

INDEPENDENT ASSURANCE REPORT

To the management of GlobalSign NV/SA ("GlobalSign"):

Scope

We have been engaged, in a reasonable assurance engagement, to report on GlobalSign management's assertion that for its Certification Authority (CA) operations at Belgium, Japan, Singapore, United Kingdom, throughout the period April 1, 2018 to March 31, 2019 for its CAs as enumerated in [Appendix B](#), GlobalSign has:

- ▶ Disclosed its publicly trusted code signing ("PT CS") certificate lifecycle management business practices in the applicable versions of the Certificate Practice Statements and Certificate Policies, as stipulated in [Appendix A](#), including its commitment to provide PT CS certificates in conformity with the CA/Browser Forum Guidelines on the GlobalSign's website, and provided such services in accordance with its disclosed practices
- ▶ Maintained effective controls to provide reasonable assurance that:
 - The integrity of keys and PT CS certificates it manages is established and protected throughout their lifecycles;
 - PT CS subscriber information is properly authenticated (for the registration activities performed by GlobalSign);
- ▶ Maintained effective controls to provide reasonable assurance that:
 - Requests for PT CS Signing Authority and PT CS Timestamp Authority certificates are properly authenticated; and
 - Certificates issued to PT CS Signing Authorities and PT CS Timestamp Authorities are not valid for a period longer than specified by the CA/Browser Forum
- ▶ Maintained effective controls to provide reasonable assurance that its PT CS Timestamp Authority is operated in conformity with CA/Browser Forum Guidelines

in accordance with the [WebTrust Principles and Criteria for Certification Authorities - Publicly Trusted Code Signing Certificates, Version 1.0.1.](#)

Certification authority's responsibilities

GlobalSign's 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 - Publicly Trusted Code Signing Certificates, Version 1.0.1.](#)

Our independence and quality control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

The firm applies International Standard on Quality Control 1, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Auditor's responsibilities

Our responsibility is to express an opinion on management's assertion based on our procedures. We conducted our procedures in accordance with International Standard on Assurance Engagements 3000, Assurance Engagements Other than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standards Board. This standard requires that we plan and perform our procedures to obtain reasonable assurance about whether, in all material respects, management's assertion is fairly stated, and, accordingly, included:

1. Obtaining an understanding of GlobalSign's PT CS certificate lifecycle management business practices, including its relevant controls over the issuance, renewal, and revocation of PT CS certificates, and obtaining an understanding of GlobalSign's network and certificate system security to meet the requirements set forth by the CA/Browser Forum;
2. Selectively testing transactions executed in accordance with disclosed PT CS certificate lifecycle management practices
3. Testing and evaluating the operating effectiveness of the controls; and
4. Performing such other procedures as we considered necessary in the circumstances.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Relative effectiveness of controls

The relative effectiveness and significance of specific controls at GlobalSign 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. We have performed no procedures to evaluate the effectiveness of controls at individual subscriber and relying party locations.

Inherent limitations

Because of the nature and inherent limitations of controls, GlobalSign's ability to meet the aforementioned criteria may be affected. For example, controls may not prevent, or detect and correct, error, fraud, unauthorized access to systems and information, or failure to comply with internal and external policies or requirements. Also, the projection of any conclusions based on our findings to future periods is subject to the risk that changes may alter the validity of such conclusions.

Opinion

In our opinion, throughout the period April 1, 2018 to March 31, 2019, GlobalSign management's assertion, as referred to above, is fairly stated, in all material respects, in accordance with the [WebTrust Principles and Criteria for Certification Authorities - Publicly Trusted Code Signing Certificates, Version 1.0.1.](#)

This report does not include any representation as to the quality of GlobalSign's services beyond those covered by the [WebTrust Principles and Criteria for Certification Authorities - Publicly Trusted](#)

[Code Signing Certificates, Version 1.0.1](#), nor the suitability of any of GlobalSign's services for any customer's intended purpose.

