

John Gardner

From: John Gardner
Sent: Friday, June 08, 2007 2:15 PM
To: 'jgarcia@Systest.com'
Cc: 'Kerrigan, Kevin'
Subject: Spreadsheet of trusted build
Attachments: hash2hash.xls

Jen, from Kevin's phone call, here are the discrepancy files.

On the excel spreadsheet, "bldhash" is the sheet containing the hash values from the trusted build (Systest disk), "fishcomp" is the sheet containing values from the AutoMARK, and "sheet 1" is the sheet containing the exception files. The files highlighted in yellow are the txt output files from the hash generation software. Since these are known exceptions we can ignore them. The others however are the current issue.

We also have a multitude of questions on what we have received. For example:

- X1) Hash exception listed above; *(SYSTEST TO RESEARCH)*
- 2) Systest provided 2400+ files, yet we've only found 770 on the AutoMARK. Why the discrepancy?
- 3) Files are found in the AutoMARK in folders other than what is in the trusted build. This leads us to believe we have a discrepancy. This needs explanation. *(SYSTEST TO RESEARCH)*
- 4) Systest provided instructions for creating the CAB files, yet the directory structure does not match the instructions. What is the expectation? Is the direction we are receiving to create this CAB File? *(SYSTEST TO RESEARCH)*

Clearly the first item is the most critical on our plate at the moment, putting us in a holding position at this time with the AutoMARK.

Please advise on how we should proceed.

Thank you for your assistance,

John Gardner
 Voting Systems Program Manager
 Colorado Department of State
 1700 Broadway, Suite 270
 Denver, CO 80290
 (o) 303-894-2200 ext. 6318
 (c) 719-243-6344
 (f) 303-869-4861

Meeting on 6/21

- PROVIDED SYSTEST A COPY OF THEIR CD*
- PROVIDED (AFTER DISCUSSION) OF DIRECTORY STRUCTURE & TRUSTED BUILD INSTRUCTIONS FROM HP.*
- BUT SYSTEST TO RESEARCH & REPORT BACK TO CDOS.*

6/21/2007

Michael Chadwell

From: John Gardner
Sent: Monday, June 25, 2007 9:10 AM
To: Flowers, Darwin; Pearson, Steve; Kevin Keelan; Sascha Davis
Cc: Tim Bishop; Geneice Mathews; Michael Chadwell
Subject: RE: Colorado Questions

Darwin, I did not receive Paul Holly's e-mail address with this, but I am forwarding my response to Systest labs and my team on these issues as there is still discrepancies in what the state is being told for this device.

Item #1 – Systest Response: After speaking with Paul Holly from ATS, he confirmed that when an install or upgrade is preformed on

a system, all necessary and/or upgraded files are moved off of the compact flash card onto the hardware memory. All other files that are not needed or haven't changed remain on the flash card.

Unfortunately there is no documentation that specifically states this but he assures us that this is what happens during an install or upgrade

AutoMARK Response: Trusted build files are copied (not moved) off the Compact Flash card during the upgrade process. The files that are used to update the files on the internal memory of the AutoMARK are compressed and stored in the .CAB file on the Compact Flash card. During the upgrade process, files are not moved off the compact flash card, but rather uncompressed and copied to the internal memory of the AutoMARK.

State Comments: We are witnessing the device respond in the same fashion as the Systest response. This causes some concern hearing a different story from the manufacturer – particularly since this is one that we cannot reproduce. We also questioned AutoMARK on the addition of the "nonvolatilelibrary.dll" file to the compact flash after upgrade, which did not originate with the trusted build files. This will still need to be addressed.

Item #2 to AutoMARK – this was not a request for information on the COTS OS files, this was a request to receive the OS files. Since Systest has no documentation of the events that are taking place being expected, and AutoMARK is reporting a different result should be observed all together, the test board would like to receive the OS files on the device and ALL AutoMARK specific files to load onto the device.

Item #3 to AutoMARK – this still has to be observed. Our information so far leads us to believe that the AutoMARK cannot operate without the AutoMARK and AutoMARK Service folders (containing the firmware).

Item #4 – still needs to be addressed through the response of item #1.

I anticipate that you will be working with Paul and his staff on this during the next few days. We are available to discuss this, but since we are on the third attempt with the AutoMARK device, I would propose that a developer from AutoMARK be brought on-site with all of the programs and files that the state needs to complete this trusted build process. As I mentioned on Friday, we are drawing close to a point where we must begin functional testing and move on. This issue will need to be resolved for this to happen. When is the next opportunity for you to make this happen with our office?

In the interim, we have received your OS and COTS disks and are beginning the installation process of those. If all goes well we will have this portion completed today.

Please let me know how you plan to proceed as soon as possible.

Thanks,
John G.

5bc
single
board
computer

Give them a
image of before +
after of CF.

6/27/2007

From: Flowers, Darwin [mailto:dflowers@essvote.com]
Sent: Friday, June 22, 2007 2:25 PM
To: John Gardner
Subject: FW: Colorado Questions

Darwin W. Flowers
State Certification Manager
Election Systems & Software, Inc.
11208 John Galt Blvd.
Omaha, NE, 68132
direct:402-970-1129
toll-free:800-247-8683
fax:402-970-1276

From: Paul Holly
Sent: Friday, June 22, 2007 2:16 PM
To: Sean Brockhouse
Subject: RE: Colorado Questions

Hi Sean,
Darwin is in a huge hurry to get these questions answered. Please forward my answers to Darwin, Steve Pearson, and John Gardner from the state after review.

Thanks

Hi Darwin,

1) The files that are used to update the files on the internal memory of the AutoMARK are compressed and stored in the .CAB file on the Compact Flash card. These files were created during an observed compile conducted in the presence of SysTest. The files were then compressed into the .CAB file also in the presence of SysTest. During the upgrade process, files are not moved off the compact flash card, but rather uncompressed and copied to the internal memory of the AutoMARK. The upgrade contains the files that have changed in the system between 1.0.168 and 1.1.2258. The .cab file is not altered during this process and the same CF card can be used to upgrade additional units. Nonvolatilelibrary.dll is one of the files that changed between the 1.0.168 and 1.1.2258 versions. The version of that DLL in 1.0.168 was 1.0.106, and the version in 1.1.2258 is 1.0.111.

2) There are Operating System files and COTS (Commercial off the shelf) application files that will not be affected by the upgrade process.

3) Once the upgrade is complete, all application files are located in the internal memory of the AutoMARK. During operation of the unit, only election data is located in the Compact Flash card. The application runs from internal memory and uses the election data from the flash card. No applications run from the Compact Flash card.

4 c) Trusted build files are copied (not moved) off the Compact Flash card during the upgrade process. The upgrade files are unaffected, and can be used to update another unit.

Thanks,
Paul Holly

6/27/2007

AutoMARK Technical Systems

From: Flowers, Darwin [mailto:dflowers@essvote.com]
Sent: Fri 6/22/2007 12:01 PM
To: Paul Holly
Cc: Pearson, Steve
Subject: Colorado Questions

Paul,

Below is the list of questions from John Gardner from the CO SOS office concerning the AutoMARK discrepancies. These questions were generated after he read the email from Sascha Davis (SysTest) containing your answers to their original questions:

- 1) We need to understand comment #1 from Sascha stating "files are moved off compact flash card" – one file "nonvolatilelibrary.dll" was added to the flash compare. Why is this?
- 2) Without supporting documentation, the test board needs certain operating system files to load and compare results to the machine.
- 3) We need to understand the relationship of the operating system, application and election data. What is running from the hardware memory and what is running from the compact flash memory?
- 4) If the trusted build files are moved off compact flash, how does this impact uploading other devices with the same compact flash card?

If you can answer these questions ASAP I would appreciate it as I have a feeling more questions are going to be generated. Paul, I really appreciate your help with this situation.

Thanks,

Darwin W. Flowers
State Certification Manager
Election Systems & Software, Inc.
402-970-1129
800-247-8683
Fax:402-970-1275

View a Flash demonstration featuring the *intElect Electronic PollBook* delivered through the PS100:

[<http://www.essvote.com/HTML/products/intElect.html>](http://www.essvote.com/HTML/products/intElect.html).

6/27/2007

Michael Chadwell

From: John Gardner
Sent: Monday, June 25, 2007 11:34 AM
To: Flowers, Darwin
Cc: Tim Bishop; Geneice Mathews; Michael Chadwell; Melanie Stuart
Subject: FW: ES&S Missing COTS/Driver Items

Darwin, can you arrange to have the additional items needed sent to our office, and arrange a time when you would like to move forward with the election management software install.

Thanks,
John G.

From: Geneice Mathews
Sent: Monday, June 25, 2007 11:27 AM
To: John Gardner
Subject: ES&S Missing COTS/Driver Items

John,

I have reinstalled Windows XP, SP2, Adobe Type Manager, COBOL WOW, Omni Drive and Office 2003. I cannot install Acrobat Standard 7.0 and RM COBOL Runtime System v7.50.01 given that there are no security keys supplied for those items. In regards to the ES&S system requirements doc it lists that we need the following items which are missing from the COTS cd we received this morning: Acrobat Distiller 6.0, PC Card Manager/PCM v.1.3 (1.60), Crystal Reports v.9.0, Java 2 Runtime Environment SE, MYSQL 4.1.10a, Pro Ethernet Adapter and Software. I am also missing drivers for the Ethernet Controller, Network Controller, 02 Micro Smart Card Bus Reader, PCI Modem and Video Controller.

Thank you,
Geneice

Geneice Mathews
Voting Systems Technician
Colorado Department of State
1700 Broadway, Ste 270
Denver, CO 80290

6/27/2007

3 SYSTEM IDENTIFICATION

The ES&S Unity 3.0.1.1 Voting System was submitted for qualification testing with the hardware and software listed below.

The ES&S Unity 3.0.1.1 Voting System TDP User/Owner manuals that would be part of the certified system delivered to a purchaser of the system are as follows:

System Maintenance Procedures:

- The iVotronic Voting System Maintenance Manual
- Model 650 Preventative Maintenance Manual v2.1
- Model 100 Precinct Count Preventative Maintenance Manual

System Operation Procedures:

- The iVotronic Voting System Operator's Manual, Version 1.0
- ES&S Model 100 Precinct Ballot Counter Operator's Manual, Version 1.0
- ES&S Model 650 Central Ballot Scanner Operator's Manual, Version 1.0
- Unity Election Data Manager User's Guide, Version 1.0
- ES&S Image Manager User's Guide, Version 7.4 3/2
- Unity iVotronic Image Manager User's Guide, Version 1.0
- Unity Ballot On Line User's Guide, Version 1.2 12/15/2005
- Unity Hardware Programming Manager User's Guide, Version 1.0
- Unity Data Acquisition Manager User's Guide, Version 1.0
- Unity Election Reporting Manager User's Guide, Version 1.0
- Optech Image Manager User's Guide, Version 4.0 3/21
- Limitations of Unity 3.0.1.1 System, 1.0 6/15/2006
- ES&S Compact Flash Multi-Card Reader/Writer Operator's Manual, Version 1.0

The ES&S AutoMARK Voting System TDP User/Owner manuals that would be part of the certified system delivered to a purchaser are as follows:

- AIMS 3010 Sect05 Election Officials Guide AQS-31-500
- AutoMARK Jurisdiction Guide AQS-31-5061-003-R
- AutoMARK Poll Workers Guide AQS-31-5061-002-R
- AutoMARK System Installation and Maintenance Guide AQS-31-5061-001-R
- AutoMARK Voters Guide AQS-31-5061-001-R



v1.1 Dated 6/10/2005
dated 12/15/2005
dated 12/15/2005

106
15.2 11/20/2005
2.1 12/15/2005

2006

105

12/13/2005

part of the certified

F

State of Colorado Voting System Certification Program
TRUSTED BUILD
2007-CDOS-ESS-001-0403

08

3.4 TDP Documents Used to Support Testing

The vendor documents used to support Qualification Testing are listed in Attachment E.

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: *ESS*

Application Date: *04/03/2007*

Test Number

AD1-P3 - 101

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Rule or Statute	2007-CDOS-ESS-001-0403	Test Number
45.4.7	If the EAC does not have a trusted build for the voting system submitted for certification, the voting system provider shall coordinate with the Secretary of State for the establishment of the trusted build. At a minimum this shall include a compilation of files placed on write-once media for which the Secretary of State has observed the chain of custody from time of source code compilation through delivery, and an established hash file distributed from a VSTL or the National Software Reference Library to compare federally certified versions against. All or any part of the Trusted Build disks may be encrypted. They should all be labeled as Proprietary Information if applicable and with identification of the vendor and release version based on the vendor's release instructions.	AD1-P3-101
		Test Date
		6/21/2007
		Test End Date Time
		9/10/2007
Cross Reference 1		Test Type (D-R-B)
		Document
		Eq Type
		DRE
		Equipment Model
Cross Reference 2		iVotronic
		Serial number
		N/A
		Manufacturer
		ES & S
Cross Reference 3		

Purpose:

The Purpose of this test is to document and note the verification of the submittal of the trusted build software for the voting device.

Prerequisites:

Instructions for voting system vendors; AD3-P3-301

Test Procedures:

Record, secure and document the receipt of the trusted build from the VSTL/ITA's. Document the steps taken to install and verify the trusted build files.

Variances Used During Testing:

N/A

Test Expected Outcome

The voting system provider shall submit all items necessary for the creation and installation of files contained in the "trusted build" that is received from the VSTL or other source if applicable.

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

Continue to next
page...

Test Log

[illegible]

Attachments

No



Yes ☐

☐

No

☐

Yes ☒

☒

No

9 ☒

Yes ☐

[illegible]

See extensive video record from date and TB.

Acceptable Compensating Controls

Results Summary

The voting system meets the test requirements.

Final Test Status

PASS

1st Review

Geneice Mathews

Printed name

2nd Review

Михаил Л. Скорыкин

Printed name

Supervisor Approval

John Gardner

Printed name

Signature

Signature

9-12-07
Date

Date _____

Michael G. Bradwell
Signature

Signature

9.15.07
Date

Date _____

Signature

Signature

7/7/07
Date

Date _____

Additional Observations and Findings

Observations:

AD1 103
See notes on AD1-P3-103. Also, refer to extensive video collection and attachments in binders 8a-8c. The testing board received the software necessary for the voting system component.

