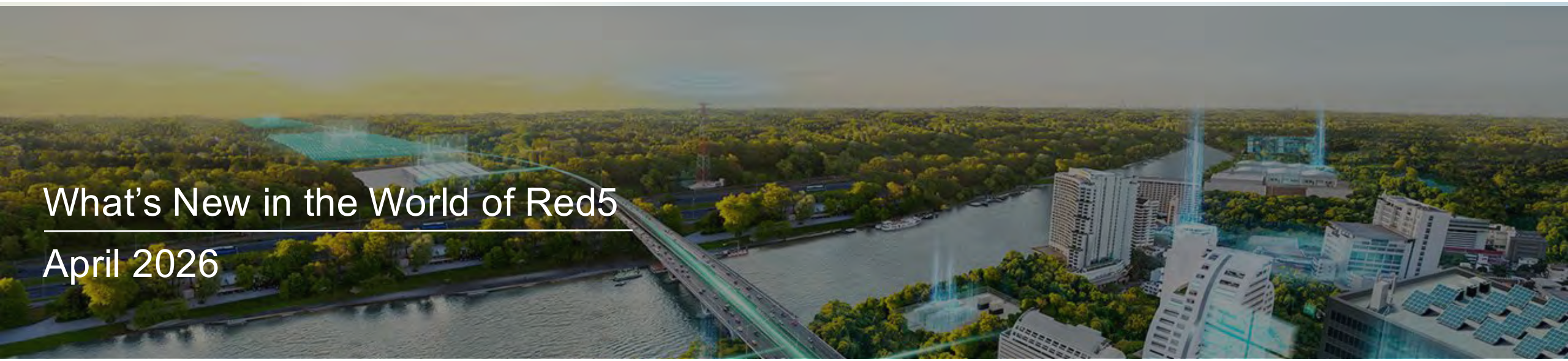
Delta Intelligent Building Technologies



What's New in the World of Red5

April 2026

Delta Intelligent Building Technologies

Agenda:

Introduction

A note about our past

Red5-FIELD-VAV: Yes, MSTP is still a thing

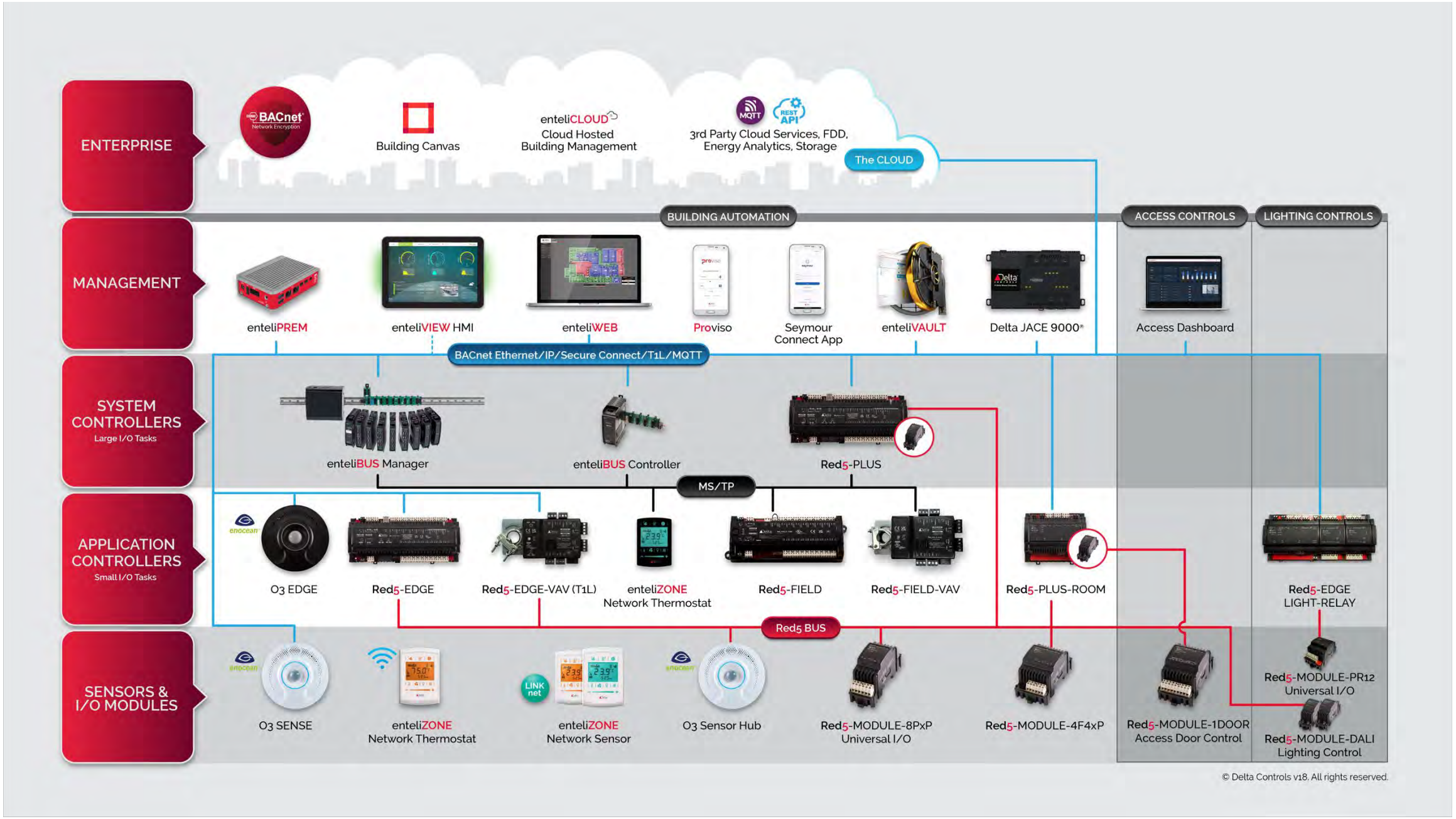
Red5-EDGE-VAV-T1L: Ethernet on Twisted Pair? Get out of here!

Red5-UNITARY: Filling in the gaps

Roadmap

Q&A

DELTA CONTROLS SYSTEM ARCHITECTURE



A little bit of history....

