

# WEBTRUST FOR CERTIFICATION AUTHORITIES PERFORMANCE AND COMPLIANCE AUDIT

FINAL REPORT

MSCTRUSTGATE.COM SDN BHD

15 NOVEMBER 2019



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# 1. Independent Assurance Report

To the Management of MSC Trustgate.com Sdn. Bhd.

We have been engaged, in reasonable assurance to examine and report on MSC Trustgate.com Sdn. Bhd. ("Trustgate-CA") that in providing its Certification Authority ("CA") services known as Trustgate-CA at Suite 2-9, Level 2, Block 4801 CBD Perdana, Jalan Perdana, 63000 Cyberjaya Selangor Darul Ehsan, Malaysia, throughout the period 1 September 2018 to 31 August 2019 for its CAs as in [Appendix 1 – List of Root and Subordinate CA in Scope](#)

Trustgate-CA has:

- Disclosed its business, key and certification life cycle management business and information privacy practices in its:
  - Symantec Trust Network (STN) Certification Practice Statement (CPS) version 3.9.0 with effective date on 30 January 2019
  - Symantec Trust Network (STN) Certificate Policy (CP) Version 2.9.0 September 11, 2018
  - MSC Trustgate Certificate Policy (CP) Version 3.5 23 August 2019
  - MSC Trustgate Certification Practice Statement (CPS) Version 4.3.4 23 August 2019
- Maintained effective controls to provide reasonable assurance that:
  - Certification Practice Statement - Version 3.9.0 with effective date on 30 January 2019, is consistent with its Certificate Policy – Version 3.5
  - Trustgate-CA 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 certificate it manages is established and protected throughout their lifecycles;
  - The integrity of subscriber keys and certificates it manages is established and protected throughout their lifecycles;
  - Subscriber information was properly authenticated (for the registration activities performed by Trustgate-CA);
  - Integrity of keys and certificates it managed was established and protected throughout their life cycles;
  - Subscriber and relying party information was restricted to authorised individuals and protected from users not specified in the Trustgate-CA's business practices disclosure;
- Maintained effective controls to provide reasonable assurance that:
  - Logical and physical access to Trustgate-CA Systems and data is restricted to authorized personnel;
  - Continuity of key and certificate life cycle management operations was maintained; and
  - CA Systems Development, maintenance and operations are properly authorized and performed to maintain CA Systems Integrity

Our examination was conducted in accordance with attestation standards established by Chartered Professional Accountants Canada (“CPA Canada”) WebTrust Principles and Criteria for Certification Authorities - Version 2.2

### **Trustgate-Certification Authority’s Responsibility**

Trustgate-CA’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 v2.2

### **Auditor’s Responsibilities**

Our responsibility is to express an opinion on management’s assertion based on our examination and our procedures.

Our examination 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:

- obtaining an understanding of Trustgate-CA’s key and certification life cycle management business and information privacy practices and its controls over key and certificate integrity, over the authenticity and privacy of subscriber and relying party information, over the continuity of key and certificate life cycle management operations, and over development, maintenance and operation of systems integrity;
- selectively testing transactions executed in accordance with disclosed key and certificate life cycle management business and information privacy practices;
- testing and evaluating the operating effectiveness on the controls; and
- 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 Trustgate-CA and their effect on assessment of controls risk for subscribers and relying parties are dependent on their interactions with the controls, and other factors present at individual subscribers and relying parties’ locations. We have performance no procedures to evaluate effectiveness of controls at individual subscribers and relying parties’ locations.

### **Inherent Limitation**

Because of inherent limitations in controls, errors or fraud may occur and not to be detected. Furthermore, the projection of any conclusions, based on our findings, to future periods is subject to the risk that the validity of such conclusions may be altered because of changes made to the systems or controls, or deterioration in the degree of effectiveness of the controls.

## **Opinion**

In our opinion, for the period from 1 September 2018 through 31 August 2019, Trustgate-CA's management assertion, as set forth in the first paragraph, is fairly stated, in all material respects, based on the CPA Canada WebTrust Principles and Criteria for Certification Authorities – V2.2

This report does not include any representation as to the quality of Trustgate-CA's services beyond those covered by the WebTrust Principles and Criteria for Certification Authorities v2.2 nor the suitability of any of Trustgate-CA services for any customer's intended purpose.

## **Use of the WebTrust Seal**

The WebTrust seal of assurance for the Certification on Trustgate-CA'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.

Baker Tilly

Kuala Lumpur, Malaysia

15 November 2019

## 2. Client Representation



MSC Trustgate.com Sdn. Bhd (478231-X)  
Suite 2-9, Level 2, Block 4801  
CBD Perdana, Jalan Perdana  
63000 Cyberjaya, Selangor, Malaysia  
Tel : +603 8318 1800 Fax : +603 8319 1800  
Website: <http://www.msctrustgate.com>

DATE: 15 November 2019

MSCTrustgate.com Sdn. Bhd. (Trustgate-CA) operates a Certification Authority ("CA") services known as Trustgate-CA and provides the following CA services:

- Subscriber Registration
- Certificate Renewal
- Certificate Rekey
- Certificate Issuance
- Certificate Distribution
- Certificate Revocation
- Certificate Suspension
- Certificate Validation
- Subscriber key generation and Management
- Subordinate CA [cross]-certification

The Management of Trustgate-CA is responsible for establishing and maintaining effective controls over its CA operations, including CA business practices disclosure on its website (MSCTrustgate Repository: <https://www.msctrustgate.com/repository.htm>), CA Business practices Management, CA Environmental Controls, CA Key Lifecycle management controls, subscriber key lifecycle management controls. These controls contain monitoring mechanism and actions are taken to correct deficiencies identified.

The Management of Trustgate-CA has assessed its disclosures of its certificate practices and controls over its CA services. Based on our management assessment, the Management of Trustgate-CA undertake that, in providing its Certification Authority (CA) services at Suite 2-9, Level 2, Block 4801 CBD Perdana, Jalan Perdana, 63000 Cyberjaya Selangor Darul Ehsan, Malaysia throughout the period 1 September 2017 to 31 August 2018 for its Cas as in Appendix A – List of Root and Subordinate CA in Scope, Trustgate-CA has:

- Disclosed its business, key and certification life cycle management business and information privacy practices in its:
  - Certification Practice Statement - Version 3.9.0 with effective date on 30 January 2019, and
  - Certificate Policy – Version 3.5 with effective date on 23 August 2019
- Maintained effective controls to provide reasonable assurance that:
  - Certification Practice Statement - Version 3.9.0 with effective date on 30 January 2019, is consistent with its Certificate Policy – Version 3.5
  - Trustgate-CA 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 certificate it manages is established and protected throughout their lifecycles;
  - The integrity of subscriber keys and certificates it manages is established and protected throughout their lifecycles;
  - Subscriber information was properly authenticated (for the registration activities performed by Trustgate-CA);
  - Integrity of keys and certificates it managed was established and protected throughout their life cycles;
  - Subscriber and relying party information was restricted to authorised individuals and protected from users not specified in the Trustgate-CA's business practices disclosure;
  
- Maintained effective controls to provide reasonable assurance that:
  - Logical and physical access to Trustgate-CA Systems and data is restricted to authorized personnel;
  - Continuity of key and certificate life cycle management operations was maintained; and
  - CA Systems Development, maintenance and operations are properly authorized and performed to maintain CA Systems Integrity

in accordance with attestation standards established by Chartered Professional Accountants Canada WebTrust Principles and Criteria for Certification Authorities - Version 2.2 including the following:

**CA Business Practices Disclosure**

- Certification Practice Statement (CPS)
- Certification Policy (CP)

**CA Business Practices Management**

- Certification Policy Management
- Certification Practice Statement Management
- CP and CPS Consistency

**CA Environmental Controls**

- Security Management
- Asset Classification and Management
- Personnel Security
- Physical & Environmental Security
- Operations Management
- System Access Management
- System Development and Maintenance

- Business Continuity Management
- Monitoring and Compliance
- Audit Logging

#### **CA Key Lifecycle 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 Lifecycle Management

#### **Subscriber Key Lifecycle Management Controls**

- CA-Provided Subscriber Key Generation Services
- CA-Provided Subscriber Storage and Recovery Services

#### **Certificate Lifecycle Management Controls**

- Subscriber Registration
- Certificate Renewal
- Certificate Rekey
- Certificate Issuance
- Certificate Distribution
- Certificate Revocation
- Certificate Validation

#### **Subordinate CA Certificate Lifecycle Management Controls**

- Subordinate CA Certificate Lifecycle Management

Trustgate-CA does not escrow its CA Keys and does not provide these services. Accordingly, our representation does not extend to controls that would address those criteria.



Lo Nyan Tjing  
Chief Executive Office  
MSC Trustgate.com Sdn. Bhd.



