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# Cisco Webex SSO Critical Certificate Validation Flaw Requires Manual Customer Remediation

**CVE VULNERABILITY** | **CRITICAL** | CVSS 9.5

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| **SCC Item ID** | SCC-CVE-2026-0043 |
| **Type** | CVE Vulnerability |
| **CVE ID** | CVE-2026-20184, CVE-2026-20147, CVE-2026-20180, CVE-2026-20186 |
| **Severity** | CRITICAL |
| **CVSS Base Score** | 9.5 |
| **EPSS Score** | 0.0005 (16th percentile) |
| **Affected Products** | Cisco Webex Services (SSO integration), Cisco Identity Services Engine (ISE) |
| **Published** | 2026-04-16T08:01:42 |
| **Discovery Source** | Rss |

## Executive Summary

Four critical vulnerabilities in Cisco Webex Services and Identity Services Engine (ISE) require immediate action from enterprise security teams. The most urgent, CVE-2026-20184 (CVSS 9.5), allows unauthenticated attackers to impersonate any user in Webex's SAML-based single sign-on, and server-side patching alone does not close the exposure; each organization must manually upload a replacement SAML certificate in Cisco Control Hub. Organizations using Cisco ISE for network access control face three additional critical flaws that, if exploited, could allow attackers to move laterally, execute operating system commands, and bypass authentication controls.

## Technical Analysis

CVE-2026-20184 (CWE-295, CVSS 9.5): Improper certificate validation in Cisco Webex Services' SAML-based SSO integration. An unauthenticated remote attacker can forge a SAML assertion and impersonate any Webex user, including administrators, without valid credentials. The attack requires no privileges and no user interaction. Critically, Cisco's server-side fix is necessary but insufficient: organizations must also manually upload a new SAML certificate to Control Hub or the exposure persists and service interruption risk remains. MITRE techniques: T1606.002 (Forge Web Credentials: SAML Tokens), T1550.001 (Use Alternate Authentication Material: Application Access Token), T1078 (Valid Accounts), T1556.006 (Modify Authentication Process: Multi-Factor Authentication).

CVE-2026-20147 (CWE-287): Improper authentication in Cisco Identity Services Engine (ISE). Requires authenticated admin access to exploit, reduces immediacy but ISE's NAC role makes this high-consequence if an admin account is compromised. MITRE: T1078, T1134.

CVE-2026-20180 (CWE-78): OS command injection in Cisco ISE. Authenticated admin access required. A compromised or insider admin can inject arbitrary operating system commands. MITRE: T1059.

CVE-2026-20186: Additional critical ISE flaw (CWE pending retrieval from NVD). Requires authenticated admin access.

EPSS score is currently low (0.051%, 15.7th percentile), indicating limited observed exploitation activity at time of publication. CVE-2026-20184 has not been added to CISA's Known Exploited Vulnerabilities catalog as of the configuration date. No confirmed exploitation of the current CVEs has been reported as of publication. Affected products: Cisco Webex Services (SSO integration), Cisco Identity Services Engine. Consult the official Cisco Security Advisory for affected version ranges, retrieve advisory-specific URL before use. NVD entry for CVE-2026-20180: https://nvd.nist.gov/vuln/detail/CVE-2026-20180 (T1 source, verified in item data).

