



# Wisconsin Elections Commission

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## Via U.S. Mail and Email

July 2, 2021

Mr. Ian S. Piper  
Certification Director  
Dominion Voting Systems, Inc.  
1201 18<sup>th</sup> Street, Suite 210  
Denver, CO 80202

Dear Mr. Piper:

On June 2, 2021, the Wisconsin Elections Commission (“WEC” or “Commission”) granted approval for the Dominion Voting System Democracy Suite 5.5-C and 5.5-CS.

WEC staff tested, and the Commission approved the following hardware versions for Democracy Suite 5.5-C and 5.5-CS:

Equipment	Hardware Versions(s)	Firmware Version	Type
ImageCast X with BMD	Avalue SID-15V-Z37 Avalue SID-21V-Z37 Avalue HID-21V-BTX	5.5.15.2	Accessible touchscreen ballot marking device
ImageCast X DRE with VVPT	Avalue HID-21V-BTX	5.5.15.2	Accesible touchscreen direct recording electronic device
ImageCast Evolution	PCOS-410A	5.5.6.5	Polling place optical scan tabulator
ImageCast Evolution (Dual Monitor)	PCOS-410A AOC e1649FWU	5.5.6.5	Polling place optical scan tabulator
ImageCast Precinct 2 (ICP2)	PCOS-330A	5.5.2.1	Polling place optical scan tabulator
ImageCast Central	Canon DR-G2140 Canon DR-G1130 Canon DR-M160-II Canon DR-M260 InoTec HiPro 821	5.5.41.0002	High-speed central count scanner

Wisconsin Elections Commissioners

Ann S. Jacobs, chair | Marge Bostelmann | Julie M. Glancey | Dean Knudson | Robert Spindell | Mark L. Thomsen

Administrator  
Meagan Wolfe

A complete list of the components that were approved as part of the Democracy Suite 5.5-C and 5.5-CS system can be found in Appendix A.

Staff also reviewed and the Commission approved the following software, which is included in the Democracy Suite 5.5-C and 5.5-CS suite:

<b>Software Component</b>	<b>Version</b>
Election Management System (EMS)	5.5.40.2
ImageCast Voter Activation	5.5.40.2
Results Transfer Manager (RTM)	5.5.40.2

In order to maintain approval for use in Wisconsin, a voting system manufacturer must comply with the requirements of Chapter EL 7 of the Wisconsin Administrative Code. A copy of this chapter has been enclosed for your review. Specifically, Dominion Voting Systems must:

1. Pay the WEC's costs for testing this voting system. An invoice will arrive separately.
2. Furnish a copy of the programs, documentation, and source code for these systems to be placed in escrow with EscrowTech International, Inc.
3. Provide the WEC with a list of software components, pursuant to Wis. Stat. § 5.905, that "record and tally the votes cast with this system." For the purposes of this condition, "software components" include vote-counting source code, table structures, modules, program narratives and other human-readable computer instructions used to count votes with this system. Should a valid request for inspection of software components under Wis. Stat. § 5.905(4) be made, the Commission will use this list to assist in making its determination as to what is available for inspection under Wis. Stat. § 5.905(2).
4. Ensure that the election results from this system can be exported on election night into the WisVote system in a format specified by the Commission.
5. Inform the WEC regarding any municipalities in Wisconsin which agree to use this voting system as well as any states or other jurisdictions which approve this voting system for use.
6. Complete the attached Certificate of Performance Compliance: Delivery of Voting System for each municipality. One certified copy must be provided to the municipality upon delivery of the voting system and one certified copy must be provided to the WEC.
7. Immediately notify the WEC of any changes to this voting system. The Wisconsin Elections Commission will determine the procedures for approving any changes for use in Wisconsin on a case-by-case basis.
8. Submit an Engineering Change Order via an approval application for de minimis changes; however, any material changes require a full application and review process.
9. In the instance of voluntary withdrawal, involuntary decertification by the US EAC (or other Federal agency responsible for voting systems certification), or revocation of approval by the Commission of Democracy Suite 5.5-C and/or Democracy Suite 5.5-CS (including any component), Dominion Voting

Systems shall provide affected customers with substitute tabulation equipment such that any impacted election may be properly tabulated pursuant to Wis. Stat. § 5.40.