### 3. Description of Controls

#### 3.1 Background

Trustgate-CA is licenced by the Malaysia Communications and Multimedia Commission for the following areas:

- Licensed Certification Authority (License No: LPBP-2/2015[2], Issuing Date: 25 July 2015, Expiry Date: 24 July 2020) SKMM DSA Register: <http://www.skmm.gov.my/Legal/Register/DSA-Registers.aspx> (Accessed 1 October 2019)
- Recognised Repository (License No: PPR-2/2015[2], Issuing Date: 25 July 2015, Expiry Date: 24 July 2020) MSCTrustgate Repository: <https://www.msctrustgate.com/repository.htm> (Accessed 1 October 2019)

Trustgate-CA provide Secure Socket Layer (“SSL”) and Public Key Infrastructure (“PKI”) services to businesses and government, incorporating digital certificates, digital signatures and encryption. The certification services of Trustgate-CA are organised by class, assurance level and usage:

#### 3.2 Root Keys of Trustgate-CA

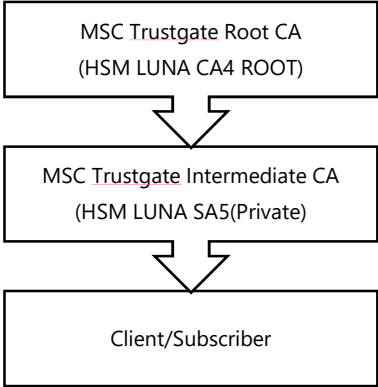
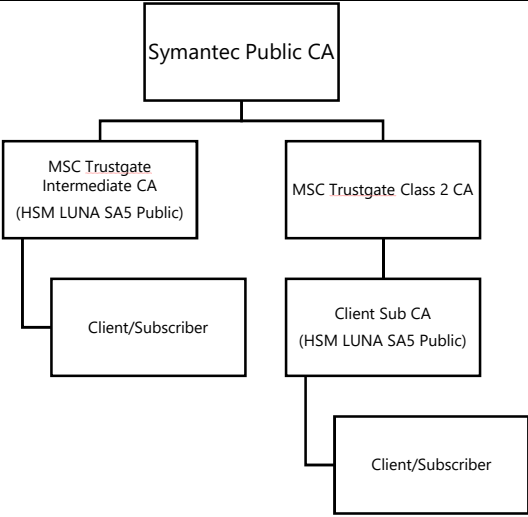
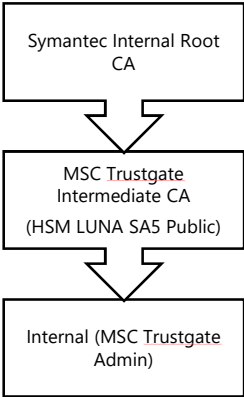
There are three Root Keys owned by Trustgate-CA as follows:

Type of Certificate	Description
Class 1 Certificates	Self-signed MSC Trustgate Root CA for Class 1*
Class 2 Certificates	Self-signed MSC Trustgate Root CA for Class 2*
Class 3 Certificates	Self-signed MSC Trustgate Internal Root CA for Class 3

Applicability of the WebTrust for CA’s requirements:

CA Key Life Cycle Management Controls	Subscriber Key Life Cycle Management Controls	Certificate Life Cycle Management Controls	Subordinate CA Certificate Life Cycle Management Controls
✓			

There are three types of scenarios for the implementation of the CA/PKI services:

Types of Scenario	CA Hierarchy
CA Scenario 1: Private	 <pre> graph TD     Root["MSC Trustgate Root CA (HSM LUNA CA4 ROOT)"] --&gt; Intermediate["MSC Trustgate Intermediate CA (HSM LUNA SA5(Private))"]     Intermediate --&gt; Client["Client/Subscriber"]             </pre>
CA Scenario 2: Public	 <pre> graph TD     Symantec["Symantec Public CA"] --&gt; Intermediate["MSC Trustgate Intermediate CA (HSM LUNA SA5 Public)"]     Symantec --&gt; Class2["MSC Trustgate Class 2 CA"]     Intermediate --&gt; Client1["Client/Subscriber"]     Class2 --&gt; SubCA["Client Sub CA (HSM LUNA SA5 Public)"]     SubCA --&gt; Client2["Client/Subscriber"]             </pre>
CA Scenario 3: Internal	 <pre> graph TD     Root["Symantec Internal Root CA"] --&gt; Intermediate["MSC Trustgate Intermediate CA (HSM LUNA SA5 Public)"]     Intermediate --&gt; Admin["Internal (MSC Trustgate Admin)"]             </pre>

### 3.3 Certificates Issued To Client/Subscribers/ Individuals

Certificate Class:	Low assurance level	Medium assurance level	High assurance level	Signing	Encryption	Client Authentication
Class 1 Certificates	✓			✓	✓	✓
Class 2 Certificates		✓		✓	✓	✓

Applicability of WebTrust for CA’s requirements:

CA Key Life Cycle Management Controls	Subscriber Key Life Cycle Management Controls	Certificate Life Cycle Management Controls	Subordinate CA Certificate Life Cycle Management Controls
	✓	✓	✓

### 3.4 Certificates Issued to Trustgate-CA CA Administrator

Certificate Class:	High assurance level	Code/Content Signing	Secure SSL/TLS-sessions	Authentication	Signing and Encryption
Class 3 Certificates	✓	✓	✓	✓	✓

Applicability of WebTrust for CA requirements:

CA Key Life Cycle Management Controls	Subscriber Key Life Cycle Management Controls	Certificate Life Cycle Management Controls	Subordinate CA Certificate Life Cycle Management Controls
	✓	✓	✓

### 3.5 Managed PKI Services

In addition to providing services to subscribers, Trustgate-CA offers managed PKI services to organisations to assist in the management of their certificates and directory services

Applicability of WebTrust for CA’s requirements:

CA Key Life Cycle Management Controls	Subscriber Key Life Cycle Management Controls	Certificate Life Cycle Management Controls	Subordinate CA Certificate Life Cycle Management Controls
✓			

### **3.6 Reference to WebTrust for CA Principles and Criteria**

The controls at Trustgate-CA has been designed in accordance with the WebTrust Principles and Criteria for Certification Authorities (Version 2.2 Effective 1 June 2019). The Management of Trustgate-CA use Trust Services Principles and Criteria for CAs as a control framework to enforce the effectiveness of controls in place and assess the adequacy of the CA systems, policies and procedures, as stated in their management representation to all the relevant stakeholders

WebTrust Principles and Criteria for Certification Authorities (Version 2.2 Effective 1 June 2019) are organised into the following areas:

- CA Business Practices Disclosure
- CA Business Practices Management
- CA Environmental Controls
- CA Key Life Cycle Management Controls
- Subscriber Key Life Cycle Management Controls
- Certificate Life Cycle Management Controls
- Subordinate CA Certificate Life Cycle Management Controls

## 4. Compliance Rating

We set out below the overall compliance rating and its description for the purpose of Digital Signature Act 1997 and Digital Signature Regulations 1998.

COMPLIANCE RATING	DESCRIPTION
<b>FULL COMPLIANCE</b>	The certification authority complies with all the requirements of the Requirements for WebTrust Certification Authority (CA) Version 2.2 and the Requirements of DSA 97 and DSR 98
<b>SUBSTANTIAL COMPLIANCE</b>	The certification authority appears generally to comply with the requirements for the WebTrust for CA Version 2.2, DSA 97 and DSR 98 but one or more instances of non-compliance or of inability to demonstrate compliance were found in the reviewed sample that were likely to be inconsequential.
<b>PARTIAL COMPLIANCE</b>	The certification authority appears to comply with some of the requirements the WebTrust for CA Version 2.2, DSA 97 and DSR 98 but was found not to have complied with or not to be able to demonstrate compliance with one or more important safeguards.
<b>NON-COMPLIANCE</b>	The certification authority does not comply with the requirements of the the WebTrust for CA Version 2.2, DSA 97 and DSR 98  The CA fails to keep adequate records to demonstrate compliance with more than a few requirements; or refused to submit to a review.

In our opinion, for the period from 1 September 2018 through 31 August 2019, Trustgate-CA's management assertion, as set forth in Section 2.0, is fairly stated, in all material respects, based on the CPA Canada WebTrust Principles and Criteria for Certification Authorities – V2.2. The overall compliance rating is assessed as Substantial Compliance and the key findings, and our recommendations are provided in Section 5.0.

We provide below an analysis of our compliance rating by key control requirements of WebTrust For Certification Authorities (CA) Version 2.2

WebTrust For CA (Version 2.2)	Compliance Rating	Findings and Recommendations
<b>CA BUSINESS PRACTICES DISCLOSURE</b>	<b>FULL COMPLIANCE</b>	<b>None noted</b>
<b>CA BUSINESS PRACTICES MANAGEMENT</b>	<b>FULL COMPLIANCE</b>	<b>None noted</b>
<b>CA ENVIRONMENTAL CONTROLS</b>	<b>SUBSTANTIAL COMPLIANCE</b>	<b>DISASTER RECOVERY, BACKUPS AND BUSINESS CONTINUITY MANAGEMENT</b> <b>a. Inclusion of conditions of activating the Business Continuity Management</b>

<b>WebTrust For CA (Version 2.2)</b>	<b>Compliance Rating</b>	<b>Findings and Recommendations</b>
		<b>Plan and Disaster Recovery Plan</b> <b>b. Documented Recovery Time Objective (RTO) and Recovery Point Objective (RPO)</b> <b>c. Regular testing of the contingency plans</b>
<b>CA KEY LIFECYCLE MANAGEMENT CONTROLS</b>	<b>FULL COMPLIANCE</b>	<b>None noted</b>
<b>SUBSCRIBER KEY LIFECYCLE CONTROLS</b>	<b>FULL COMPLIANCE</b>	<b>None noted</b>
<b>CERTIFICATE LIFECYCLE CONTROLS</b>	<b>FULL COMPLIANCE</b>	<b>None noted</b>
<b>SUBORDINATE CA and CROSS CERTIFICATE LIFECYCLE CONTROLS</b>	<b>FULL COMPLIANCE</b>	<b>None noted</b>

Set out below an analysis of our compliance rating by the MCMC requirements for Certification Authorities (CA) to be recognised as a TIME STAMPING AUTHORITY (TSA).

