

## INDEPENDENT ASSURANCE REPORT

*To the management of Verizon Terremark NV ("Verizon Terremark"):*

### Scope

We have been engaged, in a reasonable assurance engagement, to report on Verizon Terremark management's assertion that for its Certification Authority (CA) operations at Culliganlaan 2E, Diegem (Belgium), throughout the period May 1, 2018 to April 30, 2019 for its CAs as enumerated in [Appendix B](#), Verizon Terremark has:

- ▶ Disclosed its extended validation SSL ("EV SSL") 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 EV SSL Certificates in conformity with the CA/Browser Forum Guidelines on the Verizon Terremark'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 EV SSL certificates it manages is established and protected throughout their life cycles; and
  - EV SSL subscriber information is properly collected, authenticated (for the registration activities performed by Verizon Terremark)

in accordance with the [WebTrust Principles and Criteria for Certification Authorities - Extended Validation SSL, Version 1.6.2.](#)

Verizon Public SureServer EV SSL CA G14-SHA2 (Appendix B, CA #1), Cybertrust SureServer EV OCSP CA (Appendix B, CA #2), Verizon Public SureServer EV SSL CA G14-SHA1 (Appendix B, CA #3), Cybertrust Public SureServer EV (Appendix B, CA #4), Cybertrust SureServer EV CA (Appendix B, CA #5) did not issue subscriber certificates during the period May 1, 2018 through April 30, 2019 and were maintained online to provide revocation status information only.

### Certification authority's responsibilities

Verizon Terremark'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 - Extended Validation SSL, Version 1.6.2.](#)

### 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 Verizon Terremark's EV SSL certificate lifecycle management business practices, including its relevant controls over the issuance, renewal, and revocation of EV SSL certificates, and obtaining an understanding of Verizon Terremark'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 EV SSL 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.

Verizon Terremark disclosed to us that its Certification Authority (CA) operations are being phased out and therefore operational activities were limited during the period under audit.

We have considered these circumstances in determining the nature, timing and extent of our procedures. Due to the phasing out, in some cases, testing and evaluating the operating effectiveness could not be performed due to no occurrence during the period under audit.

### **Relative effectiveness of controls**

The relative effectiveness and significance of specific controls at Verizon Terremark 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, Verizon Terremark'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.

## Basis for qualified opinion

During our procedures, we noted the following that caused a qualification of our opinion:

#	Observation	Relevant WebTrust Criteria
1	<p>We noted that no documentation exists that each Validation Specialist possesses the skills required by a task before allowing the Validation Specialist to perform that task.</p> <p>We also noted that no examination was performed on the information verification requirements outlined in the Baseline Requirements.</p> <p>This caused WebTrust Principles and Criteria for Certification Authorities - Extended Validation SSL - Version 1.6.2, Criterion 2.6.2 to not be met.</p>	<p>The CA maintains controls to provide reasonable assurance that:</p> <ul style="list-style-type: none"> <li>the CA provides all personnel performing information verification duties (Validation Specialists) with skills-training that covers basic Public Key Infrastructure (PKI) knowledge, authentication and vetting policies and procedures (including the CA's Certificate Policy and/or Certification Practice Statement), common threats to the information verification process including phishing and other social engineering tactics), and these Requirements;</li> <li>the CA maintains records of such training and ensures that personnel entrusted with Validation Specialist duties maintain a skill level that enables them to perform such duties satisfactorily;</li> <li>the CA documents each Validation Specialist possesses the skills required by a task before allowing the Validation Specialist to perform that task;</li> <li>the CA requires all Validation Specialists to pass an examination provided by the CA on the information verification requirements outlined in the Baseline Requirements; and</li> <li>all personnel in Trusted Roles maintain skill levels consistent with the CA's training and performance programs.</li> </ul>

## Qualified Opinion

In our opinion, except for the matters described in the basis for qualified section above, throughout the period May 1, 2018 to April 30, 2019, Verizon Terremark 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 - Extended Validation SSL, Version 1.6.2](#).

This report does not include any representation as to the quality of Verizon Terremark's services beyond those covered by the [WebTrust Principles and Criteria for Certification Authorities - Extended Validation SSL, Version 1.6.2](#), nor the suitability of any of Verizon Terremark's services for any customer's intended purpose.



Brussels, August 9, 2019

Ernst & Young Bedrijfsrevisoren cvba  
Diegem, Belgium

A handwritten signature in blue ink, reading 'Weymeersch', is written over a horizontal line.