Furthermore, the WEC enacted additional requirements for Democracy Suite 5.5-C and 5.5-CS. The Commission determined that the following continuing conditions shall remain ongoing for purchasing localities and Dominion Voting Systems.

1. As a continuing condition of the WEC's approval, DVS may not impose customer deadlines contrary to requirements provided in Wisconsin Statutes, as determined by the WEC. In order to enforce this provision, local jurisdictions purchasing DVS equipment shall also include such a provision in their respective purchase contract or amend their contract if such a provision does not currently exist.
2. As a continuing condition of the WEC's approval, voting systems purchased and installed as part of Democracy Suite 5.5-C and 5.5-CS must be configured in the same manner in which they were tested, subject to verification by the Commission or its designee. Once installed, the configuration must remain the same and may not be altered by DVS nor by state, county, or municipal officials except as approved by the Commission.
3. Ballots marked with ICE tabulator BMD, ICX BMD, and ICX DRE equipment must be included as part of the pre-election public test. ICX BMD ballots will be hand counted. However, the inclusion of these ballots will confirm the programming on the BMD equipment.
4. Certification for the ICX BMD is restricted to hand counting only and ballots marked using this equipment cannot be counted using any of the tabulation equipment certified as part of this system.
5. Clerks and election inspectors must ensure that external modems are secured prior to, during, and after every election, with proper chain of custody documentation utilized.
6. Election inspectors shall continue to check both the write-in bin and main ballot bin for validly cast write-in votes after the close of polls in each election, and not rely upon the optional write-in report.
7. Any absentee ballot returned by the tabulation equipment with an overvote or crossover vote notification must be reviewed by election inspectors prior to being overridden or remade. If necessary, ballots must be remade pursuant to approved procedures listed in the Election Day and Election Administration manuals.
8. Any absentee ballot returned that has been marked with red ink is to be remade by election inspectors prior to any attempt at processing on the tabulation equipment.
9. As a continuing condition of the WEC's approval, these systems must always be configured to include the following options:
  - a. Automatic rejection of crossover and overvoted ballots with or without the option to override.
  - b. Automatic rejection of all improper ballots except blank ballots.
  - c. Digital ballot images to be captured for all ballots tabulated by the system.
  - d. The ambiguous mark threshold be set to between 12% and 35%.
  - e. Automatically return marked ballots to the voter for physical review prior to casting when marked using the ICE tabulator BMD function.
  - f. ICX DRE voting devices must always be programmed allow for physical review and voter confirmation of ballot prior to casting.

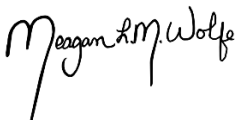
- g. Provide visual warning message, utilizing Commission approved language, to voters when overvotes and crossover votes are detected.
  - h. Voter ballot activation cards used as part of the ICX BMD or DRE be reprogrammed after each use and set to expire after one hour.
  - i. ICX BMD and DRE be programmed to present only one contest per page.
10. As part of this WEC certification, only equipment included in this certificate can be used together to conduct an election in Wisconsin. Previous system versions that were approved for use by the WEC, former Elections Board, or the former G.A.B. are not compatible with Democracy Suite 5.5-C and 5.5-CS and are not to be used in conjunction with the equipment components of Democracy Suite 5.5-C and 5.5-CS as submitted for approval. If a jurisdiction upgrades to Democracy Suite 5.5-C and 5.5-CS, it needs to upgrade each and every component of the voting system to the requirements of what is approved herein.
11. DVS shall abide by applicable Wisconsin public records laws. If, pursuant to a proper public records request, the customer receives a request for matters that might be proprietary or confidential, customer will notify DVS, providing the same with the opportunity to either provide customer with the record that is requested for release to the requestor, or shall advise customer that DVS objects to the release of the information, and provide the legal and factual basis of the objection. If for any reason, the customer concludes that customer is obligated to provide such records, DVS shall provide such records immediately upon customer's request. DVS shall negotiate and specify retention and public records production costs in writing with customers prior to charging said fees. In absence of meeting such conditions of approval, DVS shall not charge customer for work performed pursuant to a proper public records request, except for the "actual, necessary, and direct" charge of responding to the records request, as that is defined and interpreted in Wisconsin law, plus shipping, handling, and chain of custody.
12. The Wisconsin application for approval contains a condition that requires the vendor to reimburse the WEC for all costs associated with the testing campaign and certification process. DVS agreed to this requirement on the applications submitted to WEC on September 3, 2020 requesting the approval of Democracy Suite 5.5-C and 5.5-CS.

