

Report of Independent Accountants

To the Management of QuoVadis Limited

We have examined the accompanying [assertion](#) made by the management of QuoVadis Limited (QuoVadis) titled **Management's Assertion Regarding the Effectiveness of Its Controls Over the Extended Validation (EV) SSL Certification Authority Services Based on the: WebTrust Principles and Criteria for Certification Authorities - Extended Validation SSL, v1.7.3** that provides its Certification Authority (CA) services at Bermuda, the Netherlands, Switzerland, the United Kingdom, Belgium and Germany, throughout the period 1 January 2021 to 31 December 2021 for CAs as enumerated in [Appendix A](#), QuoVadis has:

- ▶ Disclosed its EV SSL Certificate practices and procedures in the [QuoVadis Root CA 2 Certification Policy/ Certification Practice Statement, v2.16](#) dated 20 December 2021, for the QuoVadis Root CA 2, QuoVadis Root CA 2 G3, and the issuing CAs listed in [Appendix A](#) to Assertion of Management in accordance with the [WebTrust Principles and Criteria for Certification Authorities - Extended Validation SSL, v1.7.3](#)

including its commitment to provide SSL certificates in conformity with the CA/Browser Forum Requirements, and provided such services in accordance with its disclosed practices

- ▶ Maintained effective controls to provide reasonable assurance that:
 - ▶ The integrity of keys and EV SSL certificates it manages was established and protected throughout their life cycles; and
 - ▶ EV SSL Subscriber information was properly collected, authenticated (for the registration activities performed by Certification Authority (CA), Registration Authority (RA), and Subcontractor), and verified.
- ▶ 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 - Extended Validation SSL, v1.7.3](#)

QuoVadis management is responsible for its assertion and for specifying the aforementioned Criteria. Our responsibility is to express an opinion on management's assertion based on our examination.

Our examination was conducted in accordance with attestation standards established by the 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.

QuoVadis Management has disclosed to us the attached comments ([Appendix B](#)) that have been

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 comments in determining the nature, timing and extent of our procedures.

The relative effectiveness and significance of specific controls at QuoVadis 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.

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

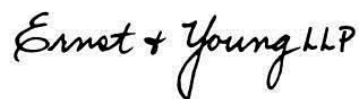
There are inherent limitations in the effectiveness of any system of internal control, including the possibility of human error and the circumvention of controls. Because of inherent limitations in its internal control, QuoVadis may achieve reasonable, but not absolute assurance that all security events 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, 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. Furthermore, the projection of any evaluations of effectiveness to future periods is subject to the risk that controls may become inadequate because of changes in conditions, that the degree of compliance with such controls may deteriorate, or that changes made to the system or controls, or the failure to make needed changes to the system or controls, may alter the validity of such evaluations.

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

QuoVadis' use of the WebTrust for Certification Authorities - Extended Validation SSL 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.

This report does not include any representation as to the quality of QuoVadis' CA services beyond those covered by the [WebTrust Principles and Criteria for Certification Authorities - Extended Validation SSL, v1.7.3](#) criteria, or the suitability of any of QuoVadis' services for any customer's intended purpose.



Ernst & Young LLP

31 March 2022

**Management's Assertion Regarding the Effectiveness of Its Controls
Over the Extended Validation SSL Certification Authority Services
Based on the WebTrust Principles and Criteria for Certification Authorities -
Extended Validation SSL, v1.7.3**

31 March 2022

We, as the management of QuoVadis Limited (QuoVadis), are responsible for operating the Extended Validation (EV) SSL Certification Authority (CA) services at Bermuda, the Netherlands, Switzerland, the United Kingdom, Belgium and Germany, for the Root CA(s) and Subordinate CA (s) in scope for EV SSL Certificates 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 QuoVadis' CA operations. Furthermore, because of changes in conditions, the effectiveness of controls may vary over time.

Management of QuoVadis has assessed the disclosures of its certificate practices and controls over its EV SSL CA services. Based on that assessment, in providing its SSL Certification Authority (CA) services at Bermuda, the Netherlands, Switzerland, the United Kingdom, Belgium and Germany throughout the period from 1 January 2021 through 31 December 2021, QuoVadis has:

- Disclosed its EV SSL Certificate practices and procedures, and its commitment to provide EV SSL Certificates in conformity with the applicable CA/Browser Forum Guidelines for the QuoVadis Root CA 2, QuoVadis Root CA 2 G3, in the [QuoVadis Root CA 2 Certification Policy/ Certification Practice Statement, v2.16](#) dated 20 December 2021.

including its commitment to provide EV SSL certificates in conformity with the applicable CA/Browser Forum Requirements on the QuoVadis website, and provided such services in accordance with its disclosed practices

