

INTELLIGENT TRADING CHAIN MANAGEMENT

USING REAL TIME BUSINESS MANAGEMENT SYSTEM

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Abstract

intelligent Trading Chain Management (iTCM) allows multi-company-trading-chains to perform responsively and near-optimally. Through real-time distributed business processes and visibility across multiple layers; the members can achieve the benefits without sharing sensitive data and without exposing critical business knowledge. **Real Time Business Management System (RTBMS)** provides distributed enterprise applications framework that enables **Real Time, Adaptive, Near Optimal Trading Chains (eCoNets)** to function cohesively. **DATA.net, RESPOND.net, ANALYZE.net** weave together the dynamic global fabric of **eCoNets**. **TradeView.NET** provides **ACCURATE, COMPLETE, REAL TIME** visibility to critical business parameters across the multi-tier trading chains. **Trade.NET** provides integrated procurement and sales processes across multiple trading chain partners.

Keywords

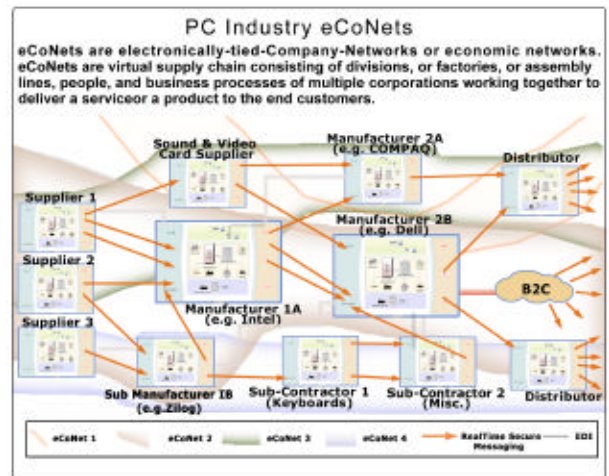
Real Time Business Management, intelligent Trading Chain Management, Distributed Multi-tier Trading Chains, eCoNets, Distributed Dynamic Democratic Responsive eCoNet, Adaptive, Responsive, Near-Optimal, Real-Time, Self-tuning

Introduction

Corporate leaders of today have excelled in managing their internal Business Processes (transactions – ERP, Planning – SCP etc). In the new millennium, important challenges lie outside the walls of corporations. Gains realized in 20th century (by improved Internal Business Process Management) will be dwarfed by benefits of improved **Trading Chain Management (TCM®)**. Trading Chain consists not just of your business partners but also your partners' partners and their partners (customers' customers & suppliers' suppliers & subcontractors' subcontractors). Such multi-level multi-enterprise trading chain management alone can provide corporations with savings that will make an appreciable contribution to their bottom lines.

eCoNets are e Company Networks or eConomic Networks. eCoNets are virtual trading chains consisting of physical units (companies, or divisions, or factories, or assembly lines, or warehouses) and people and business processes of many companies working together to deliver a service or a product to the end customers. eCoNets

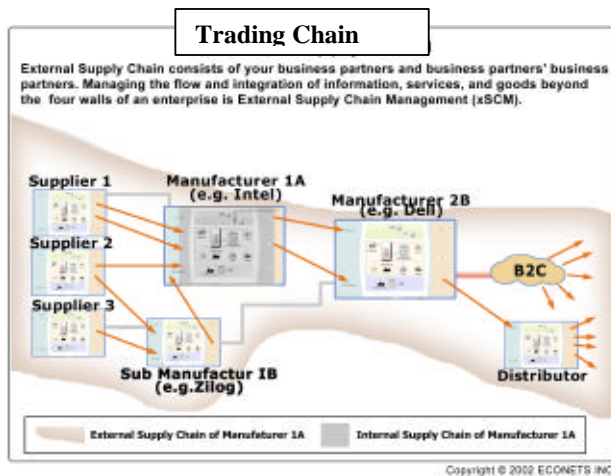
originate at a source in nature (forest, sea, mine, etc) and reach completion in to the hands of a consumer.



Importance of **intelligent Trading Chain Management (iTCM)** cannot be understated. Lately the B2B exchanges and eHubs have tried to address these issues by bringing multiple constituents of the supply chain together at a third-party-neutral environment. Unfortunately, the centralized architecture adopted by

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these solutions make them effective only in limited scenarios. Companies may be willing to work in a collaborative environment but are not ready to entrust their sensitive data into the hands of third party. Companies are not ready to drastically modify the time-tested business processes that have successfully evolved over last few centuries.



