

**Presentation to the**

**Meeting of the Independent Panel  
Reviewing the Impact of Hurricane  
Katrina on Communications Networks**

**Mississippi e-center at Jackson State University**

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# Hurricane Katrina: Communications

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## Key Considerations for Effective Communications during Disasters

### – Operability

- *Critical Design Elements*
- *Public Safety Network Infrastructure Recovery*

### – Mobility

- *Quick mobilization of communications resources*

### – Interoperability

- *Everyone's problem; no one's responsibility*
- *The FCC's role*

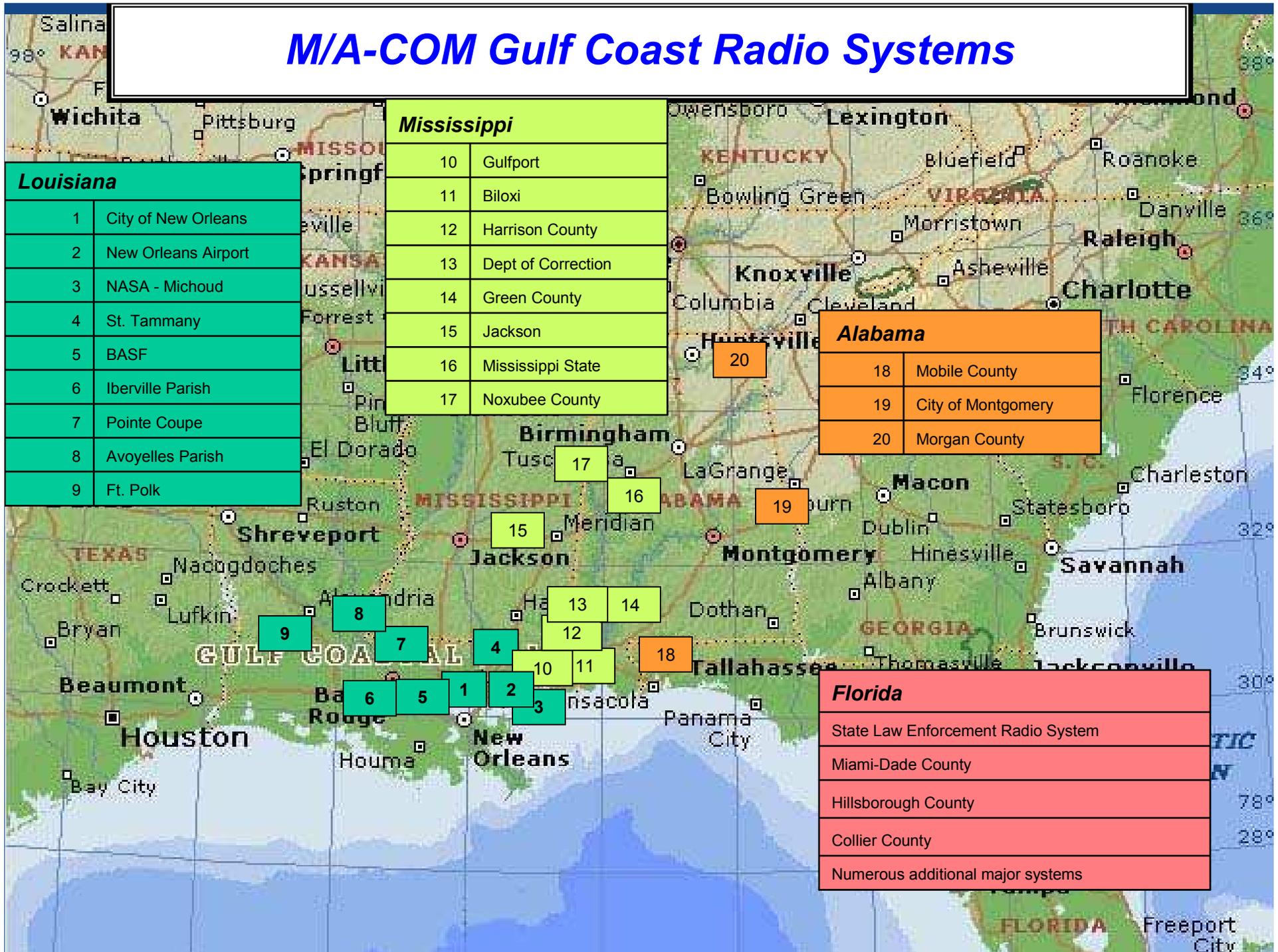
# M/A-COM Gulf Coast Radio Systems

Louisiana	
1	City of New Orleans
2	New Orleans Airport
3	NASA - Michoud
4	St. Tammany
5	BASF
6	Iberville Parish
7	Pointe Coupe
8	Avoyelles Parish
9	Ft. Polk

Mississippi	
10	Gulfport
11	Biloxi
12	Harrison County
13	Dept of Correction
14	Green County
15	Jackson
16	Mississippi State
17	Noxubee County

Alabama	
18	Mobile County
19	City of Montgomery
20	Morgan County

Florida	
State Law Enforcement Radio System	
Miami-Dade County	
Hillsborough County	
Collier County	
Numerous additional major systems	



# M/A-COM in Harrison County

- **M/A-COM's EDACS system "remained operational at nearly 100 percent capacity during and after Katrina's landfall."**  
Source: House "A Failure of Initiative" Report
- **"One interoperability success story from Mississippi was that [EDACS] was capable of linking with similar systems utilized by the Florida State Police and the Florida Fish & Wildlife Agency who arrived in Mississippi shortly after Katrina's landfall."**  
Source: House "A Failure of Initiative" Report
- **M/A-COM's interoperability communications system "can provide law enforcement officials from around the country clues as to how they can better prepare for the most powerful of Mother Nature's storms."**  
Source: 9-1-1 Magazine "Radio System Weathers the Storm in Mississippi" (Jan/Feb 2006)
- **"And there was no degradation of quality. That's the ultimate test."**  
Source: Robert G. Bailey, Telecommunications Manager, Harrison County Emergency Communications Commission, "Radio System Weathers the Storm in Mississippi" 9-1-1 Magazine (Jan/Feb 2006)

