

PTV Air-Tower™ Network

Airborne Wireless Mesh Transmitting Platform



The only telecommunication system capable of withstanding ALL top-tier disasters and threats

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Introduction – Modern Threats to Telecommunication

Current Top-Tier Threats Are Like Nothing Ever Seen In Modern History:

- EMP – Electromagnetic Pulse
- Nuclear Event
- Extreme Solar Activity
- Weakening Magnetic Field Around Earth
- Asteroid or Comet from Space

And That Doesn't Count Intentional Sabotage From Knowledgeable Foes:

- Anarchist
- Hackers
- Foreign Governments
- Terrorists

All of these threats are capable of taking out the entire telecommunication and electrical grid in North America. The top threats can even take out all our satellite communications.

Current Communication Technology Limitations

According to the ECS Vulnerability Report and the EMP Commission Report, **ALL** commercial communication technologies are vulnerable to top-tier threats:

- Landlines (copper, cable and even fiber)
- Wireless Cell Towers
- Wireless Broadband Towers
- Television Broadcast Towers
- Radio Broadcast Towers
- Satellites (both low and high orbit)

All emergency services communication systems rely on terrestrial based transmitter towers. No commercial terrestrial transmitting technology has a guaranteed ability to withstand **ANY LEVEL** of top-tier threats. Current telecommunication systems can barely withstand an event of the magnitude of 9/11 or Hurricane Katrina. Not even satellites can withstand the top-tier threats.

All fixed transmitting systems are vulnerable to top-tier threats

The PTV Solution – Based on New Infrastructure

PTV Air-Tower – Airborne Wireless Mesh Transmitting Platform:

- Based on customized long-loiter fuel efficient small jet planes
- Transmitting antennas mounted on fuselage function like very high tower
- 250 planes fly in fixed FAA approved orbits over entire country 24/7
- Fly at 41,000 feet which is high above most weather – no sound below
- Single plane can transmit 70 mile radius
- Covers over 15,000 square miles
- Resilient and redundant transmitting platform
- Complete 100% coverage over the entire continental U.S.
- Carries a new high-power wireless mesh private IP network
- Cheaper to buildout and maintain than any other technology
- Lower carbon footprint for operation and deployment than any alternative

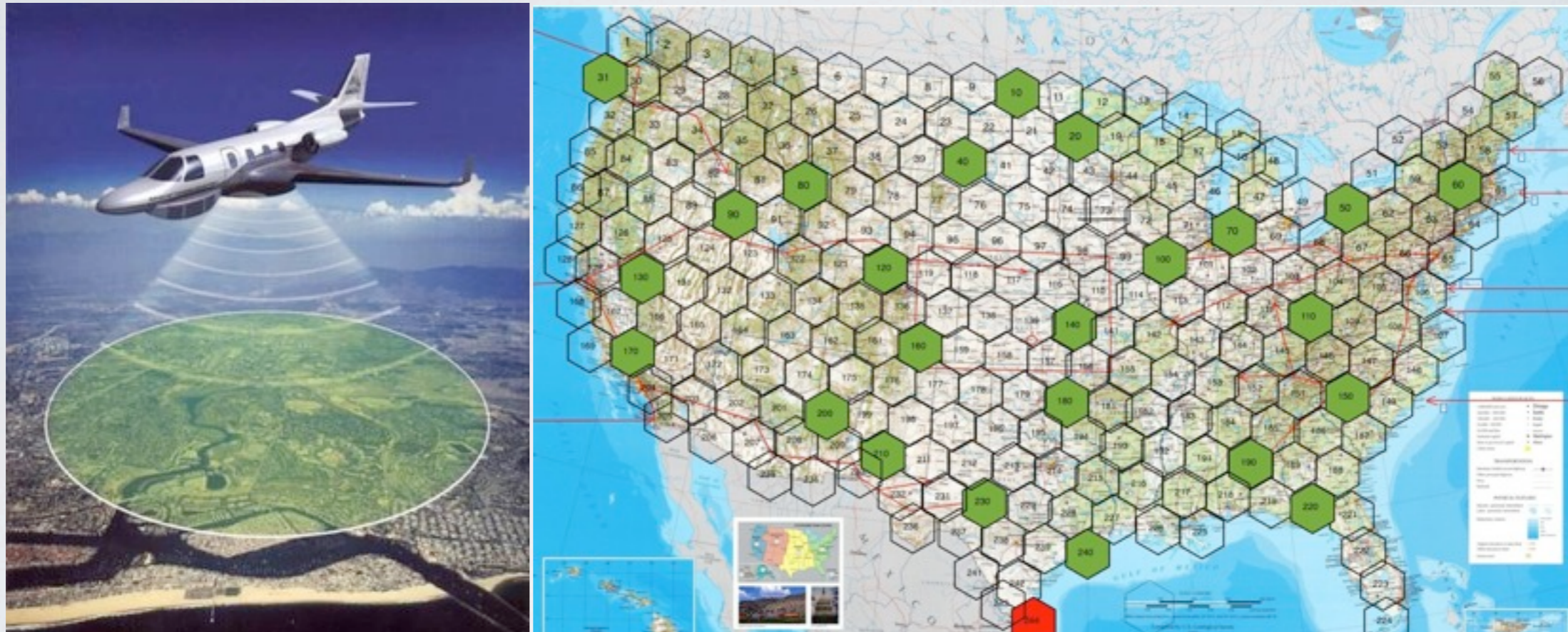
The Air-Tower system is the only technology that has the guaranteed ability to withstand any top-tier threat.