IZC-230 Circa 1999

DVC-V322 2001-2027

eZV-440 2014-

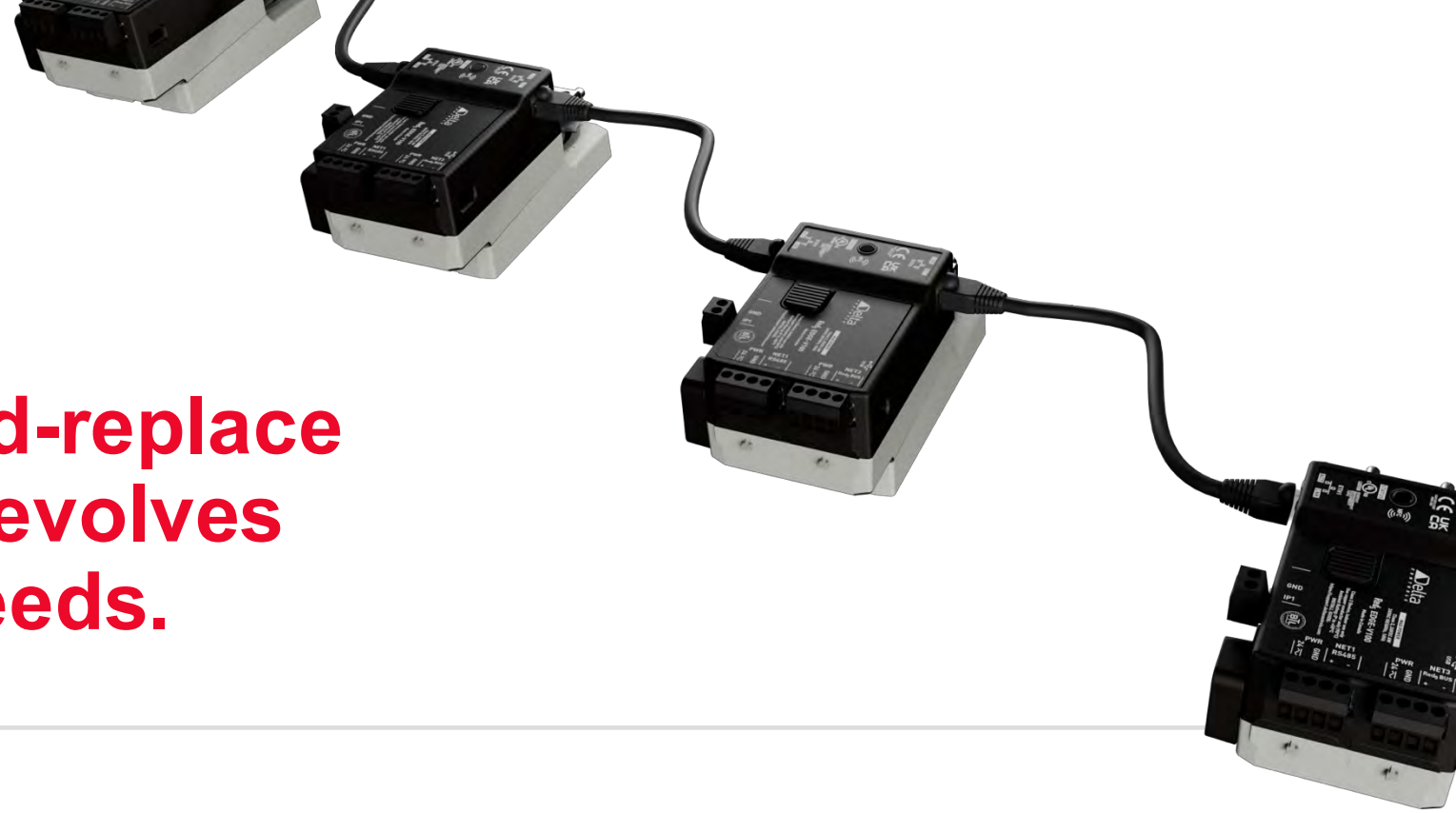
HVAC Enterprise

So What's New?

Red5 Variable Air Volume

Compact and Mighty

FUTURE READY DESIGN



Say goodbye to rip-and-replace cycles. The Red5 VAV evolves with your building's needs.

High-Performance Hardware

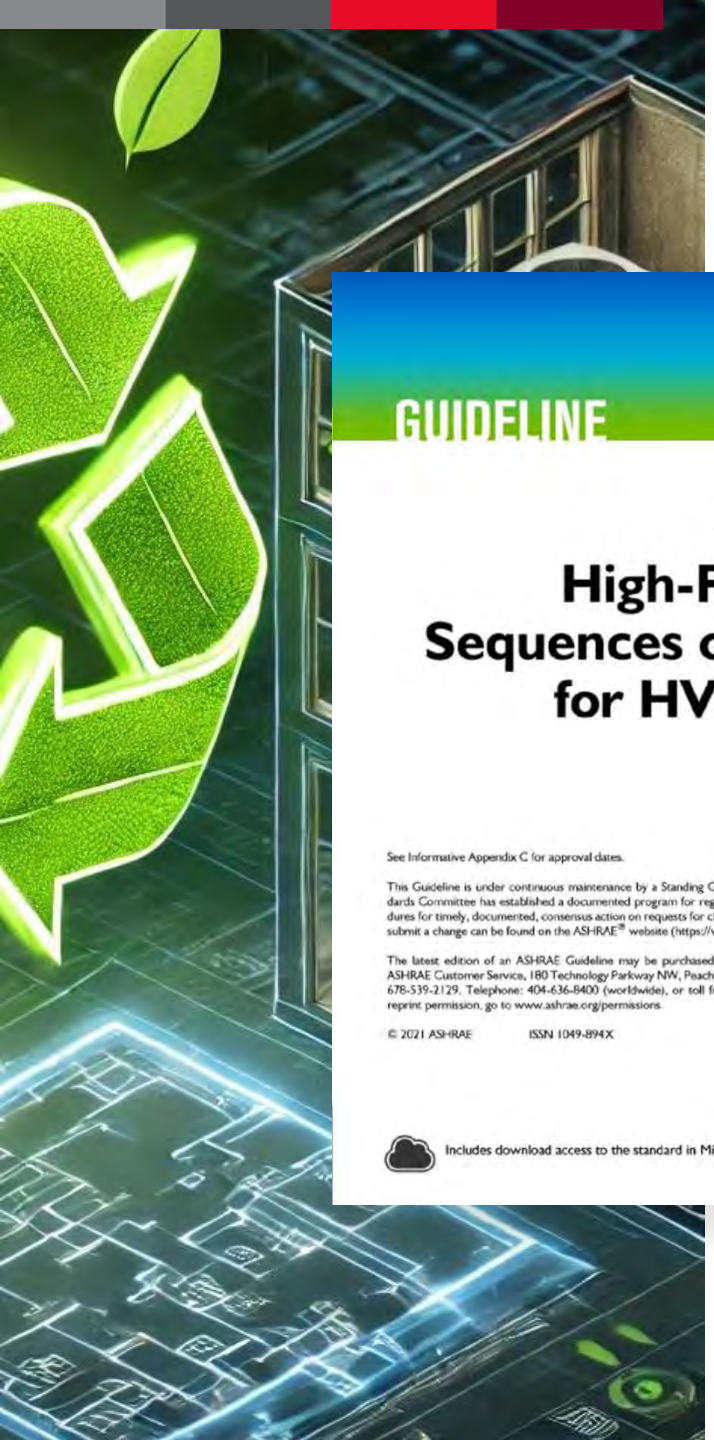
- Dual-core processing power
- BTL Listed B- BC
- No Subscriptions

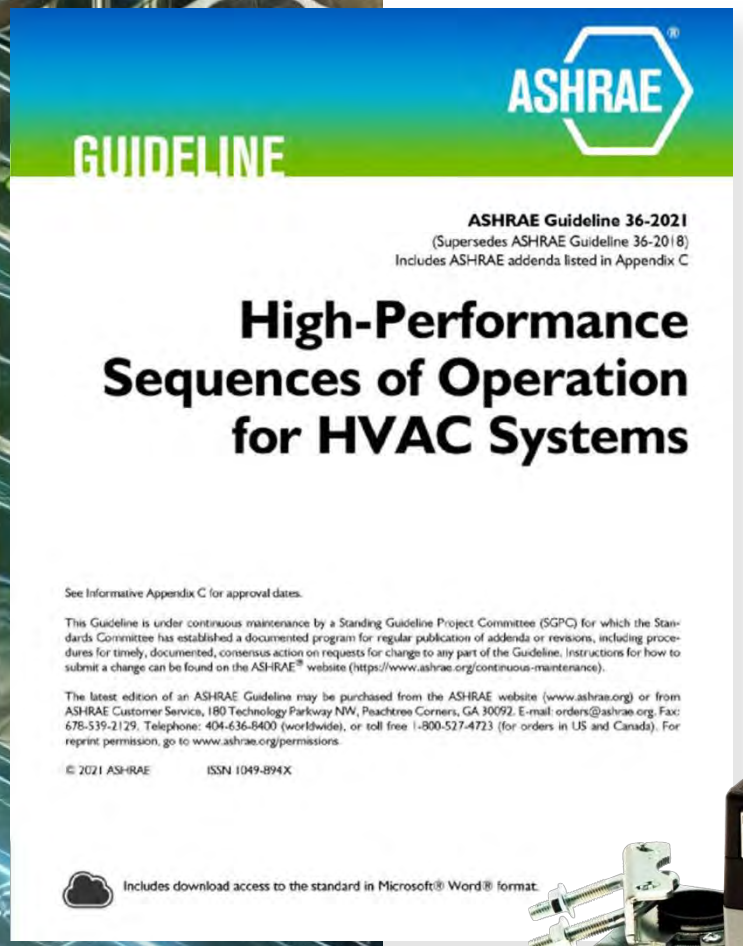
Legacy Compatible

Phase in legacy retrofits

IoT Ready

Built-in Python programming for seamless integration with analytics platforms





ENERGY EFFICIENCY

Guideline 36 Compliance

Pre-loaded algorithms optimize HVAC & keep you compliant with changing legislation.

