Take Your Site Intelligence to the Next Level With…

320 CORTEX

360 CORTEX

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Director of Sales & Marketing

Pre Engineering

Presentation Plan

1. Site Management Philosophies (RTU vs NMS)
2. What is an RTU ?
3. How is a Remote Site Typically Managed?
4. Live Unit Demonstration
5. Benefits/ Business Growth
6. What Davicom Offers & Unit Comparison
7. Example of Applications

What is Remote Site Management ?

!! AUTOMATION !!

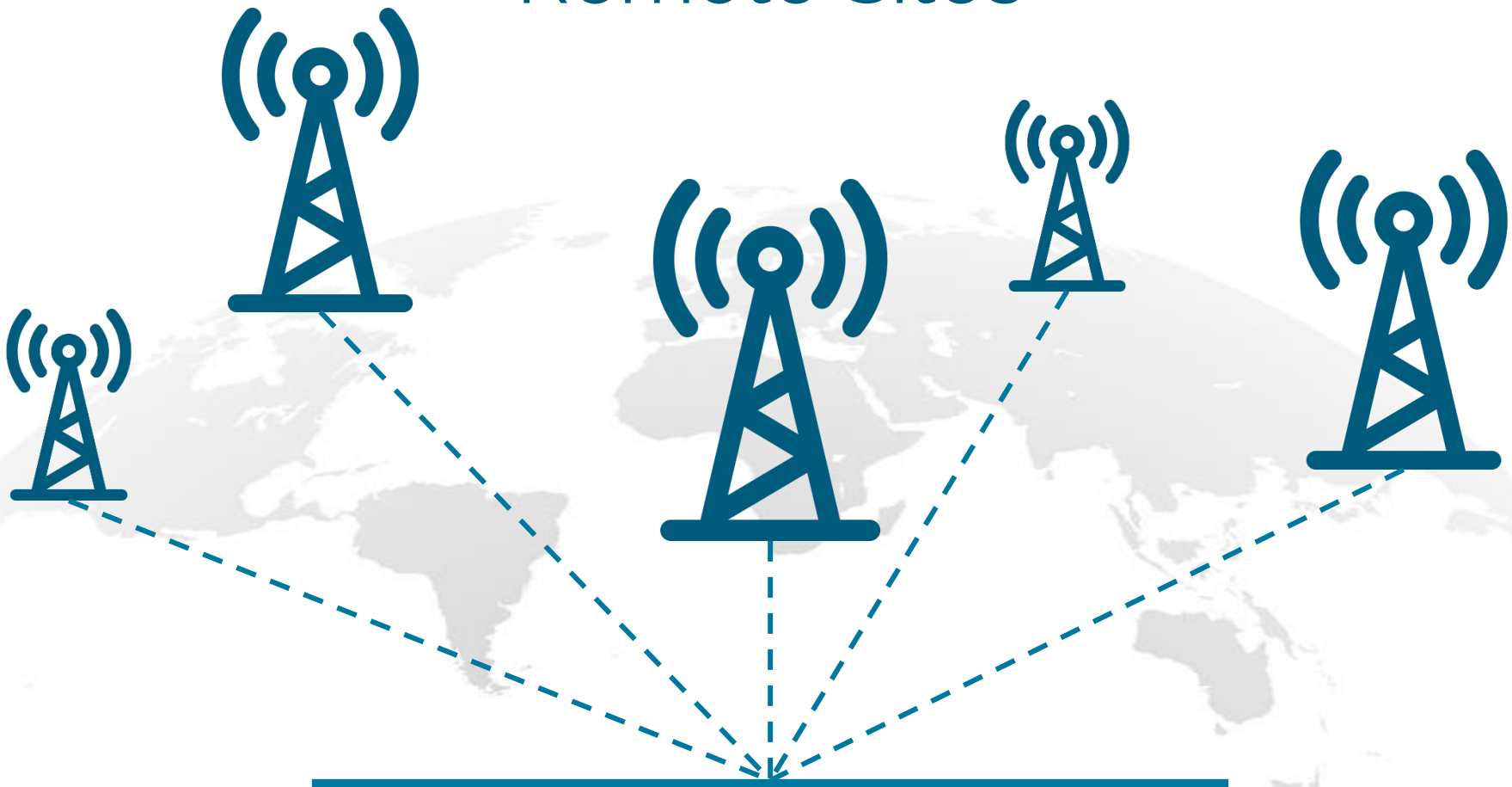
RTU

MONITORING

ALARM

CONTROL

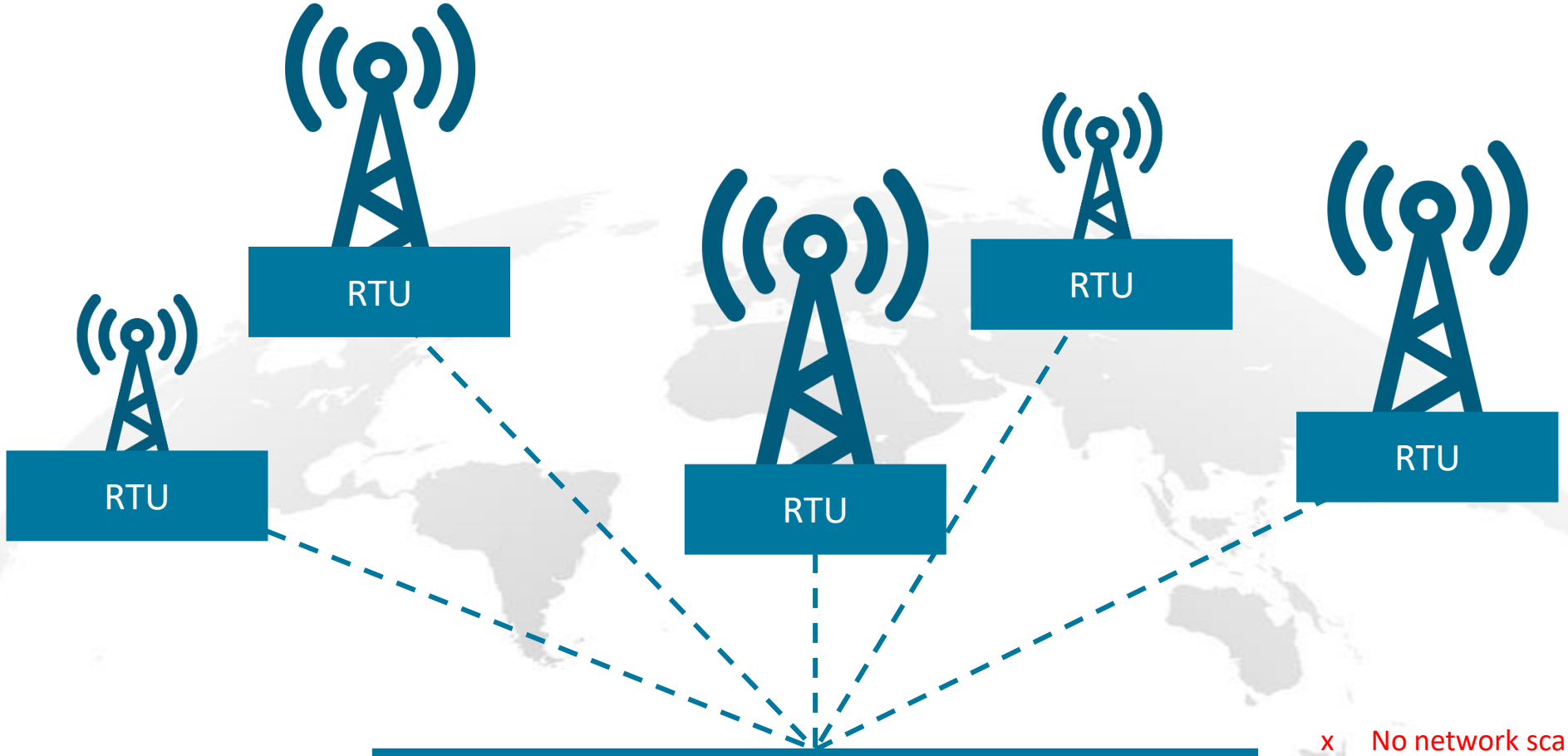
Network of Remote Sites



What are the Different Monitoring Strategies?

1. **RTU** ONLY
2. **NMS** ONLY
3. NMS + RTU

RTU only Strategy



- ✓ Completely autonomous site
- ✓ Enhanced reliability for each site

- x No network scale management and data acquisition.
- x No general overview for larger networks

NMS Only Strategy

- ✓ Single point view of everything
- ✓ Easier site management and alarms
- ✓ Can be a less expensive Solution

- x Single point of failure
- x Only talks to IP-enabled equipment
- x Still need a box at the site for temp, smoke, etc.
- x Completely blind in case of link failure

NMS + RTU Strategy

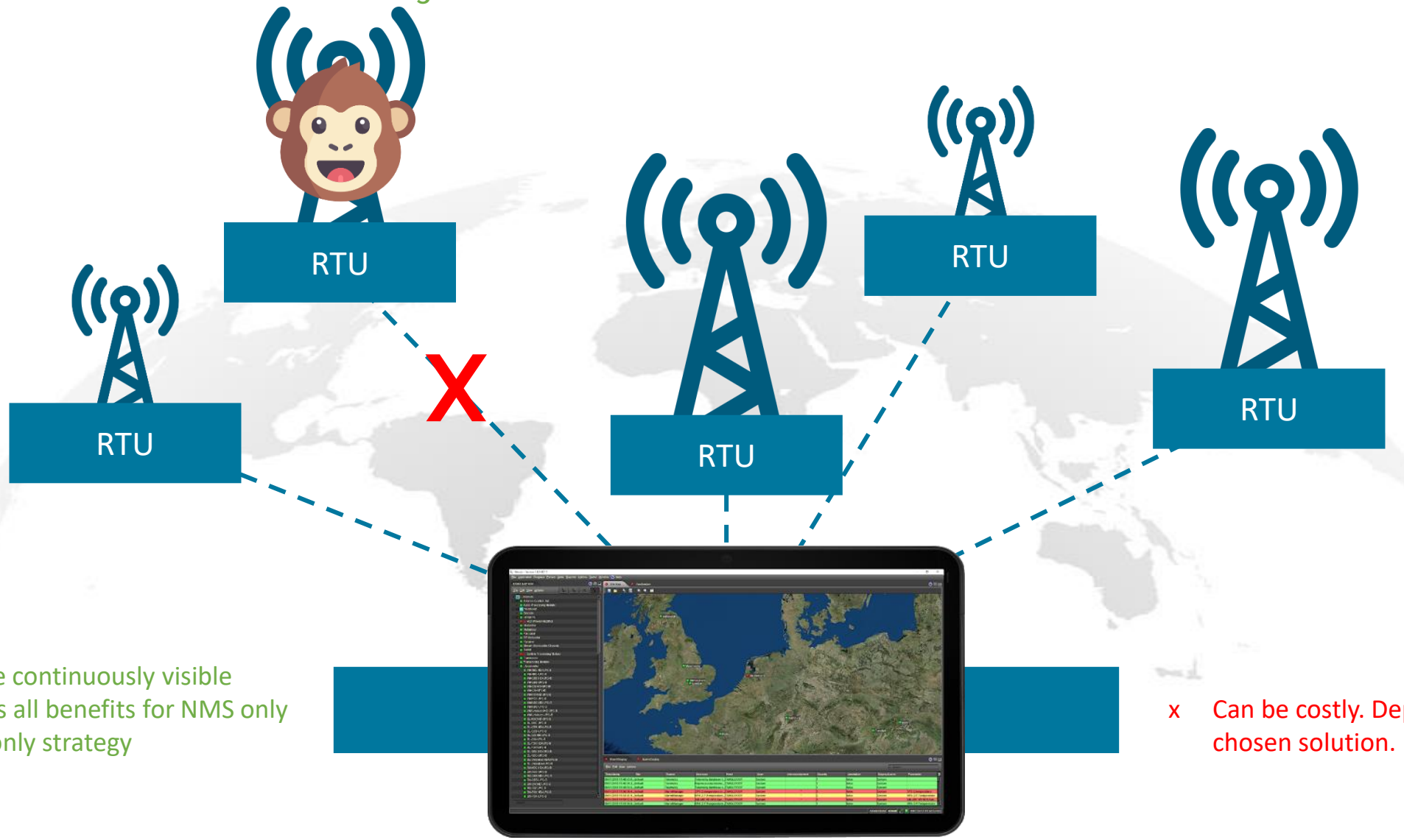
! Continued Logging !
! Still Automating !