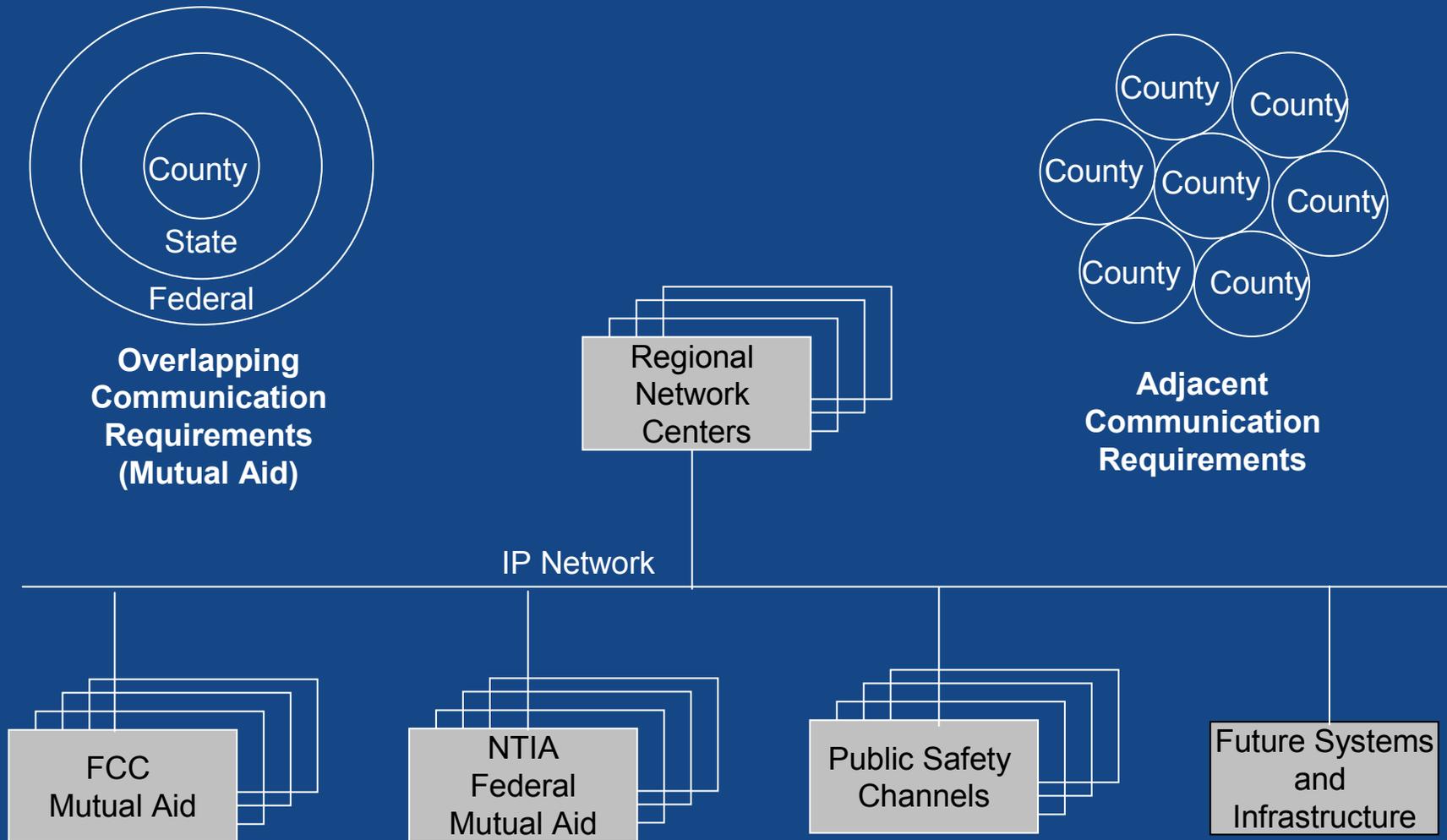
# Radio Systems that Survived Hurricane Katrina Shared Critical Design Aspects:

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- Each used licensed protected microwave for site interconnectivity
- Equipment shelters were rated for 150MPH winds
- All transmitter, receiver, and control point sites operated on DC power
- No uninterruptible power systems were used for transmitter sites
- All sites used natural gas/LPG generators
- All sites had towers and antennas designed to withstand 140MPH winds
- All remote transmitter sites were elevated (including generators)
- Transmitter battery backup systems were sized for up to 12 hours of operation
- 800 MHz infrastructure used distributed processors
- Pre-designed fallback modes maintained trunked radio functionality

