

## SSA-293562: Vulnerabilities in Industrial Products

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 Current Version: V3.0  
 CVSS v3.1 Base Score: 6.5

### SUMMARY

Several industrial devices are affected by two vulnerabilities that could allow an attacker to cause a Denial-of-Service condition via PROFINET DCP network packets under certain circumstances. The precondition for this scenario is a direct layer 2 access to the affected products. PROFIBUS interfaces are not affected.

Siemens has released updates for several affected products and recommends to update to the new versions. Siemens is preparing further updates and recommends specific countermeasures for products where updates are not, or not yet available.

### AFFECTED PRODUCTS AND SOLUTION

Affected Product and Versions	Remediation
SIMATIC NET CP 343-1 Std (incl. SIPLUS variants): All versions < V3.1.3	Update to V3.1.3 <a href="https://support.industry.siemens.com/cs/ww/en/view/109756088">https://support.industry.siemens.com/cs/ww/en/view/109756088</a>
SIMATIC NET CP 343-1 Lean (incl. SIPLUS variants): All versions < V3.1.3	Update to V3.1.3 <a href="https://support.industry.siemens.com/cs/ww/en/view/109756088">https://support.industry.siemens.com/cs/ww/en/view/109756088</a>
SIMATIC NET CP 343-1 Adv (incl. SIPLUS variants): All versions	See recommendations from section <a href="#">Workarounds and Mitigations</a>
SIMATIC NET CP 443-1 Std (incl. SIPLUS variants): All versions < V3.2.17	Update to V3.2.17 <a href="https://support.industry.siemens.com/cs/ww/en/view/109745387">https://support.industry.siemens.com/cs/ww/en/view/109745387</a>
SIMATIC NET CP 443-1 Adv (incl. SIPLUS variants): All versions < V3.2.17	Update to V3.2.17 <a href="https://support.industry.siemens.com/cs/ww/en/view/109745388">https://support.industry.siemens.com/cs/ww/en/view/109745388</a>
SIMATIC NET CP 443-1 OPC-UA: All versions	See recommendations from section <a href="#">Workarounds and Mitigations</a>
SIMATIC NET CP 1243-1 (incl. SIPLUS variants): All versions < V2.1.82	Update to V3.1 <a href="https://support.industry.siemens.com/cs/ww/en/view/109757489">https://support.industry.siemens.com/cs/ww/en/view/109757489</a>
SIMATIC NET CP 1243-1 IRC (incl. SIPLUS variants): All versions < V2.1.82	Update to V3.1 <a href="https://support.industry.siemens.com/cs/ww/en/view/109757489">https://support.industry.siemens.com/cs/ww/en/view/109757489</a>

