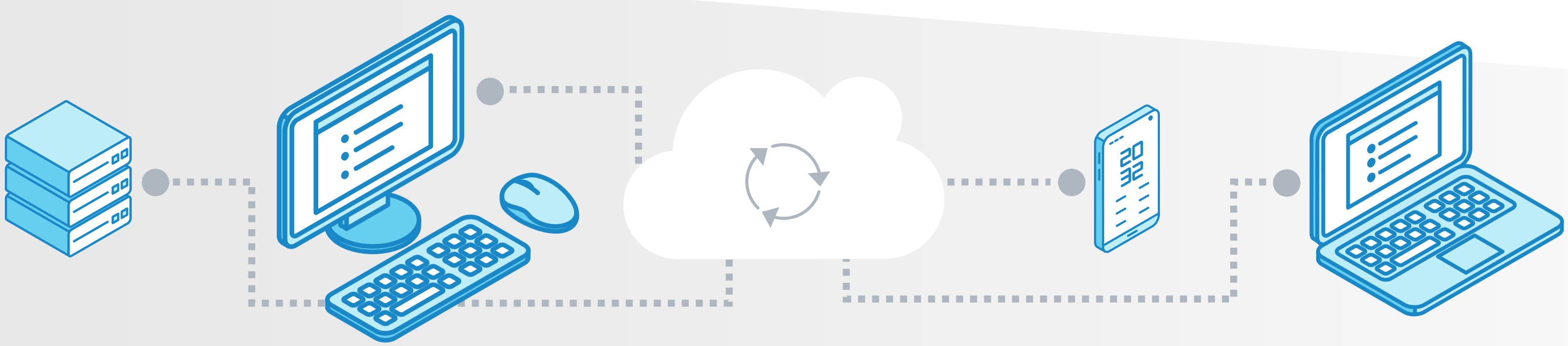
INTRODUCTION

The number and diversity of connected devices is growing rapidly. With the explosion of devices and associated data, efficiently managing the expanding IT infrastructure landscape is becoming more complex and challenging. Moreover, today's IT teams use various non-integrated or poorly integrated tools to manage IT, which increases their burden rather than reducing it.

This has resulted in a critical need for a new generation of tools that allow IT teams to stay ahead of the curve and enable truly Unified Endpoint Management (UEM). While UEM is not a new term, the new generation tools must go beyond the current concept of UEM, where the devices managed are traditional endpoints (laptops, desktops, servers), network and mobile devices. Truly unified endpoint management tools will enable IT teams to manage all endpoints and devices in an IT environment, from virtual machines that are on premises and in the cloud, to commercial internet-of-things (IoT) devices.

GROWING NUMBER OF ENDPOINTS AND DEVICES

Many IT management tools manage only certain devices such as desktops, servers, laptops, tablets and smartphones. But "devices" such as virtual machines (VMs), IoT devices and cloud infrastructure are growing exponentially. Let's take a look at each of these endpoints/devices that are being used extensively in digitally transformed companies.



Virtual Hosts and Virtual Machines

Server virtualization technologies, such as VMware and Microsoft Hyper-V, are being used extensively to increase computing efficiency and reduce hardware and other costs. According to Spiceworks research, server virtualization is used by 92% of businesses. The Spiceworks data also showed that 77% of on-premises server workloads are virtualized.[1]

A modern, unified endpoint management solution must monitor both the virtual host and VMs for a range of attributes, which we’ll dive into below.

Cloud Infrastructure – Microsoft Azure and Amazon Web Services

Over 2020 and all through 2021 so far, we’ve seen an acceleration in cloud adoption that was already underway for several years. Many IT teams have aggressively moved to cloud services such as Microsoft Azure and Amazon Web Services (AWS).

Cloud infrastructure management involves the monitoring of cloud-based virtual machines, SQL instances and cloud services, troubleshooting any issues, managing cloud usage and costs, and optimizing the cloud for higher efficiency.

IoT Devices

According to a McKinsey & Company report, the worldwide number of IoT-connected devices is projected to increase to 43 billion by 2023, an almost threefold increase from 2018.[2] While large enterprises have been investing in IoT technologies for years, the next wave of growth will involve small and midsize enterprises.

The number of IoT applications is growing fast and includes medical devices, industrial machines (“Industry 4.0”), agricultural equipment, connected automobiles and much more. IoT device management involves the monitoring and managing of all these connected smart devices to improve equipment uptime and performance.

CAPABILITIES OF A TRULY UNIFIED ENDPOINT MANAGEMENT PLATFORM

A truly unified endpoint management solution empowers IT teams to manage all types of endpoints and devices across on-premises, cloud and hybrid IT environments. It must discover, monitor, update and manage every endpoint and device (physical and virtual) in the IT landscape from a single user interface (UI).