## Action Checklist

1. Step 1: Containment. Identify all Cisco Webex deployments using SAML-based SSO. Until the manual certificate remediation is complete, determine whether SSO can be temporarily disabled or restricted to trusted IP ranges for administrative access. For Cisco ISE environments, audit active admin accounts immediately and confirm no unauthorized privileged sessions exist. Do not treat Cisco's server-side patch as sufficient closure for CVE-2026-20184.
2. Step 2: Detection. Review Cisco Webex audit logs and Control Hub access logs for anomalous authentication events, particularly SSO authentications from unexpected IP addresses, unusual user impersonation patterns, or access to administrative functions by unexpected accounts. For ISE, review admin session logs for unexpected command execution or configuration changes. Query SIEM for SAML assertion anomalies: look for assertions signed by certificates other than your registered IdP cert, assertions with unusual NameID values, or authentication events that lack corresponding IdP-side session records. MITRE T1606.002 detection: monitor for SAML tokens issued outside normal IdP workflows.
3. Step 3: Eradication. For CVE-2026-20184: (1) Apply Cisco's server-side patch per the Cisco Security Advisory for Webex Services. (2) Manually log in to Cisco Control Hub and upload the new SAML certificate provided or referenced in the advisory; this step is mandatory and does not happen automatically. Confirm the certificate upload completes without error before closing the remediation ticket. For CVE-2026-20147, CVE-2026-20180, CVE-2026-20186: Apply the Cisco ISE patches specified in the official Cisco Security Advisory (retrieve advisory-specific URL and confirm fixed version numbers before patching).
4. Step 4: Recovery. After the Control Hub SAML certificate upload, test SSO authentication end-to-end with a non-admin test account before restoring full production SSO access. Confirm authentication succeeds and no service interruption occurs. For ISE, validate network access control policies are intact post-patch and that no unauthorized configuration changes were made during the exposure window. Monitor authentication logs for 72 hours post-remediation for residual anomalies. Re-run your SAML metadata validation process to confirm the new certificate is active.
5. Step 5: Post-Incident. Document the manual remediation gap: this incident exposed a pattern where vendor server-side patches require customer-side certificate actions that automated patch processes do not cover. Update your patch management runbooks to include a 'customer action required' flag for Cisco

Webex and similar SaaS-adjacent products. Review your SSO architecture for single points of failure in certificate validation. Assess whether SAML token signing validation controls (CWE-295 class) are consistently enforced across other IdP integrations in your environment. Map findings to NIST CSF 2.0 Respond and Recover functions and update your incident playbook for SAML-based authentication failures.

## IR / Forensic Enrichment

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| **Triage Priority** | IMMEDIATE |
| **Escalation Criteria** | Escalate to CISO and legal counsel immediately if Cisco Control Hub audit logs reveal any SSO authentication events that cannot be correlated to a legitimate IdP-side session during the exposure window, as this constitutes evidence of CVE-2026-20184 exploitation and may trigger breach notification obligations for any PII or regulated data accessible via the impersonated Webex accounts. |
| **Recovery Notes** | Full SSO restoration must not occur until the replacement SAML certificate is confirmed active in Control Hub via metadata export and verified by a test authentication. Post-restoration, monitor Cisco Control Hub audit logs and IdP sign-in logs in parallel for 72 hours, specifically for SSO authentications lacking a corresponding IdP session record — the forensic indicator of CVE-2026-20184 exploitation. If ISE was also patched, validate that NAC authorization policies have not been altered by diffing the pre- and post-patch configuration exports before restoring full network access control enforcement. |
| **Forensic Artifacts** | Cisco Control Hub Audit Log (JSON export via API: GET /v1/auditEvents) — will contain 'userLoggedIn' SSO events; exploitation of CVE-2026-20184 appears as valid SAML authentications with no corresponding IdP-side session, or with NameID values not matching provisioned users \| IdP authentication logs (Azure AD Sign-in Logs, Okta System Log, or ADFS Security Event Log Event ID 1200/1202) cross-referenced against Control Hub SSO events to identify Webex authentications with no upstream IdP record — the definitive forensic signature of SAML assertion forgery under CVE-2026-20184 \| Cisco ISE Administration Audit Report (Operations > Reports > Audit > Change Configuration Audit) covering the full exposure window — captures any unauthorized configuration changes to NAC policies, admin accounts, or network access rules that may have been made via sessions established through CVE-2026-20147, -20180, or -20186 \| Active SAML certificate record from Control Hub (thumbprint, issuer, expiry, upload timestamp) preserved before and after remediation — confirms the vulnerable certificate state at time of discovery and proves replacement was completed \| Network flow or firewall logs for connections to Cisco Webex SSO endpoints (idbroker.webex.com, idbroker-a.webex.com) during the exposure window — unexpected source IPs authenticating to these endpoints indicate reconnaissance or active exploitation of CVE-2026-20184 from outside normal corporate egress paths |

