

DNSSEC Key Ceremony Script Thursday, September 28, 2017

Sign In to Facility

Step	Activity	Initial	Time (PDT)
1	FO has all participants sign in on Facility Sign-In Sheet before entering the Key Management Facility.		
2	FO reviews emergency evacuation procedures and other relevant information with participants.		
3	FO collects and stores participants' cell phones and computers outside the Key Management Facility. Cameras and other recording devices are permitted in the Key Management Facility. SC may retain and use a computer during the ceremony.		
4	FO verifies the functioning of audio and video recording.		

Enter the Key Management Facility

Step	Activity	Initial	Time (PDT)
5	As the participants enter the Key Management Facility, the EW verifies the identity of each by examining a government-issued photo identification, notes the type and number of each piece of identification, and the participant's entry time on the Participant Signature Sheet. Participants should not sign the sheet until the end of the ceremony. As the participants are identified each is issued an identification vest.		

Ground Rules

Step	Activity	Initial	Time (PDT)
6	<p>CA previews ground rules and break procedures with participants.</p> <ul style="list-style-type: none"> - We follow the script step by step. - Each step is read aloud by CA prior to its performance. Text in ((double parenthesis)) does not have to be read aloud. - Upon the completion of each step, its completion and the time of completion are announced for the record, and the EW records the completion time and initials the EW copy of the script. - If any participant notices a problem or believes that an error has occurred, that participant should interrupt immediately, and the participants should agree upon a resolution prior to proceeding. - Any significant discrepancies or deviations from the script will be recorded by the EW on the provided Exception Sheets. - CA and anybody handling items removed from a TEB or items on the work surface should have rolled up sleeves or, preferably, short sleeves. - Ask if anybody is not known to other attendees. If not, they should be introduced. - Questions and suggestions for improvement are welcome at any time, will be incorporated into the record, and contribute to the quality of this and future ceremonies. 		

Verify Time and Date

Step	Activity	Initial	Time (PDT)
7	<p>EW reads aloud and records the date (month/day/year) and time (UTC) using an NTP-synchronized clock visible to all. Participants verify that the time is correct.</p> <p>Date: _____</p> <p>Time: _____</p> <p>While this and previous steps are recorded using local time, subsequent steps and any associated logs follow this common source of time and are recorded in UTC.</p>		

Verify UPS

Step	Activity	Initial	Time (UTC)
8	<p>If there is a UPS (uninterruptible power supply), then</p> <ul style="list-style-type: none"> - CA verifies that the UPS is connected to and receiving power from the electric grid and that it is charged. - CA verifies that the audio recorder is receiving power from the UPS. 		

Remove Equipment from Safe

Step	Activity	Initial	Time (UTC)
9	SC opens the safe and records this action as an entry in the safe's log sheet.		
10	<p>SC collects the following items from the safe:</p> <ul style="list-style-type: none"> - KSK-HSM-02-BRK HSM - boot-DVD - laptop <p>...and any other items that may be required, indicating removal of each with any applicable TEB or serial numbers in the safe's log sheet. SC also provides any necessary power supplies and cables. Equipment is placed on the work surface visible to all participants.</p>		
11	<p>CA reads out KSK-HSM-02-BRK HSM TEB and serial numbers while EW checks that they match those recorded in the script from the most recent key ceremony performed at this site.</p> <p>HSM TEB# BB69600263</p> <p>HSM serial# H1411035</p>		
12	<p>CA reads out boot-DVD and laptop TEB numbers while EW checks that they match those recorded in the script from the most recent key ceremony performed at this site.</p> <p>DVD TEB# BB71705271</p> <p>Laptop TEB# BB69600262</p>		

Collect OP Cards

Step	Activity	Initial	Time (UTC)
13	CA collects OP cards, SO cards and SMK cards from COs, reading out and comparing TEB numbers with those recorded in the most recent ceremony each participated in, reproduced for convenience in the appendices of this document. Different COs may appear on different pages. CA places the cards in plain view on the work surface, removing cards from TEBs.		

Set Up Laptop

Step	Activity	Initial	Time (UTC)
14	<p>CA removes the boot-DVD and laptop from their TEBs, showing participants that the laptop contains no boot devices.</p> <p>CA places the boot-DVD and the laptop on the work surface, connects laptop power to the UPS. Any external monitor or projector may be powered from either the grid (or the UPS if it has sufficient capacity).</p> <p>Power the laptop on, booting it from the DVD or another boot medium.</p> <p>CA makes sure the output on the laptop screen is visible on any external monitor or projector.</p> <p>((Use the function + F8 keys to cycle through until the display shows only on the external monitor or projector. This must be done before Linux gets past the boot loader, or you may have to reboot again until you succeed. Boot warnings may be ignored if it continues to boot.))</p>		
15	CA logs in as root.		
16	CA opens a terminal window via the Menu: "Applications", "Accessories", "Terminal"		

17	<p>CA sets the timezone on the laptop to UTC:</p> <pre>cd /etc/ rm localtime ln -s /usr/share/zoneinfo/UTC localtime</pre> <p>Set time to match the wall clock:</p> <pre>date mmddHHMMYYYY</pre> <p>Verify:</p> <pre>date</pre> <p>Repeat as needed. When pleased, close the window:</p> <pre>exit</pre>		
18	<p>CA connects a labeled, blank HSMFD to the laptop, and waits for operating system to recognize the FD, then closes FD window.</p>		

Start Logging Terminal Session

Step	Activity	Initial	Time (UTC)
19	<p>CA opens a new terminal window, which we will refer to as the “command window”. In this window the CA will change the default directory to the HSMFD and start capture of terminal output to a file:</p> <pre>cd /media/HSMFD script -t script-20170928.log 2>script-20170928.timing</pre> <p>CA inserts the flash drive labeled “SCRIPTS” into a free USB slot and waits for operating system to recognize the FD. When the new window for the mounted device appears, close that window.</p> <p>CA copies the compressed archive of the previous key ceremony from the drive labeled “SCRIPTS” into the current directory on the HSMFD.</p> <pre>ls /media/SCRIPTS cp -p /media/SCRIPTS/HSMFD-20161214.tar.gz . sha256sum HSMFD-20161214.tar.gz</pre> <p>Verify that the checksum is B842 F2BF 8185 C993 0C24 6B39 5972 6EB6 F6A0 EFA5 F1FF 31F0 12F0 D9F1 EAE2 E0B2</p> <p>Un-tar the archive</p> <pre>tar -xzf HSMFD-20161214.tar.gz</pre> <p>CA copies the compressed scripts and input files from the drive labeled “SCRIPTS” into the current directory on the HSMFD.</p> <pre>cp -p /media/SCRIPTS/scripts-20170928.tar.gz . sha256sum scripts-20170928.tar.gz tar -xzf scripts-20170928.tar.gz sh copystuff</pre>		

