



Tomorrow's Voice Services Today

VoiceObjects Deployed by T-Mobile Czech Republic



Photo by T-Mobile



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Thanks to modern speech recognition methods and more powerful servers, voice services have advanced by leaps and bounds in recent years. I recently discussed innovations in this area with Roman Šťastný, Customer Care Director at T-Mobile Czech Republic.

T-Mobile Czech Republic is a world-class provider of automated voice services. The high level of automation and customer satisfaction achieved is a result of intensive work over an extended period, along with the use of the right technology.

T-Mobile has deployed automated voice services for many years. The first IVR (interactive voice response) technology was introduced in 2000 and since then has become indispensable. Roman Šťastný on the introduction of VoiceObjects: "The number of customer calls is growing all the time. In 2007, for instance, we received around 25 million calls. 17 million of these calls were processed by the automated voice portal. Right now, we handle some 80 percent of calls in this way. The remaining 20 percent have to be handled by call center representatives. With the increase in call center requests and our inability to deploy extra resources, we had to make more efficient use of IVR technology... which is why three years ago we opted for VoiceObjects."

What is VoiceObjects?

VoiceObjects provides a complete software system for the development, operation and analysis of VoiceXML-based phone portals. The object-oriented development architecture and graphical development environment make for the creation of very efficient voice applications. What is it like to work with VoiceObjects? Roman Šťastný: "With this technology, challenging dialogs can be developed that can be used equally well for a variety of communications channels. It is a very flexible tool, which means that we can react swiftly to urgent marketing requests and not have to spend weeks in painstaking development."

VoiceObjects, amongst other things, is deployed by a string of large telecommunications providers. In Western Europe and the US some services in the banking sector are also automated with VoiceObjects. In logistics and other sectors, where communication between the representative and the customer is very complex and specialized, it has often been difficult to automate these processes. Roman Šťastný, again: "There is a strong general trend towards automated self-services, which are especially popular with young customers. The text-based USSD browser, which can be used instead of a customer hotline, is a particular favorite."

So why did T-Mobile choose VoiceObjects? Roman Šťastný: "When we had to make a decision, there were various options out there but VoiceObjects was our first choice and was also a relatively new product on the market. We also considered developing a similar solution of our own. But in the end we settled on VoiceObjects. We had seen the company at various conferences and watched their presentations. The provider's flexibility was also very important to us. As we needed new functionalities in the short term and did not have a strong enough development team of our own, VoiceObjects had already begun to work on it. Sometimes the solution was ready even before the detailed specifications were on the table, which didn't always work out as smoothly as it might. But we learned from these experiences and were able later on to better communicate our ideas so that we got exactly what we needed."

It took no time at all to implement the VoiceObjects interface. It was completed within three weeks. This was followed by a second phase in which T-Mobile had to learn how to work with and get the most out of the new technology. This took about a year. So far there have been no complications of any kind. Roman Šťastný: "It didn't take us very long at all to learn how to get along with VoiceObjects."

The project development at T-Mobile was carried out by NextiraOne, VoiceObjects' partner in the Czech Republic. NextiraOne also supplied specialist staff when there was a lack of programmers. "NextiraOne also carried out voice applications development for us, when we lacked the necessary expertise, which was not infrequent. As perfectionists, we have connected the VoiceObjects solution to a string of back-office business applications CRM systems in particular. This is why we need VoiceObjects," says Roman Šťastný. "The VoiceObjects interface provides our customers with functions from a variety of systems. When we expand our provision to include new services, we carry out the changes in stages."

Which Technologies?

One of T-Mobile's fundamental principles is to make sure the documentation is good, especially when introducing something to a country for the first time. This serves as a model at a later stage for every other country in our company. This is also the reason why our subsidiaries exchange information on the type of technologies they are using. Roman Šťastný: "If something similar is to be implemented in another country, the project that has existing documentation is first choice. We, in the Czech Republic, were the first to use VoiceObjects. At present, this solution is the standard platform for the whole of Deutsche Telekom."

