

## Taking Care of e-Business: Managing Data Across the Internet Supply Chain

At Adexa we understand that your return-on-investment in supply chain management software should include more than just state-of-the-art planning and optimization functionality. It should also offer seamless integration of information across business systems — both yours and your trading partners’.

Supply Chain Integrator (SCI), a key component of Adexa’s iCollaboration suite, provides all the tools you need to optimize data exchange over the Internet. From secure access to target data in your legacy systems, to on-demand, real-time transaction processing for an electronic trading exchange, Adexa’s Supply Chain Integrator captures and controls the data you use for your extended supply chain.

SCI includes three sub-components that together create the flexibility, speed, and data integrity that spell success for Internet-based business:

1. B2B connectors enable secure data access and exchange between applications. Adexa’s B2B connectors conform with RosettaNet standards to provide XML-based security and complete application transparency for data in target business processes.
2. The Supply Chain Controller (SCC) models complex operational workflows across organizations and companies. It also captures the knowledge and experience of your employees by enabling “anytime, anywhere” access and generation of up-to-the-minute data.
3. The Unified Data Server (UDS) controller enables secure data exchange between Adexa’s iCollaboration applications running your enterprise supply chain and other enterprise intelligence and management software.

SCI is the next-generation management tool that ensures your online data lives up to the three R’s of effective e-business: reputable, reliable and relevant.

*Adexa's bottom-up approach ensures data integrity throughout every facet of your business.*

*SCI extends that data integrity into virtual space.*

## ***E-business in the Real World***

The Internet business model has been widely extolled over the past five years. It seems that no challenge is too great, no process too complex to be moved onto the Internet. However, in the rush to capture the very real competitive advantages that exist, the practicalities of moving large amounts of sensitive data onto the Internet, where it must be shared in complex user communities, have often been underestimated.

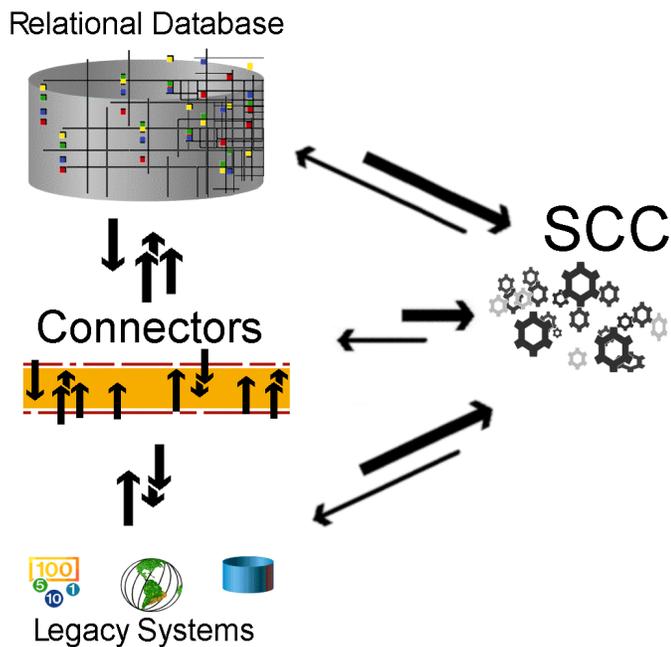
Adexa's integrated iCollaboration suite was specifically designed to enable tightly linked, easy to control, but flexible and dynamic supply chain planning and management: both within your enterprise. Because of this sound and proven design philosophy, extending your supply chain to meet competitive opportunities and challenges on the Internet, and between the stakeholders in an extended supply chain, is effortless. The SCI components extend the real-time data management you are familiar with into your extended supply chain for truly collaborative Internet-based demand and supply planning.

Adexa's real-world, bottom-up approach to supply chain integration not only emphasizes speed, flexibility and visibility, it also captures and preserves data integrity at every stage. The combined tools of the Supply Chain Integrator—B2B connectors, the UDS manager and the Supply Chain Controller—guarantee data integrity from legacy systems all the way outside your organization and into the collaborative supply chain.

