



## Private Wireless Network Presentation



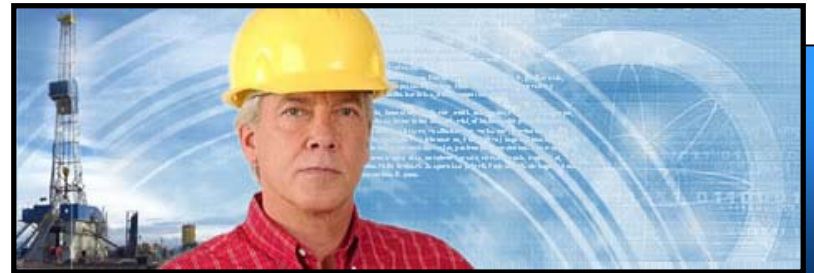
Presented By:

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- ➔ *Obsessive INNOVATION*
- ➔ *High Performance FOCUS*
- ➔ *Efficiency Through PROCESS*



**Cerento implements wireless technology tailored to fit individual company requirements!**

## Cerento Overview

- ➔ Cerento is a communications infrastructure and networking solutions provider to the oil and gas industry
- ➔ We partner with both large and mid-sized organizations' IT/Comm's Department to provide additional expertise delivering high-performance networking technology solutions
- ➔ Our staff of 50+ technology professionals brings expertise of knowledge in leading wireless communication solutions to companies across the nation



# Company Background

## ➤ Background

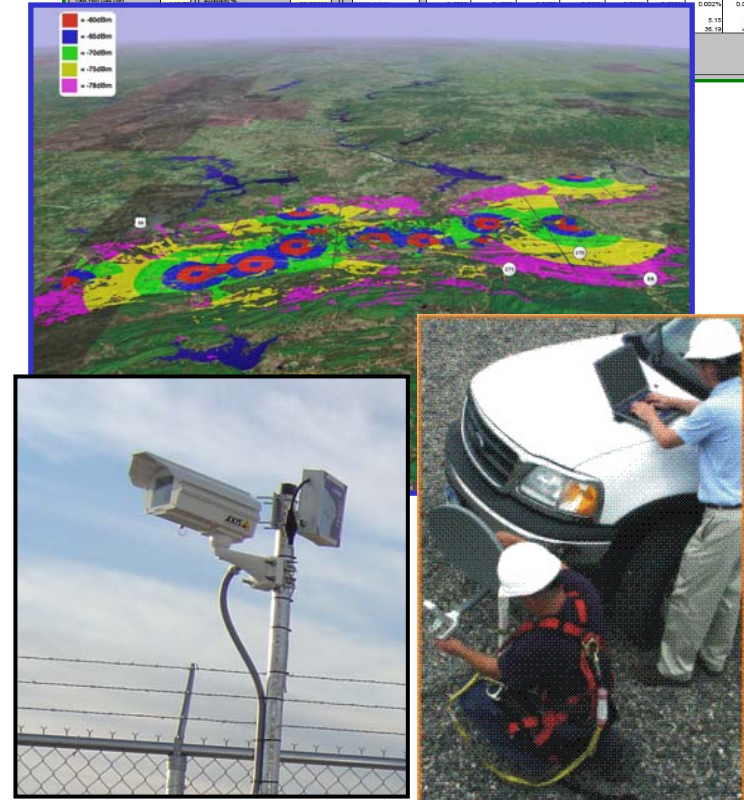
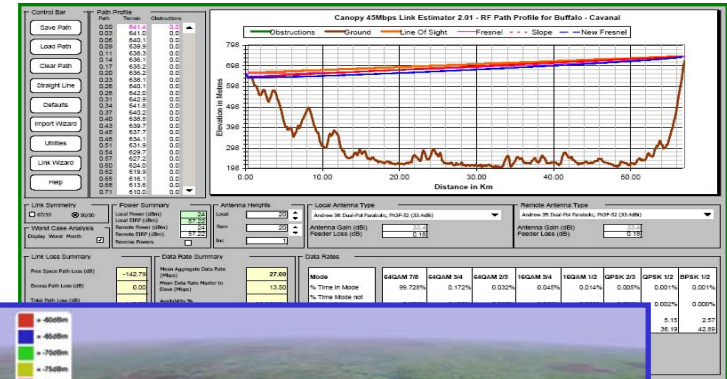
- Cerento's parent company was founded in 1994.
- The company has built upon the lessons it learned developing a vast public wireless data network that today spans more than 8,500 square miles. As a result, the company has had to overcome four generations of wireless networking equipment and the challenges of networking in expansive, irregular, and remote areas
- To date, Cerento has deployed over 15,000 square miles of public and private wireless networks.
- Cerento's parent company has held its regional leadership position for nearly a decade and plans for Cerento to maintain this position and expand upon it across the nation. The company will build upon its reputation through a combination of sustained wireless networking expertise and a commitment to in-house development of unique solutions to our clients need.

