SkyBoard

Distributed Data Management Platform

■ **Information that is distributed—scattered and fragmented—across the network appears as if it resides in a single database. SkyBoard allows critical data to be accessible whenever and wherever in real-time, whether it originates from a standard database, an edge device or embedded system.**
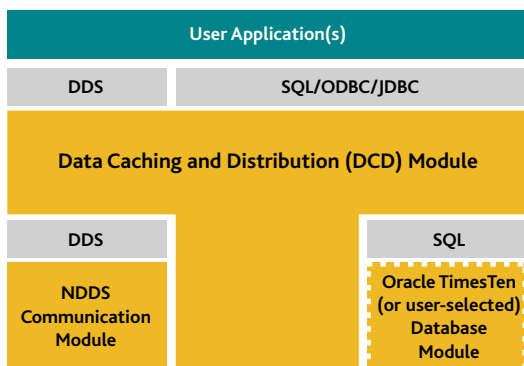
SkyBoard™ distributed data management solution integrates peer-to-peer networking and real-time, in-memory data management systems into a complete solution that manages storage, retrieval, and distribution of fast-changing data in dynamically configuring network environments. SkyBoard provides continuous availability in real-time of all information that is crucial to the enterprise.

Data When You Need It, Where You Need It

SkyBoard allows critical data to be accessible whenever and wherever it is needed. For the enterprise, SkyBoard enables data that is distributed between enterprise and "edge" devices or embedded systems to appear in real-time as if it resides in a single, unified global database. For individual nodes on a network, SkyBoard enables this data to appear as if it resides locally.

The components of RTI's distributed data management solution are:

- **Data Caching and Distribution Module**
- **NDDS: peer-to-peer networking module**
- **Database: in-memory database module**

The unique architecture of SkyBoard is complemented by support of the leading industry standards for application programming interfaces, data modeling, data manipulation, and system management. The entirely familiar interfaces nearly eliminate learning curves and guarantee quick time-to-market. In addition, the use of standards greatly simplifies the integration of SkyBoard with existing infrastructure solutions.

Applications that benefit from SkyBoard are found in defense, aerospace, global communications and networking, traffic and logistics, financial services, and process control.

SkyBoard's Unique Combination of Features

Real-Time Performance

The infrastructure delivers thousands to tens of thousands of transactions per second across the network. This is at least a factor of ten faster than current disk-based database management systems.

Massive Scalability

The plug-in architecture enables solutions that scale across SMP systems as well as networks. Going well beyond current disk-based DMBSs, SkyBoard supports networks connecting hundreds to thousands of devices ranging from sensors and wireless PDAs to PCs and servers. A choice of plug-in components is available from RTI to match the strongly varying footprint requirements.

Connectivity

The Data Caching and Distribution Module enables automated transfer of data from SQL tables to the DDS publish/subscribe. Seamlessly mix and match data from embedded devices and table-driven SQL databases.

High Availability

Automated replication management and no-single-point-of-failure ensures availability of critical information where computer systems and communication links may fail.

Dynamic Configuration

Applications, services, and devices may dynamically join or leave the infrastructure or relocate their position in the network. This makes SkyBoard the solution of choice for data-intensive, large-scale, highly dynamic service-based device networks.

Standards-Based Interfaces

SkyBoard's interfaces are fully based on leading industry standards, supporting ODBC for C/C++, JDBC for Java, and SQL-92 for data modeling and manipulation. These standards allow application

SkyBoard is a unique software infrastructure that incorporates plug-ins for peer-to-peer communication and an in-memory database.

developers to focus on business, keeping them away from time consuming and expensive custom programming for data management, data distribution, and real-time performance.

In addition to industry-strength database interfaces, SkyBoard offers a fully integrated DDS interface. This enables seamless integration with edge-devices, such as sensors and PDA's, through the capabilities to publish data directly into databases and to subscribe to changes in databases in real-time.

The Benefits of SkyBoard

Achieve quick time-to-market

- Start applications' development immediately using well-known interfaces.
- Keep away from time-consuming custom programming.
- Easily integrate into existing solutions using industry-strength standards.

Reduce development costs

- Use widely available modeling and database tools.
- Eliminate expensive complex coding for real-time data management and communication.
- Integrate edge-devices, distributed real-time data management, and enterprise databases using a single set of standard Application Programming Interfaces.

Availability

- Solaris 8 on SPARC
- RedHat Enterprise Linux on Intel x86
- Windows XP on Intel x86

Application interfaces and connectivity

- ODBC (C/C++)
- SQL-92
- DDS
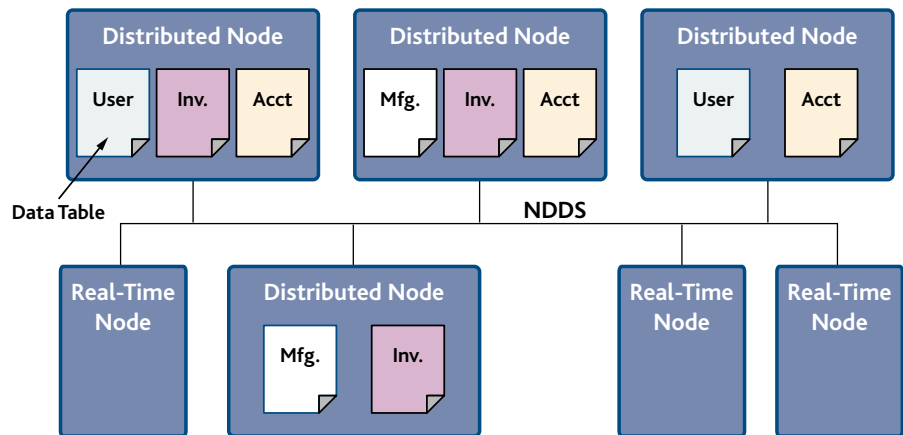
RTI's SkyBoard package allows seamless data exchange between SQL databases and real-time nodes running NDDS.

Deliver cutting-edge solutions

- Process massive amounts of information across networks in real-time.
- Turn near instantaneous responses to (remote) critical events into a business advantage.
- Seamlessly integrate networked applications, services, and devices.

Minimize operational costs

- Maintain complex networked applications against near-zero administration.
- Dynamically add or change system components.
- Run on common hardware platforms and networks.

Reduce risks

- Guarantee continuous system availability through dynamic replication management.
- Rely on continuous high-quality technical support.
- Build on years of experience in the world's most demanding real-time application domains.

About RTI

Real-Time Innovations, Inc. the expert in real-time information networking, leads the industry with high performance standards-based software solutions for data-critical applications. Its products and consulting services provide the infrastructure for national railways, air traffic control, traffic monitoring, mission-critical combat systems, financial transaction processing, and industrial automation. RTI's flagship product, NDDS, is middleware based on the Object Management Group's (OMG) Data Distribution Service (DDS). NDDS provides the essential foundation for real-time communication in a networked system and enables a new class of embedded to enterprise (e2E) applications. Companies such as Raytheon, Nikon, Harmonic, Applied Materials, Schneider Automation, Boeing, Lockheed Martin and the US Military rely on RTI technology for their real-time, data-centric, distributed applications. Headquartered in the heart of Silicon Valley since 1991, RTI is a privately held company.

www.rti.com