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## ***1.0 INTRODUCTION***

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The Big Bucks on the Internet these days are coming from B2B (business-to-business) deals--buying and selling commodities. From farming to food to microprocessors; from solid-waste control to plastics to such traditional goods as steel, virtually every industry is represented online by at least one entrepreneur who has set up shop to cement business-to-business commerce.

Meanwhile, large corporations are using the Internet to build bridges between themselves and their strategic partners. **Each member of the online biz-to-biz (B2B) brigade is hoping to use the Net's instantaneous global reach to build digital marketplaces where buyers and sellers who may never have met in the off-line world can gather daily to move huge and growing amounts of the nation's basic goods.** Experts who follow this emerging business-to-business electronic-commerce market call it **frictionless**, because no faxes, phone calls or paper trails snake back and forth to clog the communications channel between buyer and seller. That is just one aspect of these new wholesale channels that has analysts salivating.

*If B2B is so basic, how come most of us are not so familiar with it?*

Most people understand the business-to-consumer market because they are consumers themselves. It's kind of like an investment protocol: use a product, come to understand it and then invest in it. With business-to-business, though, unless you are entrenched in that industry and really understand that market segment, you are not going to appreciate how it's revolutionizing that business.

***Payoffs:***

Exciting, even revolutionary as B2B promises to be, it will come at a price--one that will be paid largely by the relatively anonymous groups of backroom sales-and-operations personnel who have kept the wheels of commerce humming.

The primary hurdles to widespread adoption of B2B strategies are not technological but organizational and all too human. Large corporations are slower to let go of old business practices. They believe maintaining the status quo will help them preserve their commanding position as a market leader.

***The Internet Advantage:***

**The Internet is already an important, and perhaps transformational, marketing medium for business-to-business and business-to-consumer markets.**

- **Ability to Target:** For optimal results, the business wants to be able to select the precise group with whom to communicate. It provides extraordinary ability to target in both business-to-business and business-to-customer markets.
- **Interactivity:** This ideal marketing medium allows the targeted prospects or customers to talk back right now - to identify themselves, to declare interest and readiness to purchase and even to criticize or complain. It offers outstanding interactivity, comparable to direct sales at a fraction of the cost per contact.
- **AIDA Completeness:** The media has traditionally served only one or two steps of the Awareness-Interest-Desire-Action cycle (A.I.D.A.). The Internet offers unique power here. A customer can move easily from initial awareness through purchase. Maintaining an accessible recollection of these interactions actually allows an exchange between the user and a Web site to continue for some time, spanning the time delays of the physical world.
- **Learning Ability:** The Internet already enables unprecedented learning in its ability to capture site navigation information; information retrieval and purchase behavior, and user-supplied preference and profiling information. It is also proving to be an excellent vehicle for conventional market and customer research.
- **Immediacy and Relevancy:** Responsiveness to marketing messages is closely correlated with the "freshness" and applicability of the information conveyed to the recipient. The Internet is vastly superior to all other media in the capacity to deliver messages that are not only timely, but immediately relevant to the recently displayed interests or actions of the customer.
- **Permission:** The Internet enables the "permission" decision to be made at lower cost to the vendor and with less inconvenience to the customer.
- **Multiple Program Types:** The Internet has a unique ability to function as a platform or vehicle for a variety of program types.
- **Deliver Appropriate Information:** The Internet has another unique ability: to provide virtually unlimited information to the seriously interested user, without cluttering simpler messages to a wider audience. The end user can easily navigate his or her way to more and more detailed information and toward a closer relationship with the supplier.

Business-to –Business is a more radical business "connect" than any before, mainly because of the frenetic pace and seemingly unlimited potential of Web technology, and the newly disintermediated relationships between buyers and sellers. But the individual differences among industrial dislocations don't negate the importance of the similarities between B2B and normal businesses. And by examining the lessons companies learned as they grappled with prior business upheavals, managers and strategists at traditional firms can develop sound strategies for dealing with structural change today, and with the inventive upstarts reshaping their industries. Meanwhile, by exploring prior transformations, dot-coms can identify the fundamental business strategies and capabilities that helped earlier innovators survive beyond the startup stage.

B2B strategists must begin to believe that the Web is likely to be the center of their marketing future, not simply an adjunct to traditional marketing methods.

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## **2.0 THE B2B BOOM**

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### **B2B: A Different Animal**

- *What is business-to-business?*

It's about creating virtual corporations. It's enabling large corporations to work closely together by linking their different business processes--their enterprise applications and their systems--so they can deliver product by the quickest means.

Business to Business e-Commerce is online shopping for the wholesale/distribution and manufacturing marketplaces. **Businesses who don't sell to "end-users", but rather dealers or authorized organizations that purchase products direct from distributors manufacturers.** It provides a level of convenience they want, need and will soon be in demand. B2B E- Commerce is a unique opportunity for businesses of any size, and for those who automate their supply chain, the opportunity is even greater.

#### ***Shift in the emphasis:***

Early Web efforts extended traditional trade with reams of accessible product data, 24-hour, seven-day shopping hours and basic customer self-service. B2B is far more than taking orders online. It fundamentally changes how companies view products, production and pricing. **As the economy moves to B2B trade, the emphasis will shift towards delivering and managing inventory for business partners.** As online purchasing and extended supply-chain management take hold, companies will be able to respond and raise or lower prices on a minute-by-minute basis.

#### ***The Impact: New Market Models:***

Traditionally, industry has used three communications channels: face-to-face, phone/fax and mail. The Net has enabled new market models--auctions, aggregators and exchanges--that fundamentally change how markets operate. In geographically dispersed markets, buyers typically aren't able to find all possible suppliers, so they pay more or get inferior service. New market models remedy this. They connect supply-chain participants more directly. In the physical world, industry supply chains bear the inefficiencies of too many middlemen. Most important, new market models offer previously unavailable information.

### ***The Effect: Growth of the Internet Economy:***

Business-to -Business e-commerce will make up more than 9% of all sales by 2003—up from 0.2% in 1997. By that same year, 2003, the percentage of business trade moving to the Internet will vary greatly by industry, from a high of 20.3% for computing to 1.2% for industrial equipment.

### ***Why is there such a strong business trend toward B2B?***

The bottom line is that B2B, if implemented correctly, can save organizations money. However, there are several specific drivers:

- **Fragmented supply chains:**

For those markets in which it's hard for buyers and sellers to find one another, a B2B intermediary can bring them together to help buyers compare offerings. And when products, inventory levels and prices change quickly, or product descriptions are complex (i.e., when it's hard for buyers to compare product information) a B2B intermediary can aggregate such information and make it easier to search. The importance of supply chain fragmentation has been increasing in the new world economy, where political boundaries change almost daily and globalization must always be considered.

- **Streamlined business processes:**

The Internet fosters a culture of connectivity and speed that can be translated into a need to develop business systems faster than the competition and create business processes that cross functions and organizations. In order to engage in e-commerce with business partners, rapidly synthesize shared business processes, and continuously innovate the business for greater efficiency, organizations are making B2B a business imperative.

- **Extension of the selling chain:**

B2B offers business that ability to reach new buyers, such as small accounts that wouldn't have been cost-effective for a sales rep to handle or that are located elsewhere in the world, or to unload surplus inventory.

- **Procurement trends:**

For those organizations that choose to develop longer-term relationships with one or two suppliers, B2B provides a wider field to select from when developing these relationships.

- **Technology wealth:**

B2B flourishes in a business environment where technology is a driver for competitive advantage. Technology advancements now enable the hardware, software, and infrastructure necessary for high-performance B2B systems.

### ***How does B2B work?***

B2B is not a technology or software. Rather, it is an environment that contains critical pieces of hardware, software, infrastructure, and business processes. In addition, B2B systems can vary greatly in their sophistication and complexity.

**Nonetheless, all B2B systems implement one or more of the following technologies:**

- **Content Management**

Back-end tools that assemble, transform, aggregate, and normalize product information from supplier databases and deliver it to front-end users. Content management may also provide syndication tools so that normalized content can be delivered to other delivery channels.

- **Supply Chain Management (SCM)**

Developing and maintaining the electronic links between business partners, distributors, and suppliers; and integrating these links with the back-end office such as manufacturing and production control systems.

- **Transaction Platforms**

Platforms to manage the financial and fulfillment relationships between buyers and sellers. These platforms may include auction, negotiation, billing, and payment technologies.

- **Business Intelligence**

Analytical tools that assist in real-time tracking, mapping of consumer behavior, and discovery of consumer and supplier trends. Data mining often falls into this technology set.

- **Partner Relationship Management (PRM)**

Closely aligned with Business Intelligence tools, PRM not only provides insight into partner behavior, but also intelligently aligns the B2B system to the particular user. For example, a PRM tool may intelligently configure special pricing arrangements for a partner once that partner has purchased or sold a certain level of goods or services. Another critical characteristic of PRM is that it provides a forum by which partner experiences can be captured, analyzed, and the B2B system optimized to increase purchasing behavior. Partner experiences are often supplemented by online surveys and feedback forms.

- **Infrastructure Technologies**

Standard technologies and tools required to store, secure, and deliver content and transactions. These include encryption, public key infrastructure (PKI), digital certificates, web servers, application servers, and relational database management systems (RDBMS).

- **Supporting Technologies**

Sophisticated B2B systems also take advantage of supporting tools such as web site personalization, globalization (e.g., language and currency translators), product configurator engines, advertisement management, and affiliate marketing technologies.

***Is it costly for a retailer to invest in what he needs to get involved with B2B?***

It all depends the functionality that the retailer desires. Developing an electronic relationship with a single supplier may be well within the means of even the smallest retailers. However, very complex B2B sites (such as those used by Fortune 50 manufacturers) can be prohibitively expensive to build, deploy, and maintain.

***Will B2B change retailing significantly? In what way?***

B2B does and will continue to have a very marked effect on retailing. The primary driver of this effect is that, in the B2B world, a retailer's size is much less important than in a

traditional trading partner environment. From a supply perspective, even the smallest retailer has access to an extremely large – even worldwide – supplier base. From a purchasing perspective, many small retailers can band together to create a “virtual retailer” that has all the purchasing leverage of even the largest corporations. Retailers that are B2B-enabled are already starting to experience dramatically decreased time-to-market, the ability to fulfill specialty orders, the reduction or elimination of warehousing costs, and the reduction or elimination of fulfillment costs.

***Is B2B e-commerce for every business on the net?***

Definitely not. If a business interacts with a small number of partners (suppliers or consumers) or if a business has the power to influence all of its partners to supply products/ services information in a single, well-understood format, the cost of implementing B2B may be larger than the savings realized. However, it is likely that almost all businesses can benefit from pooling resources to increase buying power and receiving products/services from a large, global marketplace.

***Does B2B reinforce what some retail analysts say: retailers who don't develop a viable e-business strategy face the prospect of being less competitive or even obsolete?***

Yes. B2B is yet another example of the Internet changing the way people view business, purchasing, and customer service. Unlike the business environment ten (or even five) years ago, consumers demand a huge variety to choose from, they want to customize their purchases, and they want to be able to track the fulfillment of their purchase using modern technology such as the electronic mail. Retailers who fail to provide this functionality will fail in the long term.

***Where do B2B and e-commerce meet?***

***What is E-Commerce?***

E-commerce, or electronic commerce, is the buying and selling of goods and services over the internet.

***Key Applications of e-Commerce:***

The three strategic focal points for e-Commerce are:

- **Business-to-Business e-Commerce:**

The Internet can connect all businesses to each other, regardless of their location or position in the supply chain. This ability presents a huge threat to traditional intermediaries like wholesalers and brokers.

Internet connections facilitate businesses' ability to bargain directly with a range of

suppliers -- thereby eliminating the need for such intermediaries.

