



With bots as digital twins, embrace the “human centric” experience

By Moussa Zaghdoud

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The first Unified Communication and Collaboration (UC&C) services appeared about 20 years ago, as businesses and organizations began adding new tools into the workplace to boost productivity. The benefits of these solutions were obvious to the business but not necessarily to the user, who faced the task of learning of new technologies with new interfaces and user experiences as a means of increasing efficiency. The user was just one of the elements in that productivity chain, whose context was determined by decision makers such as the CEO and CTO.

Meanwhile, in recent years we have seen enormous advances in many areas of technology. However, one thing that has not really changed over the years is how users consume UC&C services and content. In fact, the user experience itself has remained almost the same since the early UC&C interfaces were created two decades ago.

It's time we move forward. Businesses and organizations need a smarter, more personalized approach to productivity and collaboration that delivers a new, more natural user experience. We need an interface that recognizes workers' unique needs and preferences while helping them more quickly make sense of the data and information flows competing for their attention. I believe that bots, natural language processing, artificial intelligence (AI) and other advanced technologies have the potential to revolutionize how workers interface with UC&C solutions. At Alcatel-Lucent Enterprise (ALE) we are leading the way in developing new user experiences based on these advances.



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Change the user experience with bots

Why has the user experience with UC&C solutions remained largely the same for all these years? These interfaces still operate according to a client-server paradigm in which the user sends a request, the server processes it, and then sends back a selection of possible responses. Because the system has little proactive contextual intelligence, it delivers too many services and too much content all at the same time, and users have to search for what they need before engaging with the correct resources. The user is inundated by emails, files, meeting notifications, and audio and video sessions, and it's difficult to prioritize and find the right resources to deliver the best results.

Developers of UC&C technologies like to think that their communication and collaboration solutions are where workers go to solve their "problems," where employees can join others to share information and help address issues. UC&C developers think that people should be happy to get into "collaboration areas," but in reality I believe that most workers want to have the shortest collaboration session as possible. Moreover, we often spend too much time focusing on understanding and following the "methodologies" rather than using them to solve problems.

We continue to talk about "user centricity" as if there was a single, unique user profile with the same expectations, same behaviors, same needs, and the same way of thinking. That is not true anymore. We've reached the point where users, who are so pressed for time, combined with a demand for greater productivity, have created resistance to new tools because of the time it takes to learn them and get tangible benefits. This not only diminishes potential productivity gains, it impacts the adoption of new technologies as workers traverse the "Digital Transformation". The transformation process may present roadblocks for more senior workers who might encounter social, cultural and technical challenges as they attempt to integrate new tools into their workflows and habits. This is why we talk about "Digital Transformation" because it is a process (though most younger workers do not face the same challenges). To ensure technology adoption goes smoothly for all workers requires an approach that's more human, natural and intuitive.

Which is where bots come in. Bots address the tension between the need for greater productivity and impatience management by automatically carrying out tasks and finding information without effort and without waiting.

What exactly are bots? Broadly speaking, bots are software applications that run automated tasks over a network, usually the Internet. Bots typically perform tasks that are both simple and structurally repetitive, and perform these tasks both faster and more accurately than a human.

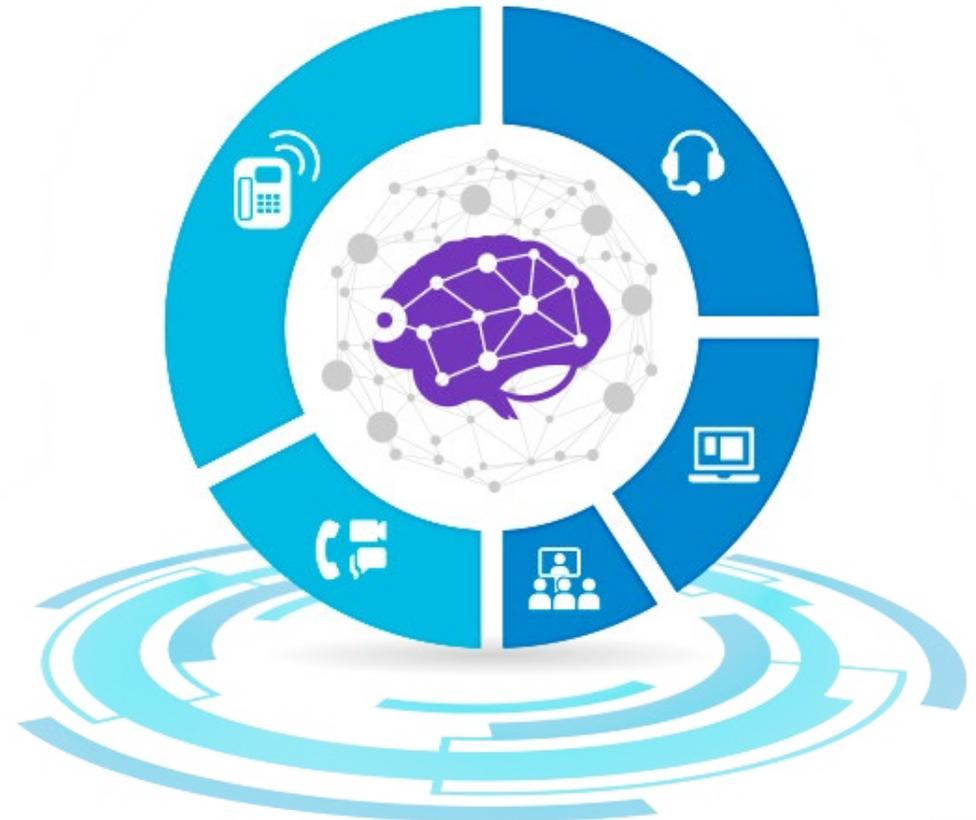
Some of the most common types of bots are consumer bots such as Apple's Siri or Google Home, virtual assistants with natural language processing capabilities that are able to find answers to your spoken requests. Other bots help people schedule airline flights or place orders online; they can aggregate news or other information according to your predefined interests; and can customize music playlists according to your tastes.

