1 CLOUDMON ITIM DEPLOYMENT SCENARIOS

With more organizations opting to move their applications to cloud-based environments, there is a fast-growing uptake in use of data center and cloud infrastructure. In the process, IT administrators face many challenges when monitoring the performance, security, and availability of such infrastructure. Enterprises face challenges in managing multiple toolsets and getting the right expertise to manage diverse and dynamic requirements.

Data Center and Cloud providers are challenged in ensuring that SLAs (service level agreements) are within agreed levels and that MTTR (mean time to repair) is low with efficiency of IT operations being high.

Cloudmon ITIM is a unified proactive infrastructure monitoring and diagnostic solution for enterprises, data center and cloud providers that presents the live status of all infrastructure entities and provides comprehensive diagnostics information for troubleshooting.

1.1 Scenario 1: Small businesses in a specific location

This scenario is relevant to small businesses who wish to monitor:

- in-house servers, hosts, and virtual workloads
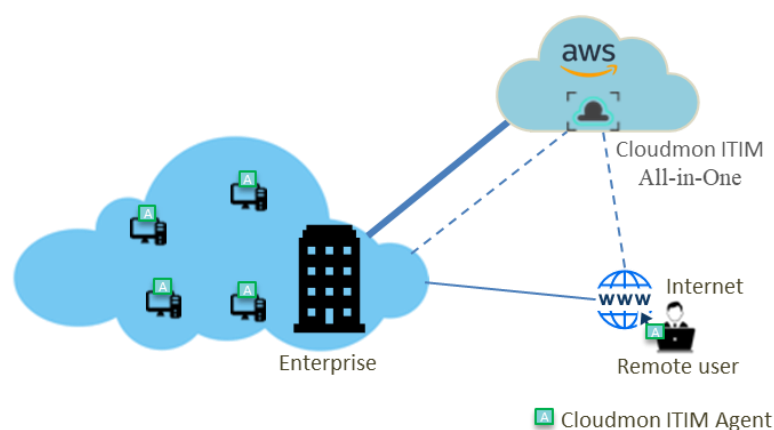- remote employee devices and
- public cloud resources

Figure 1 – Sample Cloudmon ITIM All-in-One Cloud deployment in small businesses

Cloudmon ITIM Controller All-in-one version would be deployed in public cloud or can be purchased from AWS (Amazon Web Services) Marketplace. Typically, the total number of devices that can be monitored

in this scenario would be under 1000. Cloudmon ITIM Controller All-in-one version would be deployed in public cloud (e.g., AWS).

Note: To monitor on-premises network devices and network QoS (Quality of Service) monitoring, additionally Cloudmon ITIM Probe must be installed and configured at on-premises.

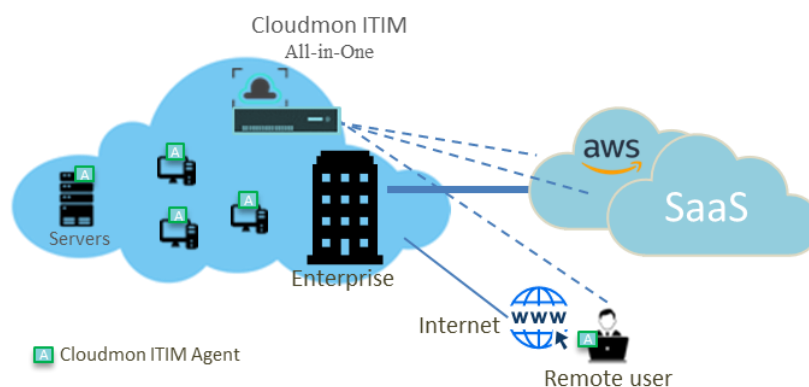## 1.2 Scenario 2: Small businesses in a specific location

This scenario is relevant to who wish to monitor:

- in-house servers, hosts, and network devices,
- remote employee devices
- network QoS
- public cloud resources and
- SaaS (Software as a Service) availability

This scenario is like Scenario 1, except that network QoS is also to be monitored. Hence,

- Cloudmon ITIM All-in-one could be either installed on-premises (figure 2), or
- A Cloudmon ITIM Probe could be installed on-premises, with
    - o Cloudmon ITIM Controller in the Cloud (figure 3) or
    - o Cloudmon ITIM All-in-one in the Cloud.

