Matrix42 Cloud Services

Software Asset and Service Management 10 as Cloud Solution

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Contents

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1 Introduction

This document describes the functionality of Matrix42 Software Asset and Service Management (SASM) Version 10 as a cloud solution that uses the same product platform as on-premise and differs only in product usage.

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2 Components

The following table shows the differences in the individual components between the on-premise and cloud solution.

2.1 Software Asset Management

Component	On-Premise	Cloud
M42 Mobile Apps	●	●
M42 License Management	●	●
M42 Asset Management	●	●
M42 Contract Management	●	●
M42 Data Modeller	●	●
M42 Workflow Studio	●	●
M42 Inventory (Agentless)	●	●[1]
SAP Inventory	●	●[2]
Oralce Inventory	●	●[2]

● possible, ◗ partly possible, ○ not possible

[1] An additional Matrix42 Data Gateway is required, which is installed in the customer network.

[2] Additional components are required which are installed in the customer network.

2.2 Service Management

Component	On-Premise	Cloud
M42 Mobile Apps	●	●
M42 Service Catalog	●	●
M42 Service Desk	●	●
M42 Asset Management	●	●
M42 Data Modeller	●	●
M42 Workflow Studio	●	●

● possible, ◗ partly possible, ○ not possible

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3 Use of the cloud service

3.1 Accessing the cloud service

The cloud service is accessible via a browser and an HTTPS connection. HTTP connections are redirected to HTTPS. The browser should support TLS 1.2 and secure cipher suites. Access to the instance in the Matrix42 cloud via the Remote Desktop Protocol (RDP) and to the file system is not possible for either consultants or customers. Only the Matrix42 Cloud Operations Team and Matrix42 Support are eligible. Consequently, no changes can be made at the file level. It is also not possible to access the database or the SQL server to read or manipulate data. Access to the SQL Server Reporting Services via browser and HTTPS is basically possible and offers the possibility to upload and manage reports. Apps from the Matrix42 Marketplace are installed by the Matrix42 Cloud Operations Team. In order to update these apps, the Matrix42 Support Team must be commissioned from the customer's point of view. The following table shows the different access options.

Method	On-Premise	Cloud
HTTP/HTTPS	●	●
RDP	●	○
File access	●	○
SQL Server	●	○
SQL Reports	●	◗
Matrix42 Marketplace Apps	●	●

● possible, ◗ partly possible, ○ not possible

3.2 SSL certificate and domain

The domain name (FQDN) of the customer environment is assigned by Matrix42 as a subdomain of "m42cloud.com" in the scheme "customername.m42cloud.com". The subdomain can be freely chosen on customer request depending on availability. The corresponding SSL certificate for a secure connection via HTTPS is also provided and managed by Matrix42. Customer domains or certificates are not possible. The following table shows the differences to On-Premise.

Method	On-Premise	Cloud
Customer's own SSL certificate	●	○
Self-signed SSL certificate	●	○
Own FQDN	●	○

● possible, ◗ partly possible, ○ not possible

3.3 E-Mail connection

By default, Matrix42 SASM instances have preconfigured an SMTP server for outgoing e-mail. The transmission of data is encrypted via a TLS connection. It is not possible for customers to access the SMTP server and make settings. From the customer's point of view, a separate mailbox that can be reached via the Internet must be integrated to receive e-mails. For the connection, the options available in the product standard can be used without restriction.

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4 Authentication

The authentication of users in Matrix42 SASM takes place in different ways but is only possible on the basis of a Microsoft Active Directory (AD) Domain Service or a Matrix42 SASM internal domain. The different scenarios are described in the following chapters. The following table shows all authentication options.