The critical capabilities of a next-generation UEM platform that simplifies the life of IT technicians and takes UEM to the next level are:

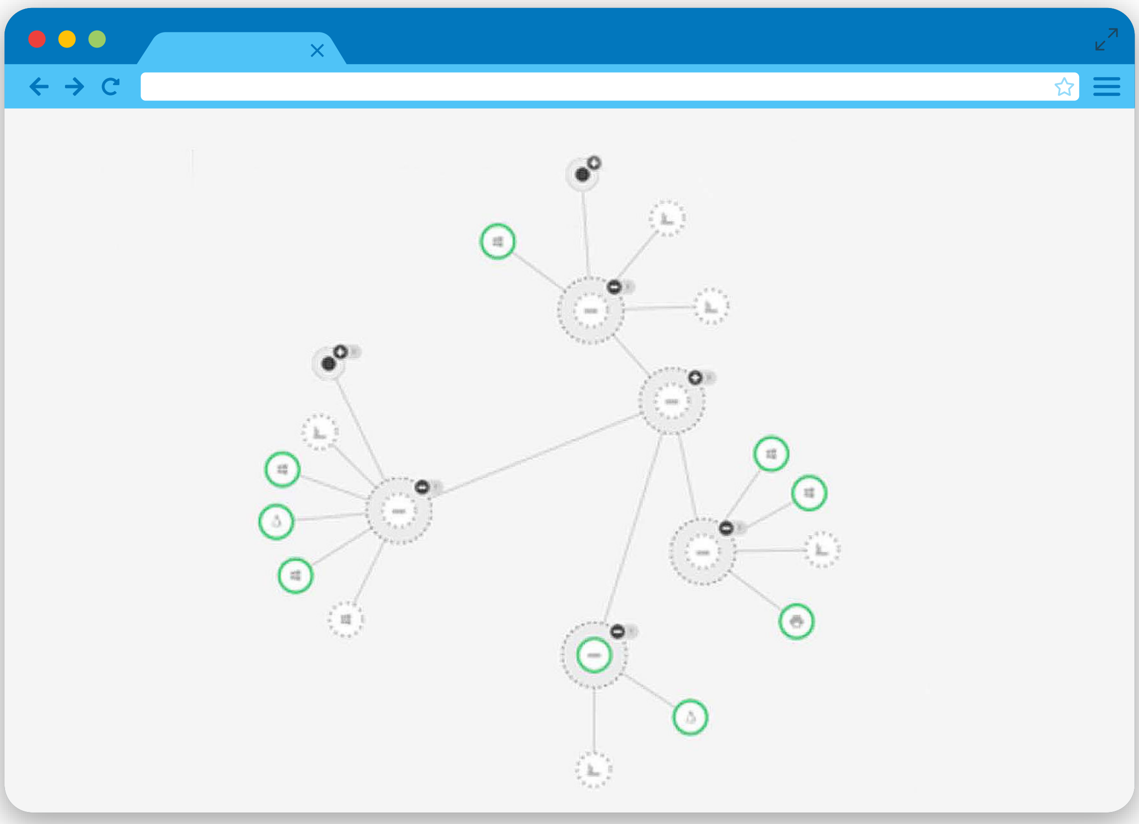
Discovery and Topology Mapping of All Devices

A next-generation UEM solution automates the process of discovery of all endpoints and network devices, including virtual hosts and VMs for VMware and Microsoft Hyper-V, and cloud infrastructure for services such as Microsoft Azure and AWS. This includes the discovery of cloud resources such as:

- **Virtual Machines** — These are the scalable computing resources that cloud Infrastructure-as-a-Service (IaaS) provides.
- **SQL Instances** — Discovery and mapping of SQL databases.
- **Cloud Services/App Services** — The Azure App Service is an HTTP-based service for hosting web applications, REST APIs and mobile backends.
- **Load Balancers** — These allow you to scale application resources, enabling you to provide high service availability.

A modern UEM solution would be missing critical functionality if it didn’t provide complete visualization of your extended network via a network topology map.

A network topology map enables you to see the connectivity of all agent-based and agentless endpoints and devices on a network, including the up/down status as well as active alarms for each node. With this sort of visibility, you can quickly detect issues and start the remediation process, which will ultimately reduce the mean time to resolution (MTTR) of IT incidents.



Kaseya VSA Network Topology Map

A truly unified Endpoint Management platform must provide topology maps that include all virtual hosts and VMs and display the health status of all virtual elements on the network.