Figure 2 – Sample Cloudmon ITIM All-in-one on-premise deployment in small enterprises
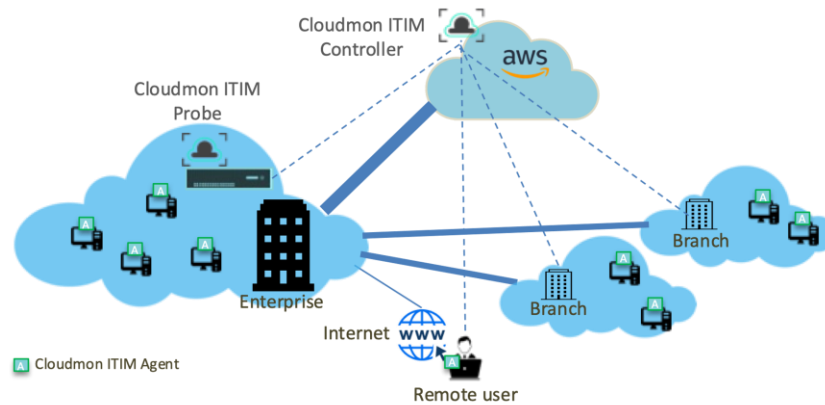
Figure 3 – Sample Cloudmon ITIM Probe on-premise and Cloudmon ITIM Controller in Cloud

Typically, the total number of devices that can be monitored in this scenario would be up to 2500.

1.3 Scenario 3: Mid-size enterprises with branch offices

This scenario is relevant to mid-size enterprises with branch offices who wish to monitor:

- in-house servers, hosts, and network devices.

- branch connectivity and remote devices

- remote employee devices

- branch connectivity, network devices, network QoS and the remote devices

- public cloud resources

- SaaS availability

The difference in this case with respect to Scenarios 1 and 2 is that there is a branch office to be monitored. Since network QoS must be monitored, an on-premises Cloudmon-ITIM probe is needed at the branch.
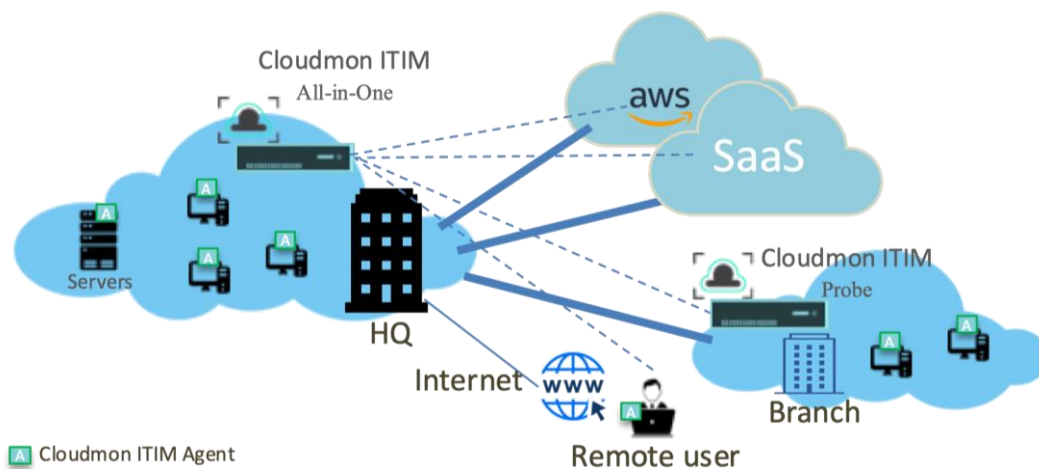

Figure 4 – Sample Cloudmon ITIM All-in-one on-premise deployment with additional probe in remote branch

1.4 Scenario 4: Larger enterprises

This scenario is relevant to mid-size enterprises larger enterprises who wish to monitor:

- in-house servers, hosts, and network devices.

