



# Energy and Mining Communication Services Operation in the Ukraine

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# Proactive Communications, Inc. (PCI)



**Proactive Communications, Inc. (PCI)** is a telecommunication and IT infrastructure solutions company operating out of Houston, Texas USA. The company was founded in 2000 with a mission to provide reliable and secure enterprise-class communication capabilities to government agencies, military, and corporate entities around the world. PCI has grown to more than 150 employees, and has become a proven and trusted resource that delivers total network infrastructure solutions around the globe to the harshest environments and most demanding markets in today's world, including war zones such as Afghanistan and Iraq, remote geographic locations, and natural-disaster areas.



# Core Technical Capabilities



## ▶ Multi-Technology Transport Network

- Satellite Communications
- Terrestrial Wireline Services
- Terrestrial Wireless Services
- Commercial & Private

## ▶ Information Assurance

- VPN / Encryption / Authentication
- Perimeter & Host Protection
- Incident Detection & Response
- Vulnerability Assessments

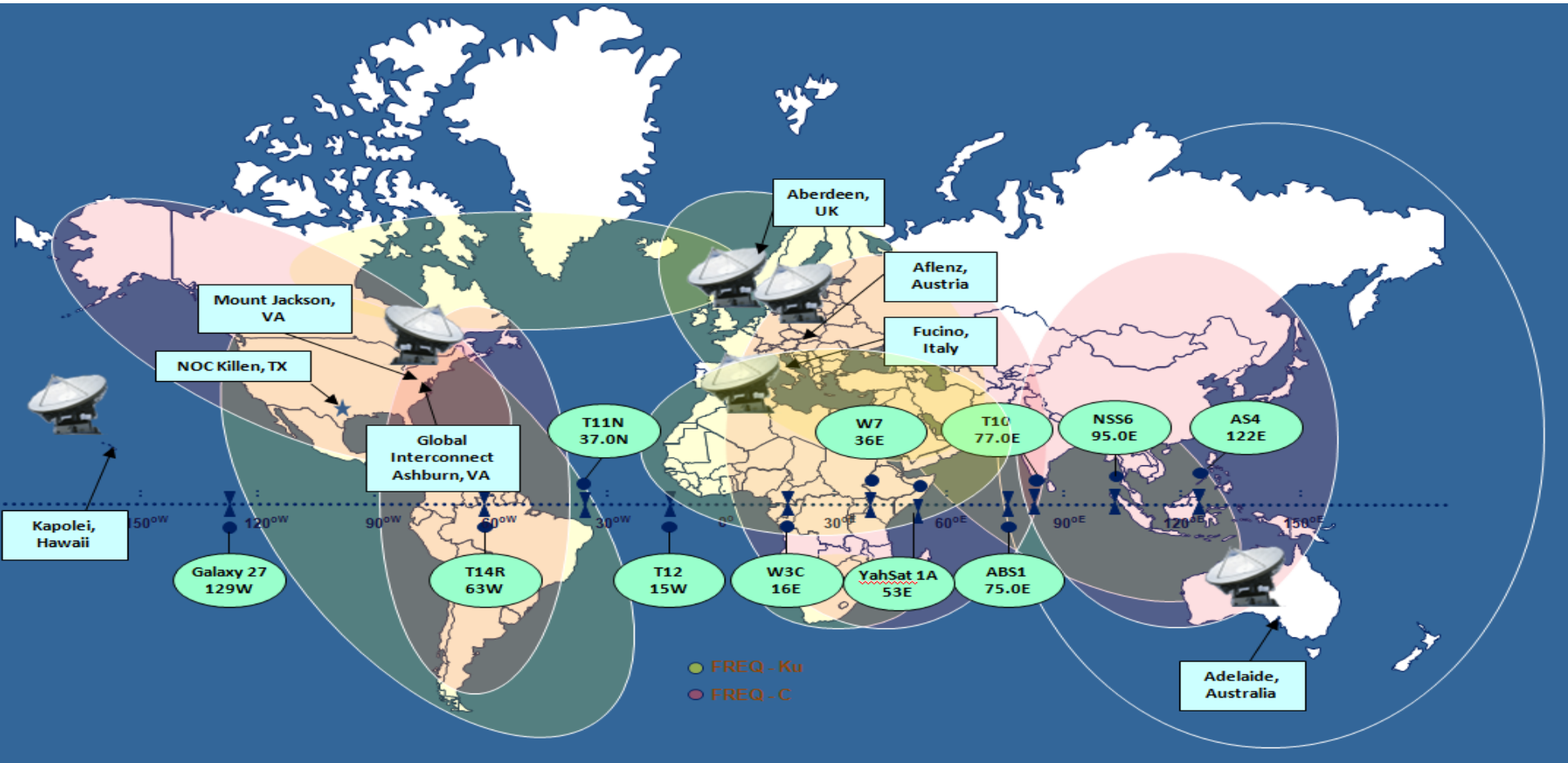
## ▶ End-to-End Service Integration

- Everything Over IP (EoIP)
- Voice/VTC/Camera/Radio/Data
- IT Systems Integration
- Security System Integration
- System Integration

## ▶ Network Engineering

- Customized solutions per customer's unique requirements
- Network Optimization
- Voice, Video, and Data
  - Cisco Premier Certified Partner
  - Microsoft Silver Certified Partner

# Global Satellite Network



# Why Use PCI?



## The Source for Total Network Infrastructure Solutions

- 1) Combination of a *global service delivery* platform and a *flexible product architecture* designed to meet all network requirements, including non-standard, site specific requirements under a common network architecture.
- 2) *Integration capabilities* for multiple mission critical systems *embracing new technology options* and advanced infrastructure.
- 3) *Complete technology lifecycle support*, allowing multiple technology generations within a unified, customer driven technology transition strategy.
- 4) Uniquely structured, end-to-end *three tiered field operations platform* with a global view and *rapid, local response* to service issues.

# Global Service and Flexible Product Architecture



➤ ***Global Support***

Regional focus. Any region of the world.

➤ ***Modular Product Architecture***

Allows the rapid development of custom communication packages.

➤ ***Multiple Transport Options***

