CONNECTING
THE WORLD

Wireless Technologies

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Ged Tyrrell

Wireless Standards Overview


LoRa™


ZigBee®


sigfox


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Wi Fi


enocean®


LoWPAN


Z WAVE


THREAD

Tyrrell Smart Home / eBMS/Micro

Smart Home Devices

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Wireless Smart Hub

Wireless Thermostat

Wireless Smart Relay

Wireless Smart Switch

Wireless Smart Meter

Smart Plugs

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Wireless Smart Plug UK

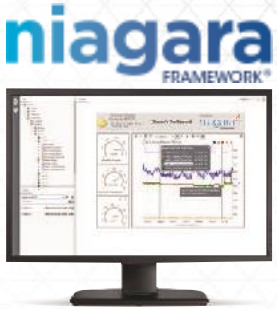
Wireless Smart Plug EU

Wireless Smart Plug IT

Wireless Smart Plug US

Wireless Smart Plug FR

Zigbee 1.2



Cloud based analytics

Wireless DALI

TCP-IP Gateway

Bridge Node

NEMA Node

Secure Synchronised Mesh

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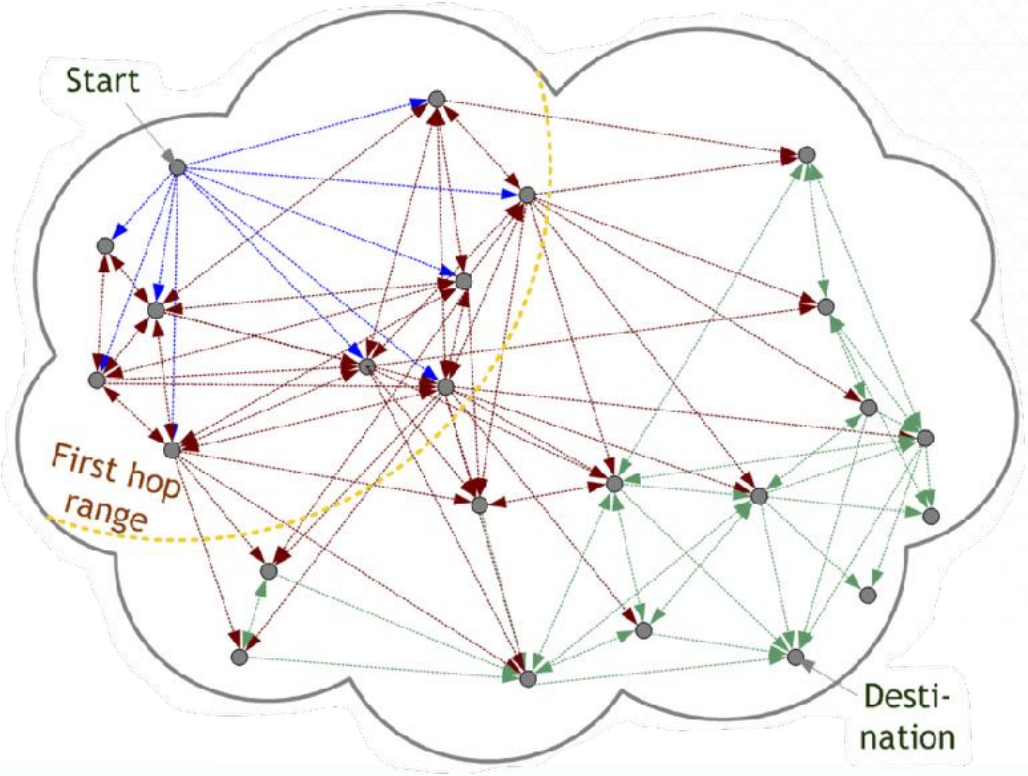
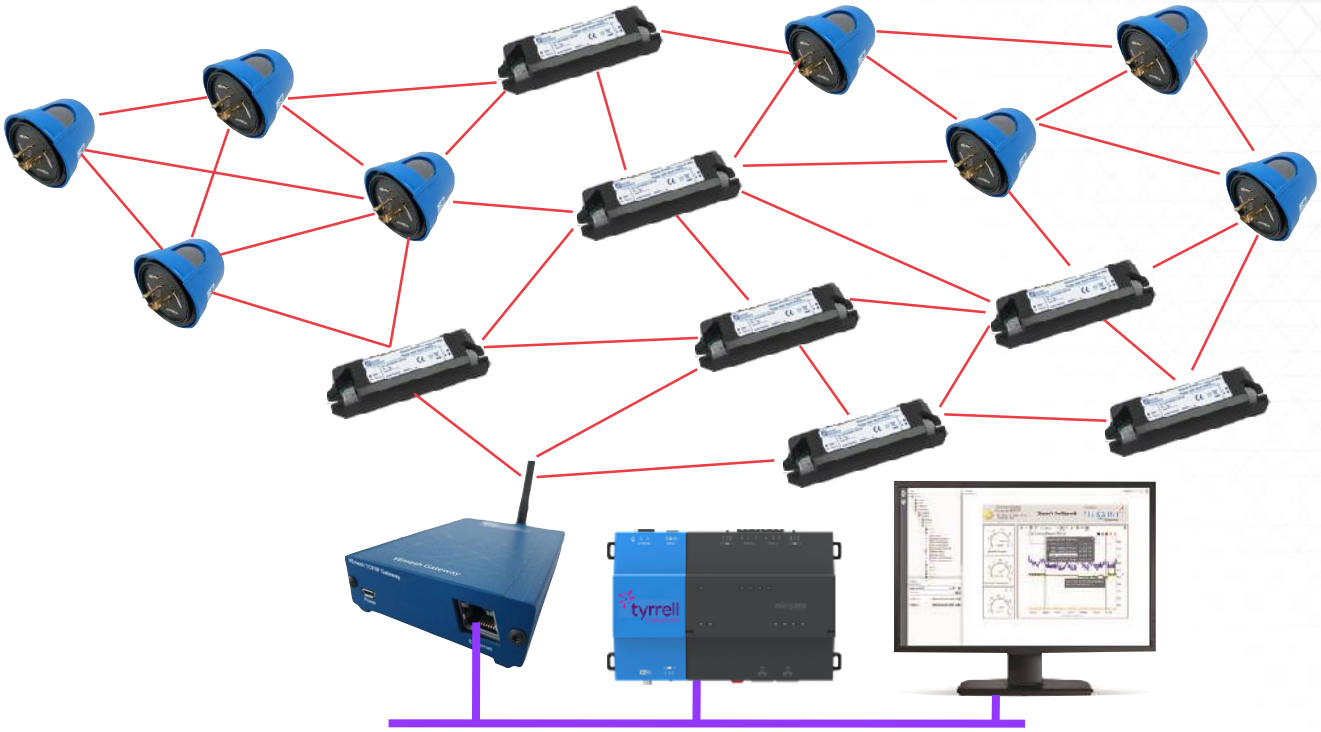
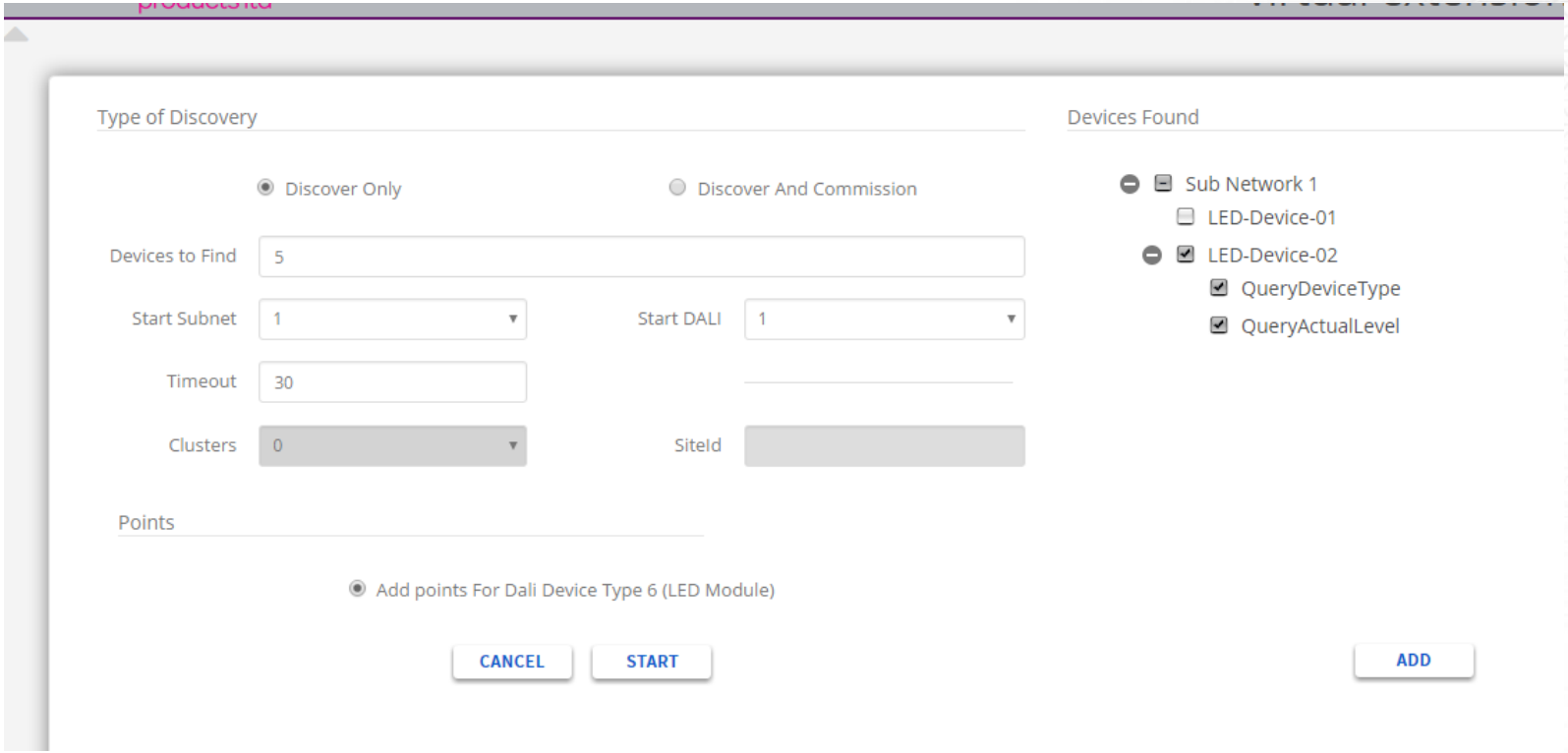


