baramundi

The Industrial Internet of Things – baramundi in use in production at the Vaillant Group

Vaillant

Publisher baramundi software GmbH

Since 1874, the Vaillant Group, with its headquarters in Remscheid in NRW, has been developing and selling solutions in the field of heating, ventilation and air-conditioning technology. Today, the group employs more than 13,000 people and maintains 10 production and development sites.

The company currently operates 700 clients in production, distributed across all locations. The operational technology (OT) environment at the Vaillant Group is managed by Marius Renelt, Senior Manager System Automation Production IT, together with his three colleagues and at least one OT manager per plant, who takes over classic 1st/2nd level support for the location as key contact.

High level of equipment

In terms of equipment, the company is already at a very high level: starting with the system design for the industrial plants, through the control software and its components to the underlying IT/OT infrastructure, the Vaillant Group has been pursuing a strategy of standardization for several years. This has resulted in a very homogeneous structure of the infrastructure. "We generally rely on

a modular system of predefined solutions at every level. Now we are beginning to reap the first benefits of this work," says Renelt. This standardization also extends to all the network devices used, including their physical and logical structure, to the servers and production computers and their respective services.

This is accompanied by special challenges for the hardware and software management in the company: "The administration of the production environment places different demands on us than the classic work in office IT. Rollouts must run very deterministically due to their direct impact on production and must be well planned and coordinated accordingly. That's why the first thing we have to do is make sure that all changes have the right process quality," explains Renelt.

For those responsible for OT at the Vaillant Group, it is therefore always a challenge to obtain appropriate time windows for updates and changes. Rollouts in the form of a "big bang" are therefore very rare in production. Instead, they are carried out either in waves or even only for individual machines. Despite standardization, there are of course still some systems that require a separate case study."

Marius Renelt
Senior Manager System Automation Production IT

Effective Endpoint Management

Such a complex IT and OT environment requires particularly effective endpoint management: "We started here as a pure systems manufacturer with very simple solutions. Large changes or recurring steps were automated via Auto-IT and then distributed as executables. Delivered systems were tracked in Excel. However, it was already clear at this point that a better system would be needed in the near future. With this basic automation, we were at least able to alleviate the most critical issues. Nevertheless, the time required for basic deployments and deterministic changes was too high," recalls Renelt.

At the beginning of the 2014 project to modernize IT in production, it was already clear that a dedicated client management solution would be a prerequisite for successful transformation. Otherwise, the scope and number of necessary changes would not have been feasible to realize.

The search for such a solution turned out to be more challenging than initially thought: because of the lack of mandate capability at that time, it was not practical to share the existing IT solution and infrastructure.

The Vaillant Group finally found what it was looking for with the German software manufacturer baramundi. The baramundi Management Suite (bMS) outperformed the other considered competitors in several key aspects:

"We particularly liked the very low dependence on specialized infrastructure. With baramundi, we can easily implement local DIPs (Distributed Installation Points) using simple, practically always available file shares. Other solutions usually require a local agent, which of course would have involved a lot of effort and costs for

the host system. Accordingly, we were able to save the costs for an otherwise necessary system extension," says Renelt.

"In contrast to other manufacturers, baramundi also offers a very powerful construction kit for interfacing with other tools. Since we wanted automatic data exchange between deployment, monitoring and the Configuration Management Database (CMDB), this was an indispensable element for successful implementation. Quite apart from that, the additional modules available to us and the support we received - which had already provided us with significant support during product evaluation - were a decisive argument in favor of baramundi."

Fast implementation and timesaving deployment
"We were surprised at how quickly the implementation was completed in 2014. Compared to our previous solution, the server was up and running quickly and the first software packages were ready in very short order. For the rollout of the agent, we were able to use our old process and provide a readymade executable that contained everything we needed. Within a month, we had all systems ready," so Renelt.

"Our main field of application for bMS is, of course, Deploy & Automate. We mainly use the inventory functions to fill our CMDB with data. At the moment, we are also preparing a rollout for patch management with our own GUI.

Afterwards we want to concentrate on the baramundi Network Device Management. We have calculated that by automating the regular computer installations alone, we will save around four man-months a year. In addition, the work is made easier by automating other processes. The avoidance of machine downtimes is estimated to save even more."

More productivity in production
Overall, the feedback from the individual locations has been very positive: Both the work facilitation through process automation and the standardization of configurations were received very positively by the employees. Changes to the system now require significantly less effort. Operation has also become much simpler, as all systems now share a known status.

Challenges ahead
In the near future, the Vaillant Group will be facing some major rollouts of tools and upgrades, about which – in no small part thanks to baramundi – Renelt feels pretty confident. OS upgrades at the production level constantly occupy the IT department because of the comparatively long service life of the systems and their computers. In the medium term, the management of the various IIoT solutions and their communication relationships in production will also become a major issue: These IIoT elements and their data are usually not directly system-critical, but create dependencies that must be documented and managed.

© baramundi software

Conclusion

"Operating the baramundi Management Suite proved to be much easier than we expected. Of course, there were one or two hurdles to overcome during the changeover – for example, I can recommend that everyone sets up rules for naming and grouping software, jobs and the associated scripts and files, and enforce them in their own organization in order to prevent unnecessary extra-work in the company. Here a look at the best-practices of software developers helped us a lot. But overall, we had excellent service in terms of support.

The use of a good client management solution was and is one of the most important elements to manage the initial transformation of our production IT with continuous operation. After several years of using baramundi, we have only had positive experiences. It's an affirmation that we made the right choice and that we are well positioned for the future," summarizes Renelt.