
CYBER SECURITY ADVISORY

Vulnerability in GATE E2 – No Access Control

ABBVU-EPPC-3099-SE-002

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Affected Products

ABB GATE-E2 – All product versions

ABB GATE-E1 – All product versions

Vulnerability ID

ABB ID: ABBVU-EPPC-3099-SE-002

CVE ID: CVE-2018-18995

Summary

An attacker who successfully exploited the vulnerability could make the product inaccessible by changing product configuration or continuously resetting the product.

The ABB products in scope of this vulnerability advisory will not be updated with new firmware as products are in end-of-life (EOL). Instead the customers who have purchased the affected products have received an email with instructions how to secure an installation. Customers are strongly recommended to apply the proposed mitigations to minimize the risk that the privately reported vulnerability is exploited.

Vulnerability Severity

The severity assessment has been performed by using the FIRST Common Vulnerability Scoring System (CVSS) v3. The CVSS Environmental Score, which can affect the vulnerability severity, is not provided in this advisory since it reflects the potential impact of a vulnerability within the end-user organizations' computing environment; end-user organizations are therefore recommended to analyze their situation and specify the Environmental Score.

CVSS v3 Base Score: 9.4 (Critical)

CVSS v3 Temporal Score: 9.4 (Critical)

CVSS v3 Vector: AV:N /AC:L /PR:N /UI:N /S:U /C:L /I:H /A:H /E:H /RL:U /RC:C

CVSS v3 Link:

<https://www.first.org/cvss/calculator/3.0#CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:L/I:H/A:H/E:H/RL:U/RC:C>

NVD Summary Link:

<https://nvd.nist.gov/cvss/v3-calculator?vector=AV:N/AC:L/PR:N/UI:N/S:U/C:L/I:H/A:H/E:H/RL:U/RC:C>

Recommended immediate actions

ABB advises customers to promptly follow the recommendations in the Mitigating Factors section.

Vulnerability Details

The products lacks support for authentication on the administrative interface. Access to the administrative interface allows attacker to compromise:

- the availability of the product, by continuously resetting the product
- the integrity/confidentiality of the product, by modifying/reading registers and modifying product configuration such as the product's IP address.

Mitigating Factors

Recommended security practices and firewall configurations can help protect a process control network from attacks that originate from outside the network. Such practices include that process control systems are physically protected from direct access by unauthorized personnel, have no direct connections to the Internet, and are separated from other networks by means of a firewall system that has a minimal number of ports exposed, and others that have to be evaluated case by case. Process control systems should not be used for Internet surfing, instant messaging, or receiving e-mails. Portable computers and removable storage media should be carefully scanned for viruses before they are connected to a control system.

Frequently Asked Questions

What is the scope of the vulnerability?

An attacker who successfully exploited this vulnerability could cause an affected system node to stop and also run arbitrary code in a user's browser visiting the system nodes web portal.

What causes the vulnerability?

The vulnerability is caused by the lack of support for authentication in the product. At the time when the product was developed, it was not designed to provide security services such as authentication.

What is the affected product?

All product versions of GATE E2 and GATE E1 are affected.

What might an attacker use the vulnerability to do?

An attacker who successfully exploited this vulnerability could cause the affected system node to stop.

How could an attacker exploit the vulnerability?

An attacker could try to exploit the vulnerability by connecting to the affected system node authentication interface. This would require that the attacker has access to the system network, by connecting to the network either directly or through a wrongly configured or penetrated firewall, or that he installs malicious software on a system node or otherwise infects the network with malicious software. Recommended practices help mitigate such attacks, see section Mitigating Factors above.

Could the vulnerability be exploited remotely?

Yes, an attacker who has network access to an affected system node could exploit this vulnerability. Recommended practices include that process control systems are physically protected, have no direct connections to the Internet, and are separated from other networks by means of a firewall system that has a minimal number of ports exposed.

When this security advisory was issued, had this vulnerability been publicly disclosed?

No, ABB received information about this vulnerability through responsible disclosure.

When this security advisory was issued, had ABB received any reports that this vulnerability was being exploited?

No, ABB had not received any information indicating that this vulnerability had been exploited when this security advisory was originally issued.

Acknowledgements

ABB thanks the following for working with us to help protect customers:

Nelson Berg (Applied Risk) for providing vulnerability details and proof of concept.

Support

For additional information and support please contact your local ABB service organization. For contact information, see <https://new.abb.com/contact-centers>.

Information about ABB's cyber security program and capabilities can be found at www.abb.com/cybersecurity.