### Per-Action IR Details

**Step 1: Containment — Identify all Cisco Webex deployments using SAML-based SSO. Until the manual certificate remediation is complete, assess whether SSO can be temporarily disabled or restricted to trusted IP ranges for administrative access. For Cisco ISE environments, audit active admin accounts immediately and confirm no unauthorized privileged sessions exist. Do not treat Cisco's server-side patch as sufficient closure for CVE-2026-20184.**

**NIST Phase:** Containment
**Reference:** NIST 800-61r3 §3.3 — Containment Strategy

**Controls:** NIST IR-4 (Incident Handling), NIST AC-17 (Remote Access), CIS 6.3 (Require MFA for Externally-Exposed Applications), CIS 1.1 (Establish and Maintain Detailed Enterprise Asset Inventory)

**Compensating:** Without a SIEM, enumerate Webex SSO deployments using Cisco Control Hub's Organization Settings export (CSV) to identify all active SSO configurations. Restrict Webex SSO access to corporate IP ranges via Control Hub > Security > SSO Settings > IP Allowlist. For ISE admin session auditing, run 'show logging application localStore.log' from ISE CLI and grep for 'ADMIN_LOGIN' and 'PRIV_ESCALATION' events. A two-person team can divide: one owns Control Hub IP restriction, the other runs ISE session audit in parallel.

**Evidence:** Before restricting SSO, export and preserve the current Cisco Control Hub SSO configuration including the active SAML signing certificate thumbprint and IdP metadata URL. Capture a snapshot of all active ISE admin sessions from Administration > System > Logging > Active Sessions. Preserve Webex audit log exports covering the 30 days prior to discovery — these are the only record of SAML-based authentication events that CVE-2026-20184 exploitation would appear in, specifically as authentications with valid assertions that do not correspond to a real IdP-initiated session.

**Step 2: Detection — Review Cisco Webex audit logs and Control Hub access logs for anomalous authentication events, particularly SSO authentications from unexpected IP addresses, unusual user impersonation patterns, or access to administrative functions by unexpected accounts. For ISE, review admin session logs for unexpected command execution or configuration changes. Query SIEM for SAML assertion anomalies: look for assertions signed by certificates other than your registered IdP cert, assertions with unusual NameID values, or authentication events that lack corresponding IdP-side session records. MITRE T1606.002 detection: monitor for SAML tokens issued outside normal IdP workflows.**

**NIST Phase:** Detection Analysis

**Reference:** NIST 800-61r3 §3.2 — Detection and Analysis

**Controls:** NIST SI-4 (System Monitoring), NIST AU-6 (Audit Record Review, Analysis, and Reporting), NIST AU-12 (Audit Record Generation), CIS 8.2 (Collect Audit Logs)

**Compensating:** Without a SIEM, export Cisco Control Hub audit logs via the Control Hub Audit Log API (GET /v1/auditEvents) filtered to the prior 90 days and parse with Python or jq for authentication events where 'actorUserName' differs from 'targetUserName' — a pattern specific to CVE-2026-20184 SAML user impersonation. For SAML assertion inspection, capture authentication traffic at the IdP boundary using Wireshark with display filter 'http contains "SAMLResponse"' and decode base64-encoded assertions to compare the signing certificate fingerprint against your registered IdP cert. For ISE, use 'show logging application prrt-management.log | include ADMIN' from CLI and flag any admin logins with source IPs outside your management subnet. Apply the public Sigma rule for T1606.002 (Forged SAML Token) against any log aggregator including Graylog or Splunk Free.

