

# Dongleserver

Telium relies on SEH Dongleservers for mission-critical telecommunications solutions





**The Challenge:** DRM Protection in Virtualized Environments

Telium’s telephony software is deployed in mission-critical environments that must continue operating even in the event of lost internet connectivity or regional infrastructure outages. At the same time, Telium must protect its software against theft and license violations. For this reason, the company relies on USB dongles to enforce Digital Rights Management (DRM). This posed a particular challenge in an increasingly virtualized IT landscape, as it either limited Telium’s ability to maintain DRM control or restricted the environments in which its products could be sold. The solution came in the form of SEH Dongleservers, which can be deployed locally as well as in virtualized and cloud environments.



**Company Background and Product Portfolio**

Founded in 1998, Telium is headquartered in Waterloo, Ontario, Canada. The company develops telephony products that meet high standards in terms of telecommunications security, availability, and manageability. This enables the integration of open-source SIP communication systems into mission-critical processes. Telium’s core products are High Availability for Asterisk (HAast) and High Availability for FreeSWITCH (HAfs), which are distributed and implemented worldwide by Telium and its integrators. These products—including the SEH DongleServer—are used globally in mission-critical environments: in hospitals in the United Kingdom, correctional facilities in Australia and New Zealand, banks in Eastern Europe and Germany, and military installations in the United States and around the world. Early USB-dongle-over-IP solutions used by Telium suffered from insufficient support for Linux kernel updates, making deployment difficult. As well, Telium was unable to offer its products in environments that required both platform virtualization and isolated operation (without internet connectivity).



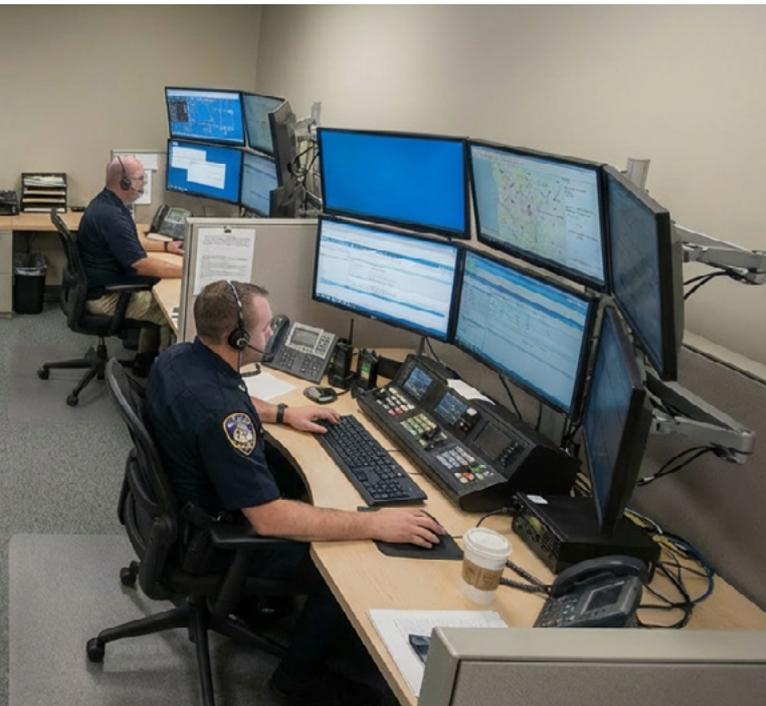
**The Rocky Road to the Optimal Solution**

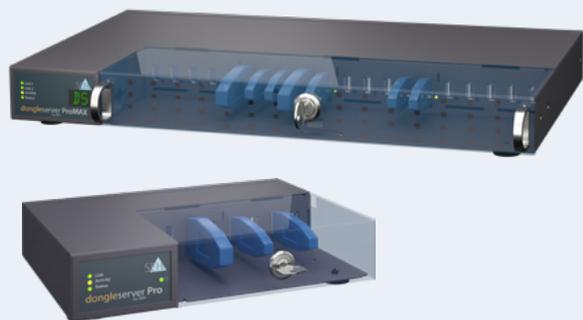
In 2015, Telium began evaluating USB-over-IP solutions for remote dongle usage—with mixed results. Initially, Telium recommended a USB-over-IP product from a vendor that failed to keep pace with Linux kernel updates, making long-term support challenging. Telium then tested another USB solution, but customers were dissatisfied with both the price-performance ratio and the quality of support. Finally, Telium experimented with Linux kernel USB/IP solutions, but maintaining dongle connectivity proved too time-consuming. As a result, Telium’s engineering team was tasked with finding and supporting cost-efficient USB-over-IP solutions that also delivered high availability and fault tolerance. In 2021, Telium became aware of the SEH Dongleserver through recommendations from a customer in the European defense sector. SEH Dongleservers were already a standard USB-over-IP solution there, and the customer requested that Telium support SEH technology. Telium subsequently continued its product evaluation and ultimately standardized on the SEH Dongleserver in 2022.