Schematic



N4 and AX Driver



N4 and AX Driver

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virtual extension controls

Network / Sub Networks

Name:	E2DGateway1
Network Id:	0
Ip Address:	127.0.0.1:10001
Hop Number:	1
Serial Number:	3916.0002
Version:	5.0
Published Ip:	0.0.0.0
Status:	{ok}
Health:	Ok [06-Feb-17 12:25 PM GMT]
Last Command:	

PING

SET HOP 1

SET HOP 10

SET HOP 20

SET HOP 32

ALL OFF

ALL MAX

ALL MIN

LOCK COMMISSIONING

SET SERVER ADDRESS

LoRa LPWAN

LoRa® Alliance

Wide Area Networks for IoT

- Agreed Communication Standards
- Low Powered Wide Area Network
- Long Range Wireless Network
- Low cost Transceivers

LoRa® Alliance

Wide Area Networks for IoT

- Class A
- Class B
- Class C

The LoRa Alliance

The fastest growing global technology alliance

500+
Members

Jan 2015 MWC 2015 MWC 2016 MWC 2017 June 2017

Why Major Telecoms Choose LoRaWAN?

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COMCAST

NTT

SoftBank

orange™

proximus

kpn

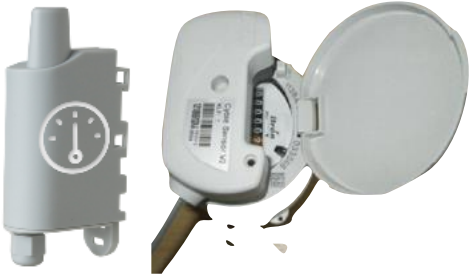
亞太電信 Asia Pacific Telecom

swisscom

Actility Connecting with intelligence

1. Low power connectivity unlocking new use cases & business models
2. Low Cost of gateway roll-out for B2B & B2C
3. Scalable Capacity Model of Network
4. Supports key IoT use cases with bidirectionality and native security management
5. Supports of Sensor Firmware update over the Air

LoRa Devices

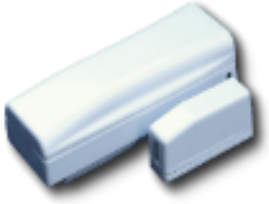


Water / Gas Metering

Temperature Motoring

Condition Motoring

Electricity Motoring



Door/window /count Sensor

Smoke detectors

Flood detection

Feedback button

Waste management

LoRa Devices

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LoRa Based Lighting for Niagara

Introduction

- Remote Control
- Light Level Feedback & Control
- Energy kWH Information
- Time Scheduling
- Remote Fault Diagnosis
- Energy Based Dimming
- 30km Range
- Hard Switching Relays
- DALI or 0-10v Control

