What is Azure Monitor for SAP solutions? (preview)

Article • 02/10/2023

(i) Important

Azure Monitor for SAP solutions is currently in PREVIEW. See the **Supplemental Terms** of Use for Microsoft Azure Previews for legal terms that apply to Azure features that are in beta, preview, or otherwise not yet released into general availability.

When you have critical SAP applications and business processes that rely on Azure resources, you might want to monitor those resources for availability, performance, and operation. *Azure Monitor for SAP solutions* is an Azure-native monitoring product for SAP landscapes that run on Azure. Azure Monitor for SAP solutions uses specific parts of the Azure Monitor infrastructure. You can use Azure Monitor for SAP solutions with both SAP on Azure Virtual Machines (Azure VMs) and SAP on Azure Large Instances.

There are currently two versions of this product, Azure Monitor for SAP solutions and Azure Monitor for SAP solutions (classic).

What can you monitor?

You can use Azure Monitor for SAP solutions to collect data from Azure infrastructure and databases in one central location. Then, you can visually correlate the data for faster troubleshooting.

To monitor different components of an SAP landscape (such as Azure VMs, high-availability clusters, SAP HANA databases, SAP NetWeaver, etc.), add the corresponding *provider*. For more information, see how to deploy Azure Monitor for SAP solutions through the Azure portal.

The following table provides a quick comparison of the Azure Monitor for SAP solutions (classic) and Azure Monitor for SAP solutions.

| Azure Monitor for SAP solutions | Azure Monitor for SAP solutions (classic) |
|--|---|
| Azure Functions-based collector architecture | VM-based collector architecture |

| Azure Monitor for SAP solutions | Azure Monitor for SAP solutions (classic) |
|---|--|
| Support for Microsoft SQL Server, SAP HANA, and IBM Db2 databases | Support for Microsoft SQL Server, and SAP HANA databases |

Azure Monitor for SAP solutions uses the Azure Monitor capabilities of Log Analytics and Workbooks. With it, you can:

- Create custom visualizations by editing the default workbooks provided by Azure Monitor for SAP solutions.
- Write custom queries.
- Create custom alerts by using Azure Log Analytics workspace.
- Take advantage of the flexible retention period in Azure Monitor Logs/Log Analytics.
- Connect monitoring data with your ticketing system.

What data is collected?

Azure Monitor for SAP solutions doesn't collect Azure Monitor metrics or resource log data, like some other Azure resources do. Instead, Azure Monitor for SAP solutions sends custom logs directly to the Azure Monitor Logs system. There, you can then use the built-in features of Log Analytics.

Data collection in Azure Monitor for SAP solutions depends on the providers that you configure. During public preview, the following data is collected.

Pacemaker cluster data

High availability (HA) Pacemaker cluster data includes:

- Node, resource, and SBD status
- Pacemaker location constraints
- Quorum votes and ring status

Also see the metrics specification for ha_cluster_exporter.

SAP HANA data

SAP HANA data includes:

CPU, memory, disk, and network use

- HANA system replication (HSR)
- HANA backup
- HANA host status
- Index server and name server roles
- Database growth
- Top tables
- File system use

Microsoft SQL Server data

Microsoft SQL server data includes:

- CPU, memory, disk use
- Hostname, SQL instance name, SAP system ID
- Batch requests, compilations, and Page Life Expectancy over time
- Top 10 most expensive SQL statements over time
- Top 12 largest table in the SAP system
- Problems recorded in the SQL Server error log
- Blocking processes and SQL wait statistics over time

OS (Linux) data

OS (Linux) data includes:

- CPU use, fork's count, running and blocked processes
- Memory use and distribution among used, cached, buffered
- Swap use, paging, and swap rate
- File systems usage, number of bytes read and written per block device
- Read/write latency per block device
- Ongoing I/O count, persistent memory read/write bytes
- Network packets in/out, network bytes in/out

SAP NetWeaver data

SAP NetWeaver data includes:

- SAP system and application server availability, including instance process availability of:
 - Dispatcher

- o ICM
- Gateway
- Message server
- Enqueue Server
- IGS Watchdog
- Work process usage statistics and trends
- Enqueue lock statistics and trends
- Queue usage statistics and trends
- SMON metrics (/SDF/SMON)
- SWNC workload, memory, transaction, user, RFC usage (St03n)
- Short dumps (ST22)
- Object lock (SM12)
- Failed updates (SM13)
- System logs analysis (SM21)
- Batch jobs statistics (SM37)
- Outbound queues (SMQ1)
- Inbound queues (SMQ2)
- Transactional RFC (SM59)
- STMS change transport system metrics (STMS)

IBM Db2 data

IBM Db2 data includes:

- DB availability
- Number of connections, logical and physical reads
- Waits and current locks
- Top 20 runtime and executions

What is the architecture?