Please note that noncompliance with these, or any other requirements contained in Wisconsin Statutes or the Wisconsin Elections Commission Administrative Code, may result in the suspension or withdrawal of the Commission's approval of this voting system.

Thank you for your attention to these issues. If you have any questions, please do not hesitate to contact either myself or Richard Rydecki of the Wisconsin Elections Commission.

Sincerely,

**Wisconsin Elections Commission**



Meagan Wolfe  
Administrator

## Appendix A

This section provides information describing the primary components in this certification.

### Voting System Software Components:

System Component	Software or Firmware Version	Operating System or COTS	Comments
EMS Election Event Designer (EED)	5.5.40.2	Windows 10 Pro	EMS
EMS Results Tally and Reporting (RTR)	5.5.40.2	Windows 10 Pro	EMS
EMS Application Server	5.5.40.2	Windows Server 2012 R2 Windows 10 Pro	EMS
EMS File System Service (FSS)	5.5.40.2	Window 10 Pro	EMS
EMS Audio Studio (AS)	5.5.40.2	Windows 10 Pro	EMS
EMS Data Center Manager (DCM)	5.5.40.2	Windows Server 2012 R2 Windows 10 Pro	EMS
EMS Election Data Translator (EDT)	5.5.40.2	Windows 10 Pro	EMS
ImageCast Voter Activation (ICVA)	5.5.40.2	Windows 10 Pro	EMS
EMS Adjudication (ADJ)	5.5.40.1	Windows 10 Pro	EMS
EMS Adjudication Services	5.5.40.1	Windows 10 Pro	EMS
Smart Card Helper Service (SCHS)	5.5.40.2	Windows 10 Pro	EMS
Results Transfer Manager (RTM)	5.5.40.2	Windows 10 Pro	EMS
Listener (ICL)	5.5.40.1	Windows 10 Pro	EMS
ICP2 Application	5.5.2.1	uClinux	ICP2
ICP2 Update Card	5.5.2.1	uClinux	ICP2
Voting Machine	5.5.6.5	Ubuntu Linux	ICE
Election Application	5.5.6.5	Ubuntu Linux	ICE
ImageCast Central Application	5.5.41.0002	Windows 10 Pro	ICC
ICX Application	5.5.15.2	Android 5.1.1 (ICX Prime) Android 4.4.4 (ICX Classic)	ICX

### Voting System Platform:

System Component	Version	Operating System or COTS	Comments
Microsoft Windows Server	2012 R2 Standard	Unmodified COTS	EMS Server SW Component
Microsoft Windows	10 Professional	Unmodified COTS	EMS Client/Server SW Component
.NET Framework	3.5	Unmodified COTS	EMS Client/Server SW Component
Microsoft Visual J#	2.0	Unmodified COTS	EMS Client/Server SW Component
Microsoft Visual C++ 2013 Redistributable	2013	Unmodified COTS	EMS Client/Server SW Component
Microsoft Visual C++ 2015 Redistributable	2015	Unmodified COTS	EMS Client/Server SW Component
Java Runtime Environment	7u80	Unmodified COTS	EMS Client/Server SW Component
Java Runtime Environment	8u144	Unmodified COTS	EMS Client/Server SW Component
Microsoft SQL Server 2016 Standard	2016 Standard	Unmodified COTS	EMS Client/Server SW Component

