SMART-D

24/7 Real-Time monitoring and detection system for wireless eavesdropping devices

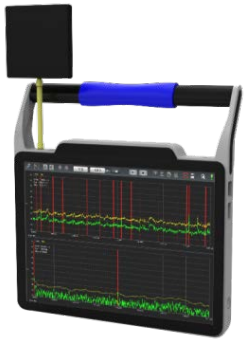
PEGASUS INTELLIGENCE

➢ About SMART-D

➢ **SMART-D** is a **stationed intelligent Eavesdropping/Bugging device detection system**. **Scans and detects** suspicious and potential bugging (audio and video) device frequencies **24/7** and every second.

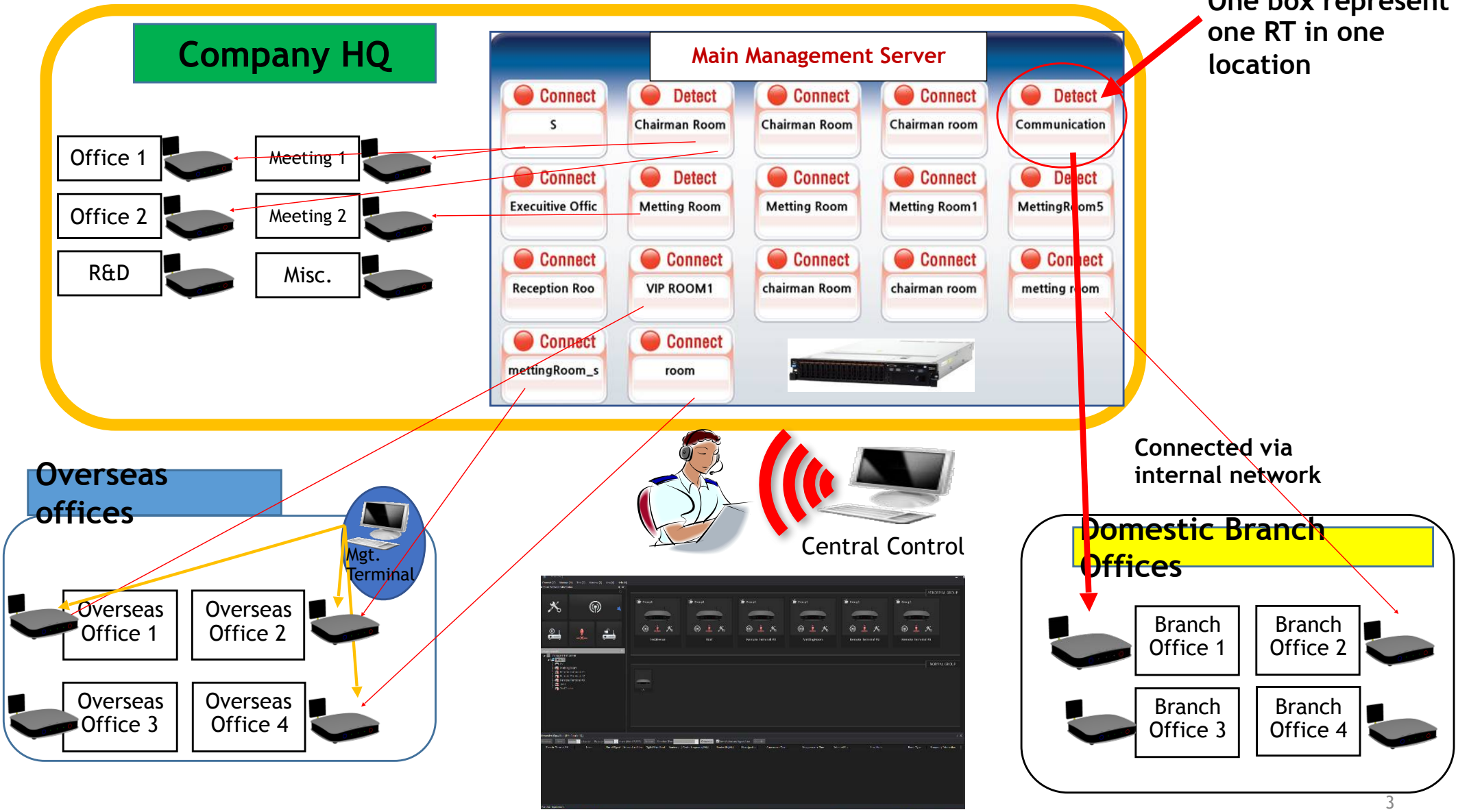
SMART-D 2nd Gen

Remon- 1st Gen



Prism -Portable

➢ Monitor multiple rooms and locations simultaneously from one central location.



