

E-Voting-System Post R. 1.5.2.3: Trusted-Build: Bericht

1. Vorgehen

Der Rechtsdienst der Staatskanzlei des Kantons Thurgau hat für die Kantone Thurgau, St. Gallen, Basel-Stadt und Graubünden das E-Voting-System der Post mit dem von der Post auf <https://gitlab.com/swisspost-evoting/e-voting/e-voting> veröffentlichten Quellcode mit einem vom Rechtsdienst selbst erstellten Skript am 12. Januar 2026 kompiliert und die Hashwerte der kompilierten Dateien gebildet. Der Voting-Card-Print-Service (VCPS) wurde gemäss https://gitlab.com/swisspost-evoting/e-voting/voting-card-print-service/-/tree/master/Build?ref_type=heads kompiliert.

2. Hashwerte JavaScript-Dateien Voter-Portal (SHA-384, base64)

crypto.ov-api.js	uguJ2B36NOBzaCI26uMUhZAUEOfuI2xyC6hXT8HWkUgrtX0drkek884rneGEg8Y
crypto.ov-worker.js	q5rOFu3H5uLb2RZdRuZF9su5FLw+2mJcG6J3UNfLvfnw3N/VtOsOfThSCmwSNWzJ
main.js	Qz0+oud8rlpmDm0fLDXpwJBSpBVvE6MSDeNdL96URwjClwl7Ugr4qFfu/zjehkAq
polyfills.js	zQ6L1uitBAMd4TxPTOrkVusd21oAAkfMuhEXnHI0V5VOdMpOaaLfkWf28aNNSbkq
runtime.js	GxbJFKoYo2EY3CBEWTVRoxGZ6ghQCZVSslh8licGldxrLuoL4sC9WGYqlAf26VE

3. Hashwerte (SHA-256)

secure-data-manager-package-1.5.2.3.zip	55e5dafecccc59605facbcd47fff0929efa62eee20a878cc2c5698236e6ca5743
direct-trust-tool-1.5.2.3.zip	3748413a213b52236c78619cdf7da6a3f0fca540c69f5c6fe155e14a16892b3e
file-cryptor-1.5.2.3-runnable.jar	097d6bbd8d7b6a880458ea24e61852b73c631f3dbf2b6535f45ebb8c49c39b00
xml-signature-1.5.2.3-runnable.jar	ed43ba56e94dead2fcc2a0e3a35ab8a47b15870988d953eca3674b7e1d5b4cc4
control-component-1.5.2.3-runnable.jar	f8a43c7be9bef2b8b18e354cd392f78c8661262effa9101495acaa3b60e8713c
voter-portal-1.5.2.3.zip	0ded3bb56fb66edbca33fe0ecd0c000562a7071fb0f1daff1d6dc11eb25aff5
voting-server-1.5.2.3-runnable.jar	1c5ff23106e0ece368dcb8a6cf4ba17df74c340499fbf4de002b869cbf0dd1c7
crypto.ov-api.js	d275cc543549f9dcb8f95c814344d090193b72dc105c37c5fe6398e8f22a264
crypto.ov-worker.js	44dc8100621d4252e9d1e6d1aafa82819b41ea93f0ef7e57908e1fc6ac9b9ba3
main.js	a542d871c2c8273e868f9fa4f98aa78f6e00c2740e264b88d26437c8880d16d5

2/4

polyfills.js	5fde1c2eb5607a6a1d4c6cd69802ce90aa417a55582f42c6104d71b66650799b
runtime.js	227c888186c9b3d16852c61ffad3d1cfbb683322ca211e2cb4907816183db7b
index.html	f7dbab4c987286ec9650fb2ff34ad81d18ae7838820e5e1148b11ac3776e9df2
verifier-assembly-1.6.2.1.zip	336845f87ce955fbf4ad12526981a5bb91cb305112389d0265b83233eccba38b
data-integration-service-2.9.2.2.zip	f96d684880b8a15c74bf25d50ee0939be132e070f62bb23fe101849277db0fd9
dispute-resolver-1.5.2.3-runnable.jar	a935d684ebad133b365d446b76405b92cc53e3b8ffdee246b7241d475b771863
pdf-verification-service-1.5.2.1.zip	d30a9c1bde6f56ee26624dfe11acaec18fcb80ddd2d8d3e0dce278f6515e4f19
VotingCardPrintService-3.3.2.1.exe	debeae53f0186b84d9225763f2f4e2e35b4e9ada0d34625a43a2b58c46bfc687