SIMATIC NET CP 1243-1 IEC (incl. SIPLUS variants): All versions	See recommendations from section <a href="#">Workarounds and Mitigations</a>
SIMATIC NET CP 1243-1 DNP3 (incl. SIPLUS variants): All versions	See recommendations from section <a href="#">Workarounds and Mitigations</a>
SIMATIC NET CM 1542-1: All versions < V2.0	Update to V2.0 <a href="https://support.industry.siemens.com/cs/ww/en/view/109744924">https://support.industry.siemens.com/cs/ww/en/view/109744924</a>
SIMATIC NET CM 1542SP-1: All versions < V1.0.15	Update to V1.0.15 <a href="https://support.industry.siemens.com/cs/ww/en/view/109749255">https://support.industry.siemens.com/cs/ww/en/view/109749255</a>
SIMATIC NET CP 1542SP-1 IRC (incl. SIPLUS variants): All versions < V1.0.15	Update to V1.0.15 <a href="https://support.industry.siemens.com/cs/ww/en/view/109749255">https://support.industry.siemens.com/cs/ww/en/view/109749255</a>
SIMATIC NET CP 1543SP-1 (incl. SIPLUS variants): All versions < V1.0.15	Update to V1.0.15 <a href="https://support.industry.siemens.com/cs/ww/en/view/109749255">https://support.industry.siemens.com/cs/ww/en/view/109749255</a>
SIMATIC NET CP 1543-1 (incl. SIPLUS variants): All versions < V2.1	Update to V2.1 <a href="https://support.industry.siemens.com/cs/ww/en/view/109747253">https://support.industry.siemens.com/cs/ww/en/view/109747253</a>
SIMATIC RF650R: All versions < V3.0	Update to V3.0 <a href="https://support.industry.siemens.com/cs/ww/en/view/109743740">https://support.industry.siemens.com/cs/ww/en/view/109743740</a>
SIMATIC RF680R: All versions < V3.0	Update to V3.0 <a href="https://support.industry.siemens.com/cs/ww/en/view/109743740">https://support.industry.siemens.com/cs/ww/en/view/109743740</a>
SIMATIC RF685R: All versions < V3.0	Update to V3.0 <a href="https://support.industry.siemens.com/cs/ww/en/view/109743740">https://support.industry.siemens.com/cs/ww/en/view/109743740</a>
SIMATIC NET CP 1616: All versions < V2.7	Update to V2.8.0 <a href="https://support.industry.siemens.com/cs/ww/en/view/109762689">https://support.industry.siemens.com/cs/ww/en/view/109762689</a>
SIMATIC NET CP 1604: All versions < V2.7	Update to V2.8.0 <a href="https://support.industry.siemens.com/cs/ww/en/view/109762689">https://support.industry.siemens.com/cs/ww/en/view/109762689</a>
SIMATIC DK-16xx PN IO: All versions < V2.7	Update to V2.8.0 <a href="https://support.industry.siemens.com/cs/ww/en/view/109762689">https://support.industry.siemens.com/cs/ww/en/view/109762689</a>
SCALANCE X-200 switch family (incl. SIPLUS NET variants): All versions < V5.2.2	Update to V5.2.2 <a href="https://support.industry.siemens.com/cs/ww/en/view/109752018">https://support.industry.siemens.com/cs/ww/en/view/109752018</a>
SCALANCE X-200IRT switch family (incl. SIPLUS NET variants): All versions < V5.4.0	Update to V5.4.0 <a href="https://support.industry.siemens.com/cs/ww/en/view/109755950">https://support.industry.siemens.com/cs/ww/en/view/109755950</a>

SCALANCE X-300 switch family (incl. SIPLUS NET variants): All versions < V4.1.0	Update to V4.1.2 <a href="https://support.industry.siemens.com/cs/ww/en/view/109753720">https://support.industry.siemens.com/cs/ww/en/view/109753720</a>
SCALANCE X408: All versions < V4.1.0	Update to V4.1.2 <a href="https://support.industry.siemens.com/cs/ww/en/view/109753720">https://support.industry.siemens.com/cs/ww/en/view/109753720</a>
SCALANCE X414: All versions < V3.10.2	Update to V3.10.2 <a href="https://support.industry.siemens.com/cs/ww/en/view/109747276">https://support.industry.siemens.com/cs/ww/en/view/109747276</a>
SCALANCE XM400: All versions < V6.1	Update to V6.2 <a href="https://support.industry.siemens.com/cs/ww/en/view/109761424">https://support.industry.siemens.com/cs/ww/en/view/109761424</a>
SCALANCE XR500: All versions < V6.1	Update to V6.2 <a href="https://support.industry.siemens.com/cs/ww/en/view/109761425">https://support.industry.siemens.com/cs/ww/en/view/109761425</a>
SCALANCE W700: All versions < V6.1	Update to V6.3.1 <a href="https://support.industry.siemens.com/cs/ww/en/view/109760470">https://support.industry.siemens.com/cs/ww/en/view/109760470</a>
SCALANCE M-800 / S615: All versions < V4.03	Update to V5.00 <a href="https://support.industry.siemens.com/cs/ww/en/view/109757544">https://support.industry.siemens.com/cs/ww/en/view/109757544</a>
Softnet PROFINET IO for PC-based Windows systems: All versions < V14 SP1	Upgrade to V14 SP1 <a href="https://support.industry.siemens.com/cs/ww/en/view/109747482">https://support.industry.siemens.com/cs/ww/en/view/109747482</a>
IE/PB-Link (incl. SIPLUS NET variants): All versions < V3.0	Upgrade to V3.0 <a href="https://support.industry.siemens.com/cs/ww/en/view/109744504">https://support.industry.siemens.com/cs/ww/en/view/109744504</a>
IE/AS-i Link PN IO: All versions	See recommendations from section <a href="#">Workarounds and Mitigations</a>
SIMATIC Teleservice Adapter IE Basic: All versions	See recommendations from section <a href="#">Workarounds and Mitigations</a>
SIMATIC Teleservice Adapter IE Standard: All versions	See recommendations from section <a href="#">Workarounds and Mitigations</a>
SIMATIC Teleservice Adapter IE Advanced: All versions	See recommendations from section <a href="#">Workarounds and Mitigations</a>
SITOP PSU8600 PROFINET: All versions < V1.2.0	Update to V1.2.0 <a href="https://support.industry.siemens.com/cs/ww/en/view/102295547">https://support.industry.siemens.com/cs/ww/en/view/102295547</a>
SITOP UPS1600 PROFINET (incl. SIPLUS variants): All versions < V2.2.0	Update to V2.2.0 <a href="https://support.industry.siemens.com/cs/ww/en/view/79207181">https://support.industry.siemens.com/cs/ww/en/view/79207181</a>
SIMATIC ET200AL: All versions < V1.0.2	Update to V1.0.2 <a href="https://support.industry.siemens.com/cs/ww/en/view/109479281">https://support.industry.siemens.com/cs/ww/en/view/109479281</a>