Start Logging HSM Output

Step	Activity	Initial	Time (UTC)
20	CA inspects the HSM TEB for evidence of tampering and removes the HSM from its TEB; discards the TEB and connects the ttyUSB0 null modem serial adaptor and cable. CA connects the ttyUSB0 null modem serial adaptor and cable to the laptop, completing the serial connection between laptop and HSM.		
21	CA opens a new terminal window, which we will refer to as the "ttyaudit window". In this window the CA will start logging HSM serial output by executing <pre>cd /media/HSMFD stty -F /dev/ttyUSB0 115200 ttyaudit /dev/ttyUSB0</pre> ((Do not unplug USB serial port adaptor from the laptop until instructed, as this would cause logging to stop.))		

Connecting offline HSM (KSK-HSM-02-BRK)

Step	Activity	Initial	Time (UTC)
22	CA connects UPS power to the HSM. Status information will appear in the "ttyaudit window" and the "Ready" LED on the will HSM blink. After its self-test the HSM will display the text "Set Online" indicating that the HSM is in the initialized state and the "Ready" LED will be off.		

Activate HSM

Step	Activity	Initial	Time (UTC)
23	CA sets HSM online using the "Set Online" menu item and three (3) OP cards. The "Ready" LED should illuminate. Use OP cards 1, 2 and 3 ((All cards have PIN 11223344)) ((The HSM will always refer to cards 1, 2 and 3, regardless of our numbering (possibly) being different.))		

24	<p>CA connects Ethernet cable between laptop and HSM LAN port. Then determines the HSM IP in the laptop config by entering</p> <pre>ipadd</pre> <p>((ipadd will display an internet configuration with many addresses))</p> <pre>set-hsm-env</pre> <p>((The script will try to ping any of the HSM's and determine which one it is talking to. It will then write the name of the connected HSM and state that it is alive.))</p>		
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Start generating Keys and Keybundles

Step	Activity	Initial	Time (UTC)
25	<p>CA disables screen saver by typing</p> <pre>disable-screensaver</pre> <p>Now, using the GUI menu, in “System”, “Preferences”, “Screensaver” uncheck “activate screen saver when computer is idle” Click “Close”.</p> <p>In “System”, “Preferences”, “More Preferences”, “Power Management” Ensure both sliders in “Running on AC” are set to “never”. Click “Close”.</p>		
26	<p>CA copies the encrypted backups of the ZSKs by executing:</p> <pre>cd /tmp/pch</pre> <pre>makeallhsmfiles</pre>		
27	<p>CA starts key and signature generation by executing:</p> <pre>key-and-sig-gen</pre> <p>This step is considered complete as soon as the command is issued.</p> <p>((The data file contains a line for each zone for which ZSKs will be rolled or generated. The process of generating ZSKs and KSKs and creating keybundles (KSK signed DNSKEY RRsets) will take some time. KSKs and ZSKs will automatically be received by the laptop in encrypted form and deleted from HSM as each zone is completed. The keys are stored in /tmp, which is a memory based file system.))</p>		

Re-Package OP Cards

Step	Activity	Initial	Time (UTC)
28	CA places each OP card, SO card and SMK card from each CO in its own new TEB and reads the TEB number aloud. All the cards from each CO are placed inside one smart card case. CA then places each case in its own TEB. The TEB number is read aloud. The EW records each TEB number in the smart card sign out sheet in the EW copy of the script, reading it aloud for verification.		

Re-Distribution of Cards

Step	Activity	Initial	Time (UTC)
29	CA calls each CO to retrieve their smart card case. As each CO receives and inspects the TEB containing their case, they verify, date and sign the EW's copy of the sign out sheet and the EW initials each entry.		

Smart Card Sign Out Sheet

CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO1	OP 1 of 7		Steve FELDMAN		9/28/17		
CO2	OP 2 of 7		Michael SINATRA		9/28/17		
CO3	OP 3 of 7		Kim DAVIES		9/28/17		

Optionally leave facility

Step	Activity	Initial	Time (UTC)
30	Optionally, all participants can now leave the room if the room is closed and sealed until everyone's return.		

Pack and store Keys and Keybundles

Step	Activity	Initial	Time (UTC)
31	When the key generation script is complete, CA generates the archive destined for the signing HSMs by executing: <code>pack-today-kb</code>		
32	CA archives all results including encrypted KSKs for future use by executing: <code>pack-today-session</code>		
33	CA creates a snapshot of any changes to DB files by executing: <code>cd /media/HSMFD</code> <code>pack-snapshot-db KSK-HSM-02-BRK</code>		
34	CA calculates checksums of all files on the HSMFD: <code>find . -type f -print0 xargs -0 -n 50 sha256sum</code> To keep an eye on available space on the HSMFD, execute: <code>df -h</code>		
35	CA unmounts the SCRIPTS FD by executing: <code>umount /media/SCRIPTS</code> and removes the SCRIPTS FD ((The SCRIPTS FD will not need a TEB but can be used at next KC. Remember to delete "old" files on it before that KC))		

Return HSM to a Tamper Evident Bag

Step	Activity	Initial	Time (UTC)
36	CA presses the RESTART button on the HSM and waits for the self-test to complete. CA then disconnects the HSM from power and laptop (serial and Ethernet), placing the HSM into a new TEB and sealing it.		
37	CA reads out TEB number and HSM serial number and allows participants to verify them while the EW records the TEB and HSM serial numbers here: TEB# _____ HSM Serial#: _____		

Stop Recording Serial Port Activity

Step	Activity	Initial	Time (UTC)
38	CA terminates HSM serial output capture by disconnecting the USB serial adaptor from the laptop. CA then exits out of the "ttyaudit window". <code>exit</code>		

Display HSM Flash Drive Contents

Step	Activity	Initial	Time (UTC)
39	CA displays contents of HSMFD by executing: <code>ls -ltr</code>		

