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# Report of Independent Accountants

To the Management of DigiCert Ireland Limited

We have examined the accompanying <u>assertion</u> made by the management of DigiCert Ireland Limited (for purposes of this report, also referred to as the "Company" or "DigiCert" or "QuoVadis"), titled Management's Assertion Regarding the Effectiveness of Its Controls Over its Certification Authority Operations Based on the WebTrust Services Principles and Criteria for Certification Authorities Version 2.2.2 that provides its Certification Authority (CA) services at Bermuda, the Netherlands, Switzerland, the United Kingdom, the United States, Ireland, Belgium and Germany, for the Root CAs and Subordinate CAs referenced in <u>Appendix A</u> during the period from 1 January 2023 through 31 December 2023, DigiCert has:

- disclosed its Business, Key Life Cycle Management, Certificate Life Cycle Management, and CA Environmental Control practices in its Certificate Practice Statement, and Certificate Policy:
  - <u>DigiCert Europe / DigiCert Certification Policy / Certification Practice Statement, version</u>
     5.1 dated 15 December 2023
- maintained effective controls to provide reasonable assurance that:
  - DigiCert provides its services in accordance with its Certificate Practice Statement
- maintained effective controls to provide reasonable assurance that:
  - the integrity of keys and certificates it manages is established and protected throughout their life cycles
  - the integrity of subscriber keys and certificates it manages is established and protected throughout their life cycles
  - subscriber information is properly authenticated (for the registration activities performed by DigiCert); and
  - subordinate CA certificate requests are accurate, authenticated, and approved
- 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

In accordance with the <u>WebTrust Services Principles and Criteria for Certification Authorities Version 2.2.2.</u>



DigiCert'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 Services Principles and Criteria for Certification Authorities Version 2.2.2.

DigiCert does not provide key escrow services for CA keys and does not provide certificate suspension services. Accordingly, our examination did not extend to controls that would address those criteria.

Our responsibility is to express an opinion on DigiCert 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 our 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 risk of material misstatement, 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.

The relative effectiveness and significance of specific controls at DigiCert 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 DigiCert'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 DigiCert 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.

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

The WebTrust seal of assurance for Certification Authority on DigiCert's website 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 DigiCert's CA services beyond those covered by the WebTrust Services Principles and Criteria for Certification Authorities Version 2.2.2, or the suitability of any of DigiCert's services for any customer's intended purpose.

Ernst & Young LLP

Ernst + Young LLP

28 March 2024



Management's Assertion Regarding the Effectiveness of Its Controls Over its Certification Authority Operations Based on the WebTrust Principles and Criteria for Certification Authorities v2.2.2

#### 28 March 2024

We, as management of DigiCert Ireland Limited (for purposes of this letter, also referred to as the "Company" or "DigiCert" or "QuoVadis") are responsible for operating a Certification Authority (CA) at Bermuda, the Netherlands, Switzerland, the United Kingdom, the United States, Ireland, Belgium and Germany for the Root CAs and Subordinate CAs listed in the <u>Appendix A</u>. DigiCert's CA services provide the following certification authority services:

- Subscriber key management services
- Subscriber registration
- Certificate renewal
- Certificate rekey
- Certificate issuance
- Certificate distribution
- Certificate revocation
- Certificate status information processing

Management of DigiCert is responsible for establishing and maintaining effective controls over its CA operations, including its CA business practices disclosure on its website, CA business practices management, CA environmental controls, CA key lifecycle management controls, subscriber key lifecycle management controls, certificate lifecycle management controls, and subordinate CA certificate lifecycle management controls. These controls contain monitoring mechanisms, and actions are taken to correct deficiencies identified.

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 DigiCert's CA operations. Furthermore, because of changes in conditions, the effectiveness of controls may vary over time.

Management of DigiCert has assessed the disclosure of its certificate practices and its controls over its CA services. Based on that assessment, in DigiCert management's opinion, in providing its CA services for the Root CAs and Subordinate CAs listed in <a href="Appendix A">Appendix A</a> at Bermuda, the Netherlands, Switzerland, the United Kingdom, the United States, Ireland, Belgium and Germany, during the period from 1 January 2023 through 31 December 2023, DigiCert has:

- disclosed its business, key life cycle management, certificate life cycle management, and CA environmental control practices as below:
  - DigiCert Europe / QuoVadis Certification Policy / Certification Practice Statement, version 5.1
     dated 15 December 2023
- maintained effective controls to provide reasonable assurance that:
  - o DigiCert's Certificate Practice Statement is consistent with its Certificate Policy; and
  - DigiCert's provides its services in accordance with its Certificate Policy and Certificate Practice Statement.