- Maintained effective controls to provide reasonable assurance that:
 - The integrity of keys and EV SSL certificates it manages was established and protected throughout their life cycles; and
 - EV SSL Subscriber information was properly collected, authenticated for the registration activities performed by QuoVadis and Registration Authorities,
- 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 are properly authorized and performed to maintain CA systems integrity,

for the QuoVadis Root CA 2, QuoVadis Root CA 2 G3, and the issuing CAs listed in [Appendix A](#) in accordance with the [WebTrust Principles and Criteria for Certification Authorities - Extended Validation SSL, v1.7.3.](#)

Very truly yours,

A handwritten signature in black ink, appearing to read "Anthony Nagel". The signature is fluid and cursive, with the first name and last name clearly distinguishable.

Anthony Nagel
Director
QuoVadis Limited

Appendix A to Assertion of Management

Distinguished name	Certificate Serial Number	SHA-256 Fingerprint
CN = QuoVadis Root CA 2 O = QuoVadis Limited C = BM	509	85A0DD7DD720ADB7FF05F83D542B209DC7FF4528F7D677B18389FEA5E5C49E86
CN = QuoVadis Root CA 2 G3 O = QuoVadis Limited C = BM	445734245b81899b 35f2ceb82b3b5ba72 6f07528	8FE4FB0AF93A4D0D67DB0BEBB23E37C71BF325DCBCDD240EA04DAF58B47E1840
CN = HydrantID EV SSL CA G2 O = HydrantID (Avalanche Cloud Corporation) C = US	3c1e96137ee42057 973ce498cb50daae 4c1e3c48	60388B773D33E9141648613F36B9149F015A114378BACF3E3694864FFDA426EC
CN = QuoVadis Grid ICA G2 O = QuoVadis Limited C = BM	2bafc5f0a8d213409 da42e761f619ac919 84bcd4	278ECF211E2518E9DD9913AFC583EEB3127C8184BCBEEDAAD7BD64E89E8C4310
CN = QuoVadis Qualified Web ICA G2 O = QuoVadis Trustlink B.V. C = NL	53bd8dc20d4a46bd 962f5d685ada0f065 9207ffd	7FEB9374EAB08D392717C647436DAE06176A24C010607FDA1CCE5E5F0106B472
CN = QuoVadis Global SSL ICA G2 O = QuoVadis Limited C = BM	1a6ee893c3749738 e12acc77a8c0acb 167eaf14	F67C23EF7BF7412809DB6B1DD3D44A08D3754D99CABA6A13F7A05C7249089C89
CN = VR IDENT EV SSL CA 2020 O = Fiducia & GAD IT AG C = DE	754151cc11ec89b6 4649b230ad809020 bb1e66a5	D33A847F640377BE0AE1A429153A07E87C8827FA4840B5158BCDCB85E10A453A
CN = HydrantID EV SSL ICA G1 O = HydrantID (Avalanche Cloud Corporation) C = US	0662a008800498fe 4d810b24bb822d0b d23b90dc	6B43B4C243AA2D99440C0F14BDEC5231EEC63E86AAF2376CA7002028458DC726

Distinguished name	Certificate Serial Number	SHA-256 Fingerprint
CN = DigiCert QV EV TLS ICA G1 O = DigiCert, Inc. C = US	65e9bcd53e791df22 dffb5ecc2bc7a558 8d0883	6A7B2AA3414039A663D5D8BBAB8256A3979A84C332BF5E1EE8F6D0E0ADA84668
CN = QuoVadis Enterprise Trust CA 2 G3 O = QuoVadis Limited C = BM	5eeeb44a70e18e63 c9898f202cbac1649 14edc05	174E1DE77C8D93C68ECD2BD2EA6E191B584DB850277A834AAC898B7C80A91C70
CN = QuoVadis Europe SSL CA G2 O = QuoVadis Trustlink B.V. C = NL	71aaaa628484114c 591fd74b9fe9ffde5b 29fa7e	B1AAE1BCD555E8A3D1E3DDA8EC84E757C552655344CE3FEEBBAF98E895DBEDAC
CN = QuoVadis Qualified Web ICA G3 O = QuoVadis Trustlink B.V. C = NL	2ca8cdc5b8ed7507 80c72e3392c9941c 0ffb8826	3F225BDBCD788CE924870CAF92F814B7C6FF4EDABABAD93F1D3A9177252CF1D1
CN = QuoVadis Global SSL ICA G2 O = QuoVadis Limited C = BM	48982de2a92cb339 e1c8f933358275d3e 4f88255	A4879EC0F36CF84B6F2ED87AE57EE3B94A0785C6862238CD45481084D152EB18
CN = QuoVadis EV SSL ICA G3 O = QuoVadis Limited C = BM	3c71e6efc94621bae c6e693290da08c61 577421f	ABB3FF299AA1BAEFC1278818C424388AEF7B29651595C60194E78D943694680B
CN = QuoVadis Europe EV SSL CA G1 O = QuoVadis Trustlink B.V. C = NL	3a020322b6816c18 b72acbb592bef74dd 786a8b8	CB666B32BFF2EFEDCC4187DF149A6D34A5D10B7165B9CFF2A67C0E311AEED7
CN = VR IDENT SSL CA 2020 O = Fiducia & GAD IT AG C = DE	035fe137cd0551e4c 1f1b00beba5aee53f 952734	347D18DCCC2EFC51A920E7A7FBB07BFBD A35613681F82DCA5C4C72BB0C83C035
CN = QuoVadis EV SSL ICA G3 O = QuoVadis Limited C = BM	524fc1f16e34d1702 b84a13fb042bbcc7c 3c9032	F18442BEDF70B4D15211356C72B659332BED03FFD3BBA7AFAAAABE6DE9D723002