- **SMART-D** covers area of about 100㎡.

***** For most portables, you need to have the scanner close to the bugging device to detect.***

Can be hidden inside a cabinet

Portable

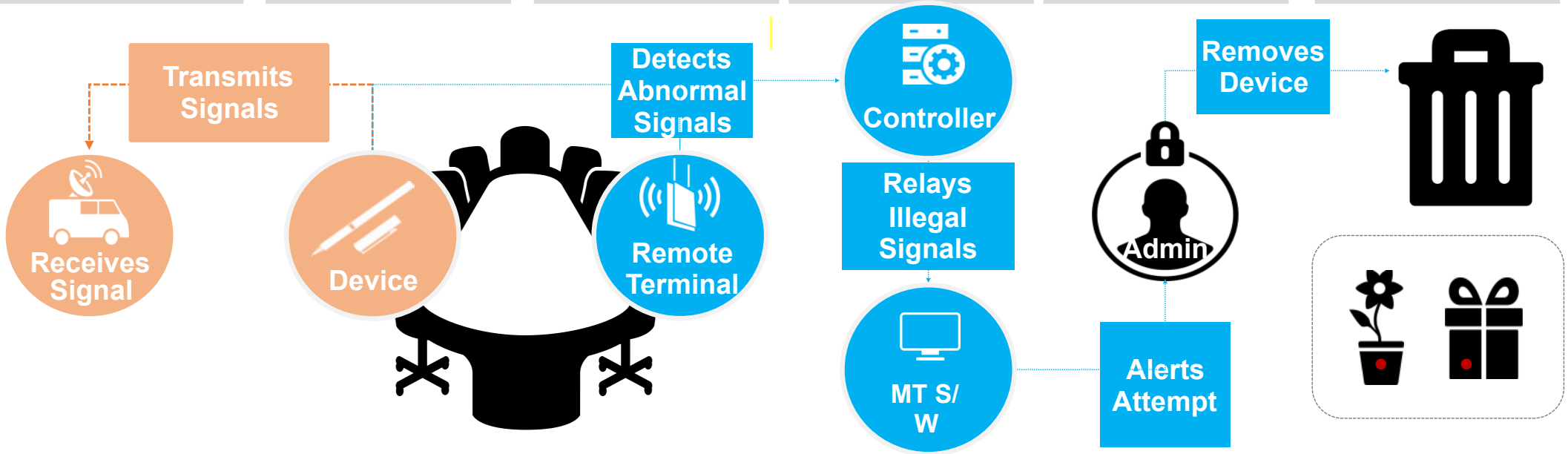
SMART-D

- **SMART-D** is **unmanned.**
- **SMART-D** is able to **detect digital signal** (Ultra Wide Band, Bluetooth etc).
- **SMART-D** is able to **keep records** of all detected alerts.
- **SMART-D** covers frequency ranges from 25 kHz to 6 GHz.

***** There has not been any report of bugging devices having frequencies above 6 GHz.***

➢ Control agent receives real-time alert when eavesdropping attempt occurs.

