TRANSFORMING NETWORK OPERATIONS WITH AIOPS AND CHATGPT

By Brian M. Posey
Recently, there has been a surge of interest in ChatGPT, a large language model developed by OpenAI. As a result, ChatGPT has garnered a significant amount of attention from researchers, businesses, and the general public alike. At a recent Redmond Tech Talk Webcast, Bob Friday, the chief AI officer at Juniper Networks, spoke at length about the future of AIOps and ChatGPT.

Friday began the discussion by clarifying that although ChatGPT is casually referred to as AI, industry analysts generally do not truly consider ChatGPT to be AI-based, but rather an extremely sophisticated predictor. Even so, that in no way diminishes what ChatGPT has accomplished. At the very least, ChatGPT’s popularity has led to there being fewer AI skeptics in the world. Friday believes that ChatGPT will lead to a major paradigm shift in the way that we interact with computers. At one time, the only way to interact with a computer was from a command line interface. Eventually, however, GUI interfaces and dashboards made computers far easier to use. Friday envisions natural language AI interfaces as being the best option for getting data into and out of a computer. It’s simple and effective, and users have already been conditioned to use such technology through their interaction with the smart digital assistants that are built into consumer electronic devices.

AIOps is the next evolution of chat-based AI, and focuses on using AI automation to perform a task that requires human-like cognitive intelligence. IT automation has been around for many years in the form of scripts. Generally, however, a script does one thing and does it well. If an organization’s automation requirements change, then a script has to be modified to address those requirements. It is not going to automatically adapt to the changes. Friday explained that AI can be used to perform networking-related tasks that are on par with what you might expect from a human who is an expert in IT.

According to Friday, the idea for AIOps stemmed from watching IBM’s Watson play Jeopardy. Friday said, “If they can build something that can play Jeopardy on par with the champions, we should be able to build something that can actually answer questions and manage networks on par with IT domain experts.”

The overall idea is to use AIOps as a tool for diagnosing complex network problems, but in a simple manner. Imagine that a particular user is having problems with video calls, presumably due to high latency and possibly even packet loss. While conventional network tools can be used to troubleshoot such a problem, the process is quite cumbersome. Rather than working through such a tedious process, an IT networking professional might simply ask an AIOps tool why the user’s video call
quality is so bad. In other words, the IT professional no longer needs to sift through dashboards and performance metrics to locate the root cause of a networking problem. They can just ask a question instead.

As useful as chat interfaces might be for network diagnostic tools, Friday theorizes that the use of AI-enabled chat is really just a first step. The final piece of the puzzle is to automate the resolution process.

Ultimately, the trust factor will be key to making AI network automation a reality. According to Friday, “We have to consider whether people are really going to trust AI assistants to manage and twist the knobs on their network.” Friday said he believes that “we are still on that journey and are still a ways from completely self-driving networks.”

Friday surmises that building trust in AI is not really that different from building trust in humans. When an organization hires a new IT pro, they do not typically give that employee free reign on day one. Instead, that new employee must build their employer’s trust over time by proving they are able to solve problems.

The same basic concept applies to AI. Transparency will be a huge part of building trust in AI, and Friday predicts that we may soon begin seeing this type of transparency in action as AI is used to improve Internet search engines. Today, when a user types a question into a search engine, they receive a set of links pertaining to their search. The search engine is telling the user that the answer to their question likely lies somewhere within the search results. In contrast, an AI-enabled search engine might actually answer the user’s question, but perform the additional step of telling the user where the answer came from so that the user can decide for themselves if the answer is likely to be correct based on its source.

Knowing the source of ChatGPT’s information is not just important for ensuring the information’s accuracy. There are also copyright issues to consider. If, for example, someone was to use ChatGPT to write a song that had already been written, it creates a problem. It does not matter whether someone intentionally plagiarized the song or did it unknowingly through
ChatGPT; they still violated the song’s copyright. The same concept applies to the code that ChatGPT creates. While it is possible that code has been derived from open source material, it is also possible that the code is based on information that is proprietary and was supposed to have been confidential. According to Friday, sourcing is one of the key issues to be addressed with as ChatGPT continues to gain traction.

This brings up another important point. ChatGPT and other AI are still relatively new, so regulators are still trying to establish governance for AI. Even so, companies need to begin crafting their own AI policies, starting with never exposing anything confidential to ChatGPT. As Friday said, “I think companies are going to have to figure out how to deal with AI, internally as a new tool. I would tell most companies, ‘Do not give ChatGPT or open AI any NDA information, because once you once you submit it, it’s probably now in the public domain.’”

Because platforms such as OpenAI and ChatGPT have only recently begun seeing mainstream use, many are grappling with these and other AI-related challenges for the first time. However, Juniper Networks has a leader in AI for over five years and has leveraged its experience and lessons learned to create the Marvis Virtual Network Assistant, a conversational assistant that uses natural language to answer questions about a customer’s network and to deliver actionable insights based on the network data that it has ingested.

Learn more about how Juniper Networks’ Marvis Virtual Network Assistant (VNA) uses Mist AI to transform how IT teams interact and engage with enterprise networks.