Findings:

The voting system meets the test requirements.

1st Review

Geneice Mathews

Printed name


Signature

9-12-07
Date

2nd Review

Michael D. Chadwell
Printed name


Signature

9-15-07
Date

Supervisor Approval

John Gardner

Printed name


Signature

9/17/07
Date

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: **ESS**

Application Date: **04/03/2007**

Test Number

AD1-P3 - 102

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Rule or Statute	2007-CDOS-ESS-001-0403	Test Number
45.5.2.3.11	The trusted build of the voting system software, installation programs, and third party software (such as operating systems, drivers, etc.) used to install or to be installed on voting system devices shall be distributed on a write-once media.	AD1-P3-102
		Test Date
		6/21/2007
		Test End Date/Time
		9/10/2007
		Test Type (D, F, B)
		Functional
		Eq Type
		DRE
		Equipment Model
		IVotronic
		Serial number
		N/A
		Manufacturer
		ES & S

Purpose:

The Purpose of this test is to document and note the verification of the submittal of the trusted build software for the voting device.

Prerequisites:

Instructions for voting system vendors.

Test Procedures:

Record, secure and document the receipt of the trusted build from the VSTL/ITA's. Document the steps taken to install and verify the trusted build files.

Variances Used During Testing:



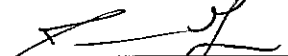
N/A

Test Expected Outcome

Any distribution of media used specifically for installing voting system is write-once only.

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

Continue to next
page..

1st Review		2nd Review		Supervisor Approval	
Geneice Mathews		Michael L. Chiswell		John Gardner	
Printed name		Printed name		Printed name	
					
Signature		Signature		Signature	
9-12-07		9-15-07		9/17/07	
Date		Date		Date	

Additional Observations and Findings

Observations:

See notes on ~~AD1-P3-101~~^{AD1 103}. Also, refer to extensive video collection and attachments in binders 8a-8c. The testing board received the software on write-once media for the trusted build.

Findings:

The voting system meets the test requirements.

1st Review

Geneice Mathews

Printed name


Signature

7/12/07
Date

2nd Review

Michael L. Chodura
Printed name


Signature

7/15/07
Date

Supervisor Approval

John Gardner

Printed name


Signature

9/17/07
Date

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: *ESS*

Application Date: *04/03/2007*

Test Number

AD1-P3 - 103

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Rule or Statute	2007-CDOS-ESS-001-0403	Test Number
45.5.2.3.12	The voting system shall allow the system administrative account to verify that the software installed is the certified software by comparing it to the trusted build or other reference information.	AD1-P3-103
		Test Date
		6/21/2007
		Test End Date/Time
		9/10/2007
Cross Reference 1		Test Type (D/F/B)
		Functional
Cross Reference 2		Eq Type
		DRE
Cross Reference 3		Equipment Model
		iVotronic
		Serial number
		N/A
		Manufacturer
		ES & S

Purpose:

The Purpose of this test is to verify the version of the trusted build once the installation process is complete.

Prerequisites:

Instructions from voting system vendors.

Test Procedures:

Document the process and findings of installation and verification of the trusted build software.

Variances Used During Testing:

N/A

Test Expected Outcome

System Administrative account has permissions to allow verification of trusted build against installed build.

SUPPORTED FILE TYPES

- .HEX
- .S
- .BIN
- .POF

IVOTRONIC.

9.1.6.2

firm - 2 files on trusted BOLD.

AR - have to use for Recovery.

VERIFIED HASH VALUES OF BOTH FILES.

USED CF. - first damaged to 9.1.6.0
verified we had 9162 first.

P
(CF, then PER)

Service/ship.

SVC SVC - Setup & Config

- CLEAR & test. -> erase votes.

CLEAR & Test

CLC CLR

AFTER CLEARING, FIRMWARE IS AVAILABLE.

FIRMWARE

ULF ULF (UP LOAD FIRMWARE)

MULTIPLE FIRMWARE IS ON EACH CARD.

Verify - Hold Vote button & PER
Remove PER
CLEAR ERROR

(NO METHOD OF
VERIFYING FIRMWARE
THUS TO LOAD
New firmware from
Trusted BOLD COPY)

Verify firmware date & time stamp.

7/7/06 08:30AM - created
DATE.

TURN ON RTA

FIRMWARES ARE ALWAYS 6 DIGITS

OVERLAP -> ESS ESS

COMPACT FLASH W/
FIRMWARE DOES NOT
stay in IVOTRONIC
- slot must be sealed
however

↑ PROGRAM IN EDM.

Test Log

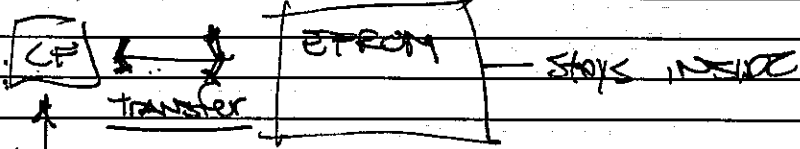
The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

Date	Time	Operator	Activities & Test Results	Incident Report
			1. S.O.S.P	
			2. 2007 6-25-07 CO STATE - UNIT	
			3. 1st 200 200 200 200	
			4. 11/16/07	
			5. 11/16/07	
			6. 11/16/07	
			7. 11/16/07	
			8. 11/16/07	
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			97. 11/16/07	
			98. 11/16/07	
			99. 11/16/07	
			100. 11/16/07	

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Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

Date	Time	Operator	Activities and Entries	Incident Reports
		<u>NON ADA</u>	<u>3 button 15"</u>	<u>4 button 15"</u>
		ONE	ONE	ONE
		4WD		TWO
		L	ser#: <u>U5133649</u>	<u>Supervisor</u>
			2	ONE
			HAS screen issues - LEFT SIDE DARKER than RIGHT SIDE.	
6/21	9:25		LOADING: V5148460 WITH AR FIRMWARE.	
			ONE raw file makes up the trusted boot for the uBtronic.	
			* Refresher *	
			- HAVE to downgrade first because firmware gets transferred from CF to EPROM. (SOLDERED MEMORY BANK on MB of Device.)	
				
			CAN BE REMOVED.	
			- TEST BOARD to Verify through testing & Schematics the DATA on the three Removable chips.	
			<p>HAD to use paperclip to press (or wire seal) to Reboot Machine. (Photo Attached)</p> <p>Press firmware & sys service</p> <p>U/F, U/F</p> <p>LOAD from COMPACT flash.</p> <p>Downgraded to 9140-AR firmware.</p> <p>(Placed in temp storage) ?</p>	
			<p>FIRST ATTEMPT FAILED AFTER 3 minutes - started over & worked fine.</p> <p>Then removed PCB & Machine Cried.</p> <p>Firmware files to ONBOARD MEMORY.</p>	

Continue to next page...

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

[illegible]

Continue to next
page...

Test Log

[illegible]

Attachments

Documents
(list all documents)

No



Yes ☐

7

Videos
(list all videos)

No

1

Yes ☒

Д

Photos
(list all photos)

No

7

Yes ☒

S 

See extensive video record from date and TB.

See attached.

Acceptable Compensating Controls

Results Summary

The voting system failed to meet the requirements.

Final Test Status

FAIL

1st Review

Geneice Mathews

Printed name


Signature

9-12-58
Date

2nd Review

Michael L. Chowder
Printed name

Printed name _____

Signature Michael G. Chadwell Date 9.15.07

Date _____

Supervisor Approval

John Gardner

Printed name


Signature

Signature

9/17/06
Date

Additional Observations and Findings

Observations:

See notes in test log. The voting system provider supplied the firmware for installation and the load requires an administrative level password. The testing board was unable to satisfactorily verify the installed software and was only able to perform a load of the trusted build.

Findings:

The voting system failed to meet the requirements.

1st Review

Geneice Mathews

Printed name


Signature

9-12-07
Date

2nd Review

Michael L. Caldwell
Printed name


Signature

9-12-07
Date

Supervisor Approval

John Gardner

Printed name


Signature

9/17/07
Date

FD-103103



AP0606020888 MADE IN CHINA

Reset



V5148460-2

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: *ESS*

Application Date: *04/03/2007*

Test Number

AD1-P3 - 104

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Rule or Statute	2007-CDOS-ESS-001-0403	Test Number
45.6.2.1.3	The proprietary software shall be installed on the workstation/server and all applicable voting system components by the testing board following the verification of the trusted build, and using the procedures provided by the voting system provider. After installation, the software and firmware shall be verified to the trusted build hash values.	AD1-P3-104
Cross Reference 1		Test Date
		6/21/2007
Cross Reference 2		Test End Date/Time
		9/10/2007
Cross Reference 3		Test Type (D/F/B)
		Functional
		Eq Type
		DRE
		Equipment Model
		iVotronic
		Serial number
		N/A
		Manufacturer
		ES & S

Purpose:

The Purpose of this test is to verify the version of the trusted build once the installation process is complete.

Prerequisites:

Instructions from voting system vendors.

Test Procedures:

Document the process and findings of installation and verification of the trusted build software.

Variances Used During Testing:

N/A

Test Expected Outcome

The testing board members successfully installed the "Trusted Build".

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

Continue to next
page...

Test Log

[illegible]

Attachments

No ☐ *Yes* ☐

No ☐ Yes ☒

No ☐ Yes ☒

See attached to AD1-P3-101.

Acceptable Compensating Controls

Results Summary

The voting system failed to meet the requirements.

Final Test Status

FAIL

1st Review

Geneice Mathews

Printed name

2nd Review

Michael L. Crowell

Printed name

Supervisor Approval

John Gardner


Printed name

Gr. Mitt
Signature

9-12-07
Date

Michael G. Chadwell
Signature

9.15.07
Date


Signature

9/17/07
Date

Additional Observations and Findings

Observations:

See notes in test log. The voting system provider supplied the firmware for installation and the load requires an administrative level password. The testing board was unable to satisfactorily verify the installed software and was only able to perform a load of the trusted build.

Findings:

The voting system failed to meet the requirements.

1st Review

Geneice Mathews

Printed name

2nd Review

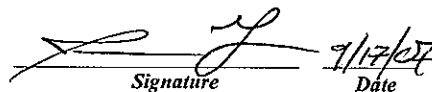
Michael L. Cudwell

Printed name

Supervisor Approval

John Gardner

Printed name


Signature9-12-07
Date
Signature9.15.07
Date
Signature9/17/07
Date

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: *ESS*

Application Date: *04/03/2007*

Test Number

AD1-P3 - 105

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2007-CDOS-ESS-001-0403		Test Number
Rule or Statute 45.4.6	If the EAC has established a trusted build for the system submitted for certification, the trusted build shall be provided by the EAC. The voting system provider shall execute and submit to the EAC any necessary releases for the EAC to provide the same, and shall provide the Secretary of State's Office with a copy of such executed releases. In addition, the voting system provider shall submit all documentation and instructions necessary for the creation of and guided installation of files contained in the "trusted build" which will be created at the start of functional testing and will be the model tested against. The Secretary of State reserves the right to add additional instructions or guidance for the use of the trusted build when initiating the chain of custody process for a jurisdiction using the specified equipment.	AD1-P3-105
Cross Reference 1		Test Date 6/21/2007
Cross Reference 2		Test End Date/Time 9/10/2007
Cross Reference 3		Test Type (D/F/B) Document
		Eq Type DRE
		Equipment Model iVotronic
		Serial number N/A
		Manufacturer ES & S

Purpose:

N/A

Prerequisites:

N/A

Test Procedures:

N/A

Variances Used During Testing:

N/A

Test Expected Outcome

The voting system provider shall submit all items necessary for the creation and installation of files contained in the "trusted build" that is received from the EAC if applicable.

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

Continue to next page...

Additional Observations and Findings

Observations:

N/A

Findings:

The test is not applicable for the voting device, as the EAC does not yet have a trusted build developed for the system.

1st Review

Geneice Mathews

Printed name

2nd Review

Michelle L. Chadwell

Printed name

Supervisor Approval

John Gardner

Printed name

Signature

Date

9-12-07

Signature

Date

Michelle L. Chadwell

9-15-07

Signature

Date

John Gardner

9/17/07

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: *ESS*

Application Date: *04/03/2007*

Test Number

AD2-P3 - 201

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Rule or Statute	2007-CDOS-ESS-001-0403	Test Number
45.5.2.3.12	The voting system shall allow the system administrative account to verify that the software installed is the certified software by comparing it to the trusted build or other reference information.	AD2-P3-201
		Test Date
		6/21/2007
		Test End Date/Time
		9/10/2007
Cross Reference 1		Test Type (D/F/B)
		Functional
Cross Reference 2		Eq Type
		PCOS
Cross Reference 3		Equipment Model
		M100
		Serial number
		N/A
		Manufacturer
		ES & S

Purpose:

The Purpose of this test is to verify the version of the trusted build once the installation process is complete.

Prerequisites:

Instructions for voting system vendors.

Test Procedures:

Document the process and findings of installation and verification of the trusted build software.

Variances Used During Testing:

N/A

Test Expected Outcome

System Administrative account has permissions to allow verification of trusted build against installed build.

Additional Observations and Findings

Observations:

One - CD PROVIDED BY SYSTEST LABS -
UNENCRYPTED.

— ONE FILE WITH ALL HASH VALUES PROVIDED BY ITA

MICO - 3 FILES - PCM/HEX - VERIFIED HASH.

uses -
PC CARD MANAGER.

(SHAREWARE/FREEMWARE)
1.30 (FROM DOCUMENTATION).

PCMCIA FLASH TO UPGRADE MACHINE.

— 1st ATTEMPT - USED 505 BLANK PCMCIA CARD - COPIED HASH
FILES ON TO CARD.

Findings:

MICO HAS NO WAY TO VERIFY FIRMWARE, CAN ONLY LOAD
FIRMWARE. (HASH OR CHECKSUM)

- Received Downgraded firmware (1 file) to verify install
of new version.