Bots represent an evolution from the traditional client-server paradigm. They can be accessed on a variety of interfaces, including fixed phones, mobile phones, PCs and tablets. They can also transmit information over a variety of media, including text, instant messaging, voice, and bot-to-bot communication. Bots can be designed to provide information on virtually any topic by searching, finding and returning the information that the user has requested by leveraging the appropriate data or knowledge base. Bots can also be

designed with AI to learn from the behavior and preferences of users, and over time gain the ability to anticipate the users' needs and expectations.

As bot, natural language processing and AI technologies continue to advance, adoption of bots will move forward in steps. In the current enterprise landscape, most bots are designed for a single purpose (one action per bot). As people grow more accustomed to bots and have greater confidence and trust in their ability, bots will take over more and more activities for individuals. In the future, I believe individuals will have a single bot authorized to make decisions on our behalf (one bot per person). Bots will operate like a digital twin, because we will have 100 percent confidence in our bots' ability to stand in and make decisions for us.

I would expect that in the future that my digital twin will always be tuned into the activities that I've authorized my bot to monitor. I anticipate that it will represent me in my networks, compile data and content for me, and perhaps even identify some life changing information. My bot will allow me to spend less time managing repetitive tasks and actions, freeing up more time for me to do what is really valuable or what I simply enjoy.



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Moving productivity forward with IA, bots and natural language

Bots and other advanced technologies allow us to leave the generic “user centric” era behind and embrace the “human centric” era. We are all different and we need to have collaboration and communication systems that adapt to our different behaviors, expectations and preferences. In a workplace enabled with natural-language bots, workers are no longer limited to clicking on buttons on static interfaces. We can use voice commands and requests to interact with bots, asking for help with daily needs and issues. Guided by artificial intelligence, bots will also be able to anticipate our needs, according to the given context.

How do you introduce bots into your business? Manage your workplace tools to limit “human impatience” and associated frustrations, rather than focusing solely on increasing productivity. Deploying bots with natural language processing capabilities and AI will streamline workflows by finding immediate answers to questions and problems.

Concentrate your efforts on removing barriers to adoption, and be sure that everyone in the company is involved, motivated and trained—not just the decision makers. Offering natural ways of interacting with tools helps ensure that that workers are not forced to waste time and feel impatient just figuring out how the tools work. At the beginning, design your bot to address a single type of problem and, to avoid disappointments, keep the initial use cases simple.

Make sure that workers using bot-enabled solutions feel they are gaining real benefits from the technology and are in position to share it with others. People should be successful and comfortable using the solution for at least one activity. Make sure people are efficient and effective at using the tools before moving on to the collaboration phase.

What are the services and efficiencies that a digital twin (DT) can provide? Let’s say that someone calls me on my business phone while I’m in a meeting and I can’t answer. The DT who is monitoring my phone can answer for me, telling the caller that I’m not available at the moment because I’m in meeting. My DT can ask the caller to identify the purpose of the call, and—because my bot also has access to my calendar—can offer the caller a time when I’m free to talk. After the caller selects a time slot, my DT sends me an SMS notification, which I can accept or decline. My DT then puts the appointment on my calendar with the caller’s name and purpose of the call.

These bot functionalities are already available in key ALE solutions, including Rainbow, a communication platform as-a-service (CPaaS) technology. In addition, ALE recently announced a partnership with IBM to leverage the IBM Cloud and IBM Watson to integrate the Rainbow API Hub platform with AI and cognitive-communication capabilities in the area of smart bots, advanced natural language interaction and facial/video pattern recognition.

Our partnership with IBM is just the beginning of ALE’s integration of bots and AI into our communication solutions and technology. We intend to introduce these advanced technologies into vertically focused solutions for industries such as healthcare, education, hospitality and government. We are also exploring new services for bots and artificial intelligence in varied and sensitive contexts such as citizen security in Smart City solutions or emergency response management in complex environments.



For more information about ALE communication solutions enhanced with bot functionality, please go to <https://www.openrainbow.com/>

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