<b>MCMC Requirements for Certification Authorities (CA) To Be Recognised As A Time Stamping Authority (TSA)</b>	<b>Compliance Rating</b>	<b>Findings and Recommendations</b>
<b>TSA PRACTICE STATEMENT</b>	<b>FULL COMPLIANCE</b>	<b>None noted</b>
<b>TSA DISCLOSURE STATEMENT</b>	<b>FULL COMPLIANCE</b>	<b>None noted</b>
<b>TSA OBLIGATIONS</b>	<b>FULL COMPLIANCE</b>	<b>None noted</b>
<b>TSA MANAGEMENT AND OPERATION</b>	<b>SUBSTANTIAL COMPLIANCE</b>	<b>MST Clock Synchronization should be regularly validated and tested with all the related parties</b>
<b>GENERAL SECURITY AND CONTROLS</b>	<b>FULL COMPLIANCE</b>	<b>None noted</b>
<b>ANNEX A.1 REQUIREMENTS FOR TIME-STAMPING CLIENT</b>	<b>FULL COMPLIANCE</b>	<b>None noted</b>
<b>ANNEX A.2 REQUIREMENTS FOR TIME-STAMPING SERVER</b>	<b>FULL COMPLIANCE</b>	<b>None noted</b>
<b>ANNEX A.3 TSU CERTIFICATE PROFILE</b>	<b>FULL COMPLIANCE</b>	<b>None noted</b>
<b>ANNEX A.4 ALGORITHMS FOR TIME STAMPING</b>	<b>FULL COMPLIANCE</b>	<b>None noted</b>

## 5. Findings and Recommendations

### 5.1 Work Performed

The Management of Trustgate-CA has undertaken all the necessary control activities to support their assertions and representations as set out in Section 2.0 of this Report.

We had successfully performed the audit activities on their control activities for Trustgate-CA CA systems and operations and review their control design and effectiveness against the standard, WebTrust for Certification Authorities v2.2 issued by WebTrust and Chartered Professional Accountants Canada (“CPA Canada”). Specifically, we interviewed the Trusted Role Employees of Trustgate-CA and members of the management.

- Lo Nyan Tjing – Chief Executive Officer
- Hazhar Bin Ismail- Chief Technology Officer
- Mohammed Salmi Ahmad Sabki - Security Manager
- Muhammad Syahhizal Abu Hashim – Key Manager
- Muhammad Nazmi Abdul Hadi – System Engineer
- Suzannah Abdul Syukur – Admin & Human Resource Executive
- Muhammad Azlan Shah – System Engineer
- Rusli bin Yasmin – System Engineer

During the period of September 2019 to October 2019, we were provided the following documents and evidences by the Management of Trustgate-CA.

- Certificate Policy (CP)
- Certification Practise Statement (CPS)
- Business Continuity Management Version 1.0
- Cryptographic Key Management Procedures Version 1.2
- Data Recovery Plan Manual Version 1.2
- Health Safety Environment Policy
- Information Security Policies Manual Version 1.2
- Logical Security Specifications Version 1.2
- On Site Validation Plan Version 1.2
- Operation and System Manual Version 1.3
- Physical and Environmental Security Specifications Version 1.2
- Telecommunication Security Specifications Version 1.2
- Trusted Employee Policy Version 3.0
- User Procedures Manual Version 1.2
- MSC Trustgate.com Key Ceremony
- MSC Trustgate.com Business Operation User Access Right
- DRP Test Plan Version 1.0

As part of our control testing activities, we had also performed a site visit to the Data Centre and Disaster Recovery site of Trustgate-CA on 7th October 2019.

We had produced this Report for the purpose of CA Performance and Compliance under the Malaysian Digital Signature Law and the requirements of MCMC.

We will produce and submit the WebTrust Auditor’s report for the purpose of the application to CPA Canada in order to issue the web seal of WebTrust to be placed on the website of Trustgate-CA.

We will be presenting the WebTrust Auditor’s report to MCMC through the management of Trustgate-CA and responding to any enquiries raised by MCMC and other relevant authorities via emails or official letters regarding the Auditor’s Report when required.

## 5.2 Key Findings and Recommendations

### 5.2.1 CA Environmental Controls

Requirements	Findings and Recommendations	Reference	Management Response
<p>3.8</p> <p><b>Disaster Recovery, Backups, and Business Continuity Management</b></p> <p>The CA maintains controls to provide reasonable assurance of continuity of operations in the event of a disaster or other type of business interruption. Such controls include, at a minimum:</p> <ul style="list-style-type: none"> <li>the development and testing of a CA business continuity plan that includes a disaster recovery process for critical components of the CA system;</li> <li>the storage of required cryptographic materials (i.e., secure cryptographic device and activation materials) at an alternate location;</li> <li>creating backups of systems, data, and configuration</li> </ul>	<p>Trustgate CA requires the following improvements and conduct of:</p> <ol style="list-style-type: none"> <li>Inclusion of conditions of activating the Business Continuity Management Plan and Disaster Recovery Plan</li> <li>Documented Recovery Time Objective (RTO) and Recovery Point Objective (RPO)</li> <li>Regular Testing of the contingency plans</li> </ol> <p>Trustgate CA has developed their Business Continuity Plan that includes a disaster recovery plan and procedures for the critical components for their CA Systems.</p> <p>Trustgate CA has storage of their cryptographic materials at their Disaster Recovery location at Level 2, Wisma N2N Bangsar South.</p> <p>Trustgate CA performs and create back up as per documented with their OSM.</p> <p>Trustgate CA maintains controls to provide reasonable assurance that potential disruptions to Subscribers and Relying Parties are minimised in a case of a Disaster</p> <p>This is a repeating finding which requires a thorough planning and root cause analysis to ensure prompt resolution.</p>	<p>6.7 Backup Operation And Management Operations and Systems Manual (OSM) Version 1.3</p> <p>Disaster Recovery Plan Manual Version 1.2</p> <p>Data Centre and Disaster Recovery Visit on 7 October 2019.</p>	<p><b>Action Plan:</b></p> <p><b>(a) To update current policies and procedures to include condition of activating BCM and DRP</b></p> <p><b>(b) To define RTO and RPO</b></p> <p><b>(c) We had scheduled to do monthly testing starting Nov and BCM simulation in March 2020</b></p> <p><b>Timeline: (a) and (b) before 31<sup>st</sup> December 2019, and (c) before 31<sup>st</sup> March 2020</b></p> <p><b>Ownership:</b></p> <p><b>Mohammad Salmi Ahmad Sabki</b></p> <p><b>Rusli Yasmin</b></p> <p><b>Mohd Sharifuzan</b></p> <p><b>Mohamad Noh</b></p>



Requirements	Findings and Recommendations	Reference	Management Response
<p>information at regular intervals in accordance with the CA's disclosed business practices, and storage of these backups at an alternate location; and</p> <ul style="list-style-type: none"> <li>the availability of an alternate site, equipment and connectivity to enable recovery.</li> </ul> <p>The CA maintains controls to provide reasonable assurance that potential disruptions to Subscribers and Relying Parties are minimised as a result of the cessation or degradation of the CA's services.</p>			

## 5.3 Requirements for Time Stamping Authority (TSA)

### 5.3.1 Clock Synchronization with Malaysian Standard Time (MST)

Requirements	Findings and Recommendations	Reference	Management Response
<p>The clock synchronization shall be maintained when a leap second occurs as notified by the appropriate body. The change to take account of the leap second shall occur during the last minute of the day when the leap second is scheduled to occur. A record shall be maintained of the exact time (within the declared accuracy) when this change occurred. See annex C for more details.</p>	<p>Trustgate shall obtain written confirmation on annual basis from NMIM to verify that the TSU clocks are in synced with MST within the declared accuracy</p>	<p>7.3 Clock Synchronization with MST</p> <p>MSC Trustgate.Com Time Stamp Policy and Time-Stamp Practise Statement Version 1.1</p>	<p><b>Action Plan: To maintain our date time stamping server connection with NTP Server provide by National Metrology Institue of Malaysia (NMIM).NMIM has developed a Malaysian Standard Time Clock with millisecond accuracy which is a network time protocol based clock that periodically synchronized to NMIM’s network time protocol servers (ntp1.sirim.my, ntp2.sirim.my and ntp3.sirim.my) via internet.</b></p> <p><b>Timeline: before 31<sup>st</sup> January 2020</b></p> <p><b>Ownership: Mohammad Salmi Ahmad Sabki Rusli Yasmin</b></p>
<p>The TSA shall obtain written confirmation on annual basis from NMIM to verify that the TSU clocks are in synced with</p>	<p>Trustgate shall obtain written confirmation on annual basis from NMIM to verify that the TSU clocks are in synced with MST within the declared accuracy</p>	<p>7.3 Clock Synchronization with MST</p>	<p><b>Action Plan: To get written confirmation for agreed period once decided by the Time and Frequency Laboratory of the</b></p>

MST within the declared accuracy		MSC Trustgate.Com Time Stamp Policy and Time-Stamp Practise Statement Version 1.1	<b>National Metrology Institute of Malaysia (NMIM), the appointed national timekeeper.</b>  <b>Timeline: before 31<sup>st</sup> January 2020</b>  <b>Ownership:</b> <b>Mohammad Salmi Ahmad Sabki</b> <b>Rusli Yasmin</b>
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### 5.3.2 Business Continuity Management

