



UDDI

web services

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About the Tutorial

UDDI is an XML-based standard for describing, publishing, and finding Web services. In this tutorial, you will learn what is UDDI and why and how to use it.

Audience

This tutorial has been designed for beginners interested in learning the basic concepts of UDDI.

Prerequisites

Since UDDI is an XML-based standard, all that you need to have is a basic understanding of XML to make the most of this tutorial.

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1. UDDI – OVERVIEW

What is UDDI?

UDDI is an XML-based standard for describing, publishing, and finding web services.

- UDDI stands for **Universal Description, Discovery, and Integration**.
- UDDI is a specification for a distributed registry of web services.
- UDDI is a platform-independent, open framework.
- UDDI can communicate via SOAP, CORBA, Java RMI Protocol.
- UDDI uses Web Service Definition Language (WSDL) to describe interfaces to web services.
- UDDI is seen with SOAP and WSDL as one of the three foundation standards of web services.
- UDDI is an open industry initiative, enabling businesses to discover each other and define how they interact over the Internet.

UDDI has two sections:

- A registry of all web service's metadata, including a pointer to the WSDL description of a service.
- A set of WSDL port type definitions for manipulating and searching that registry.

History of UDDI

- UDDI 1.0 was originally announced by Microsoft, IBM, and Ariba in September 2000.
- Since the initial announcement, the UDDI initiative has grown to include more than 300 companies including Dell, Fujitsu, HP, Hitachi, IBM, Intel, Microsoft, Oracle, SAP, and Sun.
- In May 2001, Microsoft and IBM launched the first UDDI operator sites and turned the UDDI registry live.
- In June 2001, UDDI announced Version 2.0.
- As the time of writing this tutorial, Microsoft and IBM sites had implemented the 1.0 specification and were planning 2.0 support in the near future.
- Currently UDDI is sponsored by OASIS.

Partner Interface Processes

Partner Interface Processes (PIPs) are XML-based interfaces that enable two trading partners to exchange data. Dozens of PIPs already exist. Some of them are listed here:

- **PIP2A2:** Enables a partner to query another for product information.

- **PIP3A2:** Enables a partner to query the price and availability of specific products.
- **PIP3A4:** Enables a partner to submit an electronic purchase order and receive acknowledgment of the order.
- **PIP3A3:** Enables a partner to transfer the contents of an electronic shopping cart.
- **PIP3B4:** Enables a partner to query the status of a specific shipment.

Private UDDI Registries

As an alternative to using the public federated network of UDDI registries available on the Internet, companies or industry groups may choose to implement their own private UDDI registries.

These exclusive services are designed for the sole purpose of allowing members of the company or of the industry group to share and advertise services amongst themselves.

Regardless of whether the UDDI registry is a part of the global federated network or a privately owned and operated registry, the one thing that ties them all together is a common web services API for publishing and locating businesses and services advertised within the UDDI registry.

2. UDDI – ELEMENTS

A business or a company can register three types of information into a UDDI registry. This information is contained in three elements of UDDI.

These three elements are:

- White Pages,
- Yellow Pages, and
- Green Pages.

White Pages

White pages contain:

- Basic information about the company and its business.
- Basic contact information including business name, address, contact phone number, etc.
- Unique identifiers for the company tax IDs. This information allows others to discover your web service based upon your business identification.

Yellow Pages

- Yellow pages contain more details about the company. They include descriptions of the kind of electronic capabilities the company can offer to anyone who wants to do business with it.
- Yellow pages use commonly accepted industrial categorization schemes, industry codes, product codes, business identification codes and the like to make it easier for companies to search through the listings and find exactly what they want.

Green Pages

Green pages contain technical information about a web service. A green page allows someone to bind to a web service after it's been found. It includes:

- The various interfaces
- The URL locations
- Discovery information and similar data required to find and run the web service.

NOTE: UDDI is not restricted to describing web services based on SOAP. Rather, UDDI can be used to describe any service, from a single webpage or email address all the way up to SOAP, CORBA, and Java RMI services.

3. UDDI – TECHNICAL ARCHITECTURE

The UDDI technical architecture consists of three parts:

UDDI Data Model

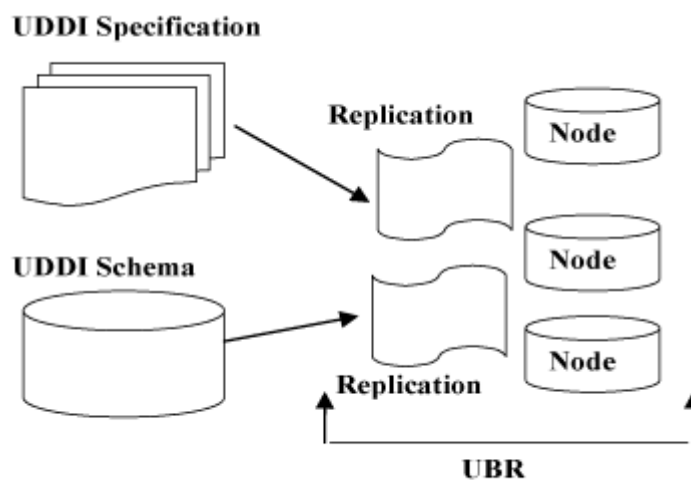
UDDI Data Model is an XML Schema for describing businesses and web services. The data model is described in detail in the "UDDI Data Model" chapter.

UDDI API Specification

It is a specification of API for searching and publishing UDDI data.

UDDI Cloud Services

These are operator sites that provide implementations of the UDDI specification and synchronize all data on a scheduled basis.



UDDI Technical Architecture

The UDDI Business Registry (UBR), also known as the Public Cloud, is a conceptually single system built from multiple nodes having their data synchronized through replication.

The current cloud services provide a logically centralized, but physically distributed, directory. It means the data submitted to one root node will automatically be replicated across all the other root nodes. Currently, data replication occurs every 24 hours.

UDDI cloud services are currently provided by Microsoft and IBM. Ariba had originally planned to offer an operator as well, but has since backed away from the commitment. Additional operators from other companies, including Hewlett-Packard, are planned for the near future.

It is also possible to set up private UDDI registries. For example, a large company may set up its own private UDDI registry for registering all internal web services. As these registries are not automatically synchronized with the root UDDI nodes, they are not considered as a part of the UDDI cloud.

End of ebook preview

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