SIMATIC ET200ecoPN (except 6ES7141-6BG00-0BB0, 6ES7141-6BH00-0BB0, 6ES7142-6BG00-0BB0, 6ES7142-6BR00-0BB0, 6ES7143-6BH00-0BB0, 6ES7146-6FF00-0AB0 and 6ES7148-6JD00-0AB0): All versions	See recommendations from section <a href="#">Workarounds and Mitigations</a>
SIMATIC ET200M (incl. SIPLUS variants): All versions	See recommendations from section <a href="#">Workarounds and Mitigations</a>
SIMATIC ET200MP IM155-5 PN BA (incl. SIPLUS variants): All versions < V4.0.1	Update to V4.0.1 or newer <a href="https://support.industry.siemens.com/cs/ww/en/view/109754281">https://support.industry.siemens.com/cs/ww/en/view/109754281</a>
SIMATIC ET200MP IM155-5 PN ST (incl. SIPLUS variants): All versions < V4.1	Update to V4.1 <a href="https://support.industry.siemens.com/cs/ww/en/view/78647504">https://support.industry.siemens.com/cs/ww/en/view/78647504</a>
SIMATIC ET200MP IM155-5 PN HF (incl. SIPLUS variants): All versions < V4.2	Update to V4.2 <a href="https://support.industry.siemens.com/cs/us/en/view/93012181">https://support.industry.siemens.com/cs/us/en/view/93012181</a>
SIMATIC ET200pro: All versions	See recommendations from section <a href="#">Workarounds and Mitigations</a>
SIMATIC ET200S (incl. SIPLUS variants): All versions	See recommendations from section <a href="#">Workarounds and Mitigations</a>
SIMATIC ET200SP IM155-6 PN ST (incl. SIPLUS variants): All versions < V4.1.0	Update to V4.1.0 <a href="https://support.industry.siemens.com/cs/de/de/view/78648144">https://support.industry.siemens.com/cs/de/de/view/78648144</a>
SIMATIC ET200SP IM155-6 PN HF (incl. SIPLUS variants): All versions < 4.2.0	Update to V4.2.0 <a href="https://support.industry.siemens.com/cs/ww/en/view/85624387">https://support.industry.siemens.com/cs/ww/en/view/85624387</a>
SIMATIC ET200SP (incl. SIPLUS variants, except IM155-6 PN ST and IM155-6 PN HF): All versions	See recommendations from section <a href="#">Workarounds and Mitigations</a>
SIMATIC PN/PN Coupler (incl. SIPLUS NET variants): All versions < V4.0	Upgrade to V4.0 <a href="https://support.industry.siemens.com/cs/de/en/view/109749637">https://support.industry.siemens.com/cs/de/en/view/109749637</a>
Development/Evaluation Kit DK Standard Ethernet Controller: All versions < V4.1.1 Patch04	Update to V4.1.1 Patch04 or newer <a href="https://support.industry.siemens.com/cs/ww/en/view/109755160">https://support.industry.siemens.com/cs/ww/en/view/109755160</a>
Development/Evaluation Kit EK-ERTEC 200P: All versions < V4.4.0 Patch01	Update to V4.4.0 Patch01 or newer <a href="https://support.industry.siemens.com/cs/ww/en/view/109750012">https://support.industry.siemens.com/cs/ww/en/view/109750012</a>
Development/Evaluation Kit EK-ERTEC 200: All versions < V4.2.1 Patch03	Update to V4.2.1 Patch03 or newer <a href="https://support.industry.siemens.com/cs/ww/en/view/109755151">https://support.industry.siemens.com/cs/ww/en/view/109755151</a>