. Hex (serial conversion.)

. PCM (PCMCIA) - USE PART ON FRONT.

① Downgrade device - INSERT FLASH CARD W/ 5.2.0.0,

② upgrade to trusted build version 5.2.1.0

USE PCM FILE

(SEE NOTES IN 202)

FILE TO CHECK

(USE PC CARD
MANAGER;
CHECK TWO
BOXES)

→ ALSO, HAVE TO
USE OMNI-DRIVE

1st Review

2nd Review

Supervisor Approval

Printed name

Printed name

Printed name

Signature

Date

Signature

Date

Signature

Date

— : 184) 10/10/10 at 10/10/10 CD
UNIVERSITY

and 10/10/10 10/10/10 10/10/10 10/10/10

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Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

[illegible]

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

[illegible]

Additional Observations and Findings

Observations:

See notes on test logs, the voting system prevented the testing board from verifying the version of the firmware installed on the system. The testing board can only load the trusted build on a device.

(BY WAY OF HASH OR CHECKSUM VALUES) *done*

Findings:

The voting system does not meet the test requirements.

1st Review

Geneice Mathews

Printed name

Gene Mathews
Signature

5-12-07
Date

2nd Review

Michael L. Chisholm
Printed name

Michael L. Chisholm
Signature

9-15-07
Date

Supervisor Approval

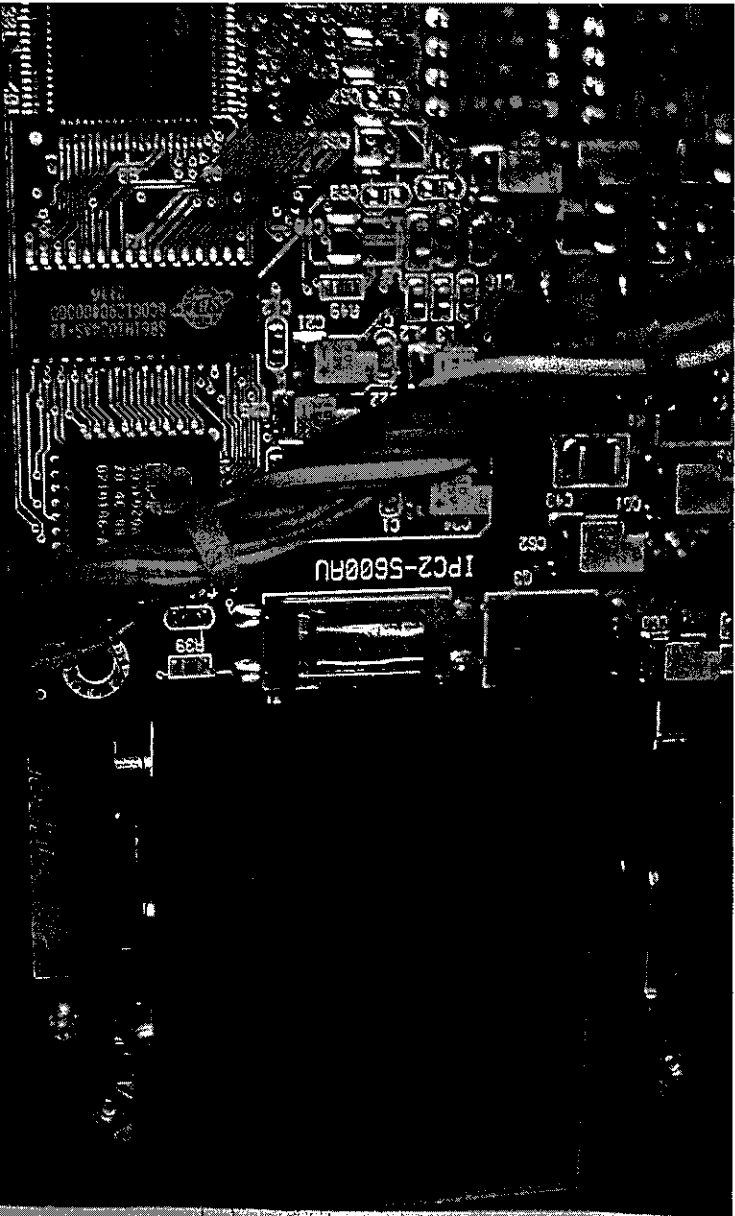
John Gardner

Printed name

[Signature]
Signature

9/17/07
Date

ESTS T.B. 6-7-2007



CPU 386 CPU speed 361
CPU total memory 3112K
Application memory 2384K
Communication utilities N/A available

*** Initial State Report ***
16:06:50 06/07/2007

Firmware Version: 5.2.0.0
Machine ID: 3075998002
Execution Definition Not loaded

CPU 386 CPU speed 361
CPU total memory 3112K
Application memory 2384K
Communication utilities N/A available



ES+S T.B. 6-7-07

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: **ESS**

Application Date: **04/03/2007**

Test Number

AD2-P3 - 202

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Rule or Statute	2007-CDOS-ESS-001-0403	Test Number
45.5.2.3.11	The trusted build of the voting system software, installation programs, and third party software (such as operating systems, drivers, etc.) used to install or to be installed on voting system devices shall be distributed on a write-once media.	AD2-P3-202
Cross Reference 1		Test Date
		6/21/2007
Cross Reference 2		Test End Date/Time
		9/10/2007
Cross Reference 3		Test Type (D/F/B)
		Functional
		Eq Type
		PCOS
		Equipment Model
	M100	
	Serial number	
	N/A	
	Manufacturer	
	ES & S	

Purpose:

The Purpose of this test is to document and note the verification of the submittal of the trusted build software for the voting device.

Prerequisites:

Instructions for voting system vendors.

Test Procedures:

Record, secure and document the receipt of the trusted build from the VSTL/ITA's. Document the steps taken to install and verify the trusted build files.

Variances Used During Testing:

N/A

Test Expected Outcome

Any distribution of media used specifically for installing voting system is write-once only.

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

Continue to next
page...

[illegible]

Documents
(list all documents)

No

☐

Yes ☐

7

Videos
(list all videos)

No

1

Yes ☒

[illegible]

Photos
(list all photos)

No

1

Yes ☐

7

See extensive video from date and Trusted build.

Acceptable Compensating Controls

Results Summary

The voting system meets the test requirements.

Final Test Status

PASS

1st Review

Geneice Mathews

Printed name

2nd Review

Michael L. Crawford

Printed name

Supervisor Approval

John Gardner

Printed name

Signature

Date _____

Signature

Date _____

Signature

Date _____

Additional Observations and Findings

Observations:

See notes on Ad2-P3-201. The voting system providers submitted the trusted build files as required.

Findings:

The voting system meets the test requirements.

1st Review

Geneice Mathews

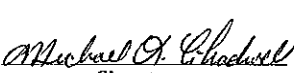
Printed name


Signature

2nd Review

Michael L. Chadwell

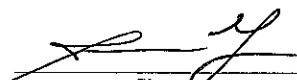
Printed name

9-12-07  9.15.07
Date Signature Date

Supervisor Approval

John Gardner

Printed name

 9/17/07
Signature Date

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: **ESS**

Application Date: **04/03/2007**

Test Number

AD2-P3 - 203

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Rule or Statute	2007-CDOS-ESS-001-0403	Test Number
45.4.7	If the EAC does not have a trusted build for the voting system submitted for certification, the voting system provider shall coordinate with the Secretary of State for the establishment of the trusted build. At a minimum this shall include a compilation of files placed on write-once media for which the Secretary of State has observed the chain of custody from time of source code compilation through delivery, and an established hash file distributed from a VSTL or the National Software Reference Library to compare federally certified versions against. All or any part of the Trusted Build disks may be encrypted. They should all be labeled as Proprietary Information if applicable and with identification of the vendor and release version based on the vendor's release instructions.	AD2-P3-203
		Test Date
		6/21/2007
		Test End Date/Time
		9/10/2007
		Test Type (D/F/B)
		Document
		Eq Type
		PCOS
		Equipment Model
	M100	
	Serial number	
	N/A	
	Manufacturer	
	ES & S	

<p><u>Purpose:</u></p> <p>The Purpose of this test is to document and note the verification of the submittal of the trusted build software for the voting device.</p>	<p><u>Prerequisites:</u></p> <p>Instructions for voting system vendors.</p>
<p><u>Test Procedures:</u></p> <p>Record, secure and document the receipt of the trusted build from the VSTL/ITA's. Document the steps taken to install and verify the trusted build files.</p>	<p><u>Variances Used During Testing:</u></p> <p>N/A</p>
<p><u>Test Expected Outcome</u></p> <p>The voting system provider shall submit all items necessary for the creation and installation of files contained in the "trusted build" that is received from the VSTL or other source if applicable.</p>	

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

Continue to next
page...

Test Drive

[illegible]

Attachments

Documents
(list all documents)

No ☐

Yes ☐

Videos
(list all videos)

No ☐

Yes ☐

Photos
(list all photos)

No ☐

Yes ☐

See extensive video from date and Trusted build.

Acceptable Compensating Controls

Results Summary

The voting system meets the test requirements.

Final Test Status

PASS

1st Review

Geneice Mathews

Printed name

2nd Review

Michael L. Cummings

Printed name

Supervisor Approval

John Gardner

Printed name


Signature

9-12-07
Date

Michael D. Chudwell
Signature

9.15.07
Date


Signature

9/17/05
Date

Additional Observations and Findings

Observations:

See notes on Ad2-P3-201. The voting system providers submitted the trusted build files as required.

Findings:

The voting system meets the test requirements.

1st Review

Geneice Mathews

Printed name


Signature

9/12/07
Date

2nd Review

Michael L. Chandler
Printed name


Signature

9/15/07
Date

Supervisor Approval

John Gardner

Printed name


Signature

9/17/07
Date

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: *ESS*

Application Date: *04/03/2007*

Test Number

AD2-P3 - 204

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<i>Rule or Statute</i>	2007-CDOS-ESS-001-0403	<i>Test Number</i>
45.6.2.1.3	The proprietary software shall be installed on the workstation/server and all applicable voting system components by the testing board following the verification of the trusted build, and using the procedures provided by the voting system provider. After installation, the software and firmware shall be verified to the trusted build hash values.	AD2-P3-204
		<i>Test Date</i>
		6/21/2007
		<i>Test End Date/Time</i>
		9/10/2007
<i>Cross Reference 1</i>		<i>Test Type (D/F/B)</i>
		Functional
<i>Cross Reference 2</i>		<i>Eq Type</i>
		PCOS
<i>Cross Reference 3</i>		<i>Equipment Model</i>
		M100
		<i>Serial number</i>
		N/A
		<i>Manufacturer</i>
		ES & S

Purpose:

The Purpose of this test is to verify the version of the trusted build once the installation process is complete.

Prerequisites:

Instructions for voting system vendors.

Test Procedures:

Document the process and findings of installation and verification of the trusted build software.

Variances Used During Testing:

N/A

Test Expected Outcome

The testing board members successfully installed the "Trusted Build".

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

[illegible]

2007-CDOS-ESS-001-0403

Test Number

AD2-P3 - 204

Test Log

Activities and Entries

Incident Reports

[illegible]

Attachments

Documents
(list all documents)

No

Yes ☐

Videos
(list all videos)

No ☐



Yes ☒



Photos
(list all photos)

No ☒



Yes ☐

See extensive video from date and Trusted build.

See attached.

Acceptable Compensating Controls

Results Summary

The voting system does not meet the requirements.

Final Test Status

FAIL

1st Review

Geneice Mathews

Printed name

2nd Review

Michael L. Conway

Printed name _____

Supervisor Approval

John Gardner

Printed name

Signature

Date _____

Signature

Date _____

Signature

Date _____

Additional Observations and Findings

Observations:

See notes on test logs for AD2-P3-201, the voting system prevented the testing board from verifying the version of the firmware installed on the system. The testing board can only load the trusted build on a device.

(BY WAY OF HASH OR CHECKSUM VALUES) *Good*

Findings:

The voting system does not meet the test requirements.

1st Review

Geneice Mathews

Printed name

2nd Review

Michael L. Chowell

Printed name

Supervisor Approval

John Gardner

Printed name

Geneice Mathews

Signature

9/12/07

Date

Michael L. Chowell

Signature

9/15/07

Date

John Gardner

Signature

9/17/07

Date

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: **ESS**

Application Date: **04/03/2007**

Test Number

AD2-P3 - 205

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Rule or Statute	2007-CDOS-ESS-001-0403	Test Number
45.4.6	<p>If the EAC has established a trusted build for the system submitted for certification, the trusted build shall be provided by the EAC. The voting system provider shall execute and submit to the EAC any necessary releases for the EAC to provide the same, and shall provide the Secretary of State's Office with a copy of such executed releases. In addition, the voting system provider shall submit all documentation and instructions necessary for the creation of and guided installation of files contained in the "trusted build" which will be created at the start of functional testing and will be the model tested against. The Secretary of State reserves the right to add additional instructions or guidance for the use of the trusted build when initiating the chain of custody process for a jurisdiction using the specified equipment.</p>	AD2-P3-205
Cross Reference 1		Test Date
		6/7/2007
Cross Reference 2		Test End Date/Time
		9/10/2007
Cross Reference 3		Test Type (D,F,B)
		Document
		Eq Type
	PCOS	
	Equipment Model	
	M100	
	Serial number	
	N/A	
	Manufacturer	
	ES & S	

<p><u>Purpose:</u></p> <p>N/A</p>	<p><u>Prerequisites:</u></p> <p>N/A</p>
<p><u>Test Procedures:</u></p> <p>N/A</p>	<p><u>Variances Used During Testing:</u></p> <p>N/A</p>
<p><u>Test Expected Outcome</u></p> <p>The voting system provider shall submit all items necessary for the creation and installation of files contained in the "trusted build" that is received from the EAC if applicable.</p>	

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

Continue to next
page...

Test Number

AD2-P3 - 205

Test Log

[illegible]

Attachments

Documents
(list all documents)

No

☒

Yes ☐

☐

Videos
(list all videos)

No



Yes ☐

7

Photos
(list all photos)

No

2. ☒ 1

Yes ☐

7

Acceptable Compensating Controls

Results Summary

The test is not applicable for the voting device.