Monitoring and Management of All Endpoints and Devices

Current UEM solutions typically cover mobile device management (MDM) along with management of traditional endpoints (servers, desktops, laptops) and network devices. With next-generation UEM, we must extend monitoring and management to VMs, cloud infrastructure and IoT devices.

Virtual Machine Monitoring

Virtual machine monitoring leverages not only SNMP monitoring but also API monitoring capabilities built into the virtualization technology.

While SNMP is great for standard monitoring, it assumes that the vendor has taken the time to fill in the standard OID tree for SNMP (where each piece of data has a guideline on where to put it). However, many vendors who are "on top" of things consider SNMP to be legacy and are building additional support.

Most of the time, this newer version of support is via APIs. In the case of VMware, they have added APIs to their hosts (think ESX) so that you can gather read-only monitoring data and even manage certain functions in the VM.

Since Microsoft is closer to Apple in how they design their ecosystems, they have opted to leverage their existing WMI protocol to manage Hyper-V VMs. This allows WMI drivers that are built into the UEM agent to gather the data.

The UEM solution should monitor virtualization hosts and guest VMs for attributes such as:

Host Machines:

- Operational Status
- Uptime
- Alarms
- CPU Core Status
- Number of vCPUs
- vCPU Utilization
- Network In
- Network Out
- Physical Memory Utilization
- Virtual Memory Utilization
- vDisk Utilization

Guest VMs:

- Operational Status
- Uptime
- CPU Utilization
- CPU Ready Time
- Memory Utilization
- Network In
- Network Out
- Disk Space Utilization
- Available Disk Space

Guest VM metrics can be collected by an agent running on the guest operating system. This includes metrics such as CPU utilization and memory usage.

Cloud Monitoring

Cloud monitoring should utilize deployed agents and API-monitoring capabilities, similar to VM monitoring described above. For cloud Infrastructure-as-a-Service monitoring, the next-gen UEM solution will monitor the same assets discussed in the Discovery and Topology Mapping section, namely virtual machines, SQL instances, Cloud Services/App Services and load balancers.

For cloud VMs, the UEM solution will monitor attributes such as:

- CPU Credits Consumed
- CPU Utilization
- Memory Utilization (Source Unknown)
- Network In
- Network Out
- Disk Read Bytes
- Disk Write Bytes
- Disk Read Operations
- Disk Write Operations

BENEFITS OF A TRULY UNIFIED ENDPOINT MANAGEMENT SOLUTION

The many benefits of a next-generation UEM include:

Visibility and control of your entire IT environment

As the old adage goes — you can't manage what you don't know about. A truly unified solution allows you to discover, visualize and manage everything in your IT environment. This gives you greater control of every endpoint and device on the network, resulting in better uptime and service delivery.

Faster resolution of IT incidents

With improved visibility and centralized monitoring comes rapid detection and remediation of issues through a combination of automated and manual processes, leading to increased end user satisfaction.

Increase in efficiency of IT operations

By using a single, unified solution to manage "everything," you eliminate the various point tools that contribute to time wasted by your IT technicians as they jump from one tool to another. With UEM, you minimize the time spent navigating across different applications to get a single task done.

Reduced IT costs

The elimination of unnecessary point tools drives cost savings on licenses and reduces training and ramp-up time for technicians. All of this frees up the IT budget for strategic projects.

KASEYA VSA – GOING BEYOND TRADITIONAL UNIFIED ENDPOINT MANAGEMENT

Kaseya VSA is a next-generation unified endpoint management solution that maximizes IT operational efficiency with complete IT asset discovery, monitoring and management.

It gives you the visibility and functionality you need to manage all of IT in a single UI. To put it simply, Kaseya VSA is leading the way towards truly unified endpoint management.

Request a demo of Kaseya VSA to learn how Kaseya VSA provides you with capabilities that are far superior to the ones provided by traditional UEM tools.

Sources:

1. 2020 State of Virtualization Technology Report, Spiceworks
2. Growing opportunities in the Internet of Things, McKinsey & Company

About Kaseya

Kaseya is the leading provider of complete IT management solutions for managed service providers (MSPs) and midsized enterprises. Through its open platform and customer-centric approach, Kaseya delivers best in breed technologies that allow organizations to efficiently manage and secure IT. Offered both on-premise and in the cloud, Kaseya solutions empower businesses to command all of IT centrally, easily manage remote and distributed environments, and automate across IT management functions. Kaseya solutions manage over 10 million endpoints worldwide.Headquartered in Dublin, Ireland, Kaseya is privately held with a presence in over 20 countries. To learn more, visit www.kaseya.com.