**Evidence:** Capture and preserve: (1) Cisco Control Hub audit log export (JSON) covering the full potential exposure window — look specifically for 'userLoggedIn' events via SSO where the source IP is not a known corporate egress or IdP proxy address; (2) IdP-side authentication logs (Azure AD sign-in logs, Okta System Log, or ADFS Security event logs) cross-referenced against Control Hub SSO events to identify Webex authentications with no corresponding IdP record, which is the forensic signature of CVE-2026-20184 exploitation; (3) ISE Administration audit log (Operations > Reports > Audit > Change Configuration Audit) for any configuration modifications during the exposure window; (4) Network flow data (NetFlow or firewall logs) for connections to Webex SSO endpoints (idbroker.webex.com, idbroker-a.webex.com) from unexpected source IPs.

**Step 3: Eradication — For CVE-2026-20184: (1) Apply Cisco's server-side patch per the Cisco Security Advisory for Webex Services. (2) Manually log in to Cisco Control Hub and upload the new SAML certificate provided or referenced in the advisory — this step is mandatory and does not happen automatically. Confirm the certificate upload completes without error before closing the remediation ticket. For CVE-2026-20147, CVE-2026-20180, CVE-2026-20186: Apply the Cisco ISE patches specified in the Cisco Security Advisory. Retrieve the specific fixed version numbers from the official advisory at https://sec.cloudapps.cisco.com/security/center/content/CiscoSecurityAdvisory before patching.**

**NIST Phase:** Eradication

**Reference:** NIST 800-61r3 §3.4 — Eradication

**Controls:** NIST SI-2 (Flaw Remediation), NIST SI-7 (Software, Firmware, and Information Integrity), CIS 7.3 (Perform Automated Operating System Patch Management), CIS 7.4 (Perform Automated Application Patch Management), CIS 7.2 (Establish and Maintain a Remediation Process)

**Compensating:** The Cisco Control Hub SAML certificate replacement cannot be automated for most organizations — a named administrator must authenticate to Control Hub (admin.webex.com), navigate to Management > Organization Settings > Authentication > SSO Certificate, and manually upload the replacement certificate referenced in the Cisco advisory. Document the certificate SHA-256 thumbprint before and after upload as your change record. For ISE patching on a constrained team, use Cisco's Software Checker tool (software.cisco.com/download/home) to confirm the exact target version per your ISE deployment model (standalone vs. distributed), then apply via Administration > System > Upgrade. Verify patch integrity by comparing the downloaded patch SHA-512 hash against the value published in the Cisco advisory before installation.

**Evidence:** Before applying any patch, capture: (1) Current Webex SSO SAML certificate thumbprint from Control Hub > Organization Settings > Authentication — this is the baseline you are replacing and the artifact that proves the vulnerable certificate was in place; (2) ISE running configuration export (Administration > System > Backup and Restore > Configuration Backup) as forensic baseline and rollback artifact; (3) Screenshot or API export of Control Hub SSO metadata showing the pre-patch IdP configuration, to confirm the advisory-specified vulnerable state was present in your environment; (4) ISE version string from 'show version' CLI output to confirm which CVEs (CVE-2026-20147, -20180, -20186) apply to your specific deployment.

**Step 4: Recovery — After the Control Hub SAML certificate upload, test SSO authentication end-to-end with a non-admin test account before restoring full production SSO access. Confirm authentication succeeds and no service interruption occurs. For ISE, validate network access control policies are intact post-patch and that no unauthorized configuration changes were made during the exposure window. Monitor authentication logs for 72 hours post-remediation for residual anomalies. Re-run your SAML metadata validation process to confirm the new certificate is active.**

**NIST Phase:** Recovery

**Reference:** NIST 800-61r3 §3.5 — Recovery

**Controls:** NIST IR-4 (Incident Handling), NIST SI-6 (Security and Privacy Function Verification), NIST CA-7 (Continuous Monitoring), CIS 7.1 (Establish and Maintain a Vulnerability Management Process)

**Compensating:** For SAML certificate validation without enterprise tooling: after uploading the replacement certificate in Control Hub, export the active IdP metadata XML from Control Hub and parse the X509Certificate element — compute its SHA-256 fingerprint using 'openssl x509 -noout -fingerprint -sha256' and confirm it matches the certificate provided in the Cisco advisory. Test end-to-end SSO by authenticating a non-privileged test account and verifying the resulting Webex session token was issued by the new certificate (intercept with Burp Suite Community or a browser SAML-tracer extension and inspect the assertion's ds:X509Certificate value). For ISE NAC policy validation, run a test 802.1X authentication for a known endpoint and confirm the expected authorization policy is returned via Operations > Live Logs.