Distinguished name	Certificate Serial Number	SHA-256 Fingerprint
CN = QuoVadis Enterprise Trust CA 2 G4 O = QuoVadis Trustlink B.V. C = NL	41d2651bf57daeec5 94226cf55639c4c32 85c24c	1E356823FE40C0EAAAC29F9ED5463B7B2DB1C088B63EBB05876A2E631C1087798
CN = HydrantID SSL ICA G2 O = HydrantID (Avalanche Cloud Corporation) C = US	7517167783d0437e b556c357946e4563 b8ebd3ac	9C6D08933201407FBF2B12540B67CC0E4C9666F132E1504762A717CBAE8F3FD6
CN = QuoVadis Grid ICA G2 O = QuoVadis Limited C = BM	10b62f345a61eb61 84a7b106c8057e94 53e207d5	74CE8C1631EF9F38E7A4197DA3F5474DBC34F001F2967C25B5999562BCC8C9D4
CN = QuoVadis Code Signing CA G1 O = QuoVadis Limited C = BM	1ce6507ec1d9c0b1 6178feee058cae7a0 b142858	DA0AFAF15CD300E34B520FB78A4FA68EB42C4601E939B903E0B1D71DF5965BFF
CN = QuoVadis Enterprise Trust CA 2 G3 O = QuoVadis Limited C = BM	31a84f278bbe4a69 6e4cb2f415a2e4473 bdcca38	B6F6559BBCE0A2CC91E507B5D7319E32487EDAE28A063BC73B6405E6C44665B6
CN = QuoVadis Global SSL ICA G3 O = QuoVadis Limited C = BM	2d2c802018b7907c 4d2d79df7fb1bd872 727cc93	30242443F6895A94560E48E4DFF720536EAF5163CB42F5E877402ABDE2F8627C
CN = QuoVadis Global SSL ICA G3 O = QuoVadis Limited C = BM	7ed6e79cc9ad81c4 c8193ef95d4428770 e341317	CAB9C12DBDE3AD5D2BC0201B54B18BE209CD5E146AAA085ABBDF241B096DFF47
CN = HydrantID EV SSL ICA G1 O = HydrantID (Avalanche Cloud Corporation) C = US	5bfdd1bb152d106b aa6d6d17e73c561f0 dd9c8ca	80FDE428212AF0CA0AC531EEE6ED2DF3D3C2A4557DFCE857070FC947922E9B24
CN = QuoVadis Global SSL ICA G3 O = QuoVadis Limited C = BM	653247814F5FA66 BB854DAF053F329 265D726538	161EE5386329B28A27FF405736552A621D5A844A43811E3623E52EEFA0BA840A

Appendix B

	Disclosure	Description	Relevant WebTrust Criteria	Publicly Disclosed Link
1	QuoVadis: revocation services validity set to expected value plus one second	QuoVadis OCSP services were off by one second because of the inclusive requirement of the start time.	WebTrust Principles and Criteria for: Certification Authorities v2.2.1, SSL Baseline with Network Security v2.5, and Extended Validation SSL, v1.7.3.	1733000
2	QuoVadis/PKloverheid: incorrect OCSP response for precertificate.	QuoVadis CMS requests a precertificate to be created by EJBCA but the CA unexpectedly rolls back the transaction, effectively removing the certificate from the CA database.	WebTrust Principles and Criteria for: Certification Authorities v2.2.1, SSL Baseline with Network Security v2.5, and Extended Validation SSL, v1.7.3.	1724276
3	QuoVadis: hostnames not in preferred name syntax	Hostnames not in preferred name syntax.	WebTrust Principles and Criteria for: Certification Authorities v2.2.1, SSL Baseline with Network Security v2.5, and Extended Validation SSL, v1.7.3.	1738472