INTELLIGENCE BRIEFING
Security Command Center
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Google Chrome 146 Introduces Device Bound Session Credentials (DBSC) to Counter Session Cookie Theft

SECURITY ANALYSIS | HIGH | CVSS 7.5

SCC Item ID	SCC-STY-2026-0052
Type	Security Analysis
Severity	HIGH
CVSS Base Score	7.5
Affected Products	Google Chrome 146 (Windows, TPM-equipped devices); macOS support pending; Okta (pilot partner); Microsoft (co-developer)
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Executive Summary

Google has shipped Device Bound Session Credentials (DBSC) in Chrome 146 for Windows, cryptographically tying session cookies to the device's Trusted Platform Module so stolen credentials cannot be replayed on attacker-controlled machines. This directly counters one of the most exploited techniques in the current threat landscape: infostealer-driven session hijacking, used extensively by malware families such as LummaC2 to bypass multi-factor authentication entirely. DBSC's W3C standardization path and Chrome's dominant browser market share signal a structural shift toward hardware-anchored identity, raising the baseline cost of credential theft attacks across the enterprise.

Technical Analysis

Session cookie theft has become the preferred post-authentication attack vector for infostealers because it sidesteps MFA entirely. Once an infostealer like LummaC2 exfiltrates a valid session cookie from browser storage, an attacker can replay that cookie from any machine and inherit a fully authenticated session, no password or second factor required. MITRE ATT&CK maps this tradecraft across T1539 (Steal Web Session Cookie), T1550.004 (Use Alternate Authentication Material: Web Session Tokens), T1606.001 (Forge Web Credentials: Web Cookies), and T1185 (Browser Session Hijacking), illustrating how deep this technique runs in the modern infostealer playbook.

DBSC interrupts this chain at the cryptographic layer. When a DBSC-enabled session is established, Chrome generates a public/private key pair backed by the device's TPM. The relying party (an identity provider or web

application) registers the public key alongside the session. Subsequent session continuations require the browser to prove possession of the corresponding private key, a proof that cannot be reproduced on hardware that never held it. An exported cookie without the bound TPM key is cryptographically inert elsewhere. This addresses CWE-522 (Insufficiently Protected Credentials), CWE-311 (Sensitive Information Exposure), and CWE-384 (Session Fixation) at the mechanism level rather than the policy level.

The feature ships in Chrome 146 for Windows on TPM-equipped devices. macOS support is listed as pending. Google co-developed the underlying specification with Microsoft and is running an early pilot with Okta as an identity provider partner, a pairing that signals enterprise-readiness intent. The specification is progressing through W3C, which means browser-agnostic adoption is on the horizon, though timeline depends on vendor implementation velocity.

The defensive gap DBSC closes is significant: enterprise detection of session hijacking is notoriously difficult because the attacker presents a legitimate, unexpired token. EDR tools may catch the infostealer at the collection stage, but if the cookie is already exfiltrated, downstream session abuse often blends with normal user activity. DBSC shifts the defense left by making the collection itself strategically worthless without the corresponding hardware.

Critical dependencies remain. DBSC requires relying parties (IdPs, SaaS applications, internal web applications) to implement the server-side protocol. An enterprise deploying Chrome 146 gains no protection if the identity provider has not adopted DBSC. TPM availability across the enterprise device fleet is a second constraint: older or non-standard hardware may lack the required module. Organizations should treat DBSC as a capability to plan for, not a control already in place.

Action Checklist

1. Step 1: Assess exposure, determine whether your organization runs Chrome on Windows and whether your primary IdP (e.g., Okta, Microsoft Entra ID, or an internal SSO) has announced or roadmapped DBSC support; without both, the protection is not active
2. Step 2: Review controls, audit current session security posture: confirm MFA is enforced on all SaaS and internal web applications, verify EDR coverage includes infostealer behavioral detections (credential and cookie theft modules), and check whether session token lifetimes and re-authentication policies are appropriately short
3. Step 3: Update threat model, add LummaC2 and infostealer-driven session hijacking (T1539, T1550.004, T1606.001) to your threat register; assess whether your current detection stack would catch cookie theft before downstream session abuse occurs
4. Step 4: Communicate findings, brief leadership that DBSC is a meaningful architectural improvement but is not yet a universally active control; frame the gap in terms of infostealer risk to privileged and federated identity sessions, which carry direct business impact
5. Step 5: Monitor developments, track Okta, Microsoft Entra, and other IdP vendors for DBSC implementation announcements; monitor Chrome release notes and the W3C DBSC specification progress; plan an enterprise rollout evaluation once your primary IdP confirms support