- ✓ Sites are continuously visible
- ✓ Provides all benefits for NMS only & RTU only strategy

- x Can be costly. Depending on the chosen solution.

NMS + RTU Strategy

! Continued Logging !
! Still Automating !



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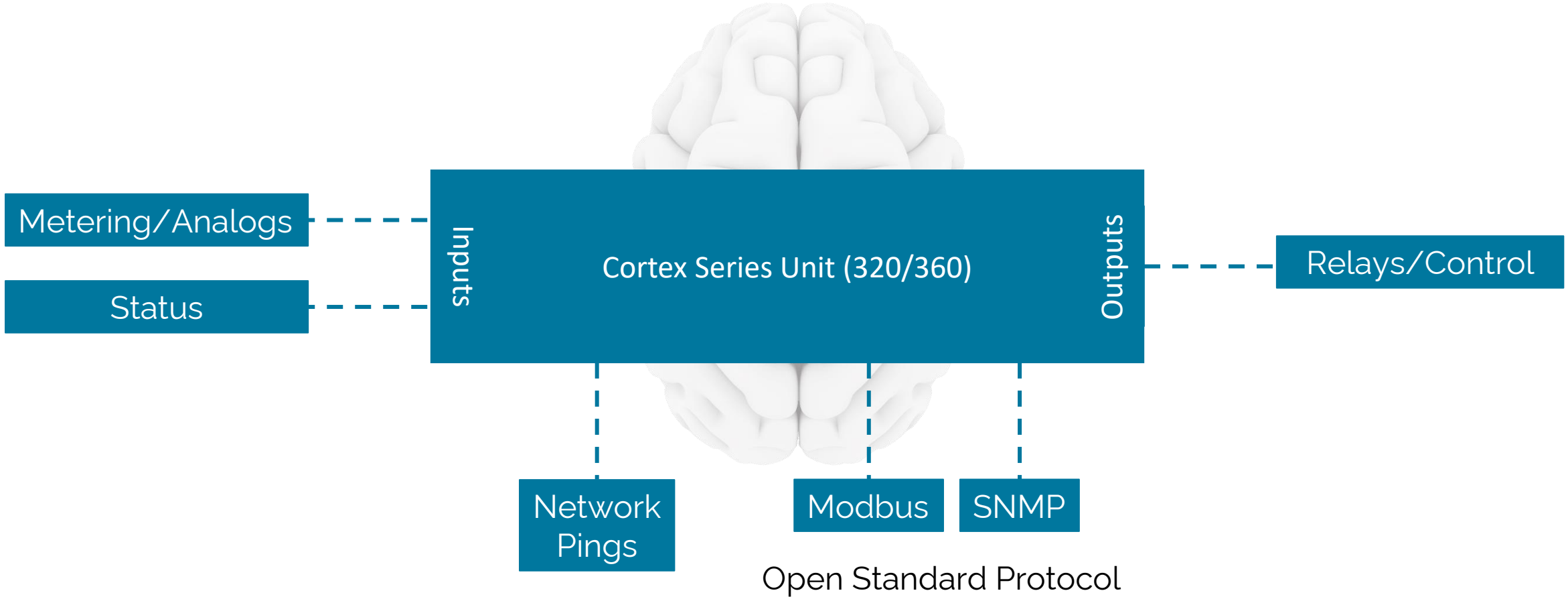
What is a Remote Telemetry Unit (RTU)?

Also called "Remote Control" or Remote "Site Management Systems"



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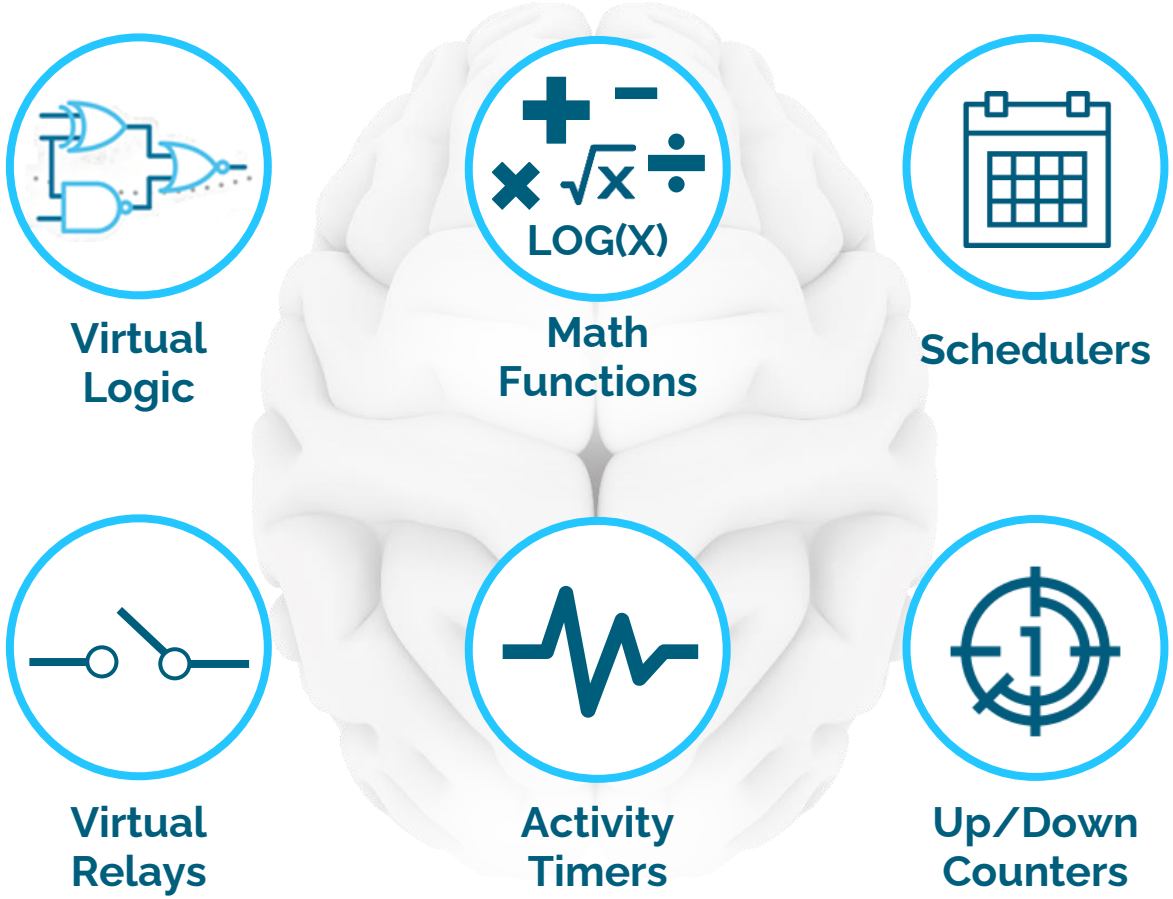


What is SNMP ?

Simple Network Management Protocol

GET/SET/TRAP

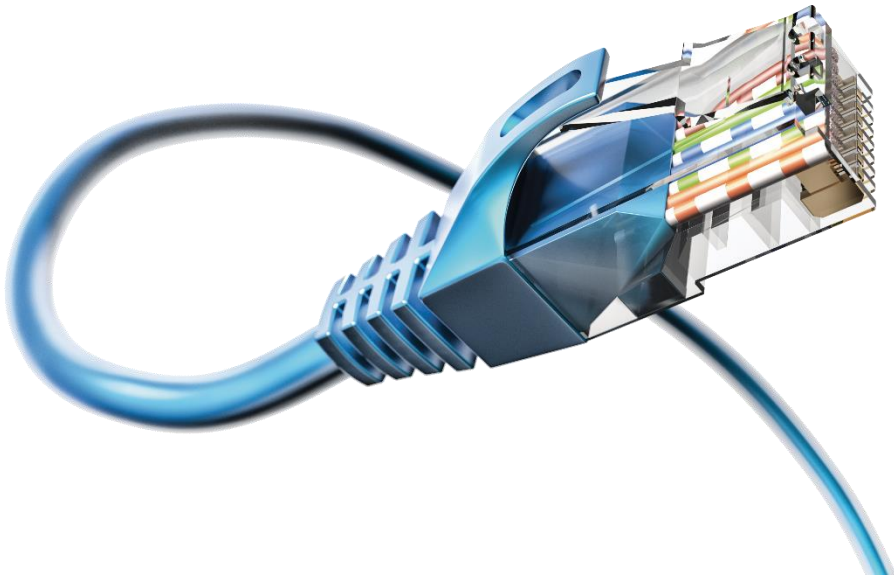
OID = .1.3.6.1.4.1.14665.1.1.4.1.3

SERIES CORTEX

MANAGER

SNMP

AGENT



NETWORK MANAGEMENT SOFTWARE (NMS)

GET — Indoor Temperature

SET — Turn On Generator

TRAP — Alarm !

MANAGER ..... SERIES CORTEX ..... **AGENT**

GET — On/Off ?

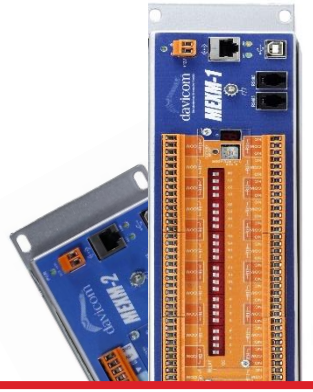
SET — Turn On

TRAP — Alarm !

What is Modbus ?