Requirements	Findings and Recommendations	Reference	Management Response
The requirements identified in WebTrust for CA Principle and Criteria clause 3.8 shall apply.	<p>We note that Trustgate CA requires the following improvements and conduct of :</p> <ul style="list-style-type: none"> <li>a) Inclusion of conditions of activating the Business Continuity Management Plan and Disaster Recovery Plan</li> <li>b) Documented Recovery Time Objective (RTO) and Recovery Point Objective (RPO)</li> <li>c) Regular Testing of the contingency plans</li> </ul>	<p>6.7 Backup Operation And Management Operations and Systems Manual (OSM) Version 1.3</p> <p>Disaster Recovery Plan Manual Version 1.2</p>	<p><b>Action Plan:</b></p> <p><b>(a) To update current policies and procedures to include condition of activating BCM and DRP</b></p> <p><b>(b) To define RTO and and RPO</b></p> <p><b>(c) We had scheduled to do monthly testing starting Nov and BCM simulation in March 2020</b></p> <p><b>Timeline: (a) and (b) before 31<sup>st</sup> December 2019, and (c) before 31<sup>st</sup> March 2020</b></p> <p><b>Ownership:</b>  <b>Mohammad Salmi Ahmad Sabki</b>  <b>Rusli Yasmin</b>  <b>Mohd Sharifuzan Mohamad Noh</b></p>

## 6. Appendix 1 - WebTrust for CAs v. 2.2 - List of CAs In Scope

### Self-Signed Root CAs

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
1	1	CN = Trustgate Class 1 Root Certificate Authority O = MSC Trustgate.com Sdn. Bhd. C = MY	CN = Trustgate Class 1 Root Certificate Authority O = MSC Trustgate.com Sdn. Bhd. C = MY	1b:5e:d8:fc:a6:5c:fc:de:b0:cc:00:e1:29:02:3e:3a	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Saturday, 23 June, 2018 8:00:00 AM	Saturday, 6 July, 2019 7:59:59 AM	0b6bd8465bde 2de44e9dd4be 71dea7f35766fc c3	B0:FE:22:5E:8C:0D:51:FD:4A:D5:09:C3:F D:03:B3:46:25:C0:45:3F:D5:13:35:43:6B :6B:11:36:AE:D8:80:5D
2	2	CN = Trustgate Class 2 Root Certificate Authority O = MSC Trustgate.com Sdn. Bhd. C = MY	CN = Trustgate Class 2 Root Certificate Authority O = MSC Trustgate.com Sdn. Bhd. C = MY	0a:8b:c4:06:0f:5a:6c:d3:4d:07:80:5d:a0:07:ab:f5	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Saturday, 23 June, 2018 8:00:00 AM	Saturday, 6 July, 2019 7:59:59 AM	2a3d3b9f9d049 06ae10124c539 51d15b957051 66	E2:02:6B:56:46:F4:9F:96:71:D4:31:8E:09 :09:4A:23:CE:34:C9:4B:54:10:F1:9B:39: D4:90:A7:61:CA:65:D1
3	3	CN = Trustgate Class 3 Root Certificate Authority O = MSC Trustgate.com Sdn. Bhd. C = MY	CN = Trustgate Class 3 Root Certificate Authority O = MSC Trustgate.com Sdn. Bhd. C = MY	70:3b:11:3d:cd:b3:8e:30:f4:e5:7d:ac:18:a5:31:0f	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Saturday, 23 June, 2018 8:00:00 AM	Saturday, 6 July, 2019 7:59:59 AM	170ea652a703b 53ee4d412f96c 18d6b407dd8a 77	A6:2C:97:90:F2:D1:12:23:8F:E2:4C:35:2 4:22:EA:B2:9C:34:C3:EE:56:98:EE:57:5C: DF:17:01:88:88:3D:E9
4	4	CN = Trustgate RSA Certification Authority	CN = Trustgate RSA Certification Authority	1f:61:b6:a2:73:93:7d:89:95:2	sha256W ithRSAEn ryption	RSA (4096 bit)	sha256W ithRSAEn ryption	Tuesday, 5 December, 2017 8:00:00 AM	Wednesday, 19 December, 2018 7:59:59 AM	682d2c5f3ee2d 6832a4156e349 2cb822199a34f 4	DC:7A:CA:56:E0:92:1E:3C:54:E7:DA:85: 4A:13:CD:E9:17:B3:EE:C3:86:B8:E9:D5:9 2:01:F8:12:E4:E9:B4:0C

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
		OU = Malaysia Licensed CA No: LPBP-2/2010 (1) O = MSC Trustgate.com Sdn. Bhd. C = MY	OU = Malaysia Licensed CA No: LPBP-2/2010 (1) O = MSC Trustgate.com Sdn. Bhd. C = MY	b:c4:af:8e :86:05:0e							
5	5	CN = Trustgate Time Stamping Authority CA (ECC) OU = Malaysia Licensed CA No: LPBP-2/2010 (1) O = MSC Trustgate.com Sdn. Bhd. C = MY	CN = Trustgate Time Stamping Authority CA (ECC) OU = Malaysia Licensed CA No: LPBP-2/2010 (1) O = MSC Trustgate.com Sdn. Bhd. C = MY	51:e8:02: 51:ad:3e: 7f:f7:55:c a:c5:06:d d:b6:4b:d e	ecdsa- with- SHA384	ECC (384 bit)	ecdsa- with- SHA384	Tuesday, 5 December, 2017 8:00:00 AM	Wednesday, 19 December, 2018 7:59:59 AM	53fcea6b6f9221 160a1f7243dde 349fec433e0e8	FC:79:4E:78:30:87:39:26:C1:68:24:CB:A C:86:7F:8E:AC:7C:F2:8E:FC:9F:F4:A4:65: B7:7E:6F:D4:26:10:B7
6	6	CN = Trustgate Time Stamping Authority CA OU = Malaysia Licensed CA No: LPBP-2/2010 (1) O = MSC Trustgate.com Sdn. Bhd. C = MY	CN = Trustgate Time Stamping Authority CA OU = Malaysia Licensed CA No: LPBP-2/2010 (1) O = MSC Trustgate.com Sdn. Bhd. C = MY	41:39:ba: c7:f7:f4:5 0:05:dc:d 7:f7:6a:de :bf:17:b1	sha256W ithRSAEn ryption	RSA (4096 bit)	sha256W ithRSAEn ryption	Tuesday, 5 December, 2017 8:00:00 AM	Wednesday, 19 December,201 8 7:59:59 AM	48dc4e36de951 aab57394f5335 eb341aae9aca0 9	CF:74:F6:34:C2:1A:6A:A3:76:FD:26:4E:3 1:EA:B0:31:84:5F:FD:04:8D:20:F9:C4:1A :C7:3C:8E:D5:BC:47:37
7	7	CN = MyTrust Class 1 ECC Root CA OU = MyTrust Gateway O = MSC Trustgate.com Sdn. Bhd. C = MY	CN = MyTrust Class 1 ECC Root CA OU = MyTrust Gateway O = MSC Trustgate.com Sdn. Bhd. C = MY	6c:82:f0:7 8:64:11:9 8:04:85:8f :4d:af:4c: 92:ea:e1	ecdsa- with- SHA384	ECC (384 bit)	ecdsa- with- SHA384	Thursday, 2 August, 2018 8:00:00 AM	Wednesday, 28 August, 2019 7:59:59 AM	ddbe109fb5a25 4c034419f76db 72d2663dc7458 9	98:19:A7:74:17:A5:DF:88:80:C1:E5:2D:5 F:4D:72:C6:E5:92:44:60:CE:56:8C:2D:E5 :AD:61:99:98:6A:8D:6E

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
8	8	CN = MyTrust Class 2 ECC Root C OU = MyTrust Gateway O = MSC Trustgate.com Sdn. Bhd. C = MY	CN = MyTrust Class 2 ECC Root CA OU = MyTrust Gateway O = MSC Trustgate.com Sdn. Bhd. C = MY	60:1d:50:35:2f:fc:a3:c4:ab:d9:1c:3f:32:52:29:33	ecdsa-with-SHA384	ECC (384 bit)	ecdsa-with-SHA384	Thursday, 2 August, 2018 8:00:00 AM	Wednesday, 28 August, 2019 7:59:59 AM	9173b201a3d2b94012c6630ddf5d58e7319b196	97:35:19:77:E2:8F:D6:60:2F:E1:AD:AE:58:E8:99:42:12:CB:02:D9:95:F8:66:D2:F5:DC:41:D9:E9:46:B8:55
9	9	CN = MyTrust Class 3 ECC Root CA OU = MyTrust Gateway O = MSC Trustgate.com Sdn. Bhd. C = MY	CN = MyTrust Class 3 ECC Root CA OU = MyTrust Gateway O = MSC Trustgate.com Sdn. Bhd. C = MY	69:0e:6c:98:fb:bf:d9:93:a5:31:68:fe:8c:de:d6:2b	ecdsa-with-SHA384	ECC (384 bit)	ecdsa-with-SHA384	Thursday, 2 August, 2018 8:00:00 AM	Wednesday, 28 August, 2019 7:59:59 AM	130885330660934c9bd33695a6c3d775fd8ad9de	98:B8:50:DD:97:64:C6:18:8A:AF:4E:8A:21:90:9F:F5:27:53:F2:28:DB:84:33:87:09:90:15:39:30:96:EB:CF
10	10	CN = MyTrust Class 1 RSA Root CA OU = MyTrust Gateway O = MSC Trustgate.com Sdn. Bhd. C = MY	CN = MyTrust Class 1 RSA Root CA OU = MyTrust Gateway O = MSC Trustgate.com Sdn. Bhd. C = MY	41:84:b3:3f:54:b2:41:00:95:06:ab:3a:13:b6:40:71	sha256WithRSAEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Thursday, 2 August, 2018 8:00:00 AM	Saturday, 17 August, 2019 7:59:59 AM	6a3dce6c01562d160636d465c83363ff010e7208	B9:47:6C:3F:E5:B6:38:5F:AC:E7:3E:8B:52:65:E5:6F:30:FF:C3:9E:77:C9:51:95:37:C3:61:DC:96:40:57:87
11	11	CN = MyTrust Class 2 RSA Root CA OU = MyTrust Gateway O = MSC Trustgate.com Sdn. Bhd. C = MY	CN = MyTrust Class 2 RSA Root CA OU = MyTrust Gateway O = MSC Trustgate.com Sdn. Bhd. C = MY	01:f6:e4:1a:6c:ec:c7:33:8d:c6:fb:31:ad:68:a1:0b	sha256WithRSAEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Thursday, 2 August, 2018 8:00:00 AM	Saturday, 17 August, 2019 7:59:59 AM	5ce3bd7f944d92ca1b5a7b424353a60308c50cc2	A7:88:D9:F9:EB:E7:64:8C:FE:D6:D8:B0:71:38:2A:30:78:0D:97:19:A8:02:73:1F:06:6F:59:B3:21:24:A8:B3
12	12	CN = MyTrust Class 3 RSA Root CA OU = MyTrust Gateway	CN = MyTrust Class 3 RSA Root CA	39:df:bc:84:a6:0d:f0:c3:e4:0e:	sha256WithRSAEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Thursday, 2 August, 2018 8:00:00 AM	Saturday, 17 August, 2019 7:59:59 AM	b3123898d40163adb4019640ff74a3fdb5eb8623	04:5D:81:0B:EE:88:DF:24:24:60:81:79:39:99:E4:17:66:27:2F:65:28:37:D5:B9:B9:09:E5:7B:CB:CC:D1:49