PTV Air-Tower Plane – Airborne Transmitting Tower



PTV Air-Tower – Airborne Wireless Mesh Network

PTV Air-Tower Offers Unmatched Benefits – Resistant, Resilient, Redundant



The system functions like a network of very high towers or a very low flying satellite constellation. The platform has 1000 times the range of broadband transmitting towers, 1 million times the transmitting power of satellites and has optical imaging capabilities 200 times more powerful than our strongest spy satellites. Each cell has 3 planes that fly 8 hour shifts for complete redundancy.

Primary Use of Infrastructure – The ESTR-Com

ESTR-Com – Emergency Services Tactical Remote Command System:

- Not dependent on backhaul links like all other wireless mesh networks
- Resistant or resilient to all natural and man-made disasters
- Overlays existing command and control systems and equipment
- Unifies and manages radio spectrum for data and voice
- Provides backup system exactly the same as normal service system
- Eliminates open access to internet by emergency workers
- Maintains complete data access by emergency workers on internal net
- Private IP network – not open internet (if internet fails, our net stays up)
- More secure, more robust, more capable
- Requires no change of existing C&C systems, procedures or structures
- System dynamically tunnels into all needed databases or govt. systems
- Provides real-time aerial imaging asset capability

Open standards are appropriate on the transmission protocols. But for security, the IP network and the communication platform should be a closed private proprietary system.

ESTR-Com System – Integrated Equipment & Service

ESTR-Com Equipment: (all equipment operates anywhere in U.S.)

- Hardened video conference data field radios - called PVC's
- Mobile multi-video team command tablets - called MCT's
- Integrated base stations with data tunneling - called BCS's
- Public address emergency device for civilian use - called EBC's

