

Accelerating IP Modernization



About NVT Phybridge

Leaders in IP Migration and Long Reach PoE – Any Cable, More Distance.

Industry Recognition



Cool Vendors in Enterprise Communications Applications

Supporting IP:



Private North American Company – Global Reach

Award-Winning Products

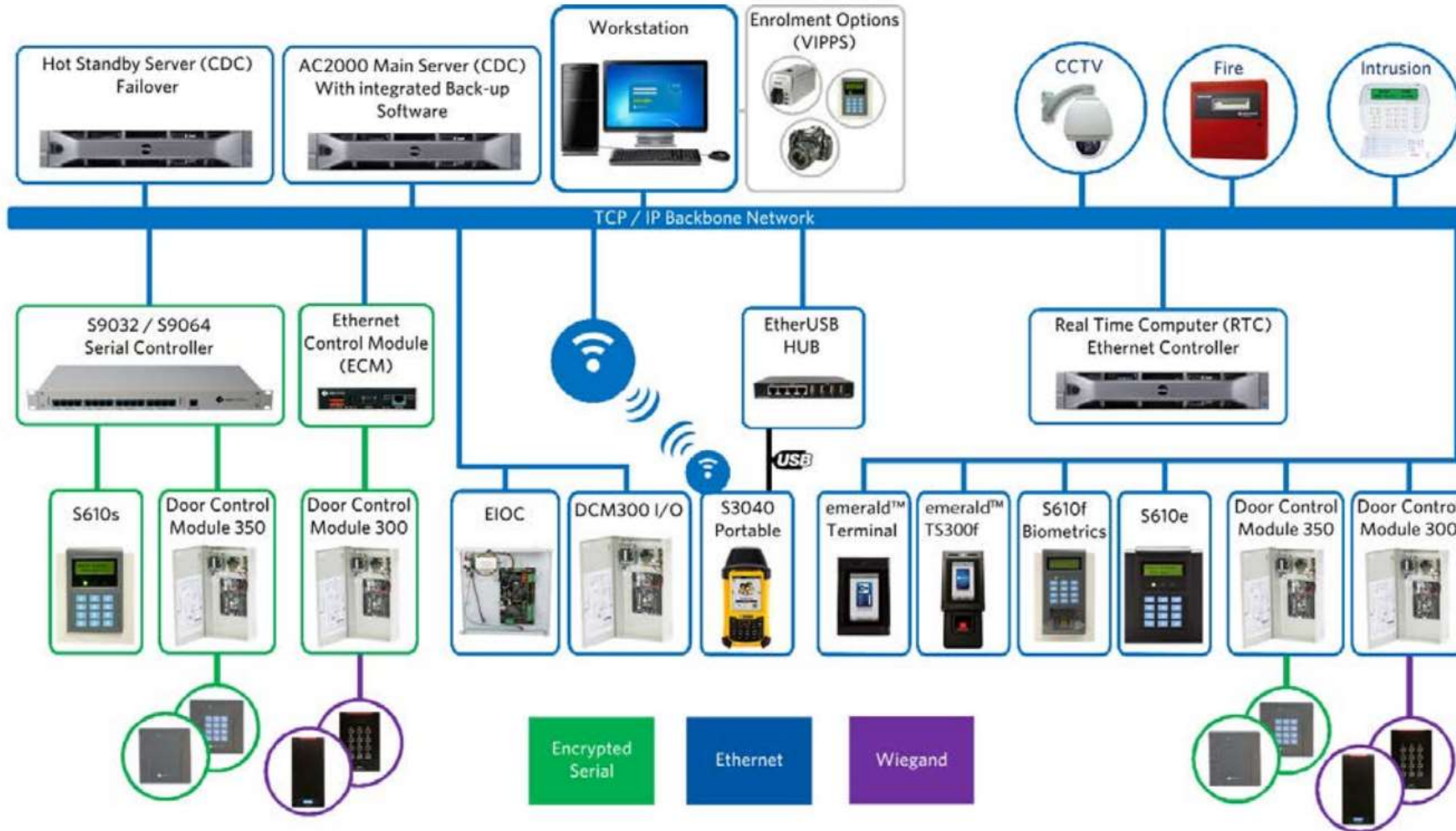


Happy Customers




Millions of Endpoints Enabled Globally.

Magically Connecting End Points to Applications



Challenging Conventional Thinking

FROST & SULLIVAN

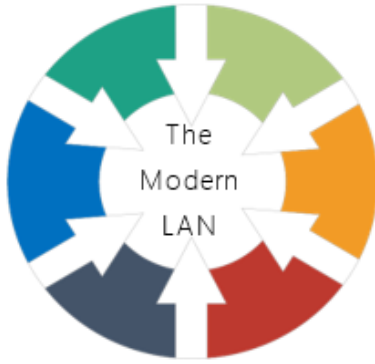


Deploying Innovative IP-based Solutions is Necessary to Support Innovation

Rip-and-replace Infrastructure Alternatives Create Operational Efficiencies, Opportunities

“Alternatives to conventional network thinking now exists allowing for cost savings, less risk and disruption as businesses look to migrate to IP.”

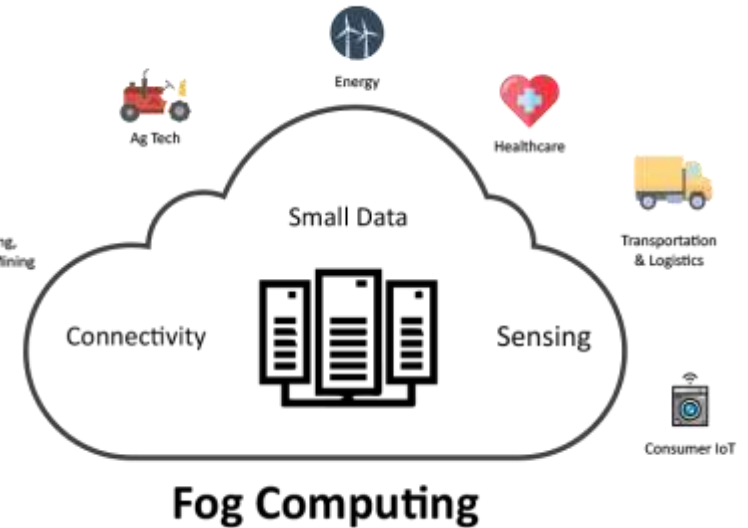
-Frost & Sullivan



The Modern LAN is a set of Principles which define the best practices for connecting IoT endpoints. These next gen digital transformation methodologies are used to connect Smart building and Smart City infrastructures optimally. A white paper by Frost & Sullivan will establish the Modern LAN principles required to achieve a secure, efficient, and responsible LAN deployment for an outside-in approach to an adaptable endpoint ecosystem. Categorizing the Modern LAN principles is designed to orchestrate succinct communication of today's most advanced methods used to achieve corporate responsibility compliance goals, proactively changing the conversation in the very early stages of an ICT / IOT IP project design.