**Evidence:** During the 72-hour post-remediation monitoring window, preserve: (1) Cisco Control Hub audit log snapshots at 24-hour intervals showing only SSO authentications with source IPs matching known corporate ranges and IdP proxies; (2) Confirmation export of the new SAML certificate record from Control Hub (thumbprint, expiry, upload timestamp) as closure evidence for the remediation ticket; (3) ISE post-patch configuration export to diff against the pre-patch baseline for any unauthorized changes made during the exposure window; (4) Any authentication failures or anomalous NameID values appearing in Webex SSO logs during the monitoring window, which could indicate an adversary retesting the vulnerability post-patch.

**Step 5: Post-Incident — Document the manual remediation gap: this incident exposed a pattern where vendor server-side patches require customer-side certificate actions that automated patch processes do not cover. Update your patch management runbooks to include a 'customer action required' flag for Cisco Webex and similar SaaS-adjacent products. Review your SSO architecture for single points of failure in certificate validation. Assess whether SAML token signing validation controls (CWE-295 class) are consistently enforced**

**across other IdP integrations in your environment. Map findings to NIST CSF 2.0 Respond and Recover functions and update your incident playbook for SAML-based authentication failures.**

**NIST Phase:** Post Incident

**Reference:** NIST 800-61r3 §4 — Post-Incident Activity

**Controls:** NIST IR-4 (Incident Handling), NIST IR-8 (Incident Response Plan), NIST SI-2 (Flaw Remediation), NIST AU-6 (Audit Record Review, Analysis, and Reporting), CIS 7.1 (Establish and Maintain a Vulnerability Management Process), CIS 7.2 (Establish and Maintain a Remediation Process)

**Compensating:** For a two-person team, the lessons-learned deliverable should be a one-page runbook addendum: (1) Add a 'Cisco Webex / SaaS certificate action required' checklist item to your existing patch management SOP that triggers whenever a Cisco Security Advisory for Webex or ISE is received; (2) Create a recurring quarterly task to export and validate the active SAML signing certificate from Control Hub against your IdP's current certificate — detectable drift is an early warning of misconfiguration or future certificate-related vulnerabilities; (3) Use the free OWASP SAML Security Cheat Sheet as a baseline to audit all remaining IdP integrations for CWE-295 class enforcement gaps, prioritizing any other Cisco or SaaS products using SAML SSO.

**Evidence:** Assemble the post-incident record from artifacts already captured: (1) Timeline of Control Hub audit log events from discovery through certificate replacement, demonstrating the gap window where CVE-2026-20184 was exploitable; (2) Before/after SAML certificate thumbprints from Control Hub proving the vulnerable certificate was replaced; (3) ISE pre/post configuration diff confirming no unauthorized policy changes persisted after patch application; (4) Summary of any anomalous authentication events identified during the 72-hour monitoring window and their dispositions; (5) Written record of the manual remediation step that automated patching did not cover, to serve as evidence of due diligence and to inform future runbook updates.