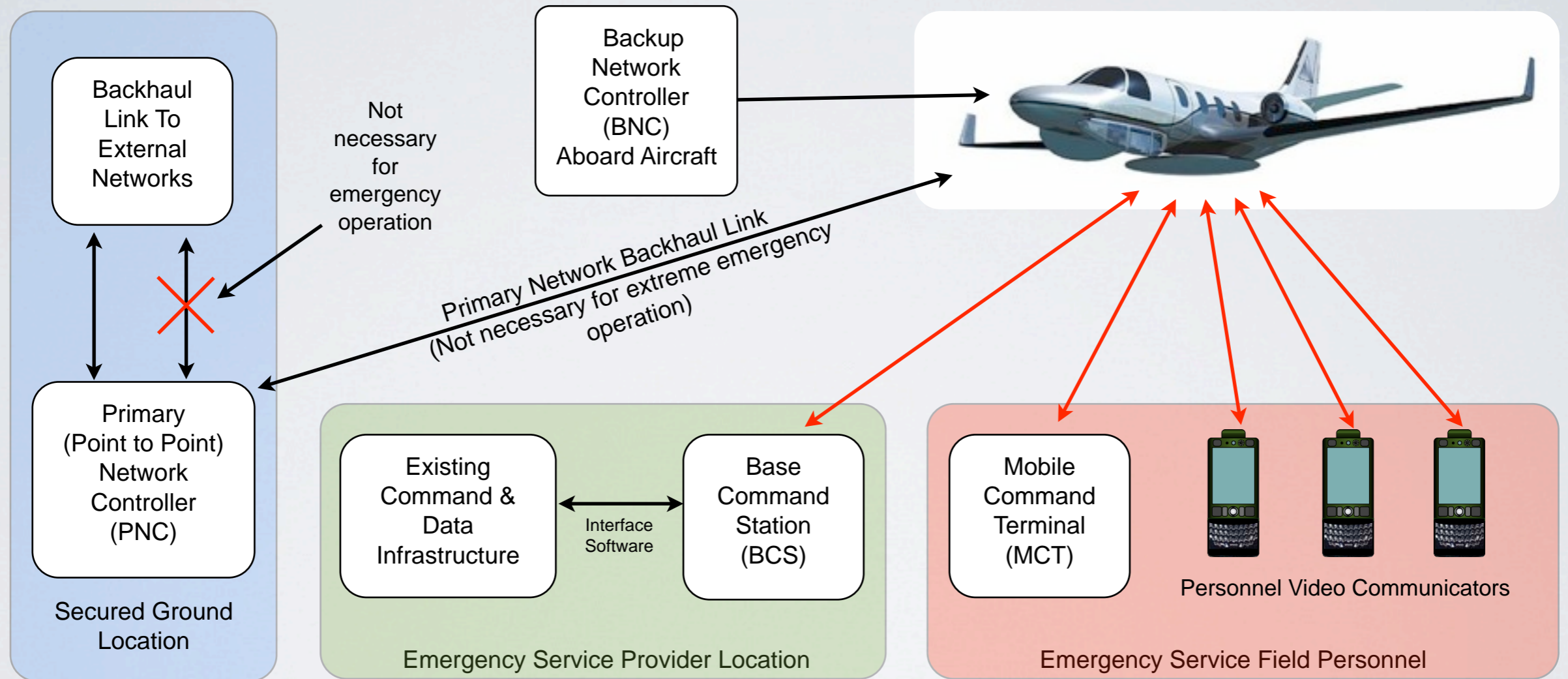
Services: (lateral cross-department service identical anywhere in U.S.)

- System links all emergency services organizations
- Provides real-time data tunneling across facilities
- Links all government and emergency databases
- Provides public address capability in any disaster
- Provides on-demand aerial reconnaissance and imaging
- Self-contained, requires no backhaul or external networks

Private IP networks have same benefit for emergency services as Virtual Private Networks have for businesses. A proprietary system is best solution for secure mission critical applications.

ESTR-Com Self-contained Point-To-Point Architecture

Advanced audio / video & data communication system is hardened against disruption and capable of self-contained operation if all ground facilities are taken offline.



The Air-Tower system is the only technology that can fully operate with no backhaul or external networks required.

Secondary Uses of Infrastructure

In addition to the one-of-a-kind advantages for implementing a nationwide emergency services communications system like the ESTR-Com, the Air-Tower network also provides a platform for several other uses both for government and commercially:

- Government Services:
 - National wireless broadband w/ 100% coverage – BTOP
 - Smart-Grid SCADA network monitoring – Smart Grid
 - Redundant satellite backup for government – DISA
 - Southern border surveillance 24-7 – DHS
- Commercial Services:
 - Aerial imaging for news, science and government
 - Wilderness locator service w/ 100% coverage
 - Free nationwide PBS and educational channels broadcast over-the-air
 - A-La-Carte TV subscription service broadcast over-the-air (OTA)

The Air-Tower system offers more infrastructure value by providing multiple uses.

Coast to Coast Wireless Broadband Service

Coast to Coast Wireless Mesh Overlay Transmitter For Seamless Roaming:

- Create a nationwide seamless wireless mesh covering entire continent
- Provide complete data roaming solution for all regional carriers
- Offers complete spectrum coverage solution for all regional carriers
- Connect all spectrum from regional carriers to provide seamless roaming
- Doesn't require agreements with large carriers, levels the playing field
- Provides broadband access to ALL under-served and unserved areas
- Provides complete and seamless data roaming across the continent
- Access and coverage in all wilderness areas
- One Air-Tower plane can cover 15,000 square miles
- Takes 10,000 terrestrial broadband towers to cover the same area

By creating a cooperative among all of the smaller regional carriers and extending their coverage to the maximum FCC geographic limits, we can allow the smaller companies the opportunity to create roaming without involving large telecoms. This is a current problem issue among regional carriers wanting to offer wireless roaming broadband data subscription plans. **More competition = better service.**

Nationwide Smart Grid SCADA Network

Smart-grid Supervisory Control And Data Acquisition network (SCADA):

- Hardened communication system for grid monitoring and management
- Not dependent on any other network or infrastructure
- Resistant to natural and man-made disasters
- Resistant up to nuke - resilient after nuke / EMP
- Only system that reaches farther down the last mile than electricity
- Private network less susceptible to hacking than public internet
- Airborne wireless network more secure than terrestrial based
- 250 transmitting nodes (planes) are more reliable than 320k - 3.2m towers
- Could be dedicated SCADA or overlay

Fixed electronic assets such as a tower or pole mounted transmitters would have to be hardened (or replaced) to provide service after top-tier threats like a nuke. Air-Tower systems cycle in and out of duty every 24 hours. They are inherently redundant with multiple layers of backup.

National Emergency Broadcast Channel

Emergency Broadcast Channel – Civilian Disaster Communication System:

- Hardened communication system for civilian emergency workers
- Not dependent on any other network or infrastructure
- Resistant to natural and man-made disasters
- Resistant up to nuke - resilient after nuke / EMP
- Can be used for civil defense or government communication
- Can utilize custom receiver similar to weather radio with video
- Can utilize dropped TV and radio spectrum during large emergencies
- Maintains ability to get message to public
- Can be used by emergency services – ie. inside high-rises
- Can interface with new executive military communication effort
- Public address communication – not individual or group

With modern electronics, familiar communication platforms like radio and television will be unable to provide service after top-tier threats like a nuke.

New PBS And TV Available Anywhere OTA For Free

National PBS Channel – Free Over-The-Air PBS Available Coast to Coast:

- A new PBS station with no advertising
- Also new K-12 educational channels with no advertising or sponsors
- Our system is only free alternative to traditional PBS OTA stations
- But our channel is available anywhere nationwide, not just regionally
- Our system offers only free PBS TV access to every inch of country
- Only requires one-time purchase of wireless receiver, then free content
- The only PBS alternative in remote areas is paid satellite TV service

New PTV Superstation – Free OTA and free online

- Included with the PBS and educational bundle for free
- Showing typical archive and independent content with commercials

Like the Stratovision system of the 1940's, the PTV Air-Tower system can provide complete coast to coast television service. Unlike satellite or cable TV service, our basic channels are free and broadcast over the air using normal antennas and simple equipment.