Use of the WebTrust seal

GlobalSign's use of the WebTrust Principles and Criteria for Certification Authorities - Publicly Trusted Code Signing 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 Bedrijfsrevisoren cvba

Diegem, Belgium



Christel Weymeersch, Partner

June 28, 2019

Appendix A – Certification Practice Statements and Certificate Policies in Scope

Certification Practice Statement	Begin Effective Date	End Effective Date
Version 8.6	14-Dec-17	02-Apr-18
Version 8.7	03-Apr-18	14-Jun-18
Version 8.8	15-Jun-18	10-Oct-18
Version 8.9	11-Oct-18	11-Mar-19
Version 9	12-Mar-19	30-May-19

Certificate Policy	Begin Effective Date	End Effective Date
Version 5.6	14-Dec-17	02-Apr-18
Version 5.7	03-Apr-18	14-Jun-18
Version 5.8	15-Jun-18	10-Oct-18
Version 5.9	11-Oct-18	11-Mar-19
Version 6	12-Mar-19	30-May-19

Appendix B – In-Scope CAs

Root CAs	SHA256 Hash
C = BE O = GlobalSign nv-sa OU = Root CA CN = GlobalSign Root CA	EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48: B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99
OU = GlobalSign Root CA - R3 O = GlobalSign CN = GlobalSign	CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E: 7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B
OU = GlobalSign ECC Root CA - R5 O = GlobalSign CN = GlobalSign	17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5: 9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24
OU = GlobalSign Root CA - R6 O = GlobalSign CN = GlobalSign	2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29: 52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69
C = BE O = GlobalSign nv-sa OU = Root CA CN = GlobalSign Root CA - R7	E9:5B:31:25:40:5E:0D:46:04:2D:55:AC:62:15:45:07:C6:78:E B:C3:60:76:57:85:FB:20:4A:F3:49:BF:E8:80
C = BE O = GlobalSign nv-sa OU = Root CA CN = GlobalSign Root CA - R8	AE:48:51:FF:42:03:9B:AD:E0:58:27:91:51:D8:26:83:04:1D:25 :98:E2:40:68:3C:C5:6D:76:FB:8C:F5:3D:42
C = BE O = GlobalSign nv-sa CN = GlobalSign Root E46	CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:B F:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58
C = BE O = GlobalSign nv-sa CN = GlobalSign Root R46	4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91: 9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9

Non-EV Code Signing Issuing CAs	SHA256 Hash
CN = GlobalSign Extended Validation CodeSigning CA - SHA256 - G2 O = GlobalSign nv-sa C = BE	14:97:8C:01:FE:AD:5C:D6:45:74:40:AD:D9:D1:DD:BA:B7:7D :23:8C:9A:2F:E2:24:EE:87:2B:24:7B:CF:FB:3C
CN = GlobalSign CodeSigning CA - SHA256 - G3 O = GlobalSign nv-sa C = BE	FB:54:EE:A9:BC:E8:E9:EA:97:82:15:4F:3D:41:42:77:FB:70:9 F:49:B9:47:D7:39:78:AC:27:85:46:C2:CE:03
CN = GlobalSign Extended Validation CodeSigning CA - SHA256 - G3 O = GlobalSign nv-sa C = BE	DD:03:8E:87:E0:B4:D2:C3:69:68:0D:3D:E7:86:38:AB:39:FC: 1D:7E:50:63:29:96:92:11:01:76:8D:B8:D4:D8
CN = GlobalSign CodeSigning CA - SHA256 - G2 O = GlobalSign nv-sa C = BE	DC:0C:F9:A9:28:8B:75:A0:7B:EB:FC:44:26:9C:27:DF:DB:CE :5E:AD:00:DC:13:37:68:6C:FC:D1:8A:9B:C9:40

CN = GlobalSign CodeSigning CA - G3 O = GlobalSign nv-sa C = BE	40:47:C9:D6:92:60:C0:72:13:BC:B8:60:8A:7E:C5:E2:83:8A:56:B7:9F:67:84:78:12:EA:C0:77:8D:0D:27:F1
CN = GlobalSign CodeSigning CA - SHA256 - G2 O = GlobalSign nv-sa C = BE	A4:35:30:BE:A7:06:4D:E6:5A:8D:D1:F2:75:33:5D:3B:A2:32:2D:9C:10:EC:68:20:D3:97:55:26:2D:03:F9:55

GlobalSign's Management's Assertion

GlobalSign NV/SA ("GlobalSign") operates the Certification Authority (CA) services known as the Root and Subordinate CAs as disclosed in [Appendix B](#) and provides Publicly Trusted Code Signing Certificate CA services.

The management of GlobalSign is responsible for establishing and maintaining effective controls over its PT CS CA operations, including its network and certificate security system controls, its PT CS CA business practices disclosure on its website, PT CS key lifecycle management controls, and PT CS certificate lifecycle management controls. These controls contain monitoring mechanisms, and actions are taken to correct deficiencies identified.

There are inherent limitations in any controls, including the possibility of human error, and the circumvention or overriding of controls. Accordingly, even effective controls can only provide reasonable assurance with respect to GlobalSign's Certification Authority operations. Furthermore, because of changes in conditions, the effectiveness of controls may vary over time.

