



Universal Description, Discovery and Integration

UDDI Executive White Paper

September 6, 2000

The New Trading Environment

With the explosive growth of B2B eCommerce, the Internet presents incredible value and reach for businesses of all sizes, providing opportunities to find new customers, streamline supply chains, provide new services, and secure unprecedented financial gain.

Organizations that have decisively moved their business online are already realizing significant economic and competitive gains: increased revenue, lowered costs, new customer relationships, innovative branding opportunities, and the creation of new lines of customer service.

Despite the outstanding growth of B2B eCommerce in the last few years, a major impediment has held back its enormous potential to open up trade worldwide not only to those already conducting B2B eCommerce, but also to businesses that are not yet players in the digital economy.

Most eCommerce-enabling applications and Web services currently in place take divergent paths to connecting buyers, suppliers, marketplaces, and service providers. Without large investments in technology infrastructure, businesses from a semiconductor manufacturer in Taiwan to a cabinetmaker in Athens to a specialized industrial engineering firm in New Delhi can transact Internet-based business only with the global trading partners they have discovered and, of those, only the ones using the same applications and Web services.

In order to fully open the doors to these existing and potential B2B players, truly successful eCommerce requires that businesses be able to discover each other, make their needs and capabilities known, and integrate services using each businesses' preferred technology, Web services, and commerce processes.

Challenges

Supply and demand alone does not control the flow of business when buyers and sellers are not connected. With all the myriad ways businesses use to reach their customers and partners with information about their products and Web services, and because global eCommerce participants have not yet agreed on one standard or backbone on which to communicate their services, finding and working with potential trading partners is severely limited.

Until now, there has been no central way to easily get information about what standards different companies support and no single point of access to all markets of opportunity, allowing them to easily connect with all possible target trading partners. Successful B2B eCommerce requires seamless access to information about trading partners and the ability to integrate with them.

This basic fundamental challenge is limiting the promise of business to business collaboration on the web, making it harder for buyers to get return on their eCommerce investment and for all B2B participants to easily add trading partners and services.

A supplier of ball bearings to large industrial customers – perhaps all of which are already online – can take its business to the Internet but not be able to transact with more than half of its current customer base because they're all using different applications and services to conduct Web-enabled business. Without major investments in technology infrastructure, the supplier may not be able to offer – even to its current customers – all the advantages of B2B eCommerce and may lose them to suppliers who can.

Solutions

Marketplaces, businesses, and directory providers are all attempting to solve these communication and transaction problems, and all are adopting distinct and divergent approaches centered on their own requirements. The result is a staggering diversity in approach, content, and architecture that is preventing the optimum utilization of B2B eCommerce by businesses of all sizes around the world.

The last few years have seen remarkable evolution in Web-based B2B eCommerce, electronic sales, online auctions, dynamic electronic marketplaces, and applications that process and route information. These comprise the essential foundation of B2B eCommerce infrastructure, ensuring an organization's ability to establish connectivity, put product or service information online, access and interact with a broad range of customers, process transactions, and fill orders.

Thus, the model of the business Internet must change, to move forward in ways that enable businesses to connect, to discover and reach each other, to learn what kinds of capabilities their potential trading partners have, and to continuously discover new potential trading partners, understand what their capabilities are, and seamlessly conduct eCommerce with them.

To accomplish this, a comprehensive solution is needed for businesses to publish their information to any customer or business partner around the world. Just as a common method for publishing data on the web spawned the evolution of e-business, a common means to publish information about business services will make it possible for organizations to quickly discover the right trading partners out of the millions that are online; to define how to conduct business once preferred businesses are discovered; and to create an industry-wide approach for businesses to quickly and easily integrate with their customers and partners on the Internet with information about their products and services, and how they prefer to be integrated into each other's systems and business processes.

New Approach

Within a more distributed model of the business Internet, a flexible, open, yet comprehensive framework is required to embrace this diversity, encouraging agreement on standards, but also stimulating the innovation and differentiation that is fueling the growth of B2B eCommerce.