## A New Standard for Integration

Adexa's Supply Chain Integrator supports your long-term e-business vision. We understand that effective supply chain management must include plug-and-play connectivity among all of the business functions that impact your supply chain. Furthermore, we respect your need for transparency and control over each of these business functions.

Let's look at the SCI components and how they improve your ability to compete and thrive in the Internet-driven world of collaborative commerce.



*Supply Chain Integrator raises the bar for collaborative information exchange while improving the integrity and timeliness of data critical to the success of your business.*

*Supply Chain Integrator's B2B connectors are based on RosettaNet standards, which means your evolving integration requirements will be easy to accommodate, not another IT headache.*

## B2B Connectors

Adexa's B2B connectors enable data transfer from enterprise planning or management applications (such as ERP or CRM systems) into your internal and external supply chain data flow. Developed based on RosettaNet standards, Adexa's B2B connectors offer Internet-based secure data interfaces.

Each connector is designed to connect to target, pre-defined subsets of data. Using XML, each B2B connector can only 'see' the target data it is supposed to use.

The complex layering of authentication and access restrictions in the RosettaNet standards creates a built-in, advanced security wall that protects data in the system it is taken from, and the system it is moved to.

Because Adexa's connectors are based on RosettaNet standards, they are easy to extend. Many major software vendors, manufacturers and integrators, including Cisco Systems, IBM, Hewlett-Packard, Fujitsu, and Baan, are participating in the RosettaNet initiative. This widespread adoption means your evolving integration requirements will be easy to accommodate, not another IT headache.

Data transfer over the Internet significantly lowers transaction costs, and enables you to extend your WAN—with all the advanced security features you need—to targeted third parties.

### Data Translation and Integration

Adexa has also developed an extensive library of custom scripts that extract and supply data from legacy systems for use with the iCollaboration suite. Based on many years experience and countless integration success stories, Adexa's library of custom scripts maximizes your existing data infrastructure, and enables us to quickly and painlessly move you forward into the Internet age.

## Unified Data Server Manager

After preparing data, you want it easily accessible for reference, exception detection, and manipulation. Within the Supply Chain Integrator, the Unified Data Server (UDS) manager is used to meet these objectives. The UDS manager transfers data from Adexa's iCollaboration Suite to any relational database.

Once in a relational database, you can quickly and easily manipulate the data for what-if scenario analysis, split and re-structure data for target analysis, or combine it with data from other applications. Because most business intelligence applications—such as ERP and MES systems—can exchange data with relational databases, you can integrate and compare data from virtually any source.

The UDS manager can also download particular sections of your internal supply chain data on demand. And finally, you can use the Supply Chain Controller to pass target subsets of data between the iCollaboration suite and other applications in a relational database.

*The UDS manager moves data between Adexa's iCollaboration applications and a relational database, where it can be integrated with data from other enterprise intelligence and management software.*

*With a single mouse click, you can update and send data to hundreds of supply chain participants on demand. Supply Chain Controller's workflow functionality ensures that target data is accessed, changed and forwarded exactly as intended.*

## Supply Chain Controller

The Supply Chain Controller (SCC) at the heart of the Supply Chain Integrator is a sophisticated workflow tool. SCC includes several libraries of industry-specific templates. Each library includes standard operational flows between iCollaboration components and external systems. Using these templates, you can quickly create your own custom event flows, to produce the data output or changes you need.

SCC can interact with many application types, including Adexa's iCollaboration suite, relational databases, TCL-based applications, and Internet-based applications. Within SCC's user-friendly interface, you model processes involving data in the steps required to produce your target output. SCC contacts all the applications concerned, obtains the data or initiates any required processes, and transfers data among applications to achieve your desired end. And SCC's built-in data transformation options, including TCL scripts, XSL transformations and relational/XML transformations enable you to move data between virtually any application.