Stop Logging and create archive

Step	Activity	Initial	Time (UTC)
40	CA stops logging terminal output by typing “exit” in the “command window”: <code>exit</code>		
41	Pack it all up into a single archive: <code>pack-hsmfd</code>		
42	CA calculates sha256 checksum of the archive by executing: <code>sha256sum HSMFD-20170928.tar.gz</code> CA reads the hash of the checksum aloud. EW records the sixty-four digit hash: _____ _____ _____ _____		

Backup HSM Flash Drive Contents

Step	Activity	Initial	Time (UTC)
43	CA plugs a blank FD labeled “HSMFD” into the laptop waits for it to be recognized by the operating system as HSMFD_ and copies the tar-archive of the HSMFD to the blank drive by executing: <code>cp -p HSMFD-20170928.tar.gz /media/HSMFD_</code> CA then unmounts new FD using <code>umount /media/HSMFD_</code> CA then removes HSMFD_ from the laptop and places it a new TEB and seals; reads out TEB number and shows item to participants while the EW records the TEB number here: TEB# _____ ((This copy will later be stored in the on-site audit bundle / safe.))		

44	CA performs this activity a second time to create a second copy. TEB# _____ ((This copy will later be stored in the off-site audit bundle.))		
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Unmounting HSMFD

Step	Activity	Initial	Time (UTC)
45	CA unmounts HSMFD by executing: <code>cd /tmp</code> then <code>umount /media/HSMFD</code>		
46	CA removes HSMFD and keeps it for himself ((for operations and published archive))		

Return Boot-DVD to a Tamper Evident Bag

Step	Activity	Initial	Time (UTC)
47	CA executes: <code>halt -p -f</code> removes DVD and turns off laptop. To remove DVD, CA may need to briefly power on laptop, press eject button, and power off. ((we don't have to shut down nicely, as we have nowhere to write, no important services to terminate nicely and no read-write mounts to unmount))		
48	CA places boot-DVD in new TEB and seals; reads out TEB number and shows item to participants. EW records TEB number here: DVD TEB# _____		

Return Laptop to a Tamper Evident Bag

Step	Activity	Initial	Time (UTC)
49	<p>CA disconnects power and any other connections from laptop and puts laptop in new TEB and seals; reads out TEB number and shows item to participants.</p> <p>EW records TEB number here: Laptop TEB# _____</p>		

Return Power Supplies, USB Hub, and Cables

Step	Activity	Initial	Time (UTC)
50	<p>CA places the following in a box or bag. This need not be a TEB as it is only used for convenience.</p> <ul style="list-style-type: none"> - HSM power supply - Laptop power supply - USB hub - Serial cable - USB serial adapter - Power cables - Networking cables 		
51	<p>SC returns items to the safe. SC records return of each item on the safe's log with TEB number, name of item, date, time, and signature with a second participant initialing each entry.</p> <ul style="list-style-type: none"> - KSK-HSM-02-BRK HSM - laptop - original HSMFD above - fourth HSMFD backup - DVD <p>Power supplies and cables need not be stored in the safe if space is constrained.</p> <p>SC records a closing action as an entry in the safe's log sheet and returns the log sheet to the safe. SC closes safe. EW verifies that it is locked.</p>		

Sign-Out on Participant Signature Sheet

Step	Activity	Initial	Time (UTC)
52	All participants leave the Key Management Facility, and on the Participant Signature Sheet note their exit time and sign.		

Stop Audio-Visual Recording

Step	Activity	Initial	Time (PDT)
53	FO stops audio and video recording.		

Script review

Step	Activity	Initial	Time (UTC)
54	CA reviews EWs script and signs it: CA Signature _____		

Sign Out of Facility

Step	Activity	Initial	Time (PDT)
55	FO returns phones, computers, and any other items to participants and logs their exit times on the facility sign-in sheet. Participants return identification vests to the FO. Participants are now free to depart.		

Copy and Store the Script

Step	Activity	Initial	Time (PDT)
56	<p>This step is performed after Notary, EW, and SC attestations.</p> <p>FO makes at least three color copies of the EW's script: one for the off-site audit bundle, one for the on-site audit bundle, one for the EW, copies for other participants as requested, and delivers the original to the SC.</p> <p>The two audit bundles each contain hard copies and soft copies on an SD card:</p> <ul style="list-style-type: none"> - output of signer system - HSMFD - copy of EWs key ceremony script - audio-visual recording - logs from the Facility Physical Access Control - SC attestation (A.2 below) - the EW attestation (A.1 below) <p>all in a TEB labeled "Key Ceremony 09/28/2017", dated and signed by CA. One bundle will be stored by the SC along with equipment. The second bundle will be kept securely offsite.</p> <p>CA will upload soft copies of all of the above to pch.net.</p>		

Appendix A:
Key Ceremony Script Attestation
(by EW)

I hereby attest that the Key Ceremony was conducted in accordance with this script and that any excpetions which may have occurred were accurately and properly documented on the attached Script Exception Forms.

Printed Name: _____

Signature: _____

Date: _____

Insert Notary Acknowledgement Here

Appendix B:
Access Control System Attestation
(by SC)

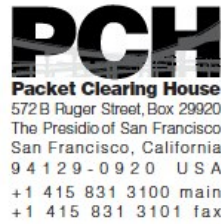
I have reviewed the physical access control system and not found any discrepancies or anything else out of the ordinary.

Attached is the audited physical access log.