Mostly used for I/O expansion

Registers = 30001..
Status = 10001..30000
Coils = 00001..10000

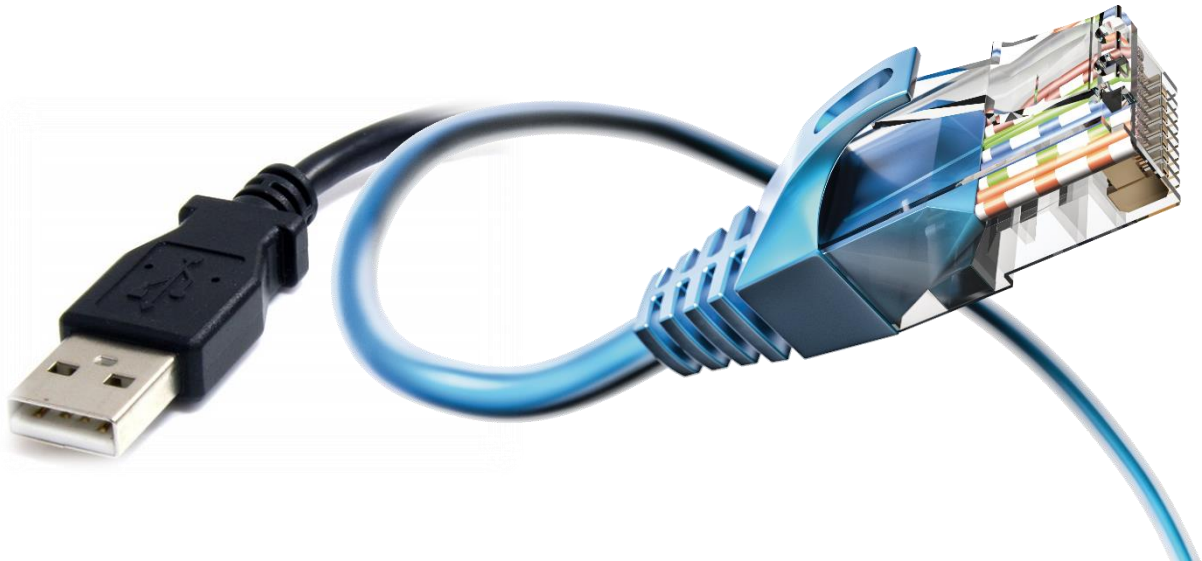


SERIES CORTEX

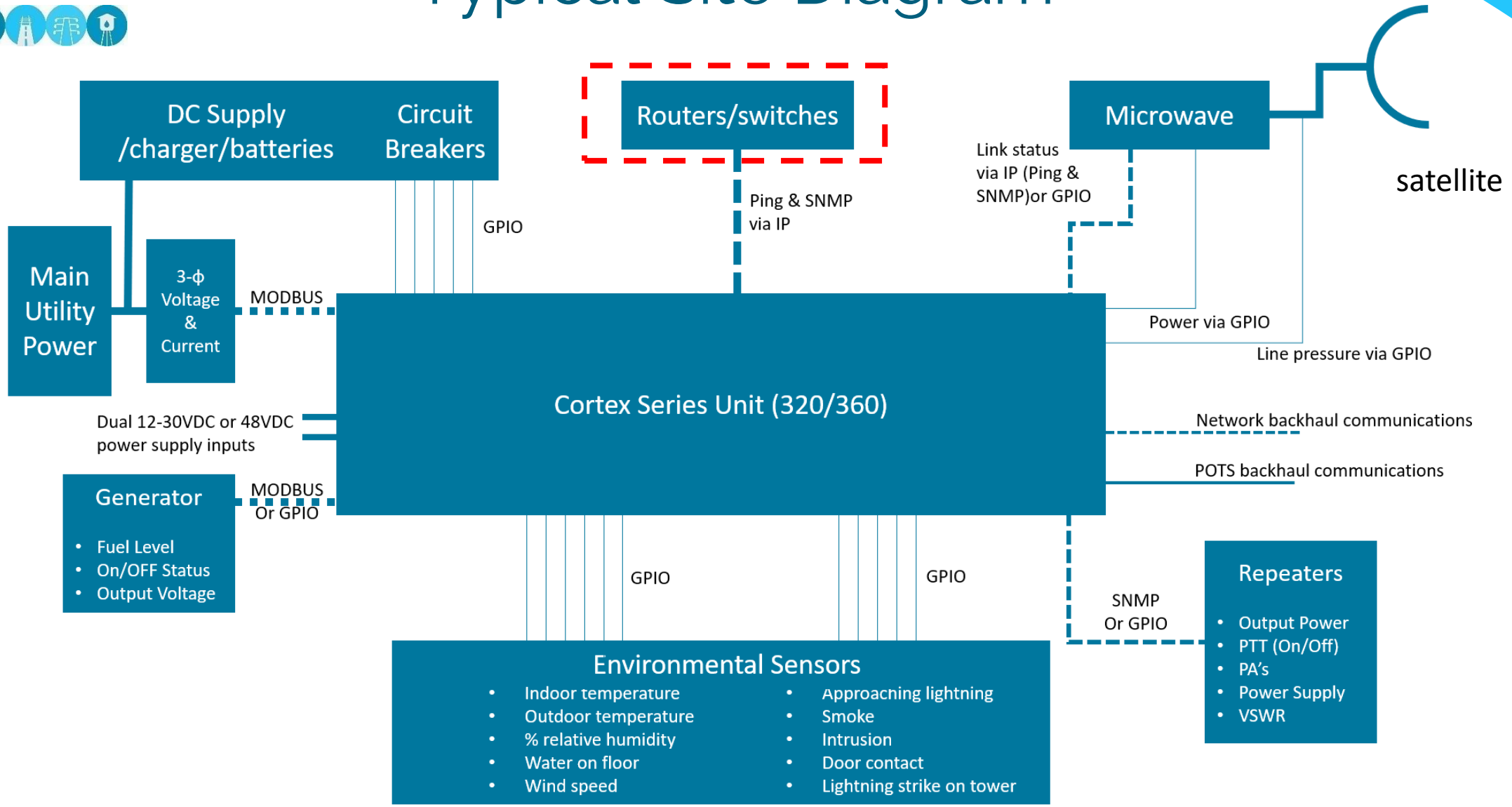
MASTER

Modbus

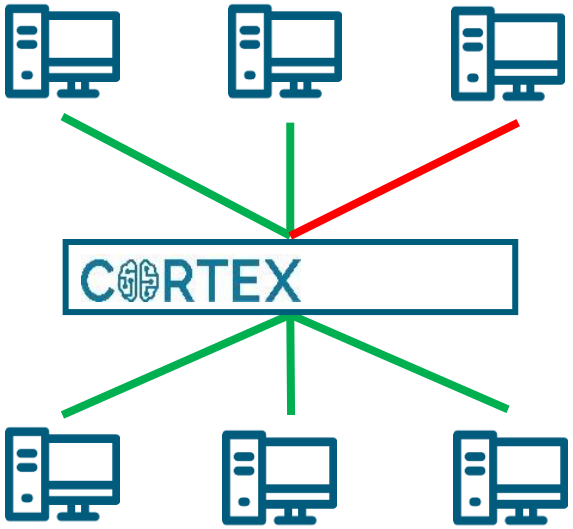
SLAVE



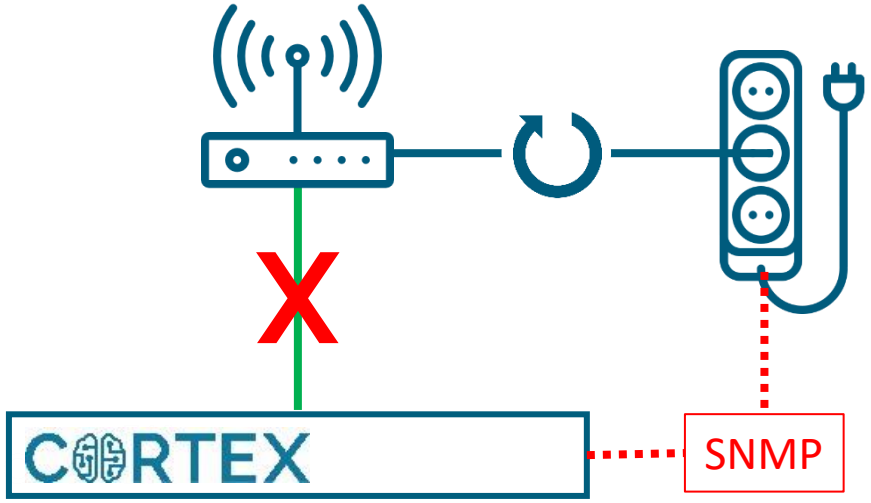
Typical Site Diagram



Manage Your Network Equipment

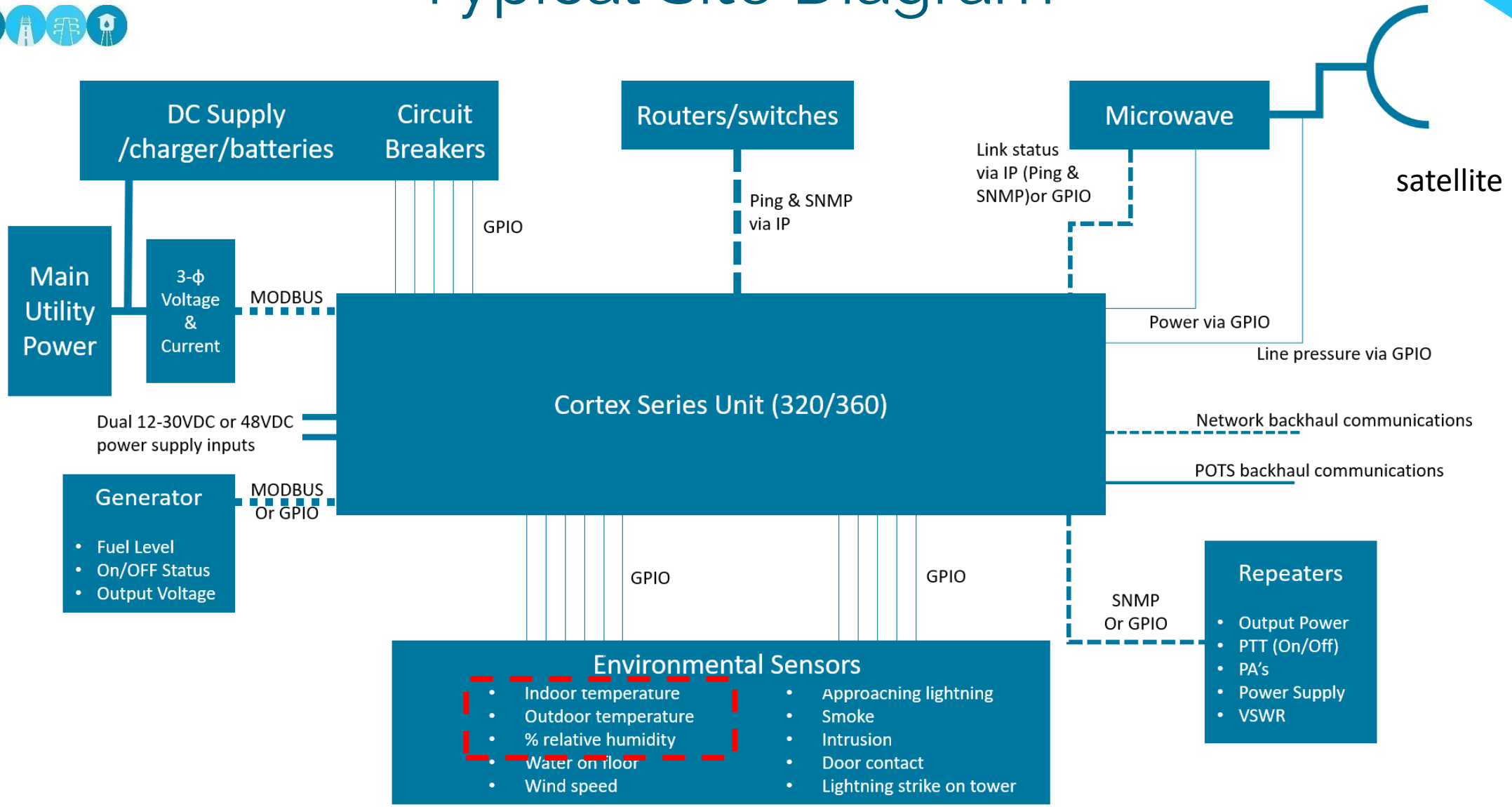


Debug your network



Reset flaky network elements!