- branch connectivity and remote devices

- remote employee devices

- public cloud resources

- SaaS availability

The difference in this case with respect to Scenario 3 is that there are more branch offices (some large and some small) to be monitored. Since network QoS must be monitored, on-premises Cloudmon-ITIM probes are deployed in the larger branches.
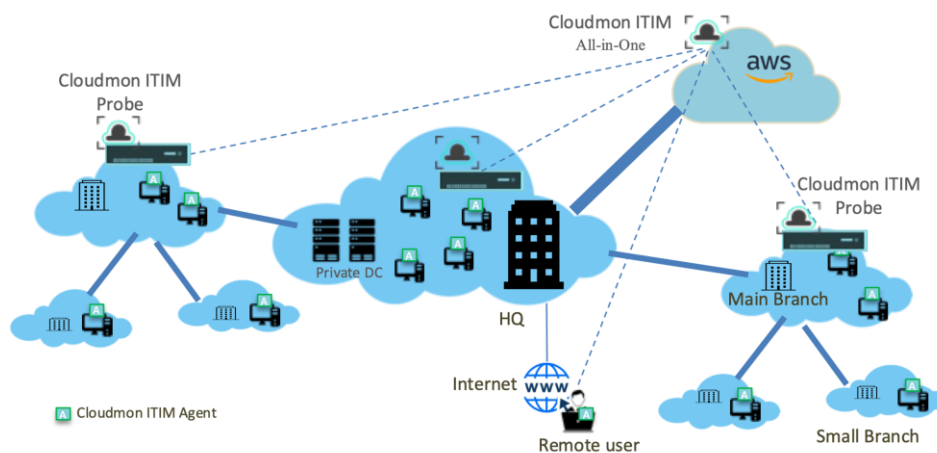

Figure 5 – Sample Cloudmon ITIM All-in-one deployment with additional probes in bigger branches

1.5 Scenario 5: Cloud-native enterprises (with DC on-public cloud)

This scenario is relevant to cloud-native enterprises who have migrated fully on to public cloud and wish to monitor their:

- Corporate in-house hosts and network devices.

- remote employee devices

- branch connectivity towards public cloud resources

The difference in this case with respect to Scenarios 3 and 4 are that all server resources are in public cloud. However, only in the case that network QoS must be monitored, is it necessary to deploy on-premises Cloudmon-ITIM probes.
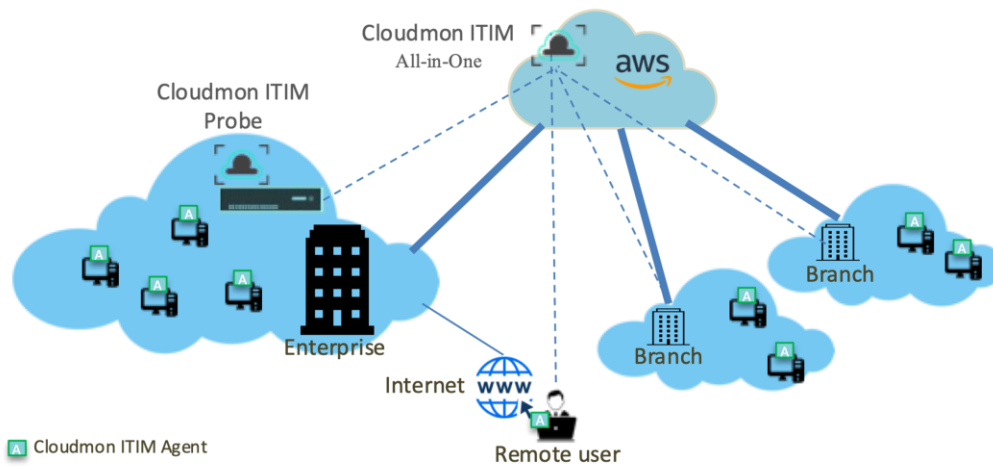
Figure 6 – Sample on-cloud Cloudmon ITIM (All-in-One) deployment with remote probe to monitor branches

1.6 Which scenario represents my company?

The scenarios depicted in the preceding sections, or their combinations, may not seem to represent your company scenarios. If you feel so, Veryx would be glad to support you to arrive at the configuration ideally suited for your company.

