Automated solution for cyberattack detection and protection*

Reduces security risks which lowers business credibility

* SDN (Software-Defined Networking) automatically blocks communication with the devices on which security incidents are detected.

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**Issues/Solutions**

<table>
<thead>
<tr>
<th>Security Issues</th>
<th>Solutions</th>
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</thead>
</table>
| Corporate
Management Issues | Automated Initial Response |
| • Risk of economic loss | • Reduce risk of damage from spreading by quick initial action |
| • Risk of losing social credibility | Containment of Internal Spreading |
| Operation Issues | • Block traffic of the infected terminal at the switch to contain internal spread |
| • The initial measure is time consuming and human intervention may lead to errors | |
| • Prevent threat from internal spreading | |

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**Functions/Features**

1. **Automated Initial Response**
   - Automation shortens time from incident detection to initial action
   - Infected devices are isolated to prevent damage from spreading internally
   - Takes only seconds to finish
   - Takes minutes or even days

2. **Containment of Internal Spreading**
   - C&C (Command & Control) server:
     - A server that controls devices infected with malware and issues commands over the Internet.
     - Continues to spread internally until communications are blocked
     - SDN blocks communication when triggered by detection

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* SDN (Software-Defined Networking) automatically blocks communication with the devices on which security incidents are detected.
Automatic Cyber Attack Defense Solution (Palo Alto Networks Integration)

Benefits of Automated Initial Response

Reduce personnel costs related to threat prevention and minimize the risk of damage spreading with automated initial response.
Automated initial response prevent human errors in taking measures and reduces the time required to respond to incidents.

Sample Network Configuration

Palo Alto Networks Next-Generation Firewall
SDN Linkage Adapter
UNIVERGE PF Series
E-mail Notification
Administrator

Components of the Solution

• PFC (ProgrammableFlow Controller): NEC SDN controller products
• PFS (ProgrammableFlow Switch): NEC SDN switch products
• SDN Linkage Adapter: Software to link SDN and security products
• Type of devices varies depending on the network configuration.
• The UNIVERGE PF5200 series are used in this solution.

Major Components

<table>
<thead>
<tr>
<th>Category</th>
<th>Product Name</th>
<th>Product Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security Appliance</td>
<td>Palo Alto Networks Next-Generation Firewall</td>
<td>Palo Alto Networks Security Product, Pioneering next-generation firewall (proven track record with NEC). Its strength is in detecting unknown/known threats and preventing unauthorized outbound communication.</td>
</tr>
<tr>
<td>SDN Adapter</td>
<td>MasterScope JobCenter for SDN Solution Pack</td>
<td>NEC Software Product. Determines appropriate security measures from security appliance incident logs and sends network control commands to the SDN controller.</td>
</tr>
<tr>
<td>SDN</td>
<td>UNIVERGE PF6800</td>
<td>NEC SDN Product. Performs centralized control of switches via SDN controller. Dynamically controls networks linked to external applications.</td>
</tr>
<tr>
<td>SDN</td>
<td>UNIVERGE PF5200 Series</td>
<td></td>
</tr>
</tbody>
</table>

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