Controllers

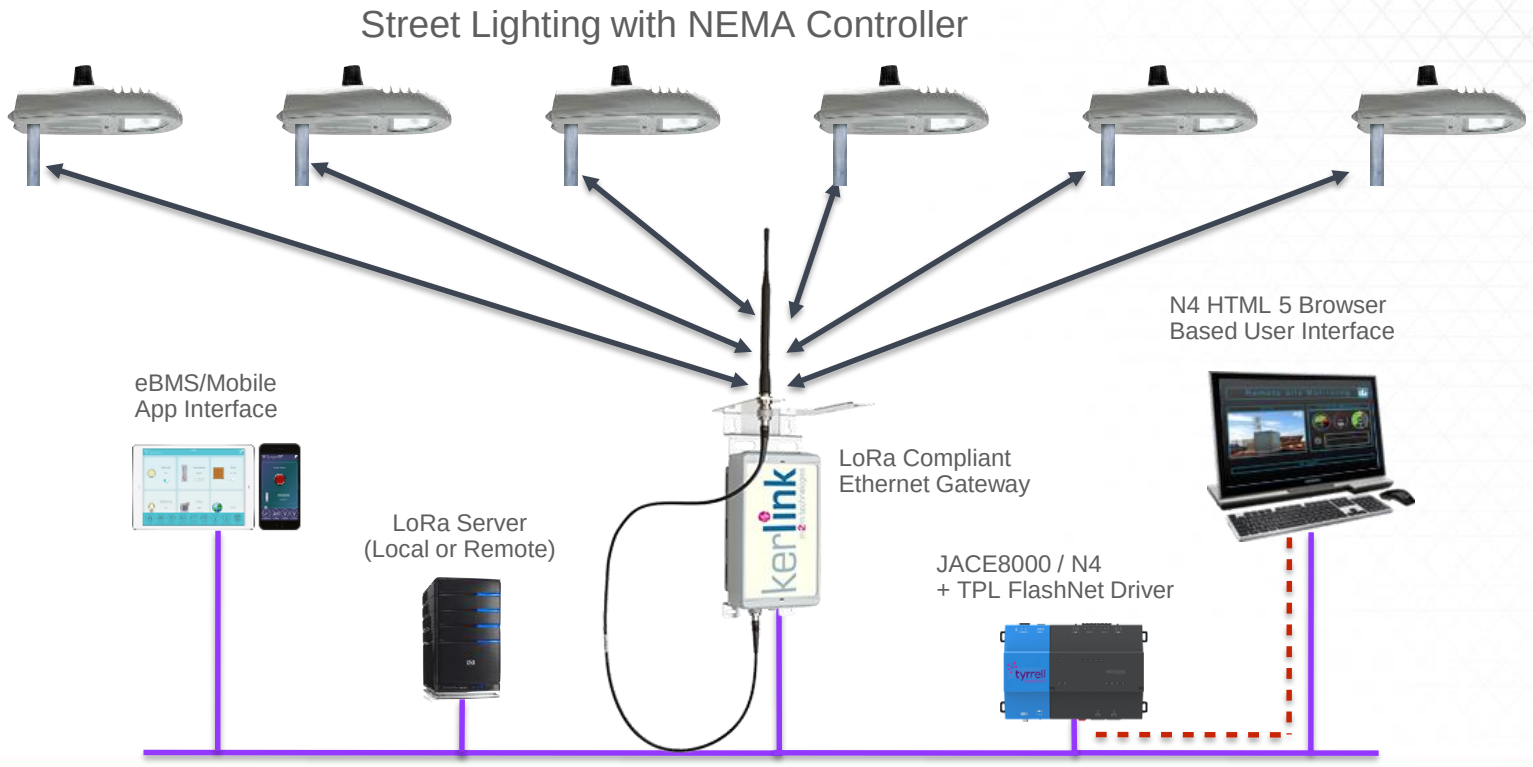
NEMA Controller

- Modern 7-Pin NEMA Connection
- Retrofit for PhotoCell
- DALI or 0-10v DC on Pins 4&5
- Built in Light Level Sensor