The Modern LAN 6 Principles:

1. Start with the "Things" of the Internet of Things (IOT). Identify the characteristics of each unique physical device, determine topology and infrastructure by incorporating each end point's power, bandwidth, and application requirements.
2. Create a secure LAN, robust and capable of IoT initiatives, easy to configure, deploy, manage and troubleshoot. Ensure convergence flexibility allowing for separate, premise or Cloud-based unification, simplifying LAN management, minimizing core network breach risk.
3. Maximize efficiencies by utilizing all technological advancements including new long reach POE switch innovations, Use advanced strategies to accelerate modernization, reducing disruption, network complexity, and implementation costs.
4. Use an environmentally responsible IOT^g and LEED frameworks. Re-use and re-purpose existing endpoint cabling infrastructure, reduce IDF closets requirements, adopt energy efficient PoE switches and end points wherever possible. www.iod-g.com
5. Construct physically separate PoE switches for different and dedicated applications ensuring the core business applications and network are not compromised.
6. Expand sustainable ROI by reallocating resources gained from efficient infrastructure design into enhancing communication and business enabled processes.



The *MODERN LAN Principles* categorize the process architecture and best methodologies to connect the internet of things in much the same way "The Cloud" category assisted Microsoft, Google, Oracle, IBM, and Amazon to simplify the message of Cloud Computing (SaaS, PaaS, IaaS, etc.). Modern LAN connects The Cloud and On-Premises Networks to IOT endpoints, safely and without compromise.

Teilen Sie die Bedenken Ihrer Kunden?



- **Auswirkung** auf bestehende Infrastruktur
- **Zeitaufwand** für Installation
- **Netzwerk Sicherheit**
- **Technical Support** Anforderungen
- **Quality** of Service
- Technische **Kompatibilität**
- **Physikalische** Grenzen
- **Voice & Data Teams** - Zusammenarbeit
- **Rechtfertigung** des **ROI**
- **Kosten**

Nachbildung des Erfolg-Modells – End to End Control

Step 1: BE DIFFERENT

The Modern LAN:

- Geld einsparen
- Eliminierung von Risiko und Unterbrechung
- Minimierung der PoE Anforderungen
- Build a Robust Platform.



LAN NETWORK

END POINTS

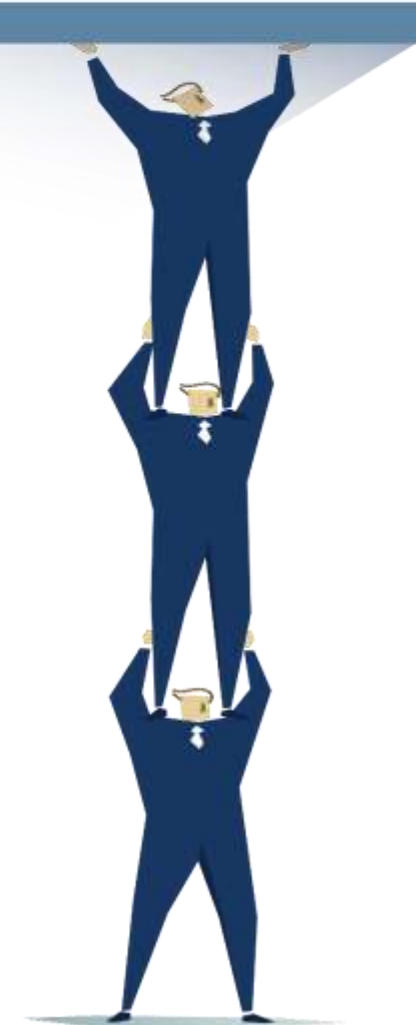
APPLICATIONS

DELIVERY

IP
End to End Control

Analog/Digital
End to End Control

SUCCESS



Warum gibt es noch so viele analoge Anschlüsse?

Rip and Replace Requirements

- Hohe Kosten
- Neue Verkabelung
- Weitere Wandschränke
 - Cooling
 - Power
 - Backup Power
 - Rack space
- Unterbrechung
- Zeitliche Planung