Zero-Drift Differential Pressure Sensor

Ensure precise, reliable control to save energy and money.

Sustainability Metrics

Actionable data via PGPython for advanced analytics and report to help meet sustainability goals

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Bi-Directional Flow Sensor

- Bi-directional, Differential Pressure Sensor to automatically provide correct pressure value.
- Eliminate mistakes of hooking up tubes.

Commissioning Made Easy

- Configure before power up with the Proviso™ app.
- Eliminate on-site setup headaches
- Cut ladder trips in half

ASK AN EXPERT

ATS Florida, a Beta tester for the Red5 VAV said this *"Installation was a breeze. Our techs reported a completely smooth, problem-free installation process. No hiccups, no headaches – just a straightforward setup from start to finish.*

Ethernet bypass is a game changer. Our techs could pull wire first, and start commissioning from back to front to get them online"

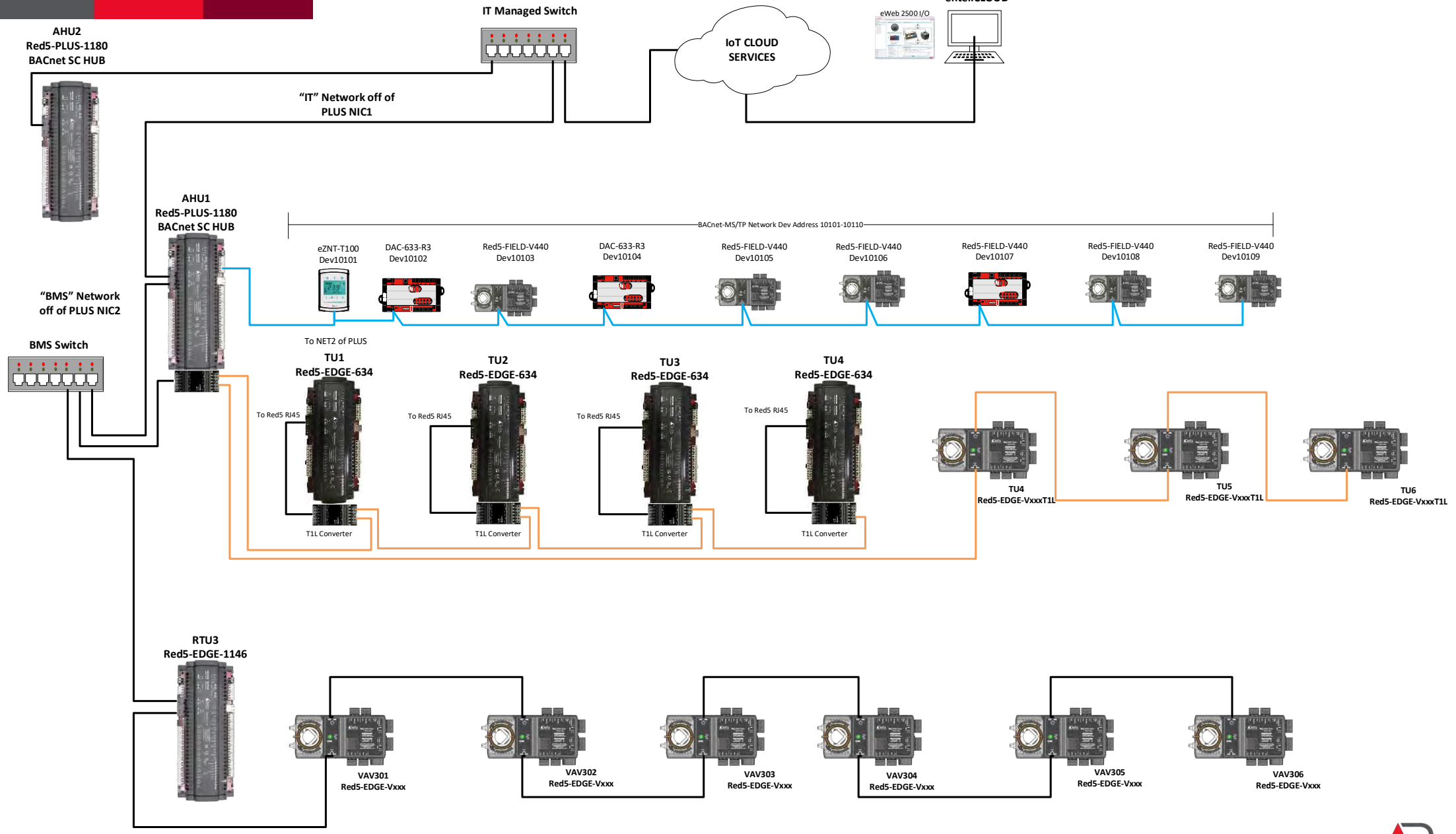
INSTALLATION

Save Time

- App based preloaded configurations - ~~Over~~ 40 ~~55~~ ~~68~~ Lots of VAV applications
- Small footprint
- Easy wiring options

Save Money

Total install cost reduction by **up to 50%**.



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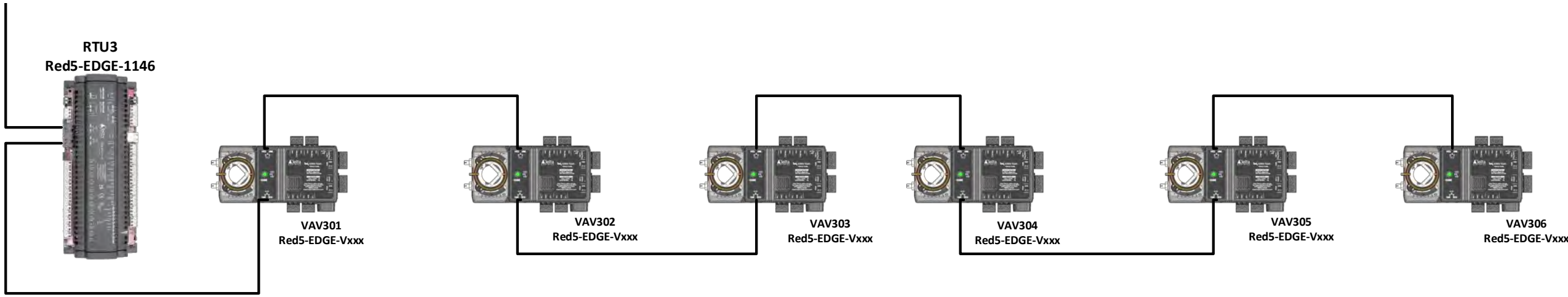

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Red5 EDGE VAV

Red5-EDGE-V100 – Cooling Only

Red5-EDGE-V440 – Extended I/O, Reheat etc.