Adexa's iCollaboration suite can help you achieve many Internet-enabled competitive advantages, including faster and more flexible planning and scheduling, enhanced and easy to align strategic partnerships and outsourcing relationships. The Supply Chain Controller can leverage all your activities, making them effortless to complete, and available on demand. The resource-intensive processes required to update extended data chains are captured in SCC and can be completed with a click of a mouse, as frequently as necessary.

## **Broadening the Scope of Collaboration**

SCC not only runs data processes, it does so consistently, accurately, and on demand. If you need to update data at midnight, you can. If a supply depot in one part of the world needs to update and re-schedule supply from a manufacturing facility in another part of the world, once the process is captured, any user with security permission in SCC can do so at any time, night or day.

SCC actually changes the locus of control for this process from specialists to users. Your sales force no longer has to call a busy technical expert to get up-to-the-minute availability information for products. Using any Internet-enabled computing device, they can directly enter their demand, then generate the schedule for its production and delivery.

*Supply Chain  
Controller widens  
the scope of  
stakeholders who  
can collaborate in  
real time on  
shared business  
processes.*

*Supply Chain Integrator reduces the risk of adding new participants to your supply chain, and enables you to add them at the lowest marginal cost.*

## Managing Risk in Extended Information Flows

The simple logistics of data exchange in hub-based online communities can be a challenge. You want to enable supply chain participation, and pass essential access and accountability as far down the supply chain as possible. SCC's information flows establish clear data ownership at every step, which lets you pass accountability down the supply chain.

Data flows in hub-based online communities can also easily become invisible. Once you lose visibility, the information that returns to you can be from the wrong strategic drivers. Rather than seeing your real customer demand, you may start seeing customer demand colored by a channel owner. When you institute controlled workflows with secure access to source data, you can be sure that your supply chain is not going to be responsive to the wrong pressures.

And even in the most complex hub-based online community, once you have built the basic information flow 'web' with SCC flows, you can add or remove participants with a minimal marginal cost. Moreover, you know exactly what data new participants are going to see, and can ask them to create the same, standard configuration settings for data they are sharing within their IT platform.

They know in advance what they are agreeing to when they join your supply chain. You know you can integrate them with a minimum of fuss, expense, or risk.

## Leveraging Organizational Knowledge

Scholars classify organizational knowledge across many dimensions. One common dimension draws a distinction between individual and organizational knowledge.

Organizational knowledge can be private, or public. Private organizational knowledge includes the unique processes, procedures and trade secrets used by your organization.

Public organizational knowledge, in contrast, is widely available, and includes items such as network management software, or database administration.

Private organizational knowledge can be a source of competitive advantage. It is hard to duplicate, unique and rare. Even if it is not immediately obvious how to take advantage of private organizational knowledge, it is important to capture and protect it.

Supply Chain Integrator helps you capture and use private organizational knowledge. SCI exposes the sub-processes that produce data and information within each area of your organization. When you use SCI to manage your organization's activities, you also expose the web of connections between data and information and organization-wide data dependencies.

*Supply Chain Integrator helps you capture and use private organizational knowledge, exposing the sub-processes that produce data and information within each area of your organization.*

*Sharing processes and information across the extended supply chain creates significant savings in time and money.*

## Strengthening Weak Links

One of the more significant issues associated with managing an extended supply chain with continually shrinking supply cycles is to keep information and data accurate and current. The weakest link can sometimes be less obvious, localized processes that rely on hidden organizational knowledge.

For example, how do you make the most accurate inventory information visible for multiple warehouses in a large geographic region? Even when your inventory system is computerized, a warehouse manager may make some manual adjustments, or trigger a localized process to create accurate inventory numbers before you see them.

You can capture those steps within SCI. Any hidden processes or steps are exposed and captured, and transferred into your explicit organizational knowledge domain.

In many multi-national organizations, there are also processes or procedures that are used in multiple locations. These processes may be implemented efficiently in one location, and inefficiently in another. With a minimal amount of effort, you can use the Supply Chain Controller tool within SCI to model the key processes at each location that you want to standardize. In so doing, you not only introduce best practices, you realize significant savings when you reduce the number of employees involved.