## Detection Guidance

Primary detection focus is on CVE-2026-20184 (SAML impersonation). Query Webex audit logs and your IdP (e.g., Okta, Azure AD, Ping) for authentication events where: (1) a Webex SSO session was established but no corresponding IdP session exists; (2) the SAML assertion NameID does not match a user who initiated a login flow; (3) SSO authentications originate from IP addresses with no prior history in your environment. SIEM correlation: join Webex Control Hub audit events with IdP authentication logs on session ID and timestamp; flag gaps where Webex shows a successful login with no IdP-side record. For Cisco ISE (CVE-2026-20180, OS command injection): review ISE admin audit logs for unusual command sequences, unexpected configuration exports, or admin actions occurring outside business hours. MITRE T1059 (command execution) and T1134 (access token manipulation) detection: alert on ISE admin sessions that trigger OS-level process execution or configuration changes not associated with a change ticket. No confirmed IOCs for the current CVEs are available at this time; monitor Cisco security advisories and VulnCheck Known Exploited Vulnerabilities list for IOC updates.

## Framework Mappings

### MITRE-ATTACK

- **T1606.002** — SAML Tokens
- **T1059** — Command and Scripting Interpreter
- **T1550.001** — Application Access Token
- **T1134** — Access Token Manipulation
- **T1078** — Valid Accounts

- **T1556.006** — Multi-Factor Authentication

### NIST-800-53R5

- **CM-7** — Least Functionality
- **SI-3** — Malicious Code Protection
- **SI-4** — System Monitoring
- **SI-7** — Software, Firmware, and Information Integrity
- **AC-2** — Account Management
- **AC-6** — Least Privilege
- **IA-2** — Identification and Authentication (Organizational Users)
- **IA-5** — Authenticator Management
- **SC-8** — Transmission Confidentiality and Integrity
- **SC-17** — Public Key Infrastructure Certificates
- **IA-8** — Identification and Authentication (Non-Organizational Users)
- **SI-10** — Information Input Validation
- **SC-13** — Cryptographic Protection

### OWASP-TOP10-2021

- **A02:2021** — Cryptographic Failures
- **A07:2021** — Identification and Authentication Failures
- **A03:2021** — Injection

### CIS-V8

- **3.10** — Encrypt Sensitive Data in Transit
- **6.3** — Require MFA for Externally-Exposed Applications
- **6.4** — Require MFA for Remote Network Access
- **6.5** — Require MFA for Administrative Access
- **2.5** — Allowlist Authorized Software
- **16.10** — Apply Secure Design Principles in Application Architectures
- **7.3** — Perform Automated Operating System Patch Management
- **7.4** — Perform Automated Application Patch Management

### SOC2-TSC

- **CC6.1** — The entity implements logical access security software, infrastructure, and architectures over protected information assets

### HIPAA-SECURITY

- **164.312(d)** — Person or Entity Authentication

### ISO-27001-2022

- **A.8.8** — Management of technical vulnerabilities

## MITRE ATT&CK Mapping

| Technique ID | Technique Name | Tactic |
|---|---|---|
| T1606.002 | SAML Tokens | Credential-Access |
| T1059 | Command and Scripting Interpreter | Execution |
| T1550.001 | Application Access Token | Defense-Evasion |
| T1134 | Access Token Manipulation | Defense-Evasion |
| T1078 | Valid Accounts | Defense-Evasion |
| T1556.006 | Multi-Factor Authentication | Credential-Access |

## Sources

| Source | URL | Tier |
|---|---|---|
| **Security News** | https://www.bleepingcomputer.com/news/security/cisco-says-critical-... | T3 |
| | https://www.bleepingcomputer.com/news/security/cisco-says-critical-... | T3 |
| **Cisco Patches Four Critical Identity Services, Webex Flaws Enabling ...** | https://thehackernews.com/2026/04/cisco-patches-four-critical-ident... | T3 |
| **CVE-2026-20180 - NVD** | https://nvd.nist.gov/vuln/detail/CVE-2026-20180 | T1 |
| **Cisco Patches Critical Vulnerabilities in Webex, ISE - SecurityWeek** | https://www.securityweek.com/cisco-patches-critical-vulnerabilities... | T3 |
| **NVD** | https://nvd.nist.gov/vuln/detail/CVE-2026-20184, CVE-2026-20147, CV... | T1 |
| **Cisco Security Advisory** | https://sec.cloudapps.cisco.com/security/center/content/CiscoSecuri... | T1 |



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