Christel Weymeersch  
Partner\*

\* Acting on behalf of a bvba

Appendix A – Certification Practice Statements and Certificate Policies in Scope

Certification Practice Statement	Begin Effective Date	End Effective Date
<a href="#">Version 5.11</a>	July-2018	October-2018
<a href="#">Version 5.12</a>	October-2018	

Certificate Policy	Begin Effective Date	End Effective Date
<a href="#">Version 2.10</a>	July-2018	October-2018
<a href="#">Version 2.11</a>	October-2018	

## Appendix B – In-Scope CAs

<b>EV SSL Issuing CAs</b>		
#	Subject	SHA
1	CN=Verizon Public SureServer EV SSL CA G14-SHA2, OU=Cybertrust, O=Verizon Enterprise Solutions, L=Amsterdam, C=NL	d1:4e:da:2c:63:1f:31:2d:c0:fd:8d:7b:34:9e:d4:a1: c8:d9:04:a0:70:99:2d:84:d3:3d:bf:bb:14:62:1c:42
2	O=Verizon Cybertrust Security, CN=Cybertrust SureServer EV OCSP CA	4f:66:20:f1:5b:d0:8c:95:27:db:50:ce:f2:6f:42:d4: 51:63:b5:10:bb:95:6e:9e:9e:83:c9:9b:82:c0:af:71
3	CN=Verizon Public SureServer EV SSL CA G14-SHA1, OU=Cybertrust, O=Verizon Enterprise Solutions, L=Amsterdam, C=NL	3c:3a:c7:c5:48:aa:80:0b:ec:7a:af:e3:8a:15:50:ec: cf:f8:89:53:05:c4:36:f7:a0:7c:60:66:a5:ef:55:bd
4	CN=Cybertrust Public SureServer EV CA, O=Cybertrust Inc	93:62:f2:ff:28:71:f3:b8:db:11:56:6f:3d:f5:c4:ac: 35:ec:a6:63:f6:d3:12:b1:a6:1a:a0:48:2f:9c:b6:d2
5	CN=Cybertrust SureServer EV CA, O=Cybertrust Inc	0a:ca:d3:97:3a:8d:ea:50:96:ae:25:53:f5:a7:0f:c9: 16:87:93:fa:0b:06:44:a0:8a:8e:9b:85:9d:96:50:b5



## Verizon Terremark's Management's Assertion

Verizon Terremark NV ("Verizon Terremark") operates the Certification Authority (CA) services known as the CAs as disclosed in [Appendix B](#) and provides Extended Validation SSL ("EV SSL") CA services.

The management of Verizon Terremark is responsible for establishing and maintaining effective controls over its EV SSL CA operations, including its EV SSL CA business practices disclosure on its website, EV SSL key lifecycle management controls, EV SSL certificate lifecycle management control. 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 Verizon Terremark's Certification Authority operations. Furthermore, because of changes in conditions, the effectiveness of controls may vary over time.

Verizon Terremark management has assessed its disclosures of its certificate practices and controls over its EV SSL CA services. Based on that assessment, in Verizon Terremark management's opinion, in providing its EV SSL Certification Authority (CA) services at Culliganlaan 2E, Diegem (Belgium), throughout the period May 1, 2018 to April 30, 2019, Verizon Terremark has:

- Disclosed its extended validation SSL ("EV SSL") 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 EV SSL 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 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 Verizon Terremark)

In accordance with the [WebTrust Principles and Criteria for Certification Authorities - Extended Validation SSL, Version 1.6.2.](#)

Verizon Terremark  
Culliganlaan 2E, Diegem (Belgium)

A handwritten signature in black ink, appearing to read "James Finelli".

Signed by: James Finelli  
Function: Director, Risk Management & Compliance

August 9, 2019

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2	O=Verizon Cybertrust Security, CN=Cybertrust SureServer EV OCSP CA	4f:66:20:f1:5b:d0:8c:95:27:db:50:ce:f2:6f:42:d4: 51:63:b5:10:bb:95:6e:9e:9e:83:c9:9b:82:c0:af:71
3	CN=Verizon Public SureServer EV SSL CA G14-SHA1, OU=Cybertrust, O=Verizon Enterprise Solutions, L=Amsterdam, C=NL	3c:3a:c7:c5:48:aa:80:0b:ec:7a:af:e3:8a:15:50:ec: cf:f8:89:53:05:c4:36:f7:a0:7c:60:66:a5:ef:55:bd
4	CN=Cybertrust Public SureServer EV CA, O=Cybertrust Inc	93:62:f2:ff:28:71:f3:b8:db:11:56:6f:3d:f5:c4:ac: 35:ec:a6:63:f6:d3:12:b1:a6:1a:a0:48:2f:9c:b6:d2
5	CN=Cybertrust SureServer EV CA, O=Cybertrust Inc	0a:ca:d3:97:3a:8d:ea:50:96:ae:25:53:f5:a7:0f:c9: 16:87:93:fa:0b:06:44:a0:8a:8e:9b:85:9d:96:50:b5