



Business challenge

For Vicom Infinity, Inc., running its voice assistant solution on a public cloud platform posed a security risk because of the potential for backdoor access. How could the company keep its solution secure?



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Transformation

Voice assistant technologies let users substitute their voice for the keyboard. However, existing consumer solutions weren't built for the enterprise and resided in the public cloud, so they lacked security controls. Using IBM® Watson® and IBM Cloud™ Hyper Protect Virtual Servers technology, IBM Business Partner Vicom Infinity developed an enterprise solution that stores conversations in a security-rich environment.

Results

Offers a security-rich environment

for voice data on the public cloud, guarding against breaches

Accelerates development

of a new technology

Delivers a cloud solution

that meets the stringent security controls of enterprises

Vicom Infinity

Keep your voice conversations private in the cloud, and keep intruders out

Vicom Infinity is an IBM Business Partner located in New York City. It has two locations, one in Manhattan and the other, its headquarters, on Long Island. The company has been in business since the mid-1990s. Vicom Infinity comprises three companies: Vicom Infinity, which covers the IBM Z mainframe, storage, software and services; Vicom Computer Services, which handles open systems in storage and software; and Infinity Systems, which deals in software and services.

“This brings to the table something that’s totally revolutionary and beyond anything Amazon or other cloud providers can provide.”

—Len Santalucia, Chief Technology Officer, IBM Business Partner Vicom Infinity, Inc.

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Needing to silence the security risk

Voice assistant products give you the freedom to interface with a computer without touching the keyboard. Existing products like Google Home and Amazon Alexa are targeted at the consumer, but Vicom Infinity wanted to develop such a product for the enterprise. However, the consumer solutions only provide the option of storing your conversations and voice data in a public cloud, where you don't own the security controls. And many public cloud environments don't meet the stringent security standards that enterprises require.

Vicom Infinity was concerned that with the lack of security in the public cloud, competitors might gain backdoor access to its code and copy its idea. Alex Kim, Vicom Infinity's Solution Architect and Designer, explains: "If you're using Amazon Alexa, developers can look into your conversations. I wanted to have an enterprise solution which the user could control."

Len Santalucia, Chief Technology Officer at Vicom Infinity, elaborates: "If you think about it, can you picture a mainframe client that has such strict and carefully thought out security around the mainframe allowing its stuff to be on some insecure cloud somewhere? I don't think so."

Encryption closed the door to other developers

Initially Vicom Infinity met with the Watson™ team to understand the roadmap. When the IBM Cloud Hyper Protect Virtual Servers offering became available, the company imported its natural process code using Watson in the cloud. By using the cloud with IBM encryption technology, Vicom Infinity helped to ensure that other developers were precluded from accessing its code and copying its work.

The Hyper Protect Virtual Servers solution brings IBM Z® and IBM LinuxONE technology to the cloud, and Vicom Infinity is using it to handle all incoming and outgoing communications for its enterprise voice assistant offering, the Vicom Infinity Voice Assistant (VIVA). The company is also using three Watson technologies: IBM Watson Speech to Text, IBM Watson Assistant and IBM Watson Text to Speech solutions.

Kim explains how VIVA works: "When a language comes in as voice, we translate it to a text file using Watson Speech to Text, and then the text file is also converted into something called intent using the Watson Assistant AI engine. And then when answers are developed using this AI engine and our natural language software in the IBM [Cloud] Hyper Protect Virtual Servers, it will be

spoken to the user using Watson Text to Speech. We're also using IBM's internal tool chain so that we can keep the source code secure in IBM's cloud storage."

As security is a paramount concern for Vicom Infinity's enterprise clients, the company stores conversations on the Hyper Protect Virtual Servers solution. Watson technology provides a secure API gateway for the client's enterprise voice data applications.

This gateway, along with a Privakey CX server running on the Hyper Protect Virtual Server platform, creates a security-rich environment and an intuitive experience for Vicom Infinity's voice assistant application for enterprises, at a competitive cost. "Many companies and organizations in government are looking for the kind of solution that only the IBM Z and LinuxONE mainframe can really promise, especially with its pervasive encryption capabilities and now the new Data Privacy Passports capability," says Santalucia.

According to a study conducted by the Ponemon Institute and sponsored by IBM, the average total cost of a data breach is USD 3.92 million. These breaches can cause devastating financial losses and affect an organization's reputation for years. With Vicom Infinity's voice assistant solution on the Hyper Protect Virtual Servers platform, enterprises can enjoy a security-rich environment for their conversations and voice data.

As such, enterprises in data sensitive industries are beginning to take notice. "We are starting to hear people coming to us from enterprise banks and healthcare companies that never would have approached IBM for voice type of technology talking to their enterprise servers," says Santalucia.

Offering the solution the market needs

Vicom Infinity's enterprise-ready voice assistant provides the freedom to process business conversations in a security-rich environment using a voice user interface. The solution is powered by Hyper Protect Virtual Servers, Watson, and Privakey offerings for biometric authentication. Using Watson technology for the solution's API gateway enables Vicom Infinity to design its voice assistant with security and cost efficiency in mind.

VIVA is also available to deploy on-premises as a hybrid cloud solution taking full advantage of flexible data management with security provided by IBM Cloud Hyper Protect services.

Kim points out that in the solution development world, "timing is critical because a lot of these new technologies are a race against time of development—who's going to be first is very key."

Kim also notes the importance of the IBM partnership to Vicom Infinity's success. "Partnering with IBM is key because we do get great support from the IBM team. When we had developers working with Google, we didn't get this support. But with IBM, when we send an email question, we get a response within an hour or two."

Santalucia is very satisfied with the solution and its capabilities. "We have a product that you can put your arms and legs around, really test and prove that it works," he says. "We've brought new technology to the IBM Z and LinuxONE platform that was never available before. And we even brought a brand-new independent software vendor by the name of Privakey to Linux on IBM Z. They never knew what a mainframe was before the day we met them, and they saw immediate value for them as well as us."

As far as next steps go, Vicom Infinity has two candidate clients who have tested its VIVA product and have completed the IBM Enterprise Design Thinking™ process. The company is hoping to release the product at the IBM Think Conference in May 2020. Kim says that Vicom Infinity is also working to embed the databases from the Hyper Protect Server Virtual Servers solution for extended functionality of VIVA in the future.

Solution components

- IBM® Cloud Hyper Protect Virtual Server
- IBM Watson Assistant
- IBM Watson Speech to Text
- IBM Watson® Text to Speech
- IBM Z®, IBM LinuxONE

Take the next step

To learn more about the IBM solutions featured in this story, please contact your IBM representative or [Vicom Infinity](#) and to learn more about the Vicom Infinity Voice Assistant (VIVA) Solution, please visit www.securevoiceassistant.com or contact Alex Kim at ykim@vicominfinity.com, Vincent Terrone at VTerrone@vicominfinity.com, or Len Santalucia at LSantalucia@vicominfinity.com.

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