**There are, however, tremendous opportunities as well as threats for companies regardless of their position in the supply chain. They include:**

**Providing Information.**

**Purchasing and Selling**

**Moving to an Internet platform**

**Supplying extranet services**

- **Business-to-Consumer e-Commerce:**

Companies are rushing to take advantage of this market. The kinds of business-to-consumer services delivered over the Internet are shifting:

**One-way marketing**

**Purchasing over the Web**

**Relationship Marketing**

- **Intra-Company (Enterprise) e-Commerce:**

The new tools of e-Commerce, such as TCP/IP connectivity and web browsers, have finally enabled the building, sharing and use of information within companies. Intra-company applications of web-based technology are called intranets.

**Companies are embracing intranets at a phenomenal growth rate because they achieve the following benefits:**

**Reducing**

**Enhancing communications**

**Distributing software**

**Sharing intellectual property**

**Testing products**

***Asking the right questions:***

- Is your company web-enabled?
- Will your product sell online?
- Are your customers shopping online today and you are missing the opportunity to reach them?
- Are you facing the likelihood of many online competitors within your category?
- Can you improve the productivity of your business through online transactions?
- Will your cost structures likely be affected by e-commerce?
- Are you concerned about your market cap without an internet presence?
- Can the internet deliver your company a global presence that will improve your overall revenues and market share?

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## **3.0 THE TEN DRIVING PRINCIPLES FOR THE B2B ECONOMY**

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**Many of these rules have been stated before. But taken together they constitute a revolution in the rules of business.**

1. ***Matter:***

It matters less. It's a cliché, but it's the key to the B2B economy. Processing information is dramatically more powerful and cost-effective than moving physical products. Increasingly, the value of a company is to be found not in its tangible assets, but in intangibles: people, ideas, and the strategic aggregation of key information-driven assets.

2. ***Space:***

Distance has vanished. The world is the customer and the competitor. Geography has always played a key role in determining who competed with whom. Now businesses can connect instantly with other businesses all over the globe. Flip-side: You're exposed to worldwide competitors as well. The opportunity — and the threat — has never been greater.

3. ***Time:***

It's collapsing. Instant interactivity is critical, and is breeding accelerated change. In a world of instantaneous connection, there is a huge premium on instant response and the ability to learn from and adapt to the marketplace in real time. Winning companies accept a culture of constant change and are willing to constantly break down and reconstruct their products and processes — even the most successful ones.

4. ***People:***

They're the crown jewels... and they know it. Brainpower can't be tallied on a ledger sheet, but it's the prime factor driving the new economy. More than ever in history, huge value is being leveraged from smart ideas — and the winning technology and business models they create. So the people who can deliver them are becoming invaluable, and methods of employing and managing them are being transformed.

5. ***Growth:***

It's accelerated by the network. The Internet can dramatically boost the adoption of a product or service by "viral marketing," network-enhanced word of mouth. Communication is so easy on the Web; product awareness spreads like wildfire. So once a company reaches critical mass, it can experience increasing returns leading to explosive

growth. This principle means that in the New Economy, first-mover advantages are greater than ever.

#### **6. Value:**

It rises exponentially with market share. For products that help establish a platform or a standard, the network effect is even more pronounced: The more plentiful they become, the more essential each individual unit is, a striking exception to the economic rule that value comes from scarcity. In addition, some companies give away their products to establish market share, then sell linked services later on. Network effects were experienced historically in the adoption of telephones and fax machines. The difference today is that because everyone is linked, far more products and services gain their value from widespread network acceptance.

#### **7. Efficiency:**

The middleman lives. "Infomediaries" replace intermediaries. Traditional distributors and agents are seriously threatened by a networked economy in which buyers can deal directly with sellers. But a new brand of middleman is being created. As the amount of info-clutter grows, these infomediaries are needed to turn dumb data into usable information. They offer aggregated services, or intelligent customer assistance, or powerful technology-based buying aids, or an attractive, community-based buying environment.

#### **8. Markets:**

Buyers are gaining dramatic new power — and sellers new opportunity. Your competitor may just be a mouse-click away. And intelligent software will help buyers find the best deal. So businesses that genuinely offer unique services or lower costs will flourish, benefiting from a flood of new buyers. Those that have relied on physical barriers to competition will fail.

#### **9. Transactions:**

It's a one-on-one game. Information is easier to customize than hard goods. The information portion of any good or service is becoming a larger part of its total value. Thus, suppliers will find it easier and more profitable to customize products, and consumers will begin to demand this sort of tailoring.

#### **10. Impulse:**

Every product is available everywhere. The gap between desire and purchase has closed. The shelf space of the World Wide Web is unlike any other in that it has no bounds. Artificial constraints on choice are replaced by the ability to purchase the precise product you desire. The impulse to buy and the purchase itself used to be separated by a combination of physical and mental barriers. But now the processes for marketing, sales, and fulfillment are merging.

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## **4.0 BUSINESS MODELS ON THE WEB**

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Business models are perhaps the most discussed and least understood aspects of the web. There is so much talk about how the web changes traditional business models. But there is little clear-cut evidence of exactly what this means.

**In the most basic sense, a business model is the method of doing business by which a company can sustain itself -- that is, be profitable. The business model spells-out how a company makes money.**

Business models are categorized in different ways. Presently, there is no single, comprehensive and cogent taxonomy of web business models one can point to. Some of the generic forms of business models observable on the web include:

- Brokerage
- Advertising
- Infomediary
- Merchant
- Manufacturer
- Affiliate
- Community
- Subscription
- Utility

These models are implemented in a variety of ways. Moreover, any given firm may combine different models as part of its web business strategy. Thus, an advertising model may be blended with a subscription model to yield an overall strategy that is profitable. Business models on the web evolve rapidly. New and interesting variations can be expected in the future.

- **Brokerage Model:**

Brokers are market makers. They bring buyers and sellers together and facilitate transactions. Those can be business-to-business (B2B), business-to-consumer (B2C), or consumer-to-consumer (C2C) markets. A broker makes its money by charging a fee for each transaction it enables. Brokerage models can take a number of forms, such as:

**Buy/Sell Fulfillment**

**Market Exchange**

**Distributor**

**Virtual Mall**

**Metamediary**

**Reverse Auction**

**Search Agent**

- **Advertising Model:**

The web-advertising model is an extension of the traditional media-broadcasting model. The broadcaster, in this case, a web site, provides content (usually, but not necessarily, for free) and services (like email, chat, and forums) mixed with advertising messages in the form of banner ads. The banner ads may be the major or sole source of revenue for the broadcaster. The broadcaster may be a content creator or a distributor of content created elsewhere. The advertising model only works when the volume of viewer traffic is large or highly specialized. The different types are:

**Generalized Portal** -- high-volume traffic

**Specialized Portal** -- Here volume is less important than a well-defined user base

**Attention / Incentive Marketing** -- the "pay for attention" model

**Free Model**

**Bargain Discounter**

- **Infomediary Model:**

Data about consumers and their buying habits are extremely valuable. Especially when that information is carefully analyzed and used to target marketing campaigns. Some firms are able to function as infomediaries by collecting and selling information to other businesses. An infomediary may offer users free Internet access or free hardware in exchange for detailed information about their surfing and purchasing habits. This is more likely to succeed than the pure advertising model. The infomediary model can also work in the other direction: providing consumers with useful information about the web sites in a market segment that compete for their dollar.

- **Merchant Model:**

Classic wholesalers and retailers of goods and services (increasingly referred to as "e-tailers"). Sales may be made based on list prices or through auction. In some cases, the

goods and services may be unique to the web and not have a traditional "brick-and-mortar" storefront. The different types are:

**Virtual Merchant**

**Catalog Merchant**

**Surf-and-Turf**

**Bit Vendor**

- **Manufacturer Model:**

This model is predicated on the power of the web to allow manufacturers to reach buyers directly and thereby compress the distribution channel (i.e., eliminate wholesalers and retailers). The manufacturer model can be based on efficiency (cost-savings that may or may not be passed on to consumers), improved customer service, and a better understanding of customer preferences. Perishable products that benefit from fast distribution, like fresh flowers, may prove advantageous by eliminating middlemen. The model has the potential for channel conflict with a manufacturer's established supply chain.

- **Affiliate Model:**

In contrast to the generalized portal, which seeks to drive a high volume of traffic to one site, the affiliate model provides purchase opportunities wherever people may be surfing. It does this by offering financial incentives (in the form of a percentage of revenue) to affiliated partner sites. The affiliates provide purchase-point click-through to the merchant. It is a pay-for-performance model -- if an affiliate does not generate sales, it represents no cost to the merchant. The affiliate model is inherently well suited to the web, which explains its popularity. Variations include, banner exchange, pay-per-click, and revenue sharing programs.

- **Community Model:**

The viability of the community model is based on user loyalty (as opposed to high traffic volume). Users have a high investment in both time and emotion in the site. In some cases, users are regular contributors of content. Having users who visit continually offers advertising, infomediary or specialized portal opportunities. The community model may also run on a subscription fee for premium services.

- **Subscription Model:**

Users pay for access to the site. High value-added content is essential. Generic news content, viable on the newsstand, has proven less successful as a subscription model on the web.

- **Utility Model:**

The utility model is a metered usage or pay as you go approach. Its success may depend on the ability to charge by the byte, including micro-payments (that is, those too small to pay by credit card due to processing fees).

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## 5.0 B2B E-COMMERCE & STRATEGIES

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**Business-to-business electronic commerce, or B2B e-commerce, refers to that portion of electronic commerce that takes place between businesses.**

- Unlike B2C, or business-to-consumer e-commerce, B2B e-commerce emphasizes supply chain integration, direct marketing over the web, and electronic marketplaces.
- B2B e-commerce over the Internet can be as basic as a manufacturer putting up a bare-bones Web site to let distributors securely order a handful of products; it can be as complex as a distributor offering thousands of customers company-specific pricing and content, complex product configuration tools and near real-time access to inventory levels for its entire product line.
- Compared with traditional electronic data interchange (EDI) systems that run across private networks, Internet-based B2B e-commerce is seen as less of a headache to implement, especially for companies that want to reach smaller customers and suppliers that can't handle EDI's cost and complexity.
- Potentially, the most productive and profitable electronic commerce applications for small and large businesses alike are B2B transactions on the Web. For example, a company can streamline its purchasing process by posting its supply requirements on the Web for open bidding. And the Internet can be used to profile prospects, qualify leads, and deliver proposals before a sales representative and a corporate prospect actually meet.
- B2B sales productivity can be significantly improved by providing technical information, pricing, scheduling, and other information to customers over the Internet, enabling sales reps to focus their efforts on personalized customer relationships.
- Most companies probably do business with only 10 to 15 percent of their customers a year, but with B2B direct marketing over the Internet, a company with limited resources can create demand across its total customer base through all sales channels. In addition, feedback from Web sites, online surveys and e-mail can be an important source of leads and market data. A smaller company can use the Internet to reach and serve business customers nationally or internationally without having to expand geographically.

- *It's no longer business -to- business as usual on the Net.*

**Get ready for the next evolution in online commerce. A new breed of intermediaries is emerging to facilitate B-to-B e-commerce. All in some way serve as electronic hubs, each spinning in a new market. These hubs focus on specific industry verticals or specific business processes, host electronic marketplaces, and use various market-**

**making mechanisms to mediate any-to-any transactions among businesses. They create value by aggregating buyers and sellers, creating marketplace liquidity (a critical mass of buyers and sellers), and reducing transaction costs.**

**In short, hubs promise to reshape the landscape of B-to-B e-commerce.**

- ***Return to scale:***

This is the most important and perhaps the least understood difference between consumer –to-commerce ventures and B-to-B hubs.

- Consumer hubs are one-way networks that deal directly with buyers and create benefits mostly for sellers. B-to-B commerce hubs tend to be two-way networks that mediate between buyers and sellers, and create benefits for both sides.
- The value created by consumer hubs tends to increase linearly in the number of buyers; the value created by B-to-B hubs increases as the *square* of the number of participants.

A hub, though, can specialize vertically along a specific industry or market, or it can specialize horizontally along a specific function or business process. Based on these dimensions, the universe of hubs boils down to two primary types: **vertical and functional**. Together, they form the quilt of B-to-B e-commerce.