The global fabric of real-time eCommerce has too many lacunae. Vast majority of worlds businesses do not participate in the real time adaptive supply chains. They are impeded by multiple challenges such as: in-flexible business processes, rigid-stodgy supply chains, providing visibility without dis-intermediating the business partners, developing corporate IT infrastructure that would adapt to changing business conditions in days rather than years, responding in real-time without outrageous hardware investment and ridiculous software architecture, collaborating with business partners without controlling their decisions, sharing information (with business partners) without losing competitive advantage, and winning without destroying!

Yesterday's centralized architecture is fundamentally incapable of addressing these challenges due to its inherent design. RTBMS is primarily designed to empower small, medium, and large corporations to effectively participate in the global fabric of real-time eCommerce. RTBMS is the distributed operating system of democratic-dynamic-digital eCoNets.

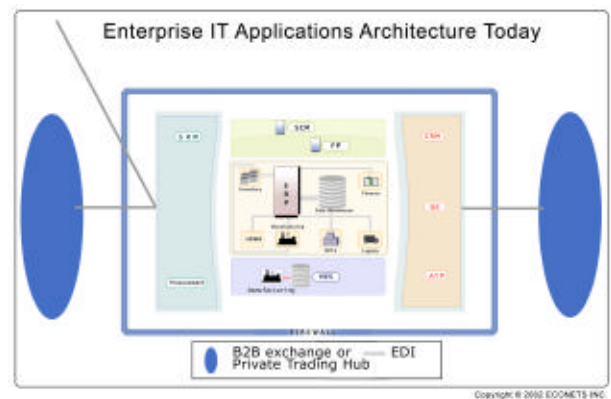
Whereas traditional enterprise applications have focused on automating the processes of designing, sourcing, creating, and selling with a company-centric view, RTBMS focuses beyond the four walls of the corporation. RTBMS extends the current centralized-database-

centric paradigm to work in the new millennium. Today's key computing trends are highly synergistic with the RTBMS architecture:

- Ubiquitous desktop
- Pervasive internet
- 'Unlimited' bandwidth
- Generous CPU power
- Cheap storage

In this paper we will concentrate on the value of RTBMS for Trading Chain Management. i.e. the domain of Business-to-business integration and the domain of multi-corporation business processes.

Shortcomings in Current Architecture



Today's enterprise IT systems (ERP, SCM, etc) are internal-supply-chain-centric. Their internal focus and centralized architecture forces the supply chain constituents to subscribe to a common system, use common practices, and use 'common master plan'. Clearly, such centralized framework would not be acceptable to a multi corporate, multi tier, trading chain.

Major disadvantages of today's Enterprise IT Application Architecture include:

- Lack of global visibility resulting in
 - Higher inventory
 - Wrong forecasts
 - Higher product obsolescence costs
- Lack of Real Time Response resulting in
 - Lower customer satisfaction
 - Longer time-to-market
 - Higher inventory costs
- Lack of participation from all partners resulting in

- External supply chain in-efficiencies that will overwhelm even the players who may be internally optimal and well managed!
- Lack of Trust resulting in
 - Loss of trust in the data signals
 - No forward visibility
- Lack of Flexibility resulting in
 - Rigid supply chains

Real Time Business Management System (RTBMS[®]) has begun successfully addressing these issues, and more.

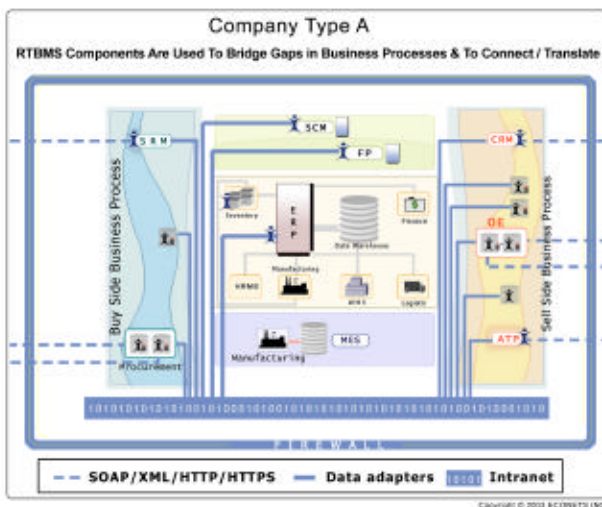
Real Time Business Management System (RTBMS)

RTBMS is a net-centric distributed enterprise applications framework that enables cross-application, multi-corporate, flexible, adaptive, collaborative and real-time business processes.

RTBMS consists of various sub-networks

- DATA.net (such as TradeView.NET)
- ANALYZE.net (such as TradeOpt.NET)
- RESPOND.net (such as Trade.NET)

Each net consists of nodes enabled either by RTBMS components (Company Type A), or by an RTBMS compatible implementation of BizTalk Server.