Eavesdropping Attempt		Abnormal Signal Detection & Analysis			Device Removal
Spy is prepared to receive signals from a distance	Hidden device transmits audio/ video signals	Remote terminal detects abnormal signals	Controller analyzes whether signal is illegal	Management server automatically alerts administrator	Eavesdropping device is removed by physical search

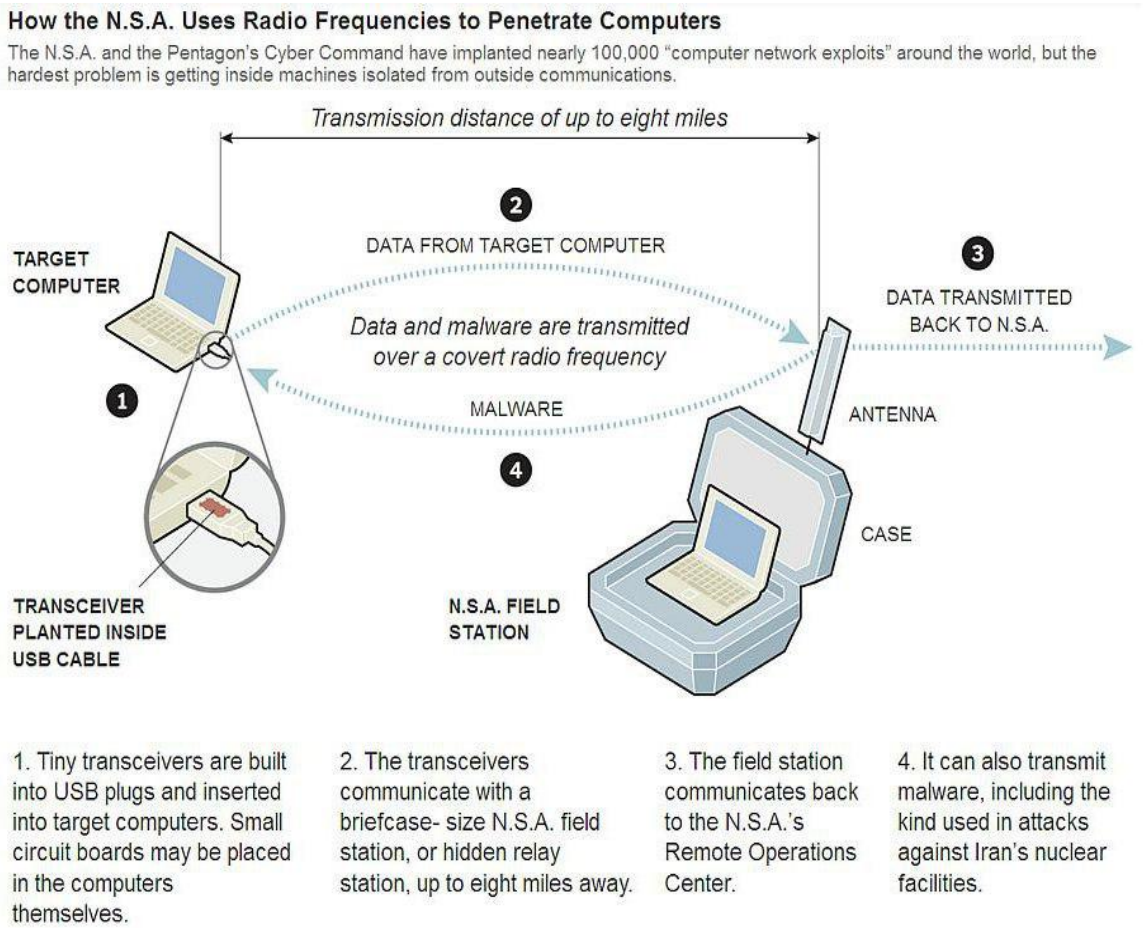


Outside ← → Conference Room ← → Control Room ← → Conference Room

Wireless Hacking Technology

Related Press Release (1)

"N.S.A. Devises Radio Pathway Into Computers" (The New York Times Jan. 14, 2014)