SIMATIC S7-200 SMART: All versions < V2.3	Contact your local Siemens representative or the Siemens customer support at <a href="https://w3.siemens.com/aspa_app/">https://w3.siemens.com/aspa_app/</a> to receive firmware version 2.3. Update to V2.3
SIMATIC S7-300 CPU family (incl. related ET200 CPUs and SIPLUS variants): All versions < V3.X.14	Update to V3.X.14 <a href="https://support.industry.siemens.com/cs/ww/en/ps/13752/dl">https://support.industry.siemens.com/cs/ww/en/ps/13752/dl</a>
SIMATIC S7-400 PN/DP V6 CPU family (incl. SIPLUS variants): All versions < V6.0.6	Update to V6.0.6 <a href="https://support.industry.siemens.com/cs/de/en/view/109474874">https://support.industry.siemens.com/cs/de/en/view/109474874</a>
SIMATIC S7-400 H V6 CPU family (incl. SIPLUS variants): All versions < V6.0.7	Update to V6.0.7 <a href="https://support.industry.siemens.com/cs/document/109474550">https://support.industry.siemens.com/cs/document/109474550</a>
SIMATIC S7-400 PN/DP V7 CPU family (incl. SIPLUS variants): All versions < V7.0.2	Update to V7.0.2 <a href="https://support.industry.siemens.com/cs/ww/en/view/109752685">https://support.industry.siemens.com/cs/ww/en/view/109752685</a>
SIMATIC S7-410 CPU family (incl. SIPLUS variants): All versions < V8.2	Update to V8.2 <a href="https://support.industry.siemens.com/cs/ww/en/view/109476571">https://support.industry.siemens.com/cs/ww/en/view/109476571</a>
SIMATIC S7-1200 CPU family (incl. SIPLUS variants): All versions < V4.2.1	Update to V4.2.1 <a href="https://support.industry.siemens.com/cs/ww/en/view/109741461">https://support.industry.siemens.com/cs/ww/en/view/109741461</a>
SIMATIC S7-1500 CPU family (incl. related ET200 CPUs and SIPLUS variants): All versions < V2.1	Update to V2.1 <a href="https://support.industry.siemens.com/cs/ww/en/view/109478459">https://support.industry.siemens.com/cs/ww/en/view/109478459</a>
SIMATIC S7-1500 Software Controller (incl. F): All versions < V2.1	Update to V2.1 <a href="https://support.industry.siemens.com/cs/ww/en/view/109478528">https://support.industry.siemens.com/cs/ww/en/view/109478528</a>
SIMATIC WinAC RTX (F) 2010: All versions < SIMATIC WinAC RTX 2010 SP3	Update to SIMATIC WinAC RTX 2010 SP3 and apply BIOS and Microsoft Windows updates <a href="https://support.industry.siemens.com/cs/ww/en/view/109765109">https://support.industry.siemens.com/cs/ww/en/view/109765109</a>
SIRIUS ACT 3SU1 interface module PROFINET: All versions < V1.1.0	Update to V1.1.0 <a href="https://support.industry.siemens.com/cs/document/109753683">https://support.industry.siemens.com/cs/document/109753683</a>
SIRIUS Soft Starter 3RW44 PN: All versions	See recommendations from section <a href="#">Workarounds and Mitigations</a>
SIRIUS Motor Starter M200D PROFINET: All versions	See recommendations from section <a href="#">Workarounds and Mitigations</a>
SIMOCODE pro V PN (incl. SIPLUS variants): All versions < V2.0.0	Update to V2.0.0 <a href="https://support.industry.siemens.com/cs/ww/en/view/109749989">https://support.industry.siemens.com/cs/ww/en/view/109749989</a>

