New York City Marathon 2016
Amateur Radio Emergency Data Network (AREDN) Mesh Network
Objectives

Provide Voice and Data Communications between five Operating Positions in the
Amateur Radio Communications Trailer and the Race Control Center (RCC)
Tent and access to the Internet

1. Provide reliable connectivity across a 500 yard path in Central Park between the trailer and MCC.
2. Provide a phone at each operating position (5 in the trailer, one in the RCC tent)
3. Provide a data port and Ethernet cable for user-supplied laptops at each of six positions.
4. Provide an extra data port in the RCC for a second user-supplied computer.
5. Enable access to the Internet gateway for the purposes of:
   • Editing a Google doc used as a tracking sheet
   • General situational awareness
6. Provide an Internet interface to the Roadrunner-supplied Internet drop in the trailer.
7. Provide a backup Internet capabilities via an AT&T cellular interface
   • The viability of a cellular data connection in Central Park is dubious and is only being considered for future reference.
   • The specific requirements for this interface are pending and will be considered as a stretch goal.
New York City Marathon 2016
Amateur Radio Emergency Data Network (AREDN) Mesh Network
System Diagram As Requested

Trailer
- Air Router
- M2 NanoStation
- M3 Rocket
- GS108E "Smart Switch"
- W2TTT PBX
- 6 Laptops
- 5 GXP 1450
- Ubiquiti AP
- Cradlepoint Gateway

MCC Tent
- M3 Rocket
- Ethernet Hub
- 2 GXP 1450
- AT&T Internet
- RR Internet

500 Yard Distance
2.4 GHz Wi-Fi Access Point
New York City Marathon 2016
Amateur Radio Emergency Data Network (AREDN) Mesh Network
VoIP Phone & Computer Diagram As Deployed
New York City Marathon 2016
Amateur Radio Emergency Data Network (AREDN) Mesh Network
Key Components

**Amateur Radio Communications Trailer**
- 1 Ubiquiti M3 Rocket & Sector Antenna
- 1 Ubiquiti M2 Nanostation
- 1 Ubiquiti Access Point
- 2 Netgear GS108E Smart Switch
- D-Link G0-SW-8G Switch
- 5 Grandstream IP Phones GXP 1450
- 1 BeagleBone Black Asterisk/All-Star Node (W2TTT)
- Cradlepoint MBR-1400 Router
- Sierra Wireless AC-340U LTE Modem on AT&T
- 1 Ubiquiti AirRouter (N2MH)
- 1 BeagleBone Black Asterisk/All-Star Node (N2MH)
- Power Supplies & Cables
- Mast and support hardware

**Medical Control Center (RCC)**
- 1 Ubiquiti M3 Rocket & Sector Antenna
- Ethernet Hub
- 2 Grandstream IP Phones GXP 1450
- Linksys WRT-54GL DD-WRT AP
- Power Supplies & Cables
- Mast and support hardware
New York City Marathon 2016
AREDN Mesh Network & APRS Status

- Amateur Radio Emergency Data Network (AREDN) Mesh Network
- Automatic Packet Reporting System™ (APRS) Network
- Team
  - Gordon W2TTT  201.314.6964  w2ttt@att.net; w2ttt@att.com
  - Mark  N2MH  201.341.7257  n2mh@n2mh.net
  - Dave  N3UXK  973.809.8674  dhenninger@gmail.com
Hillary and Mark, N2MH at Red Cross Test
Senior Staff Briefing at NYC Roadrunners
NYC Marathon Map in RCC
Wi-Fi at Finish Line the day before
Grandstream GXP 1450 12 V to 5 V Conversion Module and Anderson PowerPoles
Mike, K2MPH & Gordon, W2TTT
Deb, KC2GPV & Mike, K2MPH after Saturday Setup in Central Park

Dave Henninger, N3UXK at RCC node
5 AM at the 2016 NYC Marathon Finish Line in Central Park
10 AM at the 2016 NYC Marathon Finish Line in Central Park
Logistics and Dropout Net Controls
Jamison, DMR Net Control and AREDN & APRS Net Controls
2016 New York City Marathon Recap

Questions?

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