Personal Frage

- Bedarf an IT, Sprach- und Security Personal

Netzwerk Bedenken

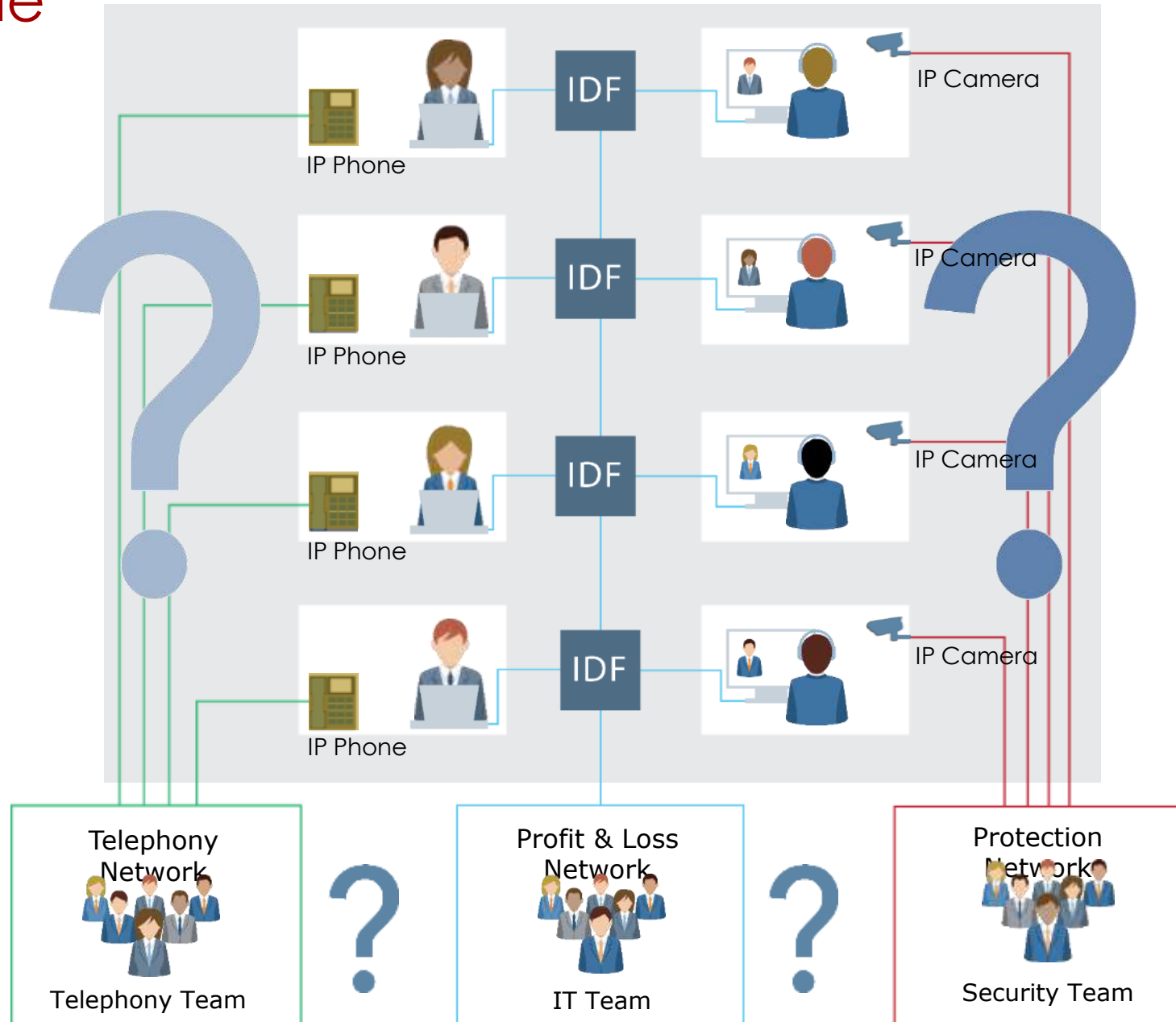
- Performance & Uptime
- Security & Zuverlässigkeit