Final Test Status

N/A

1st Review

Geneice Mathews

Printed name

2nd Review

Michael L. Chodwicz

Printed name

Supervisor Approval

John Gardner

Printed name


Signature

Signature

9-12-07


Date _____

Michael J. Phadwell
Signature

Signature

9.15.02

Date _____


Signature

Signature

9/17/07
Date

Dht

Additional Observations and Findings

Observations:

N/A

Findings:

The test is not applicable for the voting device, as the EAC does not yet have a trusted build developed for the system.

1st Review

Geneice Mathews

Printed name


Signature

9/12/07
Date

2nd Review

Michael L. Chodwell

Printed name


Signature

9.15.07
Date

Supervisor Approval

John Gardner

Printed name


Signature

9/17/07
Date

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: *ESS*

Application Date: *04/03/2007*

Test Number

AD3-P3 - 301

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<i>Rule or Statute</i>	2007-CDOS-ESS-001-0403	<i>Test Number</i>
45.5.2.3.12	The voting system shall allow the system administrative account to verify that the software installed is the certified software by comparing it to the trusted build or other reference information.	AD3-P3-301
		<i>Test Date</i>
		6/21/2007
		<i>Test End Date/Time</i>
		9/10/2007
<i>Cross Reference 1</i>		<i>Test Type (D/R/B)</i>
		Functional
<i>Cross Reference 2</i>		<i>Eq Type</i>
		CCOS
<i>Cross Reference 3</i>		<i>Equipment Model</i>
		M650
		<i>Serial Number</i>
		N/A
		<i>Manufacturer</i>
		ES & S

Purpose:

The Purpose of this test is to verify the version of the trusted build once the installation process is complete.

Prerequisites:

Instructions for voting system vendors.

Test Procedures:

Document the process and findings of installation and verification of the trusted build software.

Variances Used During Testing:

N/A

Test Expected Outcome

System Administrative account has permissions to allow verification of trusted build against installed build.

Test Loop

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

[illegible]

Continue to next
page...

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

[illegible]

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

[illegible]

Additional Observations and Findings

Observations:

See notes in test log. Aside from not having an "administrative account" on the device, the voting system did not allow the testing board to satisfactorily verify the firmware that was loaded on the voting device. The testing board was able to load the firmware; however.

(BY WAY OF HASH OR CHECKSUM VALUES) elad

Findings:

The voting system fails to meet this requirement.

1st Review

Geneice Mathews

Printed name

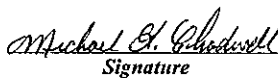

Signature

9-12-07
Date

2nd Review

Michael L. Cundnell

Printed name


Signature

9-15-07
Date

Supervisor Approval

John Gardner

Printed name


Signature

9/17/07
Date

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: *ESS*

Application Date: *04/03/2007*

Test Number

AD3-P3 - 302

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Rule or Statute	2007-CDOS-ESS-001-0403	Test Number
45.6.2.1.3	The proprietary software shall be installed on the workstation/server and all applicable voting system components by the testing board following the verification of the trusted build, and using the procedures provided by the voting system provider. After installation, the software and firmware shall be verified to the trusted build hash values.	AD3-P3-302
		Test Date
		6/21/2007
		Test End Date/Time
		9/10/2007
		Test Type (D/F/B)
		Functional
		Eq Type
		CCOS
		Equipment Model
		M650
		Serial number
		N/A
		Manufacturer
		ES & S

Purpose:

The Purpose of this test is to verify the version of the trusted build once the installation process is complete.

Prerequisites:

Instructions for voting system vendors.

Test Procedures:

Document the process and findings of installation and verification of the trusted build software.

Variances Used During Testing:

N/A

Test Expected Outcome

The testing board members successfully installed the "Trusted Build".

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

[illegible]

Incident Reports

Additional Observations and Findings

Observations:

See notes in test log. Aside from not having an "administrative account" on the device, the voting system did not allow the testing board to satisfactorily verify the firmware that was loaded on the voting device. The testing board was able to load the firmware; however.

(BY WAY OF HASH OR CHECKSUM VALUES) *clad*

Findings:

The voting system fails to meet this requirement.

1st Review

Geneice Mathews

Printed name

Geneice Mathews
Signature

9-12-07
Date

2nd Review

Michael H. Cunningham

Printed name

Michael H. Cunningham
Signature

9.15.07
Date

Supervisor Approval

John Gardner

Printed name

John Gardner
Signature

9/17/07
Date

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: *ESS*

Application Date: *04/03/2007*

Test Number

AD3-P3 - 303

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2007-CDOS-ESS-001-0403		Test Number
Rule or Statute 45.4.6	If the EAC has established a trusted build for the system submitted for certification, the trusted build shall be provided by the EAC. The voting system provider shall execute and submit to the EAC any necessary releases for the EAC to provide the same, and shall provide the Secretary of State's Office with a copy of such executed releases. In addition, the voting system provider shall submit all documentation and instructions necessary for the creation of and guided installation of files contained in the "trusted build" which will be created at the start of functional testing and will be the model tested against. The Secretary of State reserves the right to add additional instructions or guidance for the use of the trusted build when initiating the chain of custody process for a jurisdiction using the specified equipment.	AD3-P3-303
Cross Reference 1		Test Date 6/7/2007
Cross Reference 2		Test End Date/Time 9/10/2007
Cross Reference 3		Test Type (D/F/B) Document
		Eq Type CCOS
		Equipment Model M650
		Serial number N/A
		Manufacturer ES & S

<u>Purpose:</u> N/A	<u>Prerequisites:</u> N/A
<u>Test Procedures:</u> N/A	<u>Variances Used During Testing:</u> N/A
<u>Test Expected Outcome</u> The voting system provider shall submit all items necessary for the creation and installation of files contained in the "trusted build" that is received from the EAC if applicable.	

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

Continue to next
page...

Activities and Entries

Incident Reports

[illegible]

Attachments

No

Yes ☐

7

No

1

Yes ☐

7

No

□

Yes ☐

7

Acceptable Compensating Controls

Final Test Status

N/A

Supervisor Approval

Michael L. Chow

John Gardner

Printed name

Printed name _____

Signature

Date _____

Signature

Date _____

Signature

Date _____

Additional Observations and Findings

Observations:

N/A

Findings:

The test is not applicable for the voting device, as the EAC does not yet have a trusted build developed for the system.

1st Review

Geneice Mathews

Printed name

Signature

9-12-07
Date

2nd Review

Michael L. Chadwell

Printed name

Signature

9-15-07
Date

Supervisor Approval

John Gardner

Printed name

Signature

9/17/07
Date

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: *ESS*

Application Date: *04/03/2007*

Test Number

AD3-P3 - 304

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Rule or Statute	2007-CDOS-ESS-001-0403	Test Number
45.4.7	If the EAC does not have a trusted build for the voting system submitted for certification, the voting system provider shall coordinate with the Secretary of State for the establishment of the trusted build. At a minimum this shall include a compilation of files placed on write-once media for which the Secretary of State has observed the chain of custody from time of source code compilation through delivery, and an established hash file distributed from a VSTL or the National Software Reference Library to compare federally certified versions against. All or any part of the Trusted Build disks may be encrypted. They should all be labeled as Proprietary Information if applicable and with identification of the vendor and release version based on the vendor's release instructions.	AD3-P3-304
		Test Date
		6/21/2007
		Test End Date/Time
		9/10/2007
		Test Type (D,F,B)
		Document
Cross Reference 1		Eq Type
		CCOS
Cross Reference 2		Equipment Model
		M650
Cross Reference 3		Serial number
		N/A
		Manufacturer
		ES & S

Purpose:

The Purpose of this test is to document and note the verification of the submittal of the trusted build software for the voting device.

Prerequisites:

Instructions for voting system vendors.

Test Procedures:

Record, secure and document the receipt of the trusted build from the VSTL/ITA's. Document the steps taken to install and verify the trusted build files.

Variances Used During Testing:

N/A

Test Expected Outcome

The voting system provider shall submit all items necessary for the creation and installation of files contained in the "trusted build" that is received from the VSTL or other source if applicable.

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

Continue to next
page...

TestLog

[illegible]

Attachments

Documents
(list all documents)

 N_0 

Yes



Videos
(list all videos)

No



Yes



Photos
(list all photos)

No



Ye



See extensive video from date and trusted build.

Acceptable Compensating Controls

Results Summary

The voting system meets the test requirements.

Final Test Status

PASS

1st Review

Geneice Mathews

Printed name

2nd Review

Michael L. Caswell

Printed name

Supervisor Approval

John Gardner

Printed name

Signature

Date _____

Signature

Date _____

Signature

Dad

Additional Observations and Findings

Observations:

See notes in test log for AD3-P3-301. The voting system provider supplied the secured trusted build from the VSTL to the testing board.

Findings:

The voting system meets the test requirements.

1st Review

Geneice Mathews

Printed name

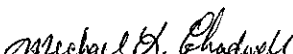

Signature

7/12/07
Date

2nd Review

Michael H. Chadwell

Printed name


Signature

9.15.07
Date

Supervisor Approval

John Gardner

Printed name


Signature

9/17/07
Date

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: **ESS**

Application Date: **04/03/2007**

Test Number

AD3-P3 - 305

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Rule or Statute	2007-CDOS-ESS-001-0403	Test Number
45.5.2.3.11	The trusted build of the voting system software, installation programs, and third party software (such as operating systems, drivers, etc.) used to install or to be installed on voting system devices shall be distributed on a write-once media.	AD3-P3-305
		Test Date
		6/21/2007
		Test End Date/Time
		9/10/2007
Cross Reference 1		Test Type (D/F/B)
		Functional
Cross Reference 2		Eq Type
		CCOS
Cross Reference 3		Equipment Model
	M650	
	Serial number	
	N/A	
	Manufacturer	
	ES & S	

Purpose:

The Purpose of this test is to document and note the verification of the submittal of the trusted build software for the voting device.

Prerequisites:

Instructions for voting system vendors.

Test Procedures:

Record, secure and document the receipt of the trusted build from the VSTL/ITA's. Document the steps taken to install and verify the trusted build files.

Variances Used During Testing:

N/A

Test Expected Outcome

Any distribution of media used specifically for installing voting system is write-once only.

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

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page...

2007-CDOS-ESS-001-0403

Test Number

AD3-P3 - 305

Test Log

[illegible]

Attachments

Documents
(list all documents)

No

☐

Yes ☐

[illegible]

Videos
(list all videos)

No ☐

1

Yes ☒

Photos
(list all photos)

No



Yes

7

See extensive video from date and trusted build.

Acceptable Compensating Controls

Results Summary

The voting system meets the test requirements.

Final Test Status

PASS

1st Review

Geneice Mathews

Printed name

2nd Review

Michael L. Czapewski

Printed name

Supervisor Approval: _____

John Gardner


Printed name _____

Signature

9-12-07
Date

Michael G. Phadvisell
Signature

9.15.07
Date


Signature

9/17/07
Date

Additional Observations and Findings

Observations:

The voting system provider supplied the trusted build on write-once media.

Findings:

The voting system meets the test requirements.

1st Review

Geneice Mathews

Printed name

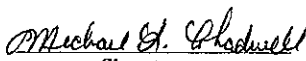

Signature

9-12-07
Date

2nd Review

Michael L. Chadwell

Printed name


Signature

9.15.07
Date

Supervisor Approval

John Gardner

Printed name


Signature

9/17/07
Date

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: *ESS*

Application Date: *04/03/2007*

Test Number

AD4-P3 - 401

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<i>Rule or Statute</i>	2007-CDOS-ESS-001-0403	<i>Test Number</i>
45.6.2.1.3	The proprietary software shall be installed on the workstation/server and all applicable voting system components by the testing board following the verification of the trusted build, and using the procedures provided by the voting system provider. After installation, the software and firmware shall be verified to the trusted build hash values.	AD4-P3-401
		<i>Test Date</i>
		6/21/2007
		<i>Test End Date/Time</i>
		9/10/2007
<i>Cross Reference 1</i>		<i>Test Type (D,F,B)</i>
		Functional
		<i>Eq Type</i>
<i>Cross Reference 2</i>		Software
		<i>Equipment Model</i>
		Unity
<i>Cross Reference 3</i>		<i>Serial number</i>
		N/A
		<i>Manufacturer</i>
		ES & S

Purpose:

The Purpose of this test is to verify the version of the trusted build once the installation process is complete.

Prerequisites:

Instructions for voting system vendors.

Test Procedures:

Document the process and findings of installation and verification of the trusted build software.

Variances Used During Testing:

N/A

Test Expected Outcome

The testing board members successfully installed the "Trusted Build".