Typical Site Diagram



Use Your RTU to Create a Smart Thermostat Function

Control

CORTEX

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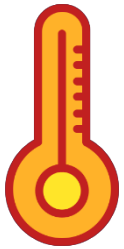
Control

CORTEX



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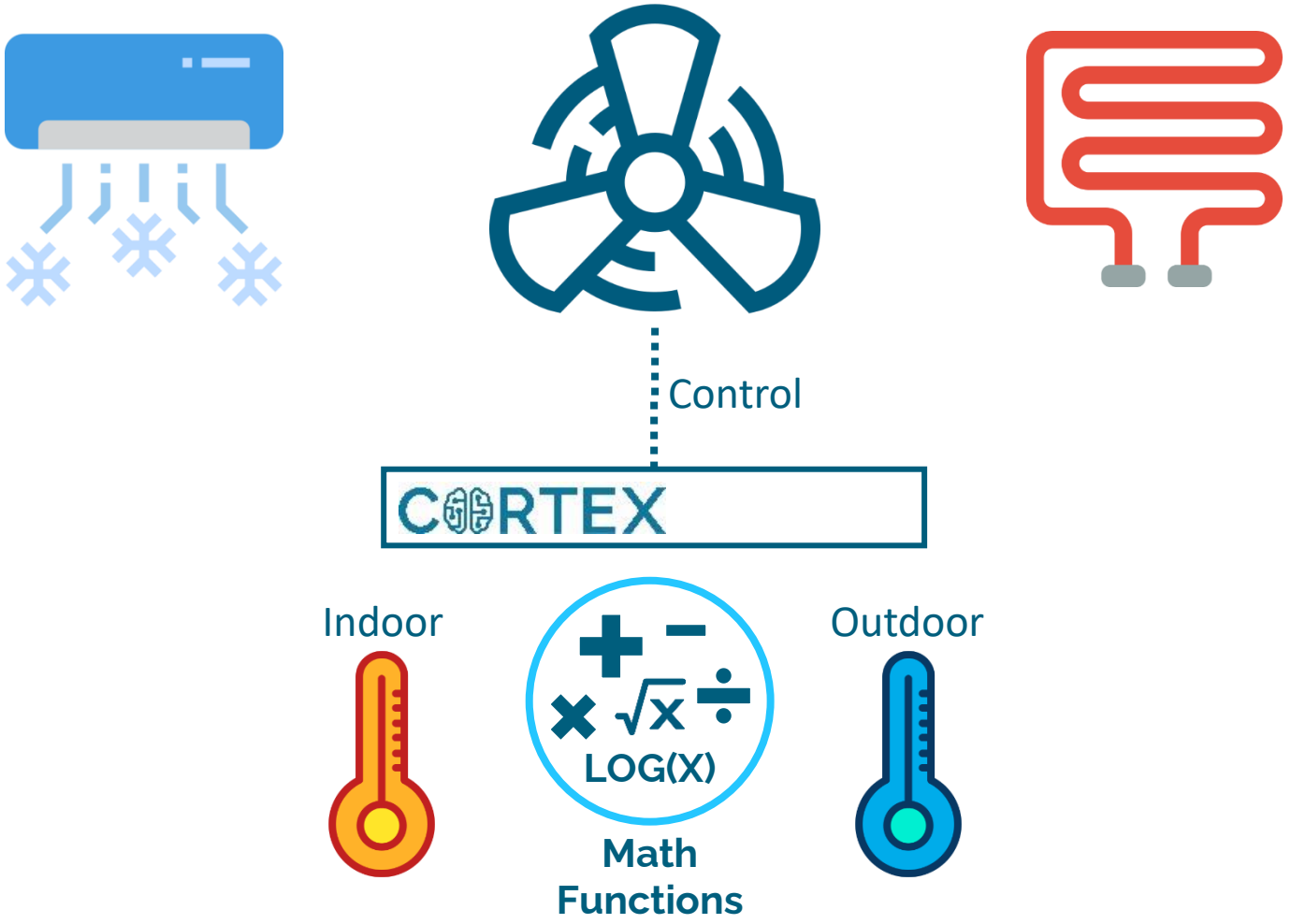

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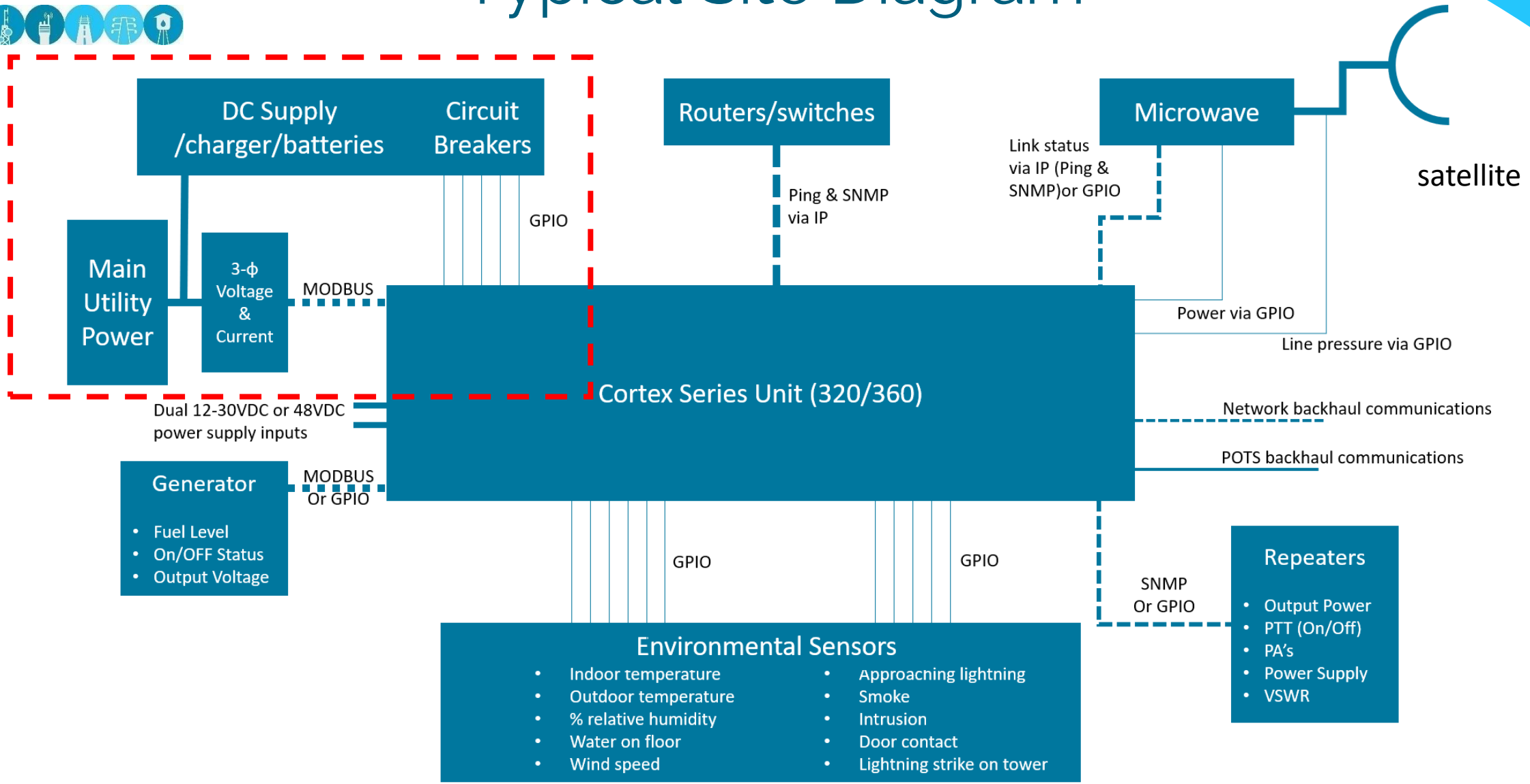
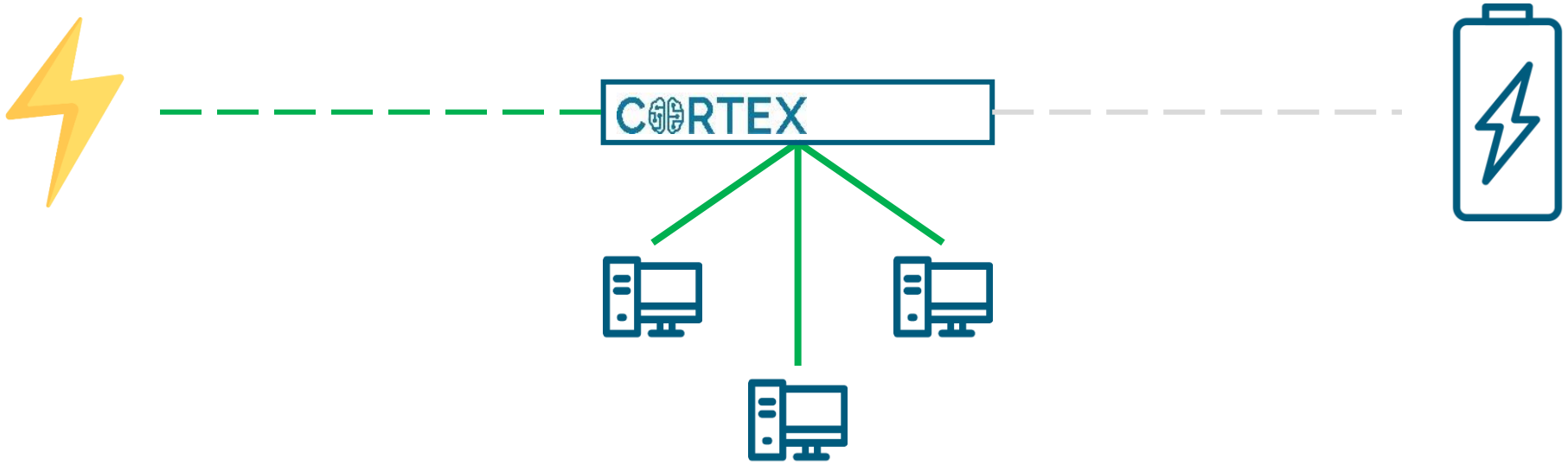