There are separate explanations for the Azure Monitor for SAP solutions architecture and the Azure Monitor for SAP solutions (classic) architecture.

Some important points about the architecture include:

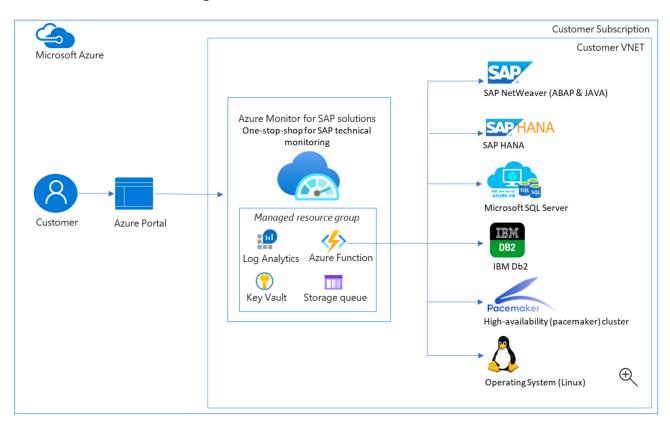
• The architecture is **multi-instance**. You can monitor multiple instances of a given component type across multiple SAP systems (SID) within a virtual network with a

single resource of Azure Monitor for SAP solutions. For example, you can monitor HANA databases, high availability (HA) clusters, Microsoft SQL server, SAP NetWeaver, etc.

- The architecture is multi-provider. The architecture diagram shows the SAP HANA
 provider as an example. Similarly, you can configure more providers for
 corresponding components to collect data from those components. For example,
 HANA DB, HA cluster, Microsoft SQL server, and SAP NetWeaver.
- The architecture has an **extensible query framework**. Write SQL queries to collect data in JSON . Easily add more SQL queries to collect other data.

Azure Monitor for SAP solutions architecture

The following diagram shows, at a high level, how Azure Monitor for SAP solutions collects data from the SAP HANA database. The architecture is the same if SAP HANA is deployed on Azure VMs or Azure Large Instances.



The key components of the architecture are:

- The Azure portal, where you access the Azure Monitor for SAP solutions service.
- The Azure Monitor for SAP solutions resource, where you view monitoring data.
- The managed resource group, which is deployed automatically as part of the Azure Monitor for SAP solutions resource's deployment. The resources inside the managed

resource group help to collect data. Key resources include:

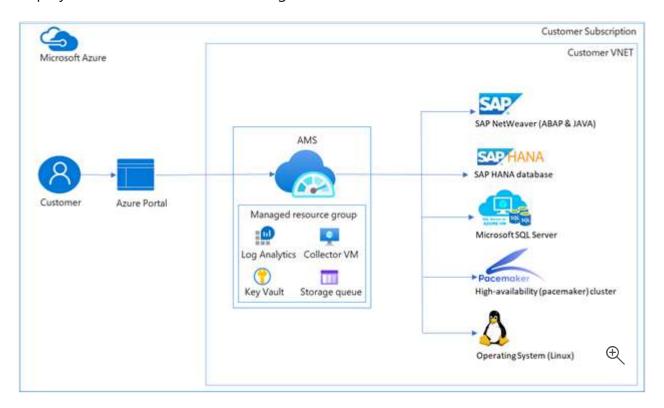
- An Azure Functions resource that hosts the monitoring code. This logic collects
 data from the source systems and transfers the data to the monitoring framework.
- An Azure Key Vault resource, which securely holds the SAP HANA database credentials and stores information about providers.
- The Log Analytics workspace, which is the destination for storing data. Optionally, you can choose to use an existing workspace in the same subscription as your Azure Monitor for SAP solutions resource at deployment.

Azure Workbooks provides customizable visualization of the data in Log Analytics. To automatically refresh your workbooks or visualizations, pin the items to the Azure dashboard. The maximum refresh frequency is every 30 minutes.

You can also use Kusto Query Language (KQL) to run log queries against the raw tables inside the Log Analytics workspace.

Azure Monitor for SAP solutions (classic) architecture

The following diagram shows, at a high level, how Azure Monitor for SAP solutions (classic) collects data from the SAP HANA database. The architecture is the same if SAP HANA is deployed on Azure VMs or Azure Large Instances.



