

accelerate

the delivery of products and services to your customers

Position Paper **Understanding the** **real business value of** **VoiceXML and Call** **Control XML**

Merging Web-based applications with voice processing can accelerate the delivery of products and services to your customers. It can also help control costs by enabling you to leverage programming resources, integrate systems, and incorporate new capabilities quickly and easily.

The challenge

VoiceXML (VXML) and Call Control XML (CCXML) are industry standards based on XML (eXtensible Markup Language) and developed specifically to enable voice processing applications to run in a Web-based infrastructure.

It's important to consider the business values you want to achieve for your enterprise before implementing VXML or CCXML, and then to examine proposed solutions in light of the *real* business values they offer.

Importance of standards

A technology solution based on open platforms and industry standards levels the playing field among competitive vendors, increases your buying power, and leads to more cost-effective support. A standards-based VXML/CCXML solution delivers on those values by providing scalability, interoperability, and affordability.

Proprietary (vendor-dependent) extensions to VXML/CCXML, however, reduce the “openness” of a solution and may make it more difficult for you to port those applications to another vendor's platform or to a hosted environment.

Differences among tools

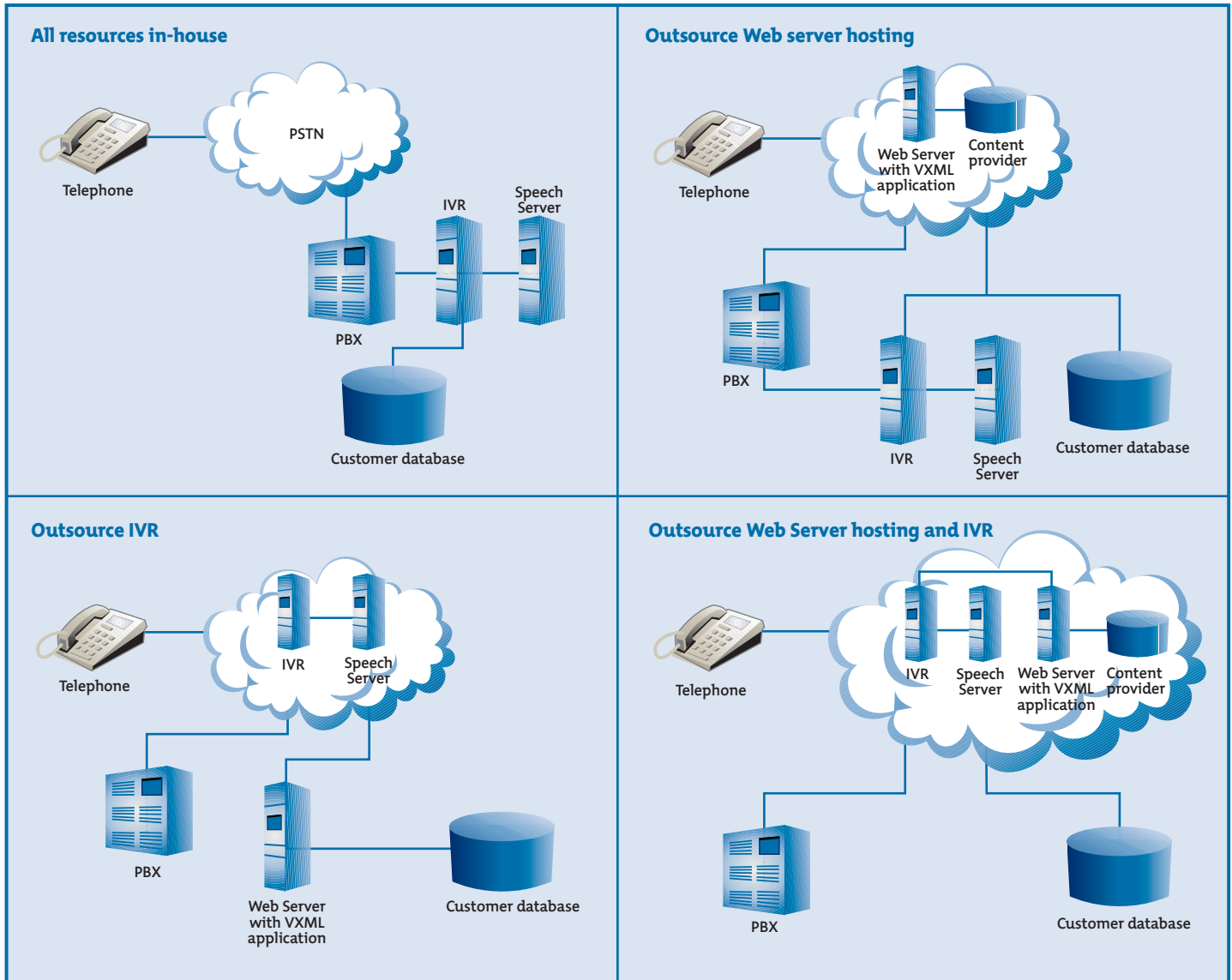
The decision you make regarding application development tools impacts the business value you achieve by adopting new technology. Therefore, you need to consider whether tools that use proprietary VXML/CCXML extensions or generate static applications will meet your needs—or whether you would derive greater business value from tools that adhere to standards and enable dynamic applications.