Projekt wird komplex

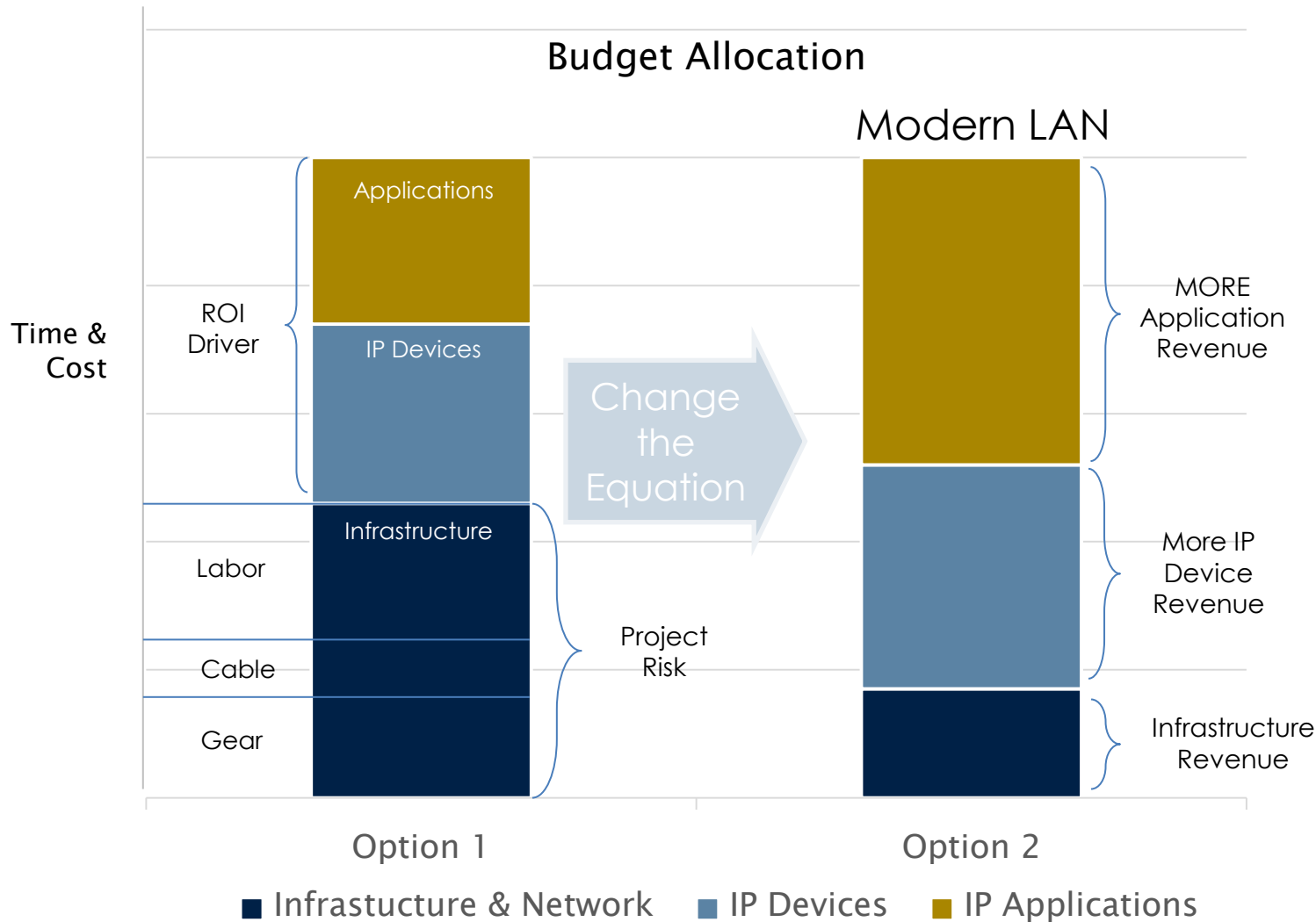
Zeit bis Umsatz verzögert sich

Competitive Pressures

User Experience Risk



Übernahme der Modern LAN Prinzipien – Kunden maximieren Ihr ROI & Fokus auf die Produkte



▶ Mehr Budget für die Applikation

- ▶ Implementation & adoption
- ▶ Security & market intelligence

▶ Die richtigen Produkte für das Projekt

▶ Robuste Infrastruktur:

- ▶ Kosteneffizient
- ▶ Einfach zu installieren und managen
- ▶ Sicher
- ▶ Trennung vom Datennetzwerk

NVTP CHARIoT macht was Sie benötigen

Einfache IP Migration und hohe Reichweite mit PoE



Standard PoE Switch

- 100m Reichweite
- CAT5 to CAT6 Kabel
 - All 4-pair required
- 254W Power Supply
 - No redundancy
 - No power management
 - Limited PoE ports available
 - 15.4W per port maximum
- GUI management



Standard Enterprise PoE Switch

- 100m Reichweite
- CAT5 to CAT6 cable
 - All 4-pair required
- 435W Power Supply
 - Redundancy – stack power
 - Power management
 - 30W per port maximum
- GUI management
 - More complex



CHARIoT IP Migration PoE Family

- Long Reach, Alle Kabeltypen
 - Single-Pair UTP bis 365m
 - Multi-pair UTP bis 610m
 - Coax 75Ohm bis 610m
- Managed / Unmanaged PoE Switches
- Single-Port Extenders
- Media Converters / Adapters
- GUI Management

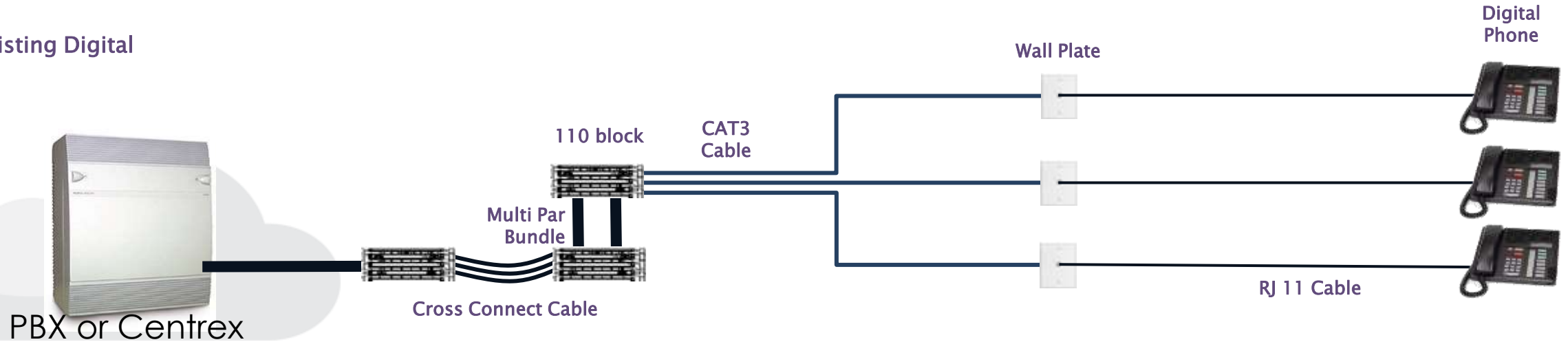
PoE Switch Innovation – PoLRE Switch



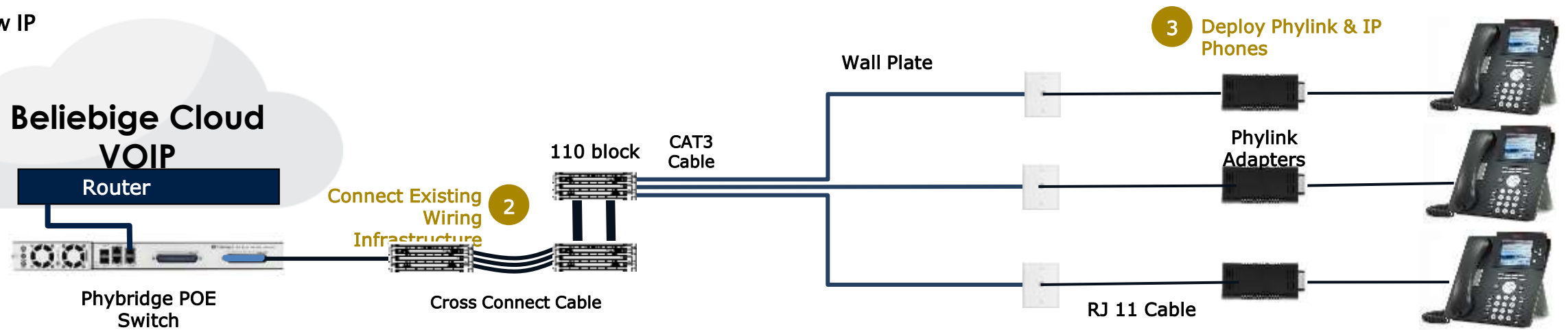
- ▶ Ethernet mit PoE über 1-paariges UTP mit 365m Reichweite
- ▶ Einfache Implementierung von IP-Telefonen über die existierende Sternverkabelung mit PoE Versorgung