2 CLOUDMON ITIM SYSTEM REQUIREMENTS

Cloudmon ITIM consists of three main components - Cloudmon ITIM controller, Cloudmon ITIM probes and Cloudmon ITIM agents. Cloudmon ITIM provides the following flexible installation options based on the deployment scenarios depicted in section 1.

- Cloudmon ITIM All-in-one
  - In this option, both the Controller and Probe are co-located in a single system (in cloud or on-premises). This is suitable for small businesses, where typically one or two sites need to be monitored.
- Cloudmon ITIM Controller
  - Suitable for hosting the Cloudmon ITIM controller on cloud.
  - Suitable, if you are planning to monitor servers, hosts, laptops, virtual workloads, and cloud workloads using Agent-based mechanism. No additional Cloudmon ITIM Probe installations are required in this case.
- Cloudmon ITIM Probe
  - Required only if you need Agent-less monitoring (E.g.: SNMP (Simple Network Management Protocol)), or if you need to perform network QoS monitoring.
  - Not required if you are going to perform Cloudmon ITIM Agent-based monitoring, and do not require network QoS monitoring.
- Cloudmon ITIM Agent
  - Required if you are planning to monitor using Agent-based monitoring
  - Agents are installed in servers, host, laptops, virtual and cloud workloads. The agent collects system health and other KPIs (Key Performance Indicators) and sends it to controller for analysis and orchestration

2.1 Cloudmon ITIM All-in-One System Requirements

The following are system requirements for Cloudmon ITIM All-in-One:

2.1.1 On-premises installation

Category	Requirement
Hardware	Minimum Intel® i5 or equivalent or suitably configured Virtual Machine
OS	CentOS Version 7.7, x86-64bit architecture
Web browser	The following browsers are officially supported by the ITIM web interface (in order of performance and reliability): • Google Chrome 89+ • Mozilla Firefox 86+ • Safari 14+ • Microsoft Edge 90.0.818+*

*Roadmap

Hardware requirements for Cloudmon ITIM All-in-One depend on the number of devices to be monitored and the monitoring intervals that you are planning to use, as shown in the table below:

Devices	CPU Threads	RAM	Max. Probes	Disk space
Up to 50	4	2 GB	1	8 GB
Up to 100	4	4 GB	2	8 GB
Up to 250	4	8 GB	3	16 GB
Up to 500	4	16 GB	5	32 GB
Up to 1000	8	16 GB	10	256 GB
Up to 2500	10-12	32 GB	15	512 GB
> 2500	We recommend that you set up additional Cloudmon ITIM controller installations or contact the Veryx support team for more information on scaling.			

Note:
- Devices include servers, hosts, virtual workloads, network devices, and IP endpoints.

2.1.2 On-cloud installation

Cloudmon ITIM All-in-One can be installed in any public cloud and is readily available in AWS marketplace. The following are system requirements for Cloudmon ITIM:

Devices	CPU Threads	RAM	Max. Probes	Disk space	AWS EC2 Type (recommended)
Up to 50	2	4 GB	1	8 GB	t3.medium
Up to 100	2	8 GB	2	8 GB	m5.large
Up to 250	4	16 GB	3	16 GB	m5.xlarge
Up to 500	4	16 GB	5	16 GB	m5.xlarge
Up to 1000	4	16 GB	10	16 GB	m5.xlarge
> 1000	We recommend that you set up additional Cloudmon ITIM Controller installations or contact the Veryx support team for more information on scaling.				

2.2 Cloudmon ITIM Controller System Requirements

The following are system requirements for Cloudmon ITIM Controller:

2.2.1 On-premises installation

Category	Requirement
Hardware	Minimum Intel® i5 or equivalent or suitably configured Virtual Machine
OS	CentOS Version 7.7, x86-64bit architecture
Web browser	The following browsers are officially supported by the ITIM web interface (in order of performance and reliability): • Google Chrome 89+

	• Mozilla Firefox 86+
	• Safari 14+
	• Microsoft Edge 90.0.818+*

*Roadmap

Hardware requirements for Cloudmon ITIM Controller depend on the number of devices to be monitored and the monitoring intervals that you are planning to use, as shown in the table below:

Devices	CPU Threads	RAM	Max. Probes	Disk space
Up to 50	2	2 GB	1	8 GB
Up to 100	2	4 GB	2	8 GB
Up to 250	4	8 GB	3	16 GB
Up to 500	4	8 GB	5	32 GB
Up to 1000	4	16 GB	10	256 GB
Up to 2500	10-12	16 GB	15	512 GB
> 2500	We recommend that you set up additional Cloudmon ITIM Controller installations or contact the Veryx support team for more information on scaling.			