- maintained effective controls to provide reasonable assurance that:
  - the integrity of keys and certificates it manages was established and protected throughout their life cycles
  - the integrity of subscriber keys and certificates it manages was established and protected throughout their life cycles
  - subscriber information was properly authenticated (for the registration activities performed by DigiCert); and
  - o subordinate CA certificate requests were accurate, authenticated, and approved,
- maintained effective controls to provide reasonable assurance that:
  - o logical and physical access to CA systems and data was restricted to authorized individuals
  - o the continuity of key and certificate management operations was maintained; and
  - o CA systems development, maintenance and operations were properly authorized and performed to maintain CA systems integrity.

in accordance with the <u>WebTrust Services Principles and Criteria for Certification Authorities Version</u> 2.2.2, including the following:

#### **CA Business Practices Disclosure**

CA Business Practices Management
Certification Practice Statement Management
Certificate Policy Management
CP and CPS Consistency

### Service Integrity

CA Key Life Cycle Management Controls

CA Key Generation

CA Key Storage, Backup, and Recovery

CA Public Key Distribution

CA Key Usage

CA Key Archival and Destruction

CA Key Compromise

CA Cryptographic Hardware Life Cycle Management

<u>Subscriber Key Life Cycle Management Controls</u>

CA-Provided Subscriber Key Generation Services

CA-Provided Subscriber Key Storage and Recovery Services

Integrated Circuit Card Life Cycle Management

Requirements for Subscriber Key Management

Certificate Life Cycle Management Controls

Subscriber Registration

Certificate Renewal



Certificate Rekey Certificate Issuance Certificate Distribution Certificate Revocation Certificate Validation

<u>Subordinate CA Certificate Life Cycle Management Controls</u> Subordinate CA Certificate Life Cycle Management

### **CA Environmental Controls**

Security Management
Asset Classification and Management
Personnel Security
Physical & Environmental Security
Operations Management
System Access Management
Systems Development and Maintenance
Business Continuity Management
Monitoring and Compliance
Audit Logging

DigiCert does not provide key escrow services for CA keys and does not provide certificate suspension services. Accordingly, our assertion does not extend to controls that would address those criteria.

Very truly yours,

Laoise O'Connor Corporate Counsel

DigiCert Ireland Limited

Proise & Connor



# Appendix A - Certificate Authorities - List of CAs In-scope

| Distinguished name  | Certificate Serial<br>Number                     | SHA256 fingerprint   |
|---|--|--|
| CN = QuoVadis Root CA 1 G3 O = QuoVadis Limited C = BM                            | 78585f2ead2c194<br>be337073534132<br>8b596d46593 | 8A866FD1B276B57E578E921C65828A2BED58E9F2F288054134B7F1F4BFC9CC74 |
| CN = QuoVadis Root CA 2 O = QuoVadis Limited C = BM                               | 509  | 85A0DD7DD720ADB7FF05F83D542B209DC7FF4528F7D677B18389FEA5E5C49E86 |
| CN = QuoVadis Root CA 2 G3 O = QuoVadis Limited C = BM                            | 445734245b8189<br>9b35f2ceb82b3b5<br>ba726f07528 | 8FE4FB0AF93A4D0D67DB0BEBB23E37C71BF325DCBCDD240EA04DAF58B47E1840 |
| CN = QuoVadis Root CA 3 O = QuoVadis Limited C = BM                               | 05c6   | 18F1FC7F205DF8ADDDEB7FE007DD57E3AF375A9C4D8D73546BF4F1FED1E18D35 |
| CN = QuoVadis Root CA 3 G3 O = QuoVadis Limited C = BM                            | 2ef59b0228a7db7<br>affd5a3a9eebd03a<br>0cf126a1d | 88EF81DE202EB018452E43F864725CEA5FBD1FC2D9D205730709C5D8B8690F46 |
| CN = QuoVadis Client RSA 4096<br>Root G4<br>O = QuoVadis Trustlink B.V.<br>C = NL | 7B9B8E6F11C9E1<br>3DB7CB9BEB3920<br>B4CA3566F648 | 80AC91FA891C79723A61ABC77F86E19905A92DA27E51695CA0C0B66C1C039BF2 |
| CN = QuoVadis Client ECC P384<br>Root G4<br>O = QuoVadis Trustlink B.V.<br>C = NL | 1561345225C6DE<br>0A833890C40560<br>CC7A0F9E02AA | D3C07AC44BD8FF1975BC62F1C7E9840EA8E188A4BA51133B8C4EFF05E34A2729 |
| CN = QuoVadis Signing ECC P384 Root G4 O = QuoVadis Trustlink B.V. C = NL         | 35DCEAA8F16E77<br>A5DDFC16AD369<br>C34BD1545CE29 | 771535D43D4633BD307EB7B8A3966B5DF00707C088089920080C1AE6D3CB0F68 |



