

HP Real Time Information Director (RTID)

Real Time Supply Chain (RTSC) Solution

Data sheet



The HP Real Time Information Director (RTID) Component of the HP Real Time Supply Chain (RTSC) Foundation Layer plays several major roles in an RTSC Solution.

Key features and benefits

- Manages information in real time
- Provides enterprisewide information integration
- Leverages all HP NonStop system advantages, such as scalability and availability
- Uses metadata for rapid customization

The Real Time Information Director (RTID) Component of the RTSC Foundation Layer manages information in real time, provides enterprisewide information integration, and offers built-in security and auditing.

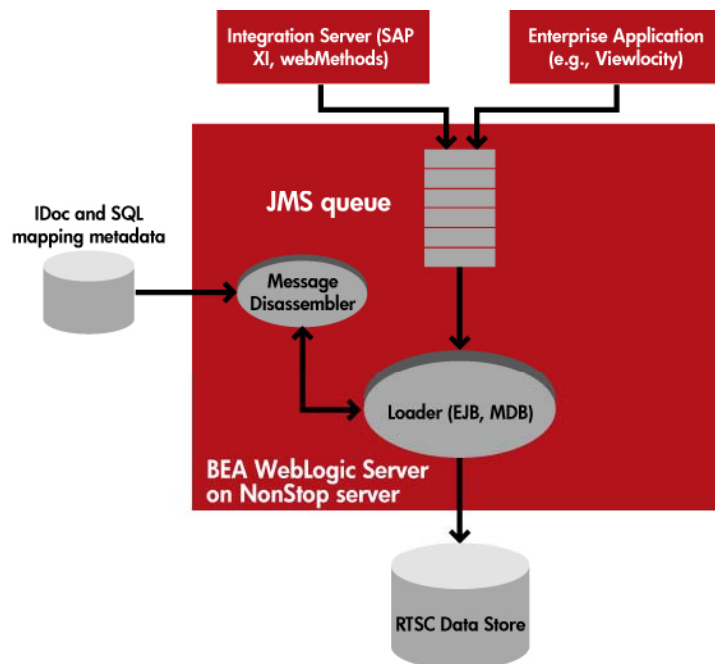
The RTID Component leverages standards such as XML, Java Message Service (JMS), and Java Platform 2, Enterprise Edition (J2EE). The component is designed for scalability because supply chain demands can vary from day to day or minute to minute. The component uses a scalable version of BEA WebLogic Server and J2EE. It uses the scalable version of TCP/IP, called Parallel Library TCP/IP, as well as an efficient Java Database Connectivity (JDBC) that scales. It supports database partitioning that offers unique database scalability.

The RTID is designed for extensibility and uses descriptive metadata that lends itself to adjustment to real-world data. It offers support for business rules to tailor itself to each customer's supply chain operation and provides for custom enrichments of data. The component also has a framework for customization of security policies and supports batch applications within the real-time environment. The RTID is a solid combination of standard product functionality and flexibility tuned to reality.

Key functionality

The RTID maps between the message format used by a source system, such as SAP, and the HP RTSC Data Store. The main idea is that data continues to reside on the existing platforms, but that a gathering of relevant and actionable data is needed in a single place for operating the enterprise in real time. The concept of "real time" may also be thought of as right time. Not everything has to be available in subsecond time frames. Sometimes having data within a day is real time; sometimes having it within a week is. However, enterprises are increasingly recognizing that "settling for" longer response times creates a business mindset that carries into its business processes, often making the enterprise less competitive. The following figure shows the Loader module architecture of the RTSC Solution.

Loader module architecture



The RTID works closely with an enterprise application integration (EAI) server and utilizes the EAI adapters to deliver messages from the adapters to the RTSC system. It handles inserts and

updates to the data store, subscribes to changes in the RTSC Data Store, and then creates messages to send back to the EAI server or other subscribing applications.

The RTID supports a variety of integration servers, including SAP NetWeaver and SAP XI, webMethods, TIBCO, SeeBeyond, and IBM WebSphere MQ (also known as IBM MQ Series). These integration servers may run on HP-UX Operating System, Microsoft® Windows® Server, or Linux systems. The integration server provides adapters to obtain documents from other applications (where supply chain data resides) and, where required, converts the documents into standard XML formats acceptable to the RTID. The integration server provides a JMS adapter and connects with the JMS capability of WebLogic Server on the HP NonStop system.

In the context of the RTSC Solution, the main form of input to the RTID is SAP IDocs. IDocs represent orders, invoices, bills of material, and other common supply chain documents. The RTID disassembles each IDoc into various records and inserts them into the RTSC Data Store (using prepared SQL statements). The component also handles non-IDoc forms of documents.

Document metadata defines how the elements of the XML IDoc map to rows and columns of the RTSC Data Store. This usage of metadata is one of the strengths of the RTID. If you can define a document via metadata and the document changes (for whatever reason), a one-time change to the metadata saves having to re-code applications. Moreover, metadata can be updated on the fly, enabling the component to “remain” in real time.

Another primary function of the RTID is to provide information to higher-level supply chain applications. Applications like Viewlocity, i2, and Sockeye can make use of HP NonStop SQL/MX Database publish/subscribe capability so that when relevant changes to data in the RTSC Data Store occur, these applications receive information in real time. An application’s subscription is configured in the RTID. The subscription definition includes the trigger event, the name of the document, and the name of the JMS queue or topic to which the document should be delivered. A single document inserted or updated in the database can generate zero, one, or many subscriptions. Once again, metadata is used to define the output document.

The RTID can also receive and send documents synchronously using the HTTP protocol. For example, an inbound document may be a query. The appropriate data is assembled from the RTSC Data Store and returned. In another example, an inbound document may be an update, resulting in an insert or update to the database.