Method	On-Premise	Cloud
AD-Authentication (nativ)	●	○
AD-Authentication via MyWorkspace	●	●
AAD-Authentication via MyWorkspace	●	●
ADFS-Authentication via MyWorkspace	●	●
SASM internal domains	●	●

● possible, ◗ partly possible, ○ not possible

4.1 Microsoft Active Directory (AD)

The synchronization of user accounts and groups into a Matrix42 SASM Cloud instance is done via a Matrix42 Data Gateway, which must be installed in the customer network. The authentication of the previously synchronized user accounts is done via Matrix42 MyWorkspace. In addition to the Matrix42 Data Gateway, an AD connector of Matrix42 MyWorkspace must be installed in the customer network. Only then can user accounts be assigned and authenticated to persons in the Matrix42 SASM. Matrix42 MyWorkspace may incur additional license costs if these are not part of the current solution or exceed the limit of the license used. Furthermore, Matrix42 MyWorkspace is only available in certain regions that cannot be influenced and directs the user to a service available in his region. Figure 1 below shows the implementation of each component.

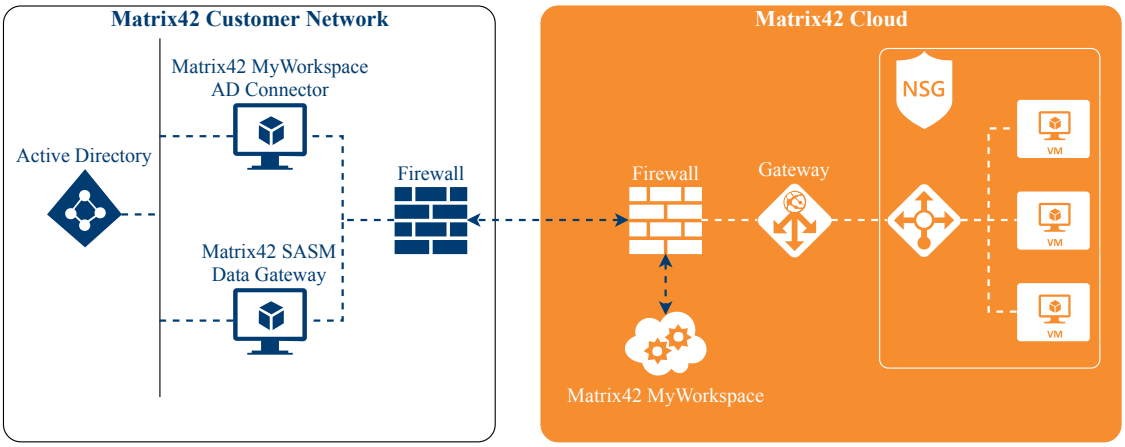

Figure 1: Active Directory connection

4.2 Microsoft Azure Active Directory (AAD)

The synchronization of user accounts into a Matrix42 SASM Cloud instance takes place via a Matrix42 Data Gateway, which must be installed in the customer network. The Azure Active Directory (AAD) connector

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must also be configured and activated in the Matrix42 MyWorkspace. User account authentication in the customer's AAD requires the creation of a new enterprise application for Matrix42 SASM to authenticate user accounts using SAML2 integration in Matrix42 SASM. Figure 2 below shows the implementation of each component.