Satellite, terrestrial, Wi-Fi, Meshed Wireless, Point-to-Point Wireless, Telco, and Internet. *Not limited by any individual technology platform.*

➤ ***WAN Optimization***

Supporting secure Microsoft protocols, corporate tunnel traffic, and corporate applications such as logistics, ordering, collaboration and timekeeping.

➤ ***No “one size fits all”***

Transport, basic and advanced services (voice, data, video, Internet), non-standard system integration, layered security services and network monitoring and reporting can be customized by site.

# Integration Capabilities – IT



- ▶ ***IT Solution Capabilities***

Capable of integrating heterogeneous operating systems (i.e., Linux, Microsoft, MacOS, including iPad integration).

- ▶ ***Virtualized Environments***

Microsoft HyperV, Linux QEMU/KVM and VMWare.

- ▶ ***Web/Cloud Based Applications***

PHP and ASP – that seamlessly integrate with existing data systems (MSSQL, MySQL, and ORACLE) in a hybrid service model.

- ▶ ***Microsoft Networks***

Designing/deploying/managing Active Directory design, DNS and Microsoft Exchange mail.

- ▶ ***Database Management Systems***

Managing multiple database types (Oracle, MySQL, SQL Server) and designing schema architecture.

- ▶ ***Desktops***

Including profiles, group policy, Windows Software Updates Services, Microsoft System Center.



# Integration Capabilities – Security



- **RADIUS Authentication**

Smartcard, token, and one time password) to RADIUS enabled network devices and software services

- **Security Model Design**

Intrusion Detection, Intrusion Prevention, Network Access Control, Web Filtering, Application Filtering, and user activity logging.

- **Information Security Hardware and Software**

Application/hardware firewalls, defining access control lists, logging SYSLOG data, and identifying network anomalies

- **Centralized Anti-Virus and Network Access Control**

- **PKI/Certificate based authentication**



# Integration Capabilities – System



- Everything Over IP product set
- IP–Convergence
- Multi–mode transport integration
- Beyond Line–of–Sight communication
- Modular mission tailored packages
- Interoperability between divergent radio nets
- Audio signals integrated into cell, VoIP, and PSTN gateway switches
- Cost effective means to integrate legacy communication systems

# Complete Technology Lifecycle Support



- Needs Assessment
- System Engineering and Design
- Procurement
- System Integration and Testing
  - System Integration Testing (SIT)
  - System Acceptance Testing (SAT)
- Logistics – System Delivery
- Field Construction
- System Commissioning
- Mobilization and Demobilization Services
- Technology Refresh and Technology Transition Services

