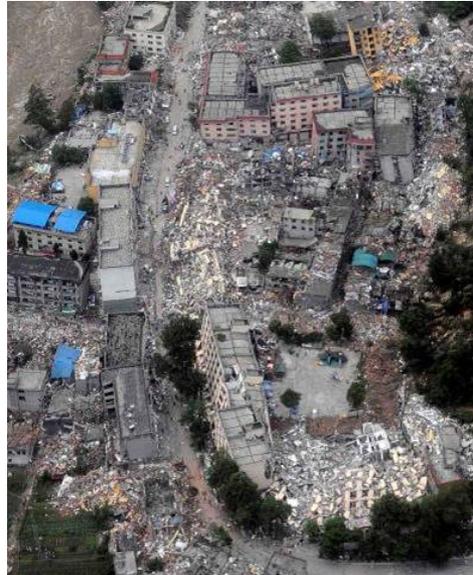




Japan's Turning Point



Great Hanshin (Kobe) Earthquake 1995



U.S. Turning Point



Hurricane Katrina 2005

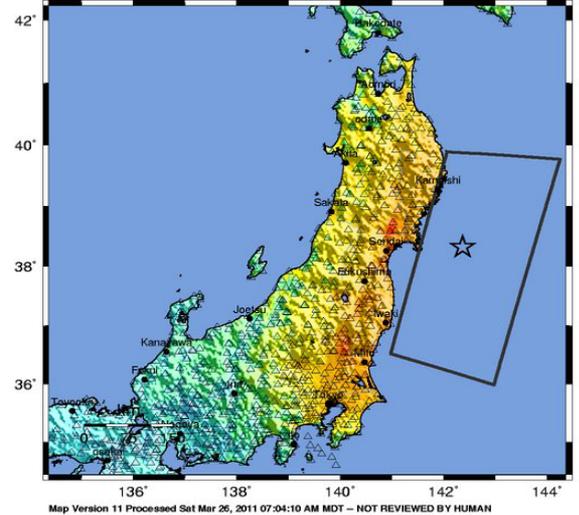




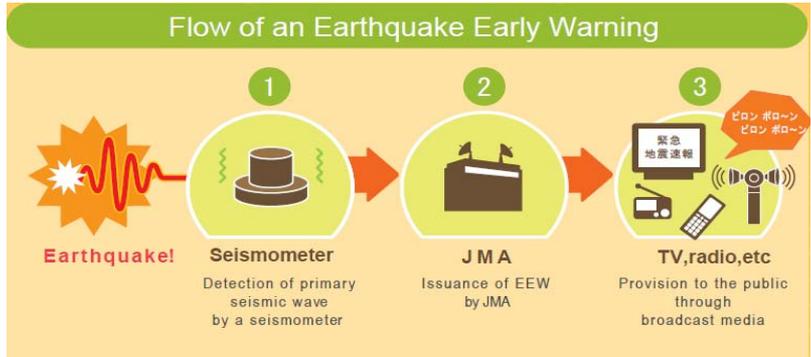
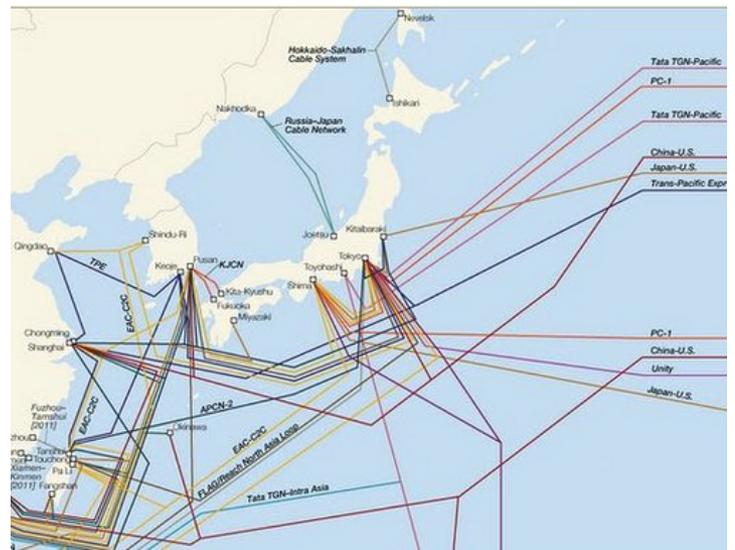
Outline

- Japan's Disaster Planning
- Outages and Repairs
- Maintaining Connectivity
- Observations & Takeaways

USGS ShakeMap : NEAR THE EAST COAST OF HONSHU, JAPAN
 Fri Mar 11, 2011 05:46:23 GMT M 9.0 N38.32 E142.37 Depth: 32.0km ID:c0001xgp



PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC (%g)	<0.1	0.17-1.4	1.4-3.9	3.9-9.2	9.2-18	18-34	34-65	65-124	>124
PEAK VEL.(cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-9.1	9.1-16	16-31	31-60	60-116	>116
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+