New A-La-Carte Television Subscription Service

A-La-Carte Television Service – Non Packaged Pricing for Cable TV Programming:

- A new television subscription service offering a-la-carte pricing
- No pre-packaged basic cable bundles
- Only pay for the channels you want
- 54% of cable subscribers want this type of service
- This represents approximately 141 million American television viewers
- No television provider offers this service in any manner
- A-La-Carte consumption of media is preferred by modern digital consumer
- Provide for several hundred channels in available spectrum
- Includes all free programming from PTV
- This is a new competitor to cable and satellite companies
- More competition means better service for consumers

This service will utilize the commercial D-block spectrum associated with the Emergency Services communication network contract.

Unique Advantages

System offers unique advantages over any terrestrial or space-based platform:

- All maintenance and repair issues are detected and corrected daily
- Entire system is inspected and serviced every 24 hours
- All service is performed in normal hangar with normal technicians
- Maintenance on towers are always remote - the most expensive kind
- Maintenance or repair is not possible on satellite systems
- Upgrading of equipment, payload alteration or new services not a problem
- Planes cycle in and out of duty daily – built-in redundancy and backup
- Creates private IP network that requires no backhaul or external networks
- Provides full IP data services without allowing open internet access
- Military designed, ruggedized tactical A/V/D communication platform
- Provides real-time aerial imaging asset capability never offered before

Emergency services personnel do not need open access to the internet.

Watching YouTube is not nearly as important as the ability to have fast access to data, robust high-capacity communication and cross-department compatibility.

Private IP = Good

Open Internet = Bad.

Review

- Current top-tier threats are like **nothing we've ever experienced before**
- **ALL** commercial communication technologies vulnerable to top-tier threats
- **ONLY** PTV Air-Tower platform can withstand any and **all top-tier disasters**
- Unique and unparalleled set of capabilities from one unifying infrastructure
 1. The ESTR-Com tactical command system for emergency services
 2. The EBC guaranteed civilian communication system in top-tier disaster
 3. National co-op for seamless broadband services from coast to coast
 4. Secure airborne SCADA network to protect the Smart Grid
 5. Safer borders utilizing real-time aerial imaging assets
 6. Free PBS & educational channels broadcast to everyone in the country
 7. New competitor to cable TV offering highly desired a-la-carte service
 8. Creates thousands of new American jobs

No other technology or system offers the capabilities and services that the Air-Tower network can provide. The Air-Tower represents the chance to deploy the most modern & robust emergency communication infrastructure in the world.

It's cheaper, faster, greener and better than any other solution...

Commercial Business Offer

Planet TV requests that the FCC allow it to negotiate for the entire national 700MHz public service spectrum. Planet TV will:

- Negotiate the \$1.3 billion bid for the emergency services spectrum license
- Pay for the deployment of the entire Air-Tower network infrastructure
- Make the ESTR-Com hardware available to emergency service groups as upgrades and replacements for their current radio communication gear

Planet TV requests that the FCC allow it to create a national wireless broadband cooperative. Planet TV will:

- Offer a matching funds deal for the remaining \$2.5 billion BTOP money
- Provide the infrastructure to negotiate fair data roaming agreements with small regional wireless carriers

Planet TV requests that the FCC allow it to create a national wireless a-la-carte television subscription service. Planet TV will:

- Provide free PBS and educational channels over the air nationwide
- Offer a pay subscription TV service with a-la-carte pricing for programming

Conclusion

Mission critical capabilities, by nature, should be based on worse-case scenario planning and not a function of the technological limitations of equipment.

It makes no strategic sense to deploy a system for providing emergency services communication and data services utilizing technology that is known to be incapable of handling a large-scale top-tier disaster.

Especially when a cheaper, greener and better performing system exists right now.

This is a bold plan that is based on solid engineering, real science and current knowledge.

No one can guarantee another 9/11 will never happen. As hard as it may be to imagine, we now know that even worse things can (and will) happen in the future. This system represents the only way to insure the technological communication failures that occurred on 9/11 never happen again.

Our first responders – our heroes – deserve nothing less.