HOW TO CHOOSE A SECURITY SOLUTION FOR THE INTERNET OF THINGS

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FOUR ELEMENTS OF SECURITY

- ❑ Secure the Devices
- ❑ Protect the Data
- ❑ Life-cycle Management
- ❑ Scalability

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SECURE THE DEVICES

- **Device authentication**
  - Ensuring only valid devices may transmit or receive data
- **Resource authorisation**
  - Is that device authorised to use that resource?
- **Secure device provisioning**
  - Create a strong trust anchor from first deployment
- **Certificates do not always identify devices**
  - Static certificates can be cloned, forged, stolen, etc.

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PROTECT THE DATA

- **Data centric encryption**
  - Persist the encryption around the data itself
- **Secure data-in-transit**
  - TLS/SSL is point-to-point, provides no guarantees for end-to-end security
- **Secure data-at-rest**
  - IoT devices live outside the trusted network perimeter
- **Data integrity validation**
  - Ensure the data has not been modified, even if encrypted

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LIFE-CYCLE MANAGEMENT

- **Secure software updates**
  - Updates should be encrypted and verified
- **Control software updates**
  - Retain control over what/when/where updates can be applied to the device
- **Centralised security policies**
  - Shift security policies to reflect latest software behaviour
- **API access**
  - Integrate with existing business processes to help automate on going device management, and remediation efforts

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SCALABILITY

- **Horizontal scale**
  - Add new nodes to scale without interrupting any existing services
- **Automated key management**
  - Millions of keys must be managed in real time
- **Automated authentication management**
  - Devices should be automatically quarantined if they are not meeting authentication/authorisation policies
- **Traditional PKI's are Cost Prohibitive**
  - One study puts the 3 year cost at $400,000 per year, for 5000 certificates[1]

Find us under "*Security*" in the ThingWorx marketplace

- ✓ Strong trust anchor for the identity of "things"
- ✓ Data centric encryption services for all IoT data
- ✓ Business policies to ensure compliance, integrity and trust


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