Japan's Framework

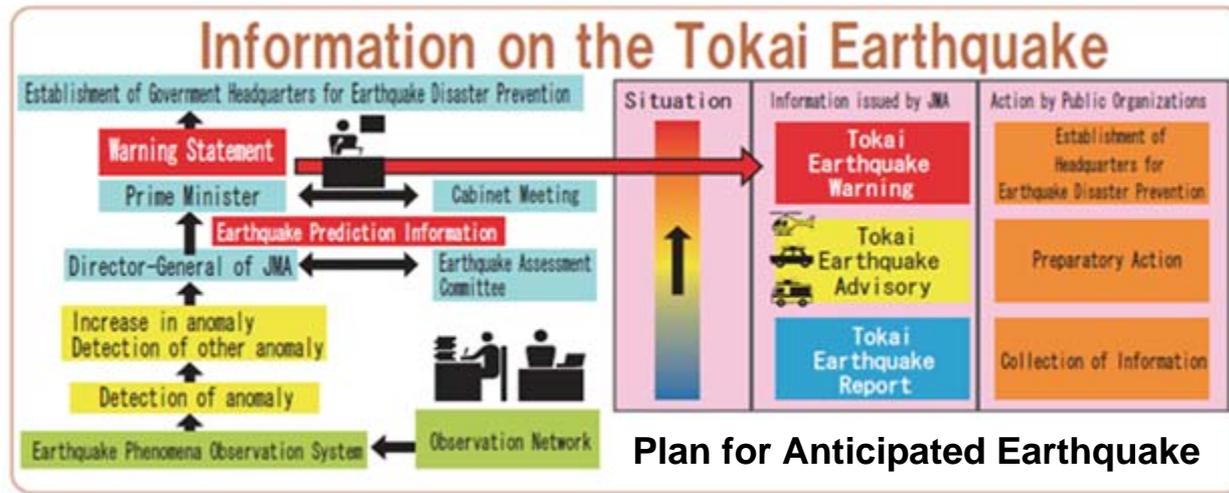
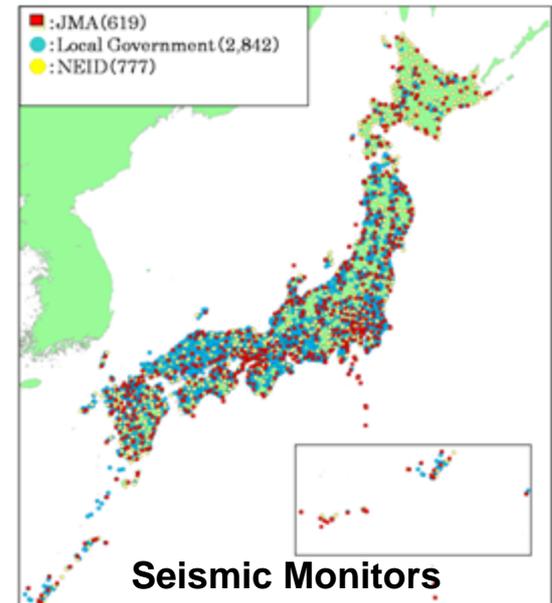
- Policy → Action
- Detect-Decide-Disseminate
- Diversity, Trust, Policy, and Procedures