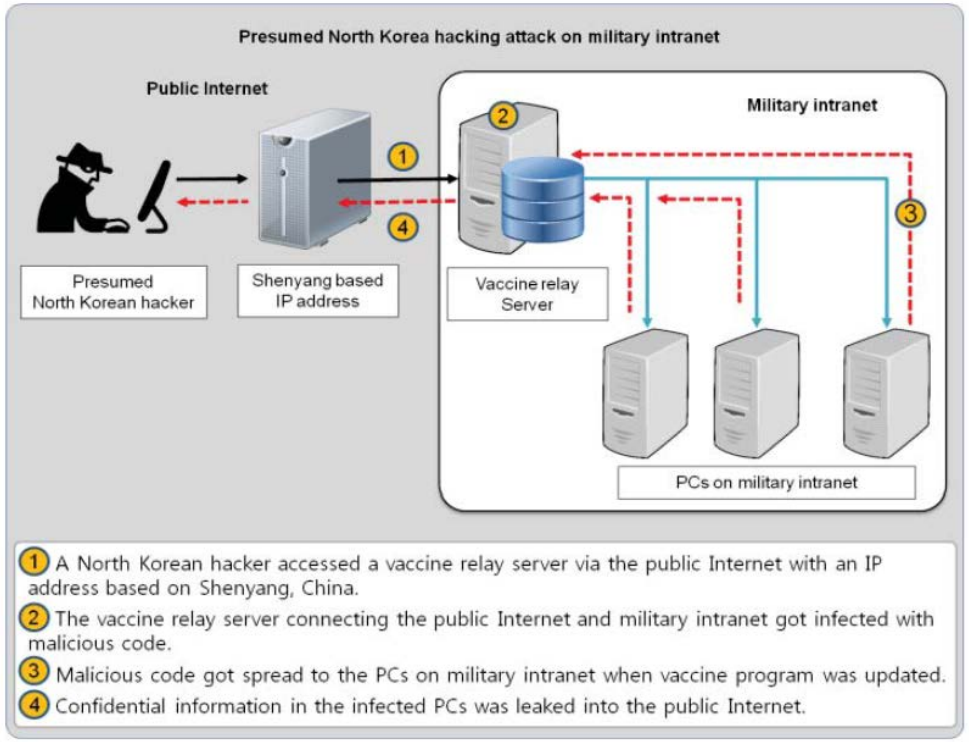


The National Security Agency has implanted software in nearly 100,000 computers around the world that allows the United States to conduct surveillance on those machines and can also create a digital highway for launching cyberattacks.

The technology, which the agency has used since at least 2008, relies on a covert channel of radio waves that