Innovation in Industrial Perimeter Security

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Waterfall Security Solutions
Waterfall Security Solutions

- Headquarters in Israel, sales and operations office in the USA
- Hundreds of sites deployed in all critical infrastructure sectors

Best Practice Award 2012, Industrial Network Security
2013 Oil & Gas Customer Value Enhancement Award

IT and OT security architects should consider Waterfall for their operations networks

Waterfall is key player in the cyber security market – 2010, 2011, & 2012

- Strategic partnership agreements / cooperation with: OSIsoft, GE, Siemens, and many other major industrial vendors

*Waterfall’s expanded mission: stronger than firewalls*
Firewalls at Critical Network Perimeters - Really?

- Firewalls are deployed by default – do they make sense?
- Hackers are as good as penetration testers:
  - Ask a pen-tester how long ICS firewall compromise takes
  - Ask how often they fail to break through their target ICS firewall
- Security experts are also good:
  - Ask one how to break through firewalls
  - Ask if firewalls block script-kiddie attacks
  - Ask about misconfiguration issues...

Note: no mention of “advanced persistent threats” here...
Common need: IT/OT Integration

- Continuous, real-time monitoring of sites: Medium/large, staffed
  - Power plants, Refineries, Water/Waste Water plant, etc...
- Production efficiency, Vendor Remote Assistance & Diagnostics, etc...
- Corporate network connected to the Internet
- Firewalls are deployed, by default
IT/OT Integration – Unidirectional Security Gateways

- Industrial systems and servers are ‘exported’ to the corporate network, in real-time
- Remote business or vendor users have continuous access to plant data, and “systems”, without need to access the industrial network itself
- 100% security against any online attach from the external network
Implementations Worldwide

- Deployed at
  - Power Plants, Nuclear Power Plants, Water Facilities, Refineries, Off-shore platforms, Chemical plants, Pipelines, and many other types of industrial sites.

- Deployed in
  - Sites throughout North America
  - Multiple sites in Singapore, South Korea, Japan
  - Multiple countries and sites in Europe
  - All of Israel’s Critical Infrastructure
Announcing - Waterfall FLIP™

- Unidirectional Security Gateway whose direction can be reversed
- When ‘flipped’:  
  - Is an incoming *unidirectional* gateway: One way only, no TCP/IP, no remote control attacks
- Variety of triggering options
- Stronger than Firewalls, stronger than removable media
Waterfall Flip™ - Normal Operation

Critical Network

External Network

Waterfall TX agent

TX Module

RX Module

Waterfall RX agent

Waterfall TX agent

Waterfall RX agent
Waterfall Flip™ - Reversed

Critical Network

Waterfall TX agent

External Network

Waterfall RX agent

TX Module

RX Module
Use Case: Waterfall FLIP for Substations

- Designed for smaller, un-staffed sites
- Support for DNP3 and IEC 60870-104

- Continuous monitoring of remote substations, with a secure way to:
  - Allow “RESET” command after lightning strike (example)
  - To allow security updates or anti-virus updates
Waterfall Solution Suite: USG, FLIP

- **Unidirectional Security Gateways** -
  - Provides the strongest solution possible, for remote monitoring and diagnostics

- **Waterfall FLIP** - Designed to provide a secure gateway solution for:
  - **Remote & unstaffed sites**: Substations, Pumping stations, pipelines, etc...
  - **Batch manufacturing**: Pharmaceuticals, Mining, Chemical plants, automotive plants, etc...

- Provides a measurably stronger than firewall solution, for sites that must have regular updates or commands
Waterfall's Mission: Stronger than Firewalls

- Waterfall’s new mission: revolutionize ICS perimeter security with technologies stronger than firewalls
- Look for additional product announcements over the next 12 months