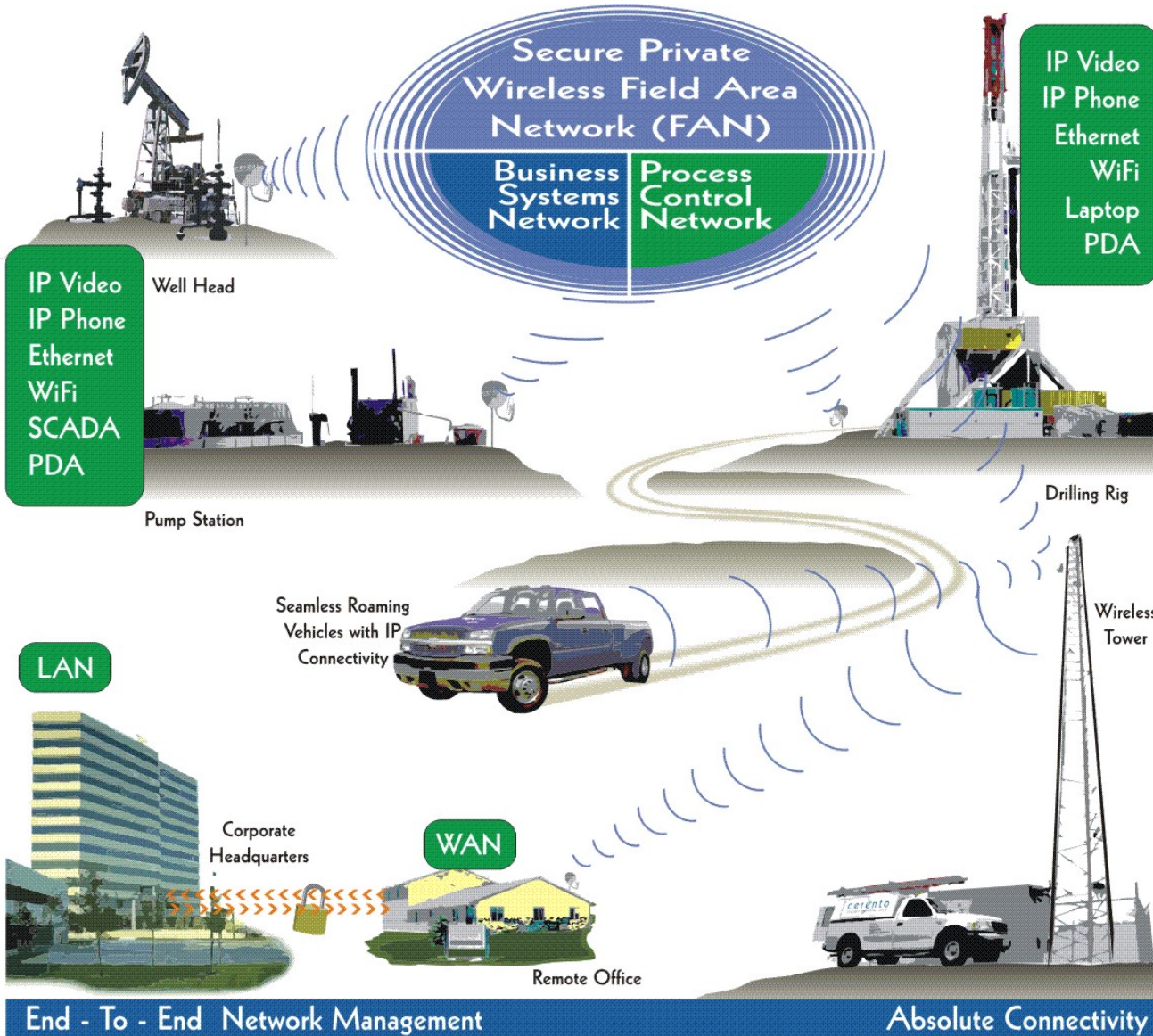
## Cerento Experience

- ▶ Cerento and its parent company have installed several large scale enterprise networks and provided networking experience to the following companies:
  - BP America
    - Developed the ‘future proof field’ for BP America
    - Took broadband access to the very edge of their field network
  - EOG Resources, Inc
    - Wireless LAN connectivity with seamless roaming over a 900MHz Field Area Network
    - Equipped mobile vehicles
  - General Chemical
    - 45MB Backhaul deployment
  - City of Laramie
    - 45M Backhaul deployment and Wireless Management
  - Wyoming.com
    - Deployed three generations of wireless technology for the ISP in Wyoming
    - Utilized a combination of 900, 2.4 and 5.7 unlicensed spectrums
  - Other companies include: Williams, Encana Oil and Gas, Citation Oil, Marathon Oil, and Nucor Oil and Gas