can be transmitted from tiny circuit boards and USB cards inserted surreptitiously into the computers. In some cases, they are sent to a briefcase-size relay station that intelligence agencies can set up miles away from the target.

Related Press Release (2)

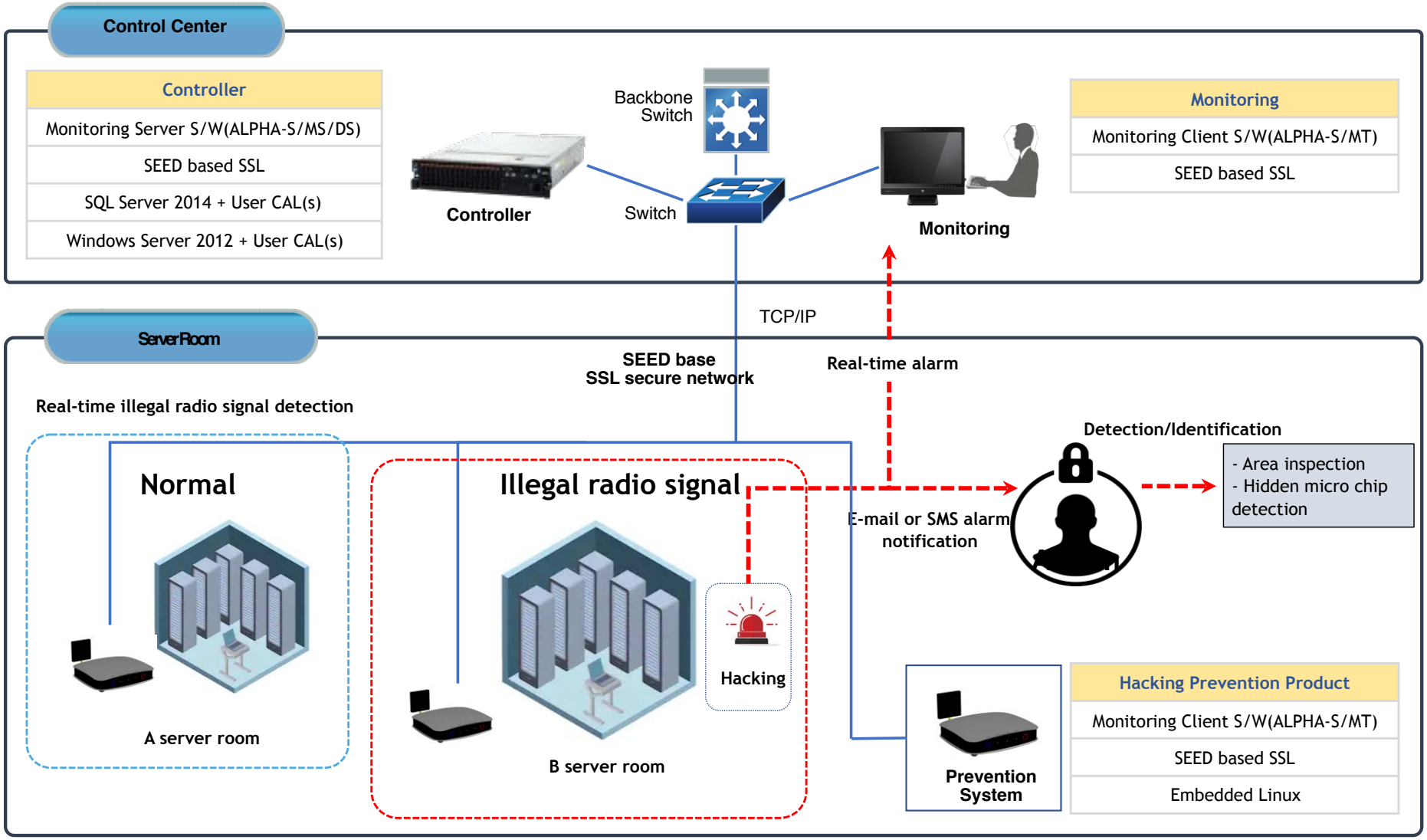
"Poor security led to military hacking by North" (Korea Joongang Daily Dec 19, 2016)