To operate the VoiceObjects platform in the Czech Republic there are four Linux servers, situated on two geographical sites. As each server serves two instances of VoiceObjects server, the infrastructure at T-Mobile consists of eight instances of VoiceObjects server in total. The load balancer handles request distribution on each server.

The Genesys Voice Portal (GVP) IVR system is also implemented in two places and is set so that the primary URL address of the voice application leads to the local VoiceObjects instances. Connection to more distant instances is only made if the local instance is not available.

Roman Šťastný on the benefits of this sort of solution: "This configuration optimizes request distribution, makes for an evenly-balanced use of systems and prevents network overload. This interface is always available to customers, even if the VoiceObjects platform goes down or is restricted to one site. This is very important when you consider the central role played by the voice system. The availability of automated customer service is crucial to avoid call center representatives being swamped with calls."

The scope of the solution also includes a test environment consisting of one server on which two VoiceObjects instances run. "Its main purpose is to test voice applications, before they go live. In addition, it functions as an evaluation system for new versions and tests the function of newly adapted configurations," explains Roman Šťastný.

Hardware used:

IBM eServer BladeCenter
2x Xeon 3.2GHz with EM64T 1MB L2, 4GB RAM, 2x 73,4 GB HDD
OS Linux Debian

Future Plans

Roman Šťastný on what can be done with automated voice applications: "We use the IVR system developed for us by NextiraOne Czech to poll customer satisfaction. If our customers contact us and we have solved their requests or problems, we ask them to rate our support services. Thanks to this system we can keep an eye on quality and create a customer satisfaction index. Another interesting function of the solution is the program's analysis of caller behavior, which provides us with important information on the best way to structure dialog. There is a string of partial dialogs, pre-programmed according to customer group. From the customer's viewpoint these dialogs appear to be dynamic. Let's take a customer, who has a subscription. He or she will be offered different options from those made to a bill-paying customer. So a large number of parameters can be directly defined or activated in the automated dialog system. 29 percent of total sales is processed via service channels

through automated channels, thanks to the IVR system and SMS in particular. And nearly 50 percent of total sales are processed through service channels. The contribution made by VoiceObjects is therefore immense."

At present T-Mobile is working on an automated speech recognition program. "This is no simple matter. We are the first pioneers, as it were, in this area, and we are entering uncharted territory. Speech recognition is one of the biggest challenges out there, especially in the Czech Republic. There are any number of ways to verbalize a sentence or a telephone number. Therefore, it's not so easy to replace a simple menu with a complex system. Our capacity won't stretch to this. This being the case, we are drawing on the expertise of the ICZ company."

T-Mobile began to consider introducing speech recognition technology five years ago. But it was only last year that the company was convinced that a project of this kind would be a promising enterprise. Since then a lot of work has gone into the project and at present we are in its implementation phase.



Roman Šťastný
(Photo by T-Mobile)

One unique feature of VoiceObjects is the above-mentioned speech recognition functionality; another is the provision of text-based USSD channels. This technology is one of the oldest GSM technologies and enables the transfer of data in written form. Data can be texted or sent by telephone via a menu.

Roman Šťastný on T-Mobile's deployment of USSD technology: "A variety of deployment scenarios for this technology are practiced worldwide. We are, for instance, in contact with a French company and our joint pilot project was received surprisingly well by our customers. At present we are preparing to roll-out in Germany. This is possible thanks to VoiceObjects' multi-channel technology, which allows us to be able to use the same services that are accessible via the IVR system in mobile phone browsers and SMS without making any adjustment. USSD technology is just another option for managing transactions and for executing new ones using a mobile phone. It is no exaggeration to say that this puts us miles ahead of the competition. In my opinion, we have opted for the right technology to enable us to continue to further develop and expand our provision in the future – a decisive factor, when it comes to investment security."

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