

Sap bw parallel data load

Technology



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Scenario You have an SAP BW system with several (application) servers. You would like to distribute the workload of the data loads and other data warehouse management activities in a way that fits your needs best. This could mean that you would like to have all processes distributed across all available servers or that you would like to have one dedicated server for these processes. 2 Introduction SAP uses the terms instance and application server synonymously. In order to avoid misunderstandings we use the term instance for an SAP instance (application server) in this document.

For a physical machine we use the term server. Some of the settings described in this document are done on an instance level, some on a server level. If you don't have several instances (of the same SAP system) on one server you don't have to draw this distinction between instance and server when reading this document. There are a host of functions and settings in the area of load balancing provided by the basis system (Web Application Server). However, these have been designed primarily for SAP's ERP system.

Customizing these features for optimal use with SAP BW requires further considerations. The challenges presented with data load processing originate from the fact that many fairly long running processes can be started almost simultaneously. The standard SAP load balancing approach takes the quality of the instances into consideration when distributing the load. This quality is evaluated in regular intervals (five minutes by default). Within one interval a lot of parallel processes may be started on the best instance, using a lot of work processes while the other instances are idle.

An optimal distribution of BW OLAP workload or data load resource consumption cannot readily be achieved with this standard method. Without

adequate planning, and under heavy workload (peak) conditions, the risks can increase that hardware becomes a bottleneck; a limited number of servers can become saturated with processes consuming resources, and performance (and stability) can potentially suffer significantly. A successful load balancing approach optimally utilizes the hardware resources that have been allocated to the BW system.

Note that this discussion assumes that an adequate sizing has been performed to properly size the SAP BW system (see SAP Service Marketplace alias “quicksizer” for more information). This document describes load balancing approaches for typical SAP BW activities. Commonly these activities process large amounts of data. Data (within one process) is split into packages and can thus be processed in parallel on one or across several servers or instances. On the other hand, several processes can run in parallel on one or on several servers or instances.

This means that we can have parallel processing (and consequently achieve load balancing) both within one process and across processes. In our examples we will use a system called XXX as SAP BW system and a system called YYY as an SAP source system of XXX. During data load processing, data is extracted from the source system and sent to the target SAP BW system. Other load processes involve the SAP BW system as source system, as well as the target system (for example, DataMarts, activation of data in ODS objects). The instances and servers on XXX are as follows, the server ab1234 being the database server: