Real Time Supply Chain

Solution description
The HP Real Time Supply Chain (RTSC) solution simplifies the integration of multiple supply chain applications, versions, and data—and delivers a single, up-to-the-second view of the entire supply chain.

RTSC unleashes the value of your existing supply chain investments by enhancing existing industry-leading solutions such as SAP.

It allows companies to adapt quickly to change and make better business decisions by providing real-time access to integrated supply chain data. And it reduces integration costs, business risk, and inventory while improving cycle time and stock turns.

The RTSC solution includes three components:

• Real Time Supply Chain Data Manager (RTSC-DM)—the RTSC-DM is a unique combination of the two leading integration approaches: enterprise application integration (EAI) middleware and operational data store (ODS) technologies

• Supply chain business applications—these options include: supply chain event management, real-time data mining, and the SAP XI server, to enable companies to realize more value from their existing supply chain infrastructure

• Supply chain consulting and integration services from HP and its partners—speed implementation and reduce risk

Real Time Supply Chain Data Manager (RTSC-DM)

The foundation of the RTSC solution, the Real Time Supply Chain Data Manager integrates, collects, cleanses, distributes, and analyzes data from all supply chain applications across the enterprise—whether they number in the tens or hundreds. The system creates a single, up-to-the-second view of data and delivers it in real time to supply chain applications through publish-and-subscribe technology.

The RTSC-DM exploits the continuous availability and data integrity of the NonStop server to guarantee the delivery of messages and data to and from other applications. The unmatched scalability of the system supports an unlimited number of applications. The NonStop SQL/MX database enables essential, mixed workload processing for a real-time enterprise environment.

The RTSC-DM consists of five major software components:

• HP supply chain data model
• SAP XI (Exchange Infrastructure) adapters
• webMethods EAI adapters
• Transmuter
• Part Manager/Customer Manager

HP supply chain data model

Core to the process of building an integrated view of multiple supply chain instances within the RTSC is a real-time data store. The RTSC includes a logical data model for a real-time supply chain data store that incorporates data from supply chain application modules, such as materials management, sales and distribution, and production planning, within SAP and other applications.

XI adapters

RTSC includes adapters for SAP XI, a main element of the SAP NetWeaver initiative. The SAP XI framework transforms SAP documents and other SAP-specific message formats into record sets suitable for the RTSC data store. These SAP transformation services execute within the SAP integration server that runs on an HP-UX platform or Windows® server. On the outbound side, maps enable the NonStop server to return updates of
webMethods EAI adapters
RTSC also includes adaptors for webMethods. Adaptors include a JMS adaptor for online updates and subscriptions and a file adapter for batch feeds to the supply chain data store.

Transmuter
The Transmuter extends the EAI adapters, delivering messages from the adapters to the RTSC system. The Transmuter handles both inbound and outbound inserts and updates to the data store. It subscribes to changes in the data store, and then creates messages to send back to the EAI integration servers (XI or webMethods). It also interfaces to the data-cleansing components in the Part Manager/Customer Manager component of the RTSC.

Part Manager/Customer Manager
In a multi-instance SAP implementation, different unique identifiers may recognize the same customer or part. The Part Manager/Customer Manager (PM/CM) components of the RTSC are designed to de-duplicate this type of data in real time via a cross-reference list in the data store that acts as a semantic bridge across all the various instances. The result is a single database with unified customer and product dimensions across multiple supply chain instances. This allows supply chain modules, such as visibility or planning, to span instances by running directly on top of the RTSC integrated, real-time data store.

Application server
The RTSC foundation layer takes advantage of the services of the open application server products running on the HP NonStop Server platform—both the NonStop Application Server product, which is based on the IONA Orbix product and the BEA WebLogic Server (WLS). Both of these servers are tightly integrated with the NonStop SQL/MX database and other NonStop software and thus provide the NonStop fundamentals of scalability, availability, and fault tolerance to the RTSC components. The use of WLS or Orbix simplifies development and facilitates the reuse and portability of applications.

Platform: Real Time Supply Chain Data Manager runs on HP NonStop servers. (See platform options on page 5.)

Business applications layer—optional components
The HP Real Time Supply Chain solution enhances the value of your existing supply chain application investments by increasing the power of industry-leading applications from vendors such as SAP, i2, Manugistics, and Manhattan Associates. In addition, the RTSC solution has been pre-integrated and tested with the following applications for supply chain execution, analytics, planning, and visibility.

Viewlocity for Supply Chain Event Management
Supply Chain Event Management (SCEM) enables visibility across the entire supply chain, bridging the gap between planning and execution applications by noting when actual circumstances deviate from the plan and giving companies the option to quickly adjust before a single deviation snowballs into a missed customer expectation or an expensive recovery. Viewlocity’s solution for Supply Chain Event Management, Supply Web Application, doesn’t replace existing systems—it unlocks their value by providing a single picture of the supply chain across the myriad internal systems and across all trading partners within the supply chain.

Supply Web Application was designed specifically to place powerful tools in the hands of the people who need them, enabling users to view the most up-to-date information about the state of their supply chain, to collaborate with other users about exceptions and issues, to rapidly—and intelligently—respond to exceptions, and to report on key performance indicators and other supply chain measures.
Viewlocity key features include
• Integration Center
• Community Manager
• Monitoring Engine
• Escalation Manager
• Collaboration Management Engine
• Collaboration Portal
• Performance Analyzer

Platforms: Viewlocity SCEM runs on HP-UX, Windows, or Linux.

Real-time data-mining tools
To mitigate the complexity inherent in the data-mining process and to reduce end-to-end cycle times, HP and Genus Software have released two product sets for data mining in a real-time enterprise that leverage other partner products from SAS and MicroStrategy. These products run on Windows platforms and utilize the data from the RTSC data store.

• Genus Mart Builder for NonStop SQL includes a data-preparation tool and a data-transfer tool. Using the Genus Mart Builder, enterprises can profile data within the data store and then transfer the data to a business-analysis product on other platforms, such as Ascential running on HP-UX, to create marketing campaigns, generate reports, and more.

• Genus Integrator for NonStop SQL enables real-time scoring with up-to-the-minute data. Using the Genus Mining Integrator, enterprises can profile data within the SQL/MX data store, and then transfer the data to the SAS Enterprise Miner running off-platform (HP-UX or Windows NT®).

Platforms: Both Genus Mart Builder and Genus Integrator run on Windows 2000 and Windows NT.

Services for the Real Time Supply Chain solution
HP Services and its systems integrators provide complete life-cycle services to help organizations rapidly implement RTSC solutions and operate them continuously with minimal risk. HP Services teams leverage a broad range of expertise for providing full-service solutions to combine the pre-integrated platform, third-party applications, existing systems, and processes into a complete business supply chain solution.

HP’s proven experience in deploying supply chain solutions helps you reduce risk and realize faster return on investment and time to market. HP Services partners with you to create an integrated suite of services that are aligned with your business imperatives, taking a holistic approach to address all factors that affect your RTSC solution-business processes, hardware, software, network, applications, physical environment, and operations. This enables you to implement and deploy a system designed for instant access to real-time information, efficient management, and unmatched availability.

HP Services offers
• Discovery services
• ROI analysis services
• Supply chain business process consulting services
• Implementation and deployment services
• Managed services
• A wide variety of SAP services
Platform options for the Real Time Supply Chain Data Manager:

**Development system**
- J2EE Application Server (WebLogic Server or IONA Orbix)
- Java, SOAP, JToolkit
- iTP Web server, JMS
- HP NonStop SQL/MX, Pathway
- HP RTSC SAP XI Adapter
- HP RTSC Supply Chain Data Model
- HP RTSC Transmuter
- HP RTSC Part Manager/Customer Manager
- EAI adapters (webMethods)
- 2-processor NonStop S76000 server
- 4-GB memory per processor
- ½-TB disk (¼ mirrored)
- Basic NonStop system software

**Production system**
- J2EE Application Server (WebLogic Server or IONA Orbix)
- Java, SOAP, JToolkit
- iTP Web server, JMS
- HP NonStop SQL/MX, Pathway
- HP RTSC SAP XI Adapter
- HP RTSC Supply Chain Data Model
- HP RTSC Transmuter
- HP RTSC Part Manager/Customer Manager
- EAI adapters (webMethods)
- 4-processor NonStop S76000 server
- 4-GB memory per processor
- 1-TB disk
- Basic NonStop system software
And, for the most demanding enterprises, RTSC partners with industry-leading companies to customize a solution that fulfills specific requirements.

