

SESAM™/SQL-DCN (BS2000/OSD) V5.0

Issue October 2006

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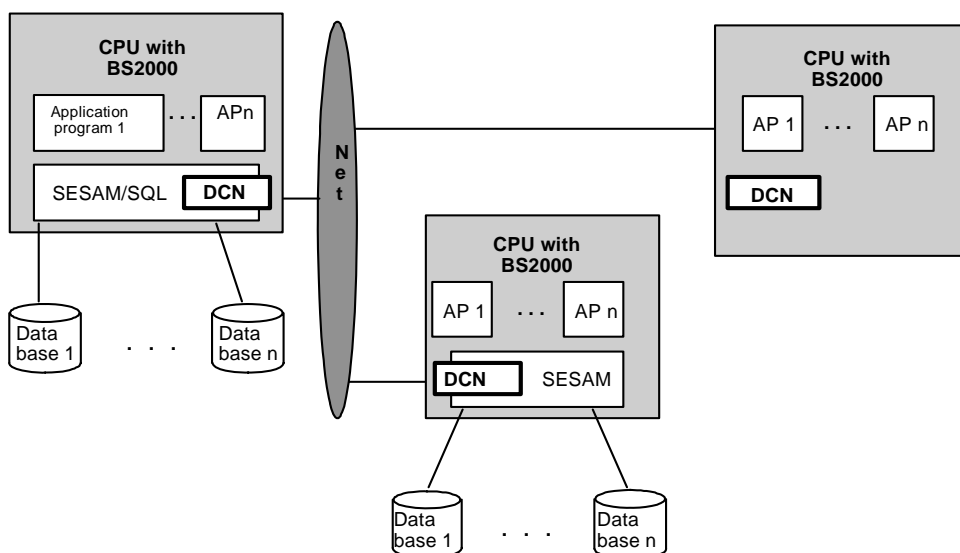
Introduction

SESAM/SQL™-DCN (BS2000/OSD) is designed to manage and process SESAM™/SQL databases included in computer networks. These computer networks can be set up from the TRANSDATA product range and BS2000/OSD systems including the SPARC based SX line with BS2000/OSD as the operating system.

If SESAM™/SQL-DCN is used, it is no longer necessary to assign the databases and applications used in a program run to the same computer, whose load is thus reduced. The data can be kept in the computer where they are most frequently needed. Other computers can retrieve or update this data if required. Different computer networks can thus be processed. In hierarchical networks, for instance, both central departments and the branches of a company or a public authority have access to distributed databases.

SESAM™/SQL-DCN fully supports distributed transaction processing using network-wide deadlock and longlock recognition and handling.

SESAM™/SQL-DCN is a user-friendly software product. Distributed SESAM™ databases can be managed and processed via an unchanged user interface. Distributed data storage is thus transparent for programmers, i.e. they do not need to know which data is stored on which computer.



Functional Description

Distributed databases

The distributed databases in a computer network form a logical unit. Distribution rules in the form of a database directory define the full range of addressable SESAM/SQL databases present in the computer network. The data model used in these databases will be either linear or relational, depending on the underlying database system. The database distribution pattern within a computer network is purely application-driven, but it should be such that a particular DB configuration is located in the computer in which it is most frequently processed on a local basis.

The internal database structure is identical with that of existing databases, so these can be processed unmodified in SESAM/SQL-DCN network. All SESAM's typical features, such as data compression and the separation of user and system data, are retained. There are no dedicated inter-computer access paths: the database directory simply has to be present at the time of processing in every computer which is needed.

This reduces synchronization requirements to a minimum, thereby increasing system flexibility. Every database remains operable independently of the network and continues to be functional even in the event of the computer interconnections failing, which has the added advantage of simplifying the

changeover from centralized database systems to distributed databases.

Transparency (invisibility) of DB distribution at the application interfaces

The fact that a distributed system is being used can safely be ignored in formulating a request to the database system. Consequently it is entirely feasible to continue using existing application programs in the homogeneous BS2000 network, and at any point in that network. It is not necessary to install SESAM/SQL-Server on the computer of the application program. SESAM/SQL-DCN is sufficient.

Network-wide transaction security and dead-lock handling

SESAM/SQL-DCN allows a number of distributed database configurations within a network to be accessed in the course of a SESAM transaction. In the process it is possible for changes to be made in each and every one of the databases involved. Deadlocks and longlocks are detected on a network-wide basis, and an optimized technique is applied to resolve them. A transaction which has entailed accesses via a computer network is terminated only when all the databases

involved are in a consistent status; if this cannot be achieved, the transaction is reset.

Warm start

If a SESAM transaction is interrupted owing to a session being aborted, special routines operate in conjunction with the warm start procedure to maintain global data consistency in all the computers involved in the transaction.

Operating modes

Distributed databases can be processed from both timesharing and transaction mode applications.

Centralized/decentralized administration and operation

Administration for the entire system of configurations on the various computers sharing in the network, including all the single systems, can be done centrally from one terminal. Alternatively, administration and operation for the SESAM configurations which are part of the distributed network can be handled on a local basis.

Technical Data	
Technical Requirements Hardware	BS2000/OSD-Server Devices served by the permissible ONETSERV version are suitable as hardware for interconnecting computers. Memory requirements: Published with the Release Notice. Note: The amount of time required for communication between computers should be taken into consideration during planning.
Technical Requirements Software	BS2000/OSD-BC V6.0B and higher; OSD/XC V2.0 or higher; ONETSERV V3.0 or higher; SESAM/SQL-Server V5.0 for local deployment (optional). For the allowed mix of versions in different configurations see the Release Notice. Optional: openUTM V5.2 and higher, TIAM V13.1 and higher, PDN V10.0 and higher.
Documentation	Documentation for SESAM/SQL-Server
User Requirements	Knowledge of BS2000/OSD
Training	Training on SESAM/SQL-DCN is an integral part of the SESAM courses. See course offer at: http://www.fujitsu-siemens.com/training
Conditions	This software product is supplied to the customer against payment by installments subject to our conditions for the use of software products.
Warranty	Class: A Delivery format: Machine language