

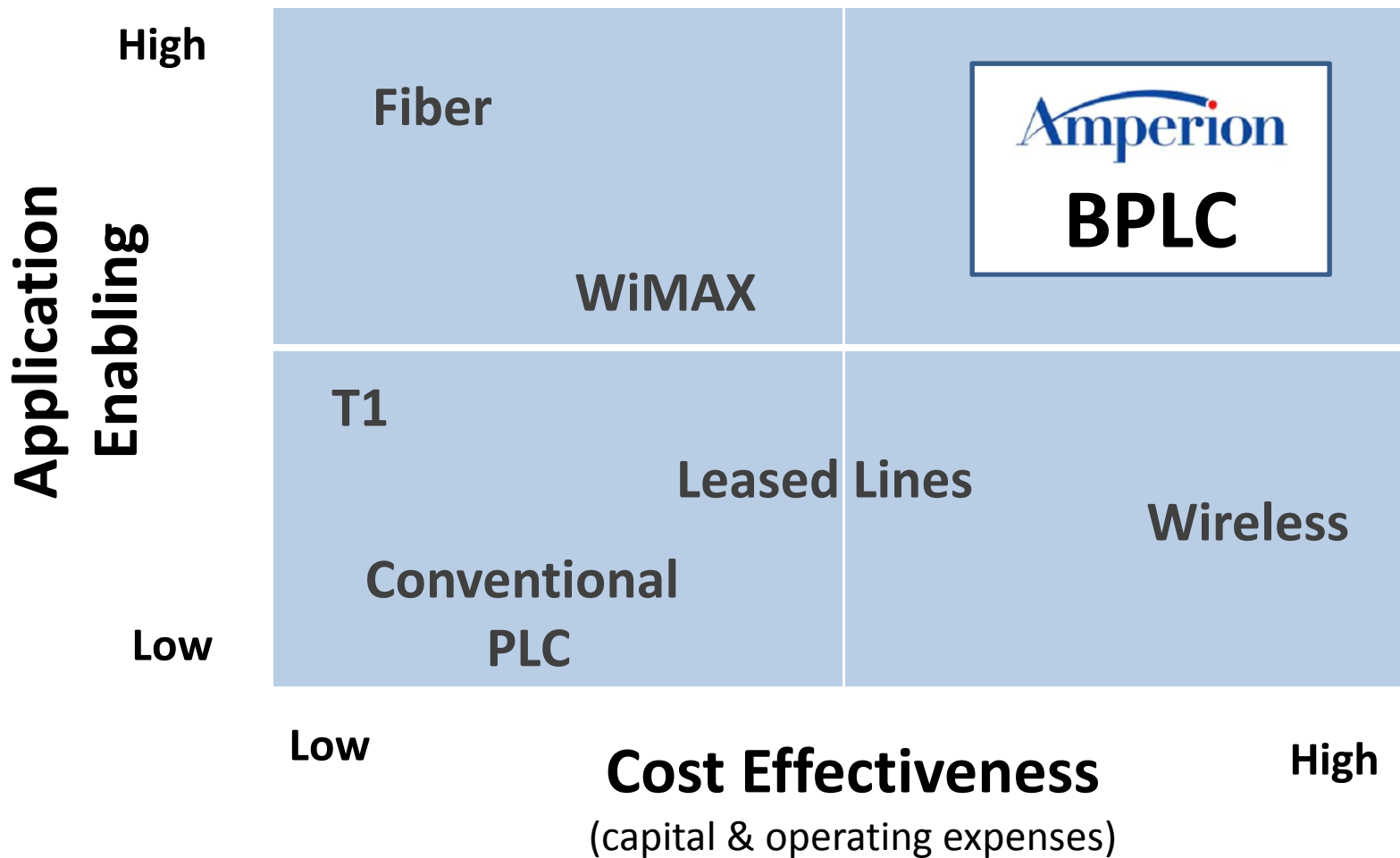


***A SMARTER GRID IS JUST 45 DAYS AWAY
WITH ADVANCED BPLC***

- ✓ Next generation PLC technology
- ✓ Pilot wire replacement; transmission line protection
- ✓ Leased line replacement; SCADA expansion
- ✓ Low-cost, low-risk, fast-install pilot program
- ✓ *Field*-tested on AEP's 69kV and 138kV lines



BPLC RATES HIGH ON KEY EVAL. CRITERIA





BPLC IS CLOSING THE FIBER GAP



	Conventional PLC	Broadband PLC	Fiber
Line protection	yes	yes	yes
Backhaul Communications	no	yes	yes
Broadband	no	yes	yes
Time to deploy	medium	short	long
Service disruption	medium	low	high
Secured protocol	yes	yes	yes
Distance	long	medium	long
Cost (includes labor)	Moderate	Low	High



ADVANCED BPLC PILOT

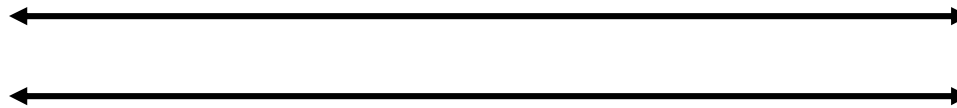
Low-cost, low-risk, fast-install, field-tested by AEP

BPLC Coupler



2 substations

Up to 5 miles distance



BPLC Coupler



Network Management System



Phoenix SG-5000



Phoenix SG-5000



BPLC

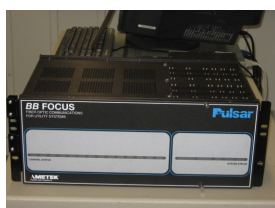


PLC

ADVANCED BPLC IN THE FIELD WITH AEP



Substation to Substation Communications Sample Field Deployment



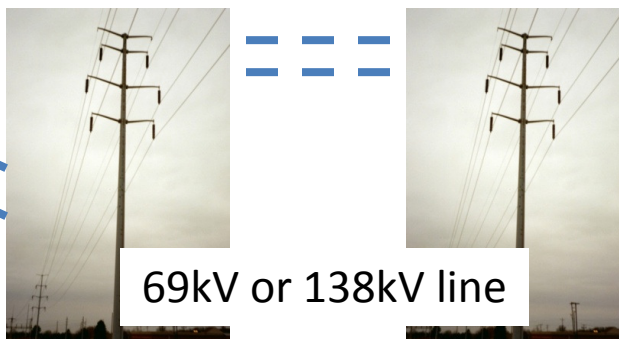
Ametek
BB-Focus



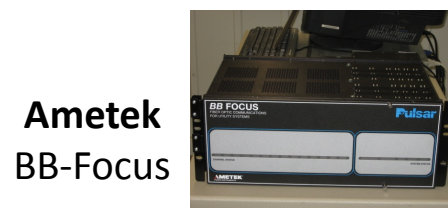
Station A

Ametek with BPLC support
line protection requirements:

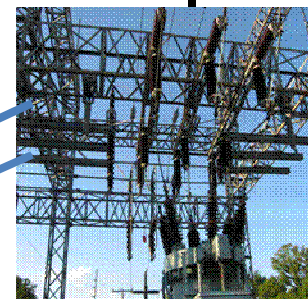
- Low Latency
- High Availability
- Redundancy



69kV or 138kV line



Ametek
BB-Focus



Station B