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
		O = MSC Trustgate.com Sdn. Bhd. C = MY	OU = MyTrust Gateway O = MSC Trustgate.com Sdn. Bhd. C = MY	ba:46:ed: 47:72:2a							

## Intermediate Certificates

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
1	1	CN = Trustgate Class 2 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MyTrust Class 2 AATL ECC Individual CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	6e:08:2c: b4:1b:da: 38:6c:9a: 5d:20:d5: a1:66:22: 07	sha384W ithRSAEn ryption	ECC (384 bit)	sha384W ithRSAEn ryption	Tuesday, 23 October, 2018 12:03:33 AM	Wednesday, 24 October, 2018 12:03:33 AM	eb878598f64ef 009e1ee8640fb 7830f3c72f90d 1	80:47:C0:1E:02:60:FA:2C:3D:27:3F:6F:8 F:78:77:A5:49:CA:7C:A0:D7:D1:DF:32:B A:85:BD:3D:64:09:05:BA
2	2	CN = Trustgate Class 2 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MyTrust Class 2 AATL RSA Individual CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.	76:c7:72: 00:b3:4b: c0:85:8e: d5:ac:1f:1 0:ea:7c:0 3	sha384W ithRSAEn ryption	ECC (384 bit)	sha384W ithRSAEn ryption	Tuesday, 23 October, 2018 12:03:39 AM	Wednesday, 24 October, 2018 12:03:39 AM	6d0f85e9815a8 debaff6482238f a4d78ab20bb3 1	68:7A:F0:8F:0C:BB:13:9D:2D:CB:05:45: 91:B2:06:17:80:15:44:1C:1D:8D:1E:20:9 D:43:76:73:CB:D5:C4:A9

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
			C = MY								
3	3	CN = Trustgate Class 2 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MSC Trustgate.com Class 2 MPKI CA  O = MSC Trustgate.com Sdn. Bhd.  C = MY	74:f7:9f:ea:59:84:46:99:7a:1c:f7:d5:3e:0e:79:7a	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Monday, 22 October, 2018 11:59:22 PM	Tuesday, 23 October, 2018 11:59:22 PM	8a904f921fbd1 9396012f93fe7 5f2f5716c42286	CC:6A:DC:88:D7:83:57:4E:A3:E4:F5:11: 4F:F3:AE:4D:B5:B1:47:09:34:24:2C:62:4 7:1B:12:4A:41:9C:2F:94
4	4	CN = Trustgate Class 2 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MSC Trustgate.com Corporate ID (Mobile) CA  OU = Malaysia Licensed CA No: LPBP-2/2010(1)  O = MSC Trustgate.com Sdn. Bhd.  C = MY	1e:b1:1e:75:11:c5:e8:d8:e2:ee:c3:7c:9b:22:fb:9e	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Tuesday, 23 October, 2018 12:02:29 AM	Wednesday, 24 October, 2018 12:02:29 AM	bf520d3c0184c e5ee87d618300 f305531291007 a	52:10:17:1A:F8:C5:C7:21:B3:2F:2B:EE:F B:DE:03:31:F9:87:60:67:90:8F:3F:D0:D5: 89:E0:02:F9:9C:F5:32
5	5	CN = MSC Trustgate.com Corporate ID (Token) CA  OU = Malaysia Licensed CA No: LPBP-2/2010(1)	CN = MSC Trustgate.com Corporate ID (Token) CA  OU = Malaysia Licensed CA No: LPBP-2/2010(1)	02:9f:18:63:98:09:be:29:e1:f9:b4:d7:47:ed:8a:f4	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Tuesday, 23 October, 2018 12:58:07 PM	Tuesday, 30 October, 2018 12:58:07 PM	555caac636b36 1bf30a441acba 2d9bdf58d2840 1	A6:1D:79:5B:0E:F2:7E:96:84:85:85:C2:1 8:7C:94:76:64:55:28:69:7A:BE:50:BA:36 :92:F0:36:63:F0:87:48



CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
		O = MSC Trustgate.com Sdn. Bhd.  C = MY  CN = Trustgate Class 2 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.  C = MY	O = MSC Trustgate.com Sdn. Bhd.  C = MY								
6	6	CN = Trustgate Class 2 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MSC Trustgate.com Individual ID (Mobile) CA  OU = Malaysia Licensed CA No: LPBP-2/2010(1)  O = MSC Trustgate.com Sdn. Bhd.  C = MY	25:1c:cd: 15:c2:7e: da:cd:6f: b8:23:85: 0e:ea:da: 98	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Friday, 12 August, 2016 8:00:00 AM	Wednesday, 12 August, 2026 7:59:59 AM	57e6239557f0c 21738550041e9 b73f72081a068 7	35:1B:29:A7:F1:35:4F:7F:A0:F3:9E:D5:5 5:9A:94:17:A5:5E:19:22:07:33:2F:F0:BD: BC:6D:A0:D4:E6:2D:34
7	7	CN = Trustgate Class 1 Root Certificate Authority	CN = MSC Trustgate.com Individual ID (Mobile) Basic CA	51:25:1d: 58:9f:54:5 c:11:be:0 0:30:92:5f :69:55:c0	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Friday, 12 August, 2016 8:00:00 AM	Wednesday, 12 August, 2026 7:59:59 AM	f60499730aab0 687322db7c41 72e2e0e93a517 af	D7:84:BA:8E:A0:36:4A:FF:85:0B:F5:5B:A 4:90:D1:52:6B:3F:58:30:48:07:F9:D8:F1: E0:9C:F8:D3:05:15:60

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
		O = MSC Trustgate.com Sdn. Bhd.  C = MY	OU = Malaysia Licensed CA No: LPBP-2/2010(1)  O = MSC Trustgate.com Sdn. Bhd.  C = MY								
8	8	CN = Trustgate Class 2 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MSC Trustgate.com Professional ID (Mobile) CA  OU = Malaysia Licensed CA No: LPBP-2/2010(1)  O = MSC Trustgate.com Sdn. Bhd.  C = MY	0d:7b:6b: 76:ca:71: 76:17:95:f 4:87:93:a b:6f:a3:9e	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Friday, 12 August, 2016 8:00:00 AM	Wednesday, 12 August, 2026 7:59:59 AM	906d85d431dd 35e2d8ebd3b2 65b32caa0b823 419	52:43:B6:A6:B8:61:C8:27:B3:14:BB:FD:E 3:5A:E7:DF:5E:BB:3F:8E:F1:96:D3:5D:B2 :B9:CF:5E:BE:CB:CA:04
9	9	CN = Trustgate Class 2 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MSC Trustgate.com Professional ID (Token) CA  OU = Malaysia Licensed CA No: LPBP-2/2010(1)	6d:89:73: d9:3a:5d: e7:31:46: 6f:0c:c9:d b:b5:d6:e 6	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Friday, 12 August, 2016 8:00:00 AM	Wednesday, 12 August, 2026 7:59:59 AM	4331201d7f3fc bb9f444ce2321 730f6e0581e34 f	AC:B7:9E:7E:11:B2:01:32:43:13:A9:AF:7 6:A6:D0:95:64:CE:F2:ED:8D:EC:6B:E6:D 6:5F:AC:1F:5F:21:FA:4B