- ***Vertical hubs:***

Vertical hubs serve a vertical market or industry focus. They provide deep domain-specific content and domain-specific relationships. Vertical hubs typically start out by automating and hosting the procurement process for a vertical, and then supplement their offerings with industry-specific content. Examples: Altra Energy (energy), Band-X (telecommunications), SciQuest.com (life sciences), e-Steel (steel), Floraplex (florists), IMX Exchange (mortgages).

- ***Functional hubs:***

Functional hubs focus on providing the same functions or automating the same business process across different industries. Their expertise usually lies in a business process that is fairly horizontal, which means that it is scalable across vertical markets.

### ***Basic Strategic Planning:***

There is no “one size fits all” strategy out there. Each company needs to assess its business, products, channels, and corporate assets and be clear about the motivations and business objectives for its commerce initiative.

Competitive strategies typically depend on the market environment and the positioning and product portfolio of the existing players. These are the basics:

- Reduce price to penetrate an existing market. Reduced price can also induce the pioneer's current customers to switch. This can be adopted by both the incumbents and pioneers.
- Improve a product or service, with focus on a niche market. Companies can compete by being innovative in the marketplace. The innovation may be radical or incremental. The enhanced product can compete directly with existing products, or it can be positioned to attract a smaller segment of the existing market. In addition, the improved product or service can sometimes attract new customers that are not the current target for the existing product or service.
- Target new geographic markets for existing products. As markets mature in the home base, companies traditionally look outside to more lucrative markets.
- Develop new channels of distribution to access new markets or better penetrate existing ones.
- Strong customer orientation, with improved and channel partner relationships should be primary focus.
- Don't reinvent your products and company.
- Determine if your products and services are a good fit for the technological capability that web offers.
- Investment timing is critical to gain a significant advantage over competitors. It is crucial to determine the timing of the introduction of any new product. This is especially true in high-tech industries, in which product life cycles are short and it is difficult for late entrants to catch up and extract reasonable returns.

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## ***6.0 INTERESTING B2B SOLUTIONS***

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### ***6.1 Business Bot's Java Enabled MarketPlace (JAM)***

- It enables continuous double-sided trading over the Internet, which provides superior efficiency and user experience compared to auctions
- The creation of a dynamic e-Market boosts distribution efficiency and lets you adapt in real time market changes.
- It holds significant potential for re-engineering your core business processes - and aims for orders of magnitude cost savings.
- JAM offers comprehensive functionality and customizability to meet the individual requirements of numerous industries. JAM does this by combining universal trading functionality with business process and bid matching plug-ins that can be used for rapid customization. And it slips right into your web site.

#### ***Features:***

- **Clarity of vision**  
The JAM System provides both an advanced transaction management system as well as the means to optimize the underlying business process.
- **Flexibility and Scalability**
  - Written in 100% Java, it provides cross-platform functionality with mission critical fault tolerance and integration with existing business systems to facilitate "straight through" transaction processing (STP)
  - The server provides APIs for third-party application integration, as well as support for integration with all major databases.
- **Comprehensive yet Open Solution**  
The JAM engine uses a multi-tier distributed application architecture to enable unconstrained scalability, performance, fault tolerance and trading supervision within a crisp and transparent user interface. Industry standard web browsers can access the JAM application server via normal HTTP requests.

- **Low Cost of Ownership**

The cost of ownership is managed through the use of an intelligent "thin client" user interface, which is easier to manage than traditional client/server applications, and enjoys a radically lower overall cost of ownership.

- **Advanced Functionality**

What really sets JAM apart from the nascent competition are its forthcoming advanced patent-pending features. These next generation capabilities include: **Natasha** - a next generation market data visualization and Web trading interface; **MarketOptimizer**- complex multi-trade optimization based on patent-pending multi-agent systems technology; **VoiceTrader**- Voice Commerce IP/telephony and paging solutions based on VXML.

***Benefits:***

- Reduced overhead
- Reduced distribution costs
- Increased profitability
- Customers get pricing and inventory information more efficiently and can place orders online in real-time
- In terms of profitability, the efficiency of real-time e-Markets enables product and services to move through sales channels more efficiently, reducing inventory carrying costs, financing costs, distributor commissions, and human error rates.

***Enhanced Scalability:***

JAM enables unconstrained scalability by using a **multi-tier, distributed application architecture**, to provide a number of significant advantages over traditional client/server architectures, including improvements in scalability, performance, reliability, manageability, reusability, and flexibility.

- JAM uses a high performance Scaleable Orderflow Control Module (SOCM) within the Execution Engine, which partitions the order forwarding system into auto-scaled, multiple application components. This means that this critical process exploits unconstrained scalability and failover redundancy.
- The JAM server also scales to support many clients by carefully managing threads and connections
- The system manages peak usage through the use of a high performance Scaleable Login Administration Module (SLAM), which again partitions the login/user administration system into auto-scaled, multiple application components.
- Database connections are also shared so that the maximum number of simultaneous clients can be supported.
- JAM caches database query results and can automatically update cached data in real time as changes are made to the backing DBMS.

- As system demands increase, highly active components can be replicated and distributed across multiple systems. Multi-tier systems can be built with essentially no scalability limits. If the design is efficient, more or bigger capacity servers can be added to the environment to boost performance and to support additional users. Multi-tier systems can scale to support hundreds of thousands or millions of concurrent users.

### ***Enhanced Reliability:***

- A multi-tier environment can also help to increase reliability, efficient fault tolerance and consistent system availability to support critical business operations. Through replication and distribution, multi-tier architecture eliminates any bottlenecks or single points of failure.
- JAM technology also utilizes a sophisticated approach to object persistence using Multiplexed Persistence Arrays. Persistence functions are always performed whenever objects are created or destroyed or whenever objects are loaded or evicted from memory, and moreover, transparently map the object's persistent fields to an underlying object database. Thus, all objects created anywhere in the system and destined for orderflow are first routed through the persistence module. Thus the persistence module functions as the central gatekeeper for the order book, and therefore, could become a bottleneck for processing.

### ***Architecture:***

The Java Agent-enabled Marketplace™ (JAM) defines a new model for Internet commerce. The JAM platform has been designed to provide an environment that is suitable for the development and deployment of high performance real-time trading systems. The true measure of a trading system often comes down to system scalability and total throughput.

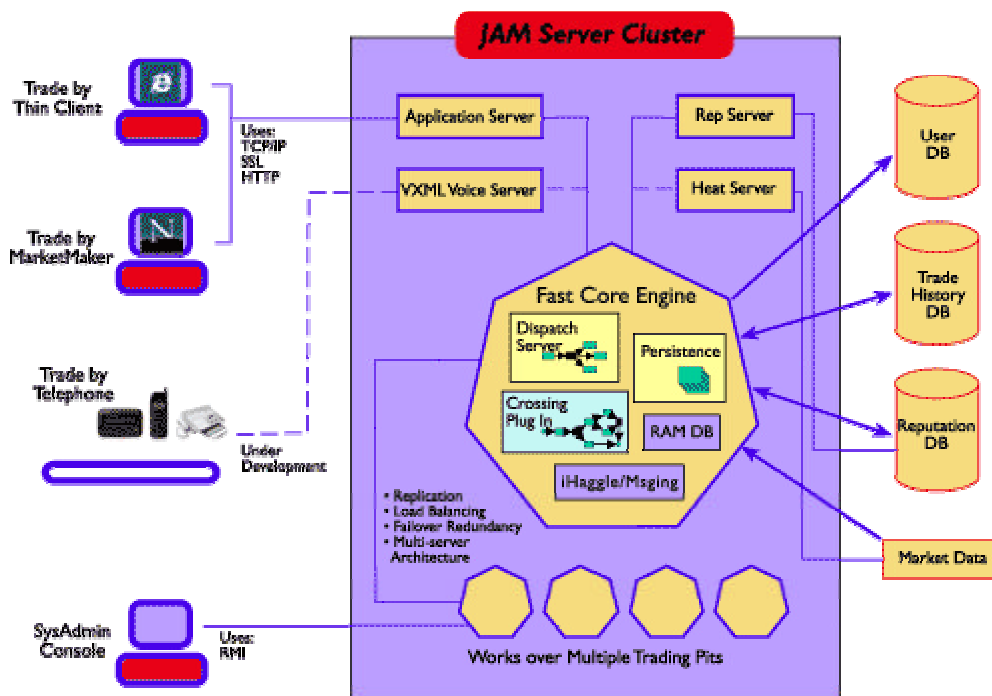
### ***Specifications:***

The JAM engine is benchmarked at a throughput for order flow of 700,000 trades per day per server. JAM is built on a multi-tier architecture to provide unconstrained scalability, persistence & performance JAM is fully compatible with standard web browsers; does not require plug-ins.

### ***Internet Standards:***

- TCP/IP
- HTML, HTTP

- RMI, SMTP, SSL
- XML/ CommerceNet eCo
- Written in 100% Java
- Distributed debugging environment
- Modular w/ reusable components
- Y2K compliant



### ***Hardware Requirements:***

- Windows NT 4.0 \* 150MB disk space \* 64MB RAM \* Pentium Pro 166 MHz+ \* T1 connection
- Linux X.0 \* 150MB disk space \* 64MB RAM \* Pentium Pro 166 MHz+ \* T1 connection
- Solaris 7 \* 150MB disk space \* 96MB RAM \* UltraSPARC-1 167 MHz+ \* T1 connection

### ***Software Platform:***

- Client: Windows 98, Mac 8.5
- Browser: Supports standard web browsers
- Server: Windows NT, Solaris 2.6, Linux
- Database : Standard SQL database via JDBC

## 6.2 Digital Island's TraceWare

Digital Island's Global Delivery Network reduces the barriers to Business-to-Business by providing a suite of integrated hosting, content delivery, network, and application services, all designed to improve performance and provide an excellent customer experience. Only Digital Island offers a B2B Delivery Network that, backed by industry leading Service Level Agreements, guarantees fast and relevant interactive content delivery. Whether reaching out to customers next door or on the next continent, Digital Island delivers superior performance and reliable online experiences every time.

**In a phrase, Business-to-Business without Limits.**

**Digital Island** offers comprehensive solution of Network, Hosting, Content Delivery, and Application Services which insures that companies can deliver fast, guaranteed B2B services.

Digital Island's **Hosting Services**, delivering a true outsourced Internet solution that includes world-class server and applications management at a fraction of the cost of in house Web application hosting.

**Network Services** provide clients with extensive global reach, reliability, scalability, and control in deploying their e-Business initiatives.

**Content Delivery Services** not only intelligently manage content with sophisticated caching and mirroring technologies, but also provide a streaming solution, called Footprint Live, that delivers dynamic content to users across the globe.

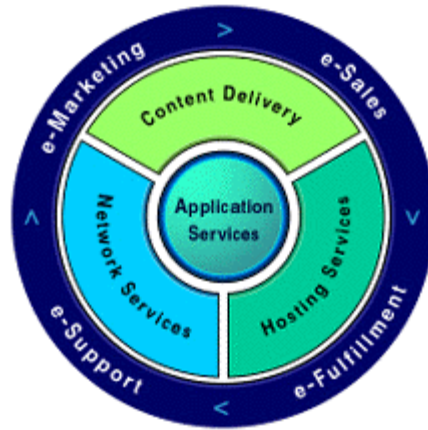
**Application Services** enable companies to globally deploy mission-critical applications to customers and improve their online presence by increasing performance and reliability.

### ***Innovative Application Services:***

Digital Island is continually evaluating and developing innovative middleware applications, such as **TraceWare** with its highly accurate and real-time mapping of geographical intelligence, that directly impact industries that need to market, sell, fulfill, and support their customers online. A full range of companies that provide their products and services electronically via digital downloads can benefit from Application Services, including software and hardware providers, entertainment and music

companies, publishers, and media businesses.