Environment		2007-CDOS-ESS-001-0403		Test Number
ction - Voting - Post				AD4-P3 - 401
Test Log				
Date	Time	Operator	Activities and Entries	Incident Reports
06/25/07	8:50	Genevieve	Formatting Drive to install a new fresh install of operating system. Computer name: < ES-FS16851506BA	
	10AM		Loaded new install of Windows XP Professional Version 2002 Service pack 2 INSTALL COTS PROGRAMS	
	10:05		<ul style="list-style-type: none">• Install Adobe 7.0 cannot failed need security key• Adobe Type Manager Added Fonts v4.1 Received error cannot load Word Fonts, have not installed Office yet.• Office 2003 (have product key).• Adobe Reader 2.0.2• COBOL NOW RT v 3.12 installed• RM COBOL RT v 7.501 failed need security key.• Omni Drive USB Professional	
06/29/07	09:00	Genevieve/Citro	to reestablish baseline of EMS Service/Workstation, the laptop is reformatted and the OS/COTS reinstalled WINDOWS XP: KEY: MW83T-MTYHT-6DTGT-PWT2J-K3WUWJ	
	10:21		<ul style="list-style-type: none">- Adobe 7.0 Install, Complete install gives in directions, Activate via telephone received the following activation key after calling: 5857-2760-4345-0121-5933- Loading Office ²⁰⁰³ using key MKG74-BJ37J-3WZPK-VG9RF-QUWHLW- ADOBE TYPE MGR Lite 4.1 - INCOMPLETE ON FONTS (FONTS IN DIFFERENT FOLDER NAME - FONTS ADDED)- RM COBOL: REQUIRES CHANGING SYSTEM DATE TO ALIGN WILL DATE IN LICENSING FILE.- COBOL NOW: ok- OMNIDRIVE: (PRO?) 1.72 (MUST DISABLE IN DEVICE MGR FIRST)- PC CARD MGR 1.30	
	11:25		All OS/COTS installed, new HASH system for baseline not yet completed to SYSTEST list	Chod
	15:50		ISSUE OF ADOBE DISTILLER V.4.0 VS 7.0 resolved. SYSTEST will reissue docs to reflect 7.0. Performed baseline HASH on workstation pre-EMS load. "HASHCDRIVE.TXT"	
07/02/07	09:30		Compare of module hashes: BAYOT ON LINO: OK, (v 1.2.0.0) (1 FILE) EDM. 7.4.4.0: OK, ERM 7.1.2.1: (13 FILE) = OK	

↑ (2 FILES)

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

Date	Time	Operator	Activities and Entries	Incident Report
7.02.07	09:45	Ken/Blad	Performing compare of TB to ITA HASH: ESSIM 7.4.2.0 (2 FILES): OK, WDAM 6 WHPM 5.2.4.0 (13 FILES): OK	ADORE to Ad. 800-772-3628
	10:30	Genevieve/Blad	Performing software install: HPM - Hardware Program Manager: 1) SETUP.EXE → C:\APPS\ESS\HPM On the process of running HASHCMP, a program of the hashed files showed the baseline hash (OS + COTS) file was incomplete. (too - now, the next step is to reformat and start over.	7348-5460 - 1385-2542 - 9501
	13:00	Genevieve/Blad	Laptop has OS and ADOBE Now loading MS OFFICE. Installing ADOBE TYPE MGR (NO INSTALL DOCUMENT FOR COTS.)	
		TIM/BLAN	Have to add software fonts. Installed ALL POSSIBLE FONTS Received error trying to locate fonts after adding. MS Type Manager is looking for Fonts to be located in a different folder USED SKIP COMMAND - FORWARDED - they don't NEED ALL THE FONTS.	
		DAVID	SKIPPED NORTON ANTI-VIRUS INSTALL.	
			MS OFFICE 2003 MKG24-RJ321-3WZFK-UD9RF- QW46N	
			OFFICE S SUCCESSFUL Installing the OMNI DRIVE SOFTWARE. PROFESSIONAL PCM-SETUP HAD to be installed first (DISABLE DRIVE so it will work) LOADED PC CARD MANAGER	
	2:00		INSTALL RM COBOL - CHANGED the date to JULY 2, 2004. SYSTEM ASKED for activation CODE. Changed to September 24, 2004 - SYSTEM ALLOWED to go FORWARD.	

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page...

ESS

Environment
ction - Voting - Post2007-CDOS-~~35~~001-0403Test Number
AD4-P3 - 401

Test Log

Date	Time	Operator	Activities and Entries	Incident Reports
7-2	2:15	John/TIM	COBOL WOLN	
			Reboot Prior to Hash	
			Hash C:\	
			1041 Directories	
			13,563 files	
			Audit Manager = 12 files (thumbs.db is from Systemst included in Hash)	
		matched	* Copied to Laptop, compared Hash to ITA	
			→ trusted build files.	
			(23) files in copied folder	
			11 files were in ENGINE 32 folder	
			* 2 files were for the Hash - 9 discrepancies, Systemst provided Hash -	
		matched	* ITA	
			→ trusted build	
			* 9 files.	
			Problem = CAB files expand to:	
			installed to Laptop. (used all default settings)	
			13,641 files.	
			13,641	
	4:00 pm		107 mismatches after Audit Manager install.	
			↳ All files	
			↳ 1 files could not be recovered - were not included in Systemst Hash values.	
			(42)	
	4:05 pm		Requested PST's to deliver expanded files.	
	10:22 am			
7-5	7:5	Genevieve	Installing EDM - Red Hash	
			installs into C:\Utility folder, contains two files bdm.sys and Schp.exe	
			running a hash on system now that EDM is loaded.	

ESS

Environment
ction - Voting - Post

2007-CDOS-001-0403

Test Number
AD4-P3 - 401

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

Date	Time	Operator	Activities and Entries	Incident Reports
			Files hashed 1077 directories 13869 files	
			Doing a hash compare with both EDM and Audit Manager loaded. 191 mismatched files.	
			EDM also not loaded only in the EDM folder under Unity. Did a hash compare.	
			loading ESSIM file and Access system	
			1083 directories 13918 files	
			opened modules loaded at program and ran hash drive again and doing a compare with with the last C drive hash.	
15-07	12:50	Genevieve	Reinstalling OS. Creating a partition Name CO- at State - Cont eng EPS	
			Adding COTS products to C: Drive ① Adobe ② Adobe Type Manager Light ③ Adobe Type Basics (different name) Added fonts go into Adobe + add browse folders grab fonts from PFM file folder ④ MS Office ⑤ Omni Drive (USB Pm) Omni Drive Driver Vander says to go into Device Manager after its installed and to describe the device.	

Continue to next page...

ESS

Environment
ction - Voting - Post

2007-CDOS-001-0403

Test Number
AD4-P3-- 401

Date	Time	Operator	Activities and Entries	Incident Reports
			<p>⑥ RM/Cobol Needed to change date to list year date and year. okay to load.</p> <p>Receive a question "Setup has detected your system is currently configured with the following parameters enabled: Write Behind Optimization and Network Redirector File Caching. These parameters can cause file corruption or record locking problems." Install directions say to select ^{yes} to optimization question</p> <p>⑦ COBOL Wov leaving date and year the same 9-24-04 as ^{detailed} in installation instructions</p> <p>Need to install Dell Drivers, have waiting on vendor for CD.</p>	
7-D	11:30	JAN/GRACE	<p>Received Dell Drivers Disk from ESS - Reinstall my 3. EXE files.</p> <p> E10404.EXE (MODEM DRIVER) R114084.EXE (PCMLA DRIVER) R133052.EXE (NETWORK INTERFACE CARD) </p> <p>select YES on options, EVERYTHING ELSE WAS default options.</p> <p>Rebooted Machine -</p> <p>Generation BASELINE HASH (10/12).</p> <p>14638 FILES) BASELINE. 1299 DIRECTORIES)</p>	
	12:30		<p>Now GHOST/IMAGE USED KORTIN GHOST - HIGHLIGHTED C, selected okay, Browser to F, make new folder.</p>	

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

Date	Time	Operator	Activities and Entries	Incident Reports
7-10	12:30	JM/CMO/TIM	SAVED IMAGE TO EDIAR D:\CDOS	
			(LAUNCHER) IN DEFAULT SETTINGS - SHOULD TAKE 15 MINUTES TO BUILD BACKUP.	
			HAD TO UN-INSTALL 2003 GHOST DUE TO INCOMPATIBILITY ISSUES, INSTALLED GHOST 10.0	
			BQDK - DFD7 - CRDH - QDCT - R EB YG	
	1:30		AFTER REINSTALL, RAN HASH - NEW VALUES = 1126 DIRECTORIES 149105 FILES	
			NOW REPERFORM GHOST TO E: DRIVE	
			AFTER ACTIVATION OF GHOST HAD TO INSTALL MICROSOFT .NET FRAMEWORK.	
	14:00	GENOVESE/CMO	Prepping to begin incremental HASH-install-HASH-install... First HASH ^{compare} will be laptop baseline to ITA baseline HASH_C-071007.TXT → I-HASH-WINDOWS-BASELINE.TXT OUTPUT FILE: I-COMPARE → nope, can't do yet. The HASH file from SYSTEST has been sorted and rearranged so that HASHCMP is not able to process the file fields. So we have to reformat the file in EXCEL then save as TXT file → I-HASH-WINDOWS-MOD.TXT Problem: our file is not in the same format as the ITA file and our file has - ERROR entries among the record lines and this appears to confuse HASHCMP. Will begin anew tomorrow.	
7-11-07	09:00	GENOVESE/CMO	Resuming. Given the issues with how HASHCMP.exe works, the ITA hash files have to be modified (revised) before comparing Ran HASH CMP WITH JUST HASH VALUES - 13 - IN BASE, NOT IN AFTER THE BASE 69 - IN THE ADIT MANAGER LOG FILE.	

Continue to next
page...

ESS

Environment		2007-CDOS- 650 -001-0403		Test Number
ction - Voting - Post				AD4-P3 - 401
Test Log				
Date	Time	Operator	Activities and Entries	Incident Reports
7-11-07	12:45	John/Genice	NEXT STEPS - then install Audit mgr & then hash laptop.	
			to 30S system hashes to only have the hash values.	
			ITA Hash files comparing BASELINE TO Audit MGR install shows 69 files added.	
	13:15		Now install Audit Manager 7.3.0.0 on laptop.	
			by running SWUP.exe. Install instruction indicates to accept default choices.	
			HASH C: → AUDITINSTALL-071107.TXT	
			SYSTEM now shows 15233 (before = 14865 Δ = 368)	
			FILE 1 = C:\BASELINE.HASH, FILE 2 = AUDITINSTALL-071107 ⇒ output file = COMPARE-1	
	14:55		Since there seems to be some question about file counts on C: at the time the baseline hash was taken (before or after Ghost files were installed), so rebuilding laptop from Ghost image.	
			Hashing → HASH-C-DRIVE2.TXT. This hash file shows 1247 directories/15233 files.	
			Now installing Audit Manager 7.3.0.0. Reboot...	
			Hashing to file: AUDITINSTALL- 071107 ⁰⁸¹¹⁰⁷ .TXT, system now shows: 1263 dirs/15314 files Δ = 16 dirs/81 files	
	15:45		Now performing HASHCMP of our before/after	
			265 total mismatches	
			92 in 1 not in 2	
			173 in 2 not in 1	
			Now performing EXCEL compare of our after AM install to ITA after AM install.	
7-12-07	8:20	Genice	Discovered that ITA provided SHA1 hash codes rather than MD5.	
			This changes our procedures and we will need to rehash the vendor computer at the baseline level with a SHA1	
			to do an accurate compare	
			Ⓐ Reimaged to baseline	
	8:50		Ⓑ Hashed Ⓐ C drive with SHA1	
			and hashing Ⓐ with MD5 to have both	

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

Date	Time	Operator	Activities and Entries	Incident Reports
			hash files not available	
			- File name of C baseline with SHA1 hash is SHA1-C-Baseline.txt	
			- File name of C baseline with MDS hash is MDS-C-Baseline.txt	
		SHA1	Total files 15233 total directories 1247	
		MDS	Total files 15238 total directories 1248	
			SHA1 hash to do a hash compare to discover why we have a different number of files we discovered the mismatch files are perlch files system 32 files of log files and recent documents files that were created	
			7.3.30 Install Audit Manager conduct a SHA1 hash now conducting a MDS hash.	
			- SHA1 receive 15317 files and 1265 directories	
			- MDS receive 15318 files and 1265 directories	
			Did not reboot after installing audit Audit Manager and going to reboot and rehash.	
		File name	1-SHA-Audit ^{MDS} SHA receive 15323 and 1263 directories	
			1-MDS-Audit ^{MDS} MDS receive 15323 and 1263 directories	
			Rebooting system Going to use the hashes after reboot to test from and do comparisons	
			7.4.40 Installing EDM using EDM install instructions Doc ID # FYIEDM011 Following instructions open Run command finding/browsing to exe and clicking okay. Install doc keys to use election	
	10:27			

Continue to next page...

ESS

Environment
ction - Voting - Post2007-CDOS-~~001~~001-0403Test Number
AD4-P3 - 401

Test Log

Date	Time	Operator	Activities and Entries	Incident Reports
			settings. Rebooting system and then hashing.	
		SHA1	File name 2-SHA1-EDM.txt	
			Files: 15429 and 1269 directories	
		MDS	File name 2-MDS-EDM.txt	
			Files 15429 and 1269	
			Adding	
			Adding ESSIM 7.4.20 instructions are put on one sheet with what to install and the order of the install, direction Simply say "leave all items as default,"	
			Reboot, hashing	
		SHA1	File name 3-SHA1-ESSIM.txt	
			Files: 15485 and 1275 directories	
		MDS	File name 3-MDS-ESSIM.txt	
			Files: 15485 and 1275 directories	
			^{shortcuts}	
			* Note remove files from My My Recent Documents when there are documents saved there.	
11:17			Installing IVIM 2.0.10 Receive question on whether I would like to install MySQL it says "you must install MySQL on at least one computer." and	
			Select Yes next question "Do you wish to start MySQL db as a service? You must choose "Yes" if you plan on using this computer as a server for other computers"	
			* Select Yes next question "Do you wish to modify the Windows Internet Connection Firewall to allow other computers to access your MySQL IVIM database?"	
			Select Yes Request a restart Yes/Okay.	

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

Date	Time	Operator	Activities and Entries	Incident Reports
	12:40	Gereice	Removed F1 drive and / then b drive doing a reboot received a boot up (windows) error. Could not recover had to reimage to baseline to Did a refresh to of the c drive to ensure file count and directory count is the same. Counts match previous hash. Will move forward and install programs.	
	13:50		Install EDM Audit Manager	
			Install EDM	
			Install ESSIM	
	15:00		Install IVIM 2.0.10 Reboot machine and hashing SHA1 file name 4-SHA1-IVIM.txt MDS file files: 16648 and 1340 directories MDS file name files: 16648 and 1340 directories	
			Install HPM 5.2.40 No for full page document found for install directions, there is a direction page for installing software. So This directs the user to change the Program Group to Unity, and leave all other items as default. Reboot SHA1 file name 5-SHA1-HPM.txt files: 16896 and 1346 directories MDS file name 5-MDS-HPM.txt files: 16896 and 1346 directories	
			Install DAM 6.0.0.0 or (WDAM) There is an install of document provided with the install of DAM. Instructions	

Continue to next
page...