- 24VAC/VDC Powered
- Dual BACnet IP/Ethernet with Bypass
- BACnet/SC Node
- LINKnet for Network Sensors
- Can co-exist with legacy products
- Integrated Belimo Actuator with Feedback
- Released in July 2025

FEATURES

- Built in, Selectable GCL+ Databases
- Compact footprint
- IoT Ready – Python
- Embedded Graphics
- BACnet/SC

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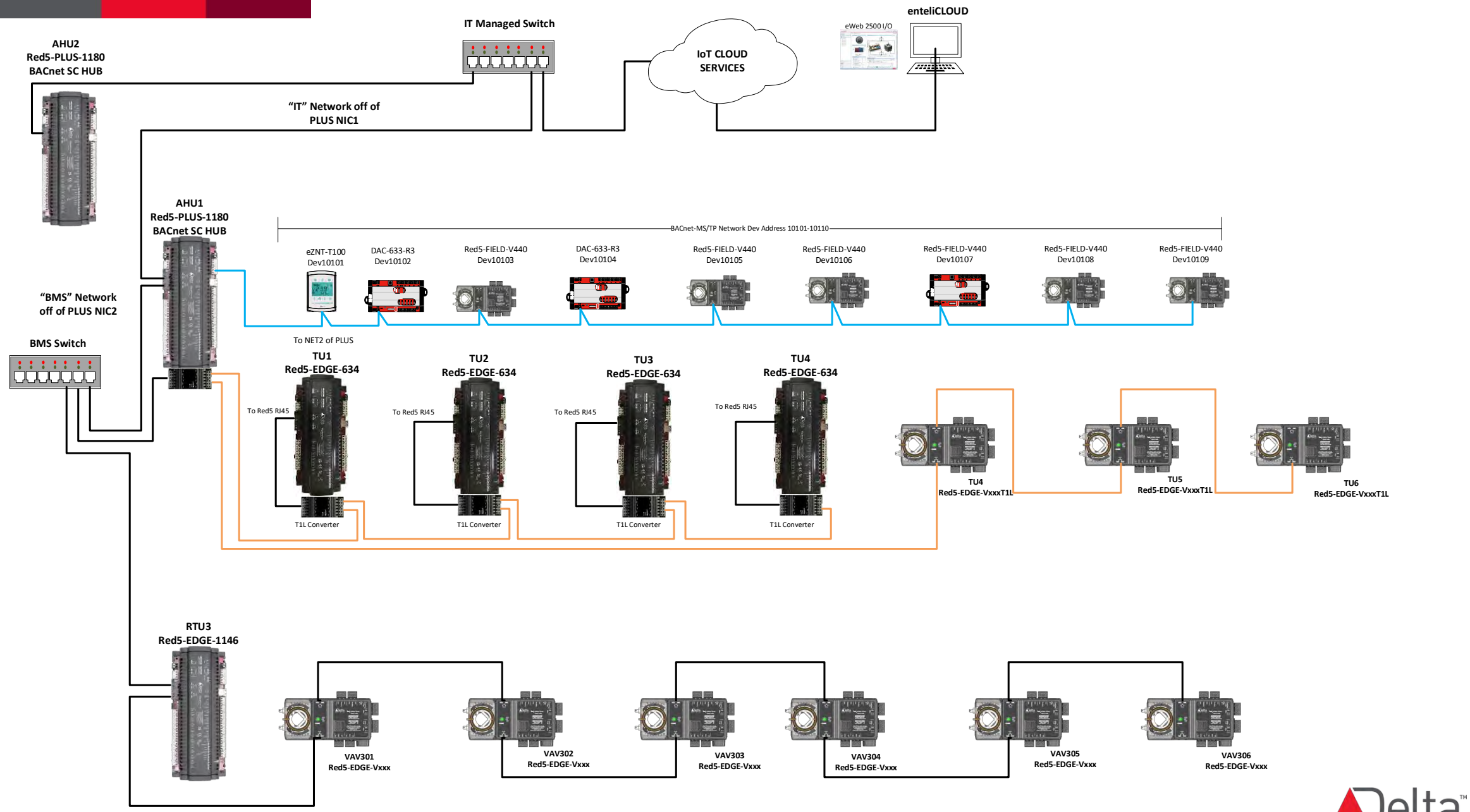

CAT5E/6

Low Cap, Shielded, 2 Cond, 22-24 AWG T1L

Low Cap, Shielded, 2 Cond, 22-24 AWG MS/TP

Delta CONTROLS
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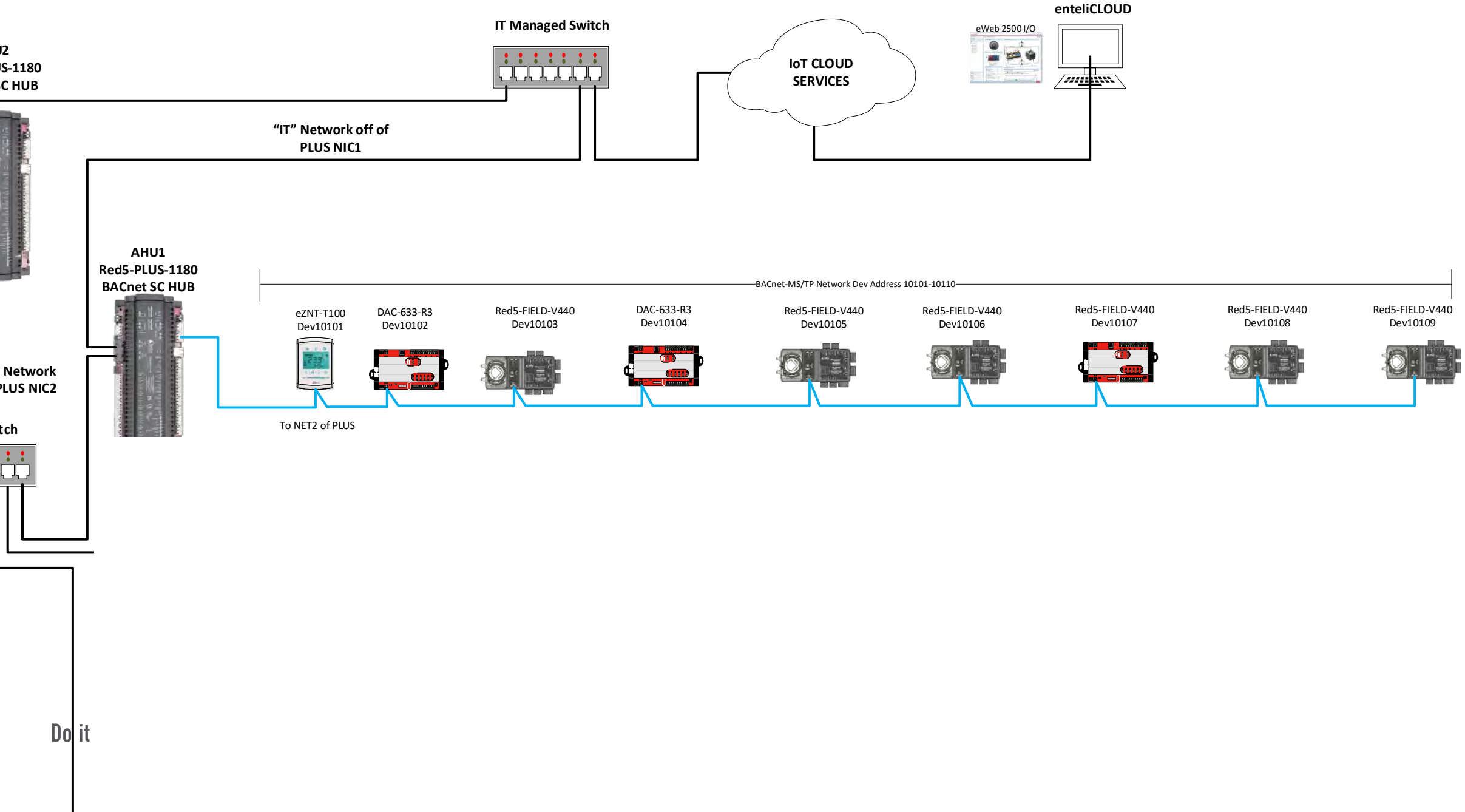
IT Managed Switch
IoT CLOUD SERVICES
eWeb 2500 I/O
enteliCLOUD
"IT" Network off of PLUS NIC1
AHU1
Red5-PLUS-1180
BACnet SC HUB
BACnet-MS/TP Network Dev Address 10101-10110
eZNT-T100 Dev10101
DAC-633-R3 Dev10102
Red5-FIELD-V440 Dev10103
DAC-633-R3 Dev10104
Red5-FIELD-V440 Dev10105
Red5-FIELD-V440 Dev10106
Red5-FIELD-V440 Dev10107
Red5-FIELD-V440 Dev10108
Red5-FIELD-V440 Dev10109
To NET2 of PLUS

Do it

Red5 FIELD VAV

Red5-FIELD-V100 – Cooling Only

Red5-FIELD-V440 – Extended I/O, Reheat etc.

