

Report of Independent Accountants

To the Management of Google Trust Services LLC and Google Trust Services Europe Limited:

Scope

We have examined the accompanying [assertion](#) made by the management of Google Trust Services LLC and Google Trust Services Europe Limited (collectively, GTS), titled *Management's Assertion Regarding the Effectiveness of Its Controls Over the TLS Certificate Authority Services Based on the WebTrust Principles and Criteria for Certification Authorities – TLS Baseline Version 2.9* that for its Certification Authority (CA) services at New York, USA, South Carolina, USA, Oklahoma, USA, Ghlin, Belgium, and Zurich, Switzerland for CAs as enumerated in **Appendix A**, throughout the period from October 1, 2024 to September 30, 2025, GTS has:

- Disclosed its TLS certificate lifecycle management business practices in the applicable versions of its Certification Practice Statement (CPS) and Certificate Policy (CP) as referenced in **Appendix B**, including its commitment to provide TLS certificates in conformity with the CA/Browser Forum Requirements on the GTS website, and provided such services in accordance with its disclosed practices
- Maintained effective controls to provide reasonable assurance that:
 - the integrity of keys and TLS certificates it manages is established and protected throughout their lifecycles; and
 - TLS subscriber information is properly authenticated (for the registration activities performed by GTS)
- Maintained effective controls to provide reasonable assurance that:
 - logical and physical access to CA systems and data is restricted to authorized individuals;
 - the continuity of key and certificate management operations is maintained; and
 - CA systems development, maintenance, and operations are properly authorized and performed to maintain CA systems integrity

based on the [WebTrust Principles and Criteria for Certification Authorities – TLS Baseline Version 2.9](#).



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Management's responsibilities

GTS' management is responsible for its assertion, including the fairness of its presentation, and the provision of its described services in accordance with the *WebTrust Principles and Criteria for Certification Authorities – TLS Baseline v2.9*.

Our responsibilities

Our responsibility is to express an opinion on GTS management's assertion based on our examination. Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants (AICPA). Those standards require that we plan and perform the examination to obtain reasonable assurance about whether management's assertion is fairly stated, in all material respects. An examination involves performing procedures to obtain evidence about management's assertion. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risks of material misstatement of management's assertion, whether due to fraud or error. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

GTS' management has disclosed to us the attached matters referenced in **Appendix C** that the Company has posted publicly in the online forums of the CA/Browser Forum, as well as the online forums of individual internet browsers that comprise the CA/Browser Forum. We have considered the nature of these matters in our risk assessment and in determining the nature, timing, and extent of our procedures.

The relative effectiveness and significance of specific controls at GTS and their effect on assessments of control risk for subscribers and relying parties are dependent on their interaction with the controls, and other factors present at individual subscriber and relying party locations. Our examination did not extend to controls at individual subscriber and relying party locations and we have not evaluated the effectiveness of such controls.

Our examination was not conducted for the purpose of evaluating GTS's cybersecurity risk management program. Accordingly, we do not express an opinion or any other form of assurance on its cybersecurity risk management program.

We are required to be independent of GTS and to meet our other ethical responsibilities, as applicable for examination engagements set forth in the Preface: Applicable to All Members and Part 1 – Members in Public Practice of the Code of Professional Conduct established by the AICPA.

This report does not include any representation as to the quality of GTS' CA services beyond those covered by the [*WebTrust Principles and Criteria for Certification Authorities – TLS Baseline Version 2.9*](#), or the suitability of any of GTS' services for any customer's intended purpose.

Inherent limitations

There are inherent limitations in the effectiveness of any system of internal control, including the possibility of human error and the circumvention of controls. Because of inherent limitations in its internal control, GTS may achieve reasonable, but not absolute assurance that all security events are prevented and, for those controls may provide reasonable, but not absolute assurance that its commitments and system requirements are achieved. Controls may not prevent or detect and correct,



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error, fraud, unauthorized access to systems and information, or failure to comply with internal and external policies or requirements.