These nets connect with each other to form Real-Time-Responsive-Global fabric of optimal eCoNets.

RTBMS addresses the challenge of TCM by use of standard, distributed, flexible, re-usable, 'best practice', collaborative business-process-components. These components enable adaptive trading chains, enable

businesses to extend their internal business processes beyond the corporate boundaries, collaborate democratically with trading partners in secure-real-time-responsive environment, obtain 'Accelerated Information' (advanced visibility) of mission critical data across multi-corporate supply chains, and respond in real time to dynamic market conditions.

RTBMS micro-components collectively encompass functionalities of traditional ERP + CRM + SRM + Procurement + OF + B2B + Inventory Management and more. RTBMS logic dynamically orchestrates optimal functioning of these micro components, in a single computer, or over a LAN, WAN, and the Internet. These components are also eminently suitable for delivering custom enterprise-applications at the cost and implementation time frame of packaged software. RTBMS methodology provides necessary guidelines for real time, adaptive, near-optimal, self-tuning Trading Chain Management (TCM).

RTBMS is the distributed operating system of democratic-dynamic-digital-adaptive eCoNets.

RTBMS does not force you to change your business processes or practices, but adapts or evolves around it. RTBMS has the dynamic capability of forming a new virtual trading chains, virtual sub-market places, specialized private (or public) B2B exchanges, or OEM relationships in a matter of days, without using an army of consultants. RTBMS helps to:

- Fill gaps between IT systems across the eCoNets using flexible, configurable, business process components
- Provide complete, accurate, and real time variability to critical data across systems and corporate boundaries
- Respond to changes on shop-floor, raw material deliveries, and shipment schedules by analyzing options across multiple IT systems, departments and authority domains and by translating data in real time.
- Respond to market-changes in real-time by enabling collaborative Business Processes that span multiple corporations
- Anticipate the impact of events in the external supply chain

- Form virtual supply chains, virtual sub-market place, specialized private (or public) B2B exchange, or OEM relationships in **near-Instantly**.

Use of RTBMS based intelligent Trading Chain Management solutions (iTCM) and products (TradeView.NET, Trade.NET and TradeOpt.NET) delivers benefits in four major areas.

RTBMS based solutions **increase sales** by reducing the cost of new customer acquisition, by finding more customers, and by improving customer satisfaction. They significantly **reduce operational costs** by reducing inventories, product obsolescence costs, logistics costs, and Cash Flow Cycle time. **Strategically** these solutions prove invaluable as they enable dynamically adaptive supply chains. They allow companies to create eCoNets, cheaper alternatives to Mergers & Acquisition.

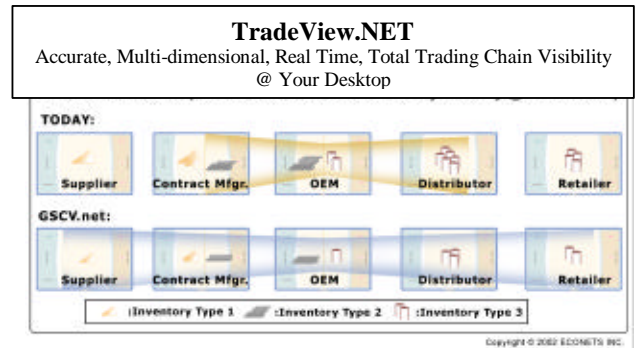
RTBMS helps you **protect** existing IT investment and **reduce costs** through re-usable distributed components that use low cost standard commercial platforms. RTBMS offers truly a **low-risk** proposition as its **distributed architecture** allows **Truly Incremental** implementations, rapidly and inexpensively.

TradeView.NET - Global Trading Chain Visibility

TradeView.NET provides accurate, multi-dimensional, real-time visibility to total inventory, open orders, and in-transit shipments; across multiple layers of business partners using multiple business applications. Enables accelerated access to real supply projections & real demand numbers in a democratic environment that fosters collaboration without dis-intermediation.

There are numerous data sources in a company. Within the firewall multiple instances of ERP and legacy systems store their own inventory / orders data. Decision makers do not get true picture of their inventory status for days!

The problems are more acute if the trading chain consists of multiple companies. These data typically resides in various IT systems that are rarely interoperable. Data exchange is either manual or batch. True status of inventory and open orders in the external supply chain may not be visible to the decision-makers for weeks!