Addendum—
Complementary components for deployment with RTSC-DM

In addition to the foundation components for RTSC described previously, there is a wealth of industry-leading products that may optionally be deployed in conjunction with Real Time Supply Chain to bring additional value to your business. You can choose from these third-party best-of-breed components to augment and flesh out your supply chain solution. HP has experience in deploying and integrating such products and can assist you in building the whole solution.

**EAI solutions**

*webMethods* is a leading provider of integration software for linking business processes, enterprise and legacy applications, databases, and workflows both within and across enterprises. webMethods technology is embedded in many leading enterprise applications, enabling the company’s integration platform to be easily leveraged by HP zero latency enterprise (ZLE) customers.

*SAP XI* enables you to implement cross-system business processes. The aim of the Exchange Infrastructure is to integrate different versions of both SAP and non-SAP systems implemented on different platforms. The Exchange Infrastructure is based on an open architecture, makes use of open standards (in particular those from the XML and Java™ environments), and offers services that are essential in a heterogeneous and complex system landscape: namely a runtime infrastructure for message exchange, configuration options for managing business processes and message flow, and options for transforming message contents between the sender and receiver systems.

*TIBCO Software Inc.* is a leading global provider of business integration solutions. Its solutions bring incompatible applications and systems together to enable real-time processes, improved performance, and enhanced business visibility.

**SeeBeyond eGate** provides leading eBusiness application integration solutions for multiple vertical industries, including energy, financial services, government, healthcare, manufacturing, retail, and telecommunications.

**Acational Control Broker** provides the ability to integrate applications residing on any platform into a ZLE solution ensuring plug-and-play implementation and rapid deployment.

**ETL solutions**

*Informatica* provides extraction, transformation, and load (ETL) products that efficiently move batch data in and out of the real-time data store. Informatica is the leading provider of enterprise analytics software. Its PowerCenter 5 data integration platform empowers corporations to leverage vast amounts of data to make fast and insightful business decisions.

*Savant Technologies* provides key technologies for enabling the real-time data store to deliver peak performance in real time, all the time. A high-performance data preparation and access management platform, Savant Warehouse Transport performs as the ETL service in the ZLE core.

**Mercator Software** NonStop DTE (Data Transformation Engine) integrates huge volumes of electronic information throughout any business enterprise with the applications of its customers and partners while leveraging current technology investments at every step. It integrates diverse data across multiple sources in real time, resulting in rapid implementation and simplified maintenance.

**Enrichment solutions**

*Acxiom* applications enable a single view of the customer using AbiliTec customer data integration software to link disparate sources of information into a single real-time view. The data from another Axiom application, InfoBase, can augment that view with real-time consumer and business information, thereby improving the recognition, understanding, and methods of marketing to customers.
Trillium Software, a division of Harte Hankes, provides a unique data quality application that enables consistent, repeatable processes for data cleansing and relationship matching across the enterprise. The Trillium Software system cleans, standardizes, and links global customer contacts to the appropriate account records in real time at the point of data entry. The solution integrates tightly with the RTSC-DM, ensuring a highly accurate source of up-to-the-second customer data that can be propagated instantly across the enterprise.

Visibility solutions
Fair, Isaac and Company’s Blaze Advisor provides businesses that implement the ZLE framework with simplified, real-time control over business processes—from personalized sales to fraud detection and targeted marketing—across multiple channels. Written in 100 percent pure Java script, Blaze Advisor resides in the core of the ZLE framework to manage the rules governing business decisions and personalized customer interactions.

Analytics solutions
NetTracker’s MicroStrategy 7 enables departments and entire enterprises to easily deploy Web-based reporting and analysis solutions for answering complex business questions within the ZLE framework. MicroStrategy’s business intelligence platform gives organizations solutions to their query, reporting, and advanced analytical needs, and it distributes insight to users via Web, wireless, and voice.

Protagona provides high-performance marketing solutions that enable organizations to achieve measurable business results from their marketing activities. Protagona Producer and eCast applications leverage the ZLE framework by empowering users to execute optimized marketing campaigns across multiple channels in real time—including websites, call centers, e-mail, direct sales, and traditional direct marketing, using up-to-the-second information and unified customer views.

SAS Institute provides industry-leading e-intelligence and data-mining technology, as well as extensive data warehousing experience and extraction, transformation, and loading (ETL) capabilities that leverage the use of information in any ZLE environment. The SAS e-Intelligence and Enterprise Miner applications enable users to better understand and predict online customer behavior. They enable customers to turn raw data into usable knowledge.