

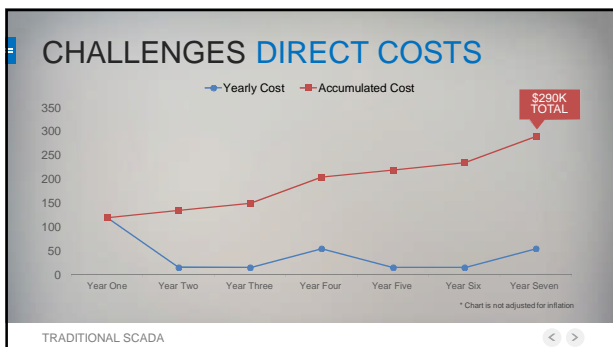


CHALLENGES

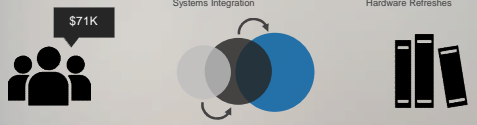
Traditional deployment challenges.






CHALLENGES INDIRECT COSTS

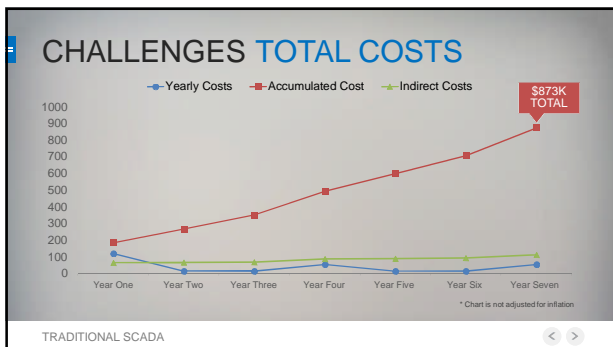
- PERSONNEL**
SCADA Administrator/Engineer
\$71K
- EXPANSION**
Platform migration
Additional functionality
Systems Integration
- TRAINING**
1st Party Software Training
3rd Party Software Training
Hardware Refreshes



Source: payscale.com

TRADITIONAL SCADA





CHALLENGES IMPLEMENTATION

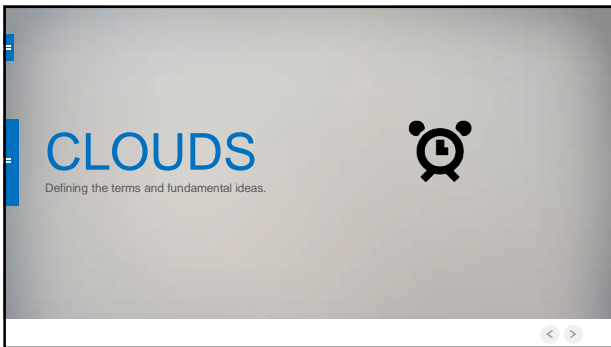
- DEPLOYMENT TIME**
3-6 Months from start
- COMPLEXITY**
Required system information
New technology
- STAFFING**
New staff
Reorganize existing staff

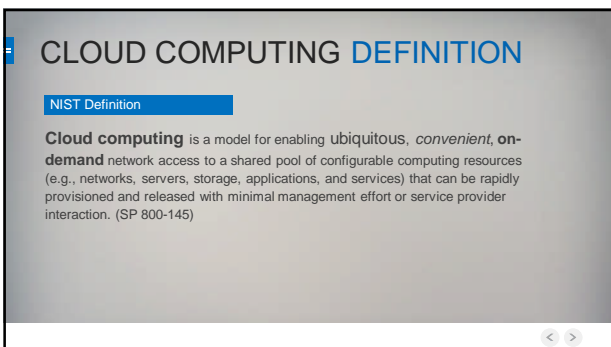
TRADITIONAL SCADA

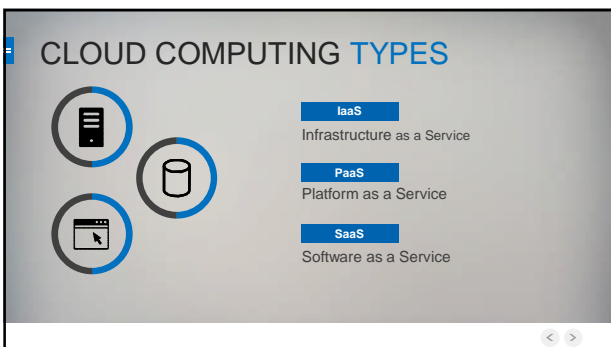
CHALLENGES SECURITY

- Customer Responsibilities**
- Server-side Security**
- Communication Security**
- System Patching
- 3rd Party Vulnerabilities
- Antivirus Updates**
 - Technical Service Bulletins
- System stability
 - User Access
- Password Management
 - File Security
 - System Monitoring
 - Integration security

TRADITIONAL SCADA







CLOUD COMPUTING MODELS

- 01. PUBLIC**
Open use, general public access, offsite, owned by a provider.
- 02. PRIVATE**
Closed use, exclusive access, local or offsite.
- 03. HYBRID**
Combination of system models.

