

Obstacles to Zero-touch Automation

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On September 9 and 10, Deutsche Telekom (DT) brought together a number of forward-thinking people in the telco industry to discuss automated orchestration at the [Zero Touch Conference](#) in Bonn, Germany. The conference demonstrated that the basic automation requirements and technical terminology are now well understood.



The conference demonstrated that many Communication Service Providers' (CSP) senior management is not ready to take the concrete steps to automation. The reluctance is centered around these three areas of confidence:

- Compelling business case
- Smart investments in technology
- Viable supplier ecosystem

Conference participants seemed to agree that there is not yet the commitment by CSP management required to make the changes necessary to automate. One indication of the hesitancy to adopt is that, although there were close to 200 registrants, there were only three CSPs represented by speakers on the program: Telefonica, Orange, and DT. Dr. Abdurazak Mudesir of DT said that, in talking to other CSP's, he determined that they all seem to be waiting for someone else to be the first mover. His conclusion was that "CSPs needed more courage."

Compelling Business Case

Some attendees suggested that an existential threat was necessary to get management to take action. They see such an existential threat in emerging technology and potential competitors. To support this case, they pointed to efforts by the large web companies to move into telecom. Many cited Rakuten's new network in Japan as just such a threat. Others pointed to the increasing complexity of 5G, and cloudification requiring automation. Caroline Chappell from Analysys Mason noted that "Network slicing requires automated coordination."

From the presentations, it appears that forward-thinking people in Advanced Technology and Standards in both CSPs and vendors have been successful in getting support. But as Klaus Martini from DT—the Chair of ZSM and a host for the conference—said, "Just talk is no longer an option." All seemed to agree that to move beyond these advanced technology and standards efforts will take senior management support inside the CSPs. To be effective, this management support must recognize the need for significant change. Getting that support will require stating and demonstrating a compelling business case.

Technology Aspects of the Business Case

It is going to be difficult to get a commitment to another monolithic initiative technology initiative, if a recent monolithic initiative didn't deliver its promised benefits. For example, consider a \$1 billion monolithic NFV initiative (three new data centers and 600 to 900 people over several years). From senior management's perspective, ONAP appears to be just such another very expensive monolithic initiative. As Alex Vul

pointed out, “An open source group starting with 7 million lines of code that people feel that they have to defend is not a good way to start.”

Caroline Chappell pointed out that, “Open source works best when it focuses on modules that everyone needs rather than monolithic solutions.” She also speculates that, “compared to the enterprise market, the CSP market is financially large enough to support monolithic solutions.”

Another area of concern involves the accelerating rate of technical change. The presenter from Affirmed commented that his company had spent most of its resources on developing VNFs (Virtualized Network Function, such as ETSI NFV ISG) and now nobody wanted VNFs; instead they were talking about CNFs (Cloudified Network Functions, sometimes also called Cloud Native Functions). Similar comments were made about moving from Open Stack to Kubernetes. These discussions highlight the fact that today’s leading-edge new technology is tomorrow’s legacy.

This also led into a discussion that revolved around the large number of standards organizations, open source groups, and similar forums. Some questioned whether there might be just one way and one organization. Diego Lopez from Telefonica pointed out that the industry does not need a monoculture.

From a management perspective, this means that a viable solution must also have the inherent ability to deliver promised benefits in the face of this accelerating technical volatility. Unfortunately, all the potential solutions presented at the conference—in addition to being monolithic in nature—appeared to be hard-wired to specific technologies and susceptible to the kind of problems faced by Affirmed.

So, from a senior management perspective, the automation solution requirements are:

- Not monolithic;
- Proves before major financial outlays that it can deliver promised benefits;
- Delivers those benefits in spite of accelerating technical change.

One way to meet these requirements is to have a solution based on an architecture that can be

- Distributed;
- Implemented in a small area where benefits can be confirmed;
- Scaled up slowly as continual monitoring shows benefits are achieved;
- Architected to provide on-ramps for new technology.

Supplier Ecosystem

The creation of alternatives to the monolithic high-cost solutions that don’t deliver promised benefits involves changes in the supplier ecosystem. Current CSP business practices make it very difficult for the small, innovative software companies. Although the very large vendors speaking included Accenture, Amdocs, Ericsson, HPE, IBM, Intel, Nokia, and Netcracker, Dr. Alex Jinsung Choi from DT noted that the automated orchestration ecosystem landscape is very sparsely populated. Alex Vul from Intel noted that to make the needed changes, “a new business architecture” was needed. In other words, part of the changes needed must be new ways of doing business.

A side conversation focused on answering the question: should CSPs fund small development efforts that, if successful, have a path to larger deployment—thus creating an opportunity for a number of small innovative software companies to bring forward solutions? One of the CSP representatives said, “I cannot agree more. Without allowing these specialized niches, any ecosystem will end being another unproductive attempt to bring the ultimate standard (or open-source implementation, or test spec or...) with the same usual suspects around. We do need to incorporate a healthy amount of disruption capability.”

During the conference, there was also a lot of discussion about what the correct balance of open source, standards-based, and proprietary development was. All agreed that there was a place for all three. But there was no agreement on what those places might be. Also, there was no discussion about how the high costs associated

with standards and open source participation tended to lock out small innovative software companies.

In an nutshell

The conference demonstrated that the basic automation requirements and technical terminology are now well understood. Unfortunately though, it appears that CSP senior management is not yet ready to do what is necessary to make automation happen. To get CSP senior management to make the necessary commitment, three areas of comfort are needed:

- Compelling business case
- Technology that management is comfortable with
- Viable supplier ecosystem

To move automation out of the advanced technology arena into production, these senior management requirements must be addressed.

In an off-line conversation after the conference was over, Klaus Martiny said that a group met after the conference. "There are concrete steps for moving forward. These steps will be announced in a couple of weeks." If these steps are well-designed to achieve CSP senior management commitment to automation, then it may be realistic to expect progress. Otherwise, things are likely to stay the same.