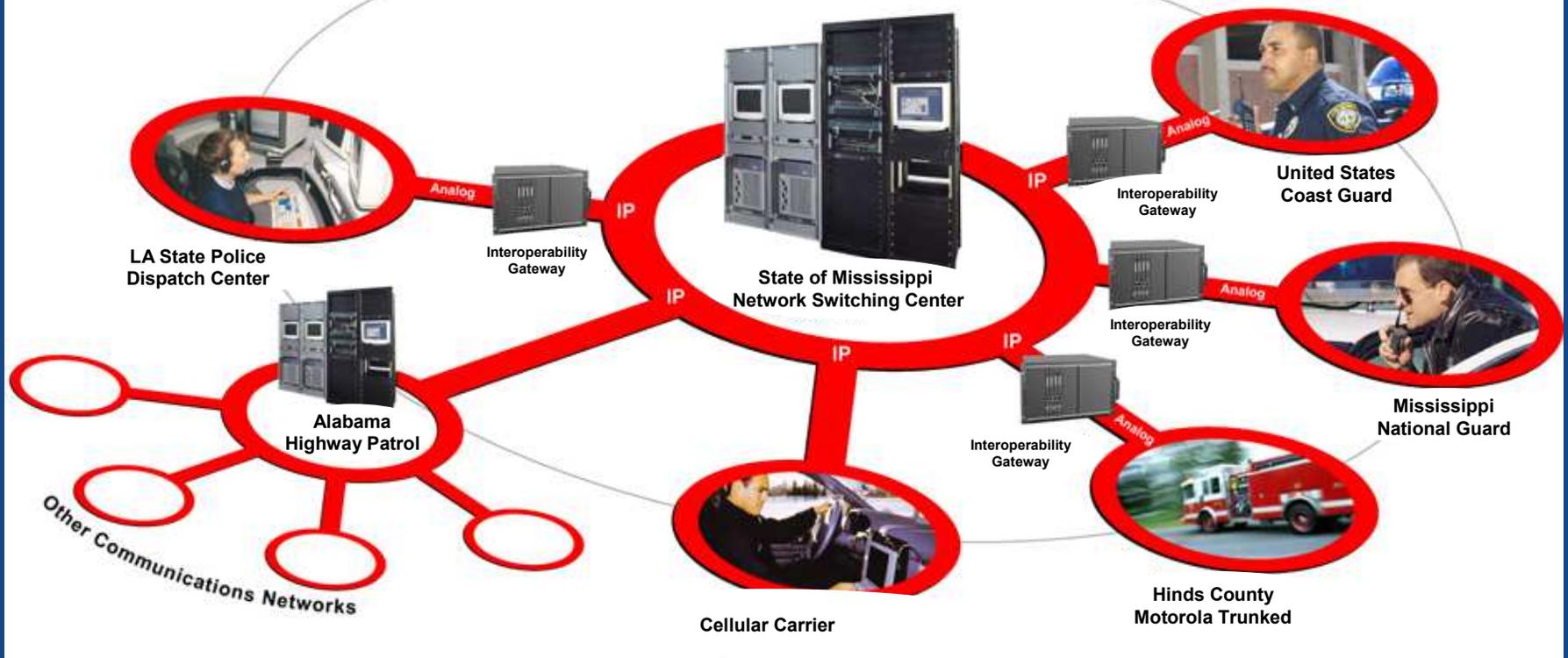
Source: TUSA Consulting Services  
September 2005 Report for M/A-COM

# National Interoperability Network for Disaster Recovery Communications



# ***Solution for Interoperability*** **Joining Systems Together**

## **Connecting Legacy Systems on an IP Backbone**



# Authority and Funding

- **This year's Reconciliation Act directs NTIA to grant \$1 billion in funds to public safety to improve interoperability, consistent with DHS Guidance, for systems that can use or interoperate with 700 MHz radios.**
- **DHS's SAFECOM Guidance allows funds for technology other than P25 radios, so long as it improves interoperability and is compatible with P25.**
- **IP-based networks that enable interoperability between 700 MHz radios and other existing and future radio systems are the ideal realization of the Act.**
- **In addition to funding directly to public safety, which will enable public safety to acquire IP interoperability, DHS should install a Federal IP backbone, pursuant to EO 12472, connecting local, state, tribal and federal emergency personnel.**
- **Under EO 12472 and Section 316(a)(1), the FCC should issue a blanket order modifying public safety licenses to require licensees, subject to funding from NTIA, to install the necessary transmission and IP connectivity equipment to make their mutual aid channels operational and connected to a Federal IP network for disaster relief.**

# Mutual Aid Channels

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- **Enable the Mutual Aid Channels**
  - NPSPAC 800 MHz (National Calling and Tactical Channels)
  - Regionally or State Planned (e.g., Florida 800 MHz)
  - Service Specific Mutual Aid (e.g., fire, law enforcement)
  - “Interoperability” Channels (e.g., 700 MHz and other bands)
- **Federal Oversight Required**
  - Can we really expect local self coordination to result in interstate interoperability?