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
			O = MSC Trustgate.com Sdn. Bhd.  C = MY								
10	10	CN = Trustgate Class 2 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = Trustgate Class 2 Consumer CA  O = MSC Trustgate.com Sdn. Bhd.  C = MY	65:96:f0:5 0:70:c8:b c:65:40:a 0:34:3b:4 fc7:17:8e	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Monday, 22 October, 2018 11:59:00 P	Tuesday, 23 October, 2018 11:59:00 PM	a55af421b719c ea67b436e5bf4 f1e3c9c8352efc	A1:84:B6:4A:10:68:66:F7:51:27:35:18:3 8:24:31:D2:3A:E0:42:AA:6E:85:52:D8:7 5:40:BF:8D:86:FB:B5:1A
11	11	CN = Trustgate Class 2 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = Trustgate Class 2 MyKey Subscriber CA  O = MSC Trustgate.com Sdn. Bhd.  C = MY	37:2c:bc:f 1:9f:5a:ff: 65:c6:bd: db:1a:cc: 99:3b:30	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Tuesday, 23 October, 2018 12:02:43 AM	Tuesday, 30 October, 2018 12:02:43 AM	18cde6c8af594 e16d152cfc41d ac5643a9287e0 a	15:D5:F8:A7:B9:E7:3D:2B:21:52:F3:E2:E B:44:AA:06:BA:BD:62:94:80:F6:B4:65:6 3:46:ED:78:84:48:A6:5D
12	12	CN = Trustgate Class 2 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.	CN = Bank Negara Malaysia Class 2 CA-G3  O = MSC Trustgate.com Sdn. Bhd.	0c:09:96: dc:f4:5f:3 8:98:f9:d e:14:6c:9f :b8:c1:f2	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Tuesday, 23 October, 2018 12:01:56 AM	Wednesday, 24 October, 2018 12:01:56 AM	4cb88bb74bb5 b3f92b5636858 45a1b2f2810b2 78	A4:16:6F:2E:01:25:B5:53:E8:4C:BA:1B:7 D:24:03:69:AB:2A:5A:B1:84:6C:0E:F1:4 E:23:32:CE:BD:39:E1:80

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
		C = MY	C = MY								
13	13	CN = Trustgate Class 2 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = Mahkamah Persekutuan Malaysia e-Filing Class 2 CA  OU = Authenticated by MSC Trustgate.com Sdn. Bhd.  O = Mahkamah Persekutuan Malaysia  C = MY	30:6f:41:a c:85:a5:f9 :c2:11:a0: f4:1c:ae:4 8:1c:fe	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Tuesday, 23 October, 2018 8:00:00 AM	Tuesday, 30 October, 2018 7:59:59 AM	969f91ed1e9c6 2b941f2dee287 b13c9a977a79f 5	9D:7B:8A:0D:EB:2B:07:76:A3:07:A9:1C: AC:6D:76:40:E5:78:2A:32:C2:E7:30:63:5 3:D9:CF:4C:2F:A9:90:E3
14	14	CN = Trustgate Class 2 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MAMPU Class 2 CA  OU = Authenticated by MSC Trustgate.com Sdn. Bhd.  O = Unit Pemodenan Tadbiran dan Perancangan Pengurusan Malaysia	40:b7:a7: 7a:0b:03: c7:fa:20:8 b:b2:a4:6 5:00:66:7 2	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Tuesday, 23 October, 2018 8:00:00 AM	Tuesday, 30 October, 2018 7:59:59 AM	771b79d60dc27 62655044962a4 28d7f46eb7092 d	71:C0:81:96:EC:D8:64:55:45:28:C7:49:C 9:E7:C9:F4:F2:9E:11:C6:89:69:AE:81:87: E1:F6:E0:BC:06:D8:AE

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
			C = MY								
15	15	CN = Trustgate Class 2 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = NCSA  O = Majlis Keselamatan Negara  C = MY	12:bf:ae:7b:93:6a:5d:a9:b0:67:d2:74:0c:31:6c:c3	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Tuesday, 23 October, 2018 1:58:30 PM	Tuesday, 30 October, 2018 1:58:30 PM	cb5dbcb12fccf1 8fc6da1bc07b1 903525261165a	F3:B5:67:D4:26:CA:36:77:E8:BF:E5:97:91:CE:1C:DB:15:6D:79:92:DF:51:3A:C4:29:42:0D:50:B2:E7:25:9C
16	16	CN = Trustgate Class 3 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MyTrust Class 3 AATL ECC Organization CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	14:e6:0a:42:b5:dc:2c:fa:68:0a:38:ed:34:a1:5e:b5	sha384W ithRSAEn ryption	ECC (384 bit)	sha384W ithRSAEn ryption	Friday, 18 August, 2017 8:00:00 AM	Wednesday, 18 August, 2032 7:59:59 AM	58ab1c0c04c86 be18be288487 65f850ab7ed0b f0	49:7E:00:43:F9:D6:CE:4F:E1:80:2A:9E:CD:B8:C4:E4:56:29:D7:4C:80:6F:3F:66:1B:CB:0C:DB:56:70:C7:37
17	17	CN = Trustgate Class 3 Root Certificate Authority  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MyTrust Class 3 AATL RSA Organization CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.	21:c2:9c:43:b6:e5:37:d4:e9:6c:d3:fe:12:40:5c:c5	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Friday, 18 August, 2017 8:00:00 AM	Wednesday, 18 August, 2032 7:59:59 AM	bec10f2621dd1 2947f77eb0567 a938a0d2b7a56 d	81:60:57:1E:01:B7:F3:08:14:6A:A7:19:69:C4:EE:61:80:AE:FF:A8:F7:17:79:BD:A9:36:8F:42:12:A1:59:51

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
			C = MY								
18	18	CN = Trustgate RSA Certification Authority  OU = Malaysia Licensed CA No: LPBP-2/2010 (1)  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = RHB-BOARDPAC CA  OU = Remote Signing System  O = RHB Bank Berhad  C = MY	e1:35:3e:62:99:32:20:92:2d:0a:b3:bc:1a:dd:5e	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Tuesday, 23 October, 2018 12:06:32 AM	Wednesday, 24 October, 2018 12:06:32 AM	4e927a2ea2421 6bf07c95164c3 b69618c7e8541 d	6A:CF:84:0E:5A:D0:A7:68:BC:84:DB:D5: C4:93:2B:65:EA:9A:ED:0B:84:06:9E:67:F C:CD:42:EF:D2:EE:FA:BB
19	19	CN = Trustgate RSA Certification Authority  OU = Malaysia Licensed CA No: LPBP-2/2010 (1)  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = ABMB-MFA CA  OU = Remote Signing System  O = Alliance Bank Malaysia Berhad  C = MY	3f8c:46:1d:c3:64:13:a2:40:30:96:8a:a d:83:d1:c 9	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Monday, 22 October, 2018 11:59:53 PM	Tuesday, 23 October, 2018 11:59:53 PM	eee08f65bbebb 49b0933497a7 50558dc2302b 9d3	B2:0D:A3:E9:5B:05:54:72:1E:74:93:1B:E 4:82:B4:2D:94:58:82:9E:77:68:58:B4:3B: 7F:21:7C:81:D4:18:EE
20	20	CN = Trustgate RSA Certification Authority  OU = Malaysia Licensed CA No: LPBP-2/2010 (1)	CN = eCourt ID CA  O = Mahkamah Persekutuan Malaysia	73:96:ca:41:e6:3a:c2:4d:52:ae:56:88:28:04:00:50	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Tuesday, 23 October, 2018 12:05:41 AM	Wednesday, 24 October, 2018 12:05:41 AM	b754f4515d4df 526d71090374 6624c4bc86350 05	45:73:06:51:D6:DE:39:3C:D1:25:95:E5:F 1:63:51:AF:12:97:F4:48:47:44:3B:01:BF: 4B:6C:02:72:0E:49:C1

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
		O = MSC Trustgate.com Sdn. Bhd.  C = MY	C = MY								
21	21	CN = Trustgate Time Stamping Authority CA (ECC)  OU = Malaysia Licensed CA No: LPBP-2/2010 (1)  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = Trustgate Time Stamping Services CA (ECC)  O = MSC Trustgate.com Sdn. Bhd.  C = MY	45:fe:09:8 5:dc:94:a c:cc:26:f3: 09:49:2c: c1:84:79	ecdsa- with- SHA384	ECC (384 bit)	ecdsa- with- SHA384	Tuesday, 23 October, 2018 12:05:28 AM	Wednesday, 24 October, 2018 12:05:28 AM	5146b3587866e d571800f03ea9 8cbae3e8e635e b	67:AC:1B:81:78:17:B9:C6:26:D6:D3:E8: 48:7A:1C:7F:EC:8A:A2:73:36:D5:01:48: 58:0F:88:BB:67:FF:B7:FF
22	22	CN = Trustgate Time Stamping Authority CA  OU = Malaysia Licensed CA No: LPBP-2/2010 (1)  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = Trustgate Time Stamping Services CA  O = MSC Trustgate.com Sdn. Bhd.  C = MY	4b:cb:04: e9:56:a6: 52:58:0c:f a:c3:41:f9 :d9:0f:a1	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Tuesday, 23 October, 2018 12:05:35 AM	Wednesday, 24 October, 2018 12:05:35 AM	0127b0268d65 973b6a104466 dea7ae1884c36 09b	09:15:38:A9:47:6A:4F:6A:69:56:F3:1B:1 3:39:92:53:68:81:C2:83:23:D1:9B:57:E2: C5:D9:1E:B4:77:0B:22
23	23	CN = MyTrust Class 1 ECC Root CA	CN = MyTrust Class 1 ECC Individual CA	5b:40:cc: df:5d:b5: ad:9e:ae: 6e:dc:aa:	ecdsa- with- SHA384	ECC (384 bit)	ecdsa- with- SHA384	Monday, 28 August, 2017 8:00:00 AM	Saturday, 28 August, 2032 7:59:59 AM	86f4fe304f3ba7 3e02b72e622aa f7c429c1ffa8d	4A:32:CB:42:C3:4E:02:36:00:D0:D8:8C: E6:18:26:3F:0B:DA:A8:BC:4E:27:DC:C1: 99:3A:7A:DC:31:93:EF:B0

