

Taking IT security to the next level

District administration of Tuttlingen uses
Browser in the Box



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To authorities, data protection and IT security are a must. The district administration of Tuttlingen realized this early on and introduced Browser in the Box of Rohde & Schwarz Cybersecurity on more than 800 computers.

The scenic district of Tuttlingen is a flourishing region for economy and industry. "The city and its district are renowned as the world's center for the production of modern medical technology. It is for a good reason that the industry-oriented district of Tuttlingen has the second highest industry density in Baden-Württemberg, after the Stuttgart region, and now also opened a Technische Hochschule (engineering college)", says Gabriela Wöhlert, head of the district administration's organization office. Data protection is an important issue for the forward-oriented district, which is home to 135,000 people. The administration realized early on that they needed a well-functioning infrastructure, completed by an intelligent IT security architecture, to protect and to process sensitive data appropriately. The district's administration covers 27 departments and

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offices, including the offices for health, youth and welfare. These offices process sensitive data of citizens, which is subject to the German Data Protection Act.

IT security as a responsibility towards citizens

The IT baseline protection is required for two other offices: The office for agriculture, which manages EU funds, and the office for code and law enforcement, which has been obliged by law since 2013 to comply with high IT security standards. Due to the large amount of subsidiary funds, the EU commission demanded an internal control system of the office for agriculture. The control system complies with the norm ISO 27001 for the EU paying agent. The office for agriculture can access the national firearms register, making it subject to IT baseline protection standards stipulated by the federal government along with its general security concept.

The district administration wanted to live up to the responsibilities towards their citizens and to comply with the requirements of the IT baseline protection standards. To that end, they needed a solution which would fulfill the security requirements and which could be easily integrated in the daily work routine. Regarding the IT network of the district administration of Tuttlingen, this amounts to more than 800 computers. Concerning the firearms register, the general security concept recommends securing internet access via secure systems, explicitly pointing to the IT security solution Browser in the Box by Rohde & Schwarz Cybersecurity.

Secure web browsing with Browser in the Box

Browser in the Box has been designed to isolate potentially dangerous applications on workplace computers and networks. In addition, it prevents attacks from the Internet on IT systems and data. Compared with common antivirus software, Browser in the Box offers a higher level of protection by completely isolating and encapsulating the browser.

The solution was developed on behalf of the German Federal Office for Information Security (BSI). It runs on a conventional Firefox or Chrome browser, which is not operated under Windows but in a virtual machine under a hardened Linux (SELinux). The whitelisting policy in SELinux protects this Firefox/Chrome SELinux browser better than its Windows equivalent since attackers can only affect the virtual machine from the inside without having access to the host system under Windows. For this reason, attacks on the Windows host system via the browser fail systematically. Additionally, the virtual machine is reset to its source image with each boot, making sure that the attack has no chance to cause any permanent damage.

“The concept and the new technological approach were what convinced us about Browser in the Box. When we heard that the state police of Baden-Württemberg had introduced this system, we took a closer look and then acquired the system in a restricted tender earlier this year”, says Mario Schiller-Dück, Deputy Head of the Organization Office and IT Security Officer at the District Administration of Tuttlingen.

Putting Browser in the Box into practice

Once the decision to implement Browser in the Box has been made, everything happened very quickly. When Microsoft quit providing updates for Windows XP, the operating systems on all computers were switched to Windows 7, and at the same time, internet access was moved to Browser in the Box.

The administration took measures to communicate the implementation of Browser in the Box. They announced it in the administration’s own magazine, emphasizing that Browser in the Box would be introduced for the employees. “In the past, they had been the ones who brought viruses into the network”, explains Mario Schiller-Dück. “We explained to our employees that this measure served their own protection. That it would preventing them to cause damage or infect the entire network a mistake, for example by clicking a malicious link by accident.”

Due to its complex security gateway, various external network interfaces and an additional proxy for content checks, the district administration posed a challenging position to start with. Nevertheless, the set up was smooth thanks to a certified partner of Rohde&Schwarz Cybersecurity. The next step was to train the IT staff of the different offices in installing the software on the computers. After that, the IT service learned for the first time which Internet applications the employees required. This was exciting, as some applications did not work anymore or automatic updates were not performed as usual, facing the IT service staff with new challenges. “To me as a project manager, it was interesting to see how some colleagues resisted changes instantly. Still, the cooperation with Rohde&Schwarz Cybersecurity allowed us to offer a user-friendly solution quickly”, tells Mario Schiller-Dück.

Browser in the Box as an important factor in minimizing risks

If you used to have a relatively liberal approach to internet access, as the district administration of Tuttlingen did, it requires a lot of effort to make it right later on. Still, I believe that controlling internet access is vital because you cannot provide any valid information on your network’s security otherwise. This is why need to control the interface to the internet needs special attention. This is all the more important, as we use the internet on a daily basis. Since introducing Browser in the Box, virus findings have been drastically decreasing. Moreover, they are not as dangerous as they were before, since Browser in the Box effectively cuts their backchannel to the internet off, thus preventing data theft. They are also unable to contact the botnet or load further malicious code. This makes Browser in the Box a critical tool for minimizing risks. Viruses remain encapsulated in the virtual system, unable to cause any damages, a major relief for our IT department when it comes to dealing with virus findings. Plus, deploying security updates to Windows clients is not time-critical any longer.”

“As the internet is used in everyday work life, a secure and controlled access is a must.”

Mario Schiller-Dück, Deputy Head of the Organization Office and IT Security Officer at the District Administration of Tuttlingen

Viruses remain encapsulated in the virtual system, unable to cause any damages, which is a major relief for our IT department when it comes to dealing with virus findings. Also, deploying security updates to Windows clients is not time-critical any longer. This allows us to save time and focus on other necessary security measures.”

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