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CVE: [CVE-2023-4408](#)

Title: Parsing large DNS messages may cause excessive CPU load

Document version: 2.0

Posting date: 13 February 2024

Program impacted: [BIND 9](#)

Versions affected:

BIND

- 9.0.0 -> 9.16.45
- 9.18.0 -> 9.18.21
- 9.19.0 -> 9.19.19

(Versions prior to 9.11.37 were not assessed.)

BIND Supported Preview Edition

- 9.9.3-S1 -> 9.11.37-S1
- 9.16.8-S1 -> 9.16.45-S1
- 9.18.11-S1 -> 9.18.21-S1

(Versions prior to 9.11.37-S1 were not assessed.)

Severity: High

Exploitable: Remotely

Description:

The DNS message parsing code in `named` includes a section whose computational complexity is overly high. It does not cause problems for typical DNS traffic, but crafted queries and responses may cause excessive CPU load on the affected `named` instance by exploiting this flaw. This issue affects both authoritative servers and recursive resolvers.

Impact:

By flooding the target server with queries exploiting this flaw an attacker can significantly impair the server's performance, effectively denying legitimate clients access to the DNS resolution service.

CVSS Score: 7.5

CVSS Vector: CVSS:3.1/AV:N/AC:L/PR:N/UI:N/S:U/C:N/I:N/A:H

For more information on the Common Vulnerability Scoring System and to obtain your specific environmental score please visit: <https://nvd.nist.gov/vuln-metrics/cvss/v3-calculator?vector=AV:N/AC:L/PR:N/UI:N/S:U/C:N/I:N/A:H&version=3.1>.

Workarounds:

No workarounds known.

Active exploits:

We are not aware of any active exploits.

Solution:

Upgrade to the patched release most closely related to your current version of BIND 9:

- 9.16.48
- 9.18.24
- 9.19.21

BIND Supported Preview Edition is a special feature preview branch of BIND provided to eligible ISC support customers.

- 9.16.48-S1
- 9.18.24-S1

Acknowledgments:

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Document revision history:

- 1.0 Early Notification, 10 January 2024
- 1.1 Early fix withdrawn due to regression, 11 January 2024

- 1.2 Revised Early Notification, 15 January 2024
- 1.3 Revised the list of fixed versions, 11 February 2024
- 2.0 Public disclosure, 13 February 2024

Related documents:

See our [BIND 9 Security Vulnerability Matrix](#) for a complete listing of security vulnerabilities and versions affected.

Do you still have questions? Questions regarding this advisory should be mailed to bind-security@isc.org or posted as confidential GitLab issues at [https://gitlab.isc.org/isc-projects/bind9/-/issues/new?issue\[confidential\]=true](https://gitlab.isc.org/isc-projects/bind9/-/issues/new?issue[confidential]=true).

Note:

ISC patches only currently supported versions. When possible we indicate EOL versions affected. For current information on which versions are actively supported, please see <https://www.isc.org/download/>.

ISC Security Vulnerability Disclosure Policy:

Details of our current security advisory policy and practice can be found in the ISC Software Defect and Security Vulnerability Disclosure Policy at <https://kb.isc.org/docs/aa-00861>.

The Knowledgebase article <https://kb.isc.org/docs/cve-2023-4408> is the complete and official security advisory document.

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