Troubleshooting "5440 Endpoint Abandoned EAP Session And Started New" Due to Supplicant Timeout or Misconfiguration

Contents

Issue

The ISE sends a RADIUS Access-Challenge to the endpoint. Instead of responding to the Access-Challenge, the endpoint repeatedly restarts the authentication process. The endpoint authentication with Cisco Identity Services Engine (ISE) finally fails with error.

```
"5440 – Endpoint abandoned EAP session and started new"
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Environment

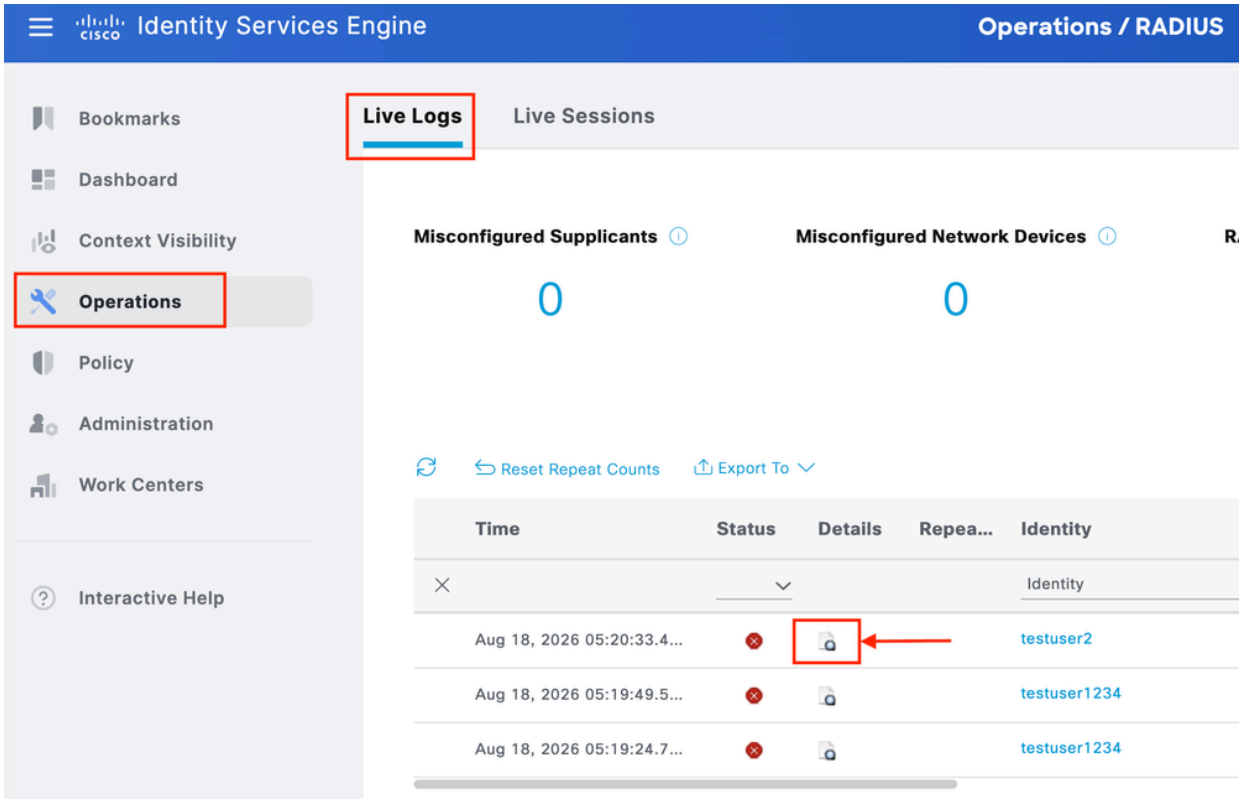
- Cisco ISE
- 802.1X authentication
- Wired or wireless network
- Extensible Authentication Protocol (EAP)-based authentication
- Endpoint supplicant

Resolution

Use these steps to troubleshoot:

1. **Check the ISE authentication details**
    1. Navigate to **Operations > RADIUS > Live Logs**.

2. Open the **failed authentication**.



3. Verify that ISE sends an "**Access-Challenge**".

4. Confirm that the endpoint sends a new "**Access-Request**" instead of responding to the challenge.

5. Note the time between the Access-Challenge and the new Access-Request.

6. In this image, we can see ISE sending "**Access-Challenge**" but ISE didn't receive any response.

Cisco Identity Services Engine

11006	Returned RADIUS Access-Challenge	0
11001	Received RADIUS Access-Request	140
11018	RADIUS is re-using an existing session	0
12504	Extracted EAP-Response containing EAP-TLS challenge-response	1
12505	Prepared EAP-Request with another EAP-TLS challenge	0
11006	Returned RADIUS Access-Challenge	0
11001	Received RADIUS Access-Request	140
11018	RADIUS is re-using an existing session	0
12504	Extracted EAP-Response containing EAP-TLS challenge-response	0
12505	Prepared EAP-Request with another EAP-TLS challenge	0
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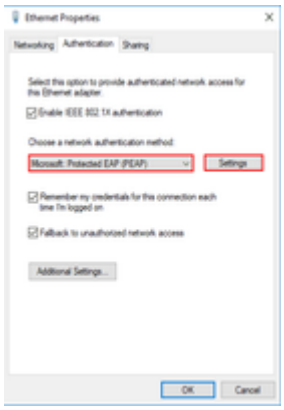
11006	Returned RADIUS Access-Challenge	0
5440	Endpoint abandoned EAP session and started new	58134

2. **Verify the endpoint supplicant configuration**

- Confirm that the correct EAP method is configured.
- Verify the authentication mode, such as Machine, User, or Machine + User authentication.



- Check the supplicant timeout and retry settings.
- Verify that the endpoint uses the expected 802.1X profile.
- Compare the configuration with a working endpoint.

3. **Check the endpoint logs**

- Review the operating system and supplicant authentication logs.
- Check whether the supplicant receives the EAP request.
- Identify any timeout, authentication restart, or EAP-related errors.
- If Cisco Secure Client is used, collect a DART bundle for further analysis.
    - Collect DART Bundle for Secure Client

4. **Check the network path**

- Take Simultaneous packet captures on Endpoint (Wireshark) , NAD (SPAN capture) and ISE (TCPDump)
- Verify that EAPOL traffic reaches the NAD.
- Verify that RADIUS responses from ISE reach the NAD.
- Check for packet loss or delay between the endpoint, NAD, and ISE.

- Use a packet capture when the endpoint logs do not identify the reason for the restart.

5. **Compare with a working endpoint**

- Use the same NAD, ISE PSN, and authentication policy where possible.
- Compare the EAP method, supplicant configuration, timeout values, and authentication sequence.
- If only specific endpoints fail, focus the investigation on the endpoint configuration or supplicant.

To validate if the issue is resolved, perform a new authentication and verify that the endpoint responds to the ISE Access-Challenge and completes authentication successfully without generating 5440.

Cause

The endpoint supplicant does not complete the EAP authentication within the configured timeout or uses an incorrect 802.1X configuration. A short supplicant timeout, incorrect EAP settings, or a supplicant issue can cause the endpoint to restart authentication before the previous session completes.

Related Content

- Understand and Configure EAP-TLS