Note:
- Devices includes servers, hosts, virtual workloads, network devices, and IP endpoints.

2.2.2 On-cloud installation

Cloudmon ITIM Controller can be installed in any public cloud and is readily available in AWS marketplace. The following are the system requirements for Cloudmon ITIM Controller:

Devices	CPU Threads	RAM	Max. Probes	Disk space	AWS EC2 Type (recommended)
Up to 50	2	4 GB	1	8 GB	t3.medium
Up to 100	2	4 GB	2	8 GB	t3.medium
Up to 250	2	4 GB	3	16 GB	t3.medium
Up to 500	2	8 GB	5	16 GB	m5.large
Up to 1000	2	8 GB	10	16 GB	m5.large
> 1000	We recommend that you set up additional Cloudmon ITIM Controller installations or contact the Veryx support team for more information on scaling.				

2.3 Cloudmon ITIM Probe System Requirements

The following are the system requirements for Cloudmon ITIM Probes:

2.3.1 On-premises installation

Category	Requirement
Hardware	Intel® i5 or equivalent or suitably configured Virtual Machine

OS	CentOS Version 7.7, x86-64bit architecture

Hardware requirements for the Cloudmon ITIM Probes depend on the monitoring intervals that you plan to use. Your network size can also influence the performance of monitoring.

Devices	CPU Threads	RAM	Disk space
Up to 50	2	2 GB	8 GB
Up to 100	2	2 GB	8 GB
Up to 250	4	4 GB	8 GB

2.3.2 On-cloud installation

Cloudmon ITIM Probes can be installed on any public cloud and are readily available in AWS marketplace. The following are the system requirements for Cloudmon ITIM Probes:

Devices	CPU Threads	RAM	Disk space	AWS EC2 Type (recommended)
Up to 50	2	2 GB	8 GB	t3.medium
Up to 100	2	2 GB	8 GB	t3.medium
Up to 250	2	2 GB	8 GB	t3.medium

2.4 Cloudmon ITIM Agent System Requirements

Cloudmon ITIM Agent is a light-weight executable which needs to be installed on the servers, hosts, laptops, virtual and cloud workloads for Agent-based monitoring. The Cloudmon ITIM Agent's CPU and memory requirements are negligible (< 1%). Currently, Cloudmon ITIM Agent supports following operating systems:
- CentOS 6+
- RHEL 6+
- Fedora Core 20+
- Amazon Linux 2
- Windows 7+
- Windows server 2012

Note:
- If Cloudmon ITIM Controller is installed on-public cloud or remote location, the systems where Cloudmon ITIM Agent are installed must have reachability to controller. Cloudmon ITIM Agent uses port 80 for all communication towards controller and the same must be added to allowed-security group in your security system settings.

2.5 Large Installations

The maximum number of devices you can monitor with one ITIM on premises installation depends on the monitoring methodology and the monitoring intervals you use. In general, we recommend that you use a dedicated physical system to run both the ITIM controller and remote probes.

2.6 Running Cloudmon ITIM in Virtual Environments

You can run Cloudmon ITIM controller and remote probes on virtualized platforms. However, Cloudmon ITIM consists of different components that all rely on the performance and the stability of the probe system, where virtual environments add even more layers of complexity. This needs to be considered when you want to set up your Cloudmon ITIM installation in a way that you can achieve the same level of performance as on a physical server.

Most Cloudmon ITIM installations from 50 to 250 devices do not need any specific optimization regarding your virtual infrastructure.

2.7 Further information and support

For further information contact support@veryxtech.com or visit https://www.veryxtech.com