IR / Forensic Enrichment

Triage Priority	URGENT

Escalation Criteria	Escalate to CISO and initiate an identity-focused incident if EDR or IdP logs show any of the following: a process other than Chrome.exe reading `%LOCALAPPDATA%\Google\Chrome\User Data\Default\Network\Cookies`; an Okta or Entra ID session authenticated from a new device fingerprint within minutes of a legitimate session; or any LummaC2 indicators of compromise (file hashes, C2 domains from current threat feeds) detected on endpoints with privileged SSO access.
Recovery Notes	Once DBSC is active on both Chrome 146+ and the confirmed IdP, invalidate all existing long-lived session tokens for privileged and admin accounts and force re-authentication to establish new DBSC-bound sessions that are cryptographically tied to the device TPM. Monitor IdP session creation logs for 30 days post-rollout for any anomalies suggesting attackers are attempting to replay pre-DBSC cookies stolen prior to enforcement. Verify that Chrome enterprise policy `DeviceBoundSessionCredentialsEnabled` is confirmed active via `chrome://policy` on a representative sample of endpoints and that TPM attestation is functioning by checking Windows Event Log under `Microsoft-Windows-TPM-WMI/Operational` for TPM errors.
Forensic Artifacts	Chrome SQLite cookie database at `%LOCALAPPDATA%\Google\Chrome\User Data\Default\Network\Cookies` — LummaC2 and similar infostealers exfiltrate this file directly; examine file access timestamps and any SQLite journal files (`Cookies-journal`) that indicate recent programmatic access outside normal Chrome operation | Chrome `Local State` file at `%LOCALAPPDATA%\Google\Chrome\User Data\Local State` — contains the AES-256 encryption key for cookie values encrypted with DPAPI; forensic analysis of this file alongside Windows DPAPI master keys can confirm whether a stealer decrypted and exfiltrated session cookie values | Windows Security Event ID 4663 (An Attempt Was Made to Access an Object) on the Chrome User Data directory — if file system auditing is enabled, this event records every process that accessed the Cookies or Login Data files, directly attributing cookie theft to a specific process and user context | Okta System Log events `user.session.start` and `policy.evaluate_sign_on` filtered for new `device_fingerprint` values on accounts that also have an active session from a known-good device — this is the canonical post-theft signal before DBSC, indicating cookie replay from an attacker-controlled machine | Sysmon Event ID 10 (Process Access) targeting Chrome.exe as the source process being accessed by non-browser processes, combined with Event ID 1 (Process Create) showing execution of unsigned binaries from `%TEMP%` or `%APPDATA%` — the latter is consistent with LummaC2's delivery and execution pattern prior to Chrome credential harvesting

Per-Action IR Details

Step 1: Assess exposure — determine whether your organization runs Chrome on Windows and whether your primary IdP (e.g., Okta, Microsoft Entra ID, or an internal SSO) has announced or roadmapped DBSC support; without both, the protection is not active

NIST Phase: Preparation

Reference: NIST 800-61r3 §2 — Preparation: Establishing IR capability and assessing control gaps before an incident occurs

Controls: NIST SI-2 (Flaw Remediation) — assess whether Chrome 146 with DBSC is deployed across the enterprise, NIST SI-5 (Security Alerts, Advisories, and Directives) — track Google, Okta, and Microsoft Entra DBSC readiness announcements, NIST RA-3 (Risk Assessment) — quantify residual infostealer session hijacking risk for environments lacking DBSC on both Chrome and IdP side, CIS 1.1 (Establish and Maintain Detailed Enterprise Asset Inventory) — enumerate all Windows endpoints running Chrome to identify DBSC-eligible devices with TPM 2.0, CIS 2.2 (Ensure Authorized Software is Currently Supported) — verify Chrome version across fleet; Chrome 146 is required for DBSC

Compensating: Run the following PowerShell one-liner across managed endpoints to identify Chrome version and TPM 2.0 presence: `Get-ItemProperty 'HKLM:\SOFTWARE\Google\Chrome\BLBeacon' -Name version | Select version; Get-WmiObject -Namespace root\cimv2\security\microsofttpm -Class Win32_Tpm | Select IsActivated_InitialValue, IsEnabled_InitialValue, SpecVersion`. For IdP readiness, check Okta's System Log at Admin > Reports > System Log filtering for `session.hijacking` or session anomaly events; for Entra ID, query the Sign-in Logs via portal.azure.com filtering for 'Token issuer type' anomalies. A 2-person team can script this inventory using osquery: `SELECT version FROM chrome_extensions WHERE name = 'Google Chrome';` combined with `SELECT * FROM tpm_info;`.

