Care and Feeding of Telex Radio Dispatch Systems
IP-2002, C-6200, IP-223

Introduction

Welcome

Dave Grant / dave@manoneng.com
425.827.7449

2/26/2009

Care and Feeding of Telex Radio Dispatch Systems
IP-2002, C-6200, IP-223

Introduction

- Dave Grant – K7DRG

- Manon Engineering, Kirkland, over 30 years in the Wireless Industry

- Manufacturers Rep for Bosch Security Systems, Telex Radio Dispatch Systems

- Telex introduced RoIP more than 7 years ago with C6200 and IP-223

- Full Line of Hard and Soft Consoles for applications requiring Radio Dispatch

Dave Grant / dave@manoneng.com
425.827.7449

2/26/2009

Care and Feeding of Telex Radio Dispatch Systems
IP-2002, C-6200, IP-223

Introduction

- What are we going to cover

  - Networking Overview

  - IP Console and Radio Adapter Features

  - System Maintenance

  - Hardware and Network Setup

Dave Grant / dave@manoneng.com
425.827.7449

2/26/2009

Care and Feeding of Telex Radio Dispatch Systems
IP-2002, C-6200, IP-223

Network Terminology

Ethernet 100BaseT Network

- Addressing, MAC Address, IP Address, Multicast Address, Netmask

  - MAC Address : 00-13-CE-09-F7-3B

  - Routable IP Address : 207.244.156.63

  - Non-Routable IP Address : 192.168.0.1, 10.0.1.1, 169.254.0.0

  - Multicast Address : 224.0.0.0 – 239.255.255.255

  - Netmask : 255.255.255.0

  - TCP/UDP Ports are in the range of 1054-65535

Dave Grant / dave@manoneng.com
425.827.7449

2/26/2009

Network Terminology

- Data Packets, TCP/IP, UDP/IP, Header, Payload, Unicast, Multicast

  - TCP/IP : Connection based, guaranteed delivery

  - UDP/IP : No Connection, no delivery guarantee

  - Header Data

  - Payload Data

  - Unicast

  - Multicast

Dave Grant / dave@manoneng.com
425.827.7449

2/26/2009

Network Terminology

- Buffering, Latency, Jitter

  - Buffering is required in RoIP

  - Latency is a part of life in Networks

  - Jitter is a result of varying latency

  - Packet Flow

  - Vocoding
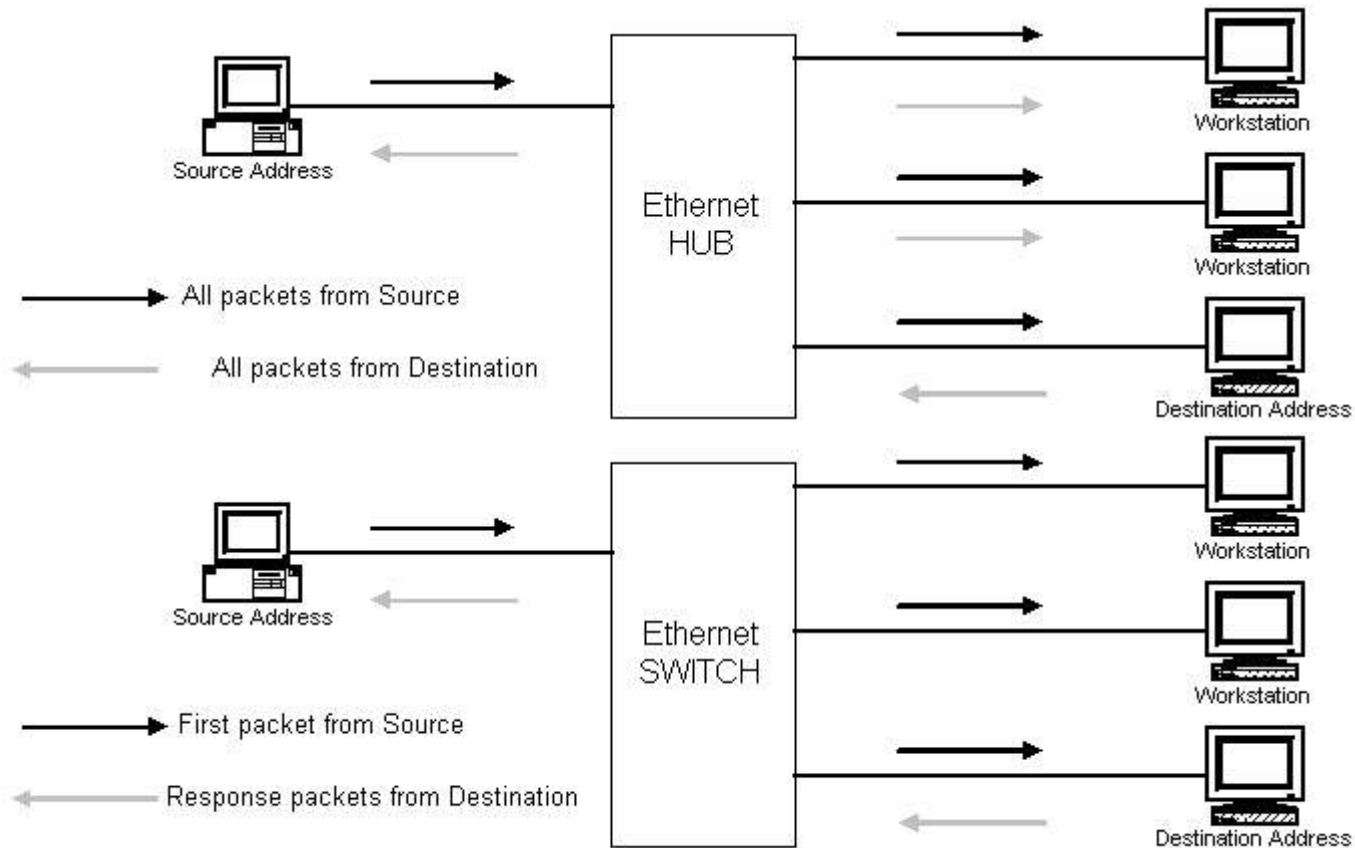
Dave Grant / dave@manoneng.com
425.827.7449