Examples of inherent limitations of internal controls related to security include (a) vulnerabilities in information technology components as a result of design by their manufacturer or developer; (b) breakdown of internal control at a vendor or business partner; and (c) persistent attackers with the resources to use advanced technical means and sophisticated social engineering techniques specifically targeting the entity. Further, the projection of any evaluations of effectiveness to future periods is subject to the risk that controls may become ineffective.

Opinion

In our opinion, GTS' management's assertion referred to above, is fairly stated, in all material respects, based on the aforementioned criteria.

Use of the WebTrust Seal

GTS' use of the WebTrust for Certification Authorities – TLS Baseline Seal constitutes a symbolic representation of the contents of this report, and it is not intended, nor should it be construed, to update this report or provide any additional assurance.

Ernst & Young LLP

October 30, 2025



Google Trust Services LLC

Management's Assertion Regarding the Effectiveness of Its Controls Over the TLS Certificate Authority Services Based on the WebTrust Principles and Criteria for Certification Authorities – TLS Baseline v2.9

October 30, 2025

We, as the management of Google Trust Services LLC and Google Trust Services Europe Limited (collectively, GTS), are responsible for operating TLS Certification Authority (CA) services at New York, USA, South Carolina, USA, Oklahoma, USA, Ghlin, Belgium, and Zurich, Switzerland for the Root and Subordinate CAs in scope for TLS Baseline Requirements listed at **Appendix A**.

Controls have inherent limitations, including the possibility of human error and the circumvention or overriding of controls. Accordingly, even effective controls can provide only reasonable assurance with respect to GTS' CA operations. Further, because of changes in conditions, the effectiveness of controls may vary over time.

Management of GTS has assessed the disclosures of its certificate practices and controls over its TLS CA services. Based on that assessment, in providing its TLS Certification Authority (CA) services at New York, USA, South Carolina, USA, Oklahoma, USA, Ghlin, Belgium, and Zurich Switzerland throughout the period from October 1, 2024 to September 30, 2025, GTS has:

- Disclosed its TLS certificate lifecycle management business practices in the applicable versions of its Certification Practice Statement (CPS) and Certificate Policy (CP) as referenced in **Appendix B**, including its commitment to provide TLS certificates in conformity with the CA/Browser Forum Requirements on the GTS website, and provided such services in accordance with its disclosed practices
- Maintained effective controls to provide reasonable assurance that:
 - the integrity of keys and TLS certificates it manages was established and protected throughout their lifecycles; and
 - TLS subscriber information was properly authenticated (for the registration activities performed by GTS)
- Maintained effective controls to provide reasonable assurance that:
 - logical and physical access to CA systems and data was restricted to authorized individuals;
 - the continuity of key and certificate management operations was maintained; and
 - CA systems development, maintenance, and operations were properly authorized and performed to maintain CA systems integrity



Google Trust Services LLC

for the Root and Subordinate CAs in scope for TLS Baseline Requirements at **Appendix A**, based on the [WebTrust Principles and Criteria for Certification Authorities – TLS Baseline Version 2.9](#)