Evidence: Before remediating, capture the current Chrome version deployed via registry key `HKLM\SOFTWARE\Google\Chrome\BLBeacon\version` on a sample of Windows endpoints; document TPM 2.0 activation status from `HKLM\SYSTEM\CurrentControlSet\Services\TPM\`; and pull IdP session token lifetime configuration from Okta Admin Console (Security > Authentication Policies) or Entra ID (Conditional Access > Session controls) to establish the pre-DBSC baseline for gap documentation.

Step 2: Review controls — audit current session security posture: confirm MFA is enforced on all SaaS and internal web applications, verify EDR coverage includes infostealer behavioral detections (credential and cookie theft modules), and check whether session token lifetimes and re-authentication policies are appropriately short

NIST Phase: Preparation

Reference: NIST 800-61r3 §2 — Preparation: Ensuring detection and prevention capabilities are in place prior to exploitation

Controls: NIST SI-4 (System Monitoring) — verify EDR behavioral coverage for infostealer cookie theft activity (process injection into Chrome, DPAPI abuse, AppData credential file access), NIST AC-12 (Session Termination) — confirm session token lifetimes are enforced and re-authentication is triggered on risk signals, NIST IA-11 (Re-Authentication) — validate that privileged and federated identity sessions require step-up authentication after defined inactivity, CIS 6.3 (Require MFA for Externally-Exposed Applications) — confirm MFA is enforced at every SaaS and internal web application, not just at IdP login, CIS 6.5 (Require MFA for Administrative Access) — verify MFA is enforced specifically for admin-level SSO sessions, which are the highest-value targets for LummaC2 operators

Compensating: Without EDR, deploy Sysmon (v15+) with a configuration targeting DPAPI abuse and Chrome credential file access: monitor Event ID 10 (ProcessAccess) for any process opening `C:\Users\*\AppData\Local\Google\Chrome\User Data\Default\Network\Cookies` or `Login Data`; monitor Event ID 11 (FileCreate) for new files in `%TEMP%` written by Chrome child processes. Use the Sigma rule `proc_access_win_chrome_credential_stealing` (available in SigmaHQ repository) to detect LummaC2-style cookie harvesting. For session lifetime auditing with no SIEM, query Okta System Log via API: `GET /api/v1/logs?filter=eventType eq "user.session.start"` and compare session duration against policy.

Evidence: Capture Sysmon Event ID 10 logs showing process access to Chrome's `Cookies` and `Login Data` SQLite files under `%LOCALAPPDATA%\Google\Chrome\User Data\Default\`; collect Windows Security Event ID 4663 (Object Access) on the Chrome User Data directory if file auditing is enabled; pull EDR telemetry for DPAPI CryptUnprotectData calls originating from non-Chrome processes, which indicate a stealer decrypting Chrome's AES-256 cookie encryption key stored in the `Local State` file.

Step 3: Update threat model — add LummaC2 and infostealer-driven session hijacking (T1539, T1550.004, T1606.001) to your threat register; assess whether your current detection stack would catch cookie theft before downstream session abuse occurs

NIST Phase: Detection Analysis

Reference: NIST 800-61r3 §3.2 — Detection and Analysis: Integrating threat intelligence to improve detection accuracy and triage adverse events

Controls: NIST RA-3 (Risk Assessment) — formally document LummaC2 and infostealer session hijacking as a threat scenario against your IdP and SaaS environment, NIST SI-5 (Security Alerts, Advisories, and Directives) — incorporate CISA and vendor advisories on LummaC2 campaigns into the threat register update cycle, NIST IR-4

(Incident Handling) — update the incident classification criteria to include session token replay events as a distinct incident category separate from credential compromise, CIS 7.1 (Establish and Maintain a Vulnerability Management Process) — extend vulnerability management scope to include identity and session security gaps, not just CVE-based software flaws, CIS 8.2 (Collect Audit Logs) — validate that IdP session creation, token issuance, and geographic anomaly events are being collected and retained for analysis

