



Security on the Farm: Safely Communicating with Legacy Agricultural Instrumentation



Washington University in St. Louis

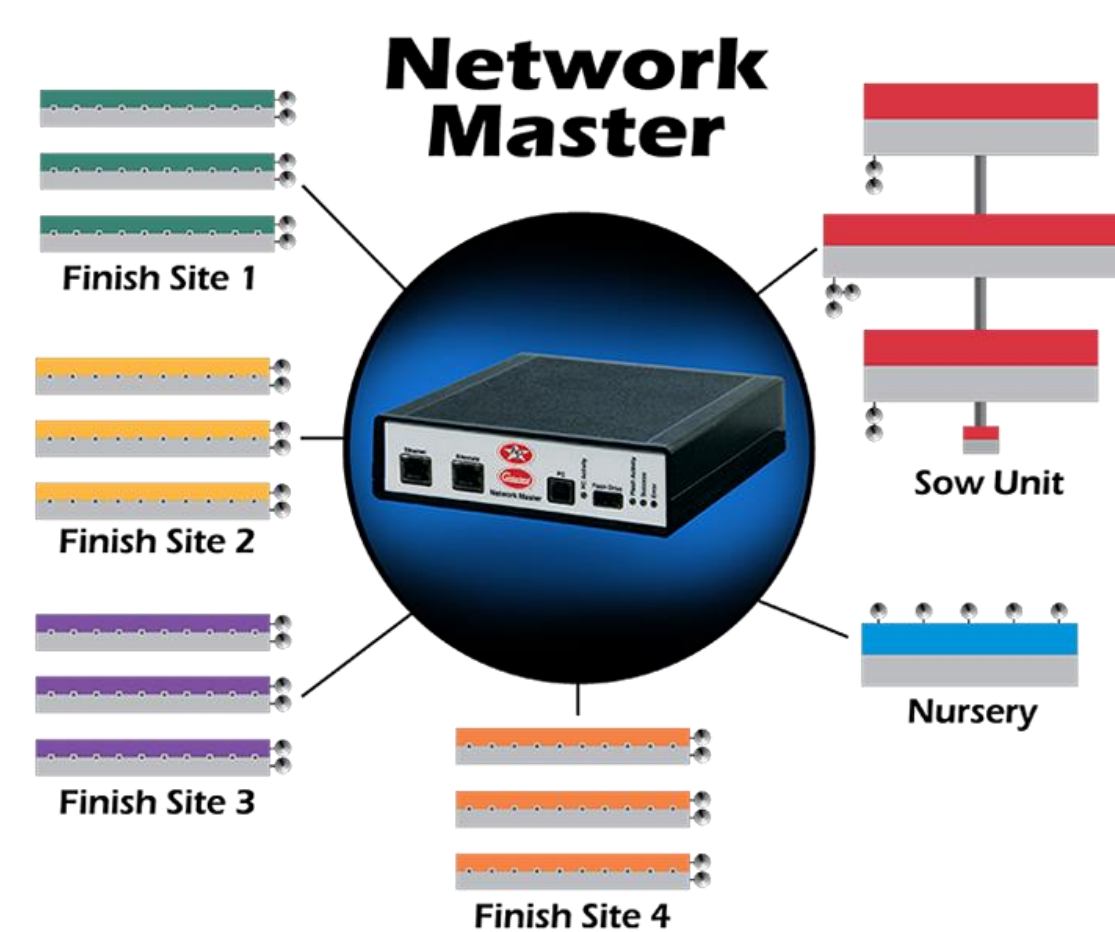
JAMES MCKELVEY SCHOOL OF ENGINEERING



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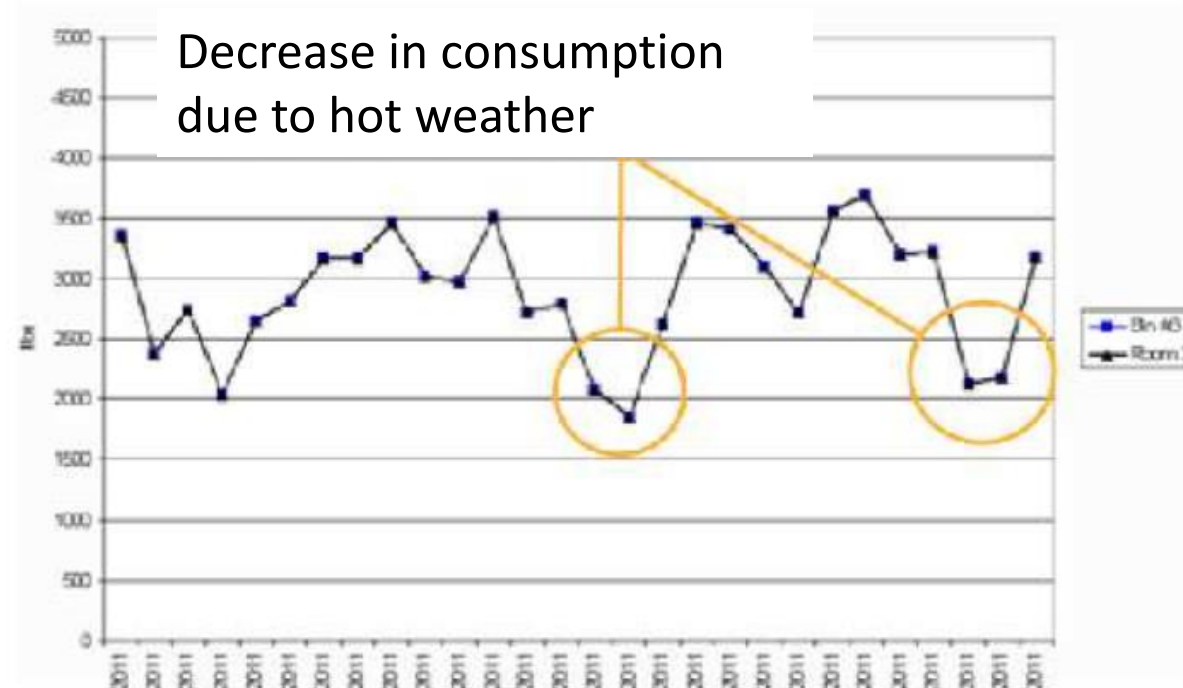