Printed Name: _____

Signature: _____

Date: _____



1600 Shattuck Avenue Facilities Sign-In Sheet

Role	Name	Signature	Date	Entry Time PDT	Exit Time PDT
FO3	Mimi RAUSCHENDORF		9/28/17		
CA	Robert MARTIN-LEGENE		9/28/17		
EW3	Mallory BARRERA		9/28/17		
CO1	Steve FELDMAN		9/28/17		
CO2	Michael SINATRA		9/28/17		
CO3	Kim DAVIES		9/28/17		
SC1	Bill WOODCOCK		9/28/17		
R	Smiljana ANTONIJEVIC		9/28/17		
R	Mohamed EL-BASHIR		9/28/17		
R	David HUDDLESTONS		9/28/17		

Appendix C:

Abbreviations Used in This Document

Roles

CA	Ceremony Administrator
EW	External Witness
SC	Security Controller
CO	Crypto Officers
FO	Facilities Officer
R	Registry Representative

Other Abbreviation

TEB	Tamper Evident Bag (MMF Industries, item #2362010N20 small or #2362011N20 large)
HSM	Hardware Security Module
FD	Flash Drive
AAK	Adapter Authorization Key
SMK	Storage Master Key
OP	Operator
SO	Security Operator

Appendix D:

Letter and Number Pronunciation

Character	Call Sign	Pronunciation
A	Alfa	AL-FAH
B	Bravo	BRAH-VOH
C	Charlie	CHAR-LEE
D	Delta	DELL-TAH
E	Echo	ECK-OH
F	Foxtrot	FOKS-TROT
G	Golf	GOLF
H	Hotel	HOH-TEL
I	India	IN-DEE-AH
J	Juliet	JEW-LEE-ETT
K	Kilo	KEY-LOH
L	Lima	LEE-MAH
M	Mike	MIKE
N	Novemb er	NO-VEM-BER
O	Oscar	OSS-CAH
P	Papa	PAH-PAH
Q	Quebec	KEH-BECK
R	Romeo	ROW-ME-OH
S	Sierra	SEE-AIR-RAH
T	Tango	TANG-GO
U	Uniform	YOU-NEE-FORM
V	Victor	VIK-TAH
W	Whiskey	WISS-KEY
X	Xray	ECKS-RAY
Y	Yankee	YANG-KEY
Z	Zulu	ZOO-LOO
1	One	WUN
2	Two	TOO
3	Three	TREE
4	Four	FOW-ER
5	Five	FIFE
6	Six	SIX
7	Seven	SEV-EN
8	Eight	AIT
9	Nine	NIN-ER
0	Zero	ZEE-RO

Appendix: E

Card Distribution from Key Ceremony 1

DNSSEC Key Ceremony Script		Tuesday, April 26, 2011	
Distribute Cards			
Step	Activity	Initial	Time
103	Due to limited number of personnel at this key ceremony, cards will be distributed in groups that maintain multi-person control requirements. A subsequent key ceremony will redistribute cards to their final holders. Each group of cards shall be placed in another TEB whose numbers are recorded below on the EW's script.	<i>JF</i>	8:37PM
104	SMK1, SO1, OP1 TEB# <u>A21094986</u> go to CO1, Steve FELDMAN.	<i>JF</i>	8:39PM
105	SMK5, SO5, OP5 TEB# <u>A21094983</u> are entrusted to CO1, Steve FELDMAN, for conveyance to CO5, Stephan SOMOGYI.	<i>JF</i>	8:43PM
106	SMK2, SO2, OP2 TEB# <u>A21094985</u> go to CO2, Michael SINATRA.	<i>JF</i>	8:45PM
107	SMK3, SO3, OP3 TEB# <u>A21094984</u> go to CO3, Kim DAVIES.	<i>JF</i>	8:46PM
108	SMK6, SO6, OP6 TEB# <u>A21094982</u> are entrusted to CO3, Kim DAVIES, for conveyance to CO6, LEONG Keng Thai.	<i>JF</i>	8:48PM
109	SMK4, SO4, OP4 TEB# <u>A21094980</u> go to CO4, Jonny MARTIN.	<i>JF</i>	8:49PM
110	SMK7, SO7, OP7 TEB# <u>A21094981</u> are entrusted to CO4, Jonny MARTIN, for conveyance to CO7, Gaurab UPADHAYA.	<i>JF</i>	8:50PM

Appendix: F

Smart Card Sign Out Sheet from Key Ceremony 1

DNSSEC Key Ceremony Script		Tuesday, April 26, 2011					
Smart Card Sign Out Sheet							
CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
	OP 1 of 7	A21095013	Steve FELDMAN	<i>[Signature]</i>	4/25/11	20:56	1/2
-1	SO 1 of 7	A21095012	Steve FELDMAN	<i>[Signature]</i>	4/25/11	20:56	1/2
-	SMK 1 of 7	A21095011	Steve FELDMAN	<i>[Signature]</i>	4/25/11	20:56	1/2
	OP 2 of 7	A21095010	Michael SINATRA	<i>[Signature]</i>	4/25/11	20:55	1/2
1	SO 2 of 7	A21095009	Michael SINATRA	<i>[Signature]</i>	4/25/11	20:55	1/2
-	SMK 2 of 7	A21095008	Michael SINATRA	<i>[Signature]</i>	4/25/11	20:55	1/2
	OP 3 of 7	A21095007	Kim DAVIES	<i>[Signature]</i>	4/25/11	8:52	1/2
1	SO 3 of 7	A21095006	Kim DAVIES	<i>[Signature]</i>	4/25/11	8:52	1/2
-	SMK 3 of 7	A21095004	Kim DAVIES	<i>[Signature]</i>	4/25/11	8:52	1/2
	OP 4 of 7	A21095005	Jonny MARTIN	<i>[Signature]</i>	4/25/11	8:58	1/2
1	SO 4 of 7	A21095003	Jonny MARTIN	<i>[Signature]</i>	4/25/11	8:58	1/2
-	SMK 4 of 7	A21095002	Jonny MARTIN	<i>[Signature]</i>	4/25/11	8:58	1/2
	OP 5 of 7	A21095001	Steve FELDMAN	<i>[Signature]</i>	4/25/11	20:50	1/2
1	SO 5 of 7	A21095000	Steve FELDMAN	<i>[Signature]</i>	4/25/11	20:56	1/2
-	SMK 5 of 7	A21094999	Steve FELDMAN	<i>[Signature]</i>	4/25/11	20:50	1/2
	OP 6 of 7	A21094998	Kim DAVIES	<i>[Signature]</i>	4/25/11	8:53	1/2
1	SO 6 of 7	A21094997	Kim DAVIES	<i>[Signature]</i>	4/25/11	8:53	1/2
-	SMK 6 of 7	A21094996	Kim DAVIES	<i>[Signature]</i>	4/25/11	8:53	1/2
	OP 7 of 7	A21094995	Jonny MARTIN	<i>[Signature]</i>	4/25/11	8:58	1/2
1	SO 7 of 7	A21094994	Jonny MARTIN	<i>[Signature]</i>	4/25/11	8:58	1/2
-	SMK 7 of 7	A21094993	Jonny MARTIN	<i>[Signature]</i>	4/25/11	8:58	1/2