Hard Wired Controller

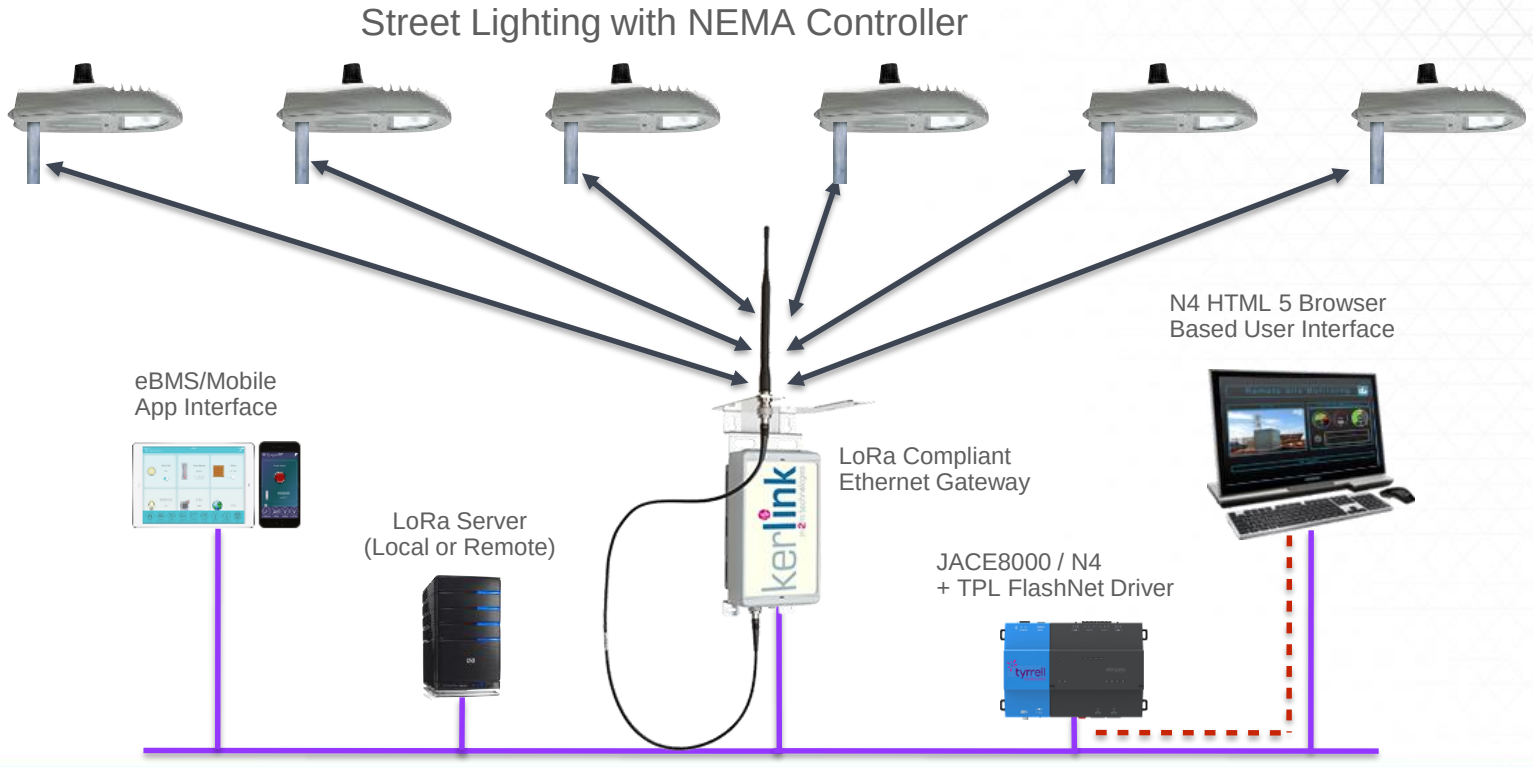
- Bracket mounting to any street light
- Hard-wired connection to lantern
- DALI or 0-10v DC on cables
- Built in Light Level Sensor