| Distinguished name  | Certificate Serial<br>Number                     | SHA256 fingerprint   |
|---|--|--|
| CN = QuoVadis Signing RSA 4096<br>Root G4<br>O = QuoVadis Trustlink B.V.<br>C = NL      | 0F1D1740690044<br>943BAD6B5EB487<br>045759B0808D | 9F8E6DB31E740285E0C2C2DEB09E442BDD4E74BDEEAE2962BC82D1ECB9F39855 |
| CN = QuoVadis SMIME ECC P384<br>Root G4<br>O = QuoVadis Trustlink B.V.<br>C = NL        | 2B2DDF3DBDF6F6<br>9CF09144F78312<br>E20088142B59 | 83FDDB2FD9DAE3B21EEBD33CF46251D746F0D6102B683150DD7B98AD8E4BB9F8 |
| CN = QuoVadis SMIME RSA 4096<br>Root G4<br>O = QuoVadis Trustlink B.V.<br>C = NL        | 00F366A0ACE5F4<br>28CFF0F61EC3B6<br>369AD268AE9E | 5232A304AA4A10CFE6C47842EA3381CB31D619E24F58126D534CD50C5CE7845D |
| CN = QuoVadis TLS ECC P384 Root<br>G4<br>O = QuoVadis Trustlink B.V.<br>C = NL          | 691B041F159F6E<br>1C24D241C3E6E4<br>42FFC122899D | 6E1FD3AE0D2D477C8F5EE5F335CC5B6356872654E5356A73D8C0A30A17C252A2 |
| CN = QuoVadis TLS RSA 4096 Root<br>G4<br>O = QuoVadis Trustlink B.V.<br>C = NL          | 025FE5839FB3AA<br>BDC3721EED699E<br>7649FF6634FE | C8A2D38A24F5AC302D8A08EBD38923D9A750B49220F092E82D1C53249E1533D0 |
| CN = HydrantID EV SSL CA G2<br>O = HydrantID (Avalanche Cloud<br>Corporation)<br>C = US | 3c1e96137ee420<br>57973ce498cb50<br>daae4c1e3c48 | 60388B773D33E9141648613F36B9149F015A114378BACF3E3694864FFDA426EC |
| CN = HydrantID SSL CA G3 O = HydrantID (Avalanche Cloud Corporation) C = US             | 723b6fe5c252754<br>d2189b09155521<br>a3187916db8 | AA57F482CBC516B4D10CA4097DD90D99F5AA727D207090D07DA9C36998ABB9AD |



