

Fox DataDiode

secure one-way communication

TEMPEST

Every electronic component emits signals. These emissions can be intercepted and analyzed to disclose transmitted information. This is unwanted when confidential information is processed. Fox DataDiode enforces secure one-way communication. Together with TEMPEST it provides absolute certainty that no sensitive information can leak from the classified network, not even through compromising emanations.

Compromising emanations

Electronic equipment can produce unwanted radio signals therefore it is subjected to national (tele)communication authority regulations. TEMPEST however measures these compromising emanations and tests if there is no correlation between radiated energy and confidential (plaintext) information that is being processed [1].

Industrial Espionage

Every organization has confidential information. Although this information is protected logically and/or physically, the threat of losing information through emitted signals is not mitigated. Government organizations, like the NATO, are aware of the TEMPEST threat. But business sectors like aviation, process control and IT are unaware of industrial espionage through compromising emanations. Theft of for example intellectual properties can result in significant financial losses.



Partner:

EUROTEMPEST



TEMPEST standards

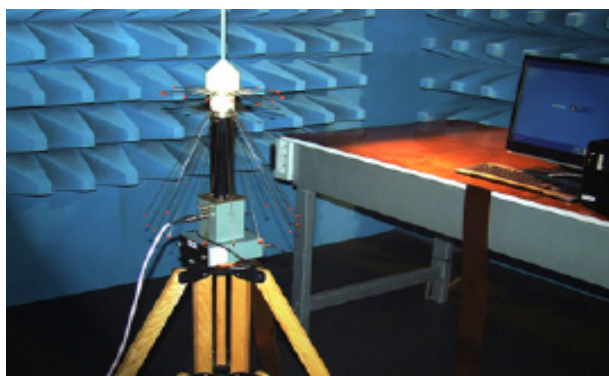
Numberous TEMPEST standards and requirements exist. The complete Fox DataDiode solution can be adapted to the highest TEMPEST standards available:

NATO SDIP-27 Level A

Strictest standard for devices that will be operated in NATO Zone 0 environments, where it is assumed that an attacker has almost immediate access (e.g. neighbor room, 1 meter distance).

NATO SDIP-27 Level B

Slightly relaxed standard for devices that are operated in NATO Zone 1 environments, where it is assumed that an attacker cannot get closer than about 20 meter (or where building materials ensure an attenuation equivalent to the free-space attenuation of this distance).



BSI German Zone 1-3

German Federal Office of Information Technology Security (BSI) utilizes the BSI zone model where the NATO SDIP-27 Level A is the highest security level, followed by zones 1, 2 and 3. The Fox DataDiode is listed in the BSI German Zoned Products List [3].

Non-Standard requirements

Non-standard or national specific TEMPEST requirements, also called quiet or silent, are also possible with the Fox DataDiode.

TEMPEST Process

TEMPEST of the Fox DataDiode solution, consisting of Commercially Off The Shelf (COTS) proxy servers and the Common Criteria certified Fort Fox Hardware Data Diode, is provided by EUROTEMPEST. With minor changes the solution fulfills the highest TEMPEST requirements.

Fox DataDiode

The Fox DataDiode is a unique hardware based solution that enforces secure one-way communication. This is necessary in classified environments where it's essential that no information leaves the classified network. Using the Fox DataDiode it is possible for data to enter the network where no concessions are made on outbound security.



EUROTEMPEST

Partner of Fox-IT and specialized in providing certified TEMPEST computer systems, peripherals and services to qualified defense and government customers in Europe. With more than 30 years of experience in helping customers protecting their systems against compromising emanations. EUROTEMPEST [2] is qualified to certify facilities or systems up to the highest NATO SDIP standards.

Links

1. Wikipedia TEMPEST:
<http://en.wikipedia.org/wiki/TEMPEST>
2. EUROTEMPEST:
<http://www.eurotempest.nl/>
3. BSI German Zoned Products List:
https://www.bsi.bund.de/cae/servlet/contentblob/471342/publicationFile/51674/TL_03305eng_pdf.pdf

EUROTEMPEST

Fox-IT

Fox-IT is a leading IT security company with a strong international reputation. From our headquarters in the Netherlands and our offices in Aruba, Curacao and the UK, we deliver specialist security and intelligence solutions for government bodies and other major organizations worldwide. Our core business is developing solutions for the protection of state secrets, conducting digital forensics and delivering security expertise in the form of audits, consultancy and training courses.

Contact

Fox-IT
Olof Palmestraat 6 P.O Box 638
2616 LM Delft 2600 AP Delft
The Netherlands

t +31 (0)15 284 79 99
f +31 (0)15 284 79 90
e datadiode@fox-it.com

www.datadiode.eu