End-to-end real time visibility helps to anticipate and optimize rather than responding and fire fighting. Forward visibility helps to avoid premium freight costs, wrong productions, costly downtime or changeover costs. This helps to achieve significant reduction of inventories throughout the trading chain. As the figure above denotes, the inventories can be lower by as high as 50% due to Advanced Visibility alone, provided by GSCV.net

TradeView.NET belongs to the category of DATA.net. TradeView.NET helps participants to:

- Gain end-to-end visibility of data across-enterprise and across-application throughout the trading chain helps to Anticipate & optimize rather than respond or fire fight!
- Significant reduction in global inventories and inventory carrying costs
- Dramatic improvement in customer order fulfillment rates with zero or significantly low inventory levels
- Decreased COGS through reduction in last minute administrative firefighting, elimination of premium freight costs, reduced inventory carrying costs, reduced inventory obsolescence, minimizing downtime or changeover cost and avoiding wrong productions
- Rapid identification, escalation and resolution of business issues in real time, collaborative and democratic environment

Trade.NET – Distributed Trading Community

Trade.NET is an Electronic trading universe that uses proprietary UDDI type mechanism to ensure focused faster selling and near optimal sourcing. Series of virtual distributed B2B exchanges enable adaptive trading chains to execute secure real-time business processes across multiple layers of business partners.

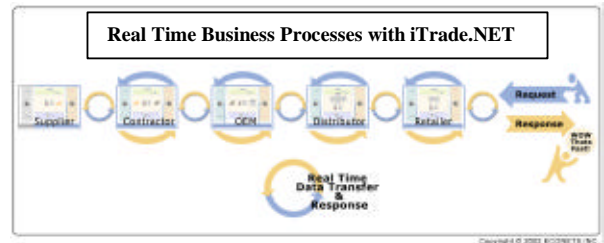
Trade.NET is a type of RESPOND.net. Trade.NET offers several other important advantages over traditional B2B exchanges:

- Simultaneous subscription to multiple market-places without extra integration work
- Virtual sub-exchanges creation in matter of hours rather than months
- Demand / Supply information propagation across multi-layer trading chain in real-time
- Flexible business partner relationships
- Quick and easy implementation for ‘go to market strategy’
- Incremental implementation and excellent scalability allows to add more number of parts and partners as the business grows
- Collaboration across trading chain layers without dis-intermediation
- Sharing of information without losing privacy and control while eliminating the need to put the data on a third party central data warehouse
- One solution across all channels of business
- High availability due to distributed architecture
- Rapid identification, escalation and resolution of business issues in single real time collaborative dialogue with partners significantly reduces the decision cycle time and enhances the ability to quickly respond to market changes
- Reduced cost of purchasing / selling due to improved automated process flow and reduced manual data entry errors
- Seamless integration with internal IT systems and processes help preserve existing investments made in software, hardware and training
- Standard low cost platform allows all partners to participate and add value to eCoNet

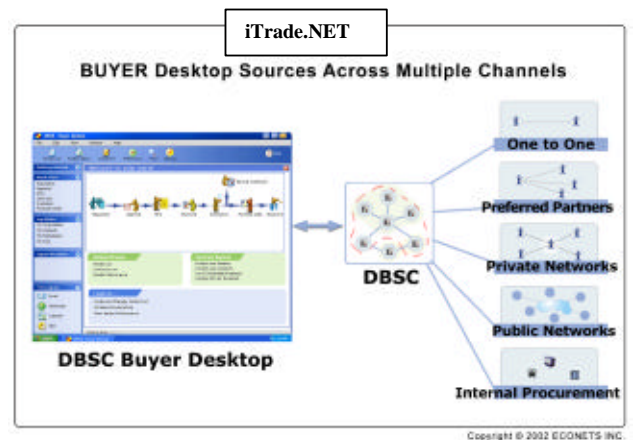
Traditional B2B exchanges or EDI/fax/email business processes result in days or sometimes even weeks of delay in the execution of the complete business process.



RTBMS framework enables REAL TIME transactions between DBSC members without the need of an external physical B2B exchange.



Buyers (sellers) use state-of-the-art Trade.NET desktop to buy (or sell) across multiple sourcing (or sales) channels, in real time.



Trade.NET also enables buyers and sellers to participate in interactive communication to resolve issues in a single real time dialogue.

Conclusions

eCoNets iTCM (intelligent Trading Chain Management) has potential to reduce inventories, increase customer satisfaction, find new customers, speedup new product introduction, minimize product obsolescence costs, reduce new customer acquisition costs, and reduce cash flow cycle time; substantially. Benefits of iTCM will dwarf the benefits achieved by traditional (internal) Supply Chain Management and by other enterprise IT applications (ERP, SRM, CRM, etc). Real-Time, Adaptive, Near-optimal trading chains (eCoNets) alone will survive the competition in 21st century.