| Distinguished name   | Certificate Serial<br>Number                     | SHA256 fingerprint   |
|--|--|--|
| CN = QuoVadis Grid ICA G2<br>O = QuoVadis Limited<br>C = BM                                    | 2bafc5f0a8d2134<br>09da42e761f619a<br>c91984bcd4 | 278ECF211E2518E9DD9913AFC583EEB3127C8184BCBEEDAAD7BD64E89E8C4310 |
| CN = itsme Sign Issuing CA G2x<br>O = DigiCert Europe Belgium B.V.<br>C = BE                   | 4939956646c656<br>b23b47d6e0b93cc<br>1fcfd21e32e | B965A4354E7E1FFEDD1F947F13B065819B3A53C6889DC643E1D0D4C514AB68AE |
| CN = QuoVadis Qualified Web ICA G2 O = QuoVadis Trustlink B.V. C = NL                          | 53bd8dc20d4a46b<br>d962f5d685ada0f<br>0659207ffd | 7FEB9374EAB08D392717C647436DAE06176A24C010607FDA1CCE5E5F0106B472 |
| CN = QuoVadis Global SSL ICA G2<br>O = QuoVadis Limited<br>C = BM                              | 1a6ee893c37497<br>38e12accc77a8c0<br>acb167eaf14 | F67C23EF7BF7412809DB6B1DD3D44A08D3754D99CABA6A13F7A05C7249089C89 |
| CN = VR IDENT EV SSL CA 2020<br>O = Fiducia & GAD IT AG<br>C = DE                              | 754151cc11ec89b<br>64649b230ad809<br>020bb1e66a5 | D33A847F640377BE0AE1A429153A07E87C8827FA4840B5158BCDCB85E10A453A |
| CN = QuoVadis Swiss Regulated CA<br>G3<br>O = QuoVadis TrustLink Schweiz AG<br>C = CH          | 60c1ee68db921da<br>2608daea13785b<br>3d248f2ac9f | 726FB1F3D9FBFE0B4043004A27A43CF65CB214363B093034FC4185C86C9D8B0D |
| CN = QuoVadis Europe Advanced CA<br>G2<br>O = QuoVadis Trustlink Deutschland<br>GmbH<br>C = DE | Oabe1294959812<br>29df221937401e<br>92140ada9bdd | EBCD0C73FE44B60E25789419C07B0B234B3F586E092316FB2CBDA39C223224A3 |
| CN = QuoVadis RCA1G3 TLS CA<br>O = QuoVadis Limited<br>C = BM                                  | 72348f4fb5967e8<br>409e6b0cced6fa2<br>99b1ccd491 | 18BB70EFDA3F91438115C9EB4F333EB4EC68354571E6949195A0A91C9E6FBCD8 |
| CN = DigiCert QV EV TLS ICA G1<br>O = DigiCert, Inc.<br>C = US                                 | 65e9bcd53e791df<br>22dffeb5ecc2bc7a<br>5588d0883 | 6A7B2AA3414039A663D5D8BBAB8256A3979A84C332BF5E1EE8F6D0E0ADA84668 |
| CN = QuoVadis Issuing CA G5<br>O = QuoVadis Limited<br>C = BM                                  | 61be8292e7e8cb<br>3adf98e2ca7af34<br>154298dd068 | 08204C52ADDAA97A6FDEF702F6CEB4B94E578F8FC1C301C9D5136AB381CFA7D9 |



| Distinguished name   | Certificate Serial<br>Number                     | SHA256 fingerprint   |
|--|--|--|
| CN = QuoVadis RCA3G3 TLS CA O = QuoVadis Limited C = BM  | 18dae051a89771<br>5eb0899ddcfb33b<br>1cf0810eec0 | ECC0D17AC3263AC6A164DCDB08F82D07E93FCEA723F66B88B06EEBA9678DF2BB |
| CN = QuoVadis Enterprise Trust CA<br>1 G4<br>O = QuoVadis Trustlink B.V.<br>C = NL                                   | 6404c54fd9495cd<br>38a5e72df0a705b<br>ddd9b5a2a3 | 597623E05FD1B591711194EB190590F903A2B73F74CD5E8F787EC528033DAB7F |
| CN = QuoVadis Europe SSL CA G2<br>O = QuoVadis Trustlink B.V.<br>C = NL  | 71aaaa62848411<br>4c591fd74b9fe9ff<br>de5b29fa7e | B1AAE1BCD555E8A3D1E3DDA8EC84E757C552655344CE3FEEBBAF98E895DBEDAC |
| CN = QuoVadis RCA3G1 TLS CA<br>O = QuoVadis Limited<br>C = BM  | 2b07c16415396d<br>53cd05f7a542cca<br>4867e05c68d | 3A66E648212E6321F94D9EABCC92C052E679D992C99AD4596A4E7B85ADCEE5DE |
| CN = QuoVadis Qualified Web ICA G3 O = QuoVadis Trustlink B.V. C = NL  | 2ca8cdc5b8ed750<br>780c72e3392c99<br>41c0ffb8826 | 3F225BDBCD788CE924870CAF92F814B7C6FF4EDABABAD93F1D3A9177252CF1D1 |
| CN = BT Class 2 DigiCert PKI Platform CA O = British Telecommunications plc C = GB                                   | 72c98741764723<br>1d21a5a1e13234<br>c80f33fc35a5 | 843782303040BFB33576766E1700696DE0FC14887BE293D7265EB59ECE4ED9CC |
| CN = QuoVadis Time-Stamping<br>Authority CA G1<br>O = QuoVadis Trustlink B.V.<br>2.5.4.97 = NTRNL-30237459<br>C = NL | 4335c24f721531<br>1c1098838d7a0d<br>5584cdbf517f | D2BA0BFEC43FA7803860CDE6B3377421B1F563EC124B51D908415B0E937323E6 |
| CN = HydrantID Client ICA G2 O = HydrantID (Avalanche Cloud Corporation) C = US                                      | 330e34fc4ec99bc<br>46d28edf7eea2f2<br>e1787b5800 | 5286AE1C558A81537CD9870F749D96EFABC2D2BA393DF818DFE95EA7CE6450A7 |
| CN = DigiCert QV TLS ICA G1<br>O = DigiCert, Inc.<br>C = US  | 71520e460e54aef<br>322e39fac16c0e9<br>7a51bd9572 | 93E33AF7DA3030530D090C9C55762CADE7EAE943F834349D1057A90EB67F306B |