SINAMICS DCM w. PN: All versions < V1.4 SP1 HF5	Update to V1.4 SP1 HF5 <a href="https://support.industry.siemens.com/cs/ww/en/view/44029688">https://support.industry.siemens.com/cs/ww/en/view/44029688</a>
SINAMICS DCP w. PN: All versions < V1.2 HF 1	Update to V1.2 HF 1 <a href="https://support.industry.siemens.com/cs/ww/en/view/109474935">https://support.industry.siemens.com/cs/ww/en/view/109474935</a>
SINAMICS G110M w. PN: All versions < V4.7 SP6 HF3	Update to V4.7 SP6 HF3 <a href="https://support.industry.siemens.com/cs/ww/en/view/109482659">https://support.industry.siemens.com/cs/ww/en/view/109482659</a>
SINAMICS G120(C/P/D) w. PN (incl. SIPLUS variants): All versions < V4.7 SP6 HF3	Update to V4.7 SP6 HF3 <a href="https://support.industry.siemens.com/cs/ww/en/view/109482659">https://support.industry.siemens.com/cs/ww/en/view/109482659</a>
SINAMICS G130 V4.7 w. PN: All versions < V4.7 HF27	Update to V4.7 HF27 <a href="https://support.industry.siemens.com/cs/ww/en/view/103433117">https://support.industry.siemens.com/cs/ww/en/view/103433117</a>
SINAMICS G150 V4.7 w. PN: V4.7: All versions < V4.7 HF27	Update to V4.7 HF27 <a href="https://support.industry.siemens.com/cs/ww/en/view/103433117">https://support.industry.siemens.com/cs/ww/en/view/103433117</a>
SINAMICS G130 V4.8 w. PN: All versions < V4.8 HF4	Update to V4.8 HF4 <a href="https://support.industry.siemens.com/cs/ww/en/view/109742040">https://support.industry.siemens.com/cs/ww/en/view/109742040</a>
SINAMICS G150 V4.8 w. PN: All versions < V4.8 HF4	Update to V4.8 HF4 <a href="https://support.industry.siemens.com/cs/ww/en/view/109742040">https://support.industry.siemens.com/cs/ww/en/view/109742040</a>
SINAMICS S110 w. PN: All versions < V4.4 SP3 HF5	Update V4.4 SP3 HF5 <a href="https://support.industry.siemens.com/cs/de/en/view/109474320">https://support.industry.siemens.com/cs/de/en/view/109474320</a>
SINAMICS S120 prior to V4.7 w. PN (incl. SIPLUS variants): All versions < V4.7	Update to latest version of V5.1 SP1 <a href="https://support.industry.siemens.com/cs/document/109758423">https://support.industry.siemens.com/cs/document/109758423</a>
SINAMICS S120 V4.7 w. PN (incl. SIPLUS variants): All versions < V4.7 HF27	Update to V4.7 HF27 <a href="https://support.industry.siemens.com/cs/de/en/view/92522512">https://support.industry.siemens.com/cs/de/en/view/92522512</a>
SINAMICS S120 V4.7 SP1 w. PN (incl. SIPLUS variants): All versions	Update to latest version of V5.1 SP1 <a href="https://support.industry.siemens.com/cs/document/109758423">https://support.industry.siemens.com/cs/document/109758423</a>
SINAMICS S120 V4.8 w. PN (incl. SIPLUS variants): All versions < V4.8 HF4	Update to V4.8 HF4 <a href="https://support.industry.siemens.com/cs/de/en/view/109740193">https://support.industry.siemens.com/cs/de/en/view/109740193</a>
SINAMICS S150 V4.7 w. PN: All versions < V4.7 HF27	Update to V4.7 HF27 <a href="https://support.industry.siemens.com/cs/ww/en/view/103433117">https://support.industry.siemens.com/cs/ww/en/view/103433117</a>
SINAMICS S150 V4.8 w. PN: All versions < V4.8 HF4	Update to V4.8 HF4 <a href="https://support.industry.siemens.com/cs/ww/en/view/109742040">https://support.industry.siemens.com/cs/ww/en/view/109742040</a>