4. Skript

```
#!/bin/bash
#Vorbereitungsarbeiten
#1. Sicherstellen, dass kein Java installiert ist (java --version, whereis java, dpkg --get-selections | grep java)
#2. Docker installieren
#3. Wine installieren
```

```
#Erstellen der Verzeichnisse
mkdir -p ~/evoting
mkdir -p ~/evoting/evsource
mkdir -p ~/evoting/tools/java
mkdir -p ~/evoting/tools/maven
mkdir -p ~/evoting/tools/node
```

```
#Herunterladen und Entpacken der Tools
wget -c https://github.com/adoptium/temurin21-binaries/releases/download/jdk-21.0.9%2B10/OpenJDK21U-jdk_x64_linux_hotspot_21.0.9_10.tar.gz -O - | tar -xvz --strip-components 1 -C ~/evoting/tools/java
wget -c https://nodejs.org/dist/v22.21.1/node-v22.21.1-linux-x64.tar.gz -O - | tar -xvz --strip-components 1 -C ~/evoting/tools/node
wget -c https://archive.apache.org/dist/maven/maven-3/3.9.11/binaries/apache-maven-3.9.11-bin.tar.gz -O - | tar -xvz --strip-components 1 -C ~/evoting/tools/maven
```

```
#Setzen der Umgebungsvariablen
export JAVA_HOME=~/evoting/tools/java
```



3/4

```
export NODE_HOME=~/.evoting/tools/node
export MAVEN_HOME=~/.evoting/tools/maven
export EVOTING_HOME=~/.evoting/evsource
export DOCKER_REGISTRY=registry.gitlab.com/swisspost-evoting/e-voting/evoting-e2e-dev
export PATH=$PATH:$JAVA_HOME/bin:$MAVEN_HOME/bin:$NODE_HOME:$NODE_HOME/bin
```

```
#Respositories klonen
cd ~/.evoting/evsource
git config --global core.longpaths true
git clone -b e-voting-1.5.2.3 --single-branch git@gitlab.com:swisspost-evoting/e-voting/e-voting.git
git clone -b e-voting-libraries-1.5.2.1 --single-branch git@gitlab.com:swisspost-evoting/e-voting/e-voting-libraries.git
git clone -b crypto-primitives-ts-1.5.2.1 --single-branch git@gitlab.com:swisspost-evoting/crypto-primitives/crypto-primitives-ts.git
git clone -b crypto-primitives-1.5.2.1 --single-branch git@gitlab.com:swisspost-evoting/crypto-primitives/crypto-primitives.git
git clone -b data-integration-service-2.9.2.2 --single-branch git@gitlab.com:swisspost-evoting/e-voting/data-integration-service.git
git clone -b pdf-verification-service-1.5.2.1 git@gitlab.com:swisspost-evoting/e-voting/pdf-verification-service.git
git clone -b testdata-1.5.2.0 git@gitlab.com:swisspost-evoting/e-voting/testdata.git
git clone -b verifier-1.6.2.1 --single-branch git@gitlab.com:swisspost-evoting/verifier/verifier.git
```

```
#Kompilieren
cd ~/.evoting/evsource
mvn clean install -f crypto-primitives -DskipTests -T 1.5C --no-transfer-progress
mvn clean install -f crypto-primitives-ts -DskipTests -T 1.5C --no-transfer-progress
mvn clean install -f testdata -DskipTests -T 1.5C --no-transfer-progress
mvn clean install -f e-voting-libraries -DskipTests -T 1.5C --no-transfer-progress
mvn clean install -f e-voting -DskipTests -T 1.5C --no-transfer-progress
mvn clean install -f pdf-verification-service -DskipTests -T 1.5C --no-transfer-progress
mvn clean install -f data-integration-service -DskipTests -T 1.5C --no-transfer-progress
mvn clean install -f verifier -DskipTests -T 1.5C --no-transfer-progress
```

```
#Generieren der Haswerte
datum=$(date '+%Y%m%d_%H%M')
kanton=TG
dateiname="${datum}_${kanton}_ev_hashes.txt"
export dateiname
```