2/26/2009

Network Terminology

Difference between a HUB and a Switch

Dave Grant / dave@manoneng.com
425.827.7449

2/26/2009

Network Topology
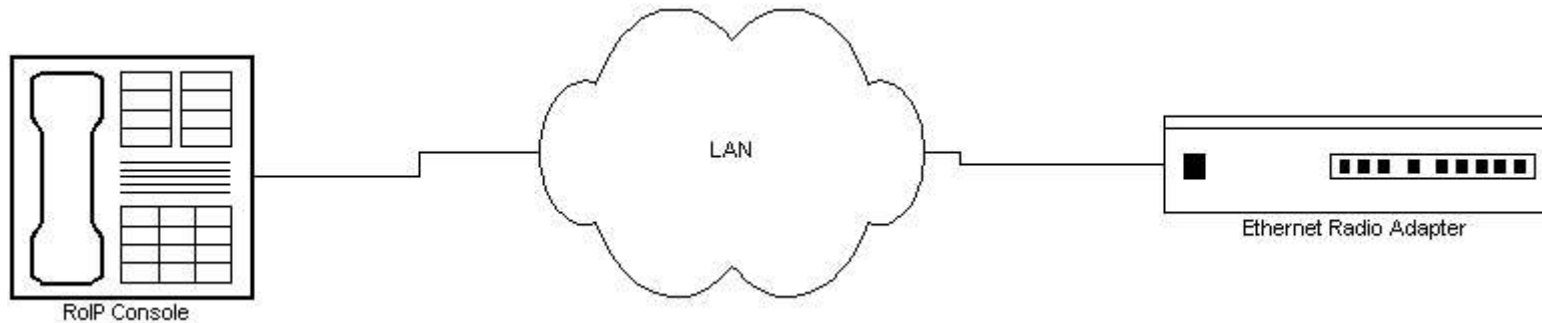
Simple LAN Example

- Rolled cable

- Local Network device

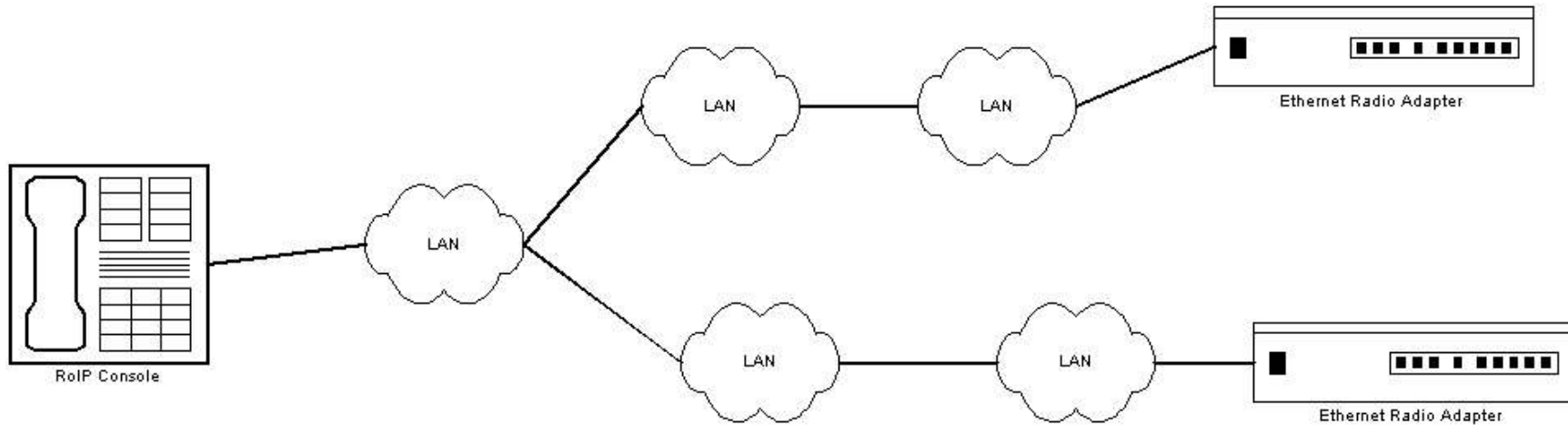Dave Grant / dave@manoneng.com
425.827.7449

2/26/2009

Complex LAN Example

- Multiple Subnets in a single location

Dave Grant / dave@manoneng.com
425.827.7449

2/26/2009

WAN Example

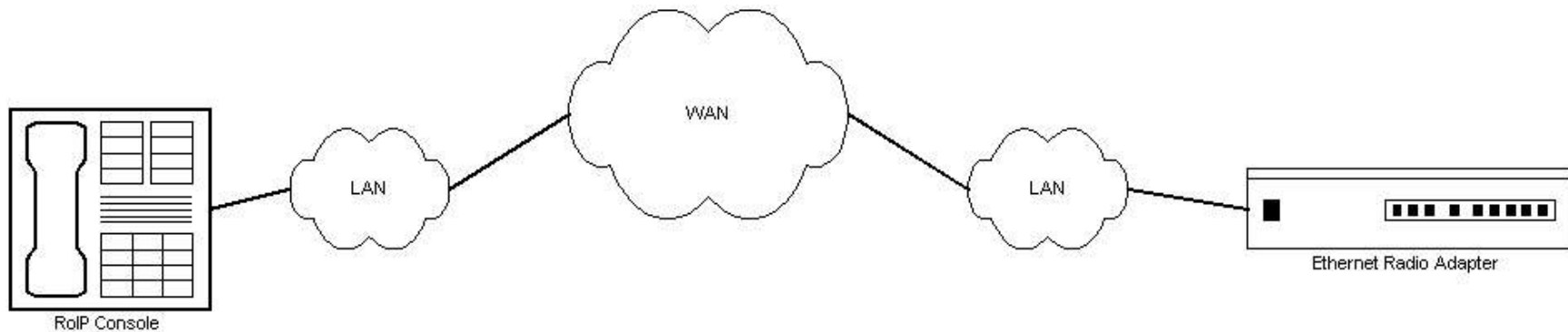RoIP Console · LAN · WAN · LAN · Ethernet Radio Adapter