***TraceWare:***



Based on Digital Island's patent-pending technology, TraceWare is an internet Atlas- an innovative patent-pending network service adding real-time, geographic intelligence to any e-business web application. Through its ability to recognize the country-of-origin of internet consumers, companies use TraceWare-enabled e-Business applications to serve appropriate content and enhance their customers' online experience.

***TraceWare Benefits:***

- TraceWare provides the ability to immediately recognize the location of customers on a worldwide basis. This geographic information is gained without any feedback or prior contact from the customer.
- TraceWare helps build online credibility in local markets by providing geographic intelligence to provide a localized look and feel to individual customer markets.
- Country-level targeting maximizes the value of your content.
- Integrates seamlessly with e-business applications

***TraceWare Features:***

- **High Performance:** TraceWare delivers a real-time response on every request and scales to the most demanding volume and performance requirements.
- **High Accuracy:** TraceWare assures 96% accurate results, and uses patent-pending network-based technology that yields an accuracy level far greater than competing methods or technologies.
- **Up-to-date Information:** The TraceWare subscription includes monthly updates, allowing TraceWare-enabled applications to stay current with a dynamic and rapidly expanding global Internet. Each monthly update is tested and verified for accuracy.

- **Proprietary Technology:** TraceWare's geographic intelligence functions independently of DNS host name or Traceroute technologies, which provide unreliable geographic information due to non-standardized naming conventions. TraceWare also does not rely on user-supplied information or market/demographic research.

***Technical Specifications:***

***TraceWare Client Components:***

- Windows NT4.0 with Service Pack 3 installed, Pentium 233MHz PC or greater with 64Mb Ram or greater
- Solaris 2.6 with latest 2.6 recommended patches installed, Ultra 5 workstation 333Mhz or greater 64Mb RAM or greater
- Linux RedHat 5.2, Pentium 233MHz PC or greater with 64Mb RAM or greater

***TraceWare Server Component:***

- Solaris 2.6 with latest 2.6 recommended patches installed, Ultra 5 workstation 333Mhz or greater 128 Mb RAM or greater

***Supplemental Software Requirements:***

- Java VM 1.1.6-1.1.8 for TraceWare Administration module and Java API
- Perl 5.005\_02 or 5.005\_03 for Perl API
- GCC 2.95 compiler for C API

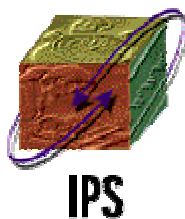
### 6.3 Open Market's Internet Publishing System (IPS)

Open Market, Inc is the world's leading provider of e-business software for complete customer relationship management, combining best-in-class content and commerce software in an open application server environment.

**Open Market's software allows companies to manage all customer interactions over the Web, including the presentation of company information and products, marketing and sales activities, order taking, payment handling, fulfillment, and customer service.**

**Open Market's Integrated Set of e-Business Applications** addresses the content management, customer relationship management, and commerce management needs of its customers. Offering these three e-business solution elements as a set of applications from one vendor gives customers a “one-stop-shopping” way to take their businesses to the Web, reduce costs and deployment time.

**Open Market's Internet Publishing System (IPS)** is the most advanced e-Publishing platform available today. With IPS, you can rapidly develop, deploy, manage, and deliver efficient, robust applications to conduct sophisticated levels of Business-to-Business.



IPS applications streamline production and management through integrated production and delivery services including design and development, content management, publication management, content acquisition, security, and process control/workflow. IPS provides enterprise-wide, business-critical reliability and scalability. Through efficient content management and delivery, IPS allows organizations to create and manage effective, efficient e-businesses that capitalize on evolving market opportunities.

**IPS's content management and delivery features allow companies to:**

- Reduce the costs of creating, managing, and delivering content
- Give content management and control to content creators
- Provide targeted content, design, and functionality
- Facilitate content sharing and re-purposing
- Eliminate production bottlenecks and menial tasks

***Benefits:***

- With IPS, organizations can rapidly develop, deploy, manage, and deliver efficient, robust applications to conduct sophisticated levels of e-business.
- IPS applications streamline Web site production and management through integrated production and delivery services including design and development, content management and delivery, content acquisition, personalization, security, and process control/workflow.
- IPS can be easily integrated into existing environments, allowing companies to preserve hardware and software investments. The system connects diverse, isolated domains of content management and Web technology, ensuring efficient, consistent Web site production.
- IPS accesses multiple heterogeneous databases, enabling a single Web page to reflect information from various content sources. And its open design provides a scalable architecture for future growth as your e-business requirements grow and change.
- Customers can deploy e-business solutions more quickly and reduce the cost of vendor selection, integration and ongoing support,
- Customers have the ability to create e-business Web sites with increased revenue potential because integrating content and commerce management helps maximize the value of on-line customer relationships,
- Customers can extend and expand systems more easily because of IPS's open application server architecture.

***Design and Development:***

The XML-based IPS platform provides companies with a robust and flexible development environment, enabling the rapid development, deployment, and easy modification of high-performance Web sites. Open Market offers its own powerful applications built on IPS, or you can build your own customized versions.

***Content Acquisition and Management:***

Running on a scalable application server and supported by an industry-standard database system, IPS makes it easy for organizations to access and efficiently manage content. IPS's content management capabilities support information access from any industry-standard database as well as most other content sources. Content can be contributed remotely and locally, and the system can assemble design and content elements on demand.

***Publication Management:***

The IPS solution offers a range of reliable, fast, and efficient content delivery mechanisms that support an organization's content strategy as well as the needs of customers and readers. To meet these varied needs, IPS provides simultaneous, multi-targeted static or dynamic content delivery and sophisticated cache management.

***Personalization:***

IPS's personalization features allow you to package and deliver customized content, design, and functionality to a specific visitor or group of visitors. The system supports a variety of personalization techniques, ranging from simple formatting to complex pattern recognition.

***Scalable and Reliable:***

IPS is tightly integrated with the Netscape Application Server (NAS), allowing the system to deliver the business-critical benefits of efficient scalability, high availability, solid reliability, and strong performance.

***Operating Systems:***

Windows NT 4.0 Workstation or Server with  
Service Pack 3.x  
Sun Solaris 2.5.1 or greater

***Native Drivers:***

Oracle 7.3.4  
Oracle 8.0.4  
Sybase 11.0  
Informix 7.22  
SQL Server 6.5 (NT only)  
DB2 v2.1.2

**Web Servers:**

Netscape Enterprise Server 3.6

Microsoft IIS 4.0

#### **6.4 WebMethod's B2B Solution**

By leveraging Internet protocols and the open standards of the Web, webMethods B2B streamlines a company's business relationships with its partners. **Based on the industry standards such as XML (eXtensible Markup Language), companies can launch business-to-business electronic commerce initiatives by securely integrating their existing IT systems with trading partners' catalogs, order, shipping, and logistics systems across the public Internet – all without modifying firewalls or requiring software integration on the partner side.** Unlike proprietary middleware-based approaches, webMethods B2B enables secure real-time data integration both within and beyond the enterprise.

**WebMethods B2B** comprises the **B2B Integration Server** and the **B2B Developer** which work together to create and execute service calls to applications, databases, EDI systems and Web sites.

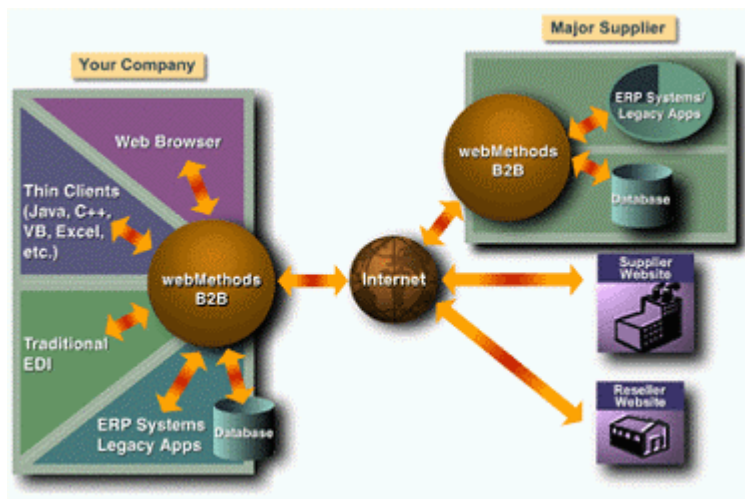
**B2B Integration Server:** The B2B Integration Server makes it possible for companies to encapsulate key business services for automated access by their trading partners. **The B2B Integration Server uses XML to automate the exchange of data between application and legacy data sources without costly application redevelopment.** It integrates on both client and server sides with applications and business logic developed in a variety of languages and technologies. Server-side business logic modules can access databases, ERP applications, EDI systems and more.

**B2B Developer:** The webMethods B2B Developer, which is bundled with the B2B Integration Server, is a development, testing and management environment used to

create links between Web sites and enterprise applications. The B2B Developer provides server administration tools, testing tools and client-side code generation capabilities. Using the B2B Developer, developers can create services that allow Web and enterprise application access functionality to be integrated directly into business applications.

**XML:** interfaces to a wide variety of ERP systems, legacy applications and databases

- Guaranteed Delivery of documents and messages
- Fully integrated security (authentication, authorization, and data privacy)
- Automatic error notification
- Templates for data formatting and transformation
- The ability to map and integrate existing HTML Web sites
- Mediated access to Web sites
- A user friendly graphic interface for defining how you want to extract data from Web enabled applications



**Security:**

X.509 Digital Certificates  
RSA SSL (Secure Socket Layer)  
Access Control Lists

**Scalability:**

Multi-server, multi-threaded  
Distributed workloads

***Reliability:***

Commitment to automatic fail-over  
Multi-server environments

***Language Support:***

XML, HTML  
Client-side Java, C/C++, Visual Basic  
Server-side Java and IMS  
MS Excel, and other desktop applications

***Platform Support:***

**B2B Developer:** 100% Java; Supports MS 95/98/NT, Solaris, AIX, HP UX and Linux  
**B2B Integration Server:** 100% Java; Supports MS NT 4.0, Solaris, AIX, HP UX and Linux

***System Requirements:***

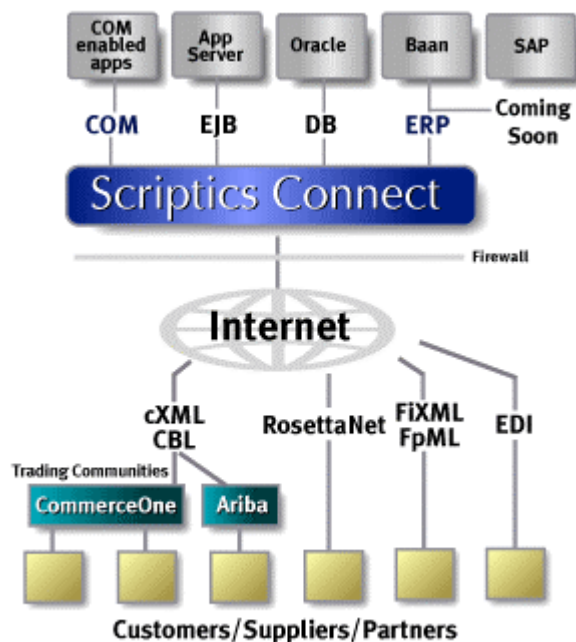
Memory: 64MB minimum  
Disk Space: 60MB minimum  
Sun's JDK 1.1.6 or higher or  
MS's JVM 2.02 or higher  
Sun's JRE 1.1.7 is bundled with the Windows distribution

***Benefits:***

- Inter-company integration
- Link Web sites, ERP systems, databases, EDI systems, and more
- Low cost-of-deployment
- Change Management functionality for easy maintenance
- Leverage current IT investments
- No purchase necessary for your partners to participate

## 6.5 Scriptics' Scriptics Connect

**Scriptics Connect** is a Web-based software server and development environment that processes XML and EDI documents and integrates them into your existing infrastructure while automating your business interactions with trading communities, partners, customers, and suppliers.



**Scriptics Connect** makes it easy for applications in one organization to communicate directly with applications in another organization to automate processes such as supply-chain management, syndication, and financial transactions.