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
		OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	93:a1:a4:3e							
24	24	CN = MyTrust Class 2 ECC Root CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MyTrust Class 2 ECC Individual CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	08:25:37:69:1b:56:b3:10:6c:b3:10:6c:6f:9f:ec:04:7f:f2:9f	ecdsa-with-SHA384	ECC (384 bit)	ecdsa-with-SHA384	Monday, 28 August, 2017 8:00:00 AM	Saturday, 28 August, 2032 7:59:59 AM	e6a213f17f466916e0eda45699e1cc58bfc73ef2	4D:A9:DE:1D:11:2A:CA:B8:62:16:C8:B6:BD:91:CA:A0:13:66:53:84:DC:15:38:28:30:59:CF:CA:D2:6F:F4:3F
25	25	CN = MyTrust Class 2 ECC Root CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MyTrust Class 2 ECC Enterprise CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	36:da:4e:5b:a2:25:ac:a7:f4:fd:48:71:35:9c:b3:30	ecdsa-with-SHA384	ECC (384 bit)	ecdsa-with-SHA384	Monday, 28 August, 2017 8:00:00 AM	Saturday, 28 August, 2032 7:59:59 AM	28d85b122a7f351f5aebfd728e5ec4c3a35d986e	47:5D:CD:97:14:F9:34:16:29:FC:49:92:41:21:71:44:BD:65:9D:AE:00:B8:38:60:FC:2D:5A:9C:1E:2A:C7:F7



CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
26	26	CN = MyTrust Class 3 ECC Root CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MyTrust Class 3 ECC Enterprise CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	06:5d:d5:d9:81:8a:42:72:ec:c3:b1:35:e0:3b:34:58	ecdsa-with-SHA384	ECC (384 bit)	ecdsa-with-SHA384	Monday, 28 August, 2017 8:00:00 AM	Saturday, 28 August, 2032 7:59:59 AM	b49bf36badb1745162af38142d5a623d14b2f779	49:BB:F5:79:64:82:7B:00:C3:7A:BB:CA:94:08:59:7B:E8:7B:2B:1A:4C:FF:30:BF:C7:6A:37:0F:36:8E:66:BB
27	27	CN = MyTrust Class 1 RSA Root CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MyTrust Class 1 RSA Individual CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	47:90:8f:a6:01:b9:4a:1f:bd:95:4c:e8:ed:83:79:82	sha256WithRSAEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Thursday, 17 August, 2017 8:00:00 AM	Tuesday, 17 August, 2027 7:59:59 AM	29fdff2dda2a4c7ec1a7047701d03fe58fda7110	9C:4C:D1:AB:5B:AE:1D:2D:78:6E:56:BF:98:25:25:7A:AA:D1:85:19:C4:40:16:17:00:43:B9:4A:F6:1D:61:CE
28	28	CN = MyTrust Class 2 RSA Root CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.	CN = MyTrust Class 2 RSA Individual CA  OU = MyTrust Gateway	3d:50:1d:52:2d:2b:36:43:21:8d:f5:ec:c f:76:42:a5	sha256WithRSAEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Thursday, 17 August, 2017 8:00:00 AM	Tuesday, 17 August, 2027 7:59:59 AM	545f5b34bc3acc4f2d9b47d858fbef3673c2a9b4	35:F1:FA:F9:3C:2F:AB:2B:F3:02:F5:51:52:5C:58:7F:D4:D4:34:BB:6B:B2:47:ED:75:B5:0D:B0:F2:FE:2A:B3

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
		C = MY	O = MSC Trustgate.com Sdn. Bhd.  C = MY								
29	29	CN = MyTrust Class 2 RSA Root CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MyTrust Class 2 RSA Enterprise CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	73:06:eb:97:98:1b:b4:2a:31:90:ca:ac:a7:be:33:82	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Thursday, 17 August, 2017 8:00:00 AM	Tuesday, 17 August, 2027 7:59:59 AM	60d7f177ed658e5eb4bf9248918c165e0a8e4578	1B:1E:E0:49:83:19:BF:0A:22:3D:49:17:A4:1A:45:4D:4E:A0:8F:44:C5:C8:BD:26:F6:51:21:25:63:77:CB:6A
30	30	CN = MyTrust Class 3 RSA Root CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MyTrust Class 3 RSA Enterprise CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	0a:47:40:df:0b:f8:3a:f0:12:89:ca:0f:d0:93:e6:4a	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Thursday, 17 August, 2017 8:00:00 AM	Tuesday, 17 August, 2027 7:59:59 AM	8ad619a52d4d712fbaa6d05294daaba6f6f18499	AD:EA:BE:B6:A5:10:91:CA:D7:DB:CE:54:EC:0C:6B:4D:FA:DC:3A:CF:16:F1:83:11:CA:DC:F5:10:E8:03:73:66
31	31	CN = MyTrust Class 3 RSA Root CA	CN = MyTrust RSA Code Signing CA	73:e1:10:7b:f5:b5:eb:3c:46:0a:0a:93:	sha256W ithRSAEn ryption	RSA (2048 bit)	sha256W ithRSAEn ryption	Wednesday, 21 March,	Tuesday, 21 March, 2028 7:59:59 AM	67c1cf007dab64e0ccdfa870d6	4F:49:F3:1B:1E:2B:4B:D4:D3:76:59:E0:F1:8D:43:8C:7C:D4:1D:BB:97:0C:6B:33:73:B5:60:8C:61:BB:FB:44

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
		OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	81:a7:b9:71				2018 8:00:00 AM		120a3501f711a0	
32	32	CN = MyTrust Class 3 RSA Root CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MyTrust RSA SSL CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	7b:fa:5e:25:72:e9:01:5f:8d:fd:3d:7a:98:0b:30:d7	sha256WithRSAEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Wednesday, 21 March, 2018 8:00:00 AM	Tuesday, 21 March, 2028 7:59:59 AM	6c6dce4158a2bda132158cc0729c8d14dc4c2a7f	B5:24:AB:DA:93:24:47:86:18:5F:B2:91:B3:58:A6:CA:D1:01:2E:2F:25:1A:D0:E0:48:65:46:99:3A:F4:16:B6
33	33	CN = MyTrust Class 3 RSA Root CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MyTrust RSA EV Code Signing CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	6d:89:34:18:f6:15:bf:85:3f:91:ee:ae:8a:c1:1f:db	sha256WithRSAEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Wednesday, 21 March, 2018 8:00:00 AM	Tuesday, 21 March, 2028 7:59:59 AM	bebcd01d30d200d3b3cc5d72f5ec2ec7b95c552b	70:EC:99:FF:80:69:82:D8:36:47:46:CB:78:10:6E:EB:C3:FC:61:5F:F1:09:A7:0C:4D:FC:47:7D:44:05:4C:AD

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
34	34	CN = MyTrust Class 3 RSA Root CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MyTrust RSA EV SSL CA  OU = MyTrust Gateway  O = MSC Trustgate.com Sdn. Bhd.  C = MY	36:60:6e:db:5f:0b:00:89:98:a8:6f:1c:c3:db:a3:8e	sha256WithRSAEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Wednesday, 21 March, 2018 8:00:00 AM	Tuesday, 21 March, 2028 7:59:59 AM	0674d522f58364427d7507ae79e0b904ebe059ed	74:0D:43:2D:12:D6:6D:95:43:83:05:BA:C9:F0:54:B7:06:52:49:98:CE:EC:2C:5E:63:E4:09:CE:BE:DD:54:B6

## Cross-Signed Certificates

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
1	1	CN = VeriSign Class 1 Public Primary Certification Authority - G3  OU = (c) 1999 VeriSign, Inc. - For authorized use only  OU = VeriSign Trust Network  O = VeriSign, Inc.  C = US	CN = MSC Trustgate.com Class 1 Consumer Individual Subscriber CA - G2  OU = Terms of use at https://www.msctrustgate.com/rpa(c)09  OU = VeriSign Trust Network  O = MSC Trustgate.com Sdn. Bhd.  C = MY	7c:83:97:a3:a0:42:0b:27:30:b2:6d:9f:66:01:69:0b	sha256 WithRSA AEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Tuesday, 23 October, 2018 12:04:07 AM	Wednesday, 24 October, 2018 12:04:07 AM	cd1b4cfe955c99cfd546ce7c386b3a709ec66090	EC:B5:07:A1:C2:2C:3E:B8:D9:96:45:F7:E1:0D:0F:34:79:91:FB:B9:E7:D8:35:7E:04:74:70:CE:56:0D:F7:94
2	2	CN = VeriSign Class 2 Public Primary Certification Authority - G3  OU = (c) 1999 VeriSign, Inc. - For authorized use only  OU = VeriSign Trust Network  O = VeriSign, Inc.	CN = MSC Trustgate.com Class 2 Consumer Individual Subscriber CA - G2  OU = Terms of use at https://www.msctrustgate.com/rpa(c)09	79:a0:0e:70:31:5d:b6:28:eb:ba:bf:6a:2f:16:1c:67	sha256 WithRSA AEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Tuesday, 23 October, 2018 12:04:28 AM	Tuesday, 30 October, 2018 12:04:28 AM	b6eaa193064b8f60b2f894e1c65762693ded5439	6C:29:55:6C:F3:AF:53:4F:FC:29:6A:99:77:42:52:52:42:FF:01:02:37:23:CA:70:62:38:54:8C:CA:A3:BA:2B