## ***Exception Reporting***

Measurement is the key to control, and SCI is designed to access and compare data on multiple data sources. SCI will convert data from one structure or protocol to another so it can be transferred between data sources.

The SCC component within Supply Chain Integrator is a powerful tool for aggregating and analyzing information. Not only can you simplify standard data flows, you can create effective measurement routines that reveal exceptions well before they become problems.

Using UDS and database analysis tools, you can combine and analyze any part of your enterprise management data or information. You can create a central database and use SCC to update it hourly with your enterprise data. After each update, SCC can trigger scripts and routines that compare the pre and post-update data, and reveal significant exceptions or changes.

SCC not only reveals the exception data: it can also send the item specifications, the current month and the name of the sales channel in which the exception occurred to a data repository, along with a script requesting three years of comparative seasonal data, and send the resulting information to the sales, district and brand managers of the item that generated the exception. A procedure that might take two hours for an expensive and highly technical employee to complete can take minutes, and is available on demand.

SCC includes two alert functions to enable event or exception reporting. One of SCC's reporting functions is a broadcast event, similar to an Internet Newsgroup. Once you subscribe, you receive all notifications sent to the channel. The other SCC reporting function is e-mail messaging, which can be incorporated into the activity steps SCC manages. Because SCC can both send and receive information from the data sources it manages, you can insert pre-calculated exception data into e-mails.

***Workflow management is a powerful tool for creating exception reports.***

*SCI uses the latest  
and most secure  
Internet  
communication  
features.*

## Technical Specifications

Supply Chain Integrator's B2B connectors can exchange data and directly control any application or platform that allows information exchanges in XML, HTTP, Java or TCL (Tool Command Language).

SCI's Connectors enable integration with any applications using RosettaNet standards, and Adexa's library of data translation scripts enable connectivity with many of the older enterprise resource planning systems, including SAP, Essentus and QAD.

The SCC server is a lightweight multi-threaded multi-user system supported on both Windows NT and Sun Solaris platforms. The SCC client is a Java-based, Internet enabled control interface. SCC optimizes resource use: both server processing and communications are designed to share channels in a multiplexed environment.

SCC includes database connectivity to Oracle, DB2, Microsoft SQL Server, and databases that support ODBC drivers. The database connectivity allows the execution of SQL scripts and stored procedures (for example, PL/SQL in Oracle). The UDS manager transfers data from Adexa's iCollaboration Suite to any relational database.

SCC also includes a Java channel, which can use Object Serialization to connect to other Java based systems.

## **Security Features**

The SCC client provides secure login with password authentication, and internal security restrictions to functions or process control options. When used in conjunction with Adexa's iCS platform, login access is also controlled with dynamic token authentication.

SCC includes communication security over HTTP-S. SCC can also be enabled for use with Secure Socket Layer (SSL).

The RosettaNet connection standards are implemented from the ISO stack transport level up to application level. These standards include built-in application authentication, data authentication, and access control.

*Supply Chain  
Integrator's SCC  
tool ensures data  
security through  
built-in controls  
for information  
access, encryption,  
authentication and  
non-repudiation.*

*Giving the right people access to the right data at the right time is more important than ever in today's fast-moving c-commerce environment.*

## How to Get Started

The vision of complete application integration has been with us from the earliest days of computers. It's good to have a vision, but practically, we live in the real world and manage organizations with multiple applications, across multiple knowledge bases.

There are always gaps in knowledge, and ingenious attempts to fill them. If you want to start uncovering the gaps in your organizational knowledge, and prevent them from affecting your extended supply chain, you can begin right now.

If you want to create an extended supply chain that you understand, that is easy to expand or change, and which you know you really do control, you can start right away. Giving the right people access to the right data at the right time is more important than ever in today's fast-moving c-commerce environment. Adexa's Supply Chain Integrator gets reputable, reliable and relevant data to the right people at the right time, without forcing you to relinquish control over that data.

For more information on Supply Chain Integrator and Adexa's other iCollaboration solutions, call us at 888-300-7692 or log on to [adexa.com](http://adexa.com).