Detection

- Sources
- Content
- Relevance, Risk, and Reward



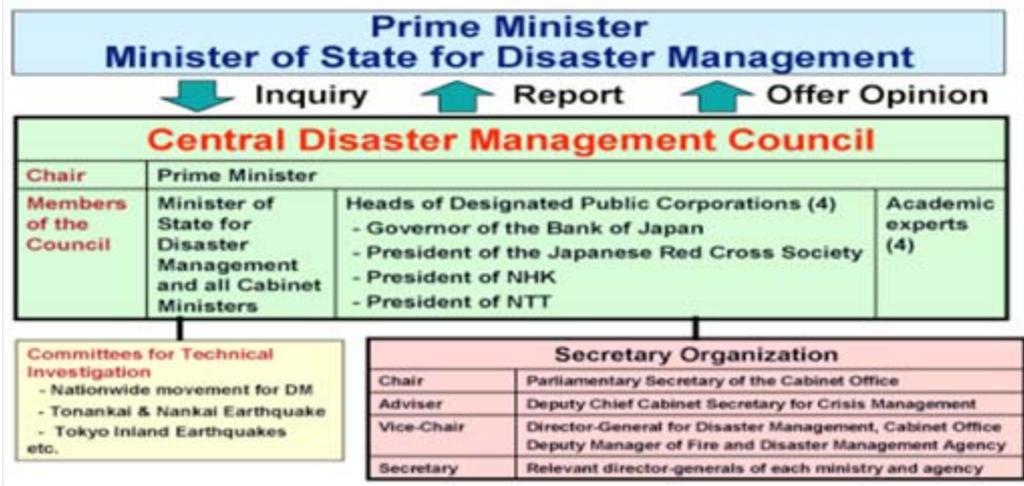


Decision Making

- Cabinet
- Public Entities
- Process

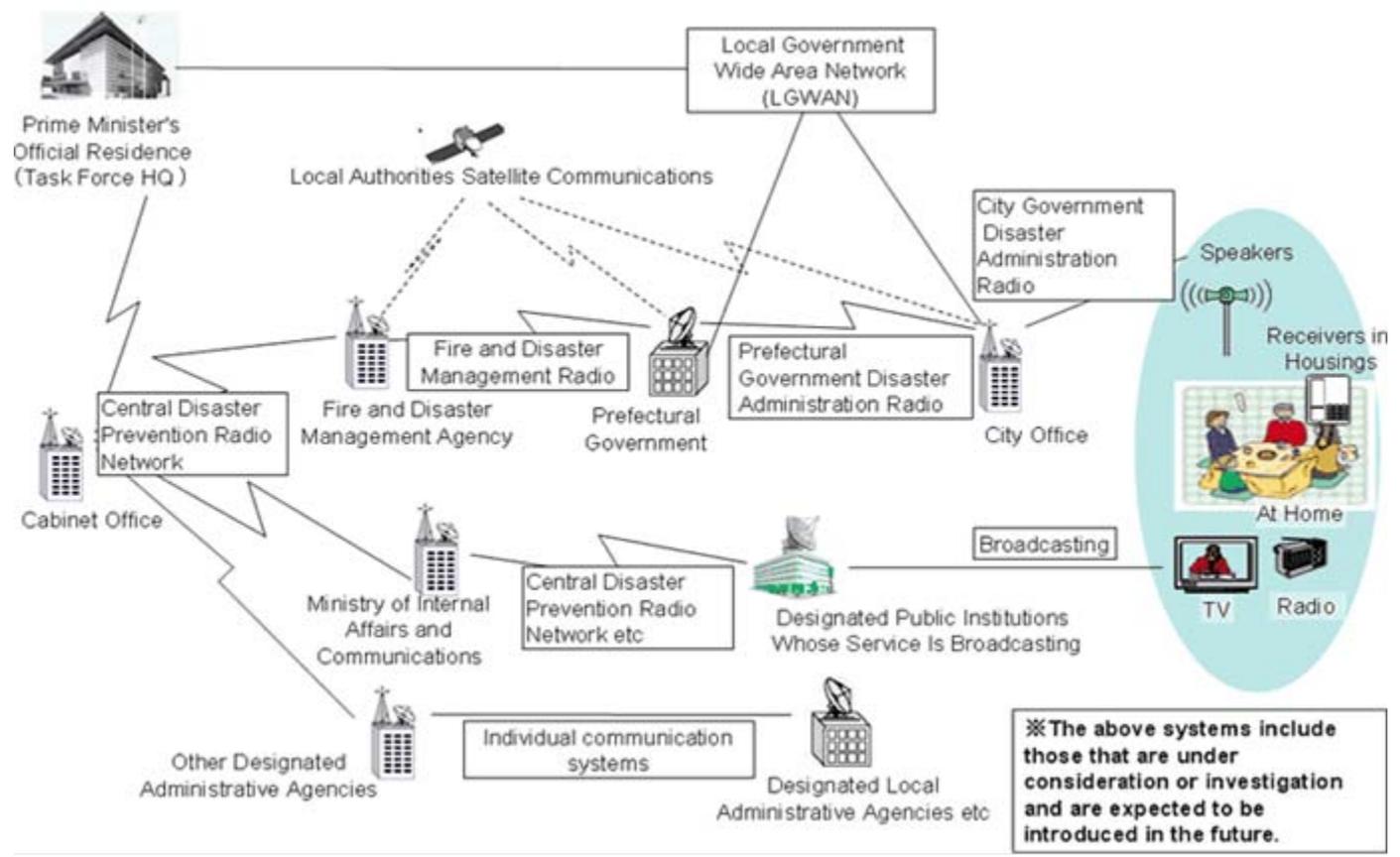
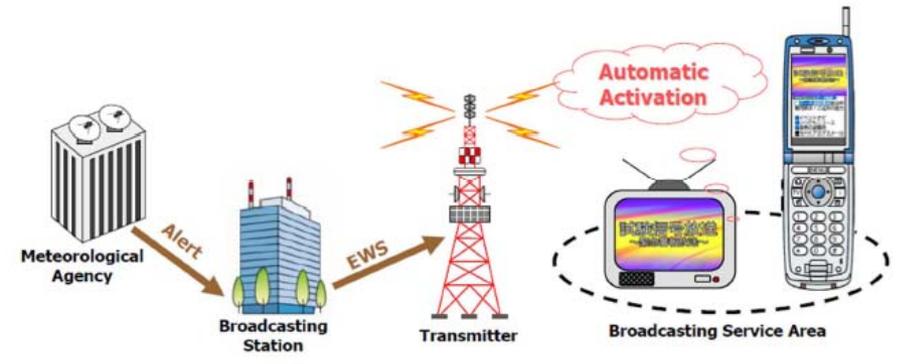


