Success Story

SBA Research

Commend

Research enhances security!
Cooperation with SBA Research raises the bar for seamless IT security in Commend product development to a record level

It is clear that prevention is better than cure. Not only when it comes to attacks on our biological immune system, but also when sneaky attacks from "cyberspace" target our IT facilities. Here, too, it is essential to have the strongest possible immunity "from the ground up", especially when, as with Commend's security systems, not only finances and material assets are at stake, but in the worst case even human lives. Commend's development laboratories have therefore been focusing on the principle of "Privacy and Security by Design" for years, with a great deal of commitment, budget investment and top-class research partnerships for cloud-enabled "Symphony" products. This means that IT security is deeply embedded in the technical genes of the products right from the start.

Even safer through early detection

To ensure all of this is sustainable, Commend's software engineers and product experts are working closely with research partners such as SBA Research as part of the "Symphony: Intercom as a Cloud Service" project, supported by the Austrian Research Promotion Agency FFG. In close cooperation with the renowned Viennese research center for IT security, another part of the project has now been brought to a highly successful conclusion. Since March 2022, the joint team of experts had been focusing on Commend's software development in order to ensure intensive systematic security analyses and tests as early as the design stage of products or software modules.

"*This is extremely important for cloud-native solutions such as our 'Symphony' platform,*" explains Commend's project manager Klaus Hirschegger. "*Together with SBA Research, we have implemented methods that allow us to check individual software components for potential risks and vulnerabilities at an extremely early stage and take appropriate precautions before moving on to the next development step. Experts refer to this as a 'shift-left' approach. This means that security tests are no longer carried out at the end of the development process as in the past but should be identified at an early stage during development. This avoids security vulnerabilities in delivered products.*" At Commend, all these efforts are referred to as 'Privacy and Security by Design'.

This is made possible by the practical application of the latest research results from areas such as modeling and security testing from the MATRIS/M-ARC research group. "*I am delighted at how the research results and their methods from the international work can also be applied in practice. Complex industrial systems and processes in particular benefit enormously from this synergy,*" says SBA project manager Reinhard Kugler. "*The know-how from the various specialist areas, such as security testing, machine learning and threat modeling, forms the*

basis for this. This means that security aspects of the design and security checks can be carried out during development before the first line of the program is written. In addition, data flows can be tracked right down to the lines of program code."

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The result: quality through research

"*It was a very successful and exciting project: the scope, focus and preparation were on point,*" summarizes Kugler. "We had a *particularly positive experience of the technical exchange in workshops and the harmonious collaboration with Commend.*" All production and product areas were systematically screened for potential points of attack. Symphony's system architecture was examined on the basis of best practices in cyber security and then put to the test using simulated hacking attacks (penetration testing). Result: very robust! "*Symphony's immune system was able to defend itself well against the attacks,*" reports the passionate pentester. "*The research partnership has proved its worth. It enables us to carry out comprehensive quality assurance that spans the broad Commend ecosystem and its system boundaries. We are more than satisfied with the results!*" says Michael Thalhammer, Head of Research and Development at Commend International, enthusiastically. "*Of course, there is no such thing as 100% perfect cyber protection - but thanks to the latest research and its practical implementation in 'Privacy and Security by Design', our customers can rest assured that we are already very close to the ideal!*"

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