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Root CA CRL Publication Procedure

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Description	Procedure for Publishing the Root CA CRL and Backup of the Root CA
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1. Introduction

1.1. Background

The publication of a time valid (fresh) CRL by the Root CA is essential in maintaining the operational availability of the tPKI. The Root CA CRL is valid for a period of 190 days, it is therefore necessary to publish a fresh CRL prior to the existing CRL expiring (going stale).

1.2. Purpose

This document describes the operational processes for starting up the Root CA and publishing a fresh CRL and subsequent transferral thereof to removable media in readiness for promulgation.

1.3. Scope

1.3.1. In Scope

- Start-up of the "Root CA laptop host" and the VMWare based Root CA server "guest"
- Authorisation and activation of Root CA key material protected by an HSM - by presenting a quorum of ROOTCA OCS cards
- Logon to the Certification Authority MMC application and publication of a fresh CRL
- Transfer of the Root CA CRL to removable media
- Backups of the Root CA both to a local folder on the laptop host and removable media

1.3.2. Out of Scope

- Promulgation of the freshly created CRL

1.4. Role Abbreviations

Below is a list of the role abbreviations used in this document:

- ∅ Key Ceremony Director [KCD];
- ∅ Key Component Holder [KCH]
- ∅ CA Administrator [CAO]

1.5. Pre-Requisites / Bring Along

The following items are required to perform the procedure described in this document:

- "Root CA laptop host" (in tamper evident bag)
- nShield Edge unit and USB cable (in tamper evident bag)
- Laptop Administrator (Windows Server 2008 R2) password record form (in tamper evident bag)
- Root CA server (guest) Sysmanager password record form (in tamper evident bag)
- Suitable new tamper evident bags
- A quorum (three) of ROOTCA OCS cards (and corresponding pass phrases)
- USB memory stick for promulgation of the CRL
- Two USB memory sticks for backups of the Root CA server (VMWare guest)

2. Initial Tasks

2.1. Preparation

Performed at the Root CA Host Laptop	
01. CAO	Remove the laptop from the tamper evident bag and connect its power supply Power on the laptop
02. CAO	Remove the "laptop host" TROOT-HOST\Administrator password record form from the tamper evident bag Note: Referenced as "Root CA Lenovo Laptop Host 2008 R2" Log on as Administrator
03. CAO	Inspect the time on the laptop and ensure that it is within two minutes accuracy
04. CAO	Open the Windows Event Logs and inspect them for any irregular events

2.2. Start Guest

Performed at the Root CA Host Laptop	
01. CAO	Start VMWare Workstation
02. CAO	Select the ABC Root CA server (guest) and click the Start button
03. CAO	Retrieve the RCA01\Sysmanager password for the ABC Root CA server (guest) When the ABC Root CA server (guest) starts up, log on as Sysmanager

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04. CAO

Inspect the time in the ABC Root CA guest and ensure that it is within two minutes accuracy

05. CAO

Open the Windows Event Logs in the ABC Root CA guest and inspect them for any irregular events

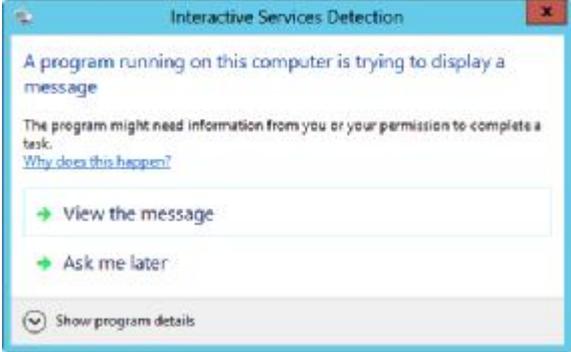
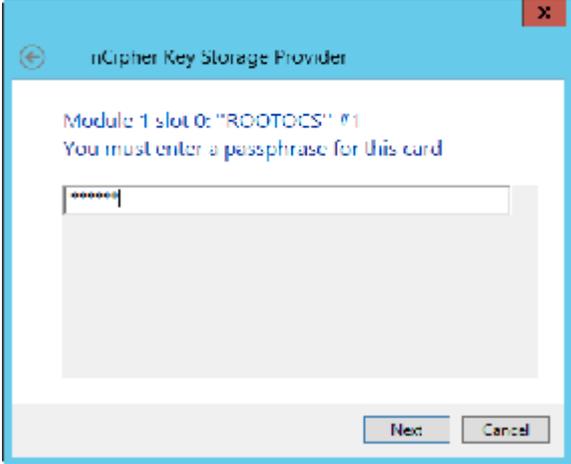
06. CAO

Whilst the VMWare Workstation ABC Root CA guest is "in focus", attach the nShield Edge to the USB port on the laptop

Note: The correct port is marked using white masking tape

3. Publish Fresh CRL

3.1. Start ADCS Service

Performed at the Root CA Host Laptop (on the ABC Root CA Guest)	
<p>01. CAO</p> <p>Open the Certification Authority console</p> <p>Select Start this service from the toolbar</p>	<p><Image Removed></p>
<p>02. CAO</p> <p>Click on the Interactive Services Detection icon on the Taskbar</p> <p>Click View the message</p>	 <p>The screenshot shows a Windows dialog box titled "Interactive Services Detection". The text inside reads: "A program running on this computer is trying to display a message. The program might need information from you or your permission to complete a task. Why does this happen?" There are two buttons: "View the message" and "Ask me later". At the bottom, there is a checkbox for "Show program details" which is currently unchecked.</p>
<p>03. CAO</p> <p>Click the Finish button</p>	<p><Image Removed></p>
<p>04. KCH1</p> <p>The KCD instructs KCH1 to retrieve their Root CA OCS card from their temporary storage contain and insert it into the USB HSM smart card reader</p> <p>KCH1 enters the PIN code then click the Next button</p>	 <p>The screenshot shows a dialog box titled "nCipher Key Storage Provider". The text inside reads: "Module 1 slot 0: 'ROOTOCS' #1. You must enter a passphrase for this card". There is a text input field with "*****" inside. At the bottom right, there are two buttons: "Next" and "Cancel".</p>