Earlier this month, the South Korean military accused Pyongyang of hacking South Korea's defense intranet, and cyber experts are now pointing out holes in the security system.

A high-level government official said on Dec. 12 that a total of 3,200 computers were contaminated with malware, including 700 computers in the Ministry of National Defense's intranet and 2,500 military computers connected to the internet. This hacking of the South's Cyber Command occurred back in August.

System Diagram

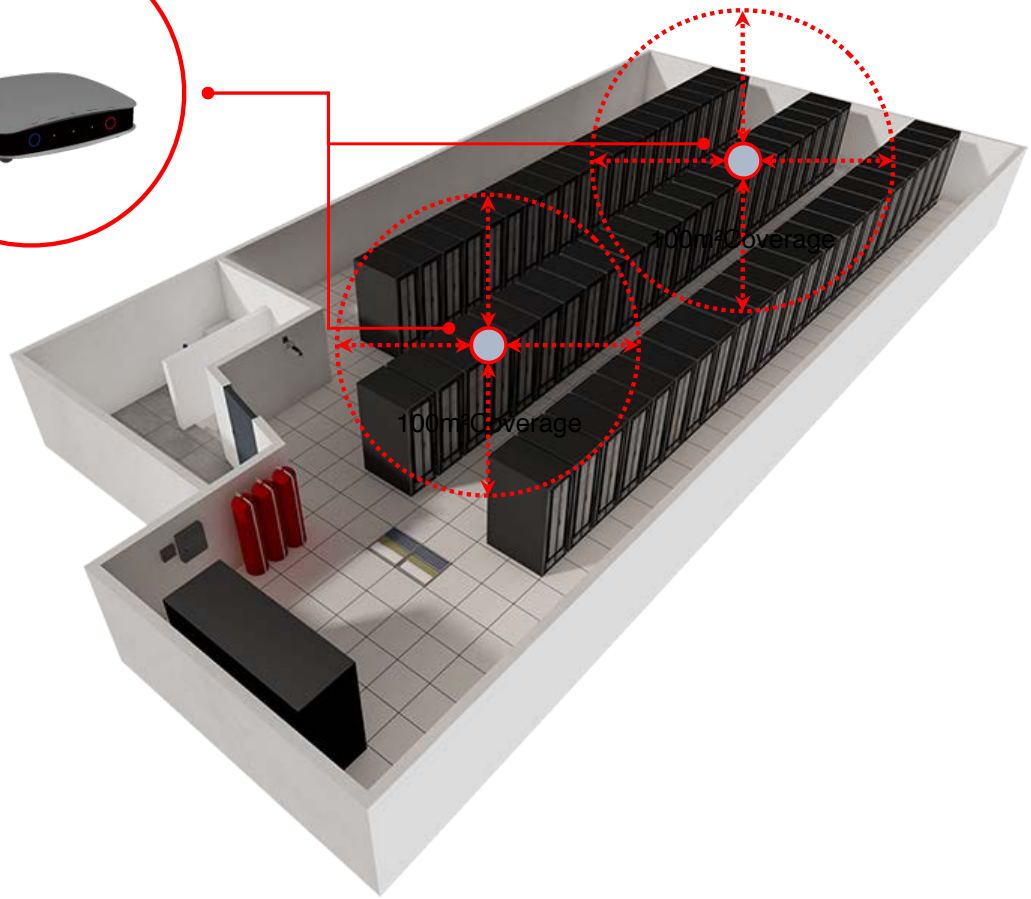


Installation example

➢ **Installation of the Remote Terminals**

Quantity : 1 Remote Terminal per 100m²

Place : Considering RF Interference (on the server rack, beside of cable-tray, ceiling, etc.)



- **SMART-D is a proven system having been tested and now used by:**
  - Central Government
  - National Security Agencies
  - Law Enforcement Agencies
  - Armed Forces
  - Local Government
  - Public Institutions
  - Corporations

Tender Result from ROKN & ROK AF

ROK Navy

Real-time Eavesdropping Detection System Performance

Evaluation Result 11th, November, 2013

Company	Tech Score	Other	Total Score	Result
GITSN	83.95	...	92.23	Select
Company A	2.00	...	12.00	Fail

Technical Evaluation Criteria *(out of 90)*

- Detectable radio frequency(RF) range
- RF detection sensitivity
- Time required for RF detection
- Security, Integrated control, Data management

ROK Air Force

Real-time Eavesdropping Detection System Performance

Evaluation Result 11th, November, 2013

Company	Tech Score	Other	Total Score	Result
GITSN	84.15	...	92.63	Select
Company A	0.00	...	10.00	Fail

Technical Evaluation Criteria *(out of 90)*

- Detectable radio frequency(RF) range
- RF detection sensitivity
- Time required for RF detection
- Security, Integrated control, Data management

Certificate of Designation of Excellent Product

Product: Intelligent Eavesdropping Detection System
Company: GITSN Co., Ltd.
Representative: Dong Jin, Han
Validity of Certificate: April 2, 2018 ~ April 1, 2021
Certificate number: 2018042

This is to certify that the above mentioned product was designated as an Excellent Product in accordance with Article 9 Paragraph 2 of the Government Procurement Act and Article 18 of the Enforcement Decree thereof

April 2, 2018

Administrator Park Chunsup
Public Procurement Service, Republic of Korea

- Receives Certificate of Designation of Excellent Product by Korea Public Procurement Service.

- **Won contract for Singapore eavesdropping detection system tender.**

Central Government

- **Blue House**
- **Ministry of Foreign Affairs**
- **Ministry of the Interior and Safety**
- The Bank of Korea
- Ministry of Trade, Industry and Energy
- Ministry of Food and Drug Safety
- Ministry of Agriculture, Food and Rural Affairs
- Ministry of Science and ICT
- Rural Development Administration
- Ministry of Education
- Financial Supervisory Service
- Ministry of Health and Welfare
- Ministry of Oceans and Fisheries
- National Assembly

Defense and Law

- **Ministry of National Defense Ministry**
- **R.O.K Joint Chief of Staff.**
- **Defense Security Command**
- **NIS**
- Republic of Korea Army
- Republic of Korea Navy
- Republic of Korea Air Force
- Republic of Korea Marine Corps
- Korea Coast Guard
- **Defense Agency for Technology and Quality**
- **Supreme Prosecutors' Office Republic of Korea**
- **Korean National Police Agency**
- Police Training Institute
- Korean National Police University
- Korean Police Investigation Academy
- Military Mutual Aid Association