Although “drag and drop” tools facilitate the creation of basic VXML/CCXML solutions, they often result in static call flows and business logic that can only be updated by using vendor-specific tools, which leads to proprietary maintenance of applications. “Drag and drop” tools may also limit application portability so that your application can only run with the runtime components of those tools.

One of the benefits of implementing VXML/CCXML is that you can dynamically generate applications based on existing rules and logic created for your existing Web-based, customer-facing applications. Dynamic generation of applications based on existing application server business logic, written in a standard programming language such as JAVA, provides greater flexibility and enables you to respond quickly to marketplace changes and customer demands for more personalized service.

Outsourcing options

VXML and CCXML are true Web markup programming languages with applications running on Web servers. Therefore, you can decouple the application execution from the voice processing (IVR—interactive voice response) system/media server. This capability provides new flexibility for outsourcing models previously unachievable in a traditional IVR solution.



VXML and CCXML allow you to outsource either the voice processing system or application execution platform (Web server) to a service provider. Your ability to separate the two functions gives you more choices, enabling you to maximize your purchasing power and to select technology that aligns with your business strategy for balancing spending between capital expenditures (Capex) and operating expenses (Opex).

Hidden implications

There are several layers of risk implicit in implementing a VXML/CCXML solution that is based on a piecemeal or “point” approach that relies on multiple vendors, products, systems integrators, and service providers. For instance, it is critical for the solution provider to understand voice processing and dialog design, as well as Web design. And you will need to determine who will be responsible for collecting and distilling your business requirements, overseeing the project, and providing post-installation support.

Another risk surfaces for solutions that rely on components using “open source code.” These solutions expose the end user to challenges involving upgrades, support, and potential legal risks. These limitations can also affect your ability to port applications to other platforms or to a hosted environment.

WIIFY—What’s in it for you

Business applications using VXML and CCXML help reduce development time and costs by enabling you to leverage readily available resources, such as standard Web-based tools and Web programmers. That means the programmers you rely on to create Web-based applications will also be able to update your call center applications—without having to learn a proprietary development environment. And sharing a Web-based infrastructure with voice processing capabilities helps reduce operating costs by consolidating application processing facilities, promoting vendor-independence, reusing code, and porting applications to other platforms or to a hosted environment.

The challenge is to decide which business values are important to you and then to choose technology that will deliver what *your* enterprise needs to achieve its objectives—not what works best for a particular vendor’s solution.

The solution

Speak a common language

XML, a text-based data description language used to develop Web applications, allows different systems to store and share information. Application developers use Web-based tools to build XML pages that describe the information (text or data) to be stored, transmitted, or processed by a program.

VXML enables Web-based applications to communicate with voice processing systems and to evolve IVR and advanced speech applications into a logical browser that gives users access to Web-based information via any voice-capable device, such as a telephone. VXML provides basic call control features.

CCXML works with—and complements—VXML to offer greater call control. Applications using CCXML can seamlessly transfer calls, establish conference calls, or monitor incoming calls involving an “unplanned event”—such as a request for specific information. Without CCXML, the ability to control call flow is greatly diminished or dependent on proprietary methods.

Capitalize on business values

Implementing VXML and CCXML can help you make money, cut costs, and do much more. For instance, you can make money by leveraging investments in systems and personnel to service more customers in less time. You can cut operating and maintenance costs by taking full advantage of your Web-based infrastructure and voice processing systems. And you can decide to run applications on your Web server and IVR system or to migrate one or both functions to a hosted service provider.