The RTID also includes the following important features:

- Security policies and auditing
- Cleansing of information
- Integration and use of business rules
- Aggregation and scoring
- Business activity monitoring

Security and auditing

The RTID provides three types of security-related services: identity management, security policies, and auditing. The RTID does not perform user authentication; that’s the role of the portal. The system does need to be able use individual identities relative to the rolls that they play within an enterprise. For example, an inventory manager will be allowed certain data access privileges; likewise, a sales person will be allowed different privileges. The RTID also provides for setting sophisticated policies that will govern data access and update authority.

Finally, you must be able to track everything important that goes in the database—having a clear record of who changed it, what was changed, and when it was changed. Auditing has to be thorough and exact. The RTID has built-in auditing to assure that the system is working properly and to enable rigorous reviews when needed.

Cleansing

Inbound data can be automatically cleansed by the RTID Component's use of the HP partner software from Trillium Systems. For example, this software checks for proper zip codes in addresses, proper spelling of street names, and so on. The software has a complete international design to work with a variety of forms of addresses. The component uses Trillium Software to normalize addresses so that names, titles, abbreviations, and punctuation are consistent. For example, there are several ways to write or abbreviate "First Street." Eliminating these inconsistencies is an essential first step toward avoiding duplication in the database. The software can automatically correct many inconsistencies between the street address and the zip code.

Business rules

The request response model that the RTID uses can be enriched with a variety of services. In particular, the Rules Engine allows for the specification of business rules without having to write Java code. The RTID uses Blaze Advisor (from Fair, Isaac and Company).

In many corporate supply chain processes, you can describe an action that you want to occur automatically with a few English-language statements. For example:

If Invoice Amount is greater than US\$ 100,000 and/or the number of units is greater than 1,000, notify Scheduling Planning.

Some of the uses of business rules within the RTID include

- Making recommendations or offers
- Personalizing a website
- Managing exceptions
- Detecting fraud

In the first case, an important customer may be ordering a product that is low in inventory. By kicking off a rule, the RTID can come up with a recommendation for an alternate product that may satisfy the customer. In the last case, automating rules for detecting fraud may justify the whole implementation of the RTID for an enterprise.

Empowering your supply chain experts to formulate and apply such business rules to data quickly takes the headaches and fiscal pains out of many supply chain processes.

Aggregation and scoring

The Aggregation Engine will compute derived values and aggregates. For example, a subscribing application may request the average number of units shipped in the past month for a particular product number. The Aggregation Engine can satisfy typical aggregating functions such as greatest, least, mean, average, and so on. The Scoring Engine allows for real-time scoring based on data-mining type models. These mining models are built using SAS Enterprise Miner and are deployed using Genus Mining Integrator.

To continue the examples above using business rules, scoring models can be used to predict the likelihood that the customer will accept various cross-selling offers. Business rules evaluate these probabilities in the context of supply, profitability, and marketing rules, and before returning one or more ranked cross-sell recommendations.

This aggregation and scoring capability is often used with the rules capability for exception reporting and fraud detection. It is not unusual for the aggregation and scoring capability to be tailored to particular customer requirements with an RTSC Solution.

Each of these services is invoked via document metadata.

Business Activity Monitoring (BAM)

Business Activity Monitoring (BAM) needs data that is aggregated from millions of detail items and is continuously kept up to date. A BAM console typically displays sets of key information. It's impractical to re-aggregate the data every time that the BAM console is updated. The RTID collects this information continuously in real time, as the data flows through it, centralizing this task.

As an example of real time operations, accumulators are similar to aggregates, which the RTID uses to describe totals. But whereas aggregates are recomputed each time, accumulators are updated. For example, an accumulator may be defined within the order document definition, which updates a running total of orders by region and/or product. For efficiency and accuracy, it is important for the total to be persisted into the database, where it can be read by a Business Activity Console.

Using the real-time design of the RTID in tandem with BAM, supply chain operations can stay in synch with the pulse of the enterprise.

It is common for the BAM capability to be tailored to particular customer requirements with an RTSC Solution.

Benefits

Following are benefits of the RTID Component:

- Easily maps between the message formats used by the source systems (supply chain applications) and the RTSC Data Store
- Breaks down internal enterprise silos
- Enables supply chain-oriented applications to subscribe to events in the RTSC Data Store, providing visibility and control
- Provides application-level fault tolerance; for example, previously configured subscriptions can restart and also allow subscriptions to be resumed automatically after a failure
- Accommodates increases and decreases in load for optimal use of system resources
- Delivers messages even under peak conditions, assuring management of "the chain"
- Enriches and scrubs data so that you know your customers and vendors across the enterprise
- Offers built-in security and auditing
- Makes it easy to apply your business rules to your enterprise, automating and standardizing important processes, reducing reliance on individuals, and saving money from fraud and waste

Technical specifications

System requirements

Hardware	HP NonStop S-series Server (for running the RTSC Foundation Layer) or HP NonStop H-series Server
Software	HP NonStop Kernel Operating System and HP NonStop Kernel Open System Services (OSS; Release Version Update [RVU] G06.18 or later) BEA WebLogic Server Version 8.1 or later

Supported HP platforms

Hardware	HP NonStop S-series Server (for running the RTSC Foundation Layer) or HP NonStop H-series Server
Software	NonStop Kernel Operating System and OSS RVU G06.18 or later

Ordering information

The RTID (SR30v1) is available only as part of an overall RTSC Solution (or relevant RTxx solution). While this data sheet refers to the supply chain application for which it is used, RTID is also used in health care, financial services, and other solutions. For more information, contact your local HP sales representative.

For more information

For more information about RTID Component, visit www.hp.com/go/rtsc.

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