Intelligently Manage Site Power



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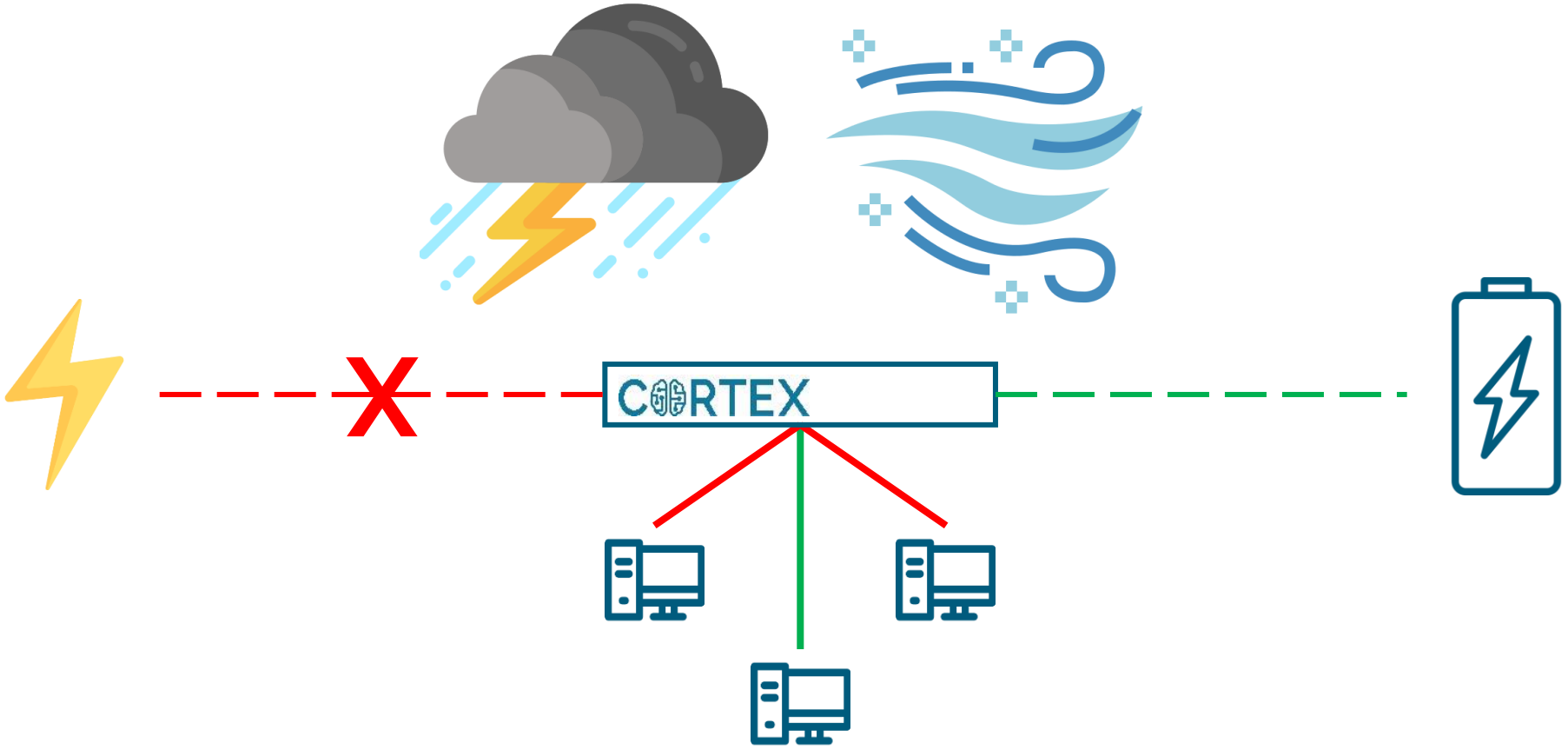

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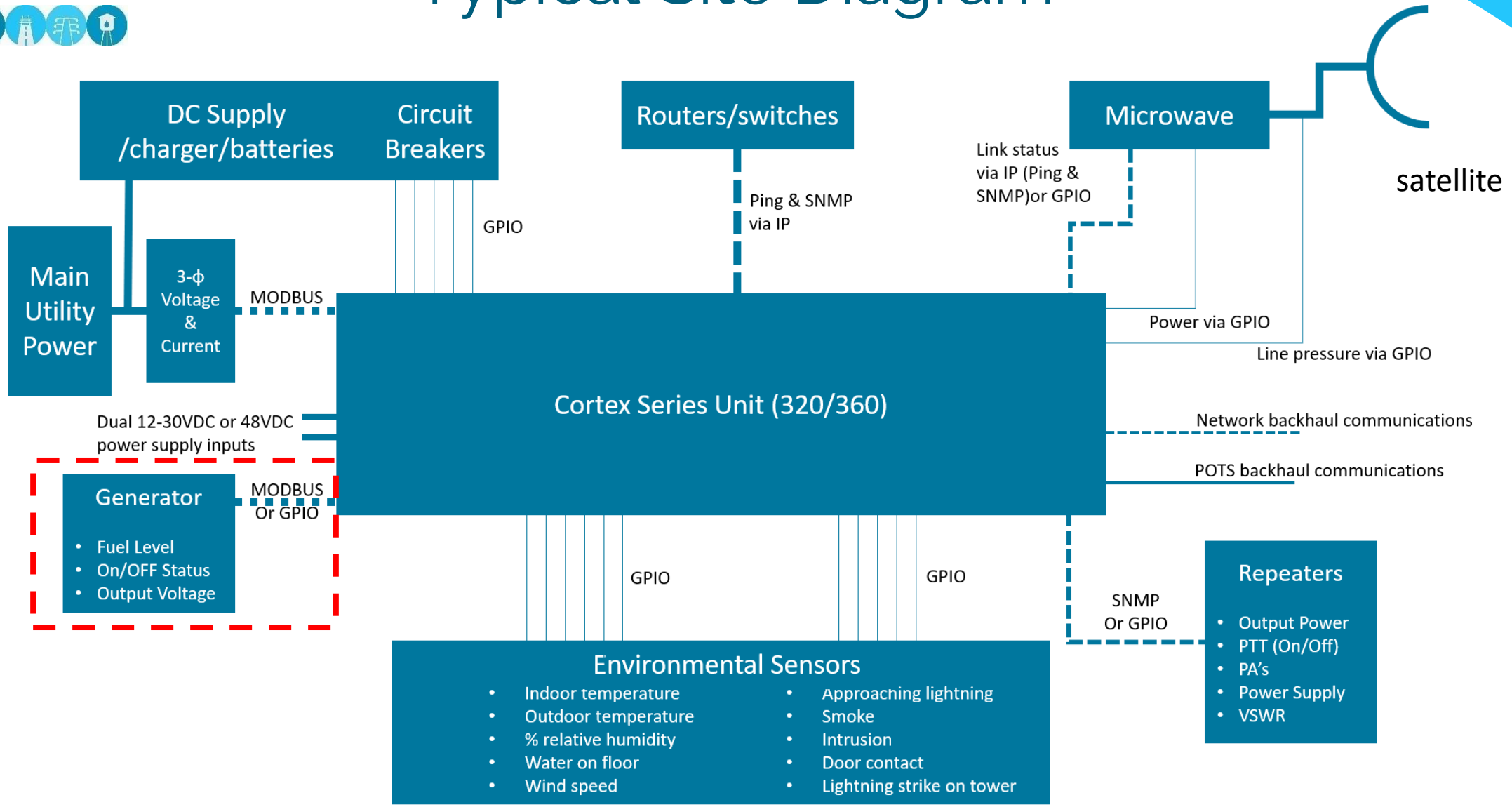

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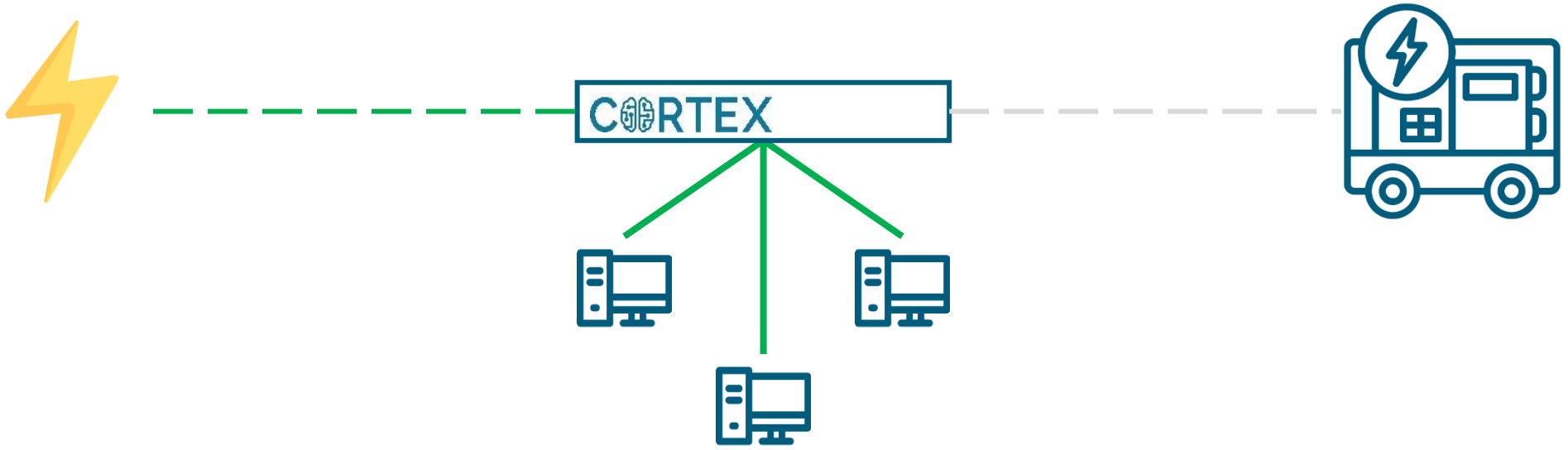