System Schematic



Actility Partnership

System Schematic



Niagara Integration to All of LoRa

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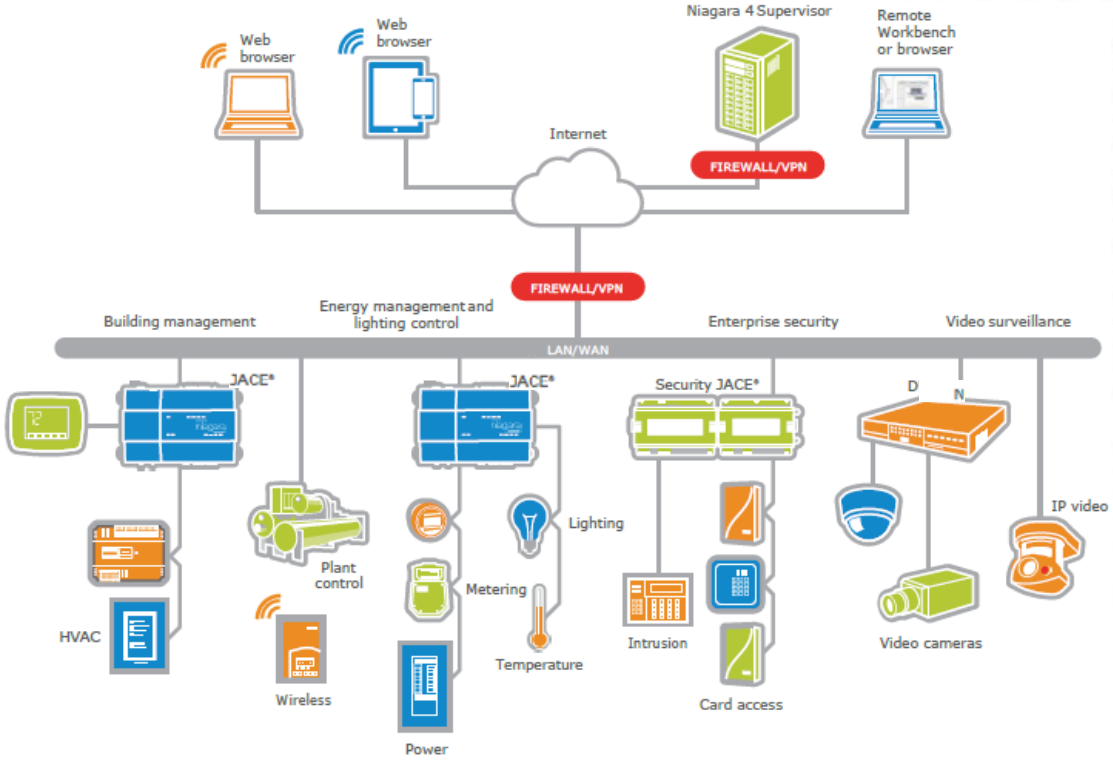
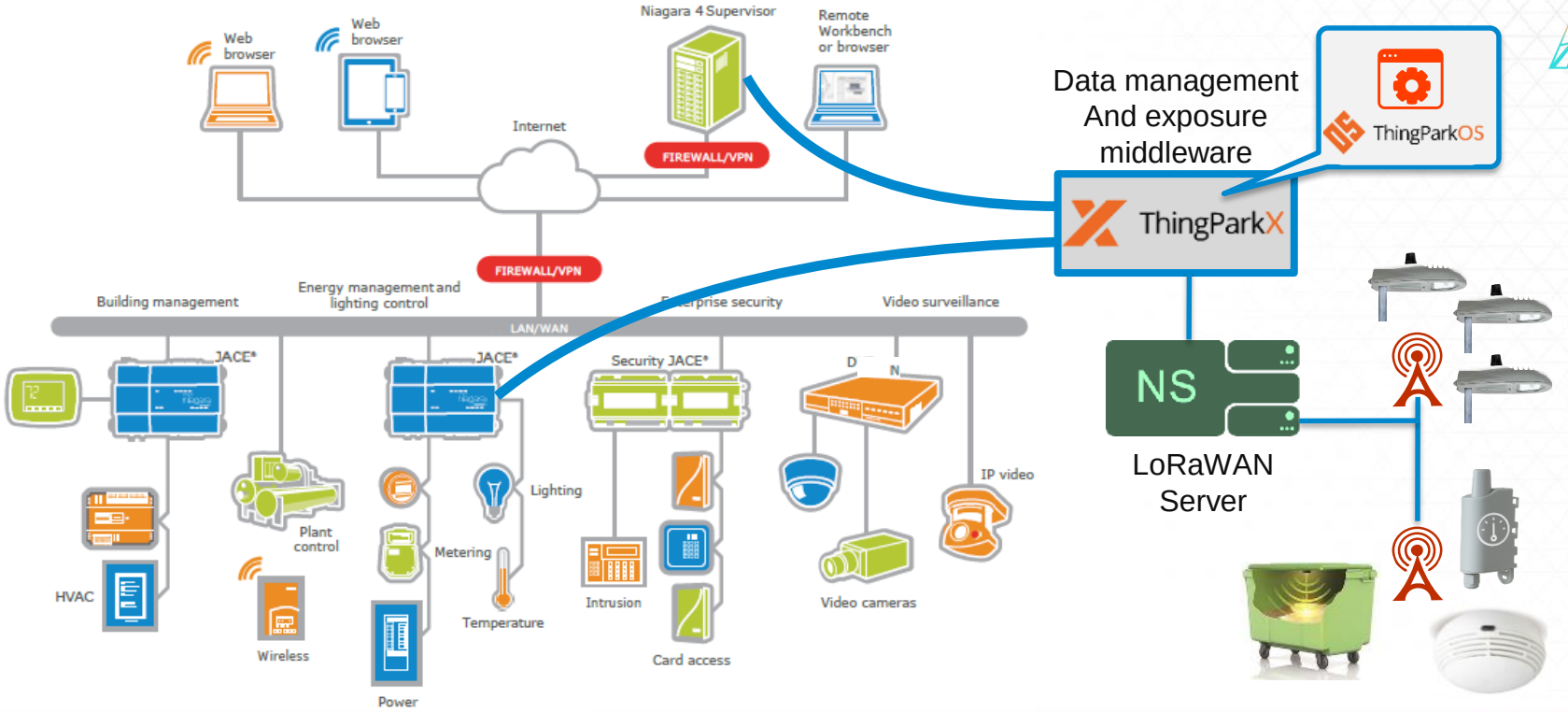
Actility
Connecting with intelligence