Test Log

Date	Time	Operator	Activities and Entries	Incident/Reports
			are basic. Reboot	
			SHA1 file name 16966 files and 1353 directories 6-SHA1-MDS file name 6-MDA-DAM.txt 16966 files and 1353 dir. DAM.txt	
			Install ERM 7.1.21 / Hashing	
			SHA1 file name 7-SHA1-ERM.txt	
			17171 files and 1353 directories	
			MDS file name 7-MDS-ERM	
			17171 files and 1353	
7-18	12:00	Genevieve	Vendor has decided to allow install of ITA certified witness build software to be installed in counties. Hash compares are being complete as of now. Able to begin functional testing.	
	14:00	Genevieve/Chris	Configuration of DAM. DAM functions as a module manage for unique laptop access and passwords and receiving/modem data, or sending.	
			Load election data onto laptop (ES+3). The election data CD provided by the vendor contains many unnecessary files including .EXE's that would replace trusted build programs. The vendor CD needs to be parsed to remove only election data OR the disc needs to be created with ONLY election data files. There are apparently several files/file types required to make up election data. So I have requested the vendor (DARWIN) to provide a listing of the files that make up the election data (for HOSH purposes and building HOSH exclusion lists).	
	15:15		Now creating ZIP drive to get MC50 online. (*Note: must have ZIP disc installed prior to power-up)	
7.20.07		Genevieve/Chris	Uninstalling audio files for Ivotronics system and election sounds. folder (with included audio files) are as follows: all audio files are move into C:\ELEC\DATA\RECALL\FLASH\ (359 files)	

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

Date	Time	Operator	Activities and Entries	Incident Reports
			the Recre election and C:\ELECTDATA\PRIMCOPT\FLASH\WAV (365 files) C:\ELECTDATA\COORDOPT\FLASH\WAV (NOT YET REC'D)	
			These are then transferred to a flash card for upload to the Intronix	
8.27.07	09:20	General Chod	Preparing to install AIM3 for Automark. Note: on the Systest disc dated June 5, 2007, even though the disc indicates - Automark AIM3 1.2.18, the disc does not actually contain program.	
	09:30		Moving AIM3 files from CD (Systest) dated June 29, 2007 Will perform a pre-install HASH for comparison to Systest values. 59 FOLDER/1768 (matches Systest counts). SOS HASH FILE: AIM3. TXT dtd 8/27/2007 @ 10:10	
	10:20		HASH of the install files on the SOS laptop all match up. Now moving Trusted Build to ES's working laptop. The install process is following along with the provided documentation - Election Official's Guide, Installing AIM3. During install process received error - SOURCE FILE NOT FOUND: D:\AIM3... PROMPTCR2.WAV (SEE SCREENSHOT) Choosing "Ignore" to proceed. A search of the working laptop did not show the file present but the file was present on the SOS laptop for the same version files. Need to determine reason...	
	11:05		Now performing a full systems HASH for future reference. (24959 files) SOS HASH FILE: 8-MS5-AIM3. TXT 8/27/2007 @ 11:20 a. This includes the AIM3 Trusted Build. The PromptCr2.wav file originates from a Systest disc dated June 6, that was incomplete and was replaced by the June 29 disc.	
9.17.07		Chod	FOR A LISTING OF APPLICATION PASSWORDS, SEE EVIDENCE BAG 0915-ES3-C-68	

Continue to next
page..

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

[illegible]

[illegible]

Attachments

Documents

No

Yes

☒

Videos

No

Ye.

Photos

No

Yes

(list all documents)

(list all videos)

(list all photos)

EVIDENCE BAG 0915-^FES-0-68
FOR PROSECUTOR USE

See extensive video from date and Trusted Build.

See attached.

Acceptable Compensating Controls

Results Summary

The voting system does not meet the requirements.

Final Test Status

FAIL

1st Review

Geneice Mathews

Printed name

2nd Review

Michael L. Cradwell

Printed name

Supervisor Approval

John Gardner

Printed name

Signature

Date _____

Signature

Date _____

Signature

Date _____

Additional Observations and Findings

Observations:

See extensive notes in the test log. The testing board documented the attempts and procedures used for installing the trusted build software. All components were capable of being loaded from trusted disks, but the testing board was unable to verify any of the software loaded. - due to inadequate HAST information from DTA. Vendor elected to perform full Trusted Build field installs. There were too many install combinations and outcomes, both under lab and field conditions to create a usable HAST matrix. Vendor opted for clean field installs versus field compares to reference values. *Chad*

Findings:

The voting system does not meet the test requirements.

1st Review

Geneice Mathews

Printed name

Geneice Mathews
Signature

3/12/07
Date

2nd Review

Michael L. Chadwell

Printed name

Michael L. Chadwell
Signature

9.15.07
Date

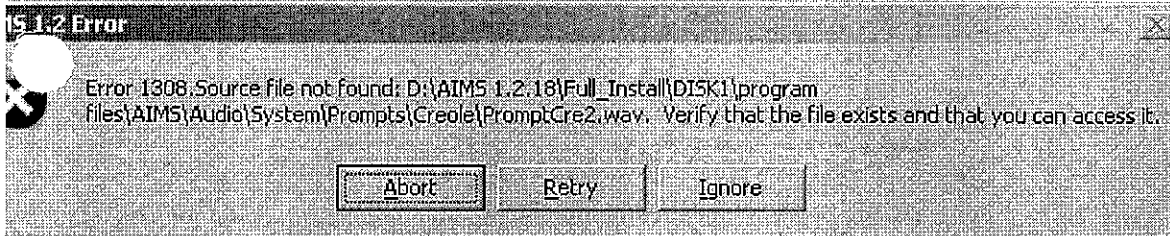
Supervisor Approval

John Gardner

Printed name

John Gardner
Signature

7/17/07
Date



AD4-P3-401

8.2.207

3.1 Software and Firmware

Table 2 – Matrix of ES&S Unity 3.0.1.1 Voting System Software and Firmware

Applications	Manufacturer	Version	Type
Audit Manager	ES&S	7.3.0.0	Pre-Voting
Election Data Manager	ES&S	7.4.4.0	Pre-Voting
ES&S Ballot Image Manager	ES&S	7.4.2.0	Pre-Voting
iVotronic Image Manager	ES&S	2.0.1.0	Pre-Voting
Optech Image Manager	ES&S	4.0.0.0	Pre-Voting
Ballot Online	ES&S	1.2.0.0	Pre-Voting
Hardware Programming Manager	ES&S	5.2.4.0	Pre-Voting
Data Acquisition Manager	ES&S	6.0.0.0	Post-Voting
Election Reporting Manager	ES&S	7.1.2.1	Post-Voting
iVotronic Firmware	ES&S	9.1.6.0 & 9.1.6.1	Voting
M100 Firmware	ES&S	5.2.1.0	Voting
M650 Firmware	ES&S	2.1.0.0	Voting
VAT	AutoMARK	1.1.2258	Voting
AIMS	AutoMARK	1.2.18	Voting
COTS Applications	Manufacturer	Version	Unity Application
Acrobat	Adobe	7.0 (Standard)	OPTIM, ESSIM & iVIM
Acrobat Distiller	Adobe	6.0	OPTIM, ESSIM & iVIM
Type Manager	Adobe	4.1	OPTIM, ESSIM & iVIM
Norton Antivirus Protection	Symantec	2005	N/A
RM COBOL Runtime System	Liant Software Corporation	7.50.01	HPM & ERM
COBOL WOW	Liant Software Corporation	3.12.00	HPM & ERM
PC Card Manager / PCM	Magic Ram	1.3(1.60)	HPM & ERM
Omni Drive USB Professional	CSM	1.72	HPM & ERM
Crystal Reports	Business Objects	9.0	EDM
Java 2 Runtime Environment, SE	Sun	1.4.2_08	OPTIM, ESSIM, iVIM, HPM, & ERM
MS Office (Standard Edition)	Microsoft	2003	ERM
MYSQL		4.1.10a or higher	iVIM
PRO Ethernet Adapter and Software	Intel®	-	DAM
RTAL	Future Logic	Firmware v.11	Printer for iVotronic

3.2 Equipment (Hardware)

Table 3 – Matrix of Hardware

Item	Manufacturer	O/S Version	Type
Election Management System			
Dell Optiplex gx260	Dell	Windows XP, SP2	Personal Computer
s/n # 7B0WL21			
SanDisk – Serial # 387273	CSM		
Omni Drive–Serial #3623-USB			
EMP11 – Serial # 004806			

D600_AuditMgr_Compare.txt

Program:

hashcmp d:\ess\d600_os_hash-07-02-07.txt d:\ess\d600_AuditMgr_hash_07-02-07.txt -o
d:\ess\D600_AuditMgr_Compare.txt
Mon Jul 02 22:12:54 2007 GMT, 15:12 Pacific Standard Time (PST/PST:8*)

***** Comparing records in 1 not in 2

~~C:\...\Local Settings\History\History.IE5\MSHist012007070220070703\index.dat~~
75EE2CFB63220457014033E0D5873B5B 32768 07/02/2007 13:45w PST

~~C:\...\Protect\S-1-5-21-1343024091-1580818891-1060284298-1003\Preferred~~
B46385C90DADCAD4E2CC4F610FB33B01 24 07/02/2004 14:02w PST

~~C:\..._restore{DE017B7C-6CF8-4EF9-B2CA-FB09E1D7E417}\RP2\RestorePointSize~~
F89E13014EBFAF1AD8622398E738C2FB 8 07/02/2007 13:50w PST

~~C:\..._restore{DE017B7C-6CF8-4EF9-B2CA-FB09E1D7E417}\RP3\change.log~~
8D08D7E03C69E4DF3C93FFCF50D233E3 4094 07/02/2007 14:22w PST

~~C:\..._restore{DE017B7C-6CF8-4EF9-B2CA-FB09E1D7E417}\driver.cfg~~
47F35E45DA7F9C96C5224DDE96A5877C 24 07/02/2007 14:22w PST

~~C:\..._restore{DE017B7C-6CF8-4EF9-B2CA-FB09E1D7E417}\drivetable.txt~~
9F077DB23A9ABD9B7C9C51E4F4ED5B5C 132 07/02/2007 14:22w PST

~~C:\Documents and Settings\SOS\Local Settings\History\History.IE5\index.dat~~
18A6504036A3C6D45E804B266F17B9DF 32768 07/02/2007 14:22w PST

~~C:\Documents and Settings\SOS\NTUSER.DAT~~
- ERROR - FILE POSSIBLY LOCKED - 786432 07/02/2007 14:23w PST

~~C:\Documents and Settings\SOS\ntuser.dat.LOG~~
- ERROR - FILE POSSIBLY LOCKED - 1024 07/02/2007 14:24w PST

~~C:\WINDOWS\Prefetch\CMD.EXE-087B4001.pf~~
F5411E8301004060FA469474780632DD 10168 07/02/2007 14:23w PST

~~C:\WINDOWS\Prefetch\IMAPI.EXE-0BF740A4.pf~~
08B2926EDCA737B0BECB627F526466EA 16060 07/02/2007 14:20w PST

~~C:\WINDOWS\Prefetch\LOGON.SCR-151EFAEA.pf~~
8A0070FB4B6A58B6FDF49939BFFF68B0 5284 07/02/2007 12:04w PST

~~C:\WINDOWS\Prefetch\Layout.ini~~
F98649D88D615EC1B6787C4FAD213A2F 75278 07/02/2007 12:09w PST

~~C:\WINDOWS\Prefetch\notepad.exe-336351A9.pf~~
55822A6F869160277DD21081C8262B7 11452 07/02/2007 13:45w PST

Found the following entry in d:\ess\d600_os_hash-07-02-07.txt not in d:\ess

Program:

hashcmp d:\ess\d600_os_hash-07-02-07.txt d:\ess\d600_AuditMgr_hash_07-02-07.txt -o
d:\ess\D600_AuditMgr_Compare.txt -h
Mon Jul 02 22:13:17 2007 GMT, 15:13 Pacific Standard Time (PST/PST:8*)

***** Comparing records in 1 not in 2

D600_AuditMgr_Compare.txt

C:\WINDOWS\Prefetch\IMAPI.EXE-0BF740A4.pf
08B2926EDCA737B0BECB627F526466EA 16060 07/02/2007 14:20w PST

~~C:\WINDOWS\system32\wbem\Logs\wbemess.log~~
0D17C8F0976EAC4A032B644FC312F040 20052 07/02/2007 14:22w PST

~~C:\Documents and Settings\SOS\Local Settings\History\History.IE5\index.dat~~
18A6504036A3C6D45E804B266F17B9DF 32768 07/02/2007 14:22w PST

~~C:\..._restore{DE017B7C-6CF8-4EF9-B2CA-FB09E1D7E417}_driver.cfg~~
47F35E45DA7F9C96C5224DDE96A5877C 24 07/02/2007 14:22w PST

~~C:\WINDOWS\setupapi.log~~
5407E88FCC6C1EC1F0A4305E483B31E6 174447 07/02/2007 14:19w PST

C:\WINDOWS\Prefetch\NOTEPAD.EXE-336351A9.pf
558222A6F869160277DD21081C8262B7 11452 07/02/2007 13:45w PST

~~C:\WINDOWS\system32\config\SysEvent.Evt~~
58B245696D44F68042E1BF6A67E9E4CC 65536 07/02/2007 14:21w PST

C:\WINDOWS\Prefetch\RUNDLL32.EXE-451FC2C0.pf
61A9F9D2574663C5BCFD4944095CBA6B 10982 07/02/2007 14:19w PST

~~C:\WINDOWS\system32\CatRoot\{F750E6C3-38EE-11D1-85E5-00C04FC295EE}\TimeStamp~~
6D4C6D420D6C75DF6EF6E859E3793041 8 07/02/2007 04:16w PST

~~C:\WINDOWS\system32\CatRoot2\{F750E6C3-38EE-11D1-85E5-00C04FC295EE}\Timestamp~~
6D4C6D420D6C75DF6EF6E859E3793041 8 07/02/2007 04:16w PST