Modern LAN basierende PoE Innovation

Existing Digital



New IP

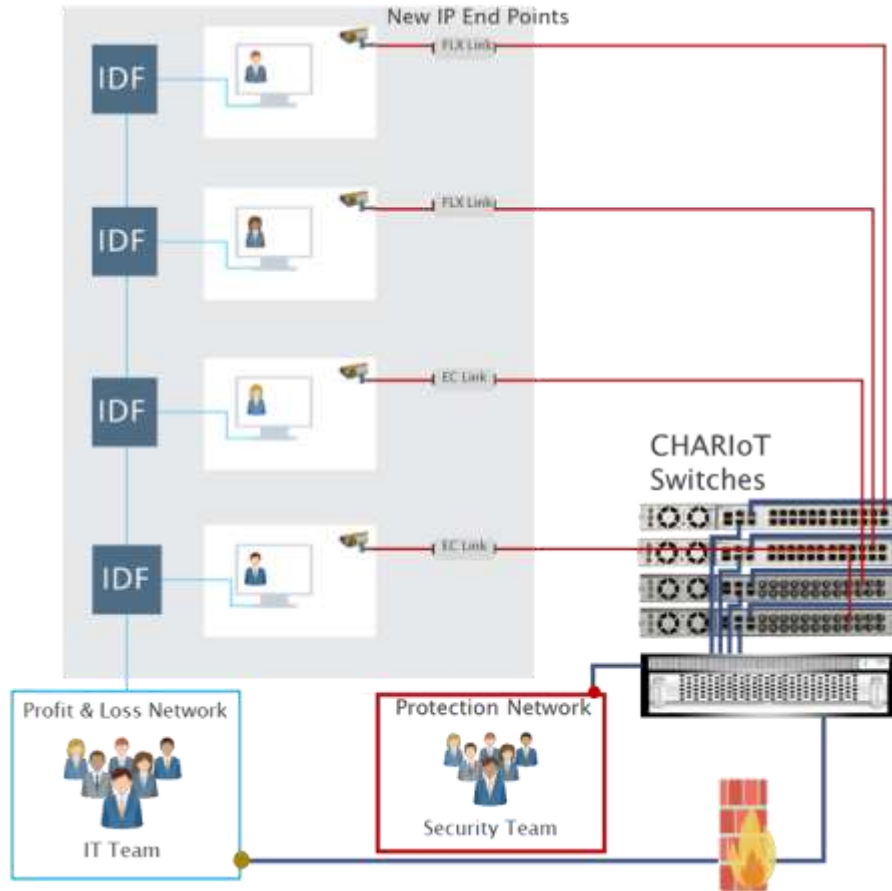


1 Rack, Stack & Configure Switches

3 Deploy Phylink & IP Phones

CHARIoT Switch Vorteile für Ihre Kunden

Analog to IP – Quick, Easy and Cost Effective



Reduzierung der Verkabelungskosten

- Keine neue Verkabelung; keine 19" Schränke, geringere Planungskosten.
- Schnelle Migration zu IP

Keine Netzwerkunterbrechung

- Parallele Migration
- Nutzung vorhandener Verkabelung
- Einfaches Netzwerkmanagement im Falle IP Video

Kein Risiko

- Easy real-world proof of concept.
- Keine Kostenexplosion.
- Keine Abhängigkeit durch End-to-end control.
- Hohe Sicherheit

Robust – Installation & Management Made Simple

- Einfache Planung, Konfiguration und Management

Industry Leading GUI interface.

Plug and Play IP Migration with Farthest Device Support

NVTP CHARIoT Solutions: Fastest IP Migration, Longest Connectivity Reach

PoLRE 48-, 24-Port & LPC 8-Port Switches



Ethernet (10 Mbps, full duplex) & PoE over Single-Pair UTP
with **4Xs** (1,200ft, 365m) connectivity reach



Supports any IEEE
802.3 AF/AT IP
Device

FLEX 24-, 8-Port Switches



Fast Ethernet (100Mbps, full duplex) & PoE++ (50W) over Multi-Pair UTP
with **6Xs** (2,000ft, 610m) connectivity reach

FLX Link



CLEER24-Port & EC10-Port Switches



Fast Ethernet (100Mbps, full duplex) & PoE+ over Coax
with **6Xs** (2,000ft, 610m) connectivity reach

EC-Link



CHARIoT Solutions Reduce/Remove Need for IDF Closets

Standard PoE Switch – Standard Ethernet reach with too many costly IDF stops along the way



IDF Closet

IDF Closet

IDF Closet

IDF Closet

IDF Closet

IDF Closet



IoT Schnell angebunden in großer Entfernung



2 or 4 Pair UTP - FLEX

100Mbps, 50 Watts PoE, bis 610m

- IP Cameras
- IP TV
- WiFi Access Points
- IP Digital Signage
- IP Intercom
- IP Sensors
- IP Card Readers
- IP Phones
- IP Lighting

Overview

Features

Partner Benefits/Programs



Coax - CLEER & EC10

100Mbps, 30 Watts PoE, bis 610m

- **IP Cameras**
- **IP TV**
- IP Digital Signage
- WiFi Access Points
- IP Intercom
- IP Sensors
- IP Card Readers
- IP Phones