A Venn diagram with two overlapping circles. The left circle is blue and labeled 'PUBLIC'. The right circle is dark grey and labeled 'PRIVATE'. The overlapping area in the center is labeled 'HYBRID'.

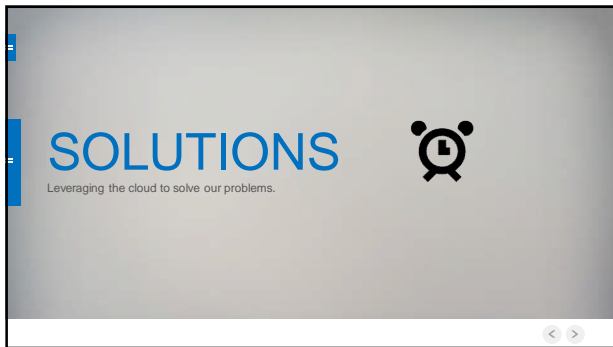
CLOUD COMPUTING SCADA

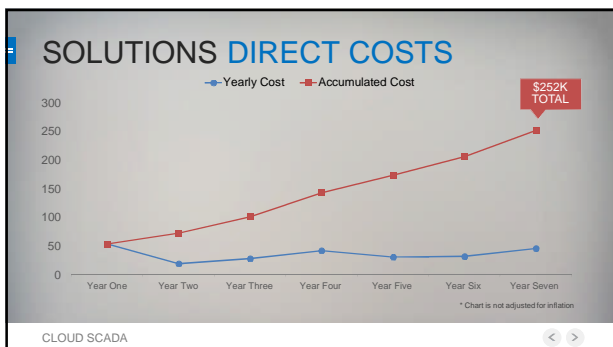
A diagram illustrating SCADA architecture. It is divided into three main sections: 'DATA ACQUISITION' (with icons for a house, factory, and wind turbine), 'CLOUD CONNECTION' (with a cloud icon), and 'SYSTEM NETWORK' (with icons for a firewall and workstations). Labels 'FIELD DEVICES', 'FIREWALL', 'CLOUD', 'FIREWALL', and 'WORKSTATIONS' are placed above their respective components.

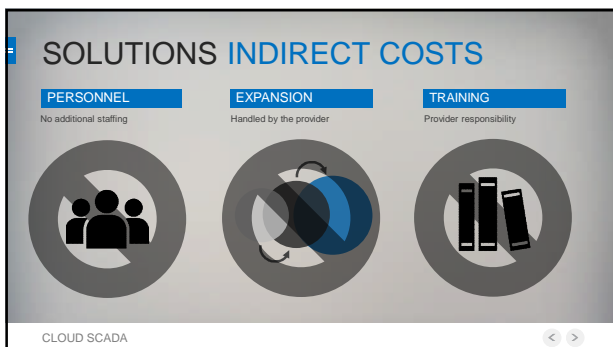
CLOUD COMPUTING PRICING

Category	Percentage
SCADA System Licensing Costs	0%
Implementation Services	65%
Hardware and 3 rd Party Costs	0%
Subscription Costs	35%

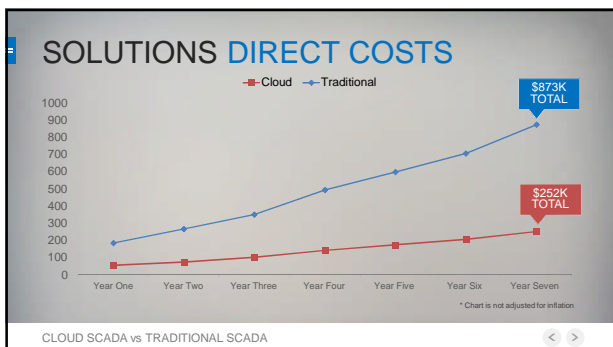
*Based on typical contracts for RECs













CHALLENGES SECURITY

Provider Responsibilities


- Server-side Security
- Communication Security
- System Patching
- 3rd Party Vulnerabilities
- Antivirus Updates
- Technical Service Bulletins
- System stability
- User Access
- Password Management
- File Security
- System hardening
- Integration security



CLOUD SCADA

SUMMARY

Bringing it all home.



CLOUD COMPUTING SUMMARY

FASTER **EASIER** **CHEAPER**