C:\WINDOWS\system32\CatRoot2\{F750E6C3-38EE-11D1-85E5-00C04FC295EE}\catdb
7294B28C2AF4DD509903BEBDEC5EE33D 3153920 07/02/2007 14:21w PST

~~C:\...\Local Settings\History\History.IE5\MSHist012007070220070703\index.dat~~
75EE2CFB63220457014033E0D5873B5B 32768 07/02/2007 13:45w PST

~~C:\WINDOWS\system32\wbem\Repository\FS\MAPPING1.MAP~~
834FCBBBD75300856D82FEFAB77E4BD1E 3108 07/02/2007 14:22w PST

C:\WINDOWS\Prefetch\LOGON.SCR-151EFAEA.pf
8A0070FB4B6A58B6FDF49939BFFF68B0 5284 07/02/2007 12:04w PST

~~C:\..._restore{DE017B7C-6CF8-4EF9-B2CA-FB09E1D7E417}\RP3\change.log~~
8D08D7E03C69E4DF3C93FFCF50D233E3 4094 07/02/2007 14:22w PST

~~C:\..._restore{DE017B7C-6CF8-4EF9-B2CA-FB09E1D7E417}\drivetable.txt~~
9F077DB23A9ABD9B7C9C51E4F4ED5B5C 132 07/02/2007 14:22w PST

D600_AuditMgr_Compare.txt

C:\WINDOWS\system32\CatRoot2\edb.chk
B255C2DA3F16C64E80173B1D5799B767 8192 07/02/2007 14:21w PST

C:\...\Protect\S-1-5-21-1343024091-1580818891-1060284298-1003\Preferred
B46385C90DADCAD4E2CC4F610FB33B01 24 07/02/2004 14:02w PST

C:\WINDOWS\Prefetch\CMD.EXE-087B4001.pf
F5411E8301004060FA469474780632DD 10168 07/02/2007 14:23w PST

~~C:\WINDOWS\system32\CatRoot2\edb.log
F7DAD833FF2F3D944E47B626481C0AAD 131072 07/02/2007 14:21w PST~~

~~C:\..._restore{DE017B7C-6CF8-4EF9-B2CA-FB09E1D7E417}\RP2\RestorePointSize
F89E13014EBFAF1AD8622398E738C2FB 8 07/02/2007 13:50w PST~~

C:\WINDOWS\Prefetch\Layout.ini
F98649D88D615EC1B6787C4FAD213A2F 75278 07/02/2007 12:09w PST
Found 22 mismatches
End: Compare file records in 1 not in 2
***** Comparing records in 2 not in 1

C:\WINDOWS\system32\MSFLXGRD.OCX
06EE7BB3C681B9FA8AF4280A154EE133 244416 05/22/2000 00:00w PST

C:\WINDOWS\system32\sqlclnt.rsp
07CA86E8C39CBAA5F0A799C276E0E0AB 181 02/19/2002 16:18w PST

C:\...\{CB72DB88-EA7E-11D7-9B99-0020ED72F2B0}\setup.ini
08A22977E4DF6487BD9FCD175F7571E8 487 07/02/2007 14:58w PST

C:\WINDOWS\Prefetch\notepad.exe-336351A9.pf
0A830B30C905EC6ACCE79A1C874E87A0 19706 07/02/2007 14:31w PST

C:\WINDOWS\system32\SYSTEM0.OCX
0DB04D84B06F760BE7A852A8CFC20DF2 67376 06/24/1998 00:00w PST

C:\..._restore{DE017B7C-6CF8-4EF9-B2CA-FB09E1D7E417}\drivetable.txt
0F0DBB82003C9F459DCF6B3A6FA7D0E9 132 07/02/2007 14:58w PST

~~C:\WINDOWS\system32\CatRoot2\{F750E6C3-38EE-11D1-85E5-00C04FC295EE}\TimeStamp
0FABA1BA74E499A6ECF6C1EB59053D1E 8 07/02/2007 14:58w PST~~

~~C:\WINDOWS\system32\CatRoot\{F750E6C3-38EE-11D1-85E5-00C04FC295EE}\TimeStamp
0FABA1BA74E499A6ECF6C1EB59053D1E 8 07/02/2007 14:58w PST~~

D600_AuditMgr_Compare.txt

C:\...\Protect\S-1-5-21-1343024091-1580818891-1060284298-1003\Preferred
12501FC874A0FDE9F3BD04ED1D7D7B82 24 07/02/2007 14:57w PST

C:\...\Common Files\InstallShield\Professional\RunTime\0701\Intel32\igdi.dll
150F19FFCF1C56E3C5F77EB712D0310B 163972 07/02/2007 14:57w PST

C:\...\{CB72DB88-EA7E-11D7-9B99-0020ED72F2B0}_setup.dll
157884F3B1A35D2DBB09EE8F83A09CE6 155648 07/02/2007 14:57w PST

~~C:\...\InstallShield\Professional\RunTime\0701\Intel32\DotNetInstaller.exe~~
19D3DC3C2159C407800D69089BA8CE3D 5632 12/02/2002 15:22w PST

C:\WINDOWS\Prefetch\DASETUP.EXE-0532D7BD.pf
1A895E784AD022BAFF2134AF87BB7354 17060 07/02/2007 14:58w PST

~~C:\WINDOWS\system32\config\sysevent.EVT~~
1CC5C7470E0184F89257CB51E245EC32 65536 07/02/2007 14:21w PST

C:\Program Files\Common Files\DESIGNER\MSCDRUN.DLL
20DD49575A1DF0C22E1ADFC0BA3EF7D6 49152 06/20/2003 10:54w PST

~~C:\...\Local Settings\History\History.IE5\MSHist012007070220070703\index.dat~~
22775AFC433D410FD9478A657672059A 32768 07/02/2007 14:22w PST

~~C:\Documents and Settings\SOS\Local Settings\History\History.IE5\index.dat~~
2361B09AD6AD9C9A9684204786A6C5D9 32768 07/02/2007 14:22w PST

~~C:\..._restore{DE017B7C-6CF8-4EF9-B2CA-FB09E1D7E417}_driver.cfg~~
26C1E7A581E6B2F691E194FDC633865E 24 07/02/2007 14:58w PST

~~C:\...\RP4\snapshot\REGISTRY_MACHINE_SYSTEM~~
26E0B687F3382B801F0D487D26E1356D 3186688 07/02/2007 14:58w PST

C:\WINDOWS\Prefetch\RUNDLL32.EXE-24C05E16.pf
2859A9D18C5756F653F32F7A06A543B1 14832 07/02/2007 14:33w PST

~~C:\...\RP4\snapshot\REGISTRY_USER_USRCLASS S-1-5-19~~
2ABAE026BF2D3D0D1BF254845B070F9F 8192 07/02/2007 14:58w PST

~~C:\WINDOWS\dasetup.log~~
2C5C85DB53D07EA207B9206819BB8E68 17460 07/02/2007 14:58w PST

~~C:\WINDOWS\system32\wbem\Repository\FS\INDEX.MAP~~
2DE86E5DD512688868CF47AC9A4AF47E 520 07/02/2007 15:00w PST

C:\Program Files\Uninstall Information\odbc.dat
352798BE3068186ED0C45163DA3600DA 24 07/02/2007 14:58w PST

D600_AuditMgr_Compare.txt

C:\...\{CB72DB88-EA7E-11D7-9B99-0020ED72F2B0}\setup.ilg
35340C1F3D587C71B8311E9FC808C50B 1033728 07/02/2007 14:58w PST

C:\WINDOWS\Prefetch\Layout.ini
39FC1559132E836585EA86C24A51E215 142746 07/02/2007 14:48w PST

~~C:\...\{CB72DB88-EA7E-11D7-9B99-0020ED72F2B0}\setup.inx
3AB4272521333F84C9EB8870C133FC60 172250 07/02/2007 10:45w PST~~

C:\Program Files\Common Files\DESIGNER\MSDERUN.DLL
3CCF24E43E8E8D802E52E9C9990AE335 136192 06/20/2003 10:54w PST

C:\WINDOWS\system32\CatRoot2\{F750E6C3-38EE-11D1-85E5-00C04FC295EE}\catdb
3FA9054973627C9444DCBDFD3BAFE7BD 3153920 07/02/2007 15:00w PST

~~C:\...\{CB72DB88-EA7E-11D7-9B99-0020ED72F2B0}\layout.bin
40E20210BE3B6B3FF454F11968A1FA32 493 07/02/2007 10:45w PST~~

C:\...\{CB72DB88-EA7E-11D7-9B99-0020ED72F2B0}\setup.boot
436FBD FE6EB92F4A82567A09BE075F5A 89 07/02/2007 14:58w PST

C:\WINDOWS\Prefetch\HASH.EXE-10C80050.pf
43911951C2DD563199F264619DB80A56 25736 07/02/2007 15:03w PST

C:\..._REGISTRY_USER_USRCLASS_S-1-5-21-1343024091-1580818891-1060284298-1003
461B840E169BE83FB48975AA937B2EA1 8192 07/02/2007 14:58w PST

C:\WINDOWS\system32\VB5DB.DLL
4C6F2D2CE86330335801F2982B26223E 89360 06/18/1998 01:00w PST

~~C:\Program Files\Common Files\InstallShield\Professional\Runtime\iKernel.rqs
4DF94A4C0CD342707098E6662325DBF8 25830 12/02/2002 15:28w PST~~

~~C:\...\RP4\snapshot\REGISTRY_MACHINE_SOFTWARE
564A226C1A3D7DA7415F76B4EA6C96BA 13783040 07/02/2007 14:58w PST~~

~~C:\WINDOWS\system32\wbem\Repository\FS\OBJECTS.MAP
59AB06F2D7F59069B6B8791D0A6720DE 2588 07/02/2007 15:00w PST~~

~~C:\...\{CB72DB88-EA7E-11D7-9B99-0020ED72F2B0}\setup.exe
5B2065FA6F2EC63FE28BE26FDB7B0480 107512 07/02/2007 10:45w PST~~

~~C:\...\RP4\snapshot\REGISTRY_USER_USRCLASS_S-1-5-20
5C5D14208739FBA58AB160EE5509CF8D 8192 07/02/2007 14:58w PST~~

C:\WINDOWS\Prefetch\RUNDLL32.EXE-451FC2C0.pf
5C85B94CDAD4916F5488D98FE3A5DF3A 10982 07/02/2007 15:01w PST

D600_AuditMgr_Compare.txt

C:\... \{CB72DB88-EA7E-11D7-9B99-0020ED72F2B0}\data1.hdr
60A71B679EDDC202F017F18B5820BD25 64772 07/02/2007 10:45w PST

C:\... _restore{DE017B7C-6CF8-4EF9-B2CA-FB09E1D7E417}\RP4\change.log
64EE17AD11639661E39B809DFEE9F10D 8340 07/02/2007 14:58w PST

C:\WINDOWS\system32\wbem\Repository\FS\MAPPING2.MAP
6F0ED09E8ED84B39359DC48B4BCD65B5 3108 07/02/2007 15:00w PST

C:\WINDOWS\system32\MSADODC.OCX
71C7C136133299694D21CD508EF88FFD 118976 05/22/2000 00:00w PST

C:\... \Common Files\InstallShield\Professional\RunTime\0701\Intel32\iscript.dll
742679327EE56723096EB5AA5928BE26 237568 12/02/2002 13:33w PST

C:\... _restore{DE017B7C-6CF8-4EF9-B2CA-FB09E1D7E417}\RP4\RestorePointSize
74FA398BC8FA3A3131FB1398D01585A7 8 07/02/2007 14:58w PST

C:\... _restore{DE017B7C-6CF8-4EF9-B2CA-FB09E1D7E417}\RP2\RestorePointSize
7614C2478DC0CC682C40620B11262048 8 07/02/2007 14:49w PST

C:\WINDOWS\Prefetch\SETUP.EXE-1D3AC6C5.pf
78146D1613B51462D96ADD5ADA167665 21368 07/02/2007 14:58w PST

C:\... \RP4\snapshot_REGISTRY_MACHINE_SAM
781666AAE66149EF4A31C9D245A483AD 24576 07/02/2007 14:58w PST

C:\... \RP4\snapshot_REGISTRY_MACHINE_SECURITY
7D3A2F12B11EFC93C4F3AD5231565A40 45056 07/02/2007 14:58w PST

C:\Documents and Settings\SOS\Recent\d600_os_hash-07-02-07.txt.lnk
7F716949E3925E57AC7CB33CAE200D75 379 07/02/2007 14:31w PST

C:\WINDOWS\system32\COMCT332.OCX
821AB1F1CF9904CB9026C686F13F0F05 415176 12/06/2000 00:00w PST

C:\... \Common Files\InstallShield\Professional\RunTime\0701\Intel32\ikernel.dll
8230D489547E2F1C0AF852F81D1D63BE 696320 02/27/2003 16:12w PST

C:\... \Common Files\InstallShield\Professional\RunTime\0701\Intel32\iuser.dll
85B1375725843284C7987B6BAD170BCC 155648 12/05/2002 14:10w PST

C:\... _restore{DE017B7C-6CF8-4EF9-B2CA-FB09E1D7E417}\RP4\rp.log
8B21F1F24143ABF63E953DCE1AF8EF24 536 07/02/2007 14:58w PST

C:\WINDOWS\system32\wbem\Logs\wbemess.log

D600_AuditMgr_Compare.txt
8C8E78C46BAC5E9D3530CE74FF4DDA94 20244 07/02/2007 14:57w PST

C:\UNITY\AuditManager\AuditManager.exe
8CEC56E5A03E7F67C55BC349097DE4C2 282624 09/07/2004 09:41w PST

C:\...f2df30e7-134a-4395-9cb1-e9997ced839b
8CF92BC5715280C41B7B3B872B220827 388 07/02/2007 14:57w PST

C:\WINDOWS\system32\MSSTDFMT.DLL
92B712DF390367BFA4252A48D9D71D51 118784 07/15/2000 00:00w PST

C:\Program Files\Common Files\InstallShield\Professional\Runtime\IsProbe.tlb
A1200142FFC51C3DDF558EE2A97F559F 85240 12/02/2002 13:23w PST