| Distinguished name  | Certificate Serial<br>Number                     | SHA256 fingerprint   |
|---|--|--|
| CN = QuoVadis Enterprise Trust CA<br>3 G3<br>O = QuoVadis Limited<br>C = BM   | 0c2163a44924ffb<br>7fcdb675acdcaee7<br>208cca95a | DA5462526A0C2E9852A86186B025390158759CDCA6AE21F09F713CA6ACCDD1F1 |
| CN = QuoVadis Enterprise Trust CA<br>1 G3<br>O = QuoVadis Limited<br>C = BM   | 0ad86fa335b93ef<br>48c8e3bf77d4c63<br>143643adb9 | 0531C86F785958939FDC539924D395D1EFA409364E6827D3AB9876311FFB27B0 |
| CN = QuoVadis Belgium Issuing CA<br>G4<br>2.5.4.97 = NTRBE-0537698318<br>O = DigiCert Europe Belgium B.V.<br>C = BE | 5bf39ec6453360e<br>0297f4cc5d7d888<br>28aca914c2 | 3516BDAB7F57115A7AEB2EBF9C521EF00F04AD891501979BE1EFBF4493409669 |
| CN = QuoVadis Europe EV SSL CA<br>G1<br>O = QuoVadis Trustlink B.V.<br>C = NL                                       | 3a020322b6816c<br>18b72acbb592bef<br>74dd786a8b8 | CB6666B32BFF2EFEDCC4187DF149A6D34A5D10B7165B9CFF2A67C0E311AEEED7 |
| CN = VR IDENT SSL CA 2020<br>O = Fiducia & GAD IT AG<br>C = DE  | 035fe137cd0551e<br>4c1f1b00beba5ae<br>e53f952734 | 347D18DCCC2EFC51A920E7A7FBB07BFBDA35613681F82DCA5C4C72BB0C83C035 |
| CN = QuoVadis Enterprise Trust CA<br>2 G4<br>O = QuoVadis Trustlink B.V.<br>C = NL                                  | 41d2651bf57daee<br>c594226cf55639c<br>4c3285c24c | 1E356823FE40C0EAAC29F9ED5463B7B2DB1C088B63EBB05876A2E631C1087798 |
| CN = itsme Sign Issuing CA G2<br>O = DigiCert Europe Belgium B.V.<br>C = BE   | 4da802bbf234c34<br>70746ac4e47fcde<br>9aeb7cc3bf | OB7AF5EB38D90B83C893410EC6714601A4EF6EC5C32B9D1D9AD54FBD38E18AEA |
| CN = QuoVadis Enterprise Trust CA<br>3 G4<br>O = QuoVadis Trustlink B.V.<br>C = NL                                  | 469b2e710c3514<br>1f2615c726aee92<br>ee4b42b3420 | 31EFF7DF4DDEB71CBDFB08B5C7FC9604A93600251E8917D6960C32BF4C0B5A77 |
| CN = QuoVadis Code Signing CA G1 O = QuoVadis Limited C = BM  | 1ce6507ec1d9c0b<br>16178feee058cae<br>7a0b142858 | DA0AFAF15CD300E34B520FB78A4FA68EB42C4601E939B903E0B1D71DF5965BFF |