Appendix: G

Smart Card Sign Out Sheet from Key Ceremony 2

DNSSEC Key Ceremony Script Monday, May 30, 2011

Smart Card Sign Out Sheet

CO#	Card Type	TED #	Printed Name	Signature	Date	Time	EW
A19204943	CO1 OP 1 of 7	A19204935	Steve FELDMAN	<i>[Signature]</i>	5/30/11	0047	<i>[Initials]</i>
	CO1 SO 1 of 7	A19204934	Steve FELDMAN	<i>[Signature]</i>	5/30/11	0047	<i>[Initials]</i>
	CO1 SMK 1 of 7		Steve FELDMAN		5/30/11		
A19204942	CO2 OP 2 of 7	A19204933	Michael SMATRA	<i>[Signature]</i>	5/30/11	0049	<i>[Initials]</i>
	CO2 SO 2 of 7	A19204931	Michael SMATRA	<i>[Signature]</i>	5/30/11	0049	<i>[Initials]</i>
	CO2 SMK 2 of 7		Michael SMATRA		5/30/11		
A19204941	CO4 OP 4 of 7	A19204932	Jonny MARTIN	<i>[Signature]</i>	5/30/11	0050	<i>[Initials]</i>
	CO4 SO 4 of 7	A19204930	Jonny MARTIN	<i>[Signature]</i>	5/30/11	0050	<i>[Initials]</i>
	CO4 SMK 4 of 7		Jonny MARTIN		5/30/11		
A19204940	CO5 OP 5 of 7	A19204929	Steve SOMOGYI	<i>[Signature]</i>	5/30/11	0051	<i>[Initials]</i>
	CO5 SO 5 of 7	A19204928	Steve SOMOGYI	<i>[Signature]</i>	5/30/11	0051	<i>[Initials]</i>
	CO5 SMK 5 of 7		Steve SOMOGYI		5/30/11		
CO7 OP 7 of 7			Jonny MARTIN		5/30/11		
CO7 SO 7 of 7			Jonny MARTIN		5/30/11		
CO7 SMK 7 of 7			Jonny MARTIN		5/30/11		

A19204944 - CO4
 A19204943 - CO1
 A19204942 - CO2
 A19204941 - CO5

Packet Clearing House
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Appendix: H

Smart Card Sign Out Sheet from Key Ceremony 3

DNSSEC Key Ceremony Script

Monday, June 20, 2011

Smart Card Sign Out Sheet

CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO1	OP 1 of 7	A19204876	Steve FELDMAN		6/20/11	07:51	
CO3	OP 3 of 7	A19204874	Kim DAVIES		6/20/11	07:51	
CO4	OP 4 of 7	A19204872	Jonny MARTIN		6/20/11	07:49	
CO6	OP 6 of 7	A19204870	LIM Choon Sai		6/20/11	07:50	
CO7	OP 7 of 7	A19204869	Gaurab UPADHAYA		6/20/11	07:49	

ENCLOSING BAGS:

CO1: A19204875

CO3: A19204873

CO4: A19204871

CO6: A19204869

CO7: A19204867

Appendix: I

Smart Card Sign Out Sheet from Key Ceremony 4

DNSSEC Key Ceremony Script

Friday, January 20, 2012

Re-Package OP Cards

Step	Activity	Initial	Time (UTC)
60	CA places each OP card with instruction slip in its own new TEB and records the number in the smart card sign out sheet below.	Tf	20:43

Re-Distribution of Cards

Step	Activity	Initial	Time (UTC)
61	CA calls each CO to return their smartcards. As each CO receives and inspects their cards, they fill out the sign out sheet below and EW initials their entry. Note new outer bags in sheet below.	Tf	20:51

Smart Card Sign Out Sheet

CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO2	OP 2 of 7	A19204950	Michael SINATRA	<i>Michael Sinatra</i>	1/20/12	2051	Tf
CO2	SO 2 of 7	A19204952	Michael SINATRA	<i>Michael Sinatra</i>	1/20/12	2051	Tf
CO4	OP 4 of 7	A19204949	Jonny MARTIN	<i>Jonny Martin</i>	1/20/12	2049	Tf
CO4	SO 4 of 7	A19204953	Jonny MARTIN	<i>Jonny Martin</i>	1/20/12	2049	Tf
CO5	OP 5 of 7	A19204951	Stephan SOMOGYI	<i>Stephan Somogyi</i>	1/20/12	2046	Tf
CO5	SO 5 of 7 TEB	A19204954	Stephan SOMOGYI	<i>Stephan Somogyi</i>	1/20/12	2046	Tf

~~OUTSIDE BAG~~

Appendix: J

Smart Card Sign Out Sheet from Key Ceremony 5

DNSSEC Key Ceremony Script

Friday, April 27, 2012

Smart Card Sign Out Sheet

CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO1	OP 1 of 7	A19204955	Steve FELDMAN		4/27/12	18:44	
CO1	Outer SO 1 of 7 bag	3112567	Steve FELDMAN		4/27/12	18:44	
CO3	OP 3 of 7	A3112566	Kim DAVIES		4/27/12	18:46	
CO3	Outer SO 3 of 7 Bag	A3112572	Kim DAVIES		4/27/12	18:46	
CO4	OP 4 of 7	A3112565	Jonny MARTIN		4/27/12	18:47	
CO4	Outer SO 4 of 7 bag	A3112593	Jonny MARTIN		4/27/12	18:47	

Sign-Out on Participant Signature Sheet

Step	Activity	Initial	Time (UTC)
60	All participants leave the Key Management Facility, sign the Participant Signature Sheet, and note their exit time.		18:50
61	CA reviews EWS script and signs it. CA Signature		18:52

Sign Out of Facility

Step	Activity	Initial	Time (UTC)
62	FO returns phones, laptops, and other items to participants and logs their exit times. Participants are now free to depart.		18:53

Stop Audio-Visual Recording

Step	Activity	Initial	Time (UTC)
63	SA stops audio and video recording.		18:53

Appendix: K

Smart Card Sign Out Sheet from Key Ceremony 5-1

DNSSEC Key Ceremony Script

Wednesday, May 30, 2012

Re-Distribution of Cards

Step	Activity	Initial	Time (UTC)
63	CA calls each CO to return their smartcards. As each CO receives and inspects their cards, they fill out the sign out sheet below and EW initials their entry. Note new outer bags in sheet below.	1/	19:14