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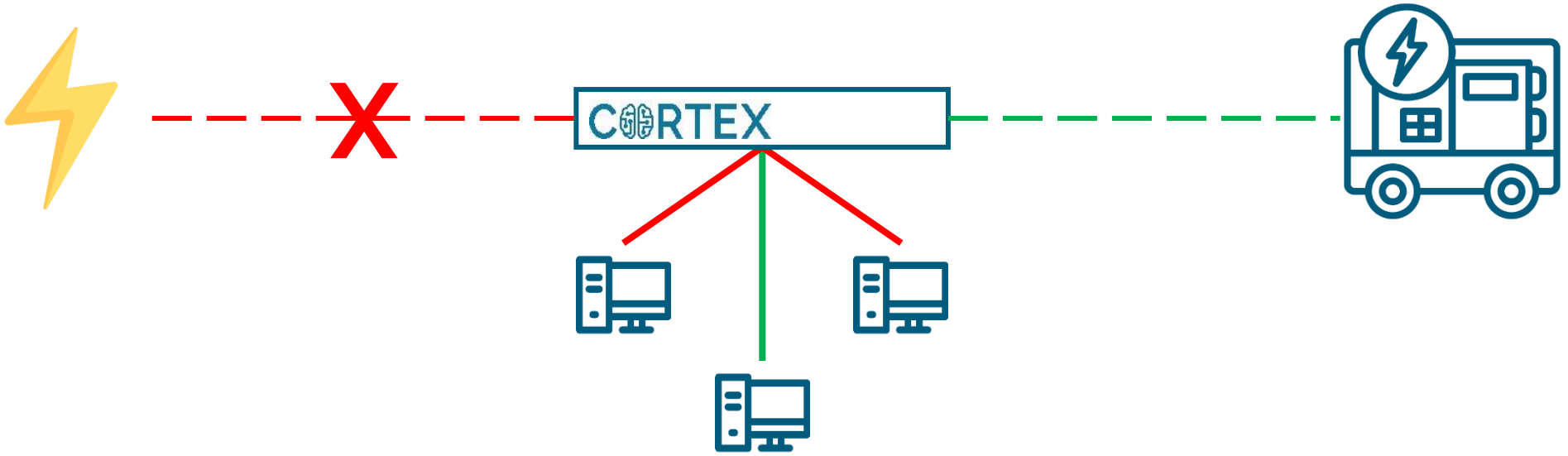

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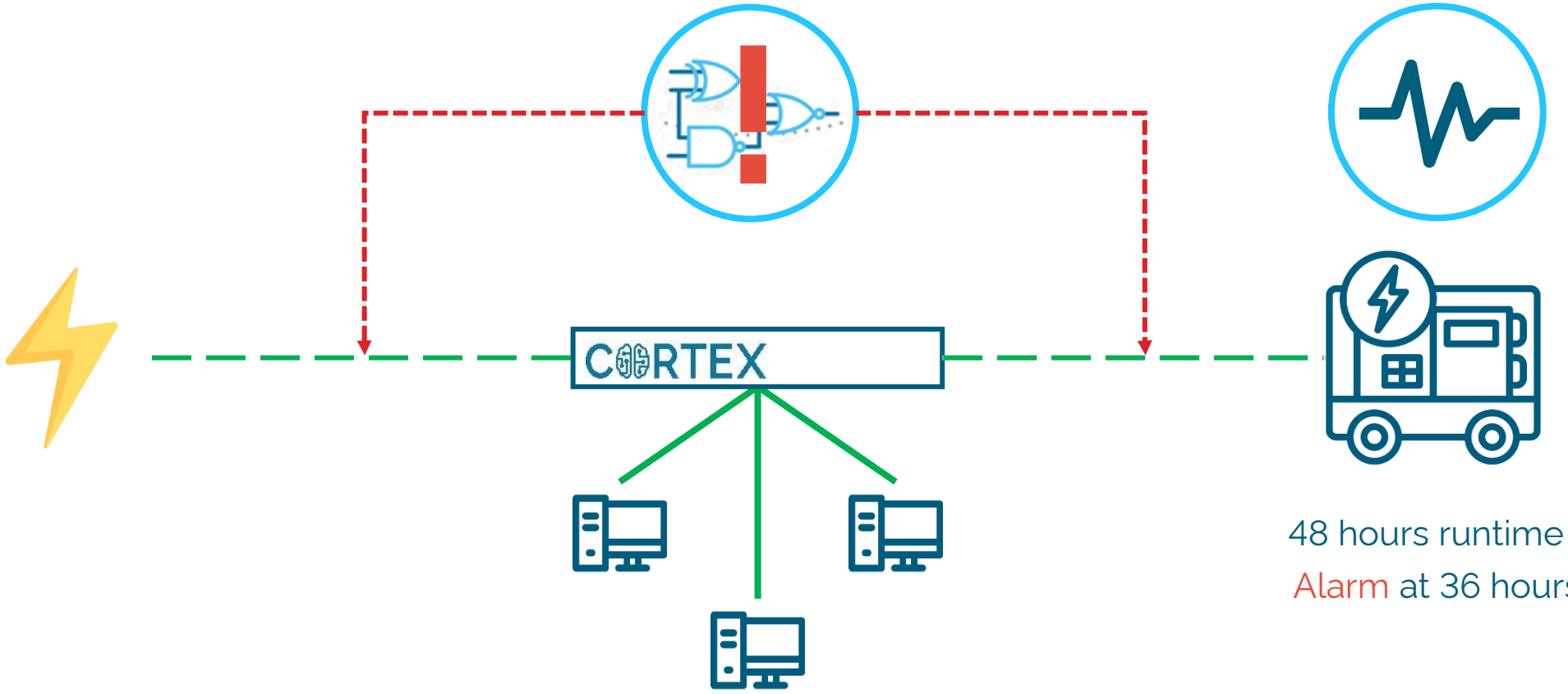
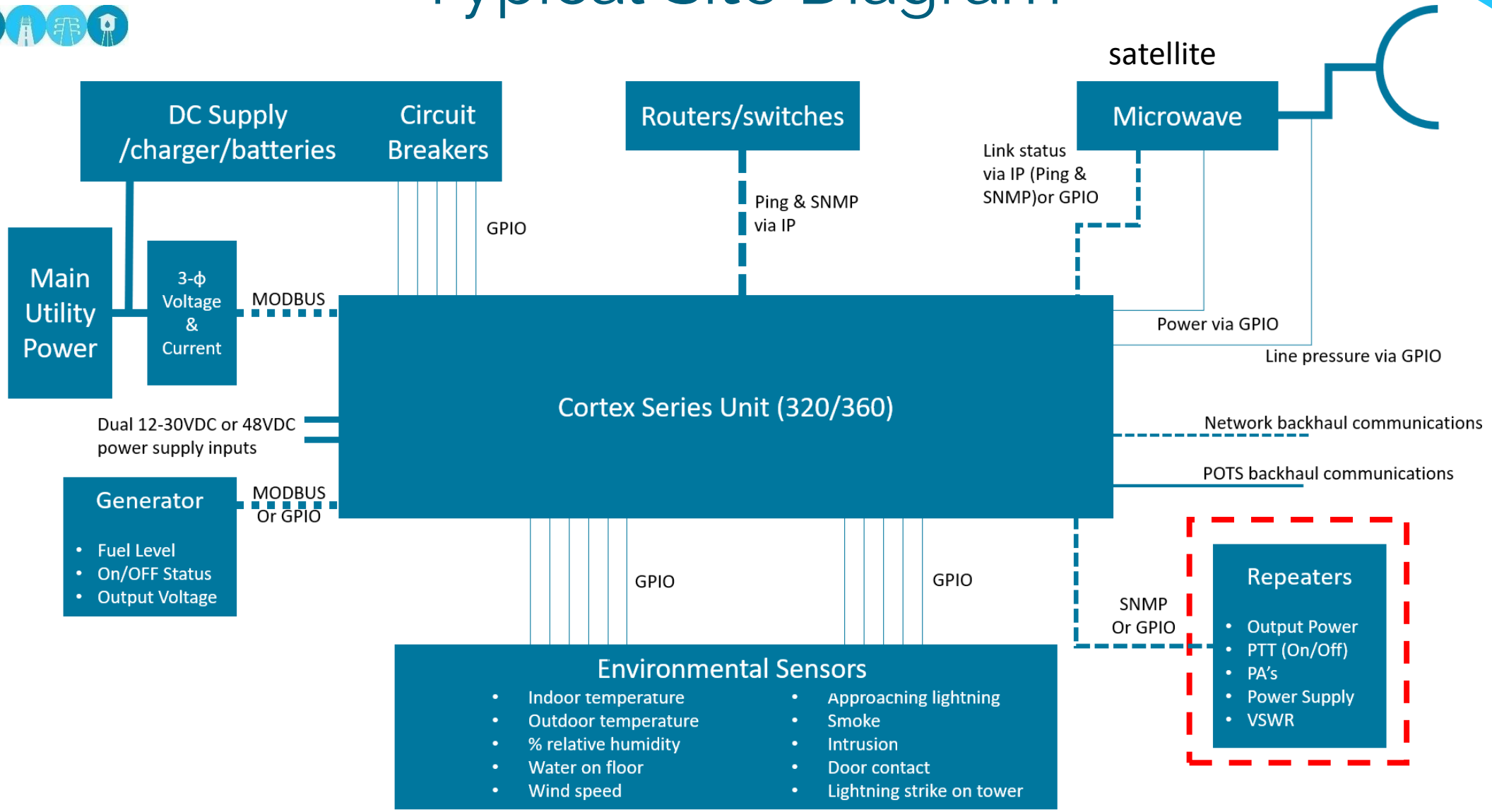


48 hours runtime ?

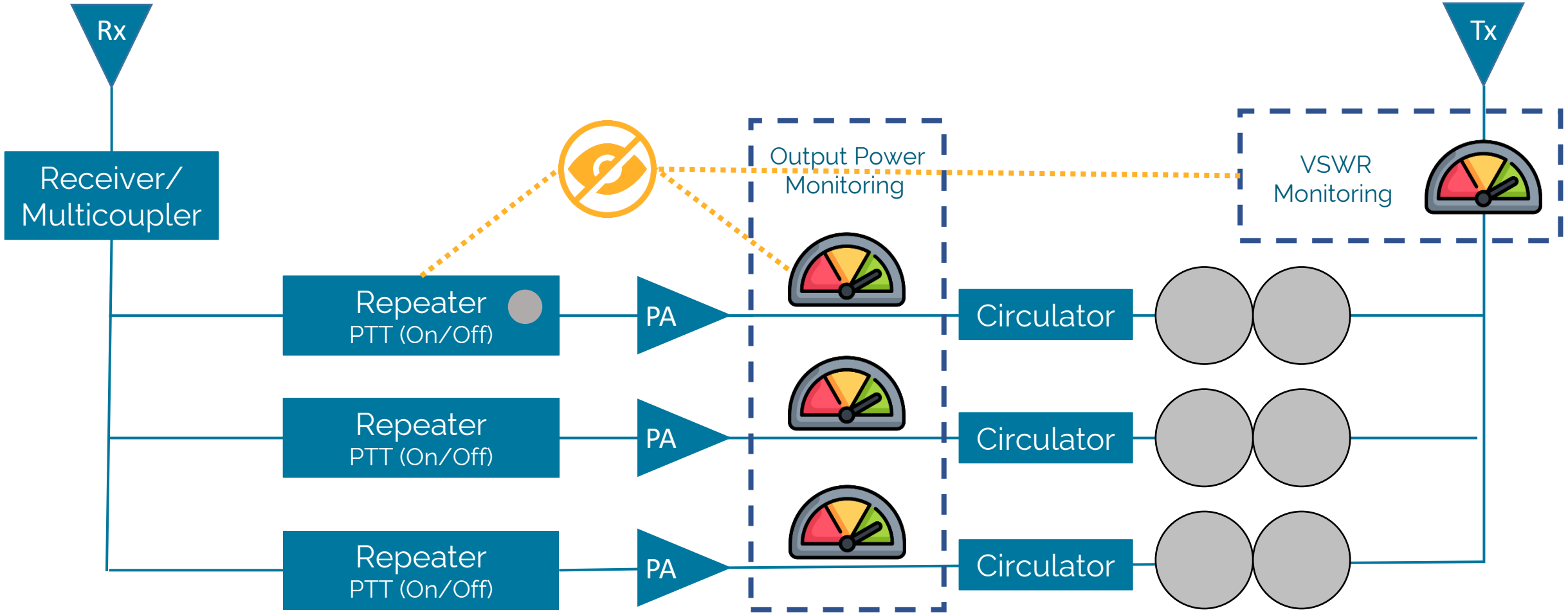
Alarm at 36 hours

Typical Site Diagram



Repeater Monitoring Schematic

(3 Channel Site Example)