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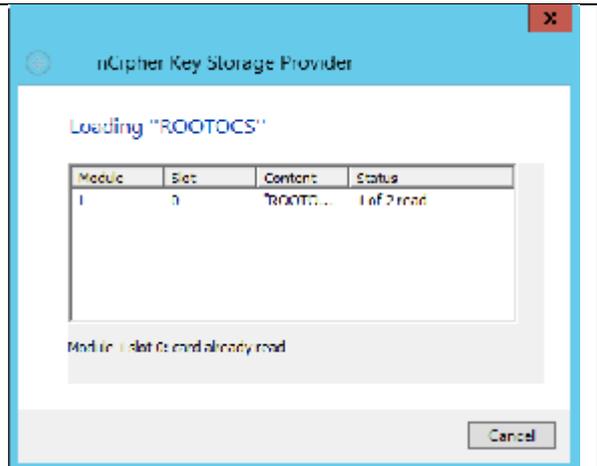
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05. KCH1

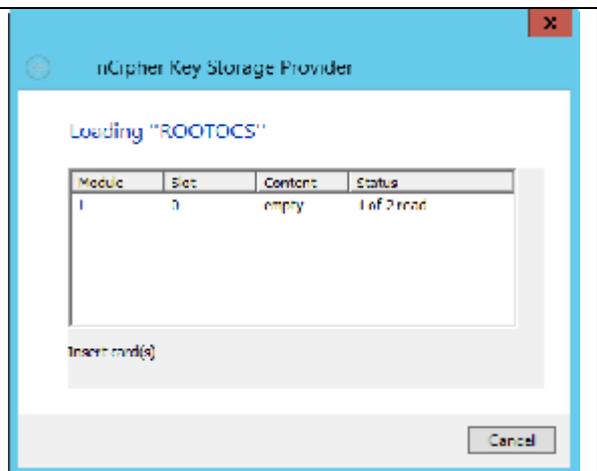
When the dialogue box indicates the OCS card is *already read*, the KCH1 removes it from the smart card reader and places it back into their temporary storage container



06. KCD

Observe panel indicating prompting for insertion of further OCS cards

Note: At this stage the status will show 1 of 3 cards read



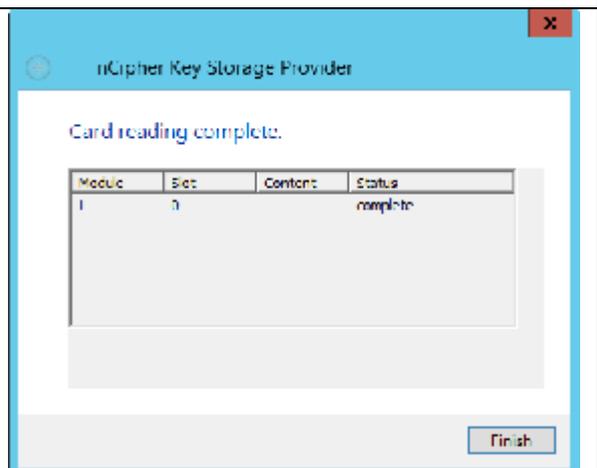
07. KCD

The previous three actions are repeated for KCH2 and KCH3 until such time that the status indicates "complete"

08. KCH3

When the dialogue box indicates card reading is complete, KCH3 removes their card from the smart card reader and places it back into their temporary storage container

Click the **Finish** button



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<p>09. CAO</p> <p>Click the Return now button</p>	
<p>10. CAO</p> <p>Select the Issued Certificates node</p> <p><i>If ADCS isn't working an error will be displayed</i></p>	<p><Image Removed></p>

3.2. Publish CRL and Verify

Performed at the Root CA Host Laptop (on the ABC Root CA Guest)	
<p>01. CAO</p> <p>Open a <u>PowerShell</u> prompt (as administrator)</p> <p>Run the following command:</p> <ul style="list-style-type: none">• <code>certutil -crl</code>	
<p>02. CAO</p> <p>Open the following folder in Windows Explorer:</p> <ul style="list-style-type: none">• <code>D:\PKIData\IDP</code>	
<p>03. CAO</p> <p>Double-click the following file to open it:</p> <ul style="list-style-type: none">• <code>ABC Root CA.crl</code> <p>Verify that the Effective date is <i>today</i></p>	<p><Image Removed></p>

3.3. Transfer CRL to USB Memory Stick

Performed at the Root CA Host Laptop (on the ABC Root CA Guest)	
<p>01. CAO</p> <p>Insert the USB memory stick assigned to ABCPKI promulgation</p>	

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02. CAO

Copy the following file:

- D:\PKIData\IDP\ABC Root CA.crl

To the root of the USB memory stick

03. CAO

Disconnect the USB memory stick assigned to ABCPKI promulgation