Data communication is essential to run electrical grids, transportation systems or pipeline operations, generally known as utility networks. Cyber risks grow with the trend to migrate communication infrastructure, its management and the connected applications from traditional technologies to Ethernet / MPLS based networks. The number of cyber attacks against utilities is increasing and inappropriate counter measures may have disastrous consequences.

ABB fully understands the importance of cyber security and its role of advancing the security of communication systems. Cyber security is important in all phases of a product life cycle. This includes design, implementation, testing, deployment and maintenance.

ABB’s Communication Networks solutions are developed and tested for harsh utility environments. Harsh meanwhile not only in the sense of demanding climatic, EMC/ESD and tough mechanical conditions, but also in terms of cyber security. Therefore ABB solutions are not only fully type-tested by internationally well-known test-labs like DNV-KEMA or VDE for extended environmental and electromagnetic strength, but the devices undergo also testing for cyber security robustness.

ABB established an independent Device Security Assurance Center (DSAC) already several years ago with certified competence to provide continuous protocol-stack robustness and vulnerability assessments of devices. Robustness testing is performed by highly trained specialists in close collaboration with the suppliers of the test platforms. For example, ABB’s testing specialists receive instruction, support and accreditation directly from the test platform suppliers.

The test center performs a multitude of different tests, including port scanning, network flooding, vulnerability scanning and protocol fuzzing. This is done by using a variety of best in class testing platforms such as Wurldtech Achilles, Spirent Mu-8000 and Codenomicon Defensics, as well as other complementary testing tools.

Products are tested with different configurations with an explicit focus on operational performance. Feeding the results back into the product development is a formally established practice.

Why does the ABB process not formally include product certification by third parties? ABB has chosen to concentrate its efforts on a continuous process that can be quickly adapted in a fast-moving environment to provide the best possible security level for its solutions.
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