Smart Card Sign Out Sheet

CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO1	OP 1 of 7	A28410829	Steve FELDMAN	<i>[Signature]</i>	5/30/12	19:11	1/
CO1	Outer SO 1 of 7	A28410826	Steve FELDMAN	<i>[Signature]</i>	5/30/12	19:11	1/
CO2	OP 2 of 7	A28410828	Michael SINATRA	<i>[Signature]</i>	5/30/12	19:12	1/
CO2	Outer SO 2 of 7	A28410825	Michael SINATRA	<i>[Signature]</i>	5/30/12	19:12	1/
CO4	OP 4 of 7	A28410827	Jonny MARTIN	<i>[Signature]</i>	5/30/12	19:14	1/
CO4	Outer SO 4 of 7	A28410823	Jonny MARTIN	<i>[Signature]</i>	5/30/12	19:14	1/

Appendix: L

Smart Card Sign Out Sheet from Key Ceremony 6

DNSSEC Key Ceremony Script

Friday, July 27, 2012

Re-Distribution of Cards

Step	Activity	Initial	Time (UTC)
67	CA calls each CO to return their smartcards. As each CO receives and inspects their cards, they fill out the sign out sheet below and EW initials their entry. Note new outer bags in sheet below.	11	20:20

Smart Card Sign Out Sheet

CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO1	OP 1 of 7	A284/0816	Steve FELDMAN	<i>[Signature]</i>	7/27/12	2019	11
CO1	Outer 1 of 7		Steve FELDMAN		7/27/12		
CO4	OP 4 of 7	A284/0814	Jonny MARTIN	<i>[Signature]</i>	7/27/12	2019	11
CO4	Outer 4 of 7		Jonny MARTIN		7/27/12		
CO5	OP 5 of 7	A284/0817	Stephan SOMOGYI	<i>[Signature]</i>	7/27/12	2019	11
CO5	Outer 5 of 7		Stephan SOMOGYI		7/27/12		

Appendix: M

Smart Card Sign Out Sheet from Key Ceremony 7

DNSSEC Key Ceremony Script

Friday, December 14, 2012

Re-Package OP Cards

Step	Activity	Initial	Time (UTC)
65	The CA places each OP card with pre-printed warning slip in its own new TEB and seals TEB, hands the EW the tear-off strip from the TEB to record.	TF	20:44

Re-Distribution of Cards

Step	Activity	Initial	Time (UTC)
66	The CA calls each CO to return their smartcards. As each CO receives and inspects their cards, they fill out the sign out sheet below and the EW initials their entry.	TF	20:46


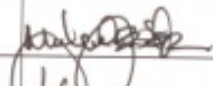

Smart Card Sign Out Sheet


CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO1	OP 1 of 7	A28410805	Steve FELDMAN	<i>[Signature]</i>	12/14/12	2045	TF
CO2	OP 2 of 7	A28410804	Michael SINATRA	<i>[Signature]</i>	12/14/12	2046	TF
CO4	OP 4 of 7	A28410803	Jonny MARTIN	<i>[Signature]</i>	12/14/12	2046	TF

Appendix: N

Smart Card Sign Out Sheet from Key Ceremony 8

Step		Activity	Initial	Time (UTC)
63		CA calls each CO to retrieve their smartcards. As each CO receives and inspects their cards, they verify, date and sign the EW's copy of the sign out sheet below and EW initials their entry.	JH	18:20

CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO1	OP 1 of 7	A28410802	Steve FELDMAN		9/12/13	1812	JH
CO2	OP 2 of 7	A28410801	Michael SINATRA		9/12/13	1816	JH
CO3	OP 3 of 7	A28410800	Kim DAVIES		9/12/13	1819	JH

Step	Activity	Initial	Time (UTC)
64	All participants leave the Key Management Facility, sign the Participant Signature Sheet, and note their exit time.	JH	22:53
65	CA reviews EWs script and signs it. CA Signature 	JH	22:55

Step	Activity	Initial	Time (PDT)
66	FO returns phones, laptops, and other items to participants and logs their exit times. Participants return identification vests to the FO. Participants are now free to depart.	JH	3:58 PM

Step	Activity	Initial	Time (PDT)
67	SA stops audio and video recording.	JH	4:00 PM

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Appendix: O

Smart Card Sign Out Sheet from Key Ceremony 9

DNSSEC Key Ceremony Script

Friday, January 10, 2014

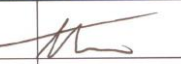


Re-Package OP Cards

Step	Activity	Initial	Time (UTC)
35	CA places each OP card with pre-printed warning slip in its own new TEB and records the TEB # in the EW's copy of the smart card sign out sheet below, reading it aloud for verification and giving the TEB tear-off strip to the EW.	lf	18:15

Re-Distribution of Cards

Step	Activity	Initial	Time (UTC)
36	CA calls each CO to retrieve their smartcards. As each CO receives and inspects their cards, they verify, date and sign the EW's copy of the sign out sheet below and EW initials their entry.	lf	18:18

Smart Card Sign Out Sheet

CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO1	OP 1 of 7	A28410774	Steve FELDMAN		1/10/14	18:16	lf
CO2	OP 2 of 7	A28410773	Michael SINATRA		1/10/14	18:17	lf
CO5	OP 5 of 7	A28410772	Stephan SOMOGYI		1/10/14	18:17	lf

Optionally leave facility

Step	Activity	Initial	Time (UTC)
37	Optionally, all participants can now leave the room if the room is closed and sealed until everyone's return.	lf	N/A

Appendix: P

Smart Card Sign Out Sheet from Key Ceremony 10

DNSSEC Key Ceremony Script

Wednesday, March 26, 2014

Re-Package OP Cards

Step	Activity	Initial	Time (UTC)
35	CA places each OP card with pre-printed warning slip in its own new TEB and records the TEB # in the EW's copy of the smart card sign out sheet below, reading it aloud for verification and giving the TEB tear-off strip to the EW.	<i>MS</i>	0844

Re-Distribution of Cards

Step	Activity	Initial	Time (UTC)
36	CA calls each CO to retrieve their smartcards. As each CO receives and inspects their cards, they verify, date and sign the EW's copy of the sign out sheet below and EW initials their entry.	<i>MS</i>	0845

Smart Card Sign Out Sheet

CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO3	OP 3 of 7	Jaap AKKERHUIS	A28410778	<i>[Signature]</i>	3/26/14	0846	<i>MS</i>
CO6	OP 6 of 7	LIM Choon Sai	A28410777	<i>[Signature]</i>	3/26/14	0846	<i>MS</i>
CO7	OP 7 of 7	Gaurab UPADHAYA	A28410779	<i>[Signature]</i>	3/26/14	0846	<i>MS</i>

Optionally leave facility

Step	Activity	Initial	Time (UTC)
37	Optionally, all participants can now leave the room if the room is closed and sealed until everyone's return.		

