



SCADA FEST

ORLANDO | 2026

Proudly Presented by
VTscada
Trihedral
A Delta Group Company



Shield up! – Managing OPC and Driver Certificates

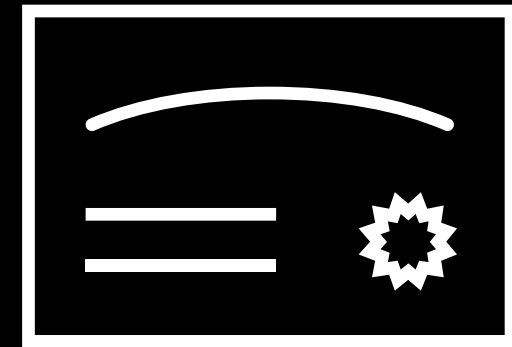
Andrew McRae – Peter Nock

Software Developer – Trihedral Engineering Ltd.



Outline

- Security and Certificates
- OPC UA – Securing SCADA
- Live VTScada Demonstration
- Certificate Management Best Practices





Security and Certificates

Keeping Things Safe



Security vs Convenience



Security vs Convenience





Security vs Convenience





Security vs Convenience





Levels of Security



NONE



ENCRYPTED



SIGNED

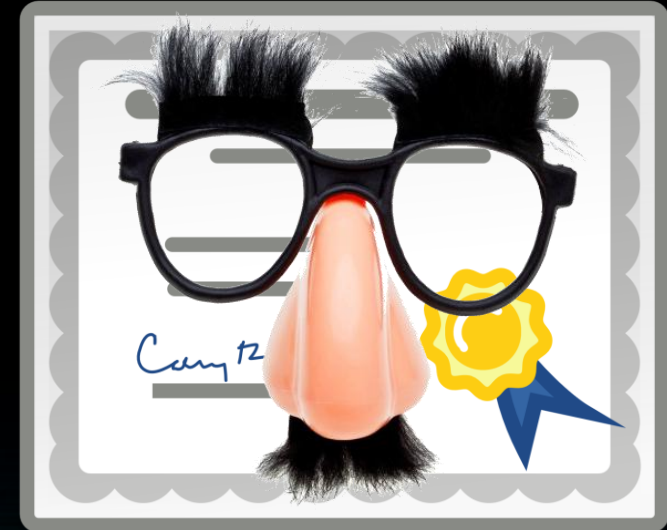


SIGNED AND
ENCRYPTED



X.509 Certificates

- Name
- Dates of Validity
- Issuer
- Encryption Information
- Signature
- Thumbprint





Who verifies a certificate?

- 3rd Party Certificate Authority (CA)
 - High Reliability
 - Costs associated
 - Less convenient
- Internal Network CA
 - Not Self-Managed
- Per connection verification (self signed)
 - Easiest to set up
 - Onus on the user





OPC UA

Securing SCADA Data



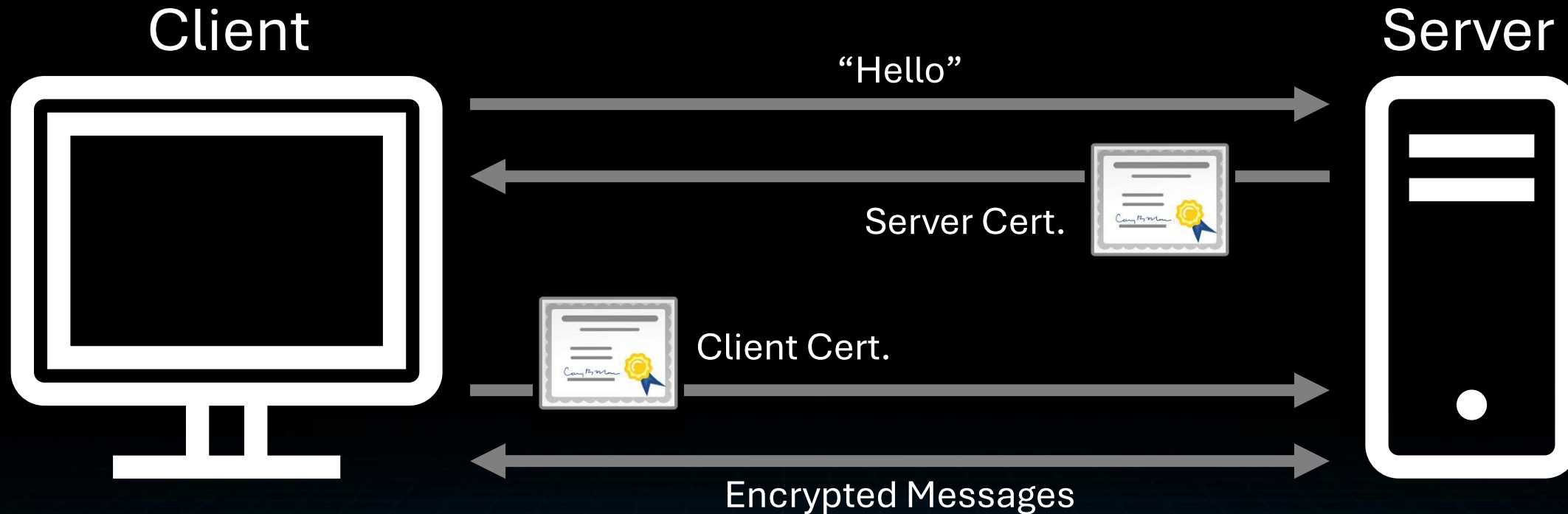
Why use OPC UA?

- Open Platform Communications Unified Architecture (OPC UA)
 - Cross-Platform (web based)
 - Flexible
 - Standardized
 - Secure
- Historically OPC DA (DCOM)
 - Complicated
 - Brittle
 - Unsecure





OPC UA Security Handshake





Live VTScada Demo

Server/Client Certificates for OPC UA communication



Certificate Management

Best Practices for keeping your system secure



Best Practices, Tips & Tricks

- Validity Period
 - Standards/vulnerability fixes up to date
 - Less time to crack
 - 30 days – 10 years Self Signed
 - Commonly One Year
 - TLS -> 47 days in 2029
 - Alarms
- Redundant Clients
 - Matching Names
 - Helpful Common Name
 - Duplicate or not (double trust)
- Verify Thumbprint





Questions?



Thank you for attending this session!

- Fill out the 2-question feedback survey via the App! *Ukova*
- Especially if you need a Continuing Education Credit or Professional Development Hours certificate.
- Don't have the app? Fill out the paper form included in your conference kit and hand into Natasha.

SAVE THE DATE FOR SCADAFEST 2027!
MARCH 8-12, 2027 | ORLANDO, FL