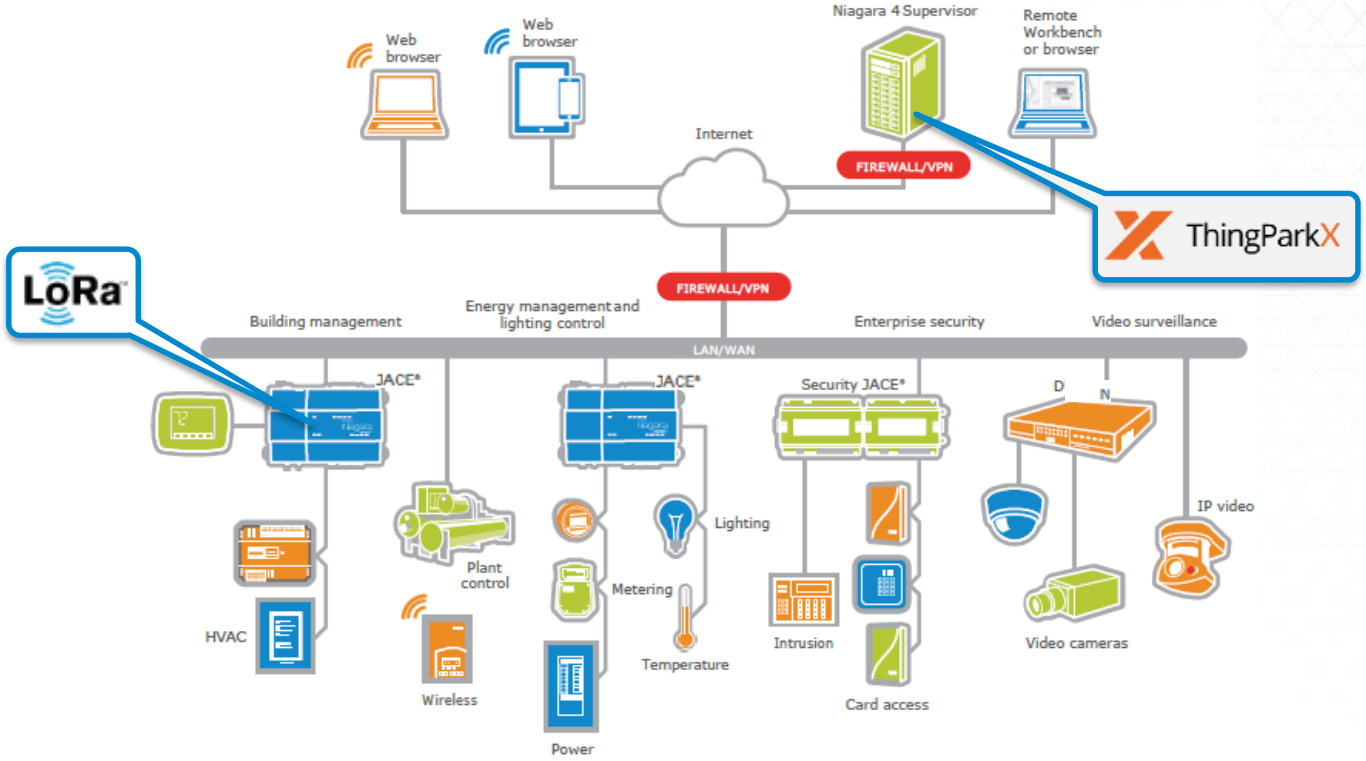
Typical Niagara Architecture Overview



Niagara Architecture Overview with Actility



Typical Niagara Architecture Overview



Summary

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