**Use Cases and Technical Requirements**

The Dongleserver Pro is now specified for deployments of Telium’s High Availability for Asterisk (HAast) and High Availability for FreeSWITCH (HAfs) products in virtualized environments. This allows HAast and HAfs systems to migrate between virtual servers while maintaining DRM protection enforced by USB dongles. Customers now benefit from highly available, fault-tolerant SIP telephony switching solutions that can be securely migrated between virtual hosts. The majority of Telium’s HAfs/HAast deployments in virtualized environments now specify USB-over-IP dongles. Each such deployment includes at least one Dongleserver, with most installations using two to four USB dongles. Since Telium’s telephony products are deployed in mission-critical environments—including emergency call centers, hospitals, high-volume commercial call centers, and military operational systems—100 percent availability and stability is paramount. Telephony environments dependent on USB dongles for DRM must operate continuously and reliably without interruption. Failure of the telephony solution—even due to a DRM issue—can cost tens of thousands of dollars per minute or even put human lives at risk.





*SEH's dongle servers provide USB dongles securely and efficiently across the network. This allows you to use your dongle-protected software flexibly, without needing to connect the dongles directly to the client — free from any spatial limitations or USB cable length restrictions.*



### Compelling Product Quality and Support

The quality of the SEH Dongleserver, combined with its strong price-performance ratio, helped Telium offer an attractive solution to its customers. Even more important, were the proven long-term performance of the product, direct access to high-quality support, and rapid issue resolution.

“We searched for years for a USB-over-IP solution that met our requirements,” said Steve Walker, Telium’s CTO. “With SEH, we finally found a partner that not only delivers a high-quality product but also provides the level of support that is indispensable in mission-critical environments. When a client software update is required, we receive it within a week—this is crucial in our industry.”

The developers were very satisfied with the features and control options offered by the SEH software. Initial concerns about using a client USB-over-IP stack outside the kernel (not USB/IP) were dispelled by SEH’s rapid release of client software updates aligned with kernel updates. Since Telium was already familiar with USB-over-IP solutions, implementation was straightforward. Telium worked closely with SEH to ensure compatibility with the dongles in use.

The Telium support team was particularly impressed by the multilingual user interface of the SEH software, which reduced customer support requests during new installations. Customers and integrators can manage and monitor the SEH Dongleserver far more effectively than the USB products previously used.



### Positive Customer Experiences

Customer feedback on SEH Dongleserver deployments has been consistently positive. Customers report no difficulties managing the Dongleservers and appreciate the multilingual user interface. Some sites have not restarted their Dongleservers for years, yet they continue to operate flawlessly.

The highly fault-tolerant design of the Dongleserver ProMax—with dual network and power supply options—is especially valued by integrators in the defense and emergency services sectors.

“The best thing about the SEH Dongleserver is that it simply works—for years on end,” emphasized Raj Gupta, Telium’s support team leader. “Our customers in hospitals, emergency call centers, and military facilities cannot afford system downtime. The Dongleserver runs quietly in the background without requiring constant attention. This significantly reduces our support workload and gives our customers the confidence they need.”

Telium solutions are deployed across a wide variety of network infrastructures. Military and banking environments, in particular, typically feature extensive redundancy and routing layers, and the SEH product integrates well into these complex topologies. Conversely, emergency call center environments prioritize network simplicity (with failover between entire call centers), and the SEH product is easily understood by smaller integrators serving these environments.

The Dongleserver operates quietly and reliably in the background, without requiring customers to manage yet another system component. This fully aligns with Telium’s philosophy that its solutions should require minimal maintenance—and the Dongleserver fits this principle perfectly.



### Future Case: Physical Access Control

In a second scenario, Telium solutions are often integrated with physical gateway security systems—for example, door locks on school campuses or doors and gates in correctional facilities. Remote-controlled locks can be operated via conventional telephones, with the telephony system triggering the locking mechanism.

Integrating to lock control mechanisms with the telephony solution can result in significant cabling costs in high-density installations, or when doors are located far apart. Telium hopes to use USB-based radio devices to reduce overall installation cost and time.

In 2025, Telium began evaluating USB-over-IP solutions for USB radio devices used in door and gate control. This evaluation is ongoing, but Telium’s positive experience with SEH gives SEH’s UTN server products a clear advantage.

Telium is optimistic that it will be able to specify SEH UTN server products for future door and gate control implementations (using USB-based radio devices at remote locations). However, some technical questions are still being clarified in collaboration with SEH. If the UTN server proves compatible with the USB radio devices currently under evaluation, multiple Dongleservers could be deployed at each site—for school authorities, correctional facilities, campus environments, and similar institutions.

## Conclusion

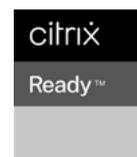
After years of searching for a suitable USB-over-IP solution, Telium has found a partner in SEH Dongleserver that meets the demanding requirements of mission-critical telecommunications environments. The combination of excellent product quality, long-term reliability, and fast, competent support has made SEH Telium's standard supplier.

Particularly noteworthy are SEH's rapid response times for driver updates and direct access to qualified technical support. The multilingual user interface and seamless integration into both complex and simple network environments further highlight the practical value of the SEH solution.

For Telium, the partnership with SEH represents not just a technical solution, but the ability to offer customers worldwide reliable, future-proof systems where downtime is not an option.



**dongleserver**<sup>™</sup>  
by SEH



## Features Dongleserver:

- › USB virtualization in Ethernet, Fast Ethernet, and Gigabit Ethernet networks
- › Up to 20 software license keys via USB 2.0 Hi-Speed ports or 3.0 SuperSpeed ports
- › Direct assignment of USB ports to a VLAN
- › User authentication
- › Simple dongle management
- › System stability through two integrated power supplies
- › Easy installation, deployment, and configuration thanks to Plug and Play
- › Additional automatic configuration backup via SD card (Dongleserver ProMAX)
- › Easy integration into a 19" server rack