Voice reimagined.

How AI is delivering a modern voice experience for citizens—in the IVR and beyond.
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There’s no denying we’re in the age of the consumer. Whether you consider them customers or citizens, their wants and needs are diverse, but they all expect effortless, intuitive service experiences that deliver precisely what they need, when they need it. And now more than ever, they expect to get what they need using the simple power of their voice.

We’re also in the age of voice-enabled everything: Siri, Alexa, Cortana. With the rise of virtual assistants, smart speakers, wearables and other IoT devices, people are used to getting information and completing everyday tasks with a simple voice command—from transferring funds to ordering pizza to changing a TV channel.

And now they expect those effortless experiences everywhere. If they can order pizza just by speaking into the air, why not check the status of a disability claim, reschedule a court date, ask about public transportation routes or pay property taxes in the same way?

That kind of experience is what we at Nuance call The Modern Voice—and it has major implications for your citizen engagement strategy. Because soon clicking, typing and swiping through even the slickest customer service websites, apps and social media accounts will feel slow, clunky and difficult compared to just talking.

In this white paper, we’ll take a look at:

- Why a Modern Voice experience is an imperative vs. a 'nice-to-have'
- The most logical starting point for voice transformation (hint, it’s your IVR)
- How artificial intelligence (AI) is powering new, conversational service experiences
- Three key elements for a successful transformation
- How Nuance can help
Why a Modern Voice is a business imperative

Your population’s expectations are high—by 2020, 40 percent will prefer to engage with organizations using voice assistants’ and 85 percent of citizens believe a voice-based virtual assistant with advanced functionality would be beneficial to navigate government services. That means increased expectations for you to provide the kind of effortless, conversational voice experiences people love in your engagement channels.

So where do you start with your voice transformation? You guessed it—your IVR. Your IVR: Goodbye, citizen-frustrating cost center. Hello, problem solver. While IVRs have been invaluable in reducing contact center costs, let’s face it: not many deliver a truly modern, conversational experience. It’s no surprise given the rise of digital—which led many organizations to abandon focus and investment in their IVR in favor of mobile, websites and social channels.

But ignoring your IVR and following the “if it ain’t broke, don’t fix it” mantra is a big mistake. The phone channel is more important than ever to constituents: it’s an escalation channel if digital channels don’t deliver what they need, it’s the go-to channel when they’re ‘on the go’ and can’t easily navigate a website or an app, and when people have complex or sensitive issues that require human assistance (e.g. your agents)—they call.

The problem is when your residents call, they often find themselves in the land that customer service forgot. Confusing menu options, irrelevant recorded messages, no clear path to talk to an agent: all these things explain why, generally speaking, IVRs have gotten a bad rap and are a major source of frustration.

Now, imagine if a constituent could have a conversation with your IVR that feels natural and human and actually gives them what they need. And what if that same experience could be extended to virtual assistants and IoT devices through digital channels. What message would that experience send?

And we don’t have to tell you that cost savings are important, too. A well-designed, conversational IVR can result in more intelligent routing to appropriate agents, increased containment and self-service, and reduced transfer rates. It all adds up to a more efficient organization.

It’s time to transform your clunky, old-school IVR into a modern telephony powerhouse that delivers the conversational, intuitive experiences both citizens and employees expect and will soon demand. And it’s 100% doable – today.

Enter The Modern Voice
Welcome to The Modern Voice, a dramatically different voice experience powered by AI that’s not underpinned by rigid rules, branching menu trees and pre-recorded prompts of old-school IVRs. And one that delivers true business value. It’s been a long time coming, but thanks to advancements in AI and core AI technologies, we’re there.

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3 Get It Right: Deliver the Omni-Cannel Support Customers Want. Ovum Research 2016
Three elements of a successful voice transformation

So, how do you get the kind of Modern Voice experience your population wants and that brings the most value to your organization? Here are three essential elements you need:

#1 A tech stack with AI as the lynchpin

The most important element of a successful voice transformation is the technology underpinning it all—and, you guessed it, AI is the key. AI’s ability to mimic and amplify human intelligence is what delivers the seamless, personalized, conversational self-service experiences people have come to expect—not just for the IVR, but also through digital channels like the web and mobile channels using virtual assistants, in-app messaging and two-way SMS.

