Overview

On June 8, 2021, Rockwell Automation disclosed multiple vulnerabilities in its ISaGRAF Workbench and ISaGRAF Runtime products. Multiple vendors, including Schneider Electric, embed ISaGRAF in their offers.

ISaGRAF Workbench is used to program applications for embedded devices using IEC 61131-3 languages, and may be incorporated into larger programming and configuration tools. The ISaGRAF Runtime module executes the process control code created in ISaGRAF Workbench on embedded devices.

If successfully exploited, bad actors could execute a range of actions, including accessing and disclosing sensitive information, privilege escalation, and in some cases remote code execution.

Customers should immediately ensure they have implemented cybersecurity best practices across their operations to protect themselves from possible exploitation of these vulnerabilities. Where appropriate, this includes locating their industrial systems and remotely accessible devices behind firewalls; installing physical controls to prevent unauthorized access; preventing mission-critical systems and devices from being accessed from outside networks; and following the mitigations and general security recommendations below.

For additional information and support, please contact your Schneider Electric sales or service representative or Schneider Electric’s Customer Care Center.

Subscribe to the Schneider Electric security notification service to be informed of critical updates to this notification, including information on affected products and remediation plans: https://www.se.com/ww/en/work/support/cybersecurity/security-notifications.jsp

November 2021 Update: Added remediations for SCADAPack 300E RTU, SCADAPack 53xE RTU, and SCADAPack Workbench (page 2)

Vulnerability Details

Additional details on these specific vulnerabilities can be found in the Rockwell Automation disclosure (requires a login) and the ICS-CERT advisory.

- CVE-2020-25176
- CVE-2020-25178
- CVE-2020-25182
- CVE-2020-25184
- CVE-2020-25180
## Affected Products & Remediations

### Available Remediations

<table>
<thead>
<tr>
<th>Affected Product</th>
<th>Affected Versions</th>
<th>Remediation/Mitigation</th>
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<tr>
<td>SCADAPack 300E RTU</td>
<td>SCADAPack E firmware 8.18.1 and prior</td>
<td>V8.19.1 of SCADAPack Workbench includes a fix for these vulnerabilities and is available for download here: <a href="https://shop.exchange.se.com/en-US/apps/62865/scadapack-e-workbench-and-utilities">https://shop.exchange.se.com/en-US/apps/62865/scadapack-e-workbench-and-utilities</a>. A reboot is required when upgrading to new firmware. No user actions are required to apply the remediation beyond upgrading the firmware in the RTU. To verify the remediation is in place, use SCADAPack E Configurator or the RTU command line to display the firmware version.</td>
</tr>
</tbody>
</table>
| SCADAPack 53xE RTU | SCADAPack Workbench 6.6.8 and prior | Temporary Mitigations:  
- Implement firewall rules to restrict or block access on TCP port 1131 from outside the industrial control system.  
- Disable the ISaGRAF/TCP service when not required. Typically, this service is needed only during commissioning or maintenance operations.  
- Limit and control administrative access rights for ISaGRAF services |
| SCADAPack Workbench | | |
| SAGE RTU - C3414 CPU | All versions prior to C3414-500-S02K5_P5 | Version C3414-500-S02K5_P5 of SAGE RTU CPU 3414 includes a fix for this vulnerability and is available for download here: https://www.sage-rtu.com/downloads.html.  
Reboot of SAGE RTU is required after firmware upgrade.  
This fix disables ISaGRAF by default and provides an additional network service checkbox to allow you to enable the ISaGRAF ETCP task, which will open listening ports to connect with ISaGRAF workbench when needed.  
OR  
If the firmware is not upgraded to C3414-500-S02K5_P5, but you are at firmware version C3414-500-S02K2 or above customers should immediately apply the following mitigations to reduce the risk of exploit:  
If ISaGRAF is configured and in use, the built-in firewall can be used to disable ISaGRAF port 1131 and 1113 when the debugger is not in use. Use the following commands in the Firewall configuration to disable external access to ISaGRAF.  
block in proto tcp from any to any port = 1131  
block in proto tcp from any to any port = 1113  
If ISaGRAF is NOT configured and in use, the ISaGRAF port is by default not enabled and does not start automatically, therefore there is no issue or required actions. |
SAGE RTU CPU’s C3413 and C3412 have reached their end of life and are no longer supported. Customers should immediately upgrade to the latest CPU C3414 and apply C3414-500-S02K5_P5 or later firmware which can be downloaded here: https://www.sage-rtu.com/downloads.html

Reboot of SAGE RTU is required after firmware upgrade.

This fix disables ISaGRAF by default and provides an additional network service checkbox to allow you to enable the ISaGRAF ETCP task, which will open listening ports to connect with ISaGRAF workbench when needed.

Affected Products

Schneider Electric continues to assess how these vulnerabilities affect its offers and is establishing a remediation plan for the affected offers listed below. The company will continue to update this notification as additional offer-specific information becomes available.

Until then, customers should immediately:

- Implement firewall rules to restrict or block access on TCP port 1131 from outside the industrial control system.
- Disable the ISaGRAF/TCP service when not required. Typically, this service is needed only during commissioning or maintenance operations.
- Limit and control administrative access rights for ISaGRAF services

For additional product specific advice see the table below.