| Distinguished name   | Certificate Serial<br>Number                     | SHA256 fingerprint   |
|--|--|--|
| CN = QuoVadis Swiss Regulated CA<br>G2x<br>2.5.4.97 = NTRCH-CHE-<br>112.210.349<br>O = QuoVadis Trustlink Schweiz AG<br>C = CH | 51fd54ae8897ca2<br>e71bdf28655a6d5<br>15afff15c3 | 941B8AEE4BCF1EFEB0475FB279FDDDCF37FC5B20F64E842CD9DA0770B157E84D |
| CN = QuoVadis Enterprise Trust CA<br>2 G3<br>O = QuoVadis Limited<br>C = BM  | 31a84f278bbe4a6<br>96e4cb2f415a2e4<br>473bdcca38 | B6F6559BBCE0A2CC91E507B5D7319E32487EDAE28A063BC73B6405E6C44665B6 |
| CN = QuoVadis EU Issuing<br>Certification Authority G4<br>O = QuoVadis Trustlink B.V.<br>2.5.4.97 = NTRNL-30237459<br>C = NL   | 127f8b32062628<br>c0ca3f8d44bef9f2<br>fa5db1440c | 1D24222B5EEC71FE99BE9D700FA5FF72312DB3EB0FCB4A4F3BCC135DA36C1355 |
| CN = BEKB - BCBE Issuing CA G2 OU = Issuing Certification Authority O = Berner Kantonalbank AG C = CH                          | 289fbf1348498bc<br>26512ff3abf8af52<br>f2a0b7502 | B399EFE42C01A05BDC38978447A78E950467793FB11C1B6B426C419A0FC73911 |
| CN = QuoVadis EU Issuing<br>Certification Authority G6<br>2.5.4.97 = NTRNL-30237459<br>O = QuoVadis Trustlink B.V.<br>C = NL   | 32992e194ce22e<br>ae94e96c8bb475<br>379a11e2c4cf | 19B74B7E41CA73465832838A14EB432C4826F1B15DEF42B90AAE9F8FAB8B79B3 |
| CN = QuoVadis Swiss Advanced CA<br>G4<br>O = QuoVadis Trustlink Schweiz AG<br>C = CH   | 7bdcbb6fcd4d021<br>9c87d4879f4f4d7<br>15b6b834ae | 085A74D4683D0FCCDE44677CFA579B732C9CE2DA6921AD3FE70F814EE7C0BF52 |
| CN = HIN Health Info Net CA G2 O = Health Info Net AG 2.5.4.97 = NTRCH-CHE- 103.489.218 C = CH                                 | 35bb9264f660c9b<br>d09f8c0b34617dc<br>2b1341e05c | 3645E0F05E195BE8ECD456E518C8C23C1BB259CD6CF4691F29C744AEF0C11FDD |



| Distinguished name   | Certificate Serial<br>Number                     | SHA256 fingerprint   |
|--|--|--|
| CN = QuoVadis Belgium Issuing CA<br>G2<br>O = QuoVadis Trustlink BVBA<br>2.5.4.97 = NTRBE-0537698318<br>C = BE | 1cdfd90b4f72719<br>860e301c76c368<br>c61d91f1278 | AA0E83B4AE0036679703D1603BC7E63A080464A033AE4B9F465838ADC85C61ED |
| CN = HydrantID SSL ICA G2 O = HydrantID (Avalanche Cloud Corporation) C = US                                   | 7517167783d043<br>7eb556c357946e<br>4563b8ebd3ac | 9C6D08933201407FBF2B12540B67CC0E4C9666F132E1504762A717CBAE8F3FD6 |
| CN = HydrantID SSL ICA G2<br>O = QuoVadis Limited<br>C = BM  | 04E6881CFF6CD6<br>5D5D554D183920<br>9CCEFAD7C78D | 01453F645CD91E233B7484827F23F8A573FD641029EA8A6BFE549EF4ED8B323D |
| CN = QuoVadis Global SSL ICA G3 O = QuoVadis Limited C = BM  | 653247814F5FA6<br>6BB854DAF053F3<br>29265D726538 | 161EE5386329B28A27FF405736552A621D5A844A43811E3623E52EEFA0BA840A |
| CN = QuoVadis Time-Stamping Authority CA G2 O = QuoVadis Limited C = CH  | 692EDA51C0FE8C<br>3530B3D4675BBC<br>E907D89A6C44 | B9583D4E090E8A6B1B5FD3FD079ABAD2B1EC326E183A4B763473E2ACE04E43CD |
| CN=QuoVadis Global SSL ICA G2<br>O=QuoVadis Limited<br>C=BM  | 510E47EC6C66D3<br>3CFFDEC552FD88<br>40978C9C273E | E5CD0DD44E1120C79415C84F5369D79AE04F047E80DC0856351AABC232056CA5 |
| CN = DigiCert QuoVadis G4 TLS ECC<br>P384 SHA384 2023 CA1<br>O = DigiCert Ireland Limited<br>C = IE            | 28FFC96C6E6F85<br>56A5801177DE3<br>A6726159E3428 | OCAB7DBD736B1BFBE8E63ABE2DD55D64A0805140386DA05FC6E28D4FCF81B9B6 |
| CN = BEKB - BCBE Issuing CA G2 OU = Issuing Certification Authority O = Berner Kantonalbank AG C = CH          | 11B9E2627F1D67<br>282E292AB140AC<br>A0F711C767A0 | 474D298059F15BC5319B4A94D38AAFADBF627CC09513FCD9362CD89C2F9B6221 |