Organization of Central Disaster Management Council





Dissemination





Damage to Communications Systems



Wireless facility, Iwate Prefecture

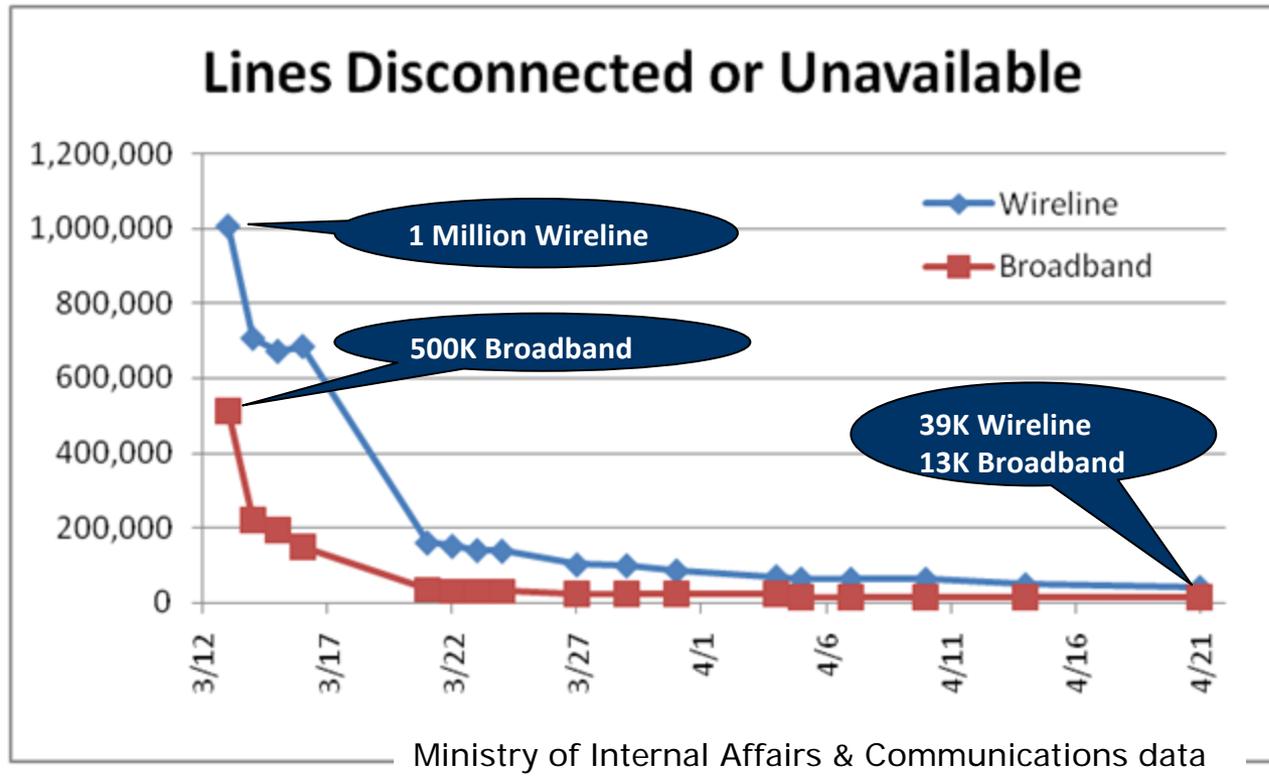
18	Central offices destroyed
23	Central offices submerged
1,000	Buildings without power
6,300	km aerial cable destroyed
65,000	Telephone poles destroyed