While you don’t need to be an AI guru, it helps to know what AI technologies go into making an advanced conversational interface. Here are a few things worth knowing a bit about:

Advancements in AI including speech recognition, text-to-speech (TTS), natural language understanding (NLU), biometrics, conversational dialog, machine learning and deep learning are fueling the development and evolution of conversational voice interactions. It’s these technologies that allow IVR, messaging apps, virtual assistants and IoT devices to recognize residents (biometrics), understand what they’re saying (speech recognition), engage them in natural conversations (NLU, TTS) and anticipate and deliver on their needs before they arise (through analytics and prediction powered by machine learning and deep learning). Check out our AI explainer diagram below.

One of the most important technologies for any conversational interface is NLU, so it’s worth spending a little extra time on it. Simply put, NLU lets people and machines talk to each other naturally, through its ability to ingest what is said to it, break it down, comprehend its meaning,
determine appropriate action and respond back in language the customer will understand. NLU does some really important work for the IVR:

- Reflects how people talk in the real world and describe their issues.

- Infers meaning rather than literally interpreting what’s said. For example, “I won’t be able to get my taxes done” might mean “How do I file for an extension on my taxes?”

- Can effortlessly handle mispronunciations, swapped words, contractions, colloquialisms, and other quirks like ums and ahs.

- Doesn’t give canned responses, but rather creates them on the fly, based on what it has interpreted the person is saying.

#2 A solid foundation to build, deploy and refine

Next you need to decide where you want to deploy and manage the technologies that power your Modern Voice experience. That foundation could be your existing IVR platform, or you may need to evaluate a new on-premise or cloud-based platform.

Whatever you choose, it should allow you to leverage technologies across voice and digital channels and have the flexibility to quickly adapt and deliver on the unique needs of each channel. For example, this means you can use a common conversational interface, grammars and dialog developed for your IVR across other voice and digital channels. The benefit is not only cost-savings from technology re-use, but a true omni-channel experience.

Your foundation should also let you harvest and analyze all your interactions to continually optimize the experience delivered, maximize your IVR investments and minimize operational risk.

With a data-driven understanding of your IVR, you can get answers to important questions, including where and why calls are being misdirected, or issues impacting containment rates, routing, handle time, transfer rates and citizen satisfaction. Without this detailed knowledge, it’s nearly impossible to understand root causes for IVR issues or to drive improvements.

#3 The right know-how and talent

While technology isn’t the only element of a successful voice transformation, it’s one of the most important and complex. So, it’s critical to hire or find people with the right ‘know-how’ when it comes to designing, developing, testing, tuning and rolling out that technology. And getting it right also means you need user-experience talent who can ensure that your new, conversational IVR becomes something that your constituents want (and love) to use.

Few organizations have all the skills in-house to deliver truly conversational voice experiences. If the right talent doesn’t exist inside your organization, find an experienced and reliable partner that is highly-skilled in UI/UX design, speech and data science and systems integration to help. (Bonus points for one with experience and expertise working in the public sector.)
And when all that mojo gets to work...

Spend less to get more
More automation and self-service mean you can get more done with fewer agents—and thanks to improved inquiry routing and containment, those agents can spend more time helping people with complicated inquiries like an unemployment beneficiary detailing their job seeking efforts. When you’re using TTS to turn text into natural-sounding speech, there’s no need for costly voice talent. And deploying a common conversational interface, grammars and dialog across all channels supports a seamless omni-channel experience that drives satisfaction up and costs down.

Kickstart organizational agility
Voice technologies aren’t just for the IVR: you can use them to quickly and easily create conversational apps for other channels to multiply your ROI. And with the right platform in place, you can build and optimize these apps as residents’ needs change and deploy them wherever you need to.

Keep improving the experience
Through analytics and machine learning, you can measure how systems and applications are performing across channels, and continually optimize to meet your department’s goals – and your constituents’ always-evolving expectations.