Compensating: Map your detection coverage against MITRE ATT&CK T1539 (Steal Web Session Cookie), T1550.004 (Use Alternate Authentication Material: Web Session Cookie), and T1606.001 (Forge Web Credentials: Web Cookies) using the ATT&CK Navigator (attack.mitre.org/resources/attack-navigator) — this is free and requires no tooling. For detection gap assessment without a SIEM, use osquery to query `SELECT * FROM chrome_extensions WHERE identifier = 'cookie'` to find unauthorized cookie-access extensions, and write a YARA rule targeting LummaC2's known string patterns (available via MalwareBazaar) to scan endpoint memory dumps or downloaded files with YARA CLI.

Evidence: Before updating the threat model, pull IdP logs (Okta System Log or Entra ID Sign-in Logs) for the past 90 days and filter for impossible travel events, new device fingerprints on existing authenticated sessions, and token refresh requests originating from IP ranges inconsistent with prior user behavior — these are the downstream indicators of already-successful cookie theft that DBSC is designed to prevent. Also collect any existing EDR alerts tagged to MITRE T1539 or T1555 (Credentials from Password Stores) as a baseline.

Step 4: Communicate findings — brief leadership that DBSC is a meaningful architectural improvement but is not yet a universally active control; frame the gap in terms of infostealer risk to privileged and federated identity sessions, which carry direct business impact

NIST Phase: Post Incident

Reference: NIST 800-61r3 §4 — Post-Incident Activity: Communicating lessons learned, updating policies, and improving organizational security posture proactively

Controls: NIST IR-6 (Incident Reporting) — ensure leadership understands the residual risk from session hijacking attacks during the DBSC adoption gap, including potential breach notification implications, NIST IR-8 (Incident Response Plan) — update the IR plan to explicitly address infostealer-driven session hijacking as a scenario requiring identity-focused containment steps distinct from malware-only response, NIST CA-7 (Continuous Monitoring) — include DBSC adoption status and IdP session anomaly rates as tracked metrics in the continuous monitoring program, CIS 7.2 (Establish and Maintain a Remediation Process) — document the DBSC readiness gap as a tracked remediation item with owner, target date, and interim compensating controls

Compensating: Prepare a one-page risk brief using publicly available data: reference the Google DBSC announcement (blog.google), Okta's 2023 session cookie hijacking incidents (publicly documented), and CISA's reporting on LummaC2 (cisa.gov) to ground the business risk in real-world precedents without requiring internal incident data. A 2-person team can produce this using freely available threat intelligence from CISA advisories and Google's Project Zero blog.

Evidence: To support the leadership brief with internal evidence, pull a 90-day summary of IdP session anomaly events and any EDR alerts related to credential or cookie theft activity; if no internal incidents exist, document the absence of detection as itself a finding — the lack of alerts does not mean the threat is absent, it may mean detection coverage is insufficient, which is a gap to surface to leadership.

Step 5: Monitor developments — track Okta, Microsoft Entra, and other IdP vendors for DBSC implementation announcements; monitor Chrome release notes and the W3C DBSC specification progress; plan an enterprise rollout evaluation once your primary IdP confirms support

NIST Phase: Preparation

Reference: NIST 800-61r3 §2 — Preparation: Maintaining situational awareness of emerging controls and planning capability improvements before threats materialize

Controls: NIST SI-5 (Security Alerts, Advisories, and Directives) — establish a formal process to receive and act on DBSC implementation announcements from Okta, Microsoft Entra, and the W3C, NIST SI-2 (Flaw Remediation) — incorporate Chrome major version tracking into the patch management process, specifically monitoring for DBSC feature flag activation in enterprise channels, NIST CM-6 (Configuration Settings) — plan Chrome enterprise policy

configuration for DBSC enforcement (`DeviceBoundSessionCredentialsEnabled`) once IdP support is confirmed, CIS 7.3 (Perform Automated Operating System Patch Management) — include Chrome 146+ rollout as a tracked patch management item to ensure DBSC-capable browser versions are deployed before IdP support arrives, CIS 7.4 (Perform Automated Application Patch Management) — apply the same automated patch cadence to Chrome as a high-priority application given its role as the primary authentication surface for SaaS workloads

Compensating: Set up free RSS or email monitoring for Chrome release blog (chromereleases.googleblog.com), Okta release notes (developer.okta.com/docs/release-notes), and W3C DBSC specification (w3c.github.io/webappsec-dbsc) — no tooling budget required. Use a simple cron job or free Zapier workflow to alert the team when these pages update. For Chrome enterprise policy readiness, test the `DeviceBoundSessionCredentialsEnabled` group policy in a lab environment using Chrome's enterprise policy test page (chrome://policy) before broad rollout.