Wireline facility, Miyagi Prefecture



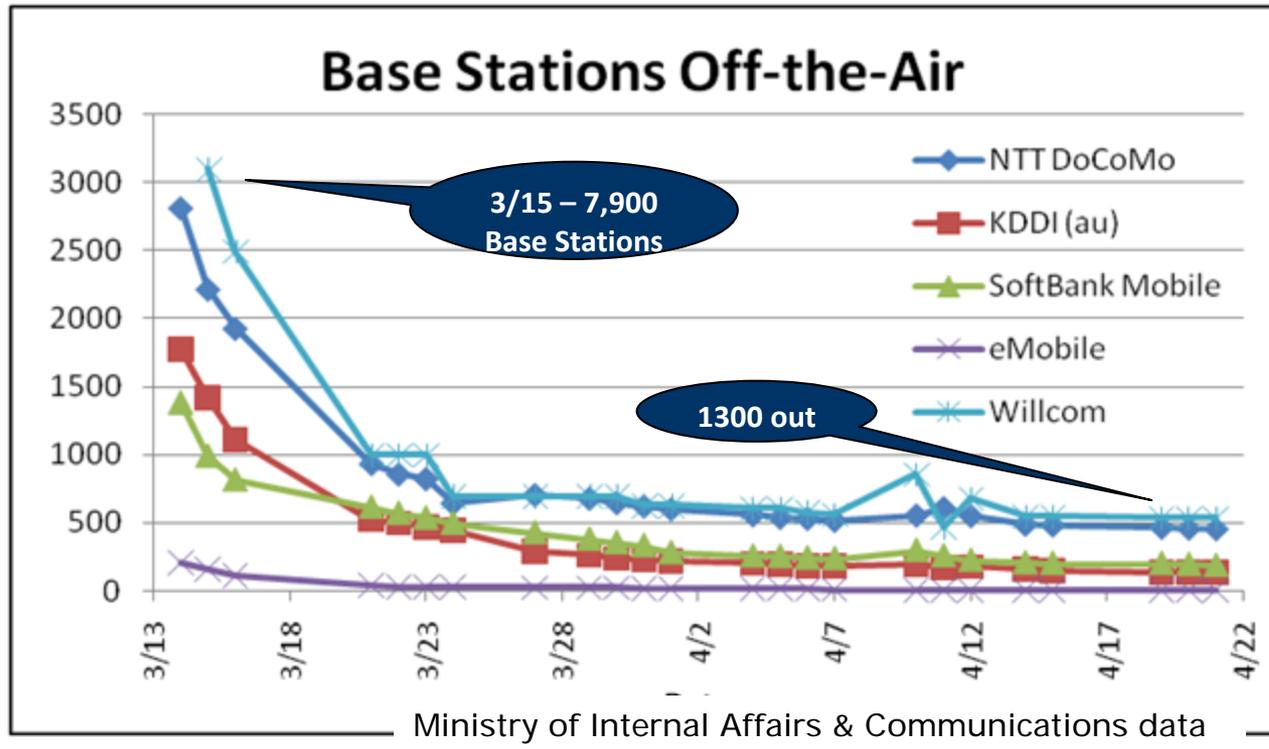
Wireline and Broadband Outages



- 15% improvement rate each day for first 12 days
- Similar to Hurricane Ike
- 2.5% improvement rate each day for last 21 days



Wireless Outages

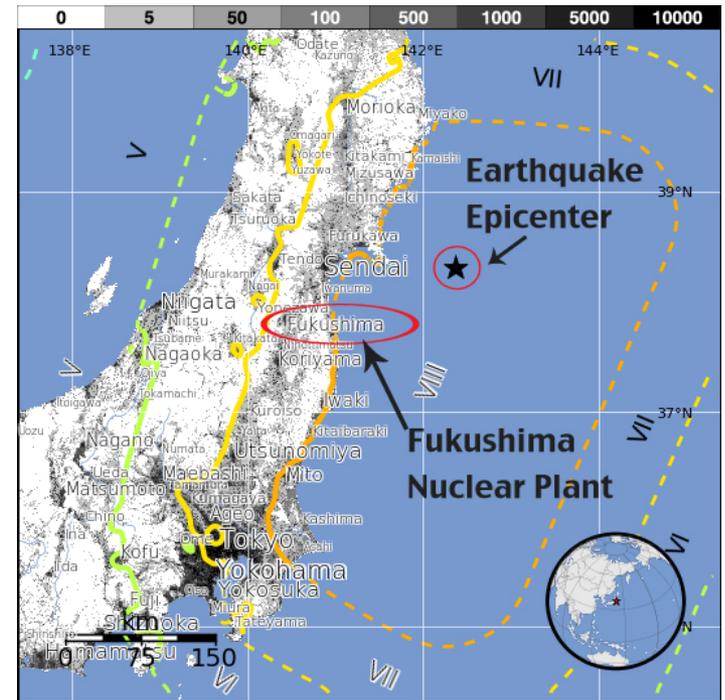


- 13% improvement rate each day for first 9 days
- Versus 10% for Hurricane Ike
- 2% improvement rate each day for last 21 days



Back-up Power

- 1000 central offices w/o power
- Fuel deliveries disrupted
- Back-up Power Requirements
- Reliability Standards
- Carrier Facility Rules
- No U.S. back-up power rules
- FCC Notice of Inquiry on topic



Reliability and Resiliency Notice of Inquiry

PS Docket Nos. 11-60 and 10-92; and EB Docket No. 06-119



Maintaining Connectivity

- Rapid Repair & Restoration
- Free Public Phones
- Mobile Phone Charging Stations
- Disaster Message Boards





Social Media



@AmbassadorRoos Kameda hospital in Chiba needs to transfer 80 patients from Kyoritsu hospital in Iwaki city, just outside of 30km range.