Overview

Features

Partner Benefits/Programs



1 Pair UTP – PoLRE

10Mbps, 15 Watts PoE, bis 385m

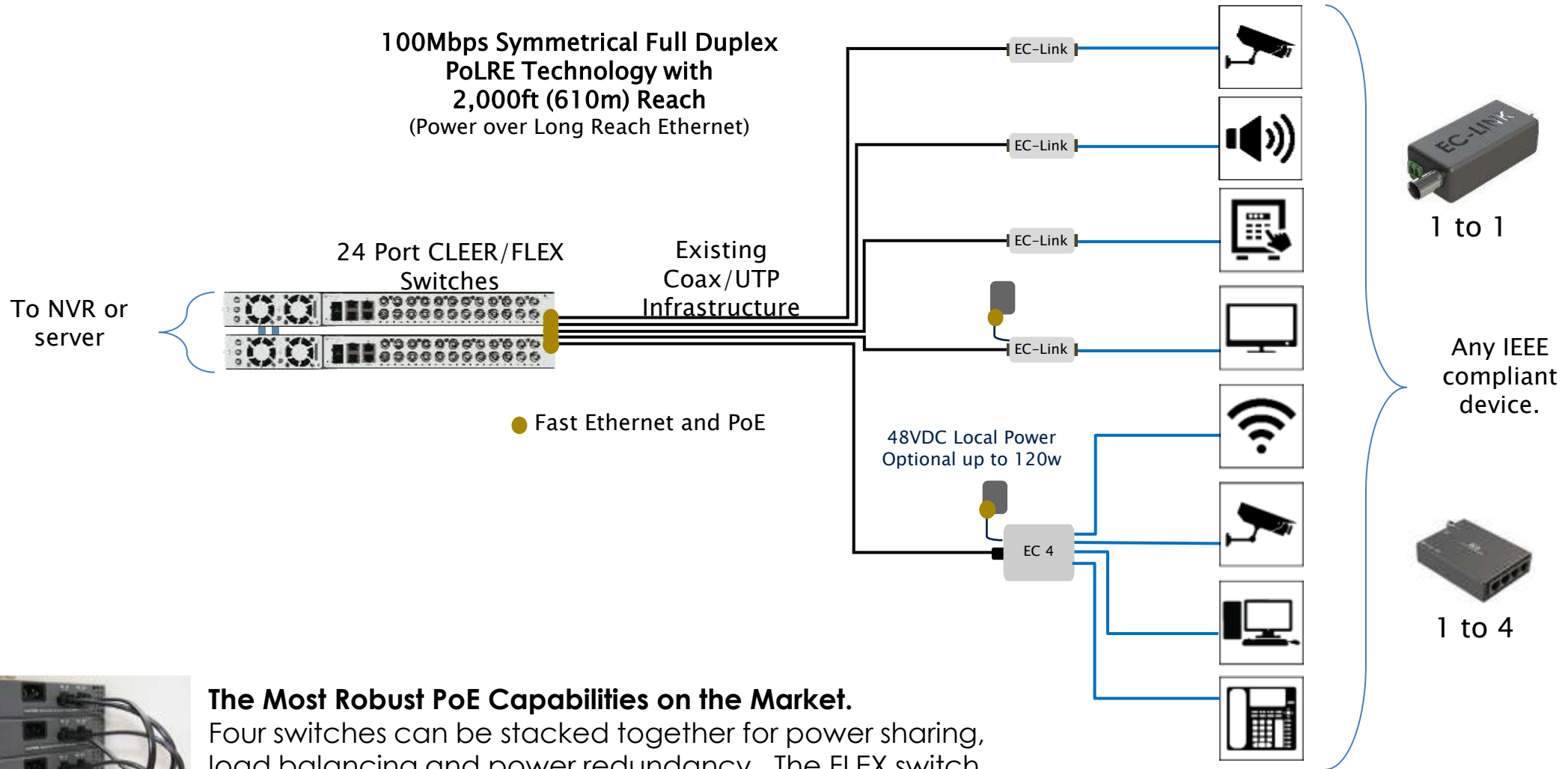
- **IP Phones**
- IP Speakers
- IP Intercom
- IP Sensors
- IP Card Readers
- IP Cameras
- IP Digital Signage