| Distinguished name   | Certificate Serial<br>Number                     | SHA256 fingerprint   |
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| CN = DigiCert QuoVadis G3 TS<br>Europe RSA4096 SHA256 2023<br>CA1<br>2.5.4.97 = NTRNL-30237459<br>O = QuoVadis Trustlink B.V.<br>C = NL                            | 221735A76ADAB<br>50A2AB85196D0<br>C70F00BECCCDCF | 8CD1E1AFA9F976519AA252A0C4568B22092A5773D7E2B4631D19DE2B39ABFA3B |
| CN = DigiCert QuoVadis G3 TS<br>Europe ECC P256 SHA256 2023<br>CA1<br>2.5.4.97 = NTRNL-30237459<br>O = QuoVadis Trustlink B.V.<br>C = NL                           | 755E83592A660E<br>CB4E660F1C7BC1<br>F111DDBAA032 | CE49790DCEB21562949C5270BB02C0F34C7B3861D85F98D1069E20453C426BC5 |
| CN = DigiCert QuoVadis G3 Qualified<br>TLS RSA4096 SHA256 2023 CA1<br>2.5.4.97 = NTRNL-30237459<br>O = QuoVadis Trustlink B.V.<br>C = NL                           | 43B3D54808E820<br>8F6E58CB1143F3<br>F802E372E83F | FE3CBED838D30BAB900184C1F21A4B27D3211CB5C9257D7E985C2AE43AC6A89F |
| CN = DigiCert QuoVadis G3 Qualified<br>Europe RSA4096 SHA256 2023<br>CA1<br>2.5.4.97 = NTRNL-30237459<br>O = QuoVadis Trustlink B.V.<br>C = NL                     | 620BEF00C84924<br>15C5661FF1488C<br>2E4186E6581E | B36425F1491B2EE08EC87B69C23EA6A76EBF769C4C34FE3798A4CB9A1990E070 |
| CN = DigiCert QuoVadis G3 Qualified<br>CH Reg SP RSA4096 SHA256 2023<br>CA1<br>2.5.4.97 = NTRCH-CHE-<br>112.210.349<br>O = QuoVadis Trustlink Schweiz AG<br>C = CH | 37CAC4FD051FA8<br>A25198A5A12BA<br>F0510A0F39B12 | 8C44440AA473191A540EC01B17413DE6A904D64D79BB8B30E6D1FC1ADA798F51 |



| Distinguished name  | Certificate Serial<br>Number                     | SHA256 fingerprint   |
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| CN = DigiCert QuoVadis G3 Qualified<br>CH Reg RSA4096 SHA256 2023<br>CA1<br>2.5.4.97 = NTRCH-CHE-<br>112.210.349<br>O = QuoVadis Trustlink Schweiz AG<br>C = CH | 32F8E61674083A<br>0A21029F5A09BE<br>CA7CC1662902 | A9462BF3D725EDF669FF392113E5270E3DE79DB820D792581F07AB4B0ED75064 |
| CN = DigiCert QuoVadis G3 Qualified<br>BE RSA4096 SHA256 2023 CA1<br>2.5.4.97 = NTRBE-0537698318<br>O = DigiCert Europe Belgium B.V.<br>C = BE                  | 6E6C7DE2287BDD<br>1BB267CE7841B3<br>F4B0C18DABE6 | 2CB07880B4E584F366E083791511BB48812FF5164C5BA3BBB3C1688AA456B13C |
| CN = DigiCert QuoVadis G3 Qualified<br>BE itsme RSA4096 SHA256 2023<br>CA1<br>2.5.4.97 = NTRBE-0537698318<br>O = DigiCert Europe Belgium B.V.<br>C = BE         | 53165619669D29<br>278A103B12106B<br>5F4008FA1E72 | C0EE0CCED463096DF07D27257AF79C986FF92B678F669C109FFF570F32AB433F |
| CN = DigiCert QuoVadis G3 Qualified<br>BE itsme RIV RSA4096 256 2023<br>CA1<br>2.5.4.97 = NTRBE-0537698318<br>O = DigiCert Europe Belgium B.V.<br>C = BE        | 0A203980970717<br>BA4ECFCE9F4AB5<br>18700062DD2E | A610AD2025ED0AA84259EBB9289E828267D35082430CBFB5562F3066DEBC2E88 |
| CN = DigiCert QuoVadis G3 SMIME<br>RSA4096 SHA384 2023 CA1<br>O = DigiCert Ireland Limited<br>C = IE  | 575B29998934E1<br>47419B85E3A475<br>FA9F41196812 | 3C980210C4F0803388C4D9FA9699E19F88FA3B96B3CF68D675808876747A678A |