- 24VAC/VDC Powered
- BACnet MS/TP backbone
- LINKnet for Network Sensors
- Can co-exist with legacy products
- Released Dec 2025

FEATURES

- Built in, Selectable GCL+ Databases
- Compact footprint

Delta CONTROLS
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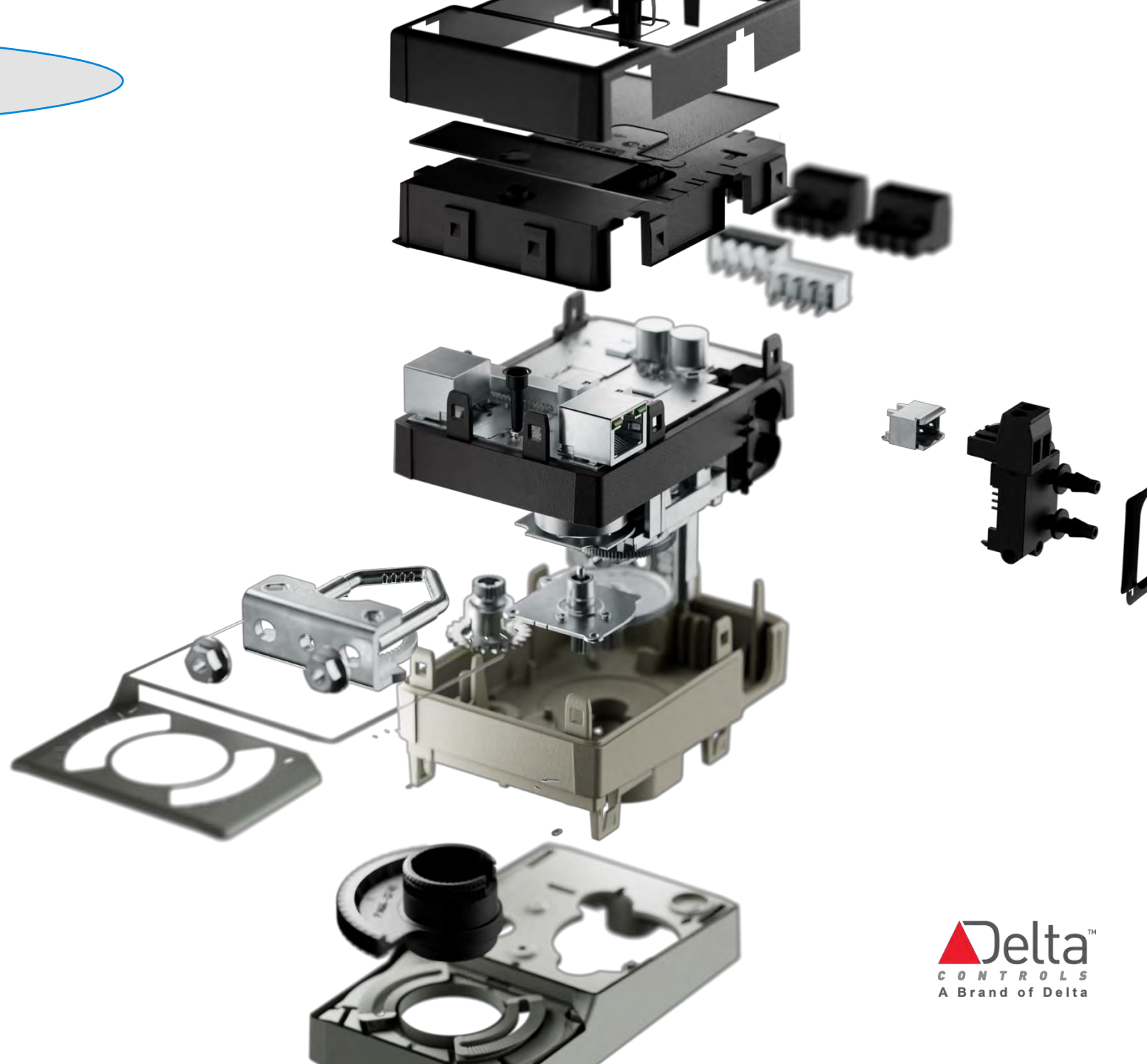
THE LAST VAV YOU'LL EVER NEED

- Streamlined Install
- Future Proof Design
- Energy Efficiency
- Integrated Security
- Flexibility



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AS SEEN ON TV

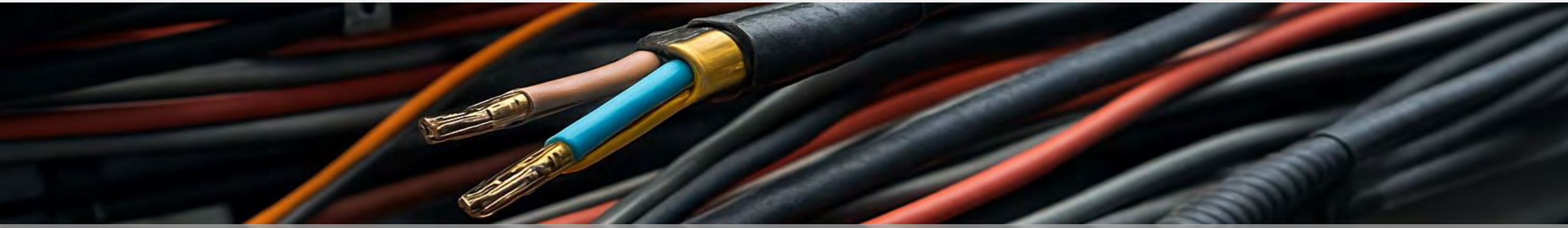
But Wait... THERE'S MORE!

Add performance to existing legacy infrastructure.

Bring your building to the future, without rewiring it.

Reuse legacy twisted pair wiring to achieve Ethernet-level speed and reliability—no rip-and-replace required.

- **Reuse existing RS-485 twisted pair or low-capacitance wire (18–22 AWG).**
- Avoid disruptive, expensive cabling overhauls.
- **Seamlessly replace MS/TP or LonWorks topologies.**
- Supports phased deployment



Red5 T1L

Red5–EDGE-V100-T1L – Cooling Only
Red5–EDGE-V440-T1L – Extended I/O, Reheat

- Dual port 10BASE-T1L with bypass
- 24AC/DC powered
- Up to 10Mb/s on single twisted pair
- Supports BACnet/SC and Ready for your IoT applications
- Beta Feb 2026, Release Q2 2026

FEATURES

- Built in, Selectable GCL+ Databases
- Compact footprint
- IoT Ready – Python
- Embedded Graphics
- BACnet/SC

Delta™ CONTROLS
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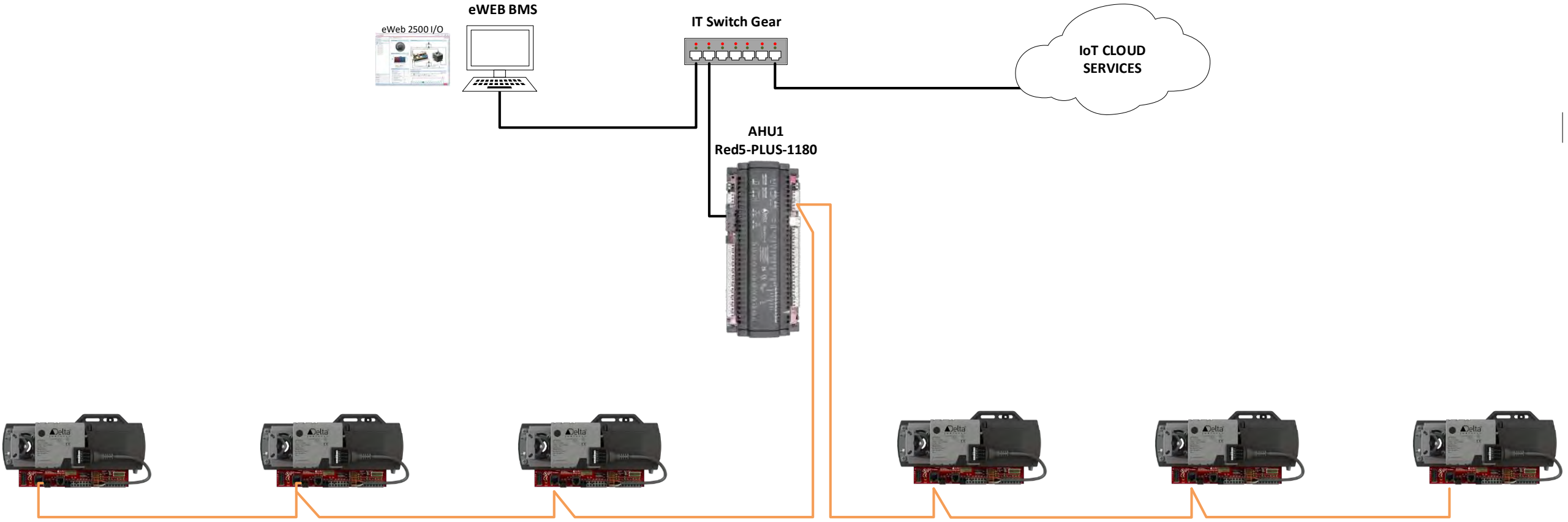
CON-T1L