The key components of the architecture are:

- The **Azure portal**, which is your starting point. You can navigate to marketplace within the Azure portal and discover Azure Monitor for SAP solutions.
- The **Azure Monitor for SAP solutions resource**, which is the landing place for you to view monitoring data.
- Managed resource group, which is deployed automatically as part of the Azure
 Monitor for SAP solutions resource's deployment. The resources deployed within the
 managed resource group help with the collection of data. Key resources deployed
 and their purposes are:
 - Azure VM, also known as the collector VM, which is a Standard_B2ms VM. The main purpose of this VM is to host the monitoring payload. The monitoring payload is the logic of collecting data from the source systems and transferring the data to the monitoring framework. In the architecture diagram, the monitoring payload contains the logic to connect to the SAP HANA database over the SQL port. You're responsible for patching and maintaining the VM.
 - Azure Key Vault: which is deployed to securely hold SAP HANA database credentials and to store information about providers.
 - Log Analytics Workspace, which is the destination where the data is stored.
 - Visualization is built on top of data in Log Analytics using Azure Workbooks.
 You can customize visualization. You can also pin your Workbooks or specific visualization within Workbooks to Azure dashboard for auto-refresh. The maximum frequency for refresh is every 30 minutes.
 - You can use your existing workspace within the same subscription as SAP monitor resource by choosing this option at deployment.
 - You can use KQL to run queries against the raw tables inside the Log Analytics workspace. Look at Custom Logs.
 - You can use an existing Log Analytics workspace for data collection if it's deployed within the same Azure subscription as the resource for Azure Monitor for SAP solutions.

Can you analyze metrics?

Azure Monitor for SAP solutions doesn't support metrics.

Analyze logs

Azure Monitor for SAP solutions doesn't support resource logs or activity logs. For a list of the tables used by Azure Monitor Logs that can be queried by Log Analytics, see the data

reference for monitoring SAP on Azure.

Make Kusto queries

When you select **Logs** from the Azure Monitor for SAP solutions menu, Log Analytics is opened with the query scope set to the current Azure Monitor for SAP solutions. Log queries only include data from that resource. To run a query that includes data from other accounts or data from other Azure services, select **Logs** from the **Azure Monitor** menu. For more information, see Log query scope and time range in Azure Monitor Log Analytics for details.

You can use Kusto queries to help you monitor your Azure Monitor for SAP solutions resources. The following sample query gives you data from a custom log for a specified time range. You can specify the time range and the number of rows. In this example, you'll get five rows of data for your selected time range.

How do you get alerts?

Azure Monitor alerts proactively notify you when important conditions are found in your monitoring data. You can then identify and address issues in your system before your customers notice them.

You can configure alerts in Azure Monitor for SAP solutions from the Azure portal. For more information, see how to configure alerts in Azure Monitor for SAP solutions with the Azure portal.

How can you create Azure Monitor for SAP solutions resources?

You have several options to deploy Azure Monitor for SAP solutions and configure providers:

Deploy Azure Monitor for SAP solutions directly from the Azure portal

- Deploy Azure Monitor for SAP solutions with Azure PowerShell
- Deploy Azure Monitor for SAP solutions (classic) using the Azure Command-Line Interface (Azure CLI)

What is the pricing?

Azure Monitor for SAP solutions is a free product (no license fee). You're responsible for paying the cost of the underlying components in the managed resource group. You're also responsible for consumption costs associated with data use and retention. For more information, see standard Azure pricing documents:

- Azure Functions Pricing
- Azure VM pricing (applicable to Azure Monitor for SAP solutions (classic))
- Azure Key vault pricing
- Azure storage account pricing
- Azure Log Analytics and alerts pricing

How do you enable data sharing with Microsoft?

① Note

The following content only applies to the Azure Monitor for SAP solutions (classic) version.

Azure Monitor for SAP solutions collects system metadata to provide improved support for SAP on Azure. No PII/EUII is collected.

You can enable data sharing with Microsoft when you create Azure Monitor for SAP solutions resource by choosing *Share* from the drop-down. We recommend that you enable data sharing. Data sharing gives Microsoft support and engineering teams information about your environment, which helps us provide better support for your mission-critical SAP on Azure solution.

Next steps

• For a list of custom logs relevant to Azure Monitor for SAP solutions and information on related data types, see Monitor SAP on Azure data reference.

• For information on providers available for Azure Monitor for SAP solutions, see Azure Monitor for SAP solutions providers.