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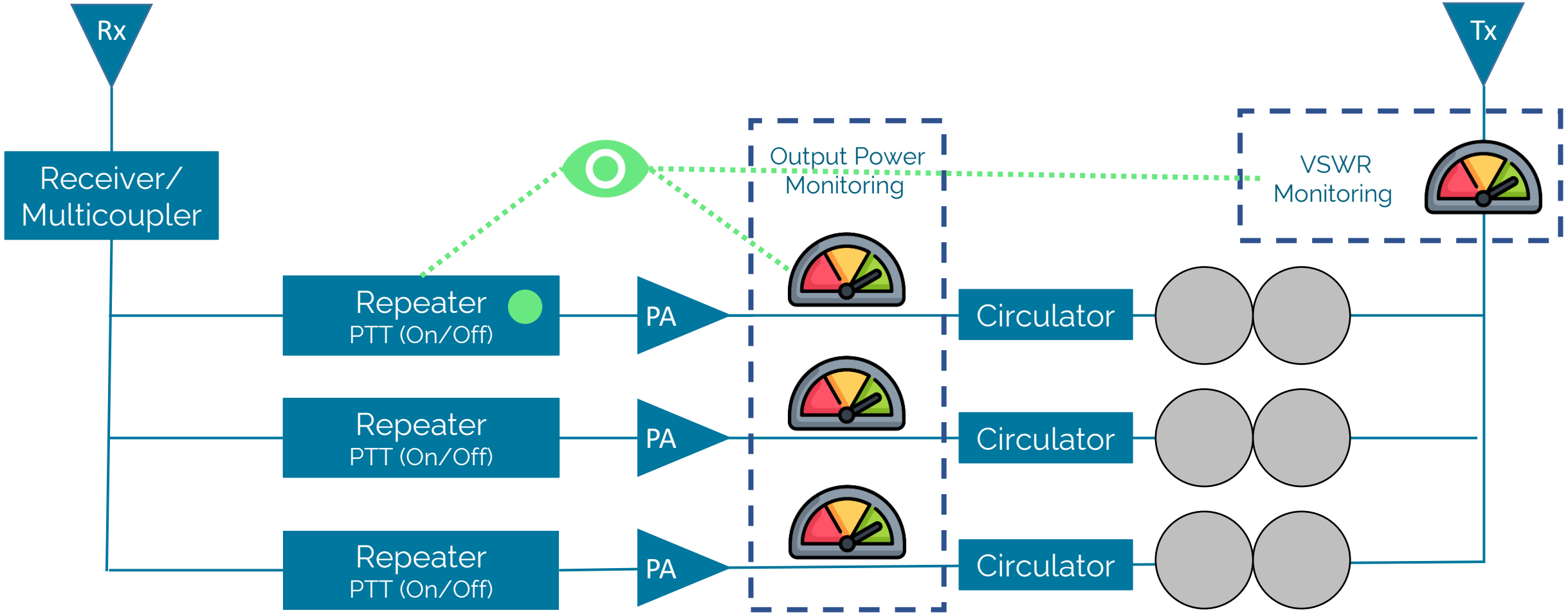
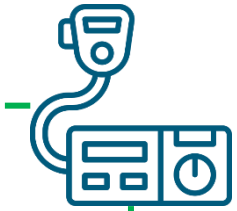


Automatically Test Your Repeaters

Test RSSI !

4 AM, Every Day

Schedulers



PTT (With a Relay)

Now Let's See How it Looks on a Real Unit

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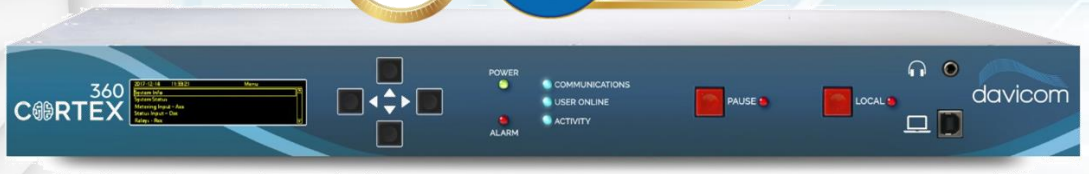
2018 BEST of SHOW Radio

SBE 2018 TECHNOLOGY AWARD



How can You Benefit from This?

Detailed and Efficient Monitoring Strategy

1. Less Downtime

2. A more productive Engineering Team/cover more sites with the same personnel.

3. Save tim every e a

!! AUTOMATION !!

Let's do the Math Together

On average, a remote site…

Requires at least one trip a month

Is at a distance of 80 miles

Takes approximately 10 hours to solve problems

Tech/Eng wage is around $ 30.00 an hour

Travel costs 0.58 cents per mile

Let's do the Math Together

How much does this potentially represent, by saving one trip a month?

(80 miles * 0.58 cent/miles) + ($ 30.00 an hour * 10 hours)

Per Month	Per Year	10 Years (2% per year)
$ 346.40	$ 4,156.80	$ 45,515.00

2 Options Available for the Cortex Series

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Audio Input/Output

Connect site audio to the line-in or feed the audio to an external mic input.

I/O Connectors

Connect all I/O's to the compact DB-25 connectors.

Power Failure Check

Monitor AC power at your site with the included wall-wart.

On-board USB hub

Connect up to 2 USB devices (Memory stick or other Davicom products).

Power input

12 VDC for easy battery backup.

Ethernet Port

Connect to the outside world and/or to other onsite equipment.

Phone Line

Connect to the outside world via dial-up modem.

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I/O Connectors

Connect all I/O's to the compact DB-50 connectors.

Dual Power Supply

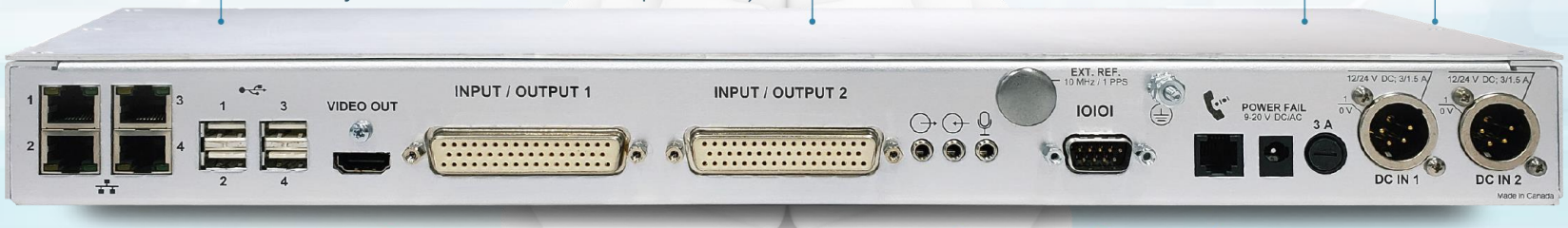
Add redundancy by connecting two 10 to 30 VDC power supplies.

On-board USB hub

Connect 4 USB devices (keyboard, mouse, memory stick or other Davicom products).

Power Failure Check

Monitor AC power at your site with the included wall-wart.



Ethernet Switch

Connect to the outside world and/or to other onsite equipment.

Audio Input/Output

Connect site audio to the line or mic input and feed the audio to an external mic input using line-out.

Video Output

Connect a flat screen monitor and access the unit through the internal GUI without an on-site computer.

Serial Connection

Connect to legacy devices or to the outside world through this serial port.

Phone Line

Connect to the outside world via dial-up modem.

What are the Differences?

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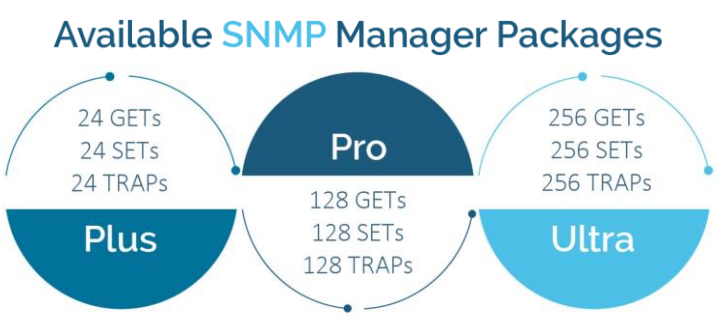