- Dual port 10BASE-T1L with bypass
- 24AC/DC or Red5Bus powered
- Up to 10Mb/s on single twisted pair
- System Agnostic Can be added to any standard CAT5/6 network

- Released Oct 2025

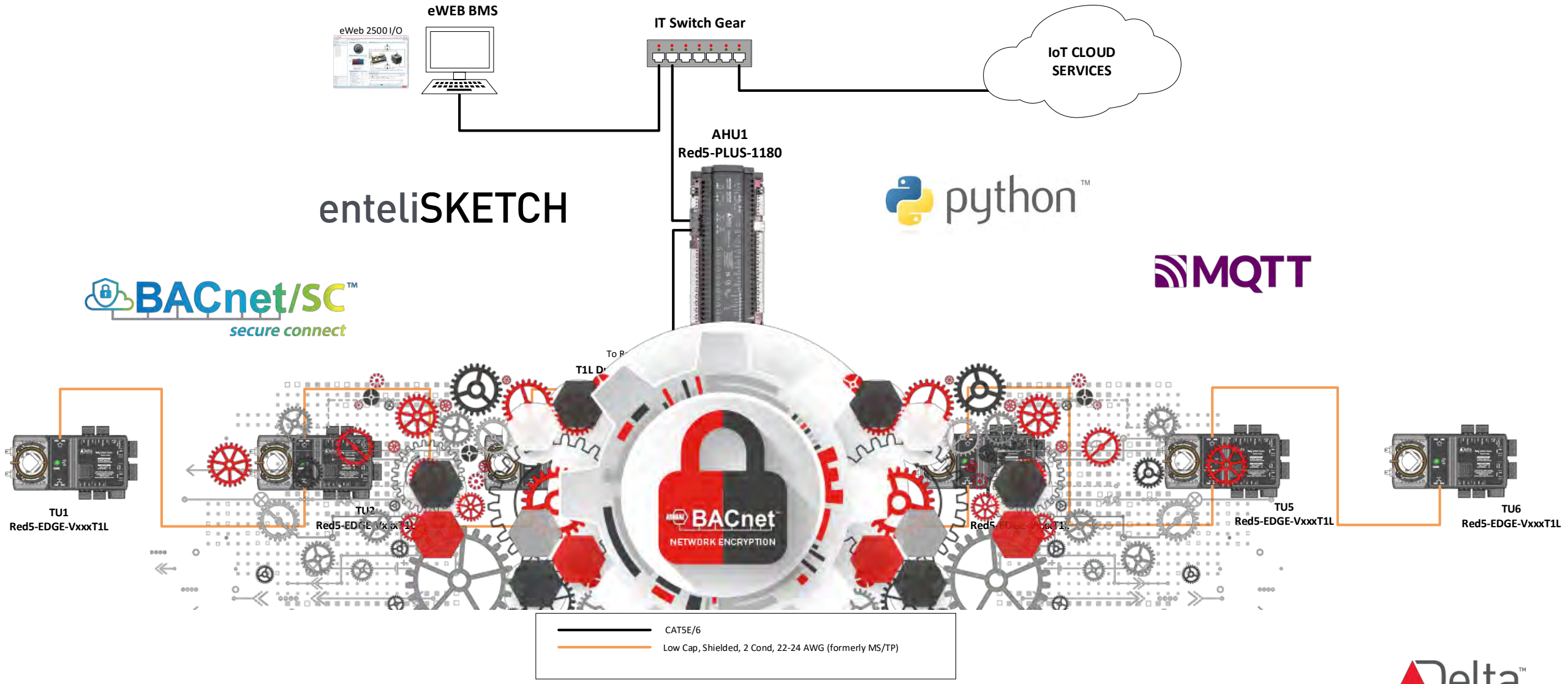
Delta CONTROLS
A Brand of Delta

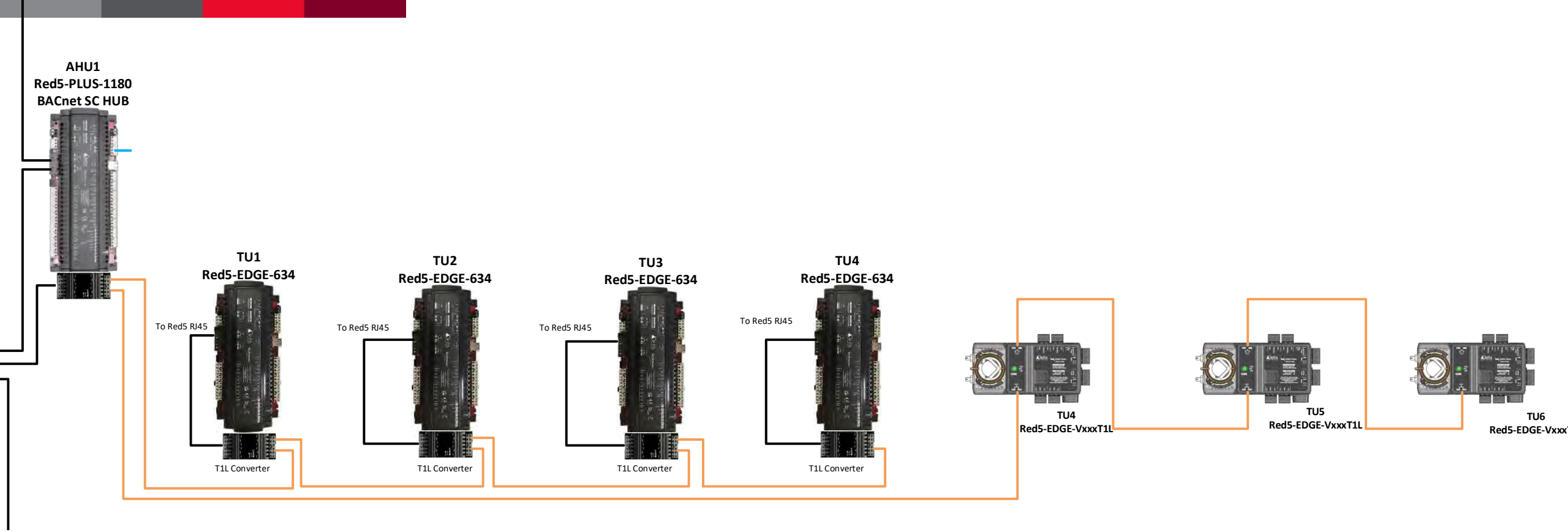


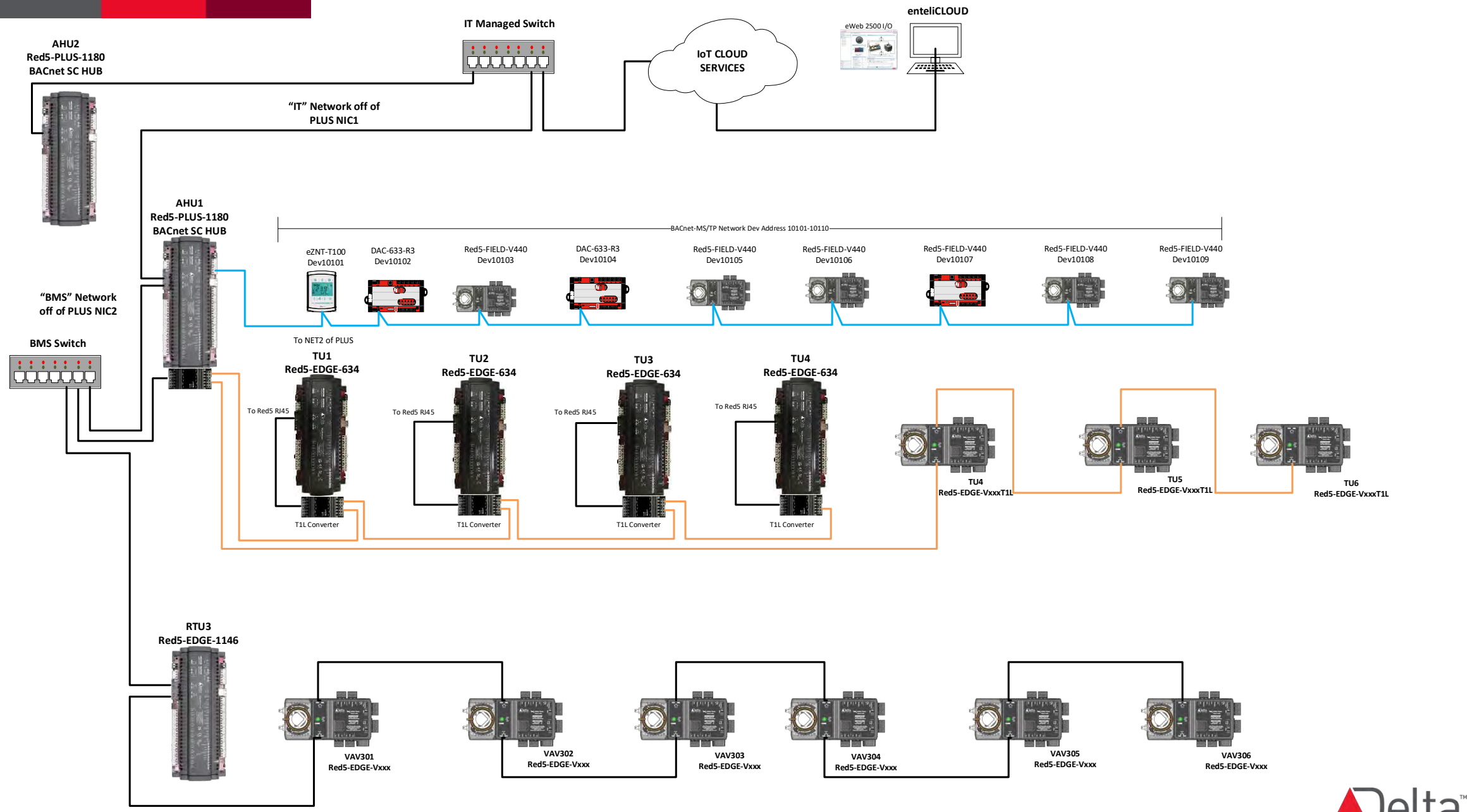
CAT5E/6

Low Cap, Shielded, 2 Cond, 22-24 AWG MS/TP

Delta CONTROLS
A Brand of Delta


eWEB BMS
eWeb 2500 I/O
IT Switch Gear
IoT CLOUD SERVICES
AHU1
Red5-PLUS-1180
enteliSKETCH
python
BACnet/SC
secure connect
MQTT
TU1
Red5-EDGE-VxxxT1L
TU2
TU5
Red5-EDGE-VxxxT1L
TU6
Red5-EDGE-VxxxT1L
BACnet
NETWORK ENCRYPTION
CAT5E/6
Low Cap, Shielded, 2 Cond, 22-24 AWG (formerly MS/TP)


AHU1
Red5-PLUS-1180
BACnet SC HUB
TU1
Red5-EDGE-634
To Red5 RJ45
T1L Converter
TU2
Red5-EDGE-634
To Red5 RJ45
T1L Converter
TU3
Red5-EDGE-634
To Red5 RJ45
T1L Converter
TU4
Red5-EDGE-634
To Red5 RJ45
T1L Converter
TU4
Red5-EDGE-VxxxT1L
TU5
Red5-EDGE-VxxxT1L
TU6
Red5-EDGE-Vxxx



CAT5E/6

Low Cap, Shielded, 2 Cond, 22-24 AWG T1L

Low Cap, Shielded, 2 Cond, 22-24 AWG MS/TP

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Benefits of 10Base-T1L

01

Long Cable Runs –
We've successfully tested up to 600m, but recommend 200-300m

02

Simple Wiring –
auto negotiate polarity

03

Interoperability –
full Ethernet compatibility at MAC layer.

04

Backward Integration –
can reuse existing MS/TP cabling.

05

Faster Comm Speed -
10Mbps faster graphics, faster upgrades, better network performance

06

Designed for harsh environments –
better noise immunity.

Network Topology

Network Topology

- Point-to-point connection. No branches.