SINAMICS V90 w. PN: All versions < V1.01	Update to V1.01 <a href="https://support.industry.siemens.com/cs/document/109746210">https://support.industry.siemens.com/cs/document/109746210</a>
SIMOTION (incl. SIPLUS variants): All versions < V4.5 HF1	Update to V4.5 HF1 <a href="https://support.industry.siemens.com/cs/ww/en/view/109742328">https://support.industry.siemens.com/cs/ww/en/view/109742328</a>
SINUMERIK 828D V4.5 and prior: All versions < V4.5 SP6 HF2	Update to V4.5 SP6 HF2 SINUMERIK software can be obtained from your local Siemens account manager
SINUMERIK 828D V4.7: All versions < V4.7 SP4 HF1	Update to V4.7 SP4 HF1. SINUMERIK software can be obtained from your local Siemens account manager
SINUMERIK 840D sl V4.5 and prior: All versions < V4.5 SP6 HF2	Update to V4.5 SP6 HF2 SINUMERIK software can be obtained from your local Siemens account manager
SINUMERIK 840D sl V4.7: All versions < V4.7 SP4 HF1	Update to V4.7 SP4 HF1 SINUMERIK software can be obtained from your local Siemens account manager
SIMATIC HMI Comfort Panels, HMI Multi Panels, HMI Mobile Panels (incl. SIPLUS variants): All versions < V15.1	Update to V15.1 <a href="https://support.industry.siemens.com/cs/us/en/view/109761576">https://support.industry.siemens.com/cs/us/en/view/109761576</a>
SIMATIC TDC CPU555: All versions < V1.1.1	Update to V1.1.1 <a href="https://support.industry.siemens.com/cs/ww/en/view/109740119">https://support.industry.siemens.com/cs/ww/en/view/109740119</a>
SIMATIC TDC CP51M1: All versions < V1.1.8	Update to V1.1.8 <a href="https://support.industry.siemens.com/cs/ww/en/view/27049282">https://support.industry.siemens.com/cs/ww/en/view/27049282</a>

## **WORKAROUNDS AND MITIGATIONS**

Siemens has identified the following specific workarounds and mitigations that customers can apply to reduce the risk:

- Apply cell protection concept: <https://www.siemens.com/cert/operational-guidelines-industrial-security>.
- Use VPN for protecting network communication between cells.
- Apply Defense-in-Depth: <https://www.siemens.com/cert/operational-guidelines-industrial-security>.
- For SIMATIC Teleservice Adapters (IE Basic, IE Standard, IE Advanced): migrate to a successor product within the SCALANCE M-800 family. For details refer to the [notice of discontinuation](#).

## **GENERAL SECURITY RECOMMENDATIONS**

As a general security measure Siemens and PNO strongly recommend to protect industrial products with appropriate mechanisms. Hereby, Siemens encourages customers to verify that the affected products are protected as described in PNO Security Guidelines (Download: <https://www.profinet.com/download/profinet-security-guideline/>) and Siemens Operational Guidelines (Download: <https://www.siemens.com/cert/operational-guidelines-industrial-security>) in order to run the devices in a protected IT environment.

Additional information on Industrial Security by Siemens can be found at: <https://www.siemens.com/industrialsecurity>

## **PRODUCT DESCRIPTION**

Communication Processor (CP) modules of families SIMATIC NET CP 343-1 and CP 443-1 have been designed to enable SIMATIC S7-300/S7-400 CPUs for Ethernet communication.

The SIMATIC NET CP 1243-1 communication processor connects the S7-1200 controller to Ethernet networks. It provides integrated security functions such as firewall, Virtual Private Networks (VPN) and support of other protocols with data encryption.

The SIMATIC NET CM 1542-1 communication module is used to connect S7-1500 controllers to PROFINET as IO-Controller.

The SIMATIC NET CP 1543-1, CP 1543SP-1, CP 1542SP-1 and CP 1542SP-1 IRC communication processors connects the S7-1500 controller to Ethernet networks. It provides integrated security functions such as firewall, Virtual Private Networks (VPN) and support of other protocols with data encryption.

SIMATIC TDC is a multiprocessor automation system for drive, control and technology tasks. The system is used particularly for large plants.

SIMATIC RF600 Readers are used for the contactless identification of every kind of object, e.g. transport containers, pallets, production goods, or it can be generally used for recording goods in bulk.

The SIMATIC NET CP 1616 and CP 1604 interface cards are used for connecting Personal Computers and PCI-104 systems to PROFINET IO.

The Development Kit DK-16xx PN IO permits an easy integration of CP 1616 and CP 1604 in non-Windows operating system environments.