<table>
<thead>
<tr>
<th>Affected Product</th>
<th>Affected Versions</th>
<th>Mitigations</th>
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<tbody>
<tr>
<td>Easergy T300</td>
<td>T300 V2.7.1 and prior</td>
<td>If ISaGRAF is configured, customers should upgrade to T300 firmware V1.4 or higher and use the product firewall to block the TCP port 1131 and only unblock it during new program upgrade/debug. If ISaGRAF is not configured, the service is not active and the port is closed, then no further action is required.</td>
</tr>
<tr>
<td>Easergy C5</td>
<td>Versions up to 1.0.x, and embedding ISaGRAF version 5.2 and prior</td>
<td>ISaGRAF program upload/debug mode is disabled by default, after enabling for product commissioning, disable ISaGRAF program upload/debug mode.</td>
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</tbody>
</table>
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<table>
<thead>
<tr>
<th>Device/Software</th>
<th>Version Details</th>
<th>Instructions</th>
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</thead>
<tbody>
<tr>
<td>MiCOM C264</td>
<td>Versions up to D6.x with embedded ISaGRAF version 5.2 and prior</td>
<td>For detailed instructions, please contact your Schneider Electric representative and request “C5 / C264 ISaGRAF vulnerabilities mitigation plan.”</td>
</tr>
<tr>
<td>PACIS GTW EPAS GTW</td>
<td>All gateway versions supporting ISaGRAF 5.2 and prior: Windows: PACIS GTW 5.1</td>
<td>If ISaGRAF is configured, customers should use the OS firewall to block TCP port 1131 and only unblock it during new program upgrade/debug. For detailed instructions, please contact your Schneider Electric representative and request “GTW ISaGRAF vulnerabilities mitigation plan.”</td>
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<tr>
<td></td>
<td>− PACIS GTW 5.2</td>
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<td>− PACIS GTW 6.1</td>
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<td>− PACIS GTW 6.3</td>
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<td>− EPAS GTW 6.4</td>
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<td></td>
<td>Linux: PACIS GTW 6.3</td>
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<td></td>
<td>− EPAS GTW 6.4</td>
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<tr>
<td>Saitel DP</td>
<td>Saitel DP 11.06.21 and prior</td>
<td>If ISaGRAF is configured, customers should upgrade to Saitel DP firmware 11.06.00 or higher and use the product firewall to block TCP port 1131 and only unblock it during new program upgrade/debug. If ISaGRAF is not configured, the service is not active and the port is closed, then no further action is required.</td>
</tr>
<tr>
<td></td>
<td>Saitel DR 11.06.12 and prior</td>
<td>If ISaGRAF is configured, customers should upgrade to Saitel DR firmware 11.06.03 or higher and use the product firewall to block the TCP port 1131 and only unblock it during new program upgrade/debug. If ISaGRAF is not configured, the service is not active and the port is closed, then no further action is required.</td>
</tr>
<tr>
<td>SCD2200 Firmware for CP-3/MC-31</td>
<td>SCD2200 Firmware 10024 and prior</td>
<td>• Implement firewall rules to restrict or block access on TCP port 1131 from outside the industrial control system. • Disable the ISaGRAF/TCP service when not required. Typically, this service is needed only during commissioning or maintenance operations. • Limit and control administrative access rights for ISaGRAF services</td>
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For more details and assistance on how to protect your installation, please contact your local Schneider Electric Industrial Cybersecurity Services organization, which is fully aware of this situation and can support you through the process.

General Security Recommendations

We strongly recommend the following industry cybersecurity best practices.

- Locate control and safety system networks and remote devices behind firewalls and isolate them from the business network.
- Install physical controls so no unauthorized personnel can access your industrial control and safety systems, components, peripheral equipment, and networks.
- Place all controllers in locked cabinets and never leave them in the “Program” mode.
- Never connect programming software to any network other than the network for the devices that it is intended.
- Scan all methods of mobile data exchange with the isolated network such as CDs, USB drives, etc. before use in the terminals or any node connected to these networks.
- Never allow mobile devices that have connected to any other network besides the intended network to connect to the safety or control networks without proper security controls.
- Minimize network exposure for all control system devices and systems and ensure that they are not accessible from the Internet.
- When remote access is required, use secure methods, such as Virtual Private Networks (VPNs). Recognize that VPNs may have vulnerabilities and should be updated to the most current version available. Also, understand that VPNs are only as secure as the connected devices.

For more best practices refer to the Schneider Electric Recommended Cybersecurity Best Practices document.

For More Information

This document provides an overview of the identified vulnerability or vulnerabilities and actions required to mitigate. For more details and assistance on how to protect your installation, contact your local Schneider Electric representative or Schneider Electric Industrial Cybersecurity Services: https://www.se.com/ww/en/work/solutions/cybersecurity/. These organizations will be fully aware of this situation and can support you through the process.

For further information related to cybersecurity in Schneider Electric’s products, visit the company’s cybersecurity support portal page:
https://www.se.com/ww/en/work/support/cybersecurity/overview.jsp

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About Schneider Electric

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We provide energy and automation digital solutions for efficiency and sustainability. We combine world-leading energy technologies, real-time automation, software and services into integrated solutions for Homes, Buildings, Data Centers, Infrastructure and Industries.

We are committed to unleash the infinite possibilities of an open, global, innovative community that is passionate with our Meaningful Purpose, Inclusive and Empowered values.

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Revision Control:

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<tr>
<th>Version 1.0</th>
<th>Original Release</th>
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<tr>
<td>8 June 2021</td>
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<tr>
<td>Version 2.0</td>
<td>Added remediations for SAGE RTU C3414 CPU, C3413 CPU and C3412 CPU (page 2)</td>
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<tr>
<td>14 September 2021</td>
<td></td>
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<tr>
<td>Version 3.0</td>
<td>Added remediations for SCADAPack 300E RTU, SCADAPack 53xE RTU, and SCADAPack Workbench (page 2)</td>
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<td>9 November 2021</td>
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Product Security Office

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