- Requires a switch or media converter to interface RS485 wiring with standard Ethernet networks.
- Up to 64 devices per trunk (same as MS/TP)
- Take pass-through into consideration when considering maximum distance
- Total Net Impedance for passthrough
- Testing shows up to max ~600m total distance peer to peer (so far) but recommend 200-300m max

Physical Layer Conversion

- 10Base-T1L is **not electrically compatib**le with 10Base-T or 100Base-TX or 10Base-T1S
- Direct cable connection between a 10Base-T1L device and a standard RJ45 Ethernet port **will not work**.
- **You must use:**
  - **T1L-to-RJ45 converters – ie CON-T1L**
  - Or a **host device with built-in 10Base-T1L transceiver**

Network Topology

Wire Type	Rating	Notes
Echelon Spec	22AWG, non-shielded, bare copper	specific LON spec cable
Generic, shielded comm wire	18AWG, Shielded	may be used in LON or N2 networks
BACnet MS/TP	22AWG, Balanced, Shielded, Twisted Pair	Typical MS/TP
BACnet MS/TP	24AWG, Balanced, Shielded, Twisted Pair	Typical MS/TP
Generic non-shielded comm wire	18AWG, non-shielded	may be used in LON networks

BACnet/SC™ secure connect

Smart, Secure, Connected

- Protect your building network with BACnet Secure Connect.
- Use T1L to secure entire network using existing infrastructure.
- Red5 VAV acts as a BACnetSC node for smart devices to build encrypted system.
- Enables room level IoT ecosystem.

Red5-FIELD-VAV

- Re-use Existing MS/TP Infrastructure
- Full MS/TP cutover is not feasible or possible
- Need to co-exist with 3rd party or legacy BACnet MS/TP devices on the same trunk
- Lower network bandwidth is acceptable