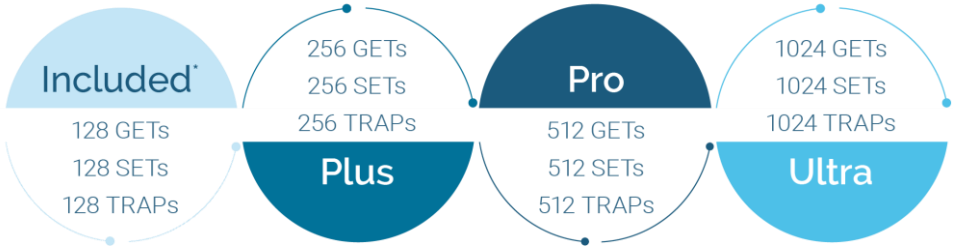
12 Versatile

4 Status

6 Relays

360 CORTEX

HDMI™ x2



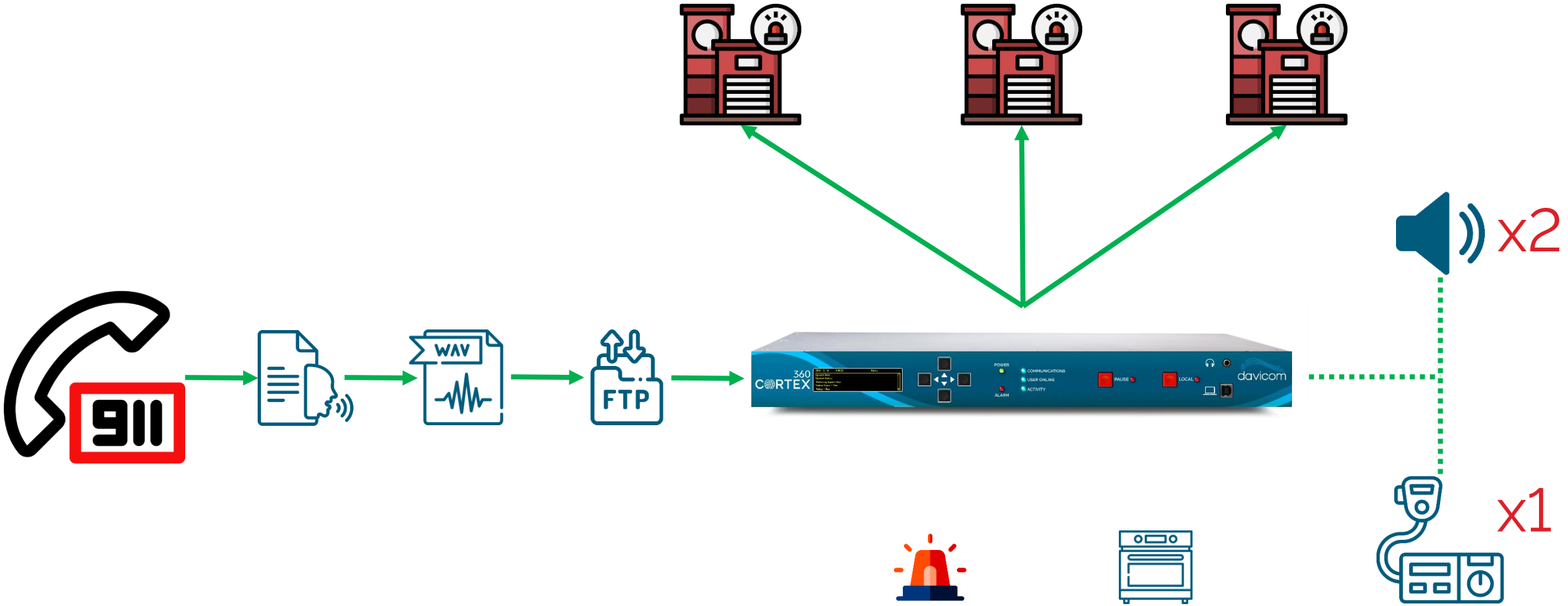
8 Analog

16 Status

8 Relays

Application Example

Fire Stations

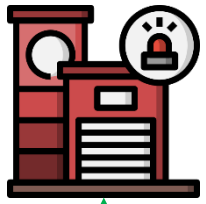


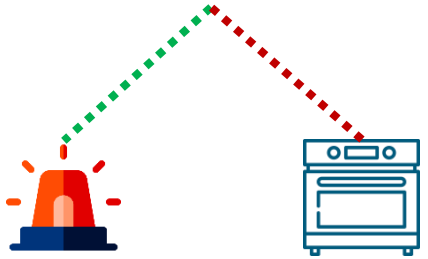
Application Example

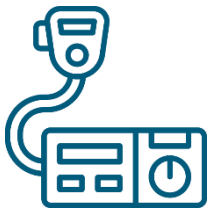
Fire Stations

2

Recommendation approved







Application Example

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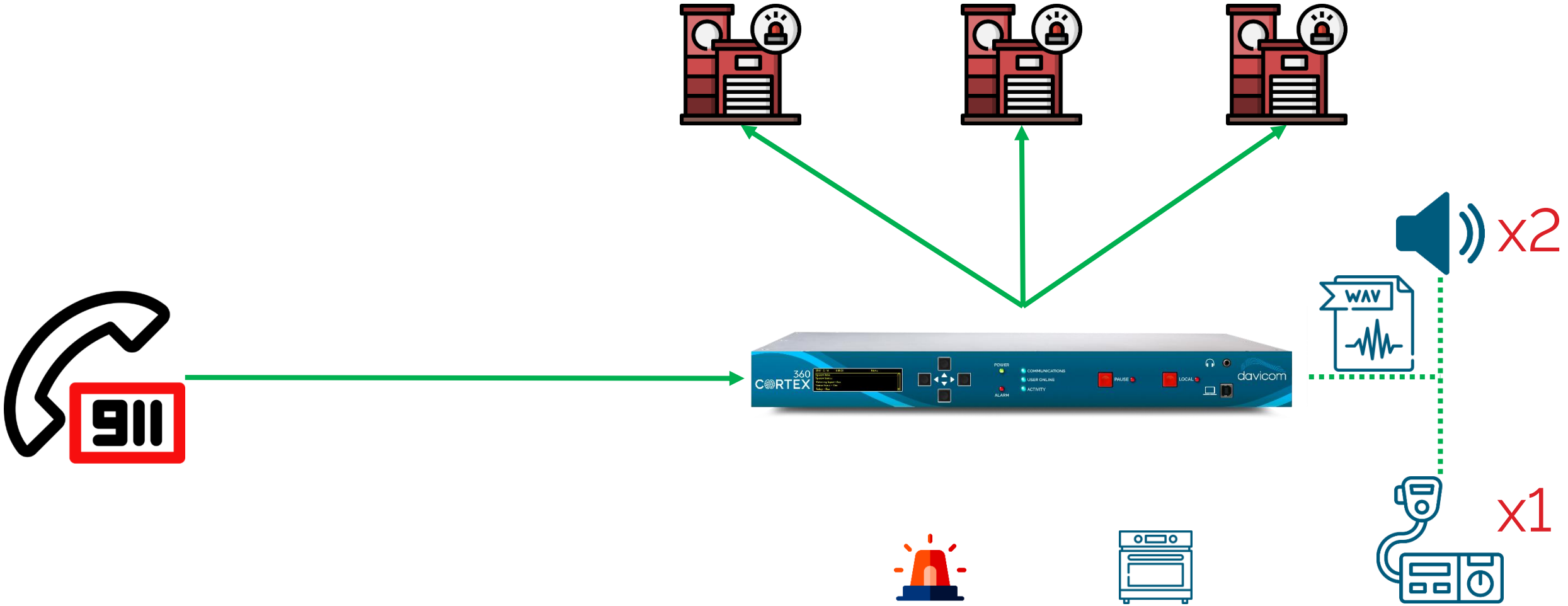
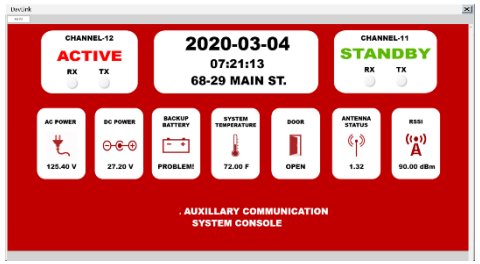


Application Example

911 Center

LOBBY



HDMI™

ALARMS ON/OFF

STANDBY ON/OFF

Audio Alarms

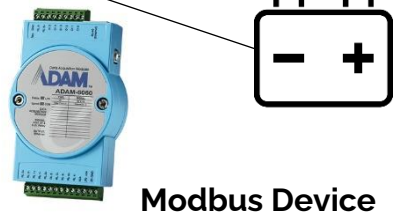
Dedicated IP Connection (Modbus & SNMP)

BASEMENT

Door

Temp

Power & VSWR



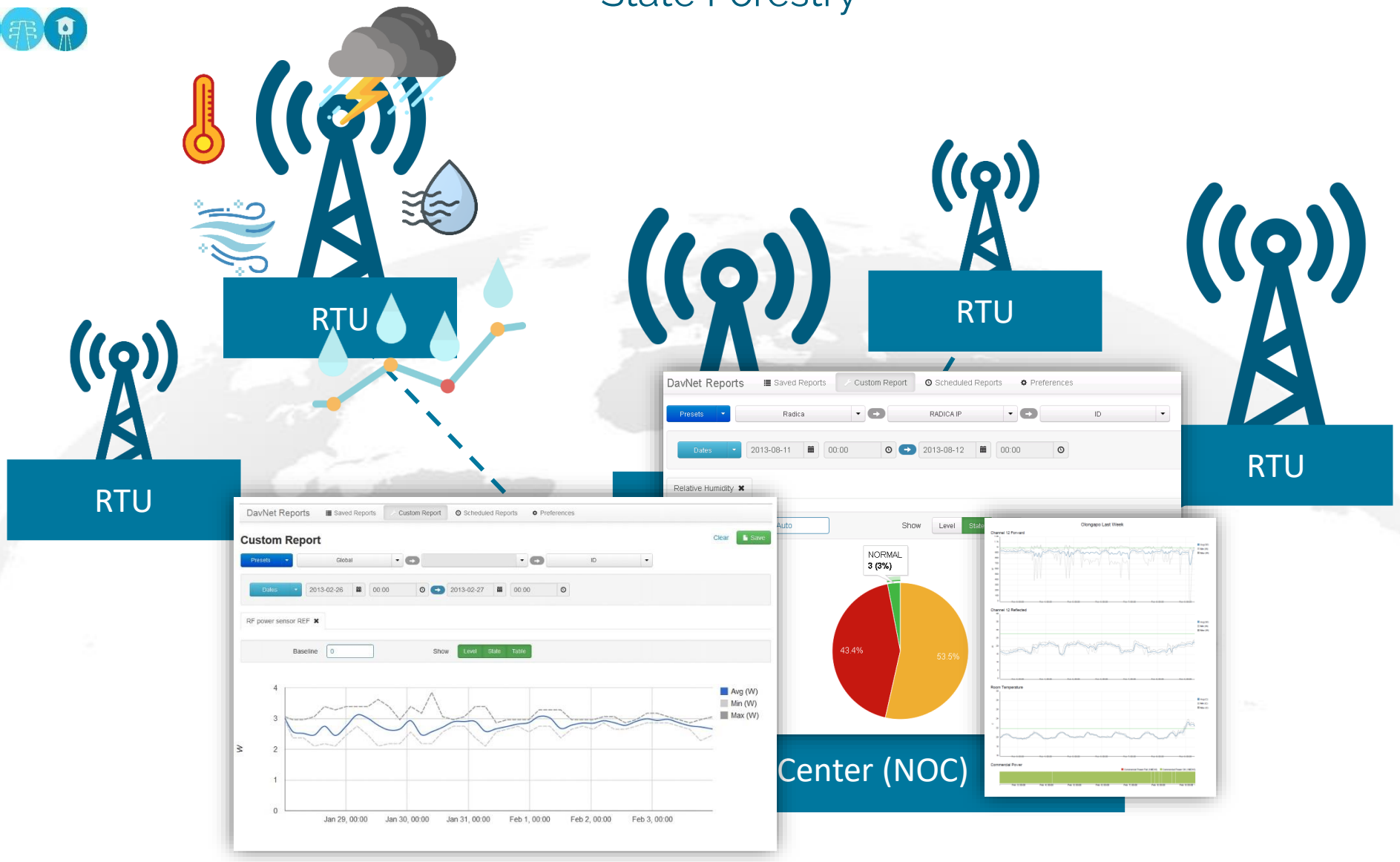
Modbus Device For I/O's

Network Switch

TAIT TB9100 (RSSI, Power Out, PTT)
SNMP Monitoring

Application Example

State Forestry



Here are Useful Links to Get you Started

davicom

Davicom Corporate Website

SERIES CORTEX

Cortex Series Website

dex

DEX Support Portal

REP & DEALER PORTAL

Access Your Portal