Very truly yours,

GOOGLE TRUST SERVICES LLC &

GOOGLE TRUST SERVICES EUROPE LIMITED

Appendix A:
Table 1: Root CAs

Root Name	Subject Key Identifier	Certificate Serial Number	SHA256 Fingerprint	Applicable Notes
CN=GlobalSign OU=GlobalSign ECC Root CA - R4 O=GlobalSign	54B07BAD45B8E2407FFB0A6E FBBE33C93CA384D5	0203E57EF53F93F DA50921B2A6	B085D70B964F191A73E4AF0D54AE 7A0E07AAFDAF9B71DD0862138AB 7325A24A2	
CN=GTS Root R1 O=Google Trust Services LLC C=US	E4AF2B26711A2B4827852F526 62CEFF08913713E	0203E5936F31B01 349886BA217	D947432ABDE7B7FA90FC2E6B591 01B1280E0E1C7E4E40FA3C6887FF F57A7F4CF	
CN=GTS Root R2 O=Google Trust Services LLC C=US	BBFFCA8E239F4F99CADBE26 8A6A51527171ED90E	0203E5AEC58D04 251AAB1125AA	8D25CD97229DBF70356BDA4EB3C C734031E24CF00FAFCFD32DC76E B5841C7EA8	
CN=GTS Root R3 O=Google Trust Services LLC C=US	C1F126BAA02DAE8581CFD3F 12A12BDB80A67FDBC	0203E5B882EB20 F825276D3D66	34D8A73EE208D9BCDB0D9565209 34B4E40E69482596E8B6F73C8426 B010A6F48	
CN=GTS Root R4 O=Google Trust Services LLC C=US	804CD6EB74FF4936A3D5D8F CB53EC56AF0941D8C	0203E5C068EF631 A9C72905052	349DFA4058C5E263123B398AE795 573C4E1313C83FE68F93556CD5E8 031B3C7D	
CN=GlobalSign OU=GlobalSign ECC Root CA - R4 O=GlobalSign	54B07BAD45B8E2407FFB0A6E FBBE33C93CA384D5	2A38A41C960A04 DE42B228A50BE8 349802	BEC94911C2955676DB6C0A550986 D76E3BA005667C442C9762B4FBB7 73DE228C	Historical Root CA Certificate
CN=GTS Root R1 O=Google Trust Services LLC C=US	E4AF2B26711A2B4827852F526 62CEFF08913713E	6E47A9C54B470C 0DEC33D089B91C F4E1	2A575471E31340BC21581CBD2CF1 3E158463203ECE94BCF9D3CC196 BF09A5472	Historical Root CA Certificate
CN=GTS Root R2 O=Google Trust Services LLC C=US	BBFFCA8E239F4F99CADBE26 8A6A51527171ED90E	6E47A9C65AB3E7 20C5309A3F6852F 26F	C45D7BB08E6D67E62E4235110B56 4E5F78FD92EF058C840AEA4E6455 D7585C60	Historical Root CA Certificate

Root Name	Subject Key Identifier	Certificate Serial Number	SHA256 Fingerprint	Applicable Notes
CN=GTS Root R3 O=Google Trust Services LLC C=US	C1F126BAA02DAE8581CFD3F 12A12BDB80A67FDBC	6E47A9C76CA973 2440890F0355DD8 D1D	15D5B8774619EA7D54CE1CA6D0B 0C403E037A917F131E8A04E1E6B7 A71BABCE5	Historical Root CA Certificate
CN=GTS Root R4 O=Google Trust Services LLC C=US	804CD6EB74FF4936A3D5D8F CB53EC56AF0941D8C	6E47A9C88B94B6 E8BB3B2AD8A2B2 C199	71CCA5391F9E794B04802530B363 E121DA8A3043BB26662FEA4DCA7 FC951A4BD	Historical Root CA Certificate

Table 2: Subordinate CAs

Subordinate Name	Subject Key Identifier	Certificate Serial Number	SHA256 Fingerprint
CN=AE1 O=Google Trust Services C=US	488960F9A37 D0CEA0024A2 DC9F07CE468 8A8323A	7FF4E5CE36A6 A1FA5EE1916C0 8D39B7C	812C212E9E45DC5005C7F47411183F5FB2FF1BAEE184D3354B2E93D78C280164
CN=GTS Root R1 O=Google Trust Services LLC C=US	E4AF2B26711 A2B4827852F5 2662CEFF089 13713E	77BD0D6CDB36 F91AEA210FC4F 058D30D	3EE0278DF71FA3C125C4CD487F01D774694E6FC57E0CD94C24EFD769133918E5
CN=GTS Root R4 O=Google Trust Services LLC C=US	804CD6EB74F F4936A3D5D8 FCB53EC56AF 0941D8C	7FE530BF33134 3BEDD82161049 3D8A1B	76B27B80A58027DC3CF1DA68DAC17010ED93997D0B603E2FADBE85012493B5A7
CN=WE1 O=Google Trust Services C=US	9077923567C4 FFA8CCA9E67 BD980797BCC 93F938	7FF31977972C2 24A76155D13B6 D685E3	1DFC1605FBAD358D8BC844F76D15203FAC9CA5C1A79FD4857FFAF2864FBEBF96
CN=WE1 O=Google Trust Services C=US	9077923567C4 FFA8CCA9E67 BD980797BCC 93F938	7FF357689BC24 E302D90E18A41 BD0E1F	A287FFAB762CC69A26D482037EDF701F653CE899025C62A7E5CB88BB9B419CBB
CN=WE2 O=Google Trust Services C=US	75BEC477AE8 9F644377DCF B1681F1D1AE BDC3459	7FF32D6B409D1 5D5965B05873A 7C72E0	9C3F2FD11C57D7C649AD5A0932C0F0D29756F6A0A1C74C43E1E89A62D64CD320
CN=WE2 O=Google Trust Services C=US	75BEC477AE8 9F644377DCF B1681F1D1AE BDC3459	7FF3577FF63C7 CA37E0642F8C8 B86290	54F8CA858BCC7591F28D8DC3772E9BC581717F3A23A288BFD405939C36208DE5