- Private Inter-Office Network

- Secure 3rd Party Transport Network

- The Internet

Dave Grant / dave@manoneng.com
425.827.7449

2/26/2009

Care and Feeding of Telex Radio Dispatch Systems
IP-2002, C-6200, IP-223

IP-2002

IP-2002 Features

- Half or Full Duplex Per Line
- Four Alert Tone Cadence
- 2 Line VF Display
- Crossmute Per Line (Ethernet)
- TX Microphone Notch Filter
- Instant Recall Recorder
- Crosspatch
- Paging
- Web Browser Configured
- Radio Scan Control

- Channel Control
- MDC ANI Display (with IP-223)
- FleetSync ANI Display (with IP-223)
- Clock and VU Meter
- Summed Audio Recorder Output
- Phone Line Control
- TSM Firmware Upgradable
- Call History
- Call List

Dave Grant / dave@manoneng.com
425.827.7449

2/26/2009

C-6200

C-6200 Features

- Programmable single or dual function tones
- 16-frequency control
- Two-or four-wire(field programmable with optional line cards), local, and E&M
- Simplex/full duplex operation (field programmable)
- Programmable squelch control
- Crossmute (hardwire)
- Parallel console update
- Paging (multiple formats)
- Instant Recall Recorder (IRR)
- Telex System Manager (TSM):

Dave Grant / dave@manoneng.com
425.827.7449

2/26/2009

C-6200

C-6200 Controls

- Monitor, intercom, PTT button
- Up to four alert tones
- Crosspatch up to three groups
- Group select, three pre-determined groups.
- Supervisory control
- 16-digit DTMF keypad
- Volume controls
- Parallel TX LED detect
- Channel selection
- Instant PTT
- Auxiliary up to four buttons
- Four programmable buttons
- Paging

Dave Grant / dave@manoneng.com
425.827.7449

2/26/2009

IP-223 Features

Multiple types of communications interfaces IP, two-wire, four-wire, iDEN, local control, PSTN

Seven functional modes available in every device

- Local – Direction Connection to any radio
- Tone – Generate standard radio control tones
- Console – Bridge IP into a legacy tone control system
- Crosspatch/Repeater – Directly patch resources without the need for a console
- Phone – Connect a standard POTS phone via the TDI
- iDEN – Connect an iDEN device to the dispatch network via the NI-223
- TETRA – Control a TETRA radio resource

Care and Feeding of Telex Radio Dispatch Systems
IP-2002, C-6200, IP-223

IP-223

Enhanced Crosspatch capabilities:

- Line-to-line crosspatch – Enable and disable via DTMF strings.
- Start/Stop Function Tone Line-to-Line Crosspatch –
  Designated function tones have the ability to
  automatically set up and knock down line-to-line crosspatches within the device.
- Dial – Remote user with portable radio can key a
  DTMF string, causing IP-223 to take the TDI-223
  off-hook, dial a preprogrammed phone number and
  establish a patch between the devices via DTMF strings.
- Dial VoIP – Remote user with portable radio can key
  DTMF string, causing IP-223 to join different multicast
  group and port–mapping the IP to a different channel.
- Phone Patch - Remote user with portable radio can
  key a DTMF string, causing IP-223 to take the TDI-223
  off-hook. The user can then manually dial a phone number.
- Multiple Vocoders - Per Line Vocoder Type – Ability to select lower bandwidth Vocoder