### ***Features:***

- **Open extensible architecture:** Connects to emerging Internet trading communities such as Ariba Network and Commerce One's MarketSite. Connects directly to your partners' enterprise applications, such as Baan, Oracle, and SAP.
- **Easiest integration:** Integrates your existing enterprise applications with XML documents flowing over the Internet and with traditional EDI networks.
- **Speedy application deployment:** Develop and evolve B2B applications 5-10x faster than competing approaches.

### ***Benefits:***

- Acquire new customers with very low cost; switch vendors easily to exploit the best terms.
- Deploy B2B applications quickly by taking advantage of existing enterprise resources and the new XML standard for data interchange.
- Use Scriptics Connect's unique scripting approach to customize business relationships for added value.

### ***Scriptics Connect Components:***

- **Scriptics Connect Server:**

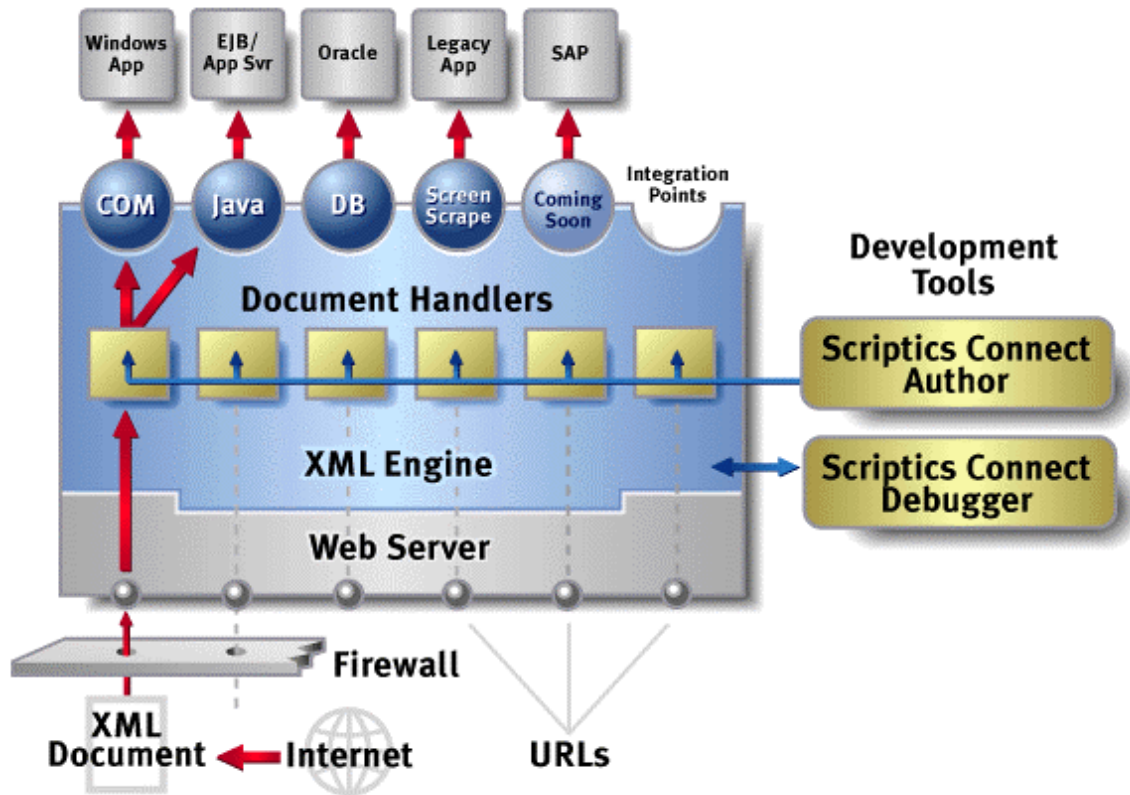
Scriptics Connect Server consists of a standard Web server (Apache or IIS) extended with a Tcl scripting engine that includes facilities for generating and parsing XML and EDI documents. Business-to-business applications are defined with document handlers, which can use integration points to communicate with other applications in the enterprise, such as databases or COM components.

- **Scriptics Connect Author:**

Scriptics Connect Author is a GUI development tool that allows the user to create document handlers quickly and easily. Scriptics Connect Author makes development easy so that even casual programmers can develop applications quickly.

- **Scriptics Connect Debugger:**

Scriptics Connect Debugger provides powerful facilities for debugging document handlers. Sophisticated remote access facilities allow you to debug your deployment server from your development workstation.



### *Scriptics Connect Server:*

**Makes integration with enterprise resources a breeze!**

Scriptics Connect Server consists of an Apache, Microsoft IIS, or Netscape Web server extended with a Tcl scripting engine. The Tcl/XML engine includes extensions for processing XML documents and for communicating with other applications outside the server.

- **Built on standard Web servers.** Scriptics Connect Server is built as an extension to the standard Apache, Microsoft and Netscape Web servers, so you can use the same server management and load balancing tools you currently use for your Web site.
- **Leverages standard Web protocols.** Scriptics Connect uses the HTTP protocol to transmit XML documents associating document handlers with standard URLs. This allows XML documents to pass easily through corporate firewalls without firewall modifications, just like browser interactions to Web servers. Scriptics Connect also uses the SSL protocol and X.509 certificates for authenticated and secure communications.
- **Supports EDI networks.** Scriptics Connect supports EDI standards and OBI so you can continue to use these legacy networks to connect to your existing partners.
- **Integrates easily with enterprise resources.** The processing of XML documents typically involves passing data to and from existing applications and databases. Scriptics Connect makes this easy with integration points for communicating with COM components, Java applications (including Enterprise Java Beans and many

popular application servers), Oracle databases, and a variety of terminal-oriented legacy applications.

- **Updates document handlers dynamically.** With Scriptics Connect Server you can introduce new document handlers or modify existing ones without restarting the server. This speeds up development and allows you to evolve your business processes without interrupting service. No other product on the market offers this capability.
- **Open architecture.** Scriptics Connect has an open architecture that allows you to add new functionality to Scriptics Connect Server by writing extensions in C, C++, or Java. You can also take advantage of the numerous open source extensions developed by the Tcl community.

### *How it works:*

1. Business-to-business applications are defined as a collection of **document handlers**. Each document handler contains scripts that process a particular type of XML document for a particular purpose. Each document handler is associated with a distinct URL in the Web server, much as CGI scripts are associated with URLs today.
2. Business partners communicate with Scriptics Connect by posting an XML document to a URL in the server using the HTTP protocol. The Web server passes the document into the scripting engine, which finds the associated document handler and processes the document under control of that handler.
3. As the document handler executes, it can use the integration points to communicate with other applications outside Scriptics Connect. For example, while processing an incoming purchase order a document handler might enter customer information into a customer tracking database; while processing an incoming invoice a document handler might invoke an electronic payment system.
4. Scriptics Connect Server can also initiate XML transfers out over the Internet. This will typically happen in response to an event in some applications outside Scriptics Connect.
5. Scriptics Connect supports SSL, ensuring secure transmission of your business information over the Internet. Since Scriptics Connect uses the Web server and HTTP for XML data transport, standard Web server firewall and security practices can be used to implement Scriptics Connect.

### *Scriptics Connect Author:*

Scriptics Connect Author is a graphical development tool that you use to create document handlers, which define how XML documents are processed by Scriptics Connect Server. Its powerful user interface hides the complexity of XML programming so well that it can be used by business analysts as well as professional programmers.

- **Intuitive and simple graphical interface.** With Scriptics Connect Author, you simply drag and drop from a graphical view of an XML document. By hiding the details of XML document management, Scriptics Connect allows you to focus on what's really important: your business processes.
- **Wizards speed development.** Wizards allow developers to specify common operations graphically, without programming. The wizard for database inserts allows

you to browse the database and select the tables and columns that you wish to populate. Then you indicate what XML data to insert by dragging and dropping from a graphical view of the XML document. And that's it. No XML parsing. No DOM tree walking. No SQL. No programming at all. Just point and click. Scriptics Connect Author ships with a number of built-in wizards and more will be added in the future.

- **Define your own wizards.** A powerful Scriptics Connect feature is a set of APIs that you can use to create new wizards for common actions in your business, such as interfacing to a particular application. Once the wizard is defined, developers can use the wizard to speed up development and reduce programming.

### *How it works:*

Scriptics Connect uses a simple model for how to handle XML documents.

1. You mark up a prototype XML document with instructions for how to process the key elements. This set of instructions is a document handler.
2. When an XML document is posted to the handler's URL, Scriptics Connect Server scans the elements of the incoming document and invokes all of the corresponding instructions from the document handler.
3. Scriptics Connect Author displays for you a graphical view of an XML document that shows the various elements and their sub-elements. Scriptics Connect Author creates this view from a Document Type Description (DTD) that you supply. You navigate through the view to select elements that require processing. Then for each of these elements you specify the action to take when the element occurs in an incoming XML document.
4. Scriptics Connect Author defines several different kinds of actions. Each type of action has its own wizard that provides a graphical interface for specifying the action. The most general and powerful action is a Tcl script: you can write arbitrary Tcl code that will be invoked for each occurrence of the associated XML element. However, the wizards allow many common actions to be specified without programming.
5. Scriptics Connect Author provides a simple set of APIs that you can use to define your own wizards. Scriptics will work with third-party developers, system integrators, and end-users to encourage the development of a large set of wizards that provide simple implementations of many common business rules. This pool of wizards will provide a significant competitive advantage to any developer working with Scriptics Connect.

### *Scriptics Connect Debugger:*

Scriptics Connect Debugger provides powerful facilities for debugging document handlers. It allows you to step through the actions of a document handler while viewing the XML document being processed, and includes many other features such as breakpoints, stack and variable display, and variable-based breakpoints. Sophisticated remote access facilities allow you to debug your deployment server from your development workstation.

- **XML Window:** The XML Window displays the XML document being processed by the server. As you step through the actions that comprise the document handler for a

document, the XML Window shows you what XML element has triggered the action and where you are in the document at any point in time.

- **Simple graphical interface:** Scriptics Connect Debugger displays your source code in a window where you can simply click on lines to set breakpoints. When your application stops, the current line is displayed along with a stack trace and values of local variables.
- **Execution control:** With Scriptics Connect Debugger you can set breakpoints that cause the application to stop whenever a particular line of code is executed or whenever a particular variable is modified. Once the application is stopped, you can step through commands one at a time or continue the application at full speed. You can choose either to step through or step over nested procedures. You can also interrupt runaway applications to force them to stop.
- **Variable display:** Scriptics Connect Debugger displays the current values of variables in its main window, and provides several additional tools you can use to display individual variables in more detail or track their values as the program executes.
- **Error handling:** If an error occurs in your application, Scriptics Connect Debugger stops the application at the statement where the error occurred, so that you can examine the causes of the error. You can then choose to ignore the error or propagate it in the usual Tcl fashion.
- **Remote debugging:** Any document handler can be debugged even if it's running on a production server rather than your local machine. As long as you can reach your Scriptics Connect Server with sockets, you can debug it with Scriptics Connect Debugger.
- **Eval window:** Scriptics Connect Debugger provides an *eval window* that you can use to type arbitrary Tcl commands to be executed in the application you are debugging. This provides a convenient way to test bug fixes, reset variables, redefine procedures, or probe the state of the application.

### ***Supported Platforms:***

- Microsoft Windows NT 4.0 with support for Microsoft IIS and Netscape
- Sun Solaris 2.6, 7 with support for Apache and Netscape
- Red Hat Linux 6.0 with support for Apache

## 6.6 Vastera's Global Passport



### *Need for global B2B solutions:*

- Customers expect firm, reliable delivery schedules, regardless of whether you need to cross borders or clear customs.
- Raw materials and components may be sourced globally. Products may be manufactured and warehoused at multiple sites around the world.