SCALANCE X switches are used to connect industrial components like Programmable Logic Controllers (PLCs) or Human Machine Interfaces (HMIs).

The SCALANCE M-800 / S615 industrial routers are used for secure remote access to plants via mobile networks, e.g. GPRS or UMTS with the integrated security functions of a firewall for protection against unauthorized access and VPN to protect data transmission.

SCALANCE W700 products are wireless communication devices used to connect industrial components like Programmable Logic Controllers (PLCs) or Human Machine Interfaces (HMIs).

Softnet PROFINET IO for PC-based Windows systems allows setting up open control solutions on standard PC hardware.

TeleControl Server Basic allows remote monitoring and control of plants.

Softnet PROFINET IO for PC-based Windows systems allows setting up open control solutions on standard PC hardware.

IE/PB-Link devices enable existing PROFIBUS devices to be integrated into a PROFINET application.

The IE/AS-i LINK PN IO is a compact network transition between PROFINET/Industrial Ethernet (PROFINET IO-Device) and AS-Interface.

The SITOP PSU8600 expandable power supply system is connected to a 3-phase AC line supply to offer regulated DC power.

SITOP UPS1600 devices augment DC 24V power supply units to offer uninterruptible rated currents up to 40A from battery modules.

SIMATIC ET 200 Interface modules for PROFINET IO are used to connect field devices (IO Devices) to controllers (IO Controller) via PROFINET.

PN/PN coupler is used for connecting two PROFINET networks.

The S7-200 SMART series is a line of micro-programmable logic controllers that can control a variety of small automation applications.

Siemens SIMATIC S7-300 CPU families, S7-400 CPU families, S7-1200 CPU families, and S7-1500 CPU families have been designed for discrete and continuous control in industrial environments such as manufacturing, food and beverages, and chemical industries worldwide.



SIMATIC S7-1500 Software Controller is a SIMATIC software controller for PC-based automation solutions.

SIMATIC WinAC RTX (F) 2010 is a SIMATIC software controller for PC-based automation solutions.

SIRIUS ACT is a modular system of pushbuttons and indicator lights for front plate mounting and rear-mounted electrical modules.

SIRIUS 3RW soft starters permit soft starting and soft rampdown of three-phase asynchronous motors.

SIRIUS M200D motor starters for distributed installation start, monitor and protect motors and loads up to 5.5 kW.

SIMOCODE is the flexible and modular motor management system for low-voltage motors.

The SINAMICS converter family is used to control a wide variety of drives, especially in mechanical engineering and plant construction.

SIMOTION is a scalable high performance hardware and software system for motion control.

SINUMERIK CNC offers automation solutions for the shop floor, job shops and large serial production environments.

SIMATIC HMI Panels are used for operator control and monitoring of machines and plants.

SIMATIC Teleservice adapters allow for remote maintenance of automation systems via phone or internet. The adapters are superseded by the SCALANCE M product family.

The SCALANCE M-800 / S615 industrial routers are used for secure remote access to plants via mobile networks, e.g. GPRS or UMTS with the integrated security functions of a firewall for protection against unauthorized access and VPN to protect data transmission.

SIPLUS extreme products are designed for reliable operation under extreme conditions and are based on SIMATIC, LOGO!, SITOP, SINAMICS, SIMOTION, SCALANCE or other devices. SIPLUS devices use the same firmware as the product they are based on.

## **VULNERABILITY CLASSIFICATION**

The vulnerability classification has been performed by using the CVSS scoring system in version 3.1 (CVSS v3.1) (<https://www.first.org/cvss/>). The CVSS environmental score is specific to the customer's environment and will impact the overall CVSS score. The environmental score should therefore be individually defined by the customer to accomplish final scoring.

An additional classification has been performed using the CWE classification, a community-developed list of common software security weaknesses. This serves as a common language and as a baseline for weakness identification, mitigation, and prevention efforts. A detailed list of CWE classes can be found at: <https://cwe.mitre.org/>.

### Vulnerability CVE-2017-2680

Specially crafted PROFINET DCP broadcast packets could cause a Denial-of-Service condition of affected products on a local Ethernet segment (Layer 2). Human interaction is required to recover the systems. PROFIBUS interfaces are not affected.