4/4

```
find ~/evoting/evsource -type f -name *secure-data-manager-*.zip -exec sha256sum {} \; >>~/evoting/$dateiname
find ~/evoting/evsource -type f -name direct-trust-tool-*.zip -exec sha256sum {} \; >>~/evoting/$dateiname
find ~/evoting/evsource -type f -name file-cryptor-*runnable.jar -exec sha256sum {} \; >>~/evoting/$dateiname
find ~/evoting/evsource -type f -name "xml-signature-*.jar" -not -path "*archive-tmp*" -exec sha256sum {} \; >>~/evoting/$dateiname
find ~/evoting/evsource -type f -name "control-component-runnable.jar" -exec sha256sum {} \; >>~/evoting/$dateiname
find ~/evoting/evsource/e-voting/voter-portal/target -type f -name voter-portal-*.zip -exec sha256sum {} \; >>~/evoting/$dateiname
find ~/evoting/evsource/e-voting/voting-server/target -type f -name "voting-server*runnable.jar" -exec sha256sum {} \; >>~/evoting/$dateiname
find ~/evoting/evsource/e-voting/voter-portal/target/dist -name "crypto.ov-api.js" -exec sha256sum {} \; >>~/evoting/$dateiname
find ~/evoting/evsource/e-voting/voter-portal/target/dist -name "crypto.ov-worker.js" -exec sha256sum {} \; >>~/evoting/$dateiname
find ~/evoting/evsource/e-voting/voter-portal/target/dist -name "main.js" -exec sha256sum {} \; >>~/evoting/$dateiname
find ~/evoting/evsource/e-voting/voter-portal/target/dist -name "polyfills.js" -exec sha256sum {} \; >>~/evoting/$dateiname
find ~/evoting/evsource/e-voting/voter-portal/target/dist -name "runtime.js" -exec sha256sum {} \; >>~/evoting/$dateiname
find ~/evoting/evsource -type f -name "verifier-assembly*.zip" -not -path "*archive-tmp*" -exec sha256sum {} \; >>~/evoting/$dateiname
find ~/evoting/evsource/data-integration-service/target -type f -name "data-integration-service*.zip" -not -path "*archive-tmp*" -exec sha256sum {} \;
>>~/evoting/$dateiname
find ~/evoting/evsource/e-voting/tools/dispute-resolver/target -type f -name "dispute-resolver-*runnable.jar" -not -path "*archive-tmp*" -exec sha256sum {} \;
>>~/evoting/"$dateiname"
find ~/evoting/evsource/pdf-verification-service/pdf-verification-service-package/target -type f -name "pdf-verification-service-*.zip" -not -path "*archive-tmp*" -exec
sha256sum {} \; >>~/evoting/"$dateiname"
find ~/evoting/evsource/e-voting/voter-portal/target/dist -name "index.html" -exec sha256sum {} \; >>~/evoting/$dateiname
find ~/evoting/evsource/e-voting/voter-portal/target/dist -name "crypto.ov-api.js" -exec sh -c 'HASH=$(openssl dgst -sha384 -binary "$1" | openssl enc -base64); echo
"$HASH $1" >> ~/evoting/"$dateiname" sh {} \;
find ~/evoting/evsource/e-voting/voter-portal/target/dist -name "crypto.ov-worker.js" -exec sh -c 'HASH=$(openssl dgst -sha384 -binary "$1" | openssl enc -base64);
echo "$HASH $1" >> ~/evoting/"$dateiname" sh {} \;
find ~/evoting/evsource/e-voting/voter-portal/target/dist -name "main.js" -exec sh -c 'HASH=$(openssl dgst -sha384 -binary "$1" | openssl enc -base64); echo "$HASH
$1" >> ~/evoting/"$dateiname" sh {} \;
find ~/evoting/evsource/e-voting/voter-portal/target/dist -name "polyfills.js" -exec sh -c 'HASH=$(openssl dgst -sha384 -binary "$1" | openssl enc -base64); echo
"$HASH $1" >> ~/evoting/"$dateiname" sh {} \;
find ~/evoting/evsource/e-voting/voter-portal/target/dist -name "runtime.js" -exec sh -c 'HASH=$(openssl dgst -sha384 -binary "$1" | openssl enc -base64); echo
"$HASH $1" >> ~/evoting/"$dateiname" sh {} \;
```