**Global Passport is an easy-to-use, integrated global trade solution that helps you manage the complexities of international trade policies and practice. When operating globally, it is important that all facilities, no matter where they are located, operate along the same guidelines. Whether the facilities are located in Europe, the Americas, Africa, or the Asia-Pacific Region, Global Passport provides standardized, automated processes so your company can operate globally.**

**Global Passport is the only B2B solution that provides such a comprehensive view of the entire global trade process, including managing the regulations and data for the major countries of the world.**

### **The Vastera B2B Solution gives you control over your global trade operations by:**

- Allowing business partners to collaborate, track and measure the flow of goods around the world using the B2B eXchange Portal. The portal lets global businesses manage the progress of goods, information and money as they move through the Global Trade Value Chain from Exporter to Importer and back again.
- Determining Total Landed Cost (calculate all-inclusive cost for freight, insurance, duties, taxes, customs clearance fees and all other import charges) and the most cost-effective source of transportation, as well as Contract Manufacturing and other advanced reporting through Decision Support.
- Sharing information easily throughout the supply chain using App Fusion, the application integration tool set.
- Moving real-time updates of country-to-country trade regulations to clients through the Internet using Global eContent.

## *Various solutions offered:*

### *1. Import Management:*

International trade regulations and tariff schedules are constantly changing. Ensuring compliance with trade regulations, concise tariff management, duty drawback calculations, and accurate documentation, require a strong, integrated trade management solution. Global Passport™ is that solution. Vastera Global Passport performs a number of checks and calculations on pre-entries, commercial invoices, and entries to help ensure that transactions comply with import laws and trade agreements before goods are imported. Some of the Import Functionality within Vastera Global Passport includes **Automated Broker Interface (ABI) Certification, Entry Creation, Valuation and Duty Calculation.**

- Global Passport uses duty calculation codes and formulae to determine estimated duties for an entry
- Global Passport verifies preferential program eligibility, when available, and also alerts users when a preferential program may apply.
- Global Passport stores PP analyses, certificate of origin information and PP blanket dates, as well as updating.
- Restricted Party Screening — Screens for parties listed on the Global Passport maintained Restricted Party List (RPL). Even country-specific data is managed and updated by Vastera.

### *2. Export Management:*

- Global Passport performs a number of checks and calculations on orders or shipments to help ensure that the transactions comply with export laws and international agreements before goods are exported.
- Global Passport incorporates license determination logic based on export regulations of major nations around the world.
- If a shipment requires a new license, Global Passport™ can automatically create and file an electronic license application with the appropriate government agency.
- Because each company has unique needs, Global Passport enables companies to create an unlimited number of forms in the language of their choice that satisfy all export, import, or internal corporate requirements.
- Global Passport performs checks and calculations on an order or shipment to help ensure that the transaction complies with international laws and agreements before the goods are shipped.

## 6.7 Bridges for Island's B2B Engine

**Bridges for Islands** is an innovative provider of open solutions for Business-to-Business Application Integration. Bridges developed its BRAHMS architecture based on the latest technologies such as Java, EJB and XML. Its unique infrastructure delivers a combination of integration broker, application server and enterprise portal capabilities.

**Bridges' B2B solution, BRAHMS B2BEngine**, applies a non-invasive integration approach and provides seamless connection among trading partners, enabling the automation of shared business processes in real-time over the Internet. Bridges for Islands' XML-based architecture elevates integration to a true B2B level by coordinating and controlling business functions that can span numerous enterprises around the globe. BRAHMS' technology represents a comprehensive, totally distributed and business-oriented solution. It allows to intelligently link heterogeneous systems and enables business processes automation across multiple enterprises.

### *Benefits:*

- Reduction of production costs and inventory
- Accelerated time to market
- Improved customer service
- Leveraging existing IT investments
- Ease of use for all users, from IT specialist to business person
- No special requirements for trading partners
- Build and manage your business processes on a future ready and adaptable architecture

### *BRAHMS B2B Engine:*

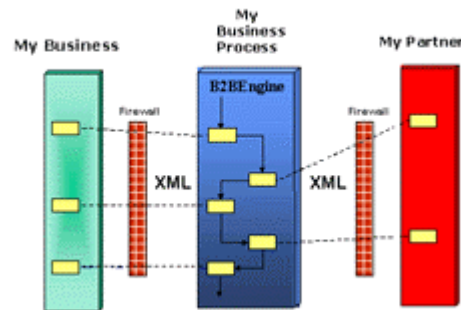
- The XML-powered BRAHMS B2BEngine bridges the different information systems and allows for rapid cross-enterprise integration.



- The BRAHMS B2BEngine allows applications to securely exchange disparate data across enterprise boundaries via public networks. Business partners that are not

XML-enabled employ BRAHMS B2B Engine Modules, which contain easy to install integration wizards. Once installed, the system seamlessly links data and enables the creation of collaborative, multi-enterprise business processes that function in real-time.

- The system applies a non-invasive integration approach. Enterprises only incorporate relevant information into the overall business process, without exposing their operations. Rather than connecting entire applications, companies specify objects that contain the appropriate information to be shared. As a result, business process automation is achieved without compromising the control and autonomy of individual enterprises.



### ***BRAHMS B2B Module:***

- It supplies trading partners with integration capabilities for their underlying information systems and allows them to join existing business processes.
- It works in synch with the BRAHMS B2B Engine and can be configured to work with multiple B2B Engines. Although the module works with any XML-based solution, its capabilities are maximized when working with the BRAHMS B2B Engine.
- It allows for faster communication, easier configuration to join existing business processes and facilitates collaboration with the organization using the BRAHMS B2B Engine.

### ***BRAHMS CockpIT:***

Bridges for Islands provides end users with a robust a real-time enterprise portal called CockpIT.

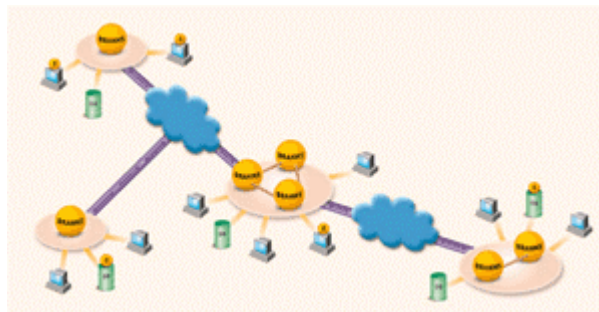
- This tool provides transparent, tailored access to relevant data from any information source, improving both efficiency and productivity.
- The CockpIT is a dynamic tool that allows users to search for and publish information, subscribe to content, analyze received data and develop and execute plans.

The enterprise portal comes in three basic versions. The NetCockpIT is accessed via the Internet, and the BizCockpIT redirects information onto the user's desktop via a detailed

intra-enterprise interface. The third type, the MobileCockpIT, ensures that vital information reaches the relevant people right away. The proactive "CockpIT-to-go" allows alerts to be conditioned and sent to any computer or portable wireless-based device, such as mobile phones and pagers

### ***Architecture:***

BRAHMS' architecture is designed to cross-integrate any enterprise information system. The infrastructure utilizes the latest Java technologies and innovative architectural concepts. BRAHMS is fully XML-powered and supports all open XML industry standards. All services communicate and interact in XML ensuring seamless, open data interaction and reliable communication among trading partners.



The system was developed in Java and uses RMI; CORBA and Microsoft's DCOM to enable distributed objects to communicate over the network.

The BRAHMS infrastructure is based on the EJB(Enterprise JavaBeans) component architecture that provides an API optimized for building scalable applications as reusable server components.

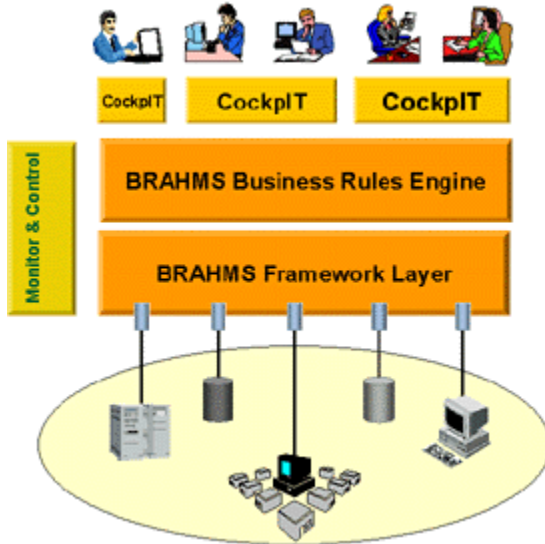
The architecture uses Java Message Service (JMS) for enterprise messaging services such as reliable queuing, publish & subscribe communication and various aspects of push/pull technologies. BRAHMS works with all TCP/IP protocols, most operating systems and platforms.

### **BRAHMS' architecture consists of different layers:**

- **The BRAHMS Framework Layer:** connects disparate applications via smart information nodes, regardless of platform and operating system. The layer provides event-driven communication, data transfer, security, and connectivity services. Communication is enabled via TCP/IP protocols and data is transferred using distributed, object-oriented technologies, employing XML standards. BRAHMS' security system supports various security frameworks and standards including SSL 3.0, and its connectivity services are office-, Web-, RDB-, and legacy-based.
- **The BRAHMS Business Rules Engine:** enables the business process designer to define the flow of information according to the business rules, using a smart GUI. The whole process logic is manageable from any workstation in the enterprise. Since integration is achieved by created business processes and rules, the system

enables the design and building of new processes without writing any line of code.

- **The End User Layer:** named Cockpit, empowers business professionals by providing a dynamic, real-time enterprise portal. This tool lets users search for and publish information, subscribe to content, analyze received data and develop and execute plans. The Cockpit ensures that vital information reaches the right people straight away. It allows alerts to be conditioned and sent to any computer or portable wireless-based device, such as mobile phones or pagers.



**BRAHMS' architecture highlights include the following:**

- **Object - oriented Messaging:** BRAHMS uses distributed object technologies for Enterprise-messaging services such as reliable queuing, publish & subscribe communication, and various aspects of push/pull technologies.
- **EJB:** BRAHMS' infrastructure is based on the Enterprise JavaBeans (EJB) architecture and includes an EJB server, enhancing future scalability. Being EJB-based, BRAHMS contains an API optimized to build scalable applications as reusable server components. The architecture frees developers from low-level system details and allows them to concentrate on business logic.
- **XML:** The BRAHMS architecture has fully incorporated XML, a markup language and emerging industry standard. XML facilitates the transfer and sharing of information across applications, firewalls, and corporations. It allows end-users to define their own tags to specify objects, as opposed to HTML, which only offers a limited set of pre-defined tags.
- **Java:** BRAHMS was developed in Java, using common distributed, object-driven architectures such as RMI, CORBA and Microsoft's DCOM.
- **Internet Technology:** The system works with standard TCP/IP protocols, most operating systems and platforms, and enables to connect systems written in most languages with most standard interfaces.

***Summary:***

- Totally distributed, object-oriented infrastructure
- Java-based
- Enterprise JavaBeans (EJB) Server
- MVC design pattern-based
- SSL 3.0 (Secure Socket Layer)
- X.509 Digital Certificates

***Features:***

- Administration, Management and
- Monitoring
- Web-based, thin-client, monitoring control
- Simulation mechanism
- Full encryption, authentication and access control
- Debugging mechanism
- Remote installation mechanism

***Standards:***

- XML/XSL
- EJB
- CORBA / IDL over IIOP, COM/DCOM, RMI
- JMS, JNDI, JDBC
- Interoperability between different programming languages, such as Java and C++.