CVSS v3.1 Base Score	6.5
CVSS Vector	<a href="#">CVSS:3.1/AV:A/AC:L/PR:N/UI:N/S:U/C:N/I:N/A:H/E:P/RL:O/RC:C</a>
CWE	CWE-20: Improper Input Validation

## Vulnerability CVE-2017-2681

Specially crafted PROFINET DCP packets sent on a local Ethernet segment (Layer 2) to an affected product could cause a Denial-of-Service condition of that product. Human interaction is required to recover the system. PROFIBUS interfaces are not affected. This vulnerability affects only SIMATIC HMI Multi Panels and HMI Mobile Panels, and S7-300/S7-400 devices.

CVSS v3.1 Base Score	6.5
CVSS Vector	<a href="#">CVSS:3.1/AV:A/AC:L/PR:N/UI:N/S:U/C:N/I:N/A:H/E:P/RL:O/RC:C</a>
CWE	CWE-20: Improper Input Validation

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- CNCERT/CC for coordination efforts
- Artem Zinenko from Kaspersky for pointing out that SIPLUS should also be mentioned

## **ADDITIONAL INFORMATION**

For further inquiries on security vulnerabilities in Siemens products and solutions, please contact the Siemens ProductCERT:

<https://www.siemens.com/cert/advisories>

## **HISTORY DATA**

V1.0 (2017-05-08):	Publication Date
V1.1 (2017-06-13):	Added update information for SCALANCE X-300/X408, X414, SITOP PSU8600/UPS 1600 PROFINET and S7-400
V1.2 (2017-07-21):	Added update information for SCALANCE XM400, SCALANCE XR500, SIMATIC S7-400-H V6, SINAMICS S110, SINAMICS S120 and SINAMICS V90
V1.3 (2017-08-16):	Added update information for SIMATIC CP 1542SP-1, CP 1542SP-1 IRC, and CP 1543SP-1, SIMATIC ET 200SP, SIMATIC S7-200 SMART, SINAMICS G130, G150, and S150, and SINUMERIK 828D; Adjusted update information for Development/Evaluation Kits
V1.4 (2017-09-13):	Added update information for SCALANCE M-800 / S615
V1.5 (2017-10-09):	Detailed SIMATIC CP 1243-1, Added update information for SIMATIC CP 1243-1, 1243-1 IRC, SINAMICS DCM and added upgrade information for PN/PN Coupler
V1.6 (2017-11-09):	Added upgrade and update information for Softnet PROFINET IO and SIMATIC ET 200AL
V1.7 (2017-11-23):	Added update information for SCALANCE X-200 and SIMATIC S7-400 PN/DP V6 Incl. F
V1.8 (2018-01-18):	New advisory format, added update information for SIMOCODE pro V PROFINET
V1.9 (2018-01-24):	Corrected information for SIMATIC CM 1542-1 and ET 200MP. Added solution for SINAMICS DCP, and S7-400 V7 PN/DP
V2.0 (2018-02-22):	Refined ET 200MP product family; Added update information for ET 200MP IM155-5 PN ST
V2.1 (2018-03-06):	Added update information for SCALANCE X-200IRT
V2.2 (2018-05-03):	Added update information for SIMATIC CP 343-1 Std and CP 343-1 Lean
V2.3 (2018-11-13):	Updated information for SINAMICS S120, SIMATIC ET 200SP (except IM155-6 PN ST), SIMATIC Panels

- V2.4 (2018-12-11): Updated information for SIMATIC ET 200MP IM155-5 PN HF, SIRIUS ACT 3SU1 interface module PROFINET
- V2.5 (2018-12-13): Corrected download links, update for CP 1243-1 not available, see mitigations
- V2.6 (2019-01-08): Updated information for CP 1243-1
- V2.7 (2019-10-08): Renamed SIMATIC WinAC RTX 2010 incl. F to SIMATIC WinAC RTX (F) 2010 and updated information for SIMATIC WinAC RTX (F) 2010
- V2.8 (2020-02-10): SIPLUS devices now explicitly mentioned in the list of affected products
- V2.9 (2020-07-14): Added SIMATIC TDC CP51M1 and CPU555 to the list of affected products
- V3.0 (2020-08-11): Informed about successor product for SIMATIC Teleservice adapters. Added SIMATIC ET200ecoPN product variants (MLFB IDs) that are not affected

## **TERMS OF USE**

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