7:06 AM Mar 20th via Mobile Web in reply to AmbassadorRoos
Retweeted by 1 person



Rikeishikou
大滝令嗣、Reiji OHTAKI

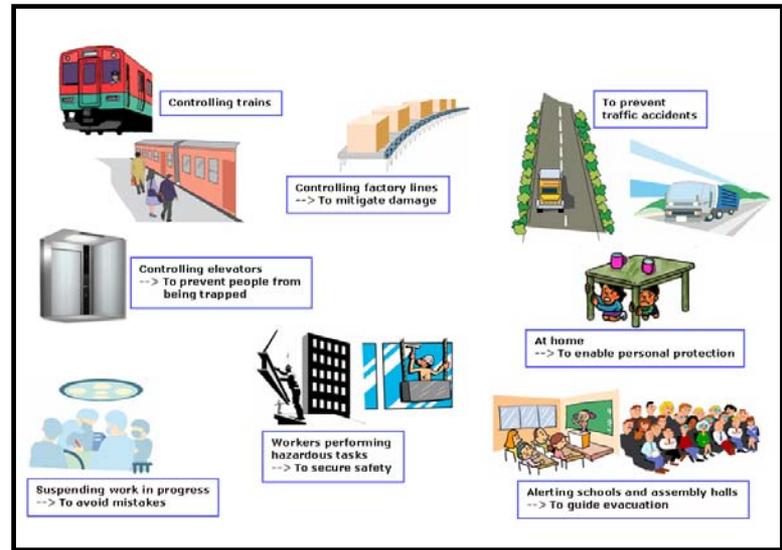
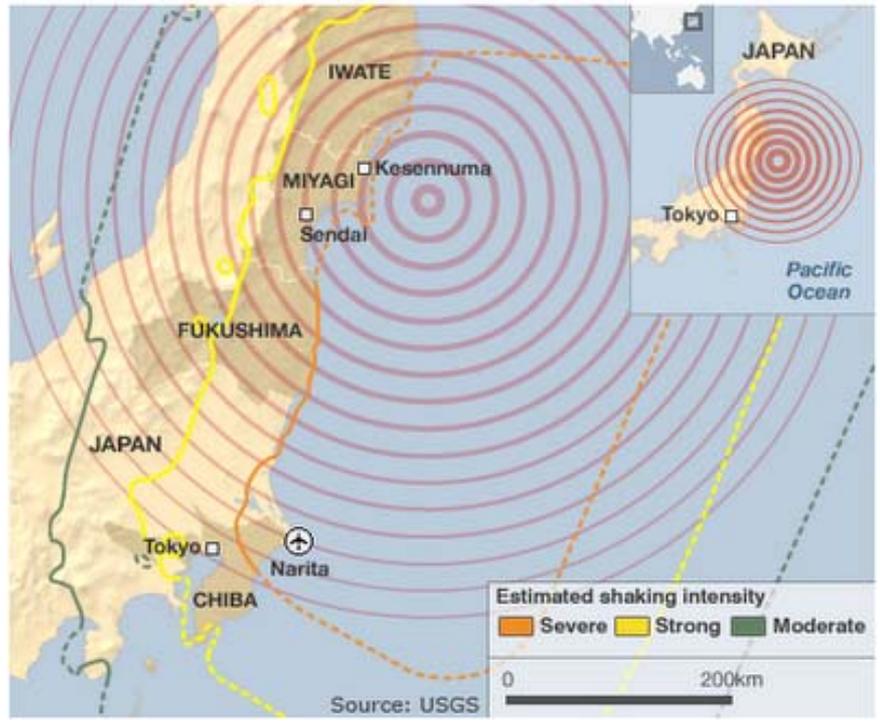
commetrics.com





