Sizing SAP NetWeaver Master Data Management
global data synchronization option 2.1

Released for SAP Customers and Partners

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Any Java™ Source Code delivered with this product is only to be used by SAP’s Support Services and may not be modified or altered in any way.

Documentation in the SAP Service Marketplace
You can find this documentation at the following Internet address:
service.sap.com/instguides
# TABLE OF CONTENTS

1  INTRODUCTION................................................................................................................................. 2  
1.1  FUNCTIONS OF SAP MDM GDS ................................................................. 2  
1.2  ARCHITECTURE OF SAP MDM GDS ...................................................... 2  
1.3  FACTORS THAT INFLUENCE THE PERFORMANCE ...................................... 2  
2  SIZING FUNDAMENTALS AND TERMINOLOGY ................................................................. 3  
3  INITIAL SIZING FOR SAP MDM GDS ................................................................. 4
1 Introduction

1.1 Functions of SAP MDM GDS
- Importing trade items from an ERP back-end system through Process integration
- Importing pricing information from an ERP back-end system through Process Integration
- Creating new trade items
- Registering trade items at a data pool
- Publishing trade items to trade partners
- Publishing pricing information of trade items to trade partners

1.2 Architecture of SAP MDM GDS
The main components of GDS 2.1 are the following
- **GDS 2.1**
  Runs on SAP EHP 1 for SAP NetWeaver CE 7.1 Java Application Server. This provides the user interface and the business logic as well.
- **MDM Server 7.1**
  Provides the persistence layer for the application. Contains the trade items with all of their attributes.
- **Process Integration Server 7.1**
  Messages of importing trade items from a back-end ERP system and exporting to a data pool are sent through the Process Integration Server.

1.3 Factors that Influence the Performance
- Number of concurrent users
- Complexity of item hierarchies
- Number of records in the MDM server
2 Sizing Fundamentals and Terminology

SAP provides general sizing information on the SAP Service Marketplace. For the purpose of this guide, we assume that you are familiar with sizing fundamentals. You can find more information at http://service.sap.com/sizing → Sizing Guidelines → General Sizing Procedures.

This section explains the most important sizing terms, as these terms are used extensively in this document.

Sizing

Sizing means determining the hardware requirements of an SAP application, such as the network bandwidth, physical memory, CPU processing power, and I/O capacity. The size of the hardware and database is influenced by both business aspects and technological aspects. This means that the number of users using the various application components and the data load they put on the server must be taken into account.

Benchmarking

Sizing information can be determined using SAP Standard Application Benchmarks and scalability tests (www.sap.com/benchmark). Released for technology partners, benchmarks provide basic sizing recommendations to customers by placing a substantial load upon a system during the testing of new hardware, system software components, and relational database management systems (RDBMS). All performance data relevant to the system, user, and business applications are monitored during a benchmark run and can be used to compare platforms.

SAPS

The SAP Application Performance Standard (SAPS) is a hardware-independent unit that describes the performance of a system configuration in the SAP environment. It is derived from the Sales and Distribution (SD) Benchmark, where 100 SAPS is defined as the computing power to handle 2,000 fully business processed order line items per hour.


Initial Sizing

Initial sizing refers to the sizing approach that provides statements about platform-independent requirements of the hardware resources necessary for representative, standard delivery SAP applications. The initial sizing guidelines assume optimal system parameter settings, standard business scenarios, and so on.

Expert Sizing

This term refers to a sizing exercise where customer-specific data is being analyzed and used to put more detail on the sizing result. The main objective is to determine the resource consumption of customized content and applications (not SAP standard delivery) by comprehensive measurements. For more information, see http://service.sap.com/sizing → Sizing Guidelines → General Sizing Procedures → Expert Sizing.

Configuration and System Landscaping

Hardware resource and optimal system configuration greatly depend on the requirements of the customer-specific project. This includes the implementation of distribution, security, and high availability solutions by different approaches using various third-party tools. In the case of high availability through redundant resources, for example, the final resource requirements must be adjusted accordingly.

There are some "best practices" which may be valid for a specific combination of operating system and database. To provide guidance, SAP created the NetWeaver configuration guides that you can find on the SAP Service Marketplace at http://service.sap.com/instguides → SAP NetWeaver.
3 Initial Sizing for SAP MDM GDS

The sizing is based on concurrent users and focuses on GDS and MDM. We treat users concurrent if they are logged in and active during the same time interval.

The sizing is based on user information. We assume that during a typical business scenario the user searches for a trade item and then registers it, publishes it, or modifies its hierarchy.

**J2EE Server**

In a typical business scenario each user needs approximately 6 SAPS.

The session space for one user is approximately 5 MB. The framework space of the NetWeaver 7.11 server amounts to 560 MB

**CPU**

To calculate the resource consumption, multiply the number of concurrently active users with the respective SAPS value. For example, 100 users per hour × 6 = 600 SAPS.

**Memory**

Use the following formula to calculate the size of the Java heap space:

\[ M_{\text{Total}}(N_U) = (M_{\text{US}} \times N_U \times 3) / 2 + M_{\text{Framework}} \]

Where:

- \( M_{\text{Total}}(N_U) \) is the total memory requirement in MB.
- \( M_{\text{US}} \) is the user session space (5 MB).
- \( N_U \) is the number of concurrent users.
- \( M_{\text{Framework}} \) is the framework size (560 MB).

For example, (100 concurrent users × 3 × 5MB) / 2 + 560 MB = ~1310 MB

**MDM Server**

The MDM server sizing only reflects the delta load caused by users accessing MDM from the GDS application. Every GDS user causes additional load on the MDM server. Assume roughly 6 SAPS per concurrently active user.


**PI Server**

For sizing the PI server, see Quick Sizer on the SAP Service Marketplace at [http://service.sap.com/sizing](http://service.sap.com/sizing).