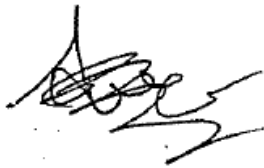
GlobalSign management has assessed its disclosures of its certificate practices and controls over its PT CS CA services. Based on that assessment, in GlobalSign management's opinion, in providing its PT CS Certification Authority (CA) services at Belgium, Japan, Singapore, United Kingdom, throughout the period April 1, 2018 to March 31, 2019, GlobalSign has:

- Disclosed its publicly trusted code signing ("PT CS") certificate lifecycle management business practices in the applicable versions of the Certificate Practice Statement and Certificate Policy, as stipulated in [Appendix A](#), including its commitment to provide PT CS certificates in conformity with the CA/Browser Forum Guidelines, and provided such services in accordance with its disclosed practices.
- Maintained effective controls to provide reasonable assurance that:
 - The integrity of keys and PT CS certificates it manages was established and protected throughout their lifecycles; and
 - PT CS subscriber information was properly authenticated (for the registration activities performed by GlobalSign)
- Maintained effective controls to provide reasonable assurance that:
 - Requests for PT CS Signing Authority and PT CS Timestamp Authority certificates were properly authenticated; and
 - Certificates issued to PT CS Signing Authorities and PT CS Timestamp Authorities were not valid for a period longer than specified by the CA/Browser Forum

- Maintained effective controls to provide reasonable assurance that its PT CS Timestamp Authority was operated in conformity with CA/Browser Forum Guidelines

In accordance with the [WebTrust Principles and Criteria for Certification Authorities - Publicly Trusted Code Signing Certificates, Version 1.0.1.](#)

GlobalSign
Leuven, Belgium



Signed by: Arvid Vermote
Function: Chief Information Security Officer

June 28, 2019

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OU = GlobalSign Root CA - R3 O = GlobalSign CN = GlobalSign	CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B
OU = GlobalSign ECC Root CA - R5 O = GlobalSign CN = GlobalSign	17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24
OU = GlobalSign Root CA - R6 O = GlobalSign CN = GlobalSign	2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69
C = BE O = GlobalSign nv-sa OU = Root CA CN = GlobalSign Root CA - R7	E9:5B:31:25:40:5E:0D:46:04:2D:55:AC:62:15:45:07:C6:78:EB:C3:60:76:57:85:FB:20:4A:F3:49:BF:E8:80
C = BE O = GlobalSign nv-sa OU = Root CA CN = GlobalSign Root CA - R8	AE:48:51:FF:42:03:9B:AD:E0:58:27:91:51:D8:26:83:04:1D:25:98:E2:40:68:3C:C5:6D:76:FB:8C:F5:3D:42
C = BE O = GlobalSign nv-sa CN = GlobalSign Root E46	CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58
C = BE O = GlobalSign nv-sa CN = GlobalSign Root R46	4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9

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CN = GlobalSign CodeSigning CA - SHA256 - G3 O = GlobalSign nv-sa C = BE	FB:54:EE:A9:BC:E8:E9:EA:97:82:15:4F:3D:41:42:77:FB:70:9F:49:B9:47:D7:39:78:AC:27:85:46:C2:CE:03
CN = GlobalSign Extended Validation CodeSigning CA - SHA256 - G3 O = GlobalSign nv-sa C = BE	DD:03:8E:87:E0:B4:D2:C3:69:68:0D:3D:E7:86:38:AB:39:FC:1D:7E:50:63:29:96:92:11:01:76:8D:B8:D4:D8
CN = GlobalSign CodeSigning CA - SHA256 - G2 O = GlobalSign nv-sa C = BE	DC:0C:F9:A9:28:8B:75:A0:7B:EB:FC:44:26:9C:27:DF:DB:CE:5E:AD:00:DC:13:37:68:6C:FC:D1:8A:9B:C9:40

CN = GlobalSign CodeSigning CA - G3 O = GlobalSign nv-sa C = BE	40:47:C9:D6:92:60:C0:72:13:BC:B8:60:8A:7E:C5:E2:83:8A:56:B7:9F:67:84:78:12:EA:C0:77:8D:0D:27:F1
CN = GlobalSign CodeSigning CA - SHA256 - G2 O = GlobalSign nv-sa C = BE	A4:35:30:BE:A7:06:4D:E6:5A:8D:D1:F2:75:33:5D:3B:A2:32:2D:9C:10:EC:68:20:D3:97:55:26:2D:03:F9:55