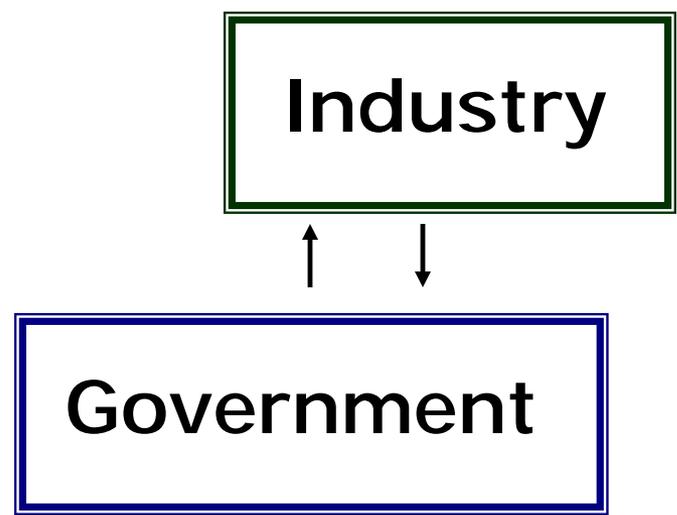
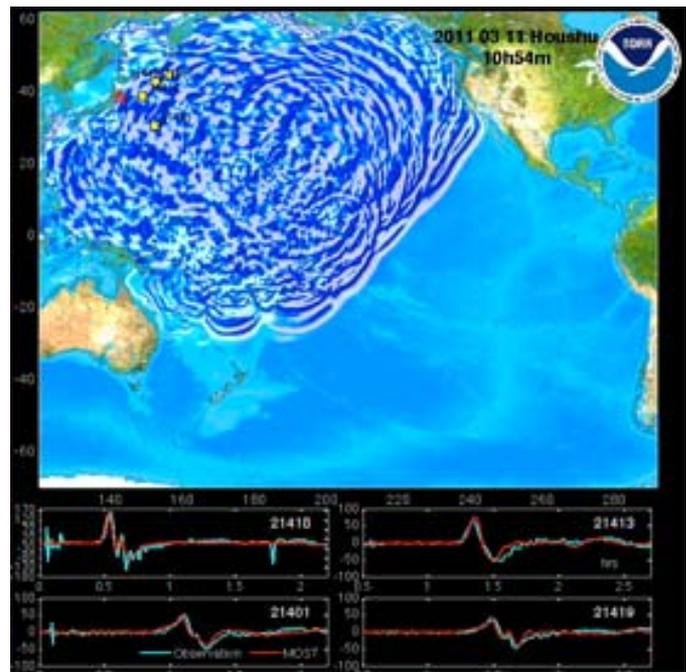
Integrated Alert and Warning