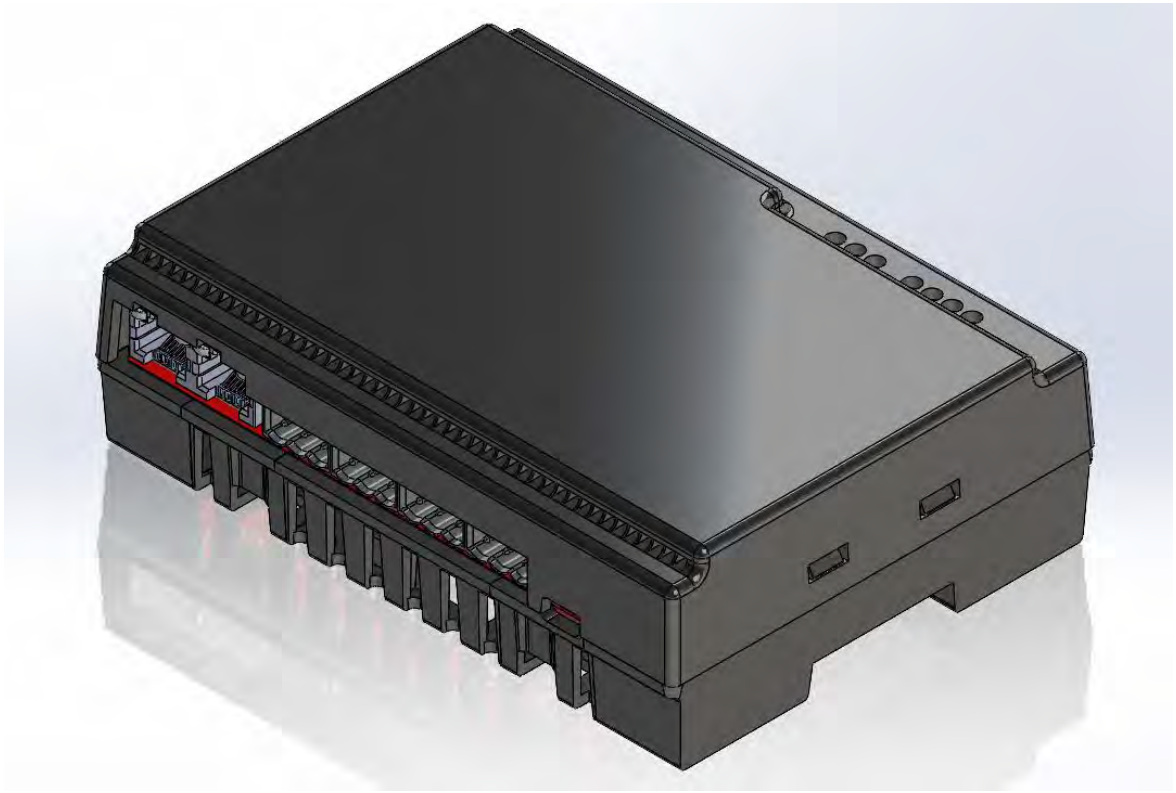
Red5-EDGE-VAV-T1L

- Re-use Existing Infrastructure
- Full MS/TP cutover is desired and possible
- Modernization of services available on legacy infrastructure
- Addition of BACnet/SC
- Addition IoT capabilities
- Take advantage of 10Mb/s

HVAC Enterprise

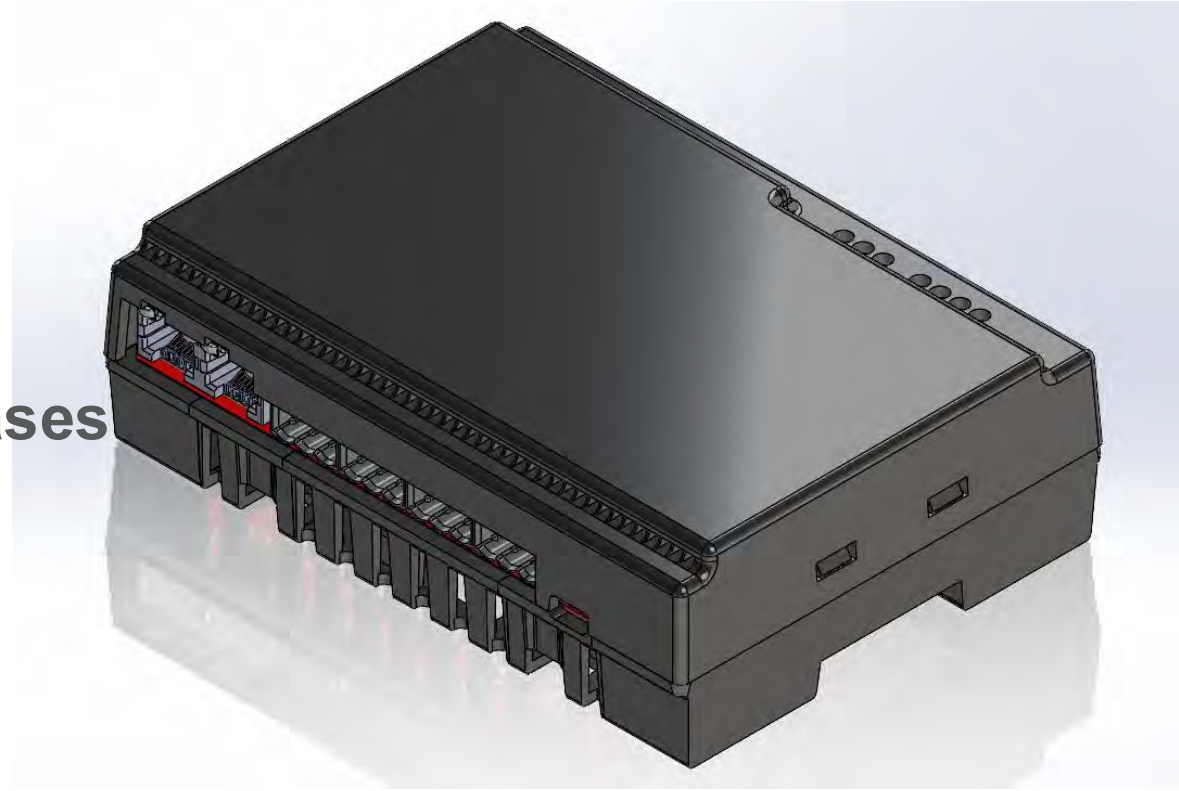
So What's Next?

A modern, purpose built, unitary controller



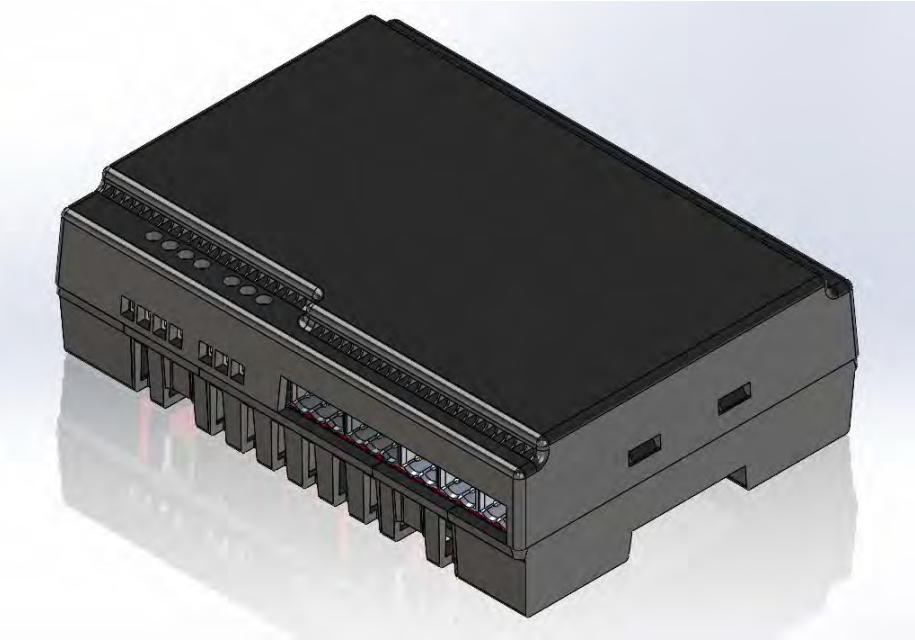
Red5-UNITARY

- T1L/IP/Ethernet
- BACnet/SC
- MS/TP
- NFC
- Application Specific Models
- Built in G36 and Standard GCL Databases
- PGPython
- Embedded Graphics
- Line Voltage Relay Model
- 230VAC and 24VAC/VDC models



"Designed for the Application—Not Just the Spec Sheet."

- **Timeline Target: Late 2026/Early 2027**



Useful Links

- Red5-VAV Family
- Red5 Modules, CON-T1L
- Red5-EDGE-V440-T1L Support Page
- Red5-FIELD-V440 Support Page
- Red5 Family Support Page


Q & A


THANK YOU