



Marine C2 in Support of HA/DR:

Observations and Critical Assessments Following Super-Typhoon Haiyan

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Agenda

- + Background
- + Observations of C2 Deployed in support of 3d MEB and JTF 505
- + Application to USMC doctrine and future operations
- + Potential solution sets



Purpose

This presentation proposes that the recent US involvement in the HA/DR efforts following the November 2013 Super-Typhoon in the Philippines is directly translatable to the United States' military's capacity for power projection in the Pacific and Globally.




Personal Background



USMC Mission and Doctrine

- + “Conduct expeditionary operations in the urban littorals and other challenging environments.”
- + “Conduct amphibious operations, including engagement, crisis response, and power projection...”
- + “To Marines, being expeditionary includes an institutional ethos and predisposition that influences every aspect of organizing, training, and equipment. It connotes more than the mere ability to deploy overseas when needed. It is an *institutional imperative* that acknowledges the necessity to deploy rapidly, arrive quickly, and begin operating immediately.”



3d MEB/ JTF 505 – Philippines

November 2013

Supertyphoon Haiyan

196 mph at landfall

11 million affected

65,000 missing

5,200 dead



Typhoon Impact



Typhoon Impact



Typhoon Impact



Typhoon Impact





US Involvement

NPS Hastily Formed Networks Team





Tacloban

- ✧ Emergency services
- ✧ Local Government Support
- ✧ Water Purification
- ✧ Aid Distribution







Guiuan

- ✧ Major airfield for logistics
- ✧ Internally Displaced Person Evacuation
- ✧ Aid distribution
- ✧ Local military/police hub
- ✧ FARP
- ✧ Civil affairs detachment
- ✧ Airfield Control Team



Expeditionary C2 In Guiuan




Enough to handle this?





Critical Assessment of USMC Expeditionary C2

- + Marines capable of conducting rapidly deployable distributed operations with an impressive capacity for maneuver and flexibility.
- + USMC is woefully underprepared to conduct expeditionary communications with respect to a data-rich operating environment in austere conditions
- + Over a decade of operating out of FOBs has increased reliance on static systems for communications and power support
- + As mission re-aligns with expeditionary doctrine, the Marine Corps must adapt new techniques and adopt new equipment set to transition C2 from hindrance to enabler.



BOTTOM LINE: The Marine Corps
is conducting false advertising

...but there are simple solutions

Emergent Mission



Institution's Proposed Solution