Appendix: Q

Smart Card Sign Out Sheet from Key Ceremony 11

DNSSEC Key Ceremony Script

Friday, December 12, 2014




Re-Package OP Cards

Step	Activity	Initial	Time (UTC)
36	CA places each OP card with pre-printed warning slip in its own new TEB and records the TEB # in the EW's copy of the smart card sign out sheet below, reading it aloud for verification and giving the TEB tear-off strip to the EW.	11	19:17

Re-Distribution of Cards

Step	Activity	Initial	Time (UTC)
37	CA calls each CO to retrieve their smartcards. As each CO receives and inspects their cards, they verify, date and sign the EW's copy of the sign out sheet below and EW initials their entry.	11	19:19

Smart Card Sign Out Sheet

CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO1	OP 1 of 7	A28410734	Steve FELDMAN		12/12/14	19:17	11
CO2	OP 2 of 7	A28410735	Michael SINATRA		12/12/14	19:18	11
CO4	OP 4 of 7	A28410736	Eric ALLMAN		12/12/14	19:18	11

Optionally leave facility

Step	Activity	Initial	Time (UTC)
38	Optionally, all participants can now leave the room if the room is closed and sealed until everyone's return.	11	

Appendix: R

Smart Card Sign Out Sheet from Key Ceremony 12

DNSSEC Key Ceremony Script

Monday, February 9, 2015

Re-Package OP Cards

Step	Activity	Initial	Time (UTC)
35	CA places each OP card with pre-printed warning slip in its own new TEB and records the TEB # in the EW's copy of the smart card sign out sheet below, reading it aloud for verification and giving the TEB tear-off strip to the EW.	<i>ME</i>	0746

Re-Distribution of Cards

Step	Activity	Initial	Time (UTC)
36	CA calls each CO to retrieve their smartcards. As each CO receives and inspects their cards, they verify, date and sign the EW's copy of the sign out sheet below and EW initials their entry.	<i>ME</i>	0751

Smart Card Sign Out Sheet


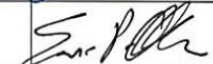
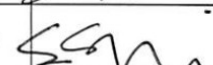
CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO3	OP 3 of 7	A28410768	Kim DAVIES	<i>[Signature]</i>	2/9/15	0747	<i>ME</i>
CO6	OP 6 of 7	A28410767	LEE Han-Chuan	<i>[Signature]</i>	2/9/15	0747	<i>ME</i>
CO7	OP 7 of 7	A28460766	Gaurab UPADHAYA	<i>[Signature]</i>	2/9/15	0748	<i>ME</i>

Optionally leave facility

Step	Activity	Initial	Time (UTC)
37	Optionally, all participants can now leave the room if the room is closed and sealed until everyone's return.	<i>ME</i>	0748

Appendix: S

Smart Card Sign Out Sheet from Key Ceremony 13

DNSSEC Key Ceremony Script		Friday, September 25, 2015					
Re-Package OP Cards							
Step	Activity	Initial	Time (UTC)				
35	CA places each OP card with pre-printed warning slip in its own new TEB and records the TEB # in the EW's copy of the smart card sign out sheet below, reading it aloud for verification and giving the TEB tear-off strip to the EW.	H	19:14				
Re-Distribution of Cards							
Step	Activity	Initial	Time (UTC)				
36	CA calls each CO to retrieve their smartcards. As each CO receives and inspects their cards, they verify, date and sign the EW's copy of the sign out sheet below and EW initials their entry.	H	19:20				
Smart Card Sign Out Sheet							
CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO1	OP 1 of 7	A28410724	Steve FELDMAN		9/25/15	19:15	H
CO4	OP 4 of 7	A28410725	Eric ALLMAN		9/25/15	19:16	H
CO5	OP 5 of 7	A28410726	Stephan SOMOGYI		9/25/15	19:16	H
Optionally leave facility							
Step	Activity	Initial	Time (UTC)				
37	Optionally, all participants can now leave the room if the room is closed and sealed until everyone's return.	H	19:34				
Packet Clearing House		Page 10 of 38					


Appendix: T

Smart Card Sign Out Sheet from Key Ceremony 14

DNSSEC Key Ceremony Script

Monday, November 23, 2015







Re-Package OP Cards

Step	Activity	Initial	Time (UTC)
35	CA places each OP card with pre-printed warning slip in its own new TEB and reads the TEB number aloud. The EW records each TEB number in the smart card sign out sheet in his copy of the script, reading it aloud for verification and taking the TEB tear-off strip for his records.		19:37

Re-Distribution of Cards

Step	Activity	Initial	Time (UTC)
36	CA calls each CO to retrieve their smart cards. As each CO receives and inspects their cards, they verify, date and sign the EW's copy of the sign out sheet and the EW initials each entry.		19:38

Smart Card Sign Out Sheet

CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO1	OP 1 of 7	A28410764	Steve FELDMAN		11/23/15	1938	
CO4	OP 4 of 7	A28410763	Eric ALLMAN		11/23/15	1938	
CO7	OP 7 of 7	A28410762	Gaurab UPADHAYA		11/23/15	1938	

Optionally leave facility

Step	Activity	Initial	Time (UTC)
37	Optionally, all participants can now leave the room if the room is closed and sealed until everyone's return.		19:40

Appendix: U

Smart Card Sign Out Sheet from Key Ceremony 15

DNSSEC Key Ceremony Script

Friday, July 8, 2016

PCH DNSSEC Key Ceremony Script Exception Form

The Smart Card Sign Out Sheet automatically generated on page 27 of 62 of this script included only rows for OP cards, but needs rows for SO and SMK cards as well. APP cards are separately bagged in a different step, and AAK cards will be destroyed before the end of the ceremony.