***Platform Support:***

- All Java-powered platforms, including Solaris
- AS/400
- Windows 95/98/NT
- HP UX
- Linux

## 6.8 DiCarta's Contract Solution

**diCarta has pioneered a new concept for business-to-business contract and revenue management using the power of the Internet. Their flagship product, diCarta Contracts, enables businesses to effortlessly manage their sales contracts, maximize contract renewals and protect against the risks of non-compliant accounting practices.**

**From its original inception, the diCarta architecture was modeled as a hosted, web-accessed solution. It employs today's leading technology and best-of-class tools to ensure that the solution is robust yet cost-effective, exceeding industry standards for security, performance, and reliability.**

**The business processes in the diCarta Contracts solution will help to efficiently manage the lifecycle of customer's contracts, and will allow your company to:**

- **Increase Revenue:** Through automated contract management, diCarta enables your organization to increase revenues.
- diCarta tracks and proactively notifies your partners of upcoming renewals, generating an audit trail for follow-up and collection. By automating the process, diCarta enables your organization to increase revenue through better management of renewals, price-escalation provisions, and other contract entitlements.
- In addition, diCarta enhances your organization's ability to accurately forecast future revenue from existing contracts.
- **Reduce Administration Costs:** By allowing you to access online contract information from anywhere at any time, diCarta accelerates the process of contract negotiation, execution and renewal. Businesses can now review and collaborate on contract terms with your customers over the web, reducing the time and personnel required to negotiate a contract.
- diCarta enables your company to generate quotes more efficiently and will automatically field inquiries on your behalf over the web.
- By reducing the time required to file, retrieve, and review contracts to ensure proper enforcement, diCarta provides your company with a rapid, easily integrated and inexpensive solution.
- **Reduce Financial and Legal Risk:** By providing visibility into your sales contracts portfolio, diCarta enables you to make timely, critical decisions regarding revenue recognition and other contract details. diCarta immediately incorporates the latest FASB and SEC guidelines in its solution, thereby ensuring regulatory compliance.

### ***Components:***

The specific business processes within the diCarta Contracts solution are designed to help companies better manage the complete lifecycle of their contracts.

- At the center of the system is the **Contract Manager**, the central repository for all customer contract information, which provides a user-friendly interface for subscribers

and their customers. Other processes automate a variety of contract-related functions, including contract registration, administration and renewals, across the company's entire installed contract base.

- diCarta's **Integration Manager** ensures tight integration with other front- and back-office order management systems, including accounting packages and other CRM or ERP applications.



**diCarta Contracts 1.0 manages the following critical business processes through the ASP model:**

**Contract Manager:**

This is the central repository for all customer contract information. It provides a user-friendly interface for diCarta's subscribers as well as their customers, letting all parties review contract terms and conditions, expected deliverables, acceptance criteria, and pricing. The Contract Master, an integral part of Contract Manager, allows companies to standardize contract language, pricing discounts, and product offerings across sales geographies and customers. By automating the contract lifecycle, diCarta can reduce contract management costs by 30 percent over traditional paper-based methodologies.

**Key benefits of Contract Manager include the following:**

- Provides overall repository and system of record for entire contract lifecycle.
- Captures the full range of the relationship between your company (the Subscriber) and your customers (the End Users).
- Allows on-line customer registration and subsequent updating of information.
- Allows on-line contract registration to initiate process under the diCarta solution.
- Supports tracking of sales history information.

- Supports tracking of installed site locations

**Registration Manager:**

The Registration Manager enables subscribers and their customers to easily update key contact and installation information on existing contracts. Using a standard Internet browser, customer identities, their locations, and details about the product installation environment can be readily accessed and updated in real time, dramatically improving the quality of customer information available to the subscriber. diCarta subscribers can increase the accuracy of customer information by over 20 percent, improving the subscribers' ability to achieve high-quality, targeted communications with their customers.

**Key benefits of Registration Manager include the following:**

- Acts as a central repository of critical information, including Customer's Product info, Pricing info, End User info, etc.
- Seamlessly integrates existing business with future transactions through diCarta's Zero-Impact Activation™

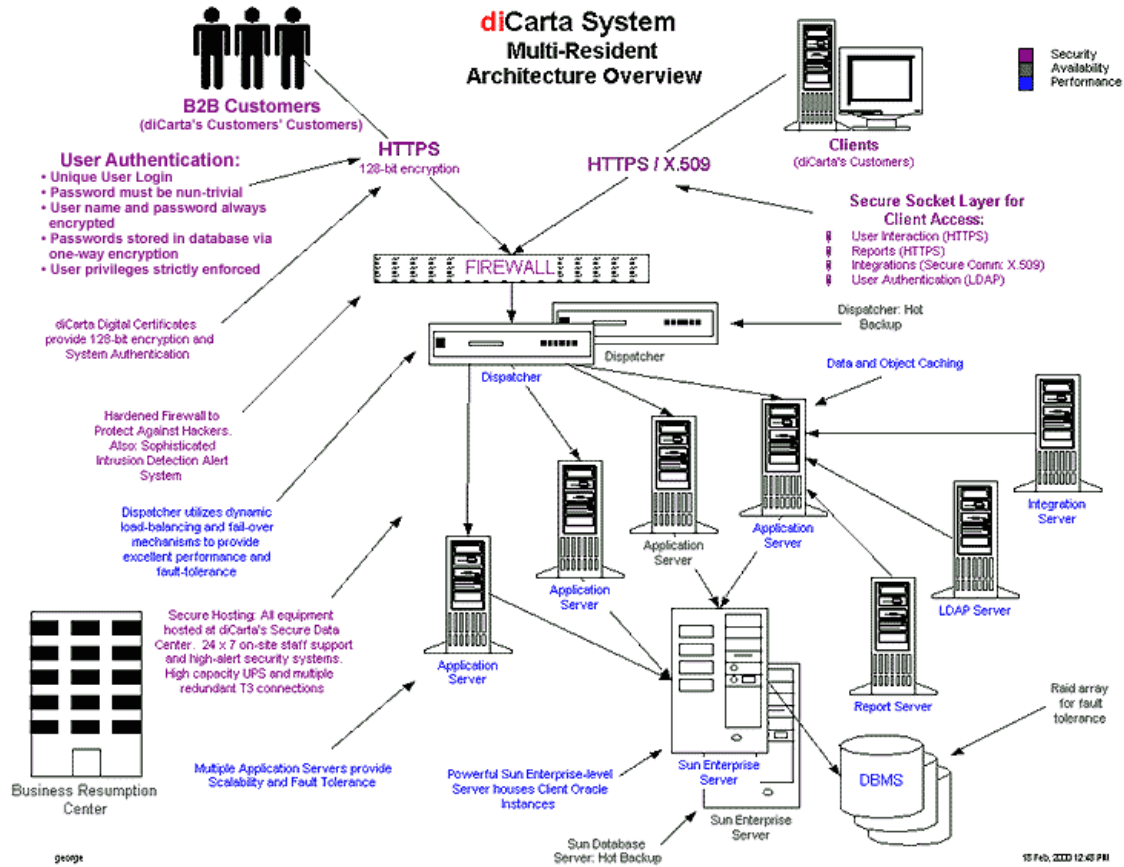
**Renewal Manager:**

The Renewal Manager significantly improves the timely renewal of sales contracts, enhancing overall revenue management. It automatically notifies a subscriber's existing customers when maintenance contracts need to be renewed. Customers can agree to the renewals electronically and the renewals are systematically sent into the billing process. For subscribers, the Renewal Manager tracks all contracts and the status of renewals, escalating notifications to the subscribers' management team when customers have not responded to contract renewal requests.

**Key benefits of Renewal Manager include the following:**

- Increases renewal rates through 100% automated tracking and follow up of contracts.
- Increases revenue through stricter enforcement of pricing terms.
- Reduces contract renewal administration costs.
- Improves contract negotiation process and enhances customer experience

## Integrating with existing legacy or ASP systems:



diCarta's Integration Manager allows companies to exchange information between existing accounting packages, order management systems and CRM systems, increasing efficiency, productivity, and the ability to manage and predict revenue. Integration Manager tightly integrates by importing existing file structures and maintaining customized database through zero-impact integration, and allows customers to access a live environment quickly because of compatibility with many platforms. In addition, the Integration Manager helps avoid custom programming through architecture integration on XML via a VPN network connection over the Internet.

### Technology:

diCarta Contracts has been designed to be an enterprise application delivered over the Internet and driven by the need for scalability, security, reliability, performance, usability and cost. Several architectural elements highlight the focus on a truly Internet-based design:

- **Security:** diCarta leverages VPN and 128-bit SSL technology to ensure that all customer data is kept private.

- **Multi-residency:** The web application servers are implemented in such a way that no hardware or networking equipment is dedicated to any one customer. Scalability and reliability are a result of this multi-resident design, as adding new subscribers does not require any new hardware or software.
- **Object-oriented Java standards:** leveraging of Java and J2EE standards in order to achieve both manageability and performance in the application code, workflow engine and UI presentation.
- **Internet scalability:** Using Persistence technology, caching has been designed into the solution to ensure that frequently referenced database information is available to our users when they need it.
- **Tailored User Interface design:** The system provides a high degree of tailorability so that subscribers can easily produce the look and feel they desire.

## 6.9 Ariba's Solution



**Ariba provides the leading comprehensive solution for all strategic segments of business-to-business electronic commerce. The Ariba e-Commerce platform integrates the internal and external commerce processes of buyers, suppliers, Net market makers, and value-added service providers, delivering a global e-Commerce infrastructure that provides cost saving, revenue opportunities, and increased competitive advantage for businesses of all sizes.**

**The Ariba ORMS application** enables business buyers to get the goods and services they need to do their job and provides content access, routing and approvals, and ERP integration.

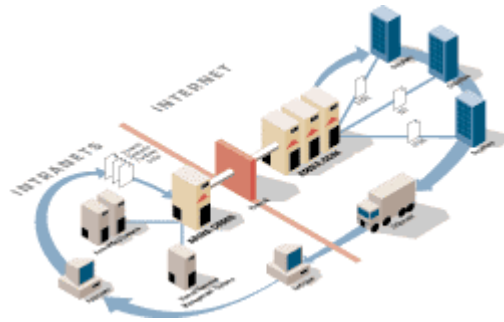
**The Ariba ORMX application** is a version of the market-leading Ariba ORMS application based on the new Ariba ORMS Release 6 tailored for use in an ASP environment.

**The Ariba Network platform** is the industry's leading open, global platform for business-to-business commerce on the Internet. It delivers supplier directory services, seamless access to supplier content, transaction routing between buyers and suppliers, and value-added services, including electronic payment, logistics integration, and dynamic pricing.

### ***Ariba ORMS:***

- The Ariba ORMS application leverages thin clients, the Internet, and corporate intranets to provide a solution for buying organizations to manage procurement and other business areas.
- Using an n-tier design, the system streamlines numerous business processes including purchase requisitions and purchase orders, expense reports, service requests
- It delivers significant cost savings to buying organizations by providing an easy-to-use application to capture all spending at the end-user. Corporations can then channel this spending to preferred suppliers to leverage economies of scale and gain volume discounts.
- It provides end-users in buying organizations with a simple way to obtain the goods and services they need to do their jobs. Without any training, the wizard-based Ariba Walk-Up user interface guides less experienced employees through the entire acquisition process, while the Ariba Organizer user interface makes the system productive for power users.

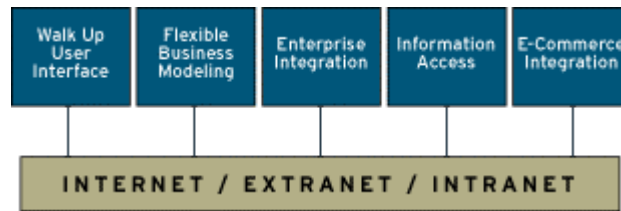
- Its browser-based UI is designed to be both powerful and approachable. No other software system offers this level of ease-of-use throughout a complete solution.
- By adhering to open standards, the Ariba ORMS application, in combination with the Ariba Network e-Commerce platform, allows buying organizations to seamlessly integrate with their suppliers.
- It delivers frictionless e-Commerce integration with the supply chain.
- It delivers a system that runs on every desktop and automates the procurement processes for the goods and services that companies need to support day-to-day operations.
- In addition, as part of a comprehensive, end-to-end e-Commerce solution, Ariba ORMS and Ariba Network connect buyers, suppliers, value-added service providers, and Net market makers, provide access to logistics information, and take advantage of network payment technologies to integrate businesses into the global electronic economy.