Subordinate Name	Subject Key Identifier	Certificate Serial Number	SHA256 Fingerprint
CN=WE3 O=Google Trust Services C=US	36B62CCEA3B 4D0409045F38 B4581C1C8E3 19D46D	7FF32D6DBD5E DD54CA4E4B67 95729143	9F819A4C876E12DC84E6FE0E37C1A69B137094B453FA98449398F4B71F4D0092
CN=WE3 O=Google Trust Services C=US	36B62CCEA3B 4D0409045F38 B4581C1C8E3 19D46D	7FF357910F07E 1929F3D0084AE F198C7	54C660DA29D75FC81F07AD6DC8BB7AEE2258E071E8B1077544FA5622FF44C99D
CN=WE4 O=Google Trust Services C=US	6DE7D465B43 8575695CDE5 B4775A360AD E7D52A6	7FF32D70BBD1 A7309B5732500 AC99AAE	D0C97E56C7B0BA812D944AD771F7799B5D4144A2327A4E416554F7EE2AA0AEAE
CN=WE4 O=Google Trust Services C=US	6DE7D465B43 8575695CDE5 B4775A360AD E7D52A6	7FF357A2DCFA 8935B32362F61 523B3A7	9D5E86906A1680A86BE278CF76E3D2B62B775186101461D303CEE910D94CE13A
CN=WE5 O=Google Trust Services C=US	D465CB38C72 53C286BE97E 43C3A1A1B8E 44C68A0	7FF4E5CBECD9 81F2ADFA08913 CEFAB14	847409E63526F162753AC49F75218EFAAFA7D5C94ADE9095CE72E7F6B6E3AC99
CN=WR1 O=Google Trust Services C=US	666949D4DE2 A9C9103CF89 0E24B80E300 36E882E	7FD9E2C2D2048 A0474B627A26D 0868A7	B10B6F00E609509E8700F6D34687A2BFCE38EA05A8FDF1CDC40C3A2A0D0D0E45
CN=WR2 O=Google Trust Services C=US	DE1B1EED791 5D43E3724C3 21BBEC34396 D42B230	7FF005A07C4C DED100AD9D66 A5107B98	E6FE22BF45E4F0D3B85C59E02C0F495418E1EB8D3210F788D48CD5E1CB547CD4

Subordinate Name	Subject Key Identifier	Certificate Serial Number	SHA256 Fingerprint
CN=WR3 O=Google Trust Services C=US	C781F5FD8E8 8D9003C4D63 A2503124A0C E23FE23	7FF005A91568D 63ABC22861684 AA4B5A	2FE357DB13751FF9160E87354975B3407498F41C9BD16A48657866E6E5A9B4C7
CN=WR4 O=Google Trust Services C=US	9BC811BC3DA A36B9318C4E 8F44D557322F C3C061	7FF005B4DA75B 86A5AC61FE430 7713CD	DC9416C2F855126D6DE977677538F2F967FF4998E90DFA435A17219BE077FC06
CN=WR5 O=Google Trust Services C=US	4C5B19C28F1 A7F556FAA10 29FA028BC73 C2A223C	7FF4E5C91496B 0F2A18905ED50 1E62A3	AE0FC852280F1B87CEDAF73CFB84CF106EFEC88E8294253AF352ED4034460D7B