Evidence: Document the current Chrome version, TPM activation rate, and IdP DBSC readiness status as a dated baseline snapshot today; this establishes the measurement point for tracking DBSC adoption progress and provides evidence of due diligence if a session hijacking incident occurs during the adoption gap. Store this snapshot in your GRC or risk register with a review cadence of no longer than 30 days given active LummaC2 campaigning against enterprise IdP sessions.

Detection Guidance

Until DBSC is fully implemented across your IdP and application stack, detection focus should center on the infostealer collection stage and anomalous session behavior post-authentication.

Log sources to review: browser process telemetry for access to cookie storage files (Chrome stores cookies in a SQLite database under the user profile); EDR alerts for processes reading AppData\Local\Google\Chrome\User Data\Default\Network\Cookies outside of the Chrome browser process itself; endpoint telemetry for LummaC2 indicators including unsigned DLL loads, process hollowing, and outbound connections to C2 infrastructure.

Behavioral anomalies to hunt: authenticated sessions originating from a new ASN, country, or IP within minutes of a prior session from a different location (impossible travel); session token reuse from an IP with no prior authentication history for that account; simultaneous active sessions for the same identity token from geographically or network-disparate sources.

Policy gaps to audit: identify applications in your environment that rely solely on long-lived session cookies with no re-authentication requirement; these represent the highest-value targets for session hijacking. Confirm that privileged identity sessions (admin consoles, cloud management planes, financial systems) enforce short session lifetimes and IP-binding where supported.

For organizations with Okta deployments specifically: monitor for the Okta DBSC pilot enrollment options once generally available, and review Okta ThreatInsight and Behavior Detection settings as complementary controls in the interim.

Framework Mappings

MITRE-ATTACK

- **T1606.001** — Web Cookies
- **T1056.001** — Keylogging
- **T1555** — Credentials from Password Stores
- **T1550.004** — Web Session Cookie
- **T1539** — Steal Web Session Cookie

- **T1185** — Browser Session Hijacking
- **T1555.003** — Credentials from Web Browsers

OWASP-TOP10-2021

- **A04:2021** — Insecure Design
- **A07:2021** — Identification and Authentication Failures

NIST-800-53R5

- **IA-5** — Authenticator Management
- **SC-13** — Cryptographic Protection

CIS-V8

- **5.2** — Use Unique Passwords
- **6.3** — Require MFA for Externally-Exposed Applications

HIPAA-SECURITY

- **164.308(a)(5)(ii)(D)** — Password Management
- **164.312(d)** — Person or Entity Authentication
- **164.312(e)(1)** — Transmission Security

SOC2-TSC

- **CC6.1** — Logical access security software, infrastructure, and architectures

ISO-27001-2022

- **A.5.34** — Privacy and protection of personal information
- **A.8.24** — Use of cryptography

MITRE ATT&CK Mapping

Technique ID	Technique Name	Tactic
T1606.001	Web Cookies	Credential-Access
T1056.001	Keylogging	Collection
T1555	Credentials from Password Stores	Credential-Access
T1550.004	Web Session Cookie	Defense-Evasion
T1539	Steal Web Session Cookie	Credential-Access
T1185	Browser Session Hijacking	Collection
T1555.003	Credentials from Web Browsers	Credential-Access

Sources

Source	URL	Tier
Security News	https://www.bleepingcomputer.com/news/security/google-chrome-adds-i...	T3
Chrome 146 Security Update: What Teams Must Verify	https://pentest-testing-corp.medium.com/chrome-146-security-update-...	T3
Google Chrome 146 update fixes 3 critical security flaws - PCWorld	https://www.pcworld.com/article/3094617/google-chrome-146-update-fi...	T3
Chrome 146 Update Patches High-Severity Vulnerabilities	https://www.securityweek.com/chrome-146-update-patches-high-severit...	T3
Stable Channel Update for Desktop - Chrome Releases	https://chromereleases.googleblog.com/2026/03/stable-channel-update...	T3

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