Municipalities

- Seoul Metropolitan Council
- Eumseong-Gun Council
- Busan Metropolitan City
- Gwangju Metropolitan City
- Daejeon Metropolitan City
- Chungcheongbuk-Do
- Songpa-Gu
- Seongbuk-Gu
- Eunpyeong-Gu
- Daegu Nam-Gu
- Suwon City
- Yongin City
- Gwangmyeong City
- Uiwang City
- Uijeongbu City
- Icheon City
- Hwaseong City
- Pocheon City
- Asan City
- Namyangju City
- Sacheon City
- Mokpo City
- Namwon City
- Tongyeong City
- Goseong-Gun
- Boeun-Gun
- Yeongam-Gun
- Eumseong-Gun
- Wanju-Gun
- Uiseong-Gun

Public Institutions

- Korea Electric Power Corporation (KEPCO)
- Korea Coal Corporation
- Korea Hydro & Nuclear Power Co.,Ltd.
- Mine Reclamation Corporation
- Korea Institute of Energy Technology Evaluation and Planning
- Korea Southern Power Co., Ltd
- Korea Midland Power Co., Ltd.
- Korea East-West Power Co., Ltd.
- Korea Western Power Co., Ltd.
- KEPCO KDN Co., Ltd.
- KEPCO Plant Service & Engineering Co., Ltd.
- KEPCO Nuclear Fuel Company
- Korea Gas Corporation
- Korea Gas Safety Corporation
- Korea Marine Environment Management Corporation
- Korea National Oil Corporation
- Korea Construction Management Corporation
- Korea Industrial Complex Corporation
- Korea Asset Management Corporation
- Korea Housing-Finance Corporation
- Government Employees Pension Service
- Korea Transportation Safety Authority
- Korea Rail Network Authority
- Korea Land and Housing Corporation
- National IT Industry Promotion Agency
- Korea Institute of Materials Science
- Foundation of Agri, Tech, Commercialization and Transfer
- KOTRA
- Korea Airports Corporation
- Korea Securities Depository
- Korea Deposit Insurance Corporation
- Korea Credit Guarantee Fund
- Korea Development Bank
- Industrial Bank of Korea
- National Pension Service
- Korea Education and Research Info Service
- Koroad
- National Health Personnel Licensing Examination Board
- Government Buildings Management Office
- Korea Employment Information Service
- National Training
- Institute of Education, Science and Technology
- Korea Research Institute for Human Settlements
- National Health Insurance Service
- Korea Trade Insurance Corporation
- Korea Consumer Agency
- Korea Tourism Organization
- Korea Housing Guarantee Co., Ltd.
- Game Rating and Administration Committee
- Construction Workers
- Mutual Aid Ass.
- Korea Land and Geospatial Informatrix
- Teachers' Pension
- Korea National College of Agriculture and Fisheries
- Korea Agro-Fisheries & Food Trade Corp.
- Korea Rural Community Corporation
- Osong Medical Innovation Foundation
- National Agricultural Products Quality Management Service
- Korea National Institute for Special Education

➢ **Eavesdropping mainly target sensitive information on national security, public policy and industries that can cost billions of dollars in damage if disclosed**

❖ National Security

- ✓ Presidential Palace
- ✓ Military
- ✓ National Intelligence
- ✓ Foreign Affairs (Embassies)
- ✓ Central and local government

❖ Government

- ✓ Ministries
- ✓ Embassies
- ✓ Local government (Governor, mayor and other key officials

❖ Public Policy

- ✓ Police
- ✓ Courts
- ✓ Prosecutor Office
- ✓ Legislation & Law makers
- ✓ Assembly, Senate, & Congress

❖ Industry / Corporation

- ✓ Protection of Chairman and President & executives office, meeting rooms, assistance, home and others.
- ✓ Espionage protection
- ✓ R&D centers

❖ Common places

- ✓ Executive Office
- ✓ Meeting room
- ✓ Executive Assistance Room
- ✓ Strategy Team
- ✓ Branch offices and meeting rooms
- ✓ R&D Centers