Areas affected by the quake



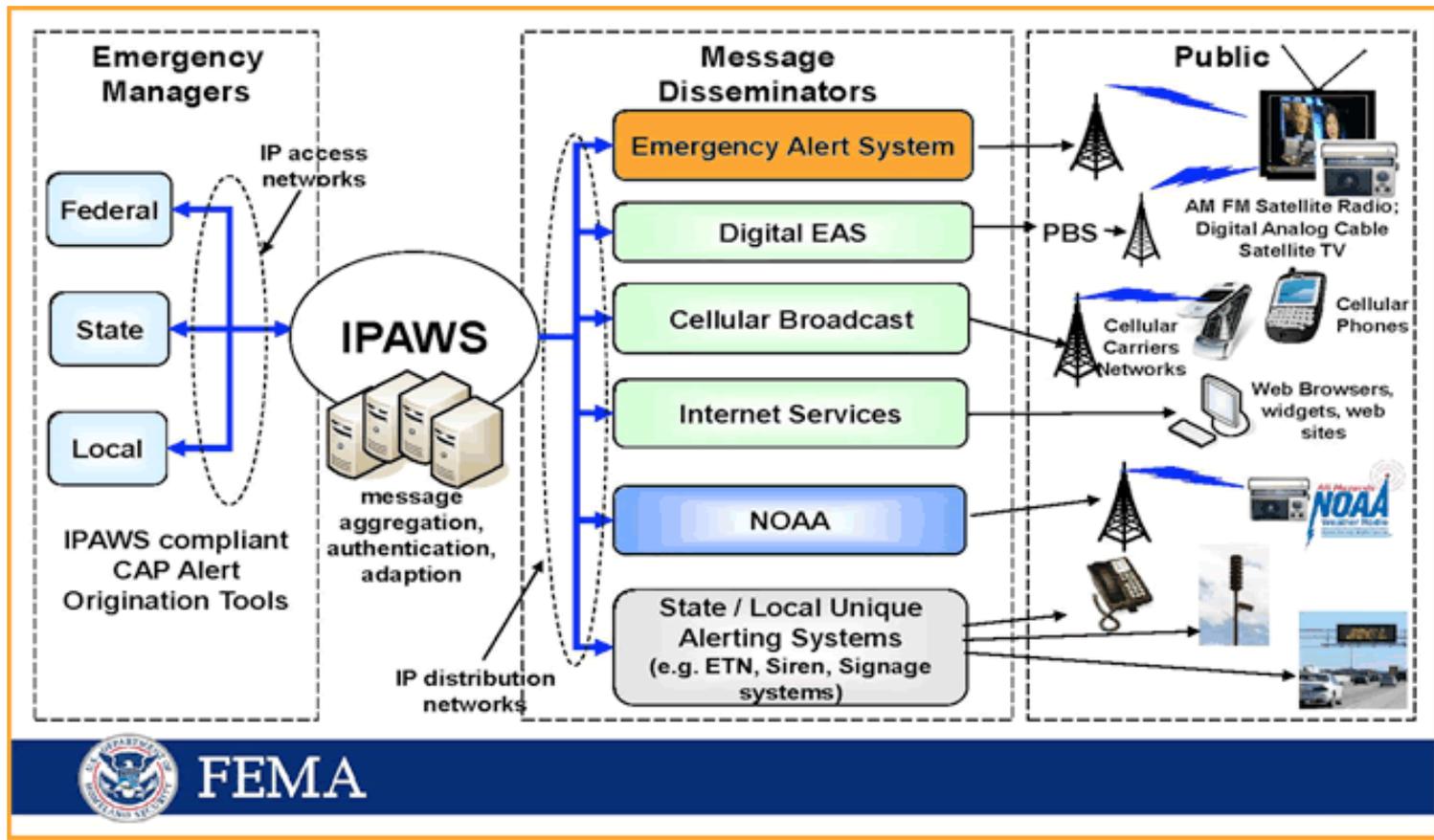


Coordinated Response



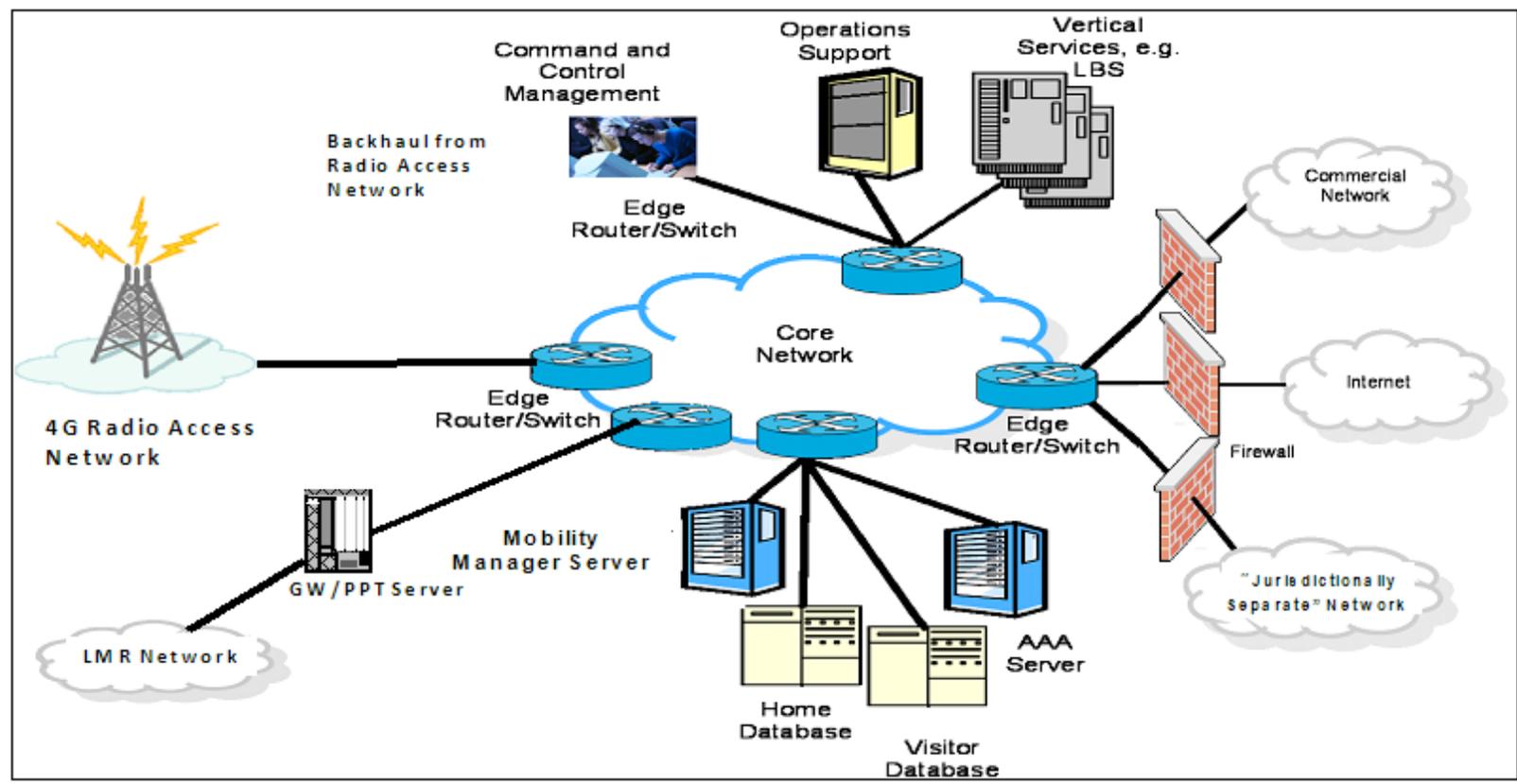


IPAWS





National Broadband Plan





Public Outreach and Engagement

Where is our evacuation area?

Safe Evacuation Route

Understanding of Hazardous Areas

Appropriate Risk Awareness of Local Communities

+

Early Warning

||

Safe Evacuation



Commitment



Tsunami Warning Signs, Okumatsushima, Miyagi Prefecture, Japan