

What Are WebSockets? How Can They Enhance Digital Solutions?



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When it comes to enhancing digital solutions, product managers are often hard-pressed to keep up with the times, especially as they face increasing pressure to integrate their existing solutions with advanced technologies such as AI. One effective way to create such an integration, especially with the proliferation of voice use cases such as contact centers, is through WebSockets, a widely used real-time communications protocol that supports voice. While this standard has been around for a while, digital product managers new to voice may not fully understand the technology.

What are WebSockets? This question warrants a closer look.

What are WebSockets Doing to Improve the Customer Experience?

When developers first started to introduce real-time communications to the internet, there were no widely available protocols. To enhance digital solutions like online stock market trading and fantasy sports leagues, developers had to implement hacks such as long polling, where the server keeps the connection open until it has new data for the browser to process. The WebSocket protocol was later standardized by the Internet Engineering Task Force, and now with a WebSockets API supported by all major browsers, developers can move to an interactive communication session between the user's browser and a server through real-time, event-driven communications.

With reliable, bidirectional WebSockets support, voice APIs can connect traditional public switched telephone network applications like conference calls, contact centers, and IVRs to WebSocket endpoints on the internet to enable things like AI real-time intelligence, sentiment analysis, and real-time transcription services.

Demystifying Use Cases: What are WebSockets Doing for Digital Solutions?

WebSockets can make a real and important impact on digital solutions. Here's how they function in specific use cases and with particular technologies:

- **AI real-time intelligence.** When WebSockets are used to integrate AI real-time intelligence with existing technologies, voice-based digital solutions can recognize the intent of a customer's inquiry by analyzing it with automatic speech recognition and natural language understanding. The technology can automatically discern the caller's language by matching it with previously stored CRM data and an automated real-time translation set up.
- **Sentiment analysis.** Like AI real-time intelligence, WebSocket-enabled sentiment analysis examines the customer's vocal stress patterns, related emotions, and word choice by connecting voice calls to an AI engine. As it listens to the call, the AI engine can adjust the agent's messaging and tone based on its analysis of the customer's responses. If some threshold of customer satisfaction is breached as determined by business rule, the AI engine can automatically escalate the telephone exchange to an on-call supervisor for human intervention. Based on continuing contact center interactions with agents and customers, the sentiment analysis bot will broaden its understanding of the customer experience by learning which approaches are most effective.
- **Real-time transcription services.** After WebSockets integrates voice capability into real-time transcription services, an AI uses speech-to-text conversion to transcribe audio data into type. Developers and digital product managers can even integrate a WebSocket-enabled voice API into a standard AI engine, though some languages like English are better supported than others. On-call monitoring will automatically escalate a call to a supervisor when specific keywords that indicate customer anger or agitation are used. In order to enrich and improve the overall contact center experience, a supervisor can review the real-time transcription and evaluate agent performance. If the digital product manager does not have the requisite developer resources to integrate WebSocket-powered real-time transcription services into her digital solution, off-the-shelf options do exist.
- **Conference calls.** The WebSocket protocol has long been a popular form of support for multimedia chats, online conference calls, or video conferences. Even before WebRTC was getting close to near-universal browser support, developers were leveraging WebSockets for this use case. Today, WebSockets can support the inclusion of a virtual AI assistant to take notes and identify action items and decisions made during conference calls. This is a result of the full-duplex, two-way communications that occur in near real time—made possible by WebSockets.

As product managers seek to improve customer experience and increase operational efficiency, they increasingly turn to WebSockets as a useful technology. With its ability to enable artificial intelligence, real-time communication analysis, and conferencing, WebSockets can transform an organization's digital solutions.

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