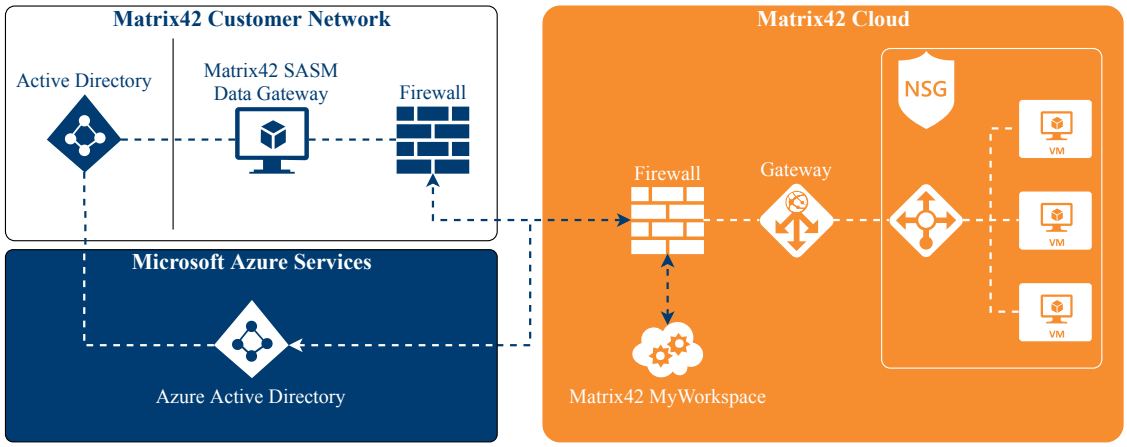

Figure 2: Azure Active Directory connection

4.3 Microsoft Active Directory Federation Services (ADFS)

The synchronization of user accounts into a Matrix42 SASM Cloud instance takes place via a Matrix42 Data Gateway, which must be installed in the customer network. The Active Directory connector must also be configured and activated in the Matrix42 MyWorkspace and an AD connector from Matrix42 MyWorkspace must be installed next to the Matrix42 Data Gateway in the customer network. Only then can user accounts be assigned and authenticated to persons in the Matrix42 SASM. The SAML2 integration in the Matrix42 SASM is used for the authentication of user accounts. The following Figure 3 shows the implementation of the individual components.

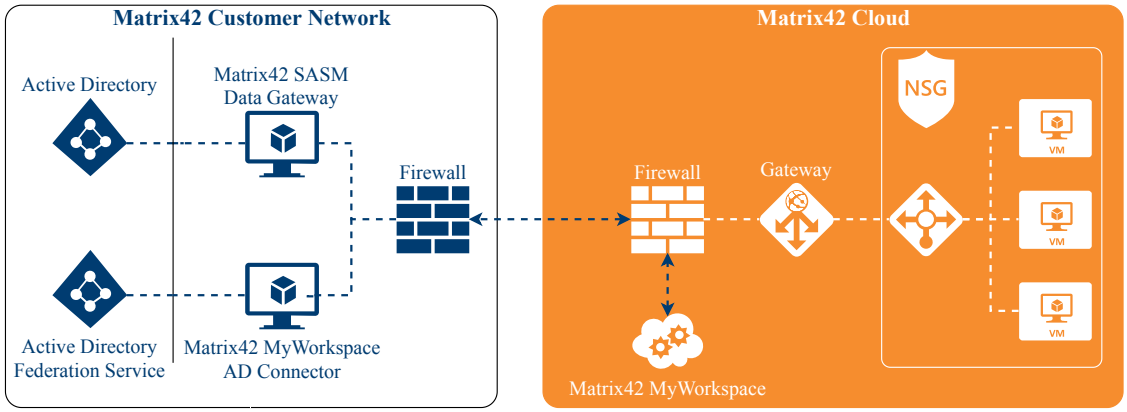

Figure 3: Active Directory Federation Services-Anbindung

4.4 Single Sign-on (SSO)

The possibility of using Single Sign-on (SSO) is possible in the Matrix42 Cloud under the previously listed connections.

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5 Integration

5.1 Data import via Matrix42 import definiton

The import of data via an import definition in Matrix42 SASM is only possible in a Matrix42 cloud instance via direct upload or web (FTP, HTTP/S). The latter enables the creation of an automated process. A text, CSV, XML and Excel file format is available. The import from a Microsoft SQL Server database, an OLEDB connection or from the LAN is not possible.

5.2 Data import via Matrix42 Data Gateway

Matrix42 SASM provides a set of tools and components for integration with any external system. It could be anything from ERP and CRM systems to CSV files on file share or endpoint devices for which the hardware and software inventory should be made.

There are two main scenarios for integration:

- Batch Import – loading data from an external system. For example, the system can load users from AD, get network configuration from VMware, synchronize mobile devices from Matrix42 Silverback.
- Perform Action – executing specific operation in an external system or synchronizing data to an external system. For example, the system can lock/unlock an account in AD, rename a computer in AD after it has been renamed in Matrix42 SASM, provision mobile devices in Matrix42 Silverback.

The authentication of a user account is not done via the Matrix42 Data Gateway. More information about the connection of an AD can be found in chapter 4. A more detailed functional description of a Matrix42 Data Gateway is described in this Matrix42 Help Center article.

5.3 Workflow Studio

With the Matrix42 Workflow Studio, processes can be modeled and automated. The execution of workflows on a data gateway in the customer network is possible by using Client Workflow activities.

5.4 Matrix42 Empirum

Matrix42 Empirum can only be connected to a cloud instance of Matrix42 SASM if it is in the same network. If, for example, Matrix42 Empirum is operated in the customer network and Matrix42 SASM is obtained from the cloud, no connection is currently possible. This also applies in the reverse case. If both software solutions are in the Matrix42 cloud or in the customer network, a connection is possible without problems.

5.5 Matrix42 Silverback

Matrix42 Silverback is connected to a Matrix42 Empirum Cloud instance via HTTPS and is independent of whether Matrix42 Silverback is obtained from the Matrix42 Cloud or operated in the customer's local network.

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6 API access

Matrix42 SASM from version 9.0.3 offers a REST API. Access is via HTTPS endpoints in the Matrix42 cloud and the authorization of users or access tokens.

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7 Customizings

All customizations, configurations, reports and more that are tied to a specific release version and are not automatically update protected are not available for Matrix42 Cloud Services. Exceptions are articles from the Matrix42 Marketplace.

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8 Glossary

Term	Explanation
AD	Active Directory (AD) or Active Directory Domain Services (ADDS) is a directory service Microsoft has developed for Windows domain networks. It stores information about members of the domain, including devices and users, verifies their credentials and defines their access rights. The server running this service is known as a domain controller. A domain controller is contacted when a user logs on to one device or accesses another device on the network.
AAD	Azure Active Directory (AAD) is Microsoft's cloud-based identity and access management service and can share information with other services based on SAML 2.0 or OAuth 2.0.
ADFS	Active Directory Federation Services (ADFS), a software component developed by Microsoft, can run on Windows Server operating systems to allow users single-sign-on access to systems and applications across corporate boundaries. ADFS can interact with other SAML 2.0 compliant federation services as a federation partner.
HTTP/S	The Hypertext Transfer Protocol (HTTP) is a stateless protocol for transmitting data on a network. In the Hypertext Transfer Protocol Secure (HTTPS) the data is transmitted between web servers and web browsers encrypted.
OAuth2	Open Authorization (OAuth) 2.0 is an open protocol and provides specific authorization processes for web applications, desktop applications, mobile phones and smart devices.
SAML2	Security Assertion Markup Language (SAML) 2.0 is an XML framework for sharing authentication and authorization information and provides capabilities to describe and transmit security-related information.
Single Sign-on	Single Sign-on (SSO) allows users to use other services they are entitled to without logging in again after one-time authentication.
TLS	Transport Layer Security is a hybrid encryption protocol for secure data transmission on the internet and a further development of the Secure Sockets Layer (SSL) protocol.

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9 Abbreviations

Abbreviation	Explanation
AAD	Azure Active Directory
AD	Active Directrory
ADFS	Active Directory Federation Services
CA	Certificate Authority
EMC	Empirum Management Console
FQDN	Fully Qualified Domain Name
HTTP/S	Hypertext Transfer Protocol/Secure
LAN	Local Area Network
OAuth	Open Authorization
OLEDB	Object Linking and Embedding, Database
RDP	Remote Desktop Protocol
SAML	Security Assertion Markup Language
SASM	Software Asset & Service Management
SQL	Structured Query Language
SSL	Secure Sockets Layer
SSO	Single Sign-on
TLS	Transport Layer Security

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