



hp Real-Time Operational Data Store Manager for Tru64 Unix

Introduction

The *HP Real-Time Operational Data Store Manager for Tru64 Unix* provides versatile, simple to use interfaces to access the Operational Data Store and operational management functions to provide sustainable, high performance, guaranteed level of service for the client's real-time business workload environment.

What is an Operational Data Store (ODS)?

“An ODS is an architectural construct that is subject oriented, integrated (i.e., collectively integrated), volatile, current valued, and contains detailed corporate data.”

W.H. Inmon, Building the Operational Data Store

A real-time ODS is a collection of data whose primary purpose is to support the time-critical information requirements of the operational functions of an organization. The role of the ODS is to bridge the information gap by providing an environment tuned to information delivery, containing data at transaction detail level, is coordinated across all relevant source systems, and is maintained in a current state. This will provide the integrated and up-to-date view of the business that is essential for the real-time enterprise and can be accessed by any person with a need-to-know.

The Real-time ODS acts as:

- A message store for Enterprise Application Integration (EIA)
- An integrated enterprise data store
- A historical view or memory of real-time events
- A state engine

The ODS supports a mixed workload of database transactions; high-speed inserts, On-Line Transaction Processing (OLTP) operations and Decision Support System (DSS) query transactions with a guaranteed level of service for the high-speed inserts.

The ODS Manager provides the transaction management, database management and application interfaces based on industry standards to achieve the high performance guaranteed level of service for high-speed inserts against the ODS. The ODS Manager provides two high performance and



well-documented Application Programming Interfaces (API), a CORBA compliant API and Enterprise Java Beans (JAVA 2 Enterprise Edition) API.

ODS Manager Features

The Manager allows three different classes of transactions: high-speed inserts, OLTP and Decision Support System queries. The Manager provides a guaranteed minimum level of performance for high-speed inserts, thus insuring a high performance environment for the mixed transaction workload.

The insert class of transactions is characterized by a high number of completed detailed records that must be added to the database. These records can be aggregated and then inserted at specified intervals to help improve performance.

The OLTP class of transactions is characterized by determining if special handling is required for the operation based on a stringent response time requiring that 90% of the transactions respond within a specified time limit. The transactions perform multiple types of simple and complex requests to the database.

The Decision Support System (DSS) class of transactions is characterized by large numbers of queries that are often used to perform a range of simple scans to complex joins. These transactions are typically found in support of a business analysis function. These transactions usually include data extractions to an external database.

In order for the ODS to achieve a high level performance for each of these classes, the impact which each class has on the other must be closely monitored and managed. The ODS Manager achieves this balanced performance through aggregating the high-speed insert transactions, time-managing the OLTP and DSS transactions, routing the transactions within the cluster to optimize performance and provide reliability.

Aggregation

The ODS Manager supports the technique of batch aggregation of insert records. Batch aggregation greatly increases the application performance for inserting records into the ODS.

Time-Managed Transaction

In a real-time business environment, the rate of transactions by class is determined by the usage of the ODS and the business process it supports. As workloads can vary it may be necessary to manage all transactions to maintain a level of service for high-speed inserts.

Management is done by monitoring and controlling the transactions by their priority which is set by the ODS administrator. Priority is a ranking of transactions from critical to non-critical and all transactions must be assigned a priority. Typically, the insert transactions are assigned the highest priority with the OLTP and DSS queries being assigned lower priorities.



Reliability Through TruCluster Routing

The fail over of the ODS Manager requires cross-cluster routing of transactions and the application server having the capability of brokering services between cluster nodes (and other integrated nodes) without intervention. The CORBA architecture provides a brokering service that locates available servers at the request of clients. It should be noted however, the CORBA architecture does not guarantee the completion of transactions not yet completed should the back-end database server fail. Segregation of the database server from the CORBA or other EIA interface, and routing between these two components, provides a higher level of reliability for the ODS Manager.

Reliability of the ODS requires that the database be mounted cluster-wide and be accessible to all nodes on the cluster. The database must also be supported on a redundant disk storage architecture (RAID) to prevent database loss through storage hardware redundancy.

Application Interfaces

The ODS Manager provides two APIs for application developers: a CORBA interface and EJB.

1. The CORBA interface has been validated with IONA's Orbix V2.0
2. The EJB interface is J2EE compliant and has been validated with IONA's iPAS V3.0

Growth Considerations

The minimum hardware/software requirements for any future version of this product may be different from the requirements for the current version.

Software Requirements

HP Tru64 Unix V5.0 or higher

HP TruCluster Server V5.0 or higher

Oracle 8i OPS V8.1.7 Enterprise Edition with Partitioning and Parallel Server Options or Oracle 9i RAC V9.0.1 Enterprise Edition

IONA Orbix E2A Application Server V5.0 Standard Edition

Software Licensing

This software is furnished under a license. A license is required for each CPU. For more information about the ODS Manager license terms and policies, contact your local HP office.



Software Warranty

HP provides this software with a 90-day conformance warranty in accordance with the HP warranty terms applicable to the license purchase.

Hardware Requirements

Any system capable of running HP Tru64 Unix V5.0 or higher, HP TruCluster Server V5.0 or higher, Oracle 8i OPS or Oracle 9i RAC, and IONA Orbix E2A Application Server V5.0 Standard Edition

Software Product Services

A variety of service options are available from HP. For more information, contact your local HP office.

Ordering Information

- YS-A0016-ID Real-Time ODS Mgr
- YS-A0016-IE Real-Time ODS Mgr with Iona 2000
- YS-A0016-IF Real-Time ODS Service

May 2002

HP believes the information in this publication is accurate as of its publication date; such information is subject to change without notice. HP is not responsible for any inadvertent errors.

HP conducts its business in a manner that conserves the environment and protects the safety and health of its employees, Clients, and the community.

HP and the HP logo are trademarks of the Hewlett Packard Company.

*Copyright © 2002 Compaq Computer Corporation
All rights reserved*