Telecommunications for Disaster Relief

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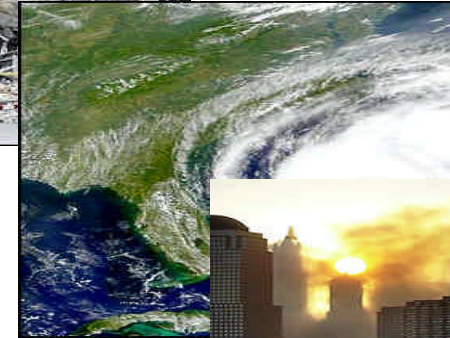# Disaster Strikes

...earthquakes

...hurricanes/typhoons

...and other major disasters

- Natural and Man-made
- Unexpectedly or slowly developing

➢Initial response by local emergency services
➢Followed by deployed emergency services

Considerations

Telecommunication resources limited due to infrastructure damage and excessive traffic

Public telecom services provide first level of immediate response, but supplemental capabilities essential to continue and strengthen disaster relief operations

National authorities primarily responsible for mitigation, preparedness, prevention, and response capabilities and provide supplemental resources for relief support

International assistance when local capabilities are overwhelmed by the magnitude of disaster

ATTACK ON AMERICA
September 11, 2001

Traffic SOARED!

✓ **AT&T carried a record 431 million call attempts , 101 million more than busiest day … EVER**

✓ **Record local traffic … 300 million Verizon calls NYC & Wash. , 2X normal … 10X overloads periodically**

✓ **Cingular Wireless call attempts jumped 400% in Wash. and 1000% in NY**

✓ **Verizon Wireless had 50% to 100 % increase nationwide**

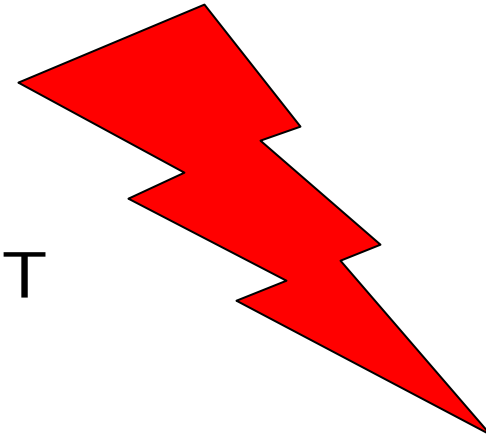✓ **Cell network congestion caused severe decrease in wireless completion rates**

Telecom Capabilities

- **Public services –**
  - Wire phones
  - Multimedia
  - Mobile phones
  - Internet

  ITU-T

- **Land Mobile Radio**
- **Trunked Radio Systems**
- **Satellite links**
- **Mobile broadband systems**
- **Amateur Radio**

Why ETS

Serious Disasters happen any place, any time, unexpectedly

Telecommunications resources often experience severe stress with damaged infrastructure and very high traffic loads

Response teams must depend on readily available public telecommunications resources – Internet, Cellular, POTS

Initial recovery response teams need telecom support to enable organization and coordination of recovery resources immediately
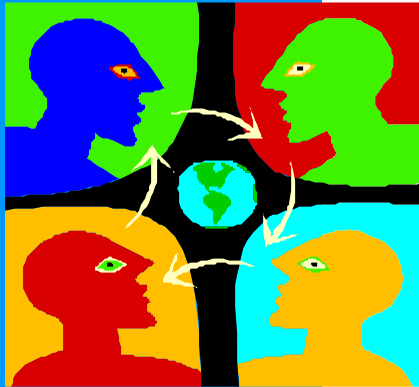
Objectives of ETS

➢ Selection of multimedia & telephony services

➢ Rapid authentication of authorized ETS users

➢ Security protection of ETS traffic

➢ Preferential access to telecom facilities

➢ Preferential establishment of ETS communications

➢ Preferential routing of emergency ETS traffic

➢ Preferential use of operational resources for ETS

➢ Preferential completion of ETS traffic

➢ Optional pre-emption of non-emergency traffic

➢ Allowable degradation of QoS for ETS traffic

➢ Interchange of critical service management info

ITU-T Umbrella Question

QI/16
Telecommunication Capabilities for Disaster Relief

Development of emergency telecommunications systems concept and a requirements definition for the many aspects being addressed by ITU-T Study Groups and other standards activities.

QI/16 Cooperation

Close coordination & liaisons among:

- ✓ ITU-T Study Groups – 2, 3, 4, 9, 11, 12, 13, 16 , 17, SSG
- ✓ ITU-R and ITU-D
- ✓ UN Working Group on Emergency Telecommunications
- ✓ ETSI – EMTEL, Projects MESA, TIPHON, 3GP
- ✓ TIA – MESA, 3GPP2
- ✓ T1 – 3GPP
- ✓ Asia Pacific Telecommunity Standardization Expert Group on Public Safety and Disaster Relief Communications
- ✓ User organizations –
  - UN
  - Red Cross/Red Cressent
  - World Food Program
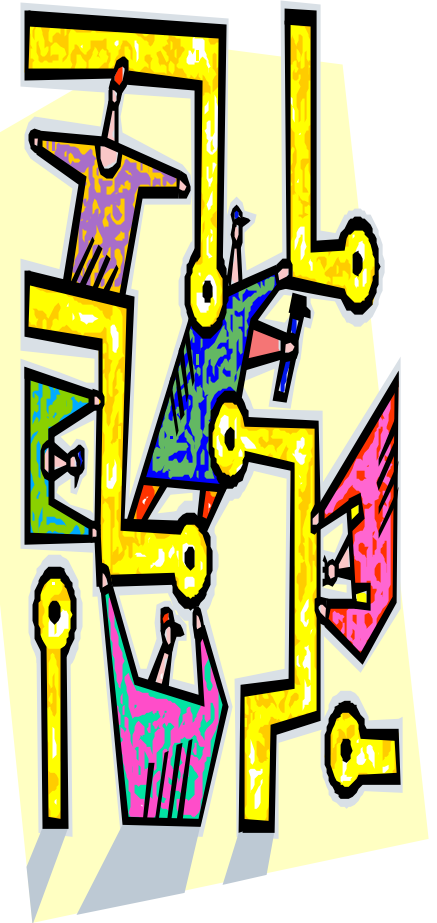 - Télécom sans Frontières
  - others to be identified

QI/16 Deliverables

Cooperatively develop:

➢ **An emergency telecom requirement Recommendation – first draft Autumn 2003**

➢ **An emergency telecommunications systems concept – first draft January 2004**

➢ **A systems framework showing how various components support emergency telecom requirements interwork – 2005**
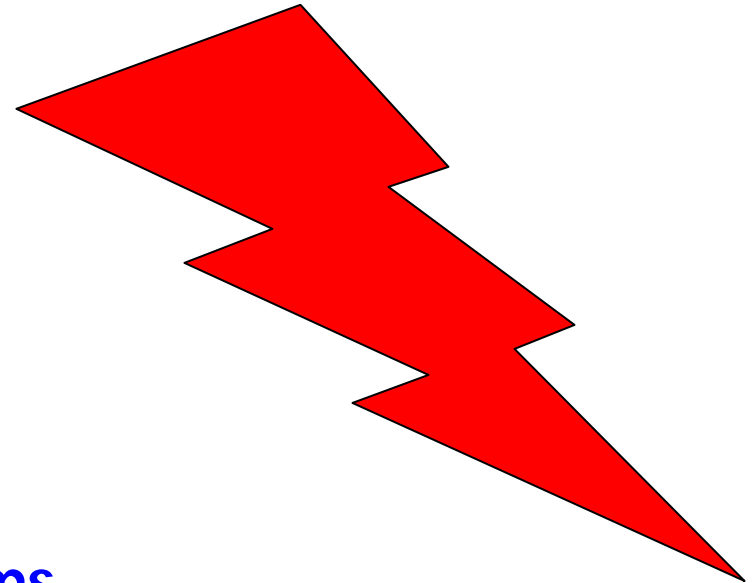
Challenge Ahead

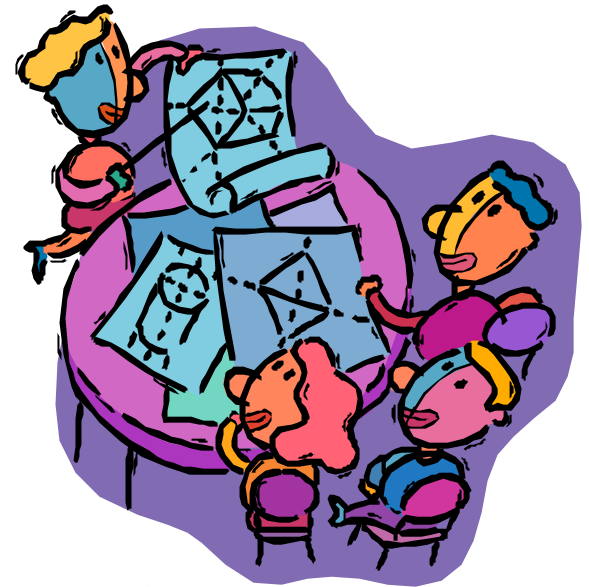*Integration and interoperation of disaster relief telecom capabilities*

- **Public services – ITU-T**
  - ➢ **Wire phones**
  - ➢ **Mobile phones**
  - ➢ **Internet**
- **Land Mobile Radio**
- **Trunked Radio System**
- **Satellite links**
- **Mobile broadband systems**
- **Amateur Radio**

TDR Workshop

Please join us at the Workshop on Telecommunications for Disaster Relief

**February 17-19, 2003
ITU
Geneva, Switzerland**

Let's All Work Together

Please visit:
http://www.itu.int/ITU-T/ studygroups/com16/ets/