Modern farms are instrumented with substantial automation, much of it designed and built quite awhile ago.



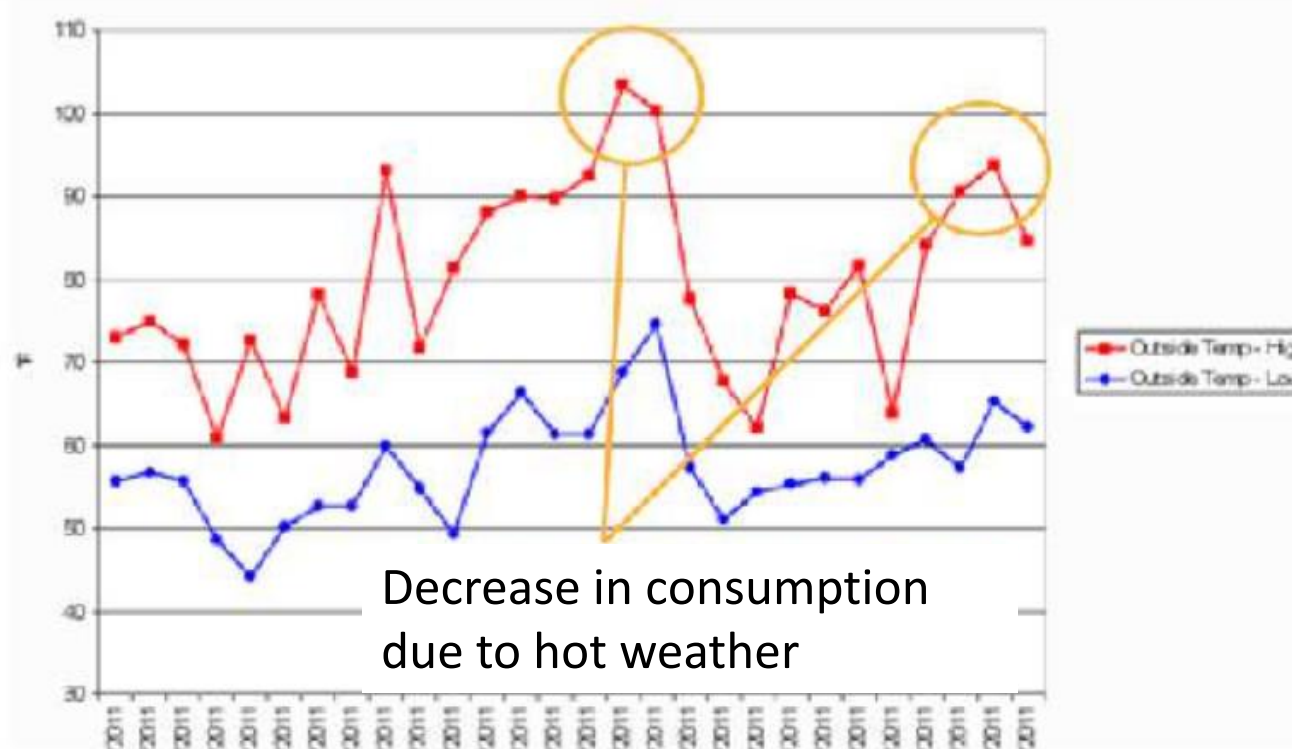
Collect sensor readings (feed consumption, water consumption, temperature), alarms, and events from controllers. Log in database.