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
		C = US	OU = VeriSign Trust Network  O = MSC Trustgate.com Sdn. Bhd.  C = MY								
3	3	CN = VeriSign Class 2 Public Primary Certification Authority - G3  OU = (c) 1999 VeriSign, Inc. - For authorized use only  OU = VeriSign Trust Network  O = VeriSign, Inc.  C = US	CN = MSC Trustgate.com Class2 Managed PKI Individual Subscriber CA-G2  OU = Terms of use at <a href="https://www.msctrustgate.com/rpa">https://www.msctrustgate.com/rpa</a> (c)09  OU = VeriSign Trust Network  O = MSC Trustgate.com Sdn. Bhd.  C = MY	43:58:d4:db:b8:08:40:f8:93:77:d7:d2:b7e:7b:be:f4	sha256 WithRSAEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Monday, 22 October, 2018 11:57:00 PM	Sunday, 11 November, 2018 11:57:00 PM	bdbfda1645a39b798a06c222288b5f870d31d2b	90:24:3D:80:2F:18:3B:8B:D1:AB:13:6C:1E:D3:32:4C:02:CB:AB:6F:19:68:34:96:C5:63:48:3D:D5:EA:18:D9
4	4	CN = VeriSign Class 2 Public Primary Certification Authority - G3	CN = MSC Trustgate.com Class 2 CA - G2  OU = Symantec Trust Network	54:f4:e8:9c:50:07:93:c7:24:6e:cd:56:ee:b2:19:4b	sha256 WithRSAEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Tuesday, 10 April, 2018 8:00:00 AM	Wednesday, 10 April, 2019 7:59:59 AM	800aefa8640798f87b8d8df591ea8ca7cbfa243d	5A:F4:C5:B2:DE:3A:D0:86:02:64:F6:3C:73:6D:E4:B9:08:97:D7:95:A4:82:23:62:4B:EB:E8:41:9F:D2:2C:F0

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
		OU = (c) 1999 VeriSign, Inc. - For authorized use only  OU = VeriSign Trust Network  O = VeriSign, Inc.  C = US	O = MSC Trustgate.com Sdn.  C = MY								
5	5	CN = MSC Trustgate.com Class 2 CA - G2  OU = Symantec Trust Network  O = MSC Trustgate.com Sdn.  C = MY	CN = Bank Negara Malaysia Class 2 CA - G2  OU = Class 2 Managed PKI Individual Subscriber CA  OU = Symantec Trust Network  O = Bank Negara Malaysia  C = MY	17:e0:6d:0b:29:d0:d5:30:8a:c9:e0:7f:d3:68:5b:18	sha256 WithRSAEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Thursday, 29 September, 2011 8:00:00 AM	Tuesday, 28 September, 2021 7:59:59 AM	50a673f3c0d98d3bc661a7f9487e3fb0dbdf7cb6	EC:32:AD:BB:C7:D9:74:F9:DE:EC:7E:5D:0A:F7:B8:02:90:0E:A6:F4:46:2E:78:39:11:CF:20:42:13:D6:95:AF
6	6	CN = Symantec Class 1 Public Primary Certification Authority - G6  OU = Symantec Trust Network	CN = MSC Trustgate.com Class 1 Consumer Individual Subscriber CA-G3  OU = Symantec Trust Network	0c:44:8f:c4:43:65:4a:8b:61:73:fc:97:cf:ed:1c:87	sha256 WithRSAEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Tuesday, 23 October, 2018 12:04:00 AM	Tuesday, 30 October, 2018 12:04:00 AM	6ca1bf98d24786733998e9093233aafa6c559a2e	E6:AB:67:37:AD:37:5F:F7:1F:13:FF:6B:5E:24:6E:76:C0:7D:EA:DC:A9:07:9F:C1:23:13:59:F8:2A:18:49:22

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
		O = Symantec Corporation  C = US	O = MSC Trustgate.com Sdn. Bhd.  C = MY								
7	7	CN = Symantec Class 2 Public Primary Certification Authority - G6  OU = Symantec Trust Network  O = Symantec Corporation  C = US	CN = MSC Trustgate.com Class 2 Consumer Individual Subscriber CA-G3  OU = Symantec Trust Network  O = MSC Trustgate.com Sdn. Bhd.  C = MY	50:4f:f8:22:1f:20:65:37:7d:bd:66:40:42:ce:0b:99	sha256 WithRSAEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Tuesday, 4 April, 2017 8:00:00 AM	Monday, 4 April, 2022 7:59:59 AM	12bb751bc9817d545fba910ceed53cf39db51ad2	78:61:8A:C2:61:A0:F3:6A:3F:94:C0:44:06:30:45:5A:BB:30:8A:FD:7E:EB:79:6D:32:B6:0D:2C:A5:CD:9C:7F
8	8	CN = Symantec Class 2 Public Primary Certification Authority - G6  OU = Symantec Trust Network  O = Symantec Corporation	CN = MSC Trustgate.com Class 2 MPKI Individual Subscriber CA-G3  OU = Symantec Trust Network	26:57:d4:36:10:d3:47:2f:6f:90:8d:cb:62:19:d4:12	sha256 WithRSAEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Monday, 22 October, 2018 11:58:08 PM	Tuesday, 23 October, 2018 11:58:08 PM	c8033a73cd6cb707ad7ad8cca19c06491af14b60	34:73:AE:CD:1D:62:48:FD:45:FE:E8:8A:2D:17:58:39:7F:6C:4A:45:AE:FD:C8:CE:97:C7:64:50:0D:21:45:60



CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
		C = US	O = MSC Trustgate.com Sdn. Bhd.  C = MY								
9	9	CN = Symantec Class 2 Public Primary Certification Authority - G6  OU = Symantec Trust Network  O = Symantec Corporation  C = US	CN = MSC Trustgate.com Class 2 CA-G3  OU = Symantec Trust Network  O = MSC Trustgate.com Sdn. Bhd.  C = MY	35:62:9f:a 5:23:43:9 4:d5:d2:1 2:0c:9f:8f: 7c:25:e5	sha256 WithRS AEncryp tion	RSA (2048 bit)	sha256 WithRSA Encryption	Thursday, 12 April, 2018 8:00:00 AM	Friday, 12 April, 2019 7:59:59 AM	8af4b48cf23308 3795b3679ea54 582be3d24149 7	6A:03:92:DD:4B:5B:AA:F8:20:54:60:7F: CD:6F:51:C7:3E:72:6A:F4:44:E2:40:03:8 2:D7:5C:4F:D2:0C:2B:3F
10	10	CN = MSC Trustgate.com Class 2 CA-G3  OU = Symantec Trust Network  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MyTrust ID Public Basic CA  OU = Class 2 Managed PKI Individual Subscriber CA  OU = Symantec Trust Network  O = MSC Trustgate.com Sdn. Bhd.	6c:2f:08:8 d:16:9d:b 7:8d:2d:9 7:e4:cd:a a:37:ac:4 0	sha256 WithRS AEncryp tion	RSA (2048 bit)	sha256W ithRSAEn cryption	Tuesday, 23 October, 2018 12:05:54 AM	Wednesday, 24 October, 2018 12:05:54 AM	5ea97af3ca84c9 d2ac35900f0c1 be6e548cdcbe9	E3:27:BE:32:B3:93:98:DB:D8:40:ED:1F:3 3:05:B9:3E:D3:4D:2F:BB:6D:02:D9:6E:1 E:6A:0D:DC:DA:E7:AA:29

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
			C = MY								
11	11	CN = MSC Trustgate.com Class 2 CA-G3  OU = Symantec Trust Network  O = MSC Trustgate.com Sdn. Bhd.  C = MY	CN = MyTrust ID Public CA  OU = Class 2 Managed PKI Individual Subscriber CA  OU = Symantec Trust Network  O = MSC Trustgate.com Sdn. Bhd.  C = MY	79:82:9b: d9:3d:50: 2c:b6:17: 46:f9:74:8 3:d7:e4:c c	sha256 WithRS AEncryp tion	RSA (2048 bit)	sha256W ithRSAEn cryption	Tuesday, 4 April, 2017 8:00:00 AM	Monday, 4 April, 2022 7:59:59 AM	eb93e4c32495b c60b508462e54 6eaf1d842780a 8	8D:73:32:8E:2B:AB:3D:B5:DB:2D:1A:02 :72:35:E0:07:53:A7:39:A8:A2:DF:63:5E: AA:3C:5F:5C:98:1B:52:C5
12	12	CN = Symantec Class 3 Internal Root CA  O = Symantec Corporation  C = US	CN = MSC Trustgate.com Class 3 Private MPKI Enterprise Admin CA  O = MSC Trustgate.com Sdn. Bhd.  C = MY	2e:ac:26:c f:04:c8:94 :1a:22:18: 56:1f:25:3 8:02:51	sha256 WithRS AEncryp tion	RSA (2048 bit)	sha256W ithRSAEn cryption	Thursday, 23 May, 2013 8:00:00 AM	Tuesday, 23 May, 2023 7:59:59 AM	562d45840ad59 c1d572d5a3cd5 dc7d7727efa23 4	49:F0:46:A0:82:E6:0E:5C:64:6E:03:83:7 D:3E:7A:34:68:24:D4:E9:3B:85:11:6D:7 A:55:6C:77:8F:67:0C:CC

CA #	CERT #	Issuer	Subject	Serial	Key Algorithm	Key Size	Digest Algorithm	Not Before	Not After	SKI	SHA256 Fingerprint
13	13	CN = Symantec Class 3 Internal Root CA  O = Symantec Corporation  C = US	CN = MSC Trustgate.com Class 3 Private MPKI Operational Admin CA  O = MSC Trustgate.com Sdn. Bhd.  C = MY	1a:75:97:98:4c:8e:78:72:05:9e:3d:29:77:b1:e5:08	sha256WithRSAEncryption	RSA (2048 bit)	sha256WithRSAEncryption	Thursday, 23 May, 2013 8:00:00 AM	Tuesday, 23 May, 2023 7:59:59 AM	a2148e5394cc1ade825de06eb30765057334e5c5	9C:8D:BD:00:27:FD:AC:6E:D1:A3:22:47:24:16:A0:41:E3:A4:A6:2B:67:7B:92:9E:97:05:84:80:31:5E:32:1C