You can use VXML and CCXML to create a wide variety of business applications (see sidebar).

Enterprise-facing values

- Share a Web-based infrastructure and programming resources with voice processing applications
- Reduce development costs by taking advantage of application portability and reusing code
- Achieve vendor independence by choosing open platforms and standards-based solutions
- Outsource voice processing while keeping application development and execution in-house—or vice versa

Customer-facing values

- Personalize the delivery of services through dynamically created content in the same manner used to personalize Web pages
- Maintain familiar data flow/format for customers who use the phone to access Web-based information
- Enable customers to interact naturally with an automated system to retrieve the information they want

Just imagine...

- **Information retrieval** with just a few spoken navigational commands
- **eCommerce** using the phone to track orders or check account updates
- **Telephony services** such as personal name dialing, one-number “follow-me” features, and teleconferencing setup
- **Corporate directory dialing** for fast, easy directory assistance
- **Unified messaging** over the phone to handle e-mail and pager messages

Leverage the Nortel Networks difference

Nortel Networks is the only vendor offering VXML and CCXML in an integrated solution that enables interoperability among multiple protocols and speech engines. And as a provider of full-service solutions, Nortel Networks offers everything from professional services and open, standards-based platforms—to post-installation support for Web-enabled voice processing solutions using VXML and CCXML.

Nortel Networks is **the industry leader** in developing speech recognition, natural language, and text-to-speech technology used for voice processing applications. We're also an active contributor to the W3C Voice Browser Working Group, which is responsible for VXML and CCXML specifications.

Moreover, Nortel Networks offers the tools that programmers need to quickly develop world-class, speech-enabled applications based on customer relationships. We also support the dynamic development of new applications that strictly adhere to industry standards so that you can port them to new platforms or hosted environments based on *your* business objectives.

The bottom line

Your business objectives need to drive your technology decisions—not the other way around. So, if you're thinking about implementing VXML and CCXML, consider the technology in terms of the real business values they can deliver to your enterprise.

The next step

Contact a Nortel Networks representative today at 1-800-4-NORTEL and let's talk about what VXML and CCXML can do for your enterprise. For more information about these technology options, please visit our Web site at: www.nortelnetworks.com/solutions/ccvp

VXML/CCXML benefits

- Leverage existing investments in a Web-based infrastructure for voice processing applications
- Extend your investment in Web application data and business logic
- Control application development costs by leveraging the widespread availability of Web programmers
- Speed application development and deployment
- Enable portability of applications across platforms
- Simplify administration and training efforts with XML-based code
- Offer customers more personalized service

In the United States:

Nortel Networks
35 Davis Drive
Research Triangle Park, NC 27709 USA

In Canada:

Nortel Networks
8200 Dixie Road
Suite 100
Brampton, Ontario L6T 5P6 Canada

In Caribbean and Latin America:

Nortel Networks
1500 Concorde Terrace
Sunrise, FL 33323 USA

In Europe:

Nortel Networks
Maidenhead Office Park
Westacott Way
Maidenhead Berkshire SL6 3QH UK

In Asia:

Nortel Networks Asia
6/F Cityplaza 4
Taikooshing
12 Taikoo Wan Road, Hong Kong

Nortel Networks is an industry leader and innovator focused on transforming how the world communicates and exchanges information. The company is supplying its service provider and enterprise customers with communications technology and infrastructure to enable value-added IP data, voice and multimedia services spanning Wireless Networks, Wireline Networks, Enterprise Networks, and Optical Networks. As a global company, Nortel Networks does business in more than 150 countries. More information about Nortel Networks can be found on the Web at:

www.nortelnetworks.com

For more information, contact your Nortel Networks representative, or call 1-800-4-NORTEL or 1-800-466-7835 from anywhere in North America.

*Nortel Networks, the Nortel Networks logo, and the globemark design are trademarks of Nortel Networks. All other trademarks are the property of their owners.

Copyright © 2004 Nortel Networks.

All rights reserved. Information in this document is subject to change without notice.

Nortel Networks assumes no responsibility for any errors that may appear in this document.

NN107920-042004

NORTEL
NETWORKS

BUSINESS WITHOUT BOUNDARIES