- ➔ Network Management Services
- ➔ Wireless and Wired Field Network Design
  - Backhaul Design
  - RF Engineering, Propagation Mapping, and Spectrum Analysis
  - Tower Design and Installation
- ➔ Seamless Roaming Design and Development
  - Constant connectivity to roaming users between Access Points, LANs and WANs
- ➔ Legacy System Integration
- ➔ Next Generation Product Deployment
  - Voice Over IP
  - Video Over IP
  - Handheld Computing
  - WiFi
- ➔ End-to-End Project Management





## Cerento Oil and Gas Solutions

### Example Wireless Frequencies

- 5.7GHz
  - Backhuls 45 – 300 Mbps
  - SMs to APs 14Mbps
- 2.4GHz – 14Mbps
- 900 MHz - 4Mbps

### Hardware Vendors

- Motorola Canopy
- MDS
- Freewave

End - To - End Network Management

Absolute Connectivity

## Benefits of High-Speed Networks To The *EDGE*

- ➔ Track / access automation data as frequently as you desire and control equipment from anywhere in the field or in the office
- ➔ Corporate LAN access everywhere
  - No more paper work and information delay
    - Database access and data entry capabilities in the field
  - More efficient service technicians due to accessible work order information, SLA's and equipment configuration data
  - Fewer stolen assets by video monitoring
    - Monitor a contractors actual time on a job
  - Deliver access to:
    - Text paging, instant messaging, Voice (Telephone)
    - Business applications access
      - Email, word processing, calculation programs, CAD drawings
- ➔ Seamless mobility from wired office to wireless field environment



## Cerento Process – Design

### Design

Cerento engineers design customized secure private wireless networks to meet your business and technical goals. We use a proven four step design process to deliver precise specifications. From needs analysis through design, delivery and review, we work directly with the customer to ensure a deliverable plan for every project.

### Design Process

1. Understand goals of network
  - ▣ Uses of network – automation data / business data / both
  - ▣ Bandwidth
  - ▣ Security
  - ▣ Future growth
  - ▣ Field coverage
  - ▣ Access requirements – vehicles, wells, rigs
  - ▣ Remote network management and monitoring
  - ▣ Reliability
2. Analyze existing infrastructure
  - ▣ Radio equipment
  - ▣ Towers
  - ▣ Power
  - ▣ Current bandwidth requirements
3. RF Engineering
  - ▣ Propagation Study
  - ▣ Spectrum Analysis
  - ▣ Tower planning
4. Propose solution based on all above information.

## Cerento Process – Implementation

### Implement

Cerento certified engineers and installers will implement, configure, document and test each project deployment. Our installation team works jointly with our design engineers to execute detailed specifications in the field. Cerento engineers are on-site through system certification to ensure successful deployment.

### Implementation Process

1. Perform project management for entire installation process.  
Including:
  - Towers
  - Power
  - Equipment installation
2. Install entire infrastructure
  - Towers
  - Vehicles
  - Wells
  - Rigs
3. Test
4. Train
5. Launch
6. Document

## Cerento Process – Manage and Support

### Manage, Maintain and Support

Our end-to-end network management services provide ongoing monitoring, management and maintenance of client data networks from field device back to the corporate LAN. Cerento combines remote management with on-site technical support to guarantee uptime and deliver a highly efficient and reliable network.

Our three-tiered escalation procedure, along with a network operations center that is available 24-hours a day and staffed by experienced engineers, provides a reliable network management solution to maximize your networking capital investment.

### Maintenance and Support

1. Remote network management
  - ▣ 24/7 Performance Monitoring and troubleshooting
  - ▣ Resource Management
  - ▣ Equipment Upgrades
2. Client Reporting
  - ▣ Radio utilization data
  - ▣ QoS reporting
  - ▣ Network activity reporting
  - ▣ Trend report to avoid Intrusion attempts
3. End-user support – field / office staff
4. On-site routine and emergency maintenance and support for entire wireless network

- ➔ Existing Infrastructure
  - ➔ Pain Points
  - ➔ Growth Requirements
- 

- ➔ How Can Cerento Help?

## Contact Cerento

### **Cerento Contact Information**

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