Overview

Features

Partner Benefits/Programs

Fast Ethernet & PoE+ bis zu 610m

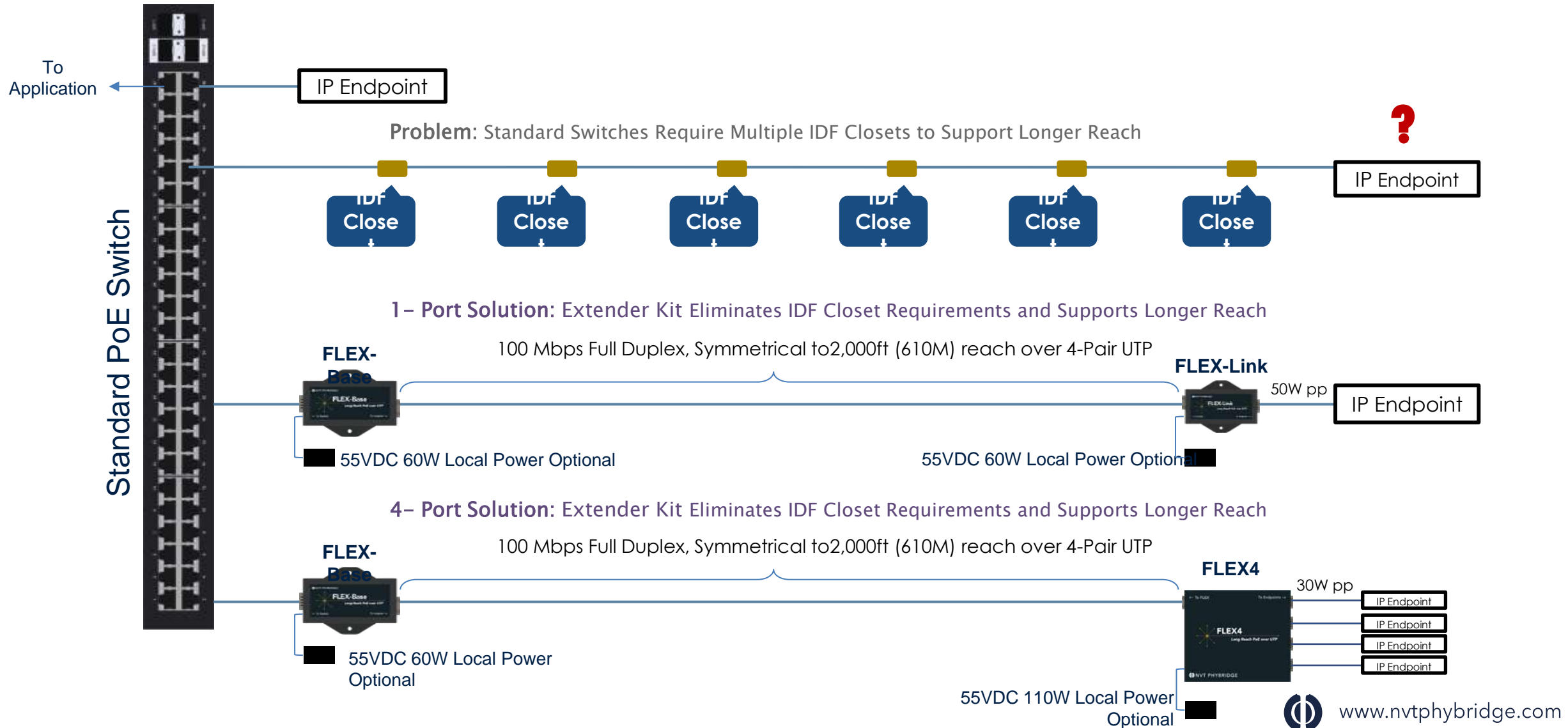


The Most Robust PoE Capabilities on the Market.

Four switches can be stacked together for power sharing, load balancing and power redundancy. The FLEX switch comes standard with PowerWISE technology.

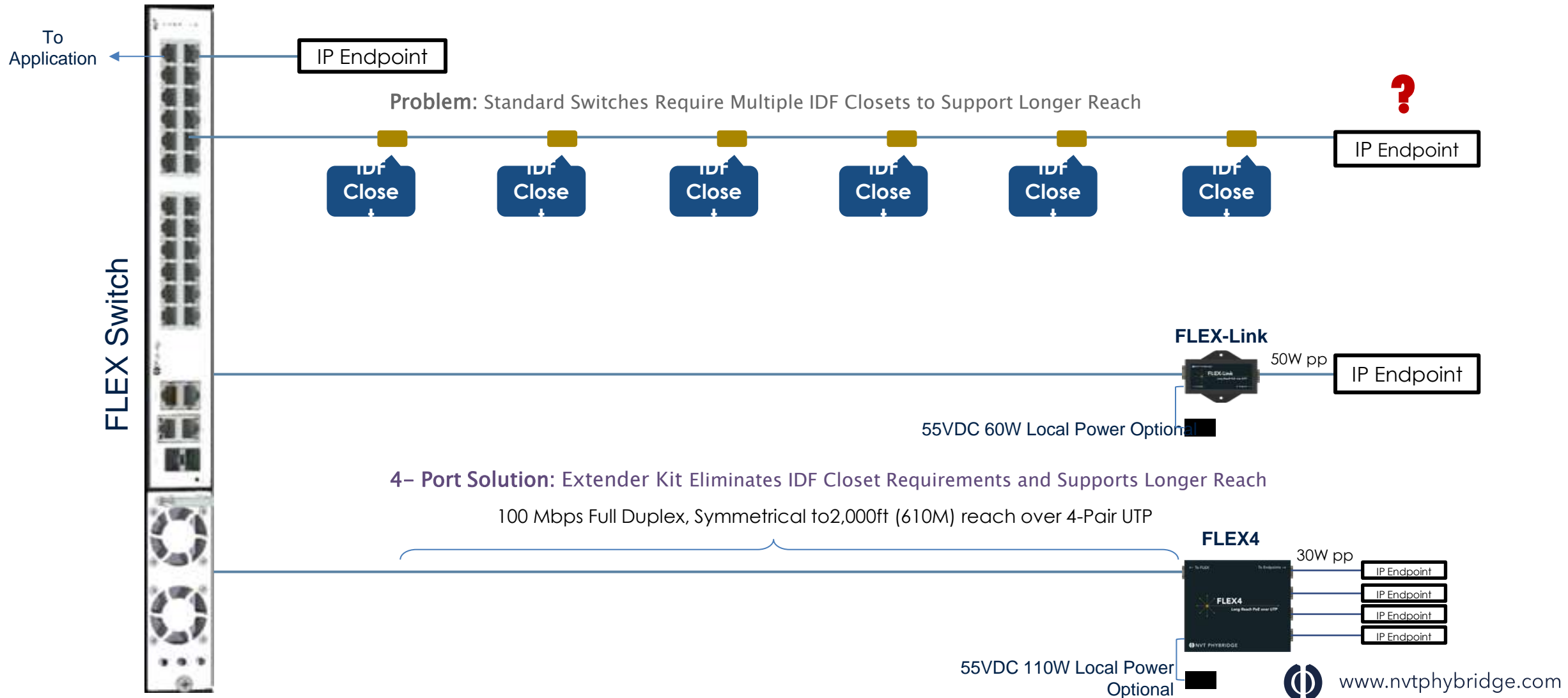
Powerful PoE Extender Solutions

NVTP FLEX Extender Kits – PoE to over 2,000ft (610m)