# Three Tiered Field Operations Platform with Rapid, Local Response



- ▶ The three tier network operations platform supports all customers with true end-to-end services.
  - Tier 1: PCI provides “Boots on the Ground” field technical support.
    - Each field team is lead by in-region PCI field engineers using local technical resources.
    - These field forces are supplied by a PCI distributed logistics system that provides adequate, in-region spares for all PCI supported services ensuring the fastest possible response, with adequately supplied, PCI led and trained local technical resources.
  - Tier 2: Field forces are under the oversight of a PCI in-regional program manager (RPM), directly connected to the customer’s in-region management team.
    - Issues are jointly solved in real time from the perspective of the customer in-region, not simply from the view of a screen hundreds of miles away.
    - The PCI RPM provides coordination and direct escalation to the PCI technical and executive management teams for any action needed to support mission critical systems and services.

# Three Tiered Field Operations Platform with Rapid, Local Response



- ▶ The three tier network operations platform supports all customers with true end-to-end services.
  - Tier 3: All field resources are supported by a world class NOSC, Network Operations and Security Center.
    - The NOSC provides a global view of all customer systems, with end-to-end, 24x7 real time monitoring of all services and providers supporting global operations to assure maximum uptime, reliability and security.
    - Additionally, the NOSC provides full trouble ticket support, customer portals, real time network statistics, trouble ticket analysis, and customized reporting...all directly accessible by the customer from any location.

# PCI Delivers...Anytime... Anywhere – Period.



- Continuity and reliability provided by an adaptable network core, rich interconnection capability, friendly to rapid technology transition.
- Cisco Premier Certified Partner with specializations in Advanced Unified Communications and Advanced Routing and Switching. Current deployments with integrated voicemail and presence service 4400+ devices.
- Capable of deploying complex secure branch office backhaul solutions utilizing MPLS, IPSEC and GRE tunneling solutions.
- Specialized in managed WAN, LAN, Unified Communication services and Satellite backhaul with out of band management services.
- Deploys and supports Microsoft voice and messaging integration with Cisco UC supporting voice mail to email, conversations to email, and collaboration.
- Morale, Welfare and Recreation Center designs and control features for workforce retention.

# PCI Delivers...Anytime... Anywhere – Period.



- Capable of designing customer facing portals that allow customers access to reports and other services provided by PCI (i.e., management of phone pins, Call Detail Reports, service tickets, and track contractor time)
- Capable of automating reports and sending out notifications based on scheduled jobs (i.e., Sql Server Agent/Database Mail or CRON/PostFIX)
- As a commercial telephone provider, offers a pure SIP backhaul solution to customers.
- The only commercial telephone provider to support real world, carrier grade SIP trunking over satellite to hundreds of branch locations.
- Capable of PIN integration for international call control and calling cards.
- FCC licensed Telco

# Support for Ukraine Energy Operations



- Commercial Satellite Networks to Support Corporate and Remote Office  
TeleSat T12 and Aflenz, Austria are available for small, medium, large, and super large communications requirements in austere areas. Redundant capabilities at Mt Jackson, VA.
- Terrestrial and wireless infrastructure  
Leased line and MPLS deployment in defined urban areas. Wireless networks in the licensed and unlicensed frequency spectrums
- Voice over IP and custom telephone networks  
US area codes and private routing creates toll-bypass
- Upstream network architectures  
SCADA networks
- Network optimization  
8 to 55 x throughputs created delivery path for corporate applications



# Support for Ukraine Energy Operations



- Network security
  - Lock down and monitor using latest US Department of Defense security standards
- Network monitoring
  - 24x7 Network Operations and Security Center with full-scale and granular monitoring
- Integrated communications architectures
  - Everything over IP Radio Bridge (EOIP-RB) extends investment of legacy radios. Regional and global communications architectures that account for changes in latency and congestion
  - Training and Entertainment Systems

# Support for Ukraine Energy Operations



Communications deployments are subject to local frequency management coordination, licensing, and Energy contract directives.

Bandwidth prices range from USD\$4,500/1Meg per Single Channel per Carrier (SCPC) to \$6,500/1Meg

Customer Premises Equipment (CPE) is available for procurement or lease. The cost of equipment varies with the amount of users and types of traffic that need to be supported.

VOIP service is \$54/month per number and includes unlimited business minutes. International dialing rates are available.

Terrestrial leased lines range from \$1,000/1Meg to \$5,000/1Meg depending on the area and availability

EOIP-RB is custom to fit the requirement and can range from \$50,000 to \$250,000