**Features:**

- **Intuitive user interface:** A wizard-based user interface guides less experienced employees through the entire acquisition process while a "power-user" interface makes the system productive for more experienced users.
- **Flexible business modeling:** With an integrated, dynamically alterable approval flow and extensible, flexible business modeling, it allows accurate modeling of complex business processes.
- **Enterprise integration:** It handles high transaction volumes and leverages existing corporate systems through enterprise system adapters to ERP and HRMS systems. It incorporates a flexible, object-oriented design that reduces implementation and maintenance costs and that is also designed to integrate with current e-mail and directory services systems such as SMTP, NIS, and NT Domain.
- **Information access:** With thorough analysis and reporting tools, the Ariba ORMS application allows buying organizations to thoroughly evaluate purchasing data. By employing sophisticated analysis tools, companies can use this information to consolidate suppliers, lower costs of the goods and services they buy, and take advantage of supply chain economies of scale.

- **E-Commerce integration:** Through the Ariba Network e-Commerce platform, the Ariba ORMS application delivers frictionless e-Commerce integration to the corporate supply chain.



**A Network Application Architecture provides the foundation for the Ariba ORMS application, handling key functions like communication from client to server and interfaces between the Enterprise System Adapters and Business Applications.**

It includes a Workflow and Approval Engine, which automatically routes requests according to configurable business rules and provides an authenticated audit trail. The business rules can be based on any data element in the request, are flexible enough to model the most complex corporate processes, and ensure accuracy and complete control.

**Enterprise System Adapters** enable seamless integration with existing ERP and HRMS systems. They allow the exchange of any financial and HR data between the Ariba ORMS application and existing enterprise systems.

**The Ariba Walk-Up** user interface makes the system available on all employees' desktops through a Web browser. By leveraging corporate intranets, the Ariba ORMS application can be deployed on thin clients, lowering total cost of ownership. Further, Ariba's Wizard-based approach makes the system easily usable by all employees without training.

The Ariba ORMS application is built on a robust architecture that integrates with existing systems and ensures high performance & scalability for deployment to the entire enterprise.

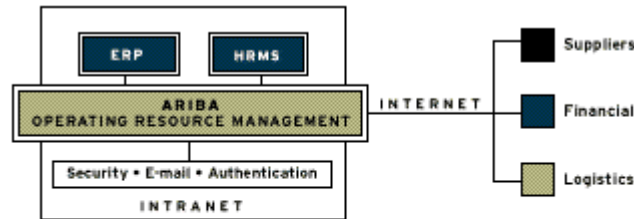
### ***Ariba's ORMX:***

The Ariba ORMX application is a version of the market leading Ariba ORMS application tailored for use in an Application Service Provider (ASP) environment.

- It is a scalable solution designed to be hosted in an ASP environment and provided as a subscription service.
- The Ariba ORMX application enables companies to save money on the goods and services required to operate a business and to streamline purchasing operations from requisition to payment.
- The Ariba ORMX application allows medium-sized enterprises or companies that have made the strategic business decision to minimize up-front IT investments to use ASP services to enjoy the same business-to-business e-Commerce functionality as if they were to install the application themselves.
- The Ariba ORMX application contains all the industry-leading features of the Ariba ORMS Release 6 application and allows businesses to capture their spend on goods

and services and direct it to preferred suppliers via the Ariba Network platform. This provides the opportunity for the company to gain volume discounts through lower contract pricing and to streamline the entire purchasing process.

- The Ariba(R) solution enables companies to seamlessly integrate with their suppliers to acquire a diverse range of commodities from machine tools and maintenance services to computers and printed goods.



**Ariba ORMS is built on an architecture that provides a comprehensive, integrated intranet-based application that is designed to connect your enterprise to the electronic economy.**

### *Ariba's Network Platform:*

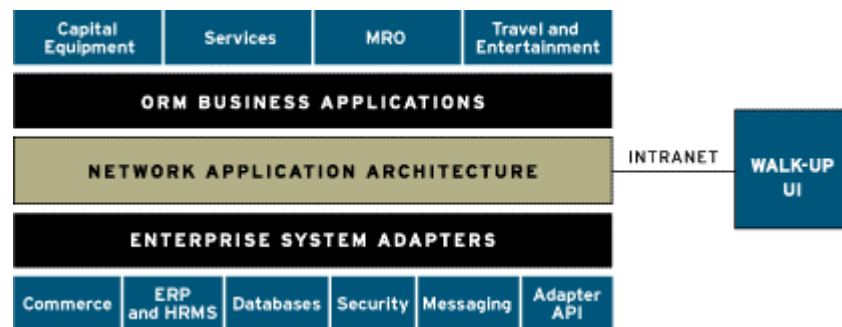
The Ariba Network e-Commerce platform is the largest open, global platform for business-to-business commerce on the Internet and provides a highly distributed infrastructure that seamlessly integrates buyers, suppliers, value-added service providers, and Net market makers.

- It integrates these buyers with the global electronic economy, leveraging the Internet's naturally distributed architecture to provide a highly scalable means of connecting buyers with their rapidly growing set of suppliers and value-added service providers.
- It also provides a range of Internet services for buying and selling organizations, including supplier directories, supplier catalog and content management, access to supplier content, secure transaction routing, and multi-protocol support for numerous standard ways of exchanging content and transaction information. These services accelerate the inherent advantages of business-to-business e-Commerce and lower the barriers of entry to participants.
- In addition, the Ariba Network platform is built around a revolutionary multi-protocol architecture that allows buyers to send transactions from their Ariba buyer-enablement application in one standard format. It automatically converts the order into the suppliers' preferred transaction protocol, eliminating the need for a single standard for electronic commerce and giving suppliers the freedom to transact in their preferred protocol over the Internet.
- With additional sophisticated services such as electronic payment, logistics integration, and all manner of dynamic pricing, including auctions, reverse auctions, and exchanges, the Ariba Network platform for buyers, suppliers, value-added service providers, and Net market makers offers even more benefits.

Ariba Network draws on several proven Internet commerce models to deliver a scaleable and easily implemented solution for both buyers and suppliers:

- **Indexing** –It uses a unique and highly scalable approach for content management. This indexing approach eliminates the need to aggregate content in a central repository, yet provides robust and comprehensive searching tools to buyers.
- **Multiple content models** –It offers buying organizations using Ariba buyer-enablement applications the option of linking to approved supplier Web sites, sourcing goods and services through indices maintained on the Ariba Network platform, or caching indices of goods and services directly in the buyer-enablement application. This flexibility ensures indices of supplier content are accessible and current.
- **Multi-protocol support for transactions** – Ariba Network automatically routes and translates transactions between buying organizations and suppliers using many major e-Commerce standards. The multi-protocol support enables buyers to conduct business with suppliers independent of the type of Web infrastructure used by the supplier.

Using these standard techniques, the Ariba Network platform delivers a standards-based, business-to-business e-Commerce solution that globally integrates buyers, suppliers, value-added service providers, and Net market makers, allowing any buyer to buy any good or service from any supplier, either directly or through a Net market, anywhere in the world.



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## **7.0 FACE-TO-FACE: ANALYSIS & COMPARISON OF DISCUSSED B2B SOLUTIONS**

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### **1. JAM:**

The JAM System provides both an advanced transaction management system as well as the means to optimize the underlying business process. It has a multi-tier, distributed architecture that supports many clients using threads, manages peak usage through Scaleable Login Administration Module (SLAM) and object persistence through multiplexed persistence arrays. It provides multi-protocol and cross-platform support.

### **2. TRACEWARE:**

Digital Island's Global Delivery Network reduces the barriers to Business-to-Business by providing a suite of integrated hosting, content delivery, network, and application services, all designed to improve performance and provide an excellent customer experience. It is an internet atlas-provides accurate real-time mapping of geographic intelligence.

### **3. IPS:**

It is the most advanced e-Publishing platform available today. With IPS, you can rapidly develop, deploy, manage, and deliver efficient, robust applications to conduct sophisticated levels of Business-to-Business. It has an XML-based, open server architecture and good security features.

### **4. WEBMETHOD'S SOLUTION:**

It helps companies launch their business-to-business electronic commerce initiatives by securely integrating their existing IT systems with trading partners' catalogs, order, shipping, and logistics systems across the public Internet – all without modifying firewalls or requiring software integration on the partner side. It is multi-server, multithreaded and can handle large volume of workloads.

### **5. SCRIPTICS' CONNECT:**

It is a Web-based software server and development environment that processes XML and EDI documents and integrates them into your existing infrastructure while automating your business interactions with trading communities, partners, customers, and suppliers. It has a webserver with extended Tcl scripting engine. It is 5-10x times faster and has better debugging capabilities than competitive solutions.

### **6. GLOBAL PASSPORT:**

It is an easy-to-use, integrated global trade solution that helps you manage the complexities of international trade policies and practice. It collaborates, tracks and measures the flow of goods anywhere in the world.

**7. BRIDGES' B2B ENGINE:**

It applies a non-invasive integration approach and provides seamless connection among trading partners, enabling the automation of shared business processes in real-time over the Internet. It has a Java-based, EJB server and supports all internet standards like TCP/IP, XML/XSL, CORBA/IDL over IIOP, COM/DCOM, RMI, JMS, JNDI and JDBC.

**8. DICARTA'S CONTRACT SOLUTION:**

It enables businesses to effortlessly manage their sales contracts, maximize contract renewals and protect against the risks of non-compliant accounting practices. It supports Java and J2EE standards and persistence, multi-resident technology.

**9. ARIBA'S SOLUTION:**

It integrates the internal and external commerce processes of buyers, suppliers, Net market makers, and value-added service providers, delivering a global e-Commerce infrastructure that provides cost saving, revenue opportunities, and increased competitive advantage for businesses of all sizes. It has a flexible, object-oriented architecture and integrates ERP and HRMS systems to provide frictionless e-commerce integration with the supply chain.

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## **8.0 CONCLUSION**

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Business-to –Business is a more radical business "connect" than any before, mainly because of the frenetic pace and seemingly unlimited potential of Web technology, and the newly disintermediated relationships between buyers and sellers.

Business-to-business electronic commerce, or B2B e-commerce, refers to that portion of electronic commerce that takes place between businesses. Unlike B2C, or business-to-consumer e-commerce, B2B e-commerce emphasizes supply chain integration, direct marketing over the web, and electronic marketplaces. B2B e-commerce over the Internet can be as basic as a manufacturer putting up a bare-bones Web site to let distributors securely order a handful of products; it can be as complex as a distributor offering thousands of customers company-specific pricing and content, complex product configuration tools and near real-time access to inventory levels for its entire product line. Compared with traditional electronic data interchange (EDI) systems that run across private networks, Internet-based B2B e-commerce is seen as less of a headache to implement, especially for companies that want to reach smaller customers and suppliers that can't handle EDI's cost and complexity.

Business-to -Business e-commerce will make up more than 9% of all sales by 2003—up from 0.2% in 1997. By that same year, 2003, the percentage of business trade moving to the Internet will vary greatly by industry, from a high of 20.3% for computing to 1.2% for industrial equipment.

This boom is here to stay!

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## ***8.0 THE B-2-B GLOSSARY***

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### **A**

ASP - Application Service Providers (ASP) provide application programs and related services over the Internet to companies that may not have the internal resources available.

### **B**

BRB - Business Response Banners provide stronger leads to business decision-makers.

### **D**

Double Opt-in Email - The individual has opted in twice to receive pertinent information via email.

### **I**

Interstitial - An ad that pops up while a user is viewing a Web site. It usually commands the entire computer screen for a brief period.

### **S**

Streaming Media - Non-text files including sounds, animation, and video that can be viewed or heard via the Web.

### **T**

Transactional Site - Site from which users can place orders for goods and services. Filling out an electronic form on the site, including shipping and credit card information, is usually required.

## V

Vortals - These vertical portal sites attract visitors by offering to guide them to wherever they want to go. They're often the first point of contact with the Web during a particular session.

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