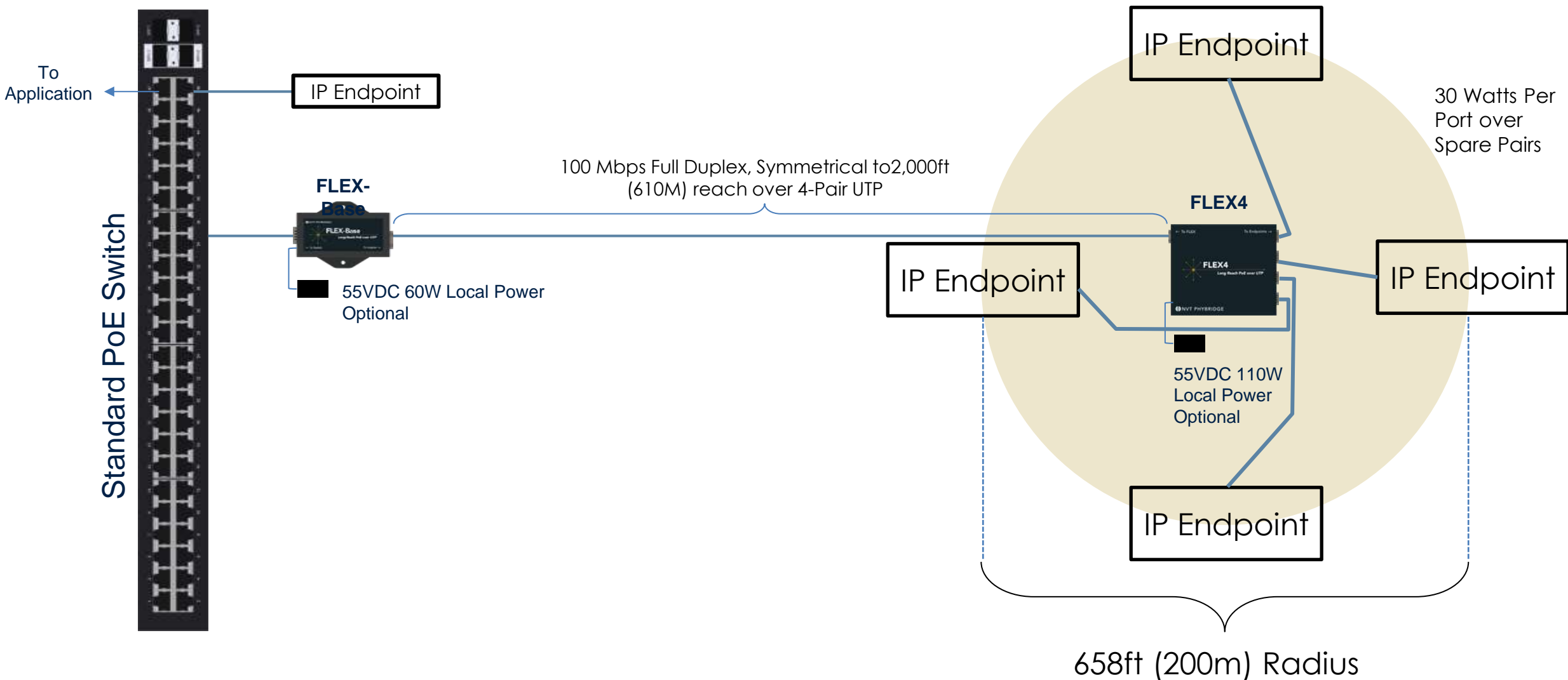
Powerful PoE Extender Solutions

NVTP FLEX Extender Kits – PoE to over 2,000ft (610m)



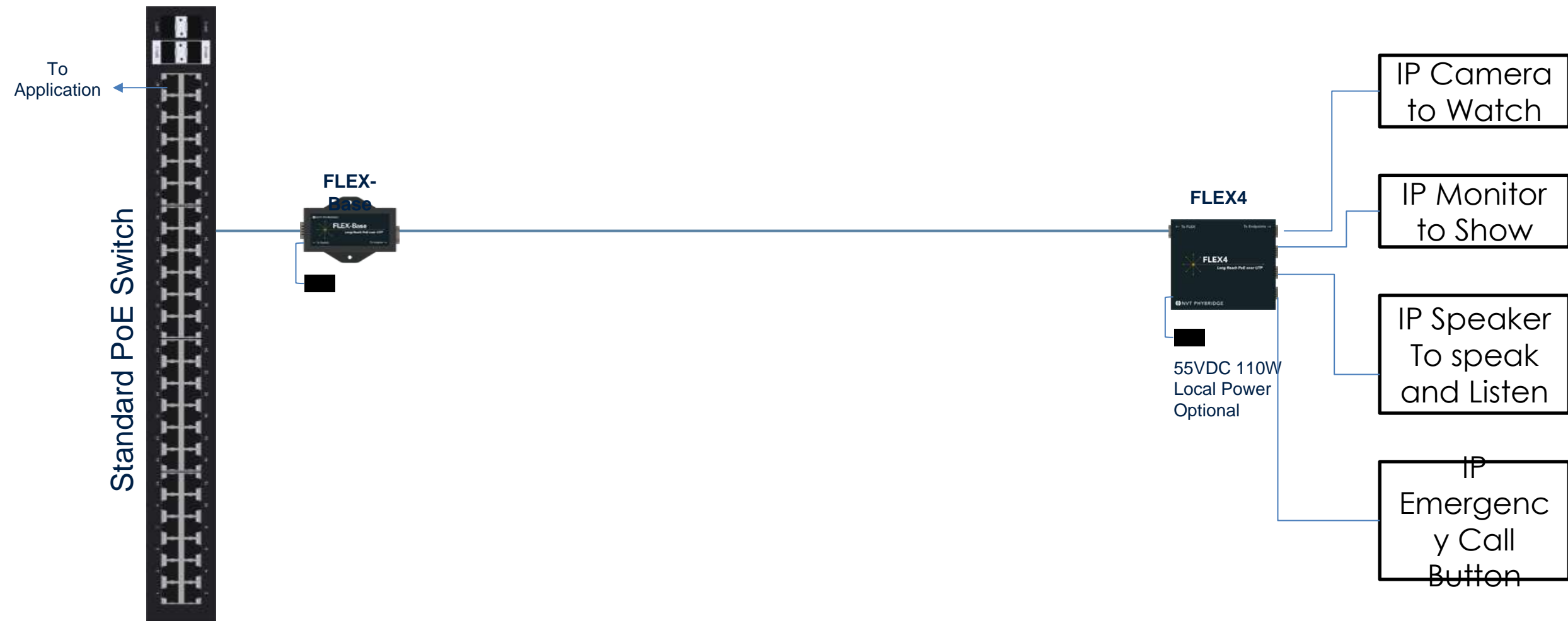
Powerful PoE Extender Solutions

NVTP FLEX 4 Extender Kit – PoE to over 2,000ft (610m) with 658 (200m) radius coverage.



Powerful PoE Extender APPLICATION

NVTP FLEX 4 Extender Kit – 100Mbps symmetrical and PoE to over 2,000ft (610m) reach



Cisco PoLRE Deployments



Customers Successfully Using the PoLRE Switch for Modernization to IP



NVT Phybridge Milestone:

\$100 Million and Counting.

Customer Savings Realized By Using PoE Switch Innovations Offered by NVT Phybridge

Vielen Dank !

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