Smart Card Sign Out Sheet

CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO1	OP 1 of 7	A 28410760	Steve FELDMAN		7/8/16	00:27 UTC	
CO1	SO 1 of 7	A 28410759	Steve FELDMAN		7/8/16	00:27 UTC	
CO1	SMK 1 of 7	A28410761	Steve FELDMAN		7/8/16	00:27 UTC	
CO2	OP 2 of 7	A 28410753	Michael SINATRA		7/8/16	00:29 UTC	
CO2	SO 2 of 7	A 28410752	Michael SINATRA		7/8/16	00:29 UTC	
CO2	SMK 2 of 7	A 28410751	Michael SINATRA		7/8/16	00:29 UTC	
CO3	OP 3 of 7	A 28410749	Kim DAVIES		7/8/16	20:39 UTC	
CO3	SO 3 of 7	A 28410748	Kim DAVIES		7/8/16	20:39 UTC	
CO3	SMK 3 of 7	A 28410747	Kim DAVIES		7/8/16	20:39 UTC	
CO4	OP 4 of 7	A 28410750	Eric ALLMAN		7/8/16	00:33 UTC	
CO4	SO 4 of 7	A 28410737	Eric ALLMAN		7/8/16	00:33 UTC	
CO4	SMK 4 of 7	A 28410742	Eric ALLMAN		7/8/16	00:33 UTC	
CO7	OP 7 of 7	A 28410746	Gaurab UPADHAYA		7/8/16	20:40 UTC	
CO7	SO 7 of 7	A 28410745	Gaurab UPADHAYA		7/8/16	20:40 UTC	
CO7	SMK 7 of 7	A 28410744	Gaurab UPADHAYA		7/8/16	20:40 UTC	

Appendix: V

Smart Card Sign Out Sheet from Key Ceremony 16

DNSSEC Key Ceremony Script

Wednesday, August 17, 2016

Re-Package OP Cards

Step	Activity	Initial	Time (UTC)
32	CA places each OP card with pre-printed warning slip in its own new TEB and reads the TEB number aloud. The EW records each TEB number in the smart card sign out sheet in the EW copy of the script, reading it aloud for verification.	<i>[Handwritten Initials]</i>	17:34

Re-Distribution of Cards

Step	Activity	Initial	Time (UTC)
33	CA calls each CO to retrieve their smart cards. As each CO receives and inspects their cards, they verify, date and sign the EW's copy of the sign out sheet and the EW initials each entry.	<i>[Handwritten Initials]</i>	17:36

Smart Card Sign Out Sheet

CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO1	OP 1 of 7	BB7170519 ^P	Steve FELDMAN	<i>[Signature]</i>	8/17/16	17:35	<i>[Handwritten Initials]</i>
CO4	OP 4 of 7	BB71705191	Eric ALLMAN	<i>[Signature]</i>	8/17/16	17:36	<i>[Handwritten Initials]</i>
CO5	OP 5 of 7	BB71705192	Stephan SOMOGYI	<i>[Signature]</i>	8/17/16	17:36	<i>[Handwritten Initials]</i>

Optionally leave facility

Step	Activity	Initial	Time (UTC)
34	Optionally, all participants can now leave the room if the room is closed and sealed until everyone's return.	<i>[Handwritten Initials]</i>	17:45


Appendix: W

Smart Card Sign Out Sheet from Key Ceremony 17


DNSSEC Key Ceremony Script

Wednesday, December 14, 2016







Re-Package OP Cards

Step	Activity	Initial	Time (UTC)
32	CA places each OP card with pre-printed warning slip in its own new TEB and reads the TEB number aloud. The EW records each TEB number in the smart card sign out sheet in the EW copy of the script, reading it aloud for verification.		18:38


Re-Distribution of Cards

Step	Activity	Initial	Time (UTC)
33	CA calls each CO to retrieve their smart cards. As each CO receives and inspects their cards, they verify, date and sign the EW's copy of the sign out sheet and the EW initials each entry.		18:42

Smart Card Sign Out Sheet

CO#	Card Type	TEB #	Printed Name	Signature	Date	Time	EW
CO1	OP 1 of 7	BB71705260	Steve FELDMAN		12/14/16	18:42	
CO4	OP 4 of 7	BB71705261	Eric ALLMAN		12/14/16	18:41	
CO7	OP 7 of 7	BB71705262	Gaurab UPADHAYA		12/14/16	18:41	

Optionally leave facility

Step	Activity	Initial	Time (UTC)
34	Optionally, all participants can now leave the room if the room is closed and sealed until everyone's return.		18:44

Appendix: X

Boot-DVD Checksum from Key Ceremony 6

DNSSEC Key Ceremony Script		Friday, July 27, 2012	
16	CA opens a terminal window.	<i>✓</i>	17:18
17	CA verifies the time zone, date, and time on the laptop and synchronizes it if necessary. Display the current time and timezone: <code>date</code> If the timezone is not set to UTC: <code>cd /etc/</code> <code>rm localtime</code> <code>ln -s /usr/share/zoneinfo/UTC localtime</code> Set time to match the wall clock: <code>date mmddHHMMYYYY</code> Verify: <code>date</code>	<i>✓</i>	17:20
18	CA calculates sha256 checksum of the boot-DVD. CA may proceed with additional steps while this process completes. When the checksum is complete, CA reads it aloud, four digits at a time. <code>sha256sum /dev/cdrom</code>	<i>✓</i>	17:34
19	EW records the sixty-four digit boot-DVD checksum <i>7DE4 31F9 C33D 0FEF</i> <i>9089 AB56 13A3 8126</i> <i>208A 3AC1 A784 38A7</i> <i>B9C9 2A4F 52A1 F87C</i> Other participants may compare this with the boot-DVD checksum calculated during Key Ceremony 1, reproduced for convenience in the appendices of this document.	<i>✓</i>	17:34
20	CA connects USB hub to laptop.	<i>✓</i>	17:21
21	CA removes HSMFD KSK-HSM-01B-SJC from TEB and plugs into a free USB slot on the laptop; waits for O/S to recognize the FD. CA lets participants view contents of HSMFD then closes FD window.	<i>✓</i>	17:29

REPEATED CHECKSUMS FOR THE BOOT DVD