Wow your citizens
Give your population the contextual, connected, frictionless experiences they want. Maintain context across their journey by enabling them to authenticate once and seamlessly transition among channels and between self- and agent-assisted service to get their tasks completed. That’s a recipe for improved citizen satisfaction.

How Nuance can help
We could tell you about our decades of experience helping innovation-hungry brands stand out from the crowd. Or the fact that we pioneered the use of AI for commercial applications beginning in the early 90s and we’ve been working on developing and improving AI-powered conversational innovations ever since. Or that we’ve poured a lot of time, sweat and cold, hard cash into developing voice and digital interfaces that can revolutionize citizen interactions. Or how we’ve implemented voice solutions for numerous government agencies at federal, state and local levels.

But we won’t (okay, maybe just a little). Instead, we’ll show you how our latest AI-powered voice innovations power great experiences and are designed to help you drive people’s satisfaction up and costs down.
**Voice innovations that power great experiences**

**Contextual, intelligent dialogue**
Unmatched accuracy in speech recognition that enables complex, natural dialogues between constituents and your employees (areas where consumer-grade voice assistants can’t compete).

**Super-charged text-to-speech**
Forget robotic voices and expensive voice talent. Advanced TTS that leverages the power of AI to deliver natural sounding, expressive voices. (If you haven’t met Zoe, one of the new voices of our TTS engine, go say hello.)

<table>
<thead>
<tr>
<th>Hi, I’m Zoe. How can I help you?</th>
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<tbody>
<tr>
<td><img src="image" alt="Image of people and Zoe" /></td>
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</table>

**Meet Zoe.**
Zoe is a new voice from our AI-powered text-to-speech engine that leverages deep neural networks (DNNs) to synthesize natural sounding voices in 50+ languages and 119 voice options (and 17 of those are multi-lingual).

Or, to put it another way, Zoe makes your synthesized voice apps sound and feel human—and citizens feel understood.

Go say hello.

**Tooling and NLU starter packs**
Easily create, deploy, maintain and optimize voice apps with DIY tools to get things done fast—and starter packs (fully-loaded with agency- or department-specific terminology) to make development even faster.

**Design-once, deploy-many approach**
Deploy conversational apps across all your engagement channels—from your IVR to virtual assistants, messaging apps and IoT devices—saving you time, effort and money.

**Reporting and analytics**
Understand usage, monitor performance and get more ROI from your IVR, with in-depth analysis and near real-time insights in a modern, intuitive user interface.

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**Nuance TTS by the numbers**

- On average, organizations save **30%**
- TTS reduces errors by **40%** compared to previous speech synthesis techniques
It’s time for The Modern Voice

If your IVR doesn’t meet your citizens’ expectations for easy, effortless conversations that deliver what they need, you’ll be in for a rough ride. But if you can deliver natural, on-brand, conversational experiences—in the IVR and beyond—you’ll soon see the cost savings mount up, with less zero-outs to agents, text-to-speech replacing voice talent and technology reuse across citizen engagement channels.

Not only that, but you’ll stand out as a leader amongst your peers.

This is The Modern Voice—and you’re welcome.
The Modern Voice in action

Check out what these trailblazing brands are achieving (click on the logos to learn more):

<table>
<thead>
<tr>
<th>Brand</th>
<th>Description</th>
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<tbody>
<tr>
<td>NYC311</td>
<td>NYC311’s IVR provides faster, more efficient call routing from a single point of access.</td>
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<tr>
<td>American Airlines</td>
<td>American Airlines’ IVR reached new heights in CSAT, increased call containment by 5% and saved millions annually.</td>
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<tr>
<td>Michigan Child Support</td>
<td>Michigan OCS uses a natural language call steering IVR solution decreases call volume and cuts response times.</td>
</tr>
<tr>
<td>FedEx</td>
<td>FedEx created a more human IVR, increased automation by 6% and eliminated 11,000 calls to live agents per day.</td>
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Next steps

To learn more, head on over to The Modern Voice information hub. Or better yet, just get in touch to explore how we can help you plan, justify and deliver your Modern Voice transformation.