| Distinguished name  | Certificate Serial<br>Number                     | SHA256 fingerprint   |
|---|--|--|
| CN = BEKB BCBE G3 SMIME CH<br>RSA4096 SHA256 2023 CA1<br>OU = Issuing Certification Authority<br>O = Berner Kantonalbank AG<br>C = CH | 68FCC360B40B23<br>28A8AA09D9961<br>19BD1463FA05D | 174ED245170A592A7985436B9F590A3E96C134807C4AFDA872BC7E09A49855ED |
| CN = DigiCert QuoVadis G4 TLS<br>RSA4096 SHA384 2023 CA1<br>O = DigiCert Ireland Limited<br>C = IE                                    | 5AE901EF548634<br>E2E0BB77578818<br>D805EE65A237 | 3E8FC16AADA8FCB6F51CA4848BB15F8ABE8DD807F9CEAA4C6CCBE9864F6CE9DE |
| CN = DigiCert QuoVadis G4 SMIME<br>RSA4096 SHA384 2023 CA1<br>O = DigiCert Ireland Limited<br>C = IE                                  | 049F133DC69A07<br>5A59B48323C441<br>4174C199FE80 | E234809774CD0125626EA578E36F35740959B61B7790582DFE7828730F818546 |
| CN = DigiCert QuoVadis G4 SMIME<br>ECC P384 SHA384 2023 CA1<br>O = DigiCert Ireland Limited<br>C = IE                                 | 2FFAE0F0B8AA7B<br>E5BE9CF384FAB2<br>3C0C335D6807 | D80AB934DED2B399A781F270005393D5162A2707B2A007C39A27C740F1E5CE26 |
| CN = DigiCert QuoVadis G4 SMIME<br>RSA4096 SHA384 2023 CA1<br>O = DigiCert Ireland Limited<br>C = IE                                  | 5CBC9B7EE084ED<br>A26593D0DECFBB<br>1943DBE282B2 | 369AE7BD4D9E9E698A6F731D5AC19936AB3859431A502497357FE93ACF01982D |
| CN = DigiCert QuoVadis G4 SMIME<br>ECC P384 SHA384 2023 CA1<br>O = DigiCert Ireland Limited<br>C = IE                                 | 3264B97A189F0D<br>D0F01EAF7CB2DB<br>BCD3BC9D4B06 | E117CBC55073D91A61E7636FE46184AB8726466A338C2DF109E8A284DE551650 |



| Distinguished name  | Certificate Serial<br>Number                     | SHA256 fingerprint   |
|---|--|--|
| CN = DigiCert QuoVadis G4 TLS ECC<br>P384 SHA384 2023 CA1<br>O = DigiCert Ireland Limited<br>C = IE | 19f5eeae6109c54<br>f5f957cac8fb787c<br>7809335c2 | 35A5B2730439D225E04080412EC01031F22F3902B84670E7B44F699F9701F050 |
| CN = QuoVadis Private TLS ECC<br>P384 Root G4<br>O = QuoVadis Trustlink B.V.<br>C = NL              | 1f1acc18f4b3f230<br>3af4053a88af89f<br>413c598df | B421FEE95C6D9F034E89CF51E92F4A54EB9ECC15757008179F9EF0A417B76317 |
| CN = QuoVadis Private TLS RSA<br>4096 Root G4<br>O = QuoVadis Trustlink B.V.<br>C = NL              | 1ca30d76a478fe3<br>d12e2024e11cf06<br>fa83b64775 | A20FE0B76EED3D700661E24EE8619C08BF989716A50CE911C2CEA354A9CFBF8B |