The framework also needs to allow businesses to describe the business services their Web sites offer, and how they can be accessed globally over the Web. A global solution needs to go beyond traditional directories, but needs to define standards for how businesses will share information, what information they need to make public, what information they choose to keep private, and how to describe their services and their business.

The solution is the creation of a service registry architecture that presents a standard way for businesses to build a registry, query other businesses, and enable those registered businesses to interoperate and share information globally in a distributed manner, just as the Internet was intended to be used.

A Web services framework and public registry will enable buyers and sellers and marketplaces around the world to share information, to connect Web services at low cost, to support multiple standards, and to prosper in the new digital economy.

UDDI Project

To address this challenge, a group of technology and business leaders have come together to develop the Universal Description, Discovery and Integration [UDDI] specification – a sweeping initiative that creates a global, platform-independent, open framework to enable businesses to (1) discover each other, (2) define how they interact over the Internet, and (3) share information in a global registry that will more rapidly accelerate the global adoption of B2B eCommerce.

Each incremental advance in Web-enabled commerce has carried deep implications for business processes and organizational culture. UDDI is a **major** advance - the first cross-industry effort driven by platform providers, software developers, marketplace operators, and eCommerce and business leaders that comprehensively addresses the problems limiting the growth of B2B eCommerce, and that will benefit businesses of *all* sizes by creating this global, platform-independent, open framework.

UDDI is a building block to enable businesses to quickly, easily and dynamically find and transact with one another via their preferred applications. Participation in UDDI can help an established B2B

eCommerce player expand into new markets and services or allow any size company just entering the online space to accelerate toward a world-class business presence.

The UDDI specifications take advantage of World Wide Web Consortium (W3C) and Internet Engineering Task Force (IETF) standards such as Extensible Markup Language (XML), HTTP, and Domain Name System (DNS) protocols. Additionally, cross platform programming features are addressed by adopting early versions of the proposed Simple Object Access Protocol (SOAP) messaging specifications found at the W3C Web site.

More Than Just a Specification

UDDI differs from other standards initiatives by virtue of the substantial commitment from industry partners to use this technology and implement it in their core businesses today – ensuring the standard will truly solve the problems facing small and large businesses, marketplaces, and technology providers.

As a demonstration of this commitment, the UDDI founding companies are launching a jointly operated UDDI Business Registry on the web. The UDDI Business Registry is an implementation of the UDDI specification and will enable all businesses to leverage this effort in their eCommerce activities.

The UDDI initiative leverages industry standards such as HTTP, XML, SOAP, and other specifications, thus demonstrating the openness of the approach and platform-independent *commitment*. This foundation gives all businesses that register in the UDDI Business Registry a kind of ID card, a globally unique identifier for them as a business.

Registering with UDDI will enable a company to publicly list a definition of itself, its services, and methods for engagement. Registered companies will then be accessible in searches by potential buyers and marketplaces. As registrants, integration will be significantly easier and more dynamic for partner companies. Organizations participating in UDDI represent many industries and core competencies.

UDDI reaches far beyond today's Internet business listings and search directories that provide specific, but limited value to an organization. Major benefits have been historically derived by the use of widely adopted standards in all industries and/or initiatives. UDDI-enabled businesses will realize unprecedented value from the rapid acceleration of eCommerce as a result of this global initiative.

Using UDDI, the supplier of ball bearings will be able to continue to serve its existing online customers, to quickly and easily discover new trading partners, and to conduct B2B eCommerce with them all.

Summary

In summary, UDDI is all about sharing business information, making it easier to publish your preferred means of doing business, find trading partners and have them find you, and interoperate with these trading partners over the Internet. By automating these processes:

- Businesses will have a means to describe their services and business processes in a global, open environment on the Internet thus extending their reach.
- Potential trading partners will quickly and dynamically discover and interact with each other on the Internet via their preferred applications thus reducing time to market.
- The barriers to rapid participation in the global Internet economy will be removed for any business anywhere thus allowing them to fully participate in the new digital economy.