Use case: investigate triggers for anomalous conditions by exploring data logs.

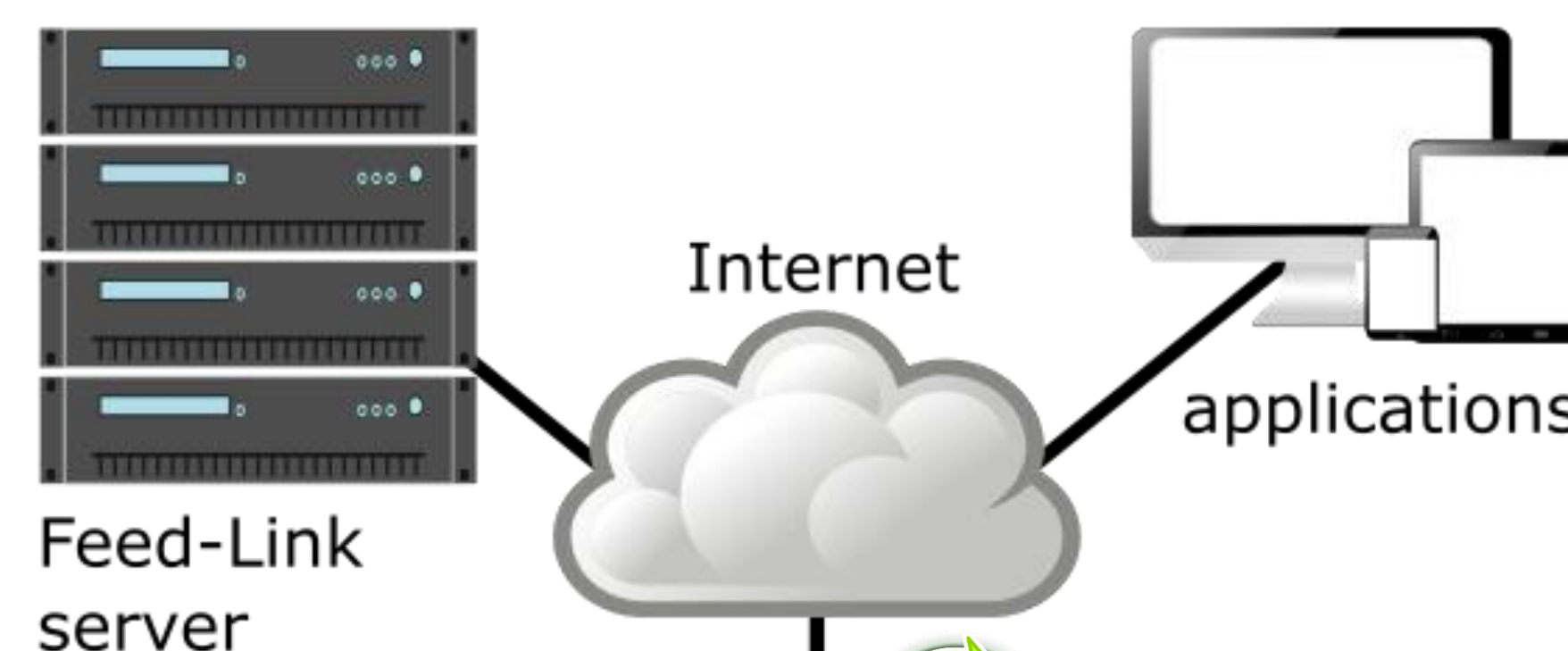
Feed consumption



Temperature



Where ever you are, using any connected device.



Network Master



Legacy Equipment



Secure with EZConnect™ [1]

- Secure communication, through firewalls
 - Uses TLS encryption on all links
 - Semantically limited protocols (cannot query other devices on local network)
- Hassle-free installation
 - Equipment managers are happy
 - IT personnel are happy (no VPN setup or port forwarding required)
- Straightforward to service
 - Temporary access is simple to provide for service personnel

[1] R. Chamberlain et al., "Layered Security and Ease of Installation for Devices on the Internet of Things," in *Proc. IoTDI*, 2016.