C:\WINDOWS\Prefetch\IMAPI.EXE-0BF740A4.pf
AA7C2839A6816D7127A4919126A5DA55 16060 07/02/2007 14:57w PST

C:\...RP4\snapshot\REGISTRY_USER_NTUSER_S-1-5-19
AAF4928D5BB9DFAB6000CCE081377F35 229376 07/02/2007 14:58w PST

C:\..._restore{DE017B7C-6CF8-4EF9-B2CA-FB09E1D7E417}\RP3\change.log.2
AF0E380CB1BF2B5E0B07D876B59DE035 11566 07/02/2007 14:58w PST

C:\WINDOWS\Setupapi.log
B1804900FD6F322686991A715D75BA8C 176061 07/02/2007 14:58w PST

C:\Program Files\Common Files\Microsoft Shared\dasetup\rspfiles.inf
B7EFFB18DC29BA1111B826E368218B96 1114 02/19/2002 16:41w PST

C:\WINDOWS\system32\MSCOMCT2.OCX
C1B4AF41A0370E4081D59AC99BCC929D 647872 05/22/2000 01:00w PST

C:\Documents and Settings\SOS\Recent\ESS.Ink
C360A85C700B6CA794FE6BC1A31D988F 237 07/02/2007 14:31w PST

C:\...RP4\snapshot\REGISTRY_USER_NTUSER_S-1-5-18
D275FB7630E4516E56A26AA096D51220 237568 07/02/2007 14:58w PST

C:\...RP4\snapshot\REGISTRY_USER.DEFAULT
D275FB7630E4516E56A26AA096D51220 237568 07/02/2007 14:58w PST

C:\WINDOWS\system32\mdaccore.rsp
D33E4CD06489CCCF6C716D3980B131AB 253 02/19/2002 16:18w PST

C:\Documents and Settings\All Users\Start Menu\Programs\Unity\Audit Manager.Ink
D5592E855EAD0490C6A45FC4270CD174 1534 07/02/2007 14:58w PST

C:\WINDOWS\Prefetch\LOGON.SCR-151EFAEA.pf
D5A125F47654D729EC6AAB0CF92589DD 6866 07/02/2007 14:43w PST

C:\WINDOWS\Prefetch\MDAC_TYP.EXE-04E75489.pf
D753E3AA42ACDFC9E1AD9EF71AB4C296 25846 07/02/2007 14:58w PST

C:\WINDOWS\system32\cmdlg32.ocx
D76F0EAB36F83A31D411AEAF70DA7396 140288 05/07/1999 01:00w PST

C:\UNITY\AuditManager\ea.sys.mde
D7A943D4ACEA7B55351D863C96C88AC0 233472 06/03/2004 14:36w PST

C:\WINDOWS\system32\MSBIND.DLL
D83ACAC0E10B2F3E67A047A64098CC3A 77824 07/15/2000 00:00w PST

C:\... \CB72DB88-EA7E-11D7-9B99-0020ED72F2B0\data1.cab
DC0B670F32267D04FFC94460D9AEAC3A 598513 07/02/2007 10:45w PST

C:\... \Common Files\InstallShield\Professional\RunTime\0701\Intel32\setup.dll
E148C1132A32CCD424DE346F2FFEAD1F 282756 07/02/2007 14:57w PST

C:\... \Common Files\InstallShield\Professional\RunTime\0701\Intel32\ctor.dll
E3DB818ACA6889A18FEE5EBEF336D305 57344 12/02/2002 13:33w PST

C:\... \RP4\snapshot\REGISTRY_USER_NTUSER_S-1-5-20
E84BC13C9504C03E45F0694391068F73 225280 07/02/2007 14:58w PST

C:\WINDOWS\system32\CatRoot2\edb.chk
E87EE57135D7C85E87C6052916D94115 8192 07/02/2007 15:01w PST

C:\WINDOWS\system32\redist.rsp
EBD6A149652C0BFB110B41835333E44A 28 02/19/2002 16:18w PST

C:\WINDOWS\Prefetch\CMD.EXE-087B4001.pf
EFC547E3390C7D8DF3849886EDB8FD46 10168 07/02/2007 15:02w PST

C:\... \REGISTRY_USER_NTUSER_S-1-5-21-1343024091-1580818891-1060284298-1003
F55A4ED76442E7B9C44E0DD87B3CFF28 573440 07/02/2007 14:58w PST

C:\Program Files\Common Files\InstallShield\Professional\RunTime\objectps.dll
F68BA4725D1AAF180FF33CF18D262C5E 32768 12/02/2002 13:33w PST

Found 85 mismatches
End: Compare file records in 2 not in 1

Found 107 mismatches

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: *ESS*

Application Date: *04/03/2007*

Test Number

AD4-P3 - 402

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<i>Rule or Statute</i>	2007-CDOS-ESS-001-0403	<i>Test Number</i>
45.5.2.3.12	The voting system shall allow the system administrative account to verify that the software installed is the certified software by comparing it to the trusted build or other reference information.	AD4-P3-402
		<i>Test Date</i>
		6/21/2007
		<i>Test End Date/Time</i>
		9/10/2007
<i>Cross Reference 1</i>		<i>Test Type (D,F,B)</i>
		Functional
<i>Cross Reference 2</i>		<i>Eq Type</i>
		Software
		<i>Equipment Model</i>
		Unity
<i>Cross Reference 3</i>		<i>Serial number</i>
		N/A
		<i>Manufacturer</i>
		ES & S

Purpose:

The Purpose of this test is to verify the version of the trusted build once the installation process is complete.

Prerequisites:

Instructions for voting system vendors.

AD4-P3-401

Test Procedures:

Document the process and findings of installation and verification of the trusted build software.

Variances Used During Testing:

N/A

Test Expected Outcome

System Administrative account has permissions to allow verification of trusted build against installed build.

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

[illegible]

Additional Observations and Findings

Observations:

Ref AD4-P3-401

See extensive notes in the test log. The testing board documented the attempts and procedures used for installing the trusted build software. All components were capable of being loaded from trusted disks, but the testing board was unable to verify any of the software loaded.

Findings:

The voting system does not meet the test requirements.

1st Review

Geneice Mathews

Printed name



Signature

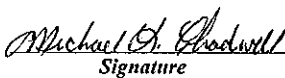
9/20/07

Date

2nd Review

Michael H. Chadwell

Printed name



Signature

9.15.07

Date

Supervisor Approval

John Gardner

Printed name



Signature

9/18/07

Date

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: **ESS**

Application Date: **04/03/2007**

Test Number

AD4-P3 - 403

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Rule or Statute	2007-CDOS-ESS-001-0403	Test Number
45.5.2.3.11	The trusted build of the voting system software, installation programs, and third party software (such as operating systems, drivers, etc.) used to install or to be installed on voting system devices shall be distributed on a write-once media.	AD4-P3-403
		Test Date
		6/21/2007
		Test End Date/Time
		9/10/2007
Cross Reference 1		Test Type (D-F-B)
		Functional
Cross Reference 2		Eq Type
		Software
Cross Reference 3		Equipment Model
	Unity	
	Serial Number	
	N/A	
	Manufacturer	
	ES & S	

Purpose:

The Purpose of this test is to document and note the verification of the submittal of the trusted build software for the voting device.

Prerequisites:

Instructions for voting system vendors.

Test Procedures:

Record, secure and document the receipt of the trusted build from the VSTL/ITA's. Document the steps taken to install and verify the trusted build files.

Variances Used During Testing:

N/A

Test Expected Outcome

Any distribution of media used specifically for installing voting system is write-once only.

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarding, stop and restoring the system as necessary.

[illegible]

Press: Log

[illegible]

Attachments

Documents
(list all documents)

No



Yes ☐

[illegible]

Videos
(list all videos)

No

9

Yes ☒



Photos
(list all photos)

No

10 ☒

Yes ☐

7

See extensive video from date and Trusted Build.

Acceptable Compensating Controls

Results Summary

The voting system meets the test requirements.

Final Test Status

PASS

1st Review

Geneice Mathews

Printed name

2nd Review

Michael L. Chadwell

Printed name _____

Supervisor Approval

John Gardner

Printed name

Signature

4.12.07
Date

Michael G. Chodwell
Signature

9.15.07
Date


Signature

9/17/05
Date

Additional Observations and Findings

Observations:

See notes in test log and extensive video records. The trusted build software was delivered from the ITA's on write-once media.

Findings:

The voting system meets the test requirements.

1st Review

Geneice Mathews

Printed name


Signature

9.12.07
Date

2nd Review

Michael L. Chadwell

Printed name


Signature

9.15.07
Date

Supervisor Approval

John Gardner

Printed name


Signature

9/17/07
Date

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: **ESS**

Application Date: **04/03/2007**

Test Number

AD4-P3 - 404

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Rule or Statute	2007-CDOS-ESS-001-0403	Test Number
45.4.7	If the EAC does not have a trusted build for the voting system submitted for certification, the voting system provider shall coordinate with the Secretary of State for the establishment of the trusted build. At a minimum this shall include a compilation of files placed on write-once media for which the Secretary of State has observed the chain of custody from time of source code compilation through delivery, and an established hash file distributed from a VSTL or the National Software Reference Library to compare federally certified versions against. All or any part of the Trusted Build disks may be encrypted. They should all be labeled as Proprietary Information if applicable and with identification of the vendor and release version based on the vendor's release instructions.	AD4-P3-404
		Test Date
		6/21/2007
		Test End Date/Time
		9/10/2007
		Test Type (D/F/B)
		Document
		Eq Type
		Software
		Equipment Model
		Unity
		Serial number
		N/A
		Manufacturer
		ES & S

Purpose:

The Purpose of this test is to document and note the verification of the submittal of the trusted build software for the voting device.

Prerequisites:

Instructions for voting system vendors.

Test Procedures:

Record, secure and document the receipt of the trusted build from the VSTL/ITA's. Document the steps taken to install and verify the trusted build files.

Variances Used During Testing:

N/A

Test Expected Outcome

The voting system provider shall submit all items necessary for the creation and installation of files contained in the "trusted build" that is received from the VSTL or other source if applicable.

Test Log

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

[illegible]

Test Number

AD4-P3 - 404

Test Log

[illegible]

Attachments

Documents
(list all documents)

No

Yes ☐[illegible]

Videos
(list all videos)

No

1

Yes ☒

☒

Photos
(list all photos)

No

2 ☒

Yes

☐

See extensive video from date and Trusted Build.

Acceptable Compensating Controls

Results Summary

The voting system meets the test requirements.

Final Test Status

PASS

1st Review

Geneice Mathews

Printed name

2nd Review

Michael L. Chadwell

Printed name

Supervisor Approval

John Gardner


Printed name


Signature

9.12.27
Date

Michael G. R. Apple
Signature

9.15.07
Date


Signature

9/17/24
Date

Additional Observations and Findings

Observations:

See notes in test log and extensive video records. The voting system provider supplied all of the necessary files for the completion of the trusted build.

Findings:

The voting system meets the test requirements.

1st Review

Geneice Mathews

Printed name


Signature

9/12/07
Date

2nd Review

Michael L. Caldwell

Printed name

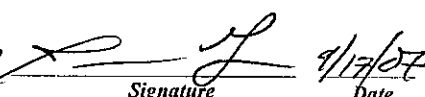

Signature

9.15.07
Date

Supervisor Approval

John Gardner

Printed name


Signature

9/17/07
Date

State of Colorado
Department of State
1700 Broadway
Suite 250
Denver, CO 80290



Mike Coffman
Secretary of State

Holly Lowder
Director of Elections

CDOS Certification Number: **2007-CDOS-ESS-001-0403**

Manufacturer: *ESS*

Application Date: *04/03/2007*

Test Number

AD4-P3 - 405

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Rule or Statute	2007-CDOS-ESS-001-0403	Test Number
45.4.6	<p>If the EAC has established a trusted build for the system submitted for certification, the trusted build shall be provided by the EAC. The voting system provider shall execute and submit to the EAC any necessary releases for the EAC to provide the same, and shall provide the Secretary of State's Office with a copy of such executed releases. In addition, the voting system provider shall submit all documentation and instructions necessary for the creation of and guided installation of files contained in the "trusted build" which will be created at the start of functional testing and will be the model tested against. The Secretary of State reserves the right to add additional instructions or guidance for the use of the trusted build when initiating the chain of custody process for a jurisdiction using the specified equipment.</p>	AD4-P3-405
Cross Reference 1		Test Date
		6/7/2007
Cross Reference 2		Test End Date/Time
		9/10/2007
Cross Reference 3		Test Type (D, I, B)
		Document
		Eq Type
	Software	
	Equipment Model	
	Unity	
	Serial Number	
	N/A	
	Manufacturer	
	ES & S	

Purpose:

N/A

Prerequisites:

N/A

Test Procedures:

N/A

Variances Used During Testing:

N/A

Test Expected Outcome

The voting system provider shall submit all items necessary for the creation and installation of files contained in the "trusted build" that is received from the EAC if applicable.

The test log shall contain procedural steps used to conduct and evaluate the tests. At a minimum, these procedural steps shall include any items related to the setup, start, process, measurements, shut down, retarting, stop and restoring the system as necessary.

Continue to next
page...

Test Number

AD4-P3 - 405

Thesis Log

[illegible]

Attachments

Documents
(list all documents)

No



Yes ☐

7

Videos
(list all videos)

No

☐Yes ☐☐

Photos
(list all photos)

No

☐

Yes ☐

☐

Acceptable Compensating Controls

Results Summary

The test is not applicable for the voting device.

Final Test Status

N/A

1st Review

Geneice Mathews

Printed name _____

2nd Review

Michael L. Chowell

Printed name

Supervisor Approval

John Gardner

Printed name

Signature

Date _____

Signature

Date _____

Signature

Date _____

Additional Observations and Findings

Observations:

N/A

Findings:

The test is not applicable for the voting device, as the EAC does not yet have a trusted build developed for the system.

1st Review

Geneice Mathews

Printed name


Signature

3.12.07
Date

2nd Review

Michael L. Chadwell

Printed name


Signature

7.15.07
Date

Supervisor Approval

John Gardner

Printed name


Signature

8/17/07
Date