



DEFENCE AND SPACE
Cyber Security

Secure Exchange Gateway

Short description:

The complexity of IT applications is increasing and so is the connection between underlying IT infrastructure. This requires measurement to secure the sharing of information between networks with different classification levels. Classified public IT networks, elements of the Critical National Infrastructure such as transport, energy and water, and manufacturing companies using Industrial Control systems all require a secured, monitored and transparent information exchange.

Airbus Defence and Space has developed the Secure Exchange Gateway together with the German Federal Office for Information Security (BSI) according to criteria of High Security but also simple operation.

Key benefits:

- General accreditation according to the German confidential instruction (VSA) of the Federal Ministry of the Interior
- Minimally-invasive and easy implementation of project specific filters and processes according to individual security policies
- Development and adaptation of filters possible by the customer
- Hardware independent

Secure Exchange Gateway

When connecting IT networks with different classification levels and exchanging information across security domains, the emerging security risk has to be minimised. Secure exchange gateways and policy enforcement are required as well as the transparency of communication and application levels. Additionally to a secure information exchange, the Secure Exchange Gateway of Airbus Defence and Space offers security mechanisms for communication and application services.

Based on defined policies, the Secure Exchange Gateway makes context sensitive decisions about the admissibility of communication based on defined policies – thus, it is trustworthy, transparent and secured against open and hidden manipulation. A highly secure exchange of information is possible and unauthorised data exchange is prevented.

Architecture

The modular architecture of the Secure Exchange Gateway offers various deployment options and consists of a security platform and application specific filters. It can be adapted with high flexibility to individual security requirements and enables an easy evaluation and certification. While the filters implement the security policies for the protection of the information, the SEG platform ensures the secure environment for these filters.

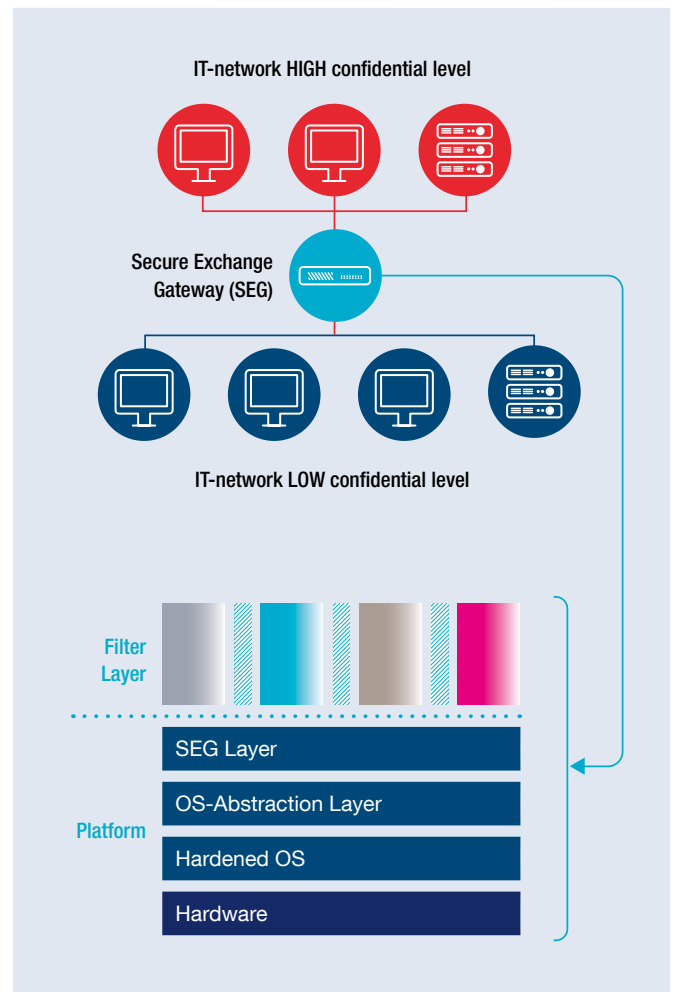
Platform

The SEG platform offers transverse security functions according to specific deployment scenarios. It enables a secure process and data flow control but also provides logging and audit functions. The operating system hardened Linux is applied, which is customised to the specific requirements of the Secure Exchange Gateway. A cost-effective COTS hardware (Intel PC based) can be used for the hardware environment.

Filter

The Secure Exchange Gateway provides standard filters for email (SMTP), browsing (http/https) and formatted data exchange between applications (XML). Filters for other application purposes or protocols can be developed and accredited cost-effectively as well as independently from the manufacturer. In order to meet high security requirements, single filters are strictly encapsulated from each other and can be combined to filter chains.

Filter chains can be scaled and parallelised to increase performance. In comparison to data diodes, filter chains can work bidirectional to enable the secure exchange of information in both directions.



The Secure Exchange Gateway offers a bidirectional and highly secure data exchange between networks with different classification and prevents an unintentional loss of sensitive information.