❖ Others

- ✓ Hotel room
- ✓ Hotel restaurant (Private rooms)
- ✓ Bedrooms
- ✓ Home Office

	SMART-D	Portable
Scan Speed	1 Sec	1 Sec
Type	Stationed	Portable
Operating Time	24 hrs per day / 7 days a week	3-4 hrs
Frequency Range	25 kHz to 6 GHz	~8 GHz, ~24 GHz
** Most of bugging devices/eavesdropping devices frequencies go up to 3 GHz and there has been no Bugging devices that exceed 6 GHz reported		
Monitor multi areas	Yes	No
Certified Person	Non-Expert	Qualified Experts
Operation Method	Unmanned	Manned

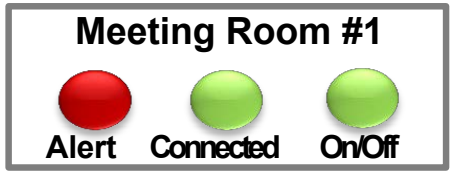
➢ Smart-D solution consists of remote terminal unit, central controller, terminal management software that support integrated control over multiple rooms

Remote Terminal Unit	**SMART-D /RT**	• Installed in conference rooms to detect and transmit abnormal (unregistered) signals to server • Operates 24/7
Central Controller	**SMART-D /MS/DS**	• Integrates signals from multiple remote terminal units to analyze & manage big data based on specialized solution
Terminal Management Software	**SMART-D /MT**	• Automatically analyzes signals to alert eavesdropping status and generate detection report • Able to replay audio/video of illegal wireless signals

Abnormal Signals

Integrated Terminal Administration

Auto Analysis and Alert



Function	Details
Wideband Radio Signals Detection	− Frequency range : 25 kHz ~ 6 GHz
Ultra-High Precision	− Provides detection integrity − Resolution : 25 kHz
Ultra-High Sensitivity	− Sensitivity : -100 dBm ~ -10 dBm
Audio / Video Demodulation	− Demodulate and listens to illegal audio signals − Demodulate and plays illegal video signals
Smart Monitoring & Spectrum Views	− Automatically demodulates and saves audio/video signals − Automatically saves spectrum and raw data to further analysis
Unmanned Surveillance	− Artificial Intelligence techniques for recognition, determination & operation - signal duration, differences, strength, frequencies
Spread Spectrum Signal Detection	− UWB(Ultra Wide Band) etc.
Statistics and reports	− Searches the detection data / controller activities / user activities − Prints the report or output it into an excel file(csv format)
Central Management Based on Controller	− Supports multiple connections − Supports access and usage rights by user − Provides more effective and reliable management capability through management range setting by area, function and position

Remote Terminal (SMART-D / RT)

Detects radio illegal signals in real time within the area of 100 m²

Item		Specification
RF	Frequency Range	25 kHz ~ 6 GHz
	Sensitivity	-100 dBm ~ -10 dBm
Demodul-ation	Audio Demodulation	Wideband FM / Narrowband FM / AM
	Video Demodulation	NTSC / PAL / SECAM
Interface	LED Panel	Power / Operation / LAN / Server / Alarm
	Serial Communication Port	1 Port (RJ11)
	Network Connection(NIC)	1 Ports (100 Mbps)
Shape	Dimensions	272(W) x 232(D) x 72(H) mm
	Weight	3.1 kg
Power Supply	Power Consumption	12 V, 5 A / 60 W
	AD-DC Adapter	AC 100 ~ 220, Free Voltage

Central Controller (SMART-D / MS / DS)

Processes & stores data collected from remote terminals

Item		Recommended Specifications
Hardware	Memory	16 GB or Higher
	Disk	1 TB or Higher
Database		Microsoft SQL Server 2008 / 2012 / 2014 / 2016
Operating system		Microsoft Windows Server 2008 / 2012 / 2016

Management Terminal S/W (SMART-D / MT)

Manages & controls RT/MS/DS

Item		Recommended Specifications
Hardware	Memory	4 GB or Higher
	Disk	500 GB or Higher
Operating System		Microsoft Windows 7 / 8 / 8.1 / 10

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