Appendix B

Google Trust Services, TLS Certificate Policy/Certification Practice Statement

Version Number	Effective Date
6.0	July 22, 2025

Google Trust Services Certification Practice Statement

Version Number	Effective Date
5.22	June 25, 2025
5.21	April 28, 2025
5.20	April 4, 2025
5.19	February 19, 2025
5.18	January 13, 2025
5.17	January 10, 2025
5.16	January 8, 2025
5.15	December 10, 2024
5.14	November 24, 2024
5.13	November 20, 2024
5.12	November 15, 2024

Google Trust Services TLS Certificate Policy

Version Number	Effective Date
4.11	January 9, 2025
4.10	December 10, 2024
4.9	November 27, 2024
4.8	November 20, 2024
4.7	November 15, 2024

Appendix C:

	Disclosure	Publicly Disclosed Link
1	<p>On November 14, 2024, GTS issued a public statement stating that during the onboarding process for one (1) new hire, it was identified that membership to some access groups was granted in a different order than their procedures specified.</p> <p>In this case, training was complete, but the examination had not been completed before membership to access control groups was granted. The incident was due to the complexity and sequencing of the onboarding process.</p> <p>In response to this incident, GTS implemented changes to revise the access grant process to ensure that access is granted only after the new hire passes the onboarding examination. In addition, GTS reduced and simplified the sequencing of steps/approvals for onboarding new team members.</p> <p>The incident was closed in Bugzilla on December 27, 2024, during the current examination period.</p>	<p>Google Trust Services: New hire onboarding deviation from written procedure (#1931413)</p>
2	<p>On February 14, 2025, GTS issued a public statement stating that a bug in GTS' self-auditing tool resulted in the incorrect verification of the Multi-Perspective Issuance Corroboration (MPIC) perspectives used in domain control validation.</p> <p>The bug occurred due to GTS updating the format of the audit logs without also simultaneously updating the audit tool logic.</p> <p>In response to the incident, GTS fixed the bug and made improvements to its data gathering tools to improve the speed of analysis for future incident responses.</p> <p>The incident was closed in Bugzilla on March 14, 2025, during the current examination period.</p>	<p>Google Trust Services: Self-audit tooling MPIC perspective verification inconsistency (#1948368)</p>
3	<p>On April 10, 2025, GTS issued a public statement stating that 528,586 certificates lacked the desired number of remote perspective details for CAA checks.</p> <p>The incident occurred as issuance flow sometimes continued even when not all remote perspective CAA checks had completed and there was insufficient review of dark launch validation results and incorrect logging levels.</p> <p>In response to this incident, GTS halted issuance and fixed the initial issue as soon as the problem was confirmed. Further, GTS added test coverage to ensure the previous behavior could not recur and dashboards were updated to have finer grained metrics.</p> <p>The incident was closed in Bugzilla on June 10, 2025, during the current examination period.</p>	<p>Google Trust Services: Inconsistent MPCA secondary perspective logging (#1959867)</p>

	Disclosure	Publicly Disclosed Link
4	<p>On July 25, 2025, GTS issued a public statement stating that one (1) certificate was issued without one of its certificate lifecycle events being recorded in the audit log.</p> <p>The root cause of the incident was that an authorization database record was created to indicate it was possible to issue a certificate, but the corresponding audit log entry was not written due to a race condition.</p> <p>In response to this incident, GTS implemented mitigations to prevent recurrence of the issue, including:</p> <ul style="list-style-type: none"> - Updating the CA software to not permit issuance until the authorization record exists in the database - Ensuring services respect lame-duck mode (ie. Option for server to stop accepting new connections but complete in-flight work); and - Ensuring that resolver authentication credentials do not expire before being refreshed <p>Further, GTS noted an action item to perform a focused review of its code to identify and remediate other instances that could fail to write a log before issuing a certificate.</p> <p>The incident was closed in Bugzilla on October 22, 2025, which is outside of the current examination period.</p>	<p>Google Trust Services: Missing authorization audit log entry for certificate issuance (#1979457)</p>