Microsoft SQL Server 2016 Service Pack 2	2016 SP1	Unmodified COTS	EMS Client/Server SW Component
Microsoft SQL Server 2016 SP1 Express	2016 SP2	Unmodified COTS	EMS Client/Server SW Component
Cepstral Voices	6.2.3.801	Unmodified COTS	EMS Client/Server SW Component
Arial Narrow Fonts	2.37a	Unmodified COTS	EMS Client/Server SW Component
Maxim iButton Driver	4.05	Unmodified COTS	EMS Client/Server SW Component
Adobe Reader DC	AcrobatDC	Unmodified COTS	EMS Client/Server SW Component
Microsoft Access Database Engine	2010	Unmodified COTS	EMS Client/Server SW Component
Open XML SDK 2.0 for Microsoft Office	2.0	Unmodified COTS	EMS Client/Server SW Component
Infragistics NetAdvantage Win Forms 2011.1	2011 Vol. 1	Unmodified COTS	EMS SW Platform
Infragistics NetAdvantage WPF 2012.1	2012 Vol. 1	Unmodified COTS	EMS SW Platform
TX Text Control Library for .NET	16.0	Unmodified COTS	EMS SW Platform
SOX	14.3.1	Unmodified COTS	EMS SW Platform
NLog	1.0.0.505	Unmodified COTS	EMS SW Platform
iTextSharp	5.0.5	Unmodified COTS	EMS SW Platform
OpenSSL	1.0.2K	Unmodified COTS	EMS SW Platform
OpenSSL FIPS Object Module	2.0.14	Unmodified COTS	EMS SW Platform
SQLite	1.0.103.0	Unmodified COTS	EMS SW Platform
Lame	3.99.4	Unmodified COTS	EMS SW Platform
Speex	1.0.4	Unmodified COTS	EMS SW Platform
Ghostscript	9.04	Unmodified COTS	EMS SW Platform
One Wire API for .NET	4.0.2.0	Unmodified COTS	EMS SW Platform
Avalon-framework-cvs-20020806	20020806	Unmodified COTS	EMS SW Platform
Batik	0.20-5	Unmodified COTS	EMS SW Platform
Fop	0.20-5	Unmodified COTS	EMS SW Platform
Microsoft Visual J# 2.0 Redistributable Package – Second Edition (x64)	2.0	Unmodified COTS	EMS SW Platform
Entity framework	6.1.3	Unmodified COTS	EMS SW Platform
Spreadsheetlight	3.4.3	Unmodified COTS	EMS SW Platform
Open XML SDK 2.0 for MicrosoftOffice	2.0.5022.0	Unmodified COTS	EMS SW Platform
Kernel (Linux)	2.6.30.9-dvs-36	Modified COTS	ICE

System Component	Version	Operating System or COTS	Comments
U-Boot	1.3.4	Modified COTS	ICE
Google Text-to-Speech Engine	3.11.12	Unmodified COTS	ICX SW
Kernel	4.9.11	Modified COTS	ICP2
U-Boot	2017.03	Modified COTS	ICP2
Zxing Barcode Scanner	4.7.5	Modified COTS	ICX SW
SoundTouch	1.9.2	Modified COTS	ICX SW
ICX Prime Android 5.1.1 Image	5.1.1-1.17.3	Modified COTS	ICX SW
ICX Classic Android 4.4.4 Image	0.0.98	Modified COTS	ICX SW
OpenSSL FIPS Object Module	2.0.10 (Cert 2473)	Unmodified COTS	ICX SW Build Library

OpenSSL	1.0.2K	Unmodified COTS	ICC SW Build Library
OpenSSL FIPS Object Module	2.0.10 (Cert 1747)	Unmodified COTS	ICC SW Build Library
1-Wire Driver (x86)	4.05	Unmodified COTS	ICC Runtime SW
1-Wire Driver (x64)	4.05	Unmodified COTS	ICC Runtime SW
Canon DR-G1130 TWAIN Driver	1.2 SP6	Unmodified COTS	ICC Runtime SW
Canon DR-G160II TWAIN Driver	1.2 SP6	Unmodified COTS	ICC Runtime SW
Canon DR-M260 TWAIN Driver,	1.1 SP2	Unmodified COTS	ICC Runtime SW
InoTec HiPro 821 TWAIN Driver	1.2.0.5	Unmodified COTS	ICC Runtime SW
Visual C++ 2013 Redistributable (x86)	12.0.30501	Unmodified COTS	ICC Runtime SW
Machine Configuration File (MCF)	5.5.15.1_20200306	Proprietary	ICX Configuration File
Device Configuration File (DCF)	5.5.41.3_20200507	Proprietary	ICC Configuration File
ICE Machine Behavior Settings	5.5.6.3_20200415	Proprietary	ICE Configuration
ICP2 Machine Behavior Settings	5.5.2.1_20200415	Proprietary	ICP2 Configuration

## Hardware Components:

System Component	Hardware Version	Proprietary or COTS	Comments
ImageCast 2 Precinct (ICP2)	PCOS-330A	Proprietary	Precinct Scanner
ImageCast Evolution (ICE)	PCOS-410A	Proprietary	Precinct Scanner
ICE Ballot Box	BOX-410A	Proprietary	Ballot Box
ICE Ballot Box	BOX-420A	Proprietary	Ballot Box
ICP2 Ballot Box	BOX-350A	Proprietary	Ballot Box
ICP2 Ballot Box	BOX-340C	Proprietary	Ballot Box
ICP2 Ballot Box	BOX-341C	Proprietary	Ballot Box
ICP2 Ballot Box	ElectionSource IM-COLLAPSIBLE	Proprietary	Ballot Box
ICX UPS Inline EMI Filter	1.0	Proprietary	EMI Filter
ICX Tablet (Classic)	aValue 15" Tablet (SID-15V)	COTS	Ballot Marking Device
ICX Tablet (Classic)	aValue 21" Tablet (SID-21V)	COTS	Ballot Marking Device
ICX Tablet (Prime)	aValue 21" Tablet (HID-21V) (Steel or Aluminum chassis)	COTS	Ballot Marking Device or Direct Recording Electronic
Thermal Printer	SII RP-D10	COTS	Report Printer

System Component	Hardware Version	Proprietary or COTS	Comments
Thermal Printer (VVPAT)	KFI VRP3 V1 and V1C	COTS	Voter-verifiable paper audit trail (VVPAT)
Client Workstation HW and Standard Server	Dell PowerEdge R620	COTS	Standard Server
Client Workstation HW and Standard Server	Dell PowerEdge R630	COTS	Standard Server
Client Workstation HW and Standard Server	Dell PowerEdge R640	COTS	Standard Server
ICC Workstation HW	Dell Optiplex 5270 All in One	COTS	
ICC Workstation HW	Dell OptiPlex 7440 All in One	COTS	
ICC Workstation HW	Dell OptiPlex 3050 All In One	COTS	
ICC Workstation HW	Dell OptiPlex 9030 All In One	COTS	
ICC Workstation HW	Dell OptiPlex 9020 All In One	COTS	
ICC Workstation HW	Dell OptiPlex 9010 All In One	COTS	

ICC Scanner	Canon imageFormula DR-G1130	COTS	Central Count Scanner
ICC Scanner	Canon imageFormula DR-M160II	COTS	Central Count Scanner
ICC Scanner	Canon imageFormula DR-M260	COTS	Central Count Scanner
ICC Scanner	Canon imageFormula DR-G2140	COTS	Central Count Scanner
ICC Scanner	InoTec HiPro 821	COTS	Central Count Scanner
ICC Scanner	Dell Optiplex 7070	COTS	
ICC Scanner	Dell Optiplex 7060	COTS	
ICC Scanner	Dell Optiplex 7050	COTS	
ICC Scanner Monitor	Lenovo 10QXPAR1US	COTS	
ICC Scanner Monitor	Dell 2418HT Monitor	COTS	
Client Workstation HW and Express Server	Dell Precision 3430	COTS	Express Server
Client Workstation HW and Express Server	Dell Precision 3431	COTS	Express Server
Client Workstation HW and Express Server	Dell Precision T3420	COTS	Express Server
Listener Standard Server	Dell PowerEdge R340, R330, R320	COTS	
Listener Express Server	Dell PowerEdge R340, R330, R320	COTS	
RAS Server	Dell PowerEdge R340, R330, R320	COTS	
Listener Standard Server Firewall	WatchGuard M200/M270	COTS	
Listener Express Server Firewall	WatchGuard T30/T40	COTS	
Client Workstation HW	Dell Precision T1700	COTS	
Client Workstation HW	Dell Latitude 3400	COTS	
Client Workstation HW	Dell Latitude 3490	COTS	
Client Workstation HW	Dell Latitude E3480	COTS	
Client Workstation HW	Dell Latitude E3470	COTS	
Client Workstation HW	Dell Latitude E7450	COTS	
ICX Printer	HP LaserJet Pro Printer M402dn	COTS	
ICX Printer	HP LaserJet Pro Printer M402ne	COTS	
ICX Printer	HP LaserJet Printer M501dn	COTS	
ICE Dual Monitor	AOC e1649FWU	COTS	
ICE Dual Monitor	Display Logic LM15.6-USB-DV.B	COTS	
Monitor	Dell Monitor KM632	COTS	
Monitor	Dell Monitor P2414Hb	COTS	
Monitor	P2419H	COTS	
Monitor	P2417H	COTS	
Monitor	Dell Ultrasharp 24" Monitor U2414H	COTS	
CD/DVD Reader	Dell DVD Multi Recorder GP60NB60	COTS	
iButton Programmer	Maxim iButton Programmer DS9490R# with DS1402-RP8+	COTS	
iButton (Pollworker)	Dallas Maxim DS1963S-F5+	COTS	
iButton (Admin/Tech)	Dallas Maxim DS1963S-F5+	COTS	
UPS	Tripp Lite SMART1500RML2U	COTS	
UPS	APC SMT1500C Smart-UPS	COTS	
UPS	APC SMT1500 Smart-UPS	COTS	
UPS	APC BE600M1	COTS	
UPS	APC BR1000G	COTS	
PanTech Cellular Modem	UML295 4G LTE	COTS	
Skyus Cellular Modem	DS2	COTS	
MultiTech Cellular Modem	MTCM-LNA3-B03	COTS	
MultiTech Dial Up Modem	Mt9234MU-CDC-XR 56K USB	COTS	
Skyus External Antenna	Taoglas TG-08 Mini Whip	COTS	



MultiTech External Antenna	Abrakon LTE MIMO AEACBD081014-M698	COTS	
ICVA Smart Cards/Reader	Advanced Card Systems ACR38U, ACR39U,	COTS	
Smart Cards	ACOS-6-64	COTS	
Memory Card Reader	Lexar Professional USB 3.0 Dual- Slot Card Reader  Kingston USB 3.0 High-Speed Media Reader  Hoodman Steel USB3	COTS	
Memory Devices (USB/Compact Flash)	USB Memory Device (16GB): Centon S4-CM-U3P2-16.1  USB Memory Device (16GB): Apacer EH353-M APHA016GAG0CG-3TM  USB Memory Device (8GB): Centon S4-CM-U3P2-8.1  USB Memory Device (8GB): Apacer EH353-M APHA008GAG0CG-3TM  USB Memory Device (4GB): Verbatim 97087  Compact Flash Memory Cards (32GB): RiTek RDCF32G- 233XMCB2-i  Compact Flash Memory Cards (32GB): SanDisk SDCFX-032G  Compact Flash Memory Cards (16GB): Centon C4-CM-CF-16.4  Compact Flash Memory Cards (16GB): RiTek RDCF16G- 233XMCB2-i  Compact Flash Memory Cards (16GB): SanDisk SDCFX-016G  Compact Flash Memory Cards (8GB): RiTek RDCF8G- 233XMCB2-i  Compact Flash Memory Cards (8GB): SanDisk SDCFHS-008G	COTS	

	Compact Flash Memory Cards (4GB): RiTek RDCF4G- 233XMCB2-i  Compact Flash Memory Cards (4GB): SanDisk SDCFHS-004G		
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