



What does SAS Metadata Server do?

SAS Metadata Server provides an open, central repository for all metadata that is created and required by an organization to support its enterprise intelligence strategy.

Why is SAS Metadata Server important?

Unless organizations operate with a single source of integrated metadata (information about data sources, content, business rules and access authorizations), it is a struggle to deliver consistent information and intelligence. The SAS Metadata Server delivers the power to integrate, share, centrally manage and leverage metadata across entire organizations. Benefits include reduced complexity, fewer maintenance issues and increased interoperability between applications, resulting in lower cost of ownership and a single version of enterprise truth.

For whom is SAS Metadata Server designed?

SAS Metadata Server is designed for IT systems administrators looking to reduce the number of metadata silos and the costs of maintaining them to support an enterprise intelligence strategy.

SAS® Metadata Server

A centralized repository for storing and managing enterprise metadata

Typical enterprises support a multitude of applications and data sources – many of them non-integrated, thus producing silos of information and metadata. Not only is this labor intensive and time consuming, it means business users may receive incomplete or inaccurate information. IT groups spend inordinate amounts of time tracking down information sources, consolidating data, manually updating metadata silos and hand-holding users through the intelligence-creation process.

Integrated metadata (information about data sources, how it was derived, business rules and access authorizations) is crucial for producing accurate, consistent information. If metadata from all applications can be stored in an open, centralized and integrated repository, data changes only need to be documented in one place, there are fewer systems to support and business users can count on high-quality information. A single version of the truth is available to all, and better use of staff time lowers the total cost of ownership for IT infrastructures.

SAS Metadata Server is a multi-user software server that surfaces metadata from one or more repositories to applications via the SAS Open Metadata Architecture. With the ability to import, export, reconcile and update metadata, and document those actions, the server manages technical, process and administrative metadata across all applications. It adheres to the Common Warehouse Metamodel standard and supports interoperability with third-party products.

Key benefits

- **Simplifies systems support.**

The SAS Metadata Server enables organizations to leverage the benefits of metadata easily and consistently. This “data about data” contains valuable information on the source and format of the data, the changes it has undergone and how the data should be used. The SAS Metadata Server provides a centralized and easily managed system for enterprise deployment, ensuring that information in data repositories is consistent, current and comprehensible to users and programmers.

- **Ensures data integrity.**

The entire end-to-end intelligence creation process can be documented on a metadata level. Repositories can be promoted from development to test to production, ensuring that users have access to the repository that meets accepted corporate quality standards. Changes are captured in audit logs that can be used to reconstruct information and/or meet audit trail requirements for either security or documentation purposes.

- **Lowers cost of ownership.**

Because multiple data sources are supported through a common metadata layer, you can easily leverage existing database infrastructures. With the SAS Metadata Server, programmers can quickly reuse metadata structures from existing databases, eliminating the need to write and rewrite complex consolidation programs. In addition, data only needs updating in one place, providing improved consistency and cost-effective use of resources.

Product overview

The SAS Metadata Server is a central, shared application server for storing metadata. An enterprise may use one or many SAS Metadata Servers, depending upon the structure of the business environment. A SAS Metadata Server is used for one or many SAS Metadata Repositories. Repositories may be dependent on other repositories, and a foundation repository ensures that all dependent repositories are updated when the master is updated, keeping all information linked.

The SAS Metadata Model is a set of metadata types used for saving metadata on the server (approximately 150 metadata types are defined). The model is the center of the SAS Open Metadata Architecture and defines the common semantics for the metadata types. Each metadata type models metadata for a particular kind of object. Distinctions are based on the conceptual identities of the objects, such as table, column, document, and on their behavior. Further distinctions are based on origin and characteristics. Metadata types supporting a particular scenario are grouped into submodels for documentation purposes, enabling models to be reused for consistency and accuracy.

The SAS Open Metadata Interface

is an application programming interface (API) that provides access to the SAS Metadata Server from a variety of environments, including Java, C, COM/DCOM and SAS. XML is used as the metadata transport format. The interface supports browsing, updating and deleting metadata. This interoperability enables you to write or modify existing in-house applications to access and reuse the same metadata, reducing the need for and expense of supporting multiple metadata servers.

Key capabilities

Metadata management

The SAS Metadata Server is managed from the Java-based SAS Management Console included with Base SAS software. Specific metadata administrative tasks are supported by plug-ins to the console. Administrators can create and manage metadata repositories, control the metadata server and interact with running repository servers; define and configure SAS servers and connections; define and manage users, groups and permissions; and control access to metadata, relational data and OLAP resources. Customized plug-ins can be written for specialized or site-specific tasks.

Authorization and administration

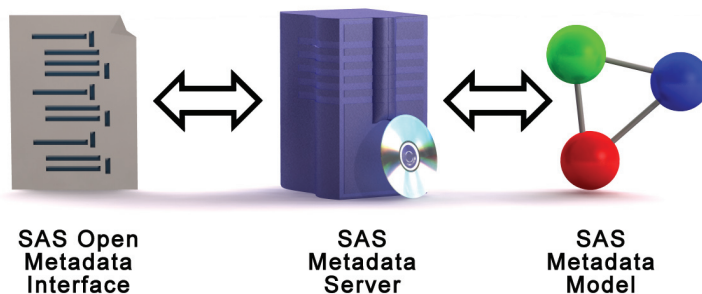
The authorization facility, a subsystem of the SAS Metadata Server, renders decisions on who can take a specific action on a computing resource. The facility controls access to metadata objects on the server. It also controls access to what actions users can take on the resources described by the metadata objects.

Change management

The Open Metadata Interface provides an optional change management facility for controlling concurrent access to metadata. Changes to existing metadata can be made without interfering with current usage, and information about the changes is maintained so you can determine who made changes and when.

Openness, bridges and interoperability

Model sharing and exchanging of metadata is key to manageability and interoperability. SAS adheres to the Object Management Group's Common Warehouse Metamodel (CWM) as the interoperability and interchange standard. An alliance between SAS and Meta Integration Technology Inc. (MITI) enables SAS to provide bridges for sharing and exchanging metadata with more than 40 design tool and repository vendors, including ERWIN, Rational Rose and Power Designer. Customers can purchase the bridge they need from MITI's Web site.



The SAS Open Metadata Architecture provides common metadata services to SAS and other applications.

Importing and exporting metadata

Support for the Common Warehouse Metamodel/XML Metadata Interchange (CWM/XML) enables you to import metadata from a variety of sources. In addition, with the installation of Meta Integration Model Bridge (MIMB) software, you can import metadata from design tool and repository vendors. An import wizard invokes the import and specifies an output location for the imported metadata. SAS supports default export to the CWM Export type, which exports metadata describing schemas, tables, columns, indexes and keys. You can export metadata to other export types by installing the appropriate MIMB software. An export wizard easily drives the process.

Key Features

General

- Store metadata in a centralized, shared location.
- Use one or more metadata servers to store foundation and dependent metadata repositories.
- Dependent repositories automatically reuse foundation repository definitions.
- More than 150 predefined metadata types are provided.
- Support for CWM/XML enables import and export of metadata from a variety of sources.
- Optional bridges are available for sharing and exchanging metadata with more than 40 design tool and repository vendors.
- Open API provides access to metadata from a variety of programming environments, including XML, Java, COM/DCOM and SAS.

Metadata management

- Java framework provides a standardized interface for managing metadata and resources with plug-ins:
 - Metadata Manager plug-in controls metadata server(s), creates and manages metadata repositories, manages resource templates, offers change management interfaces and provides import/export interfaces.
 - Server Manager plug-in defines and configures SAS servers and connections, uses prototypes and definitions of attributes needed for each type of server, generates run-time visuals based on prototypes and provides easy and extensible definitions.
 - User Manager and Authorization Manager plug-ins define and manage users, groups and permissions and create access controls that define which users can perform which actions on which resources. All metadata access controls are defined, stored and evaluated by the authorization facility of a SAS Metadata Server.
- Support provided for user-written plug-ins to handle specialized or site-specific administrative tasks.

Metadata authorization

- Create access controls and associate controls with metadata objects that describe computing resources.
- Control who can read and write metadata objects in a repository.
- Control who can update specific metadata objects.
- Query the access controls for authorization decisions.
- Extend access controls to related metadata objects through inheritance.

Change management

- Control concurrent access to metadata.
- Change metadata without interfering with existing use.
- Track change history to determine who made a change and when the change took place.
- Check metadata in and out.
- Copy metadata.

Importing and exporting metadata

- Import metadata from a variety of sources using the Metadata Manager plug-in with the SAS Management Console or in SAS ETL Studio.
- Import wizard invokes and specifies output location for imported metadata.
- Export metadata describing schemas, tables, columns, indexes and keys.
- Export metadata to other export types with the installation of appropriate MIMB software.
- Use the export wizard to easily drive the export process.

SAS® Metadata Server Technical Requirements

SAS Metadata Server and SAS Management Console environment

- AIX (64-bit), Release 5.1+
- HP/UX (64-bit), Release 11i+
- HP/UX Itanium (64-bit), Release 11i+
- Linux for Intel (32-bit): Red Hat Linux 8.0, RHAS 2.1, RHEL 3.0, SuSE SLES 8, SLES 9
- Linux for Itanium (64-bit): Red Hat RHEL 3.0
- Solaris (64-bit), Version 8, 9, or 10 on SPARC
- Windows (x86-32): Windows 2000 Professional, Windows XP Professional, Windows NT 4 Server, Windows Server 2003
- Windows (64-bit on Itanium): Windows Server 2003
- z/OS, Version 1*

Notes

- SAS Metadata Server is shared by several SAS offerings, and is managed via SAS Management Console.
- SAS Metadata Server and SAS Management Console are delivered as components of Base SAS.
- *When SAS Metadata Server runs on z/OS, SAS Management Console must run on a supported Windows or UNIX platform.
- SAS Metadata Server uses an in-memory file system to accelerate performance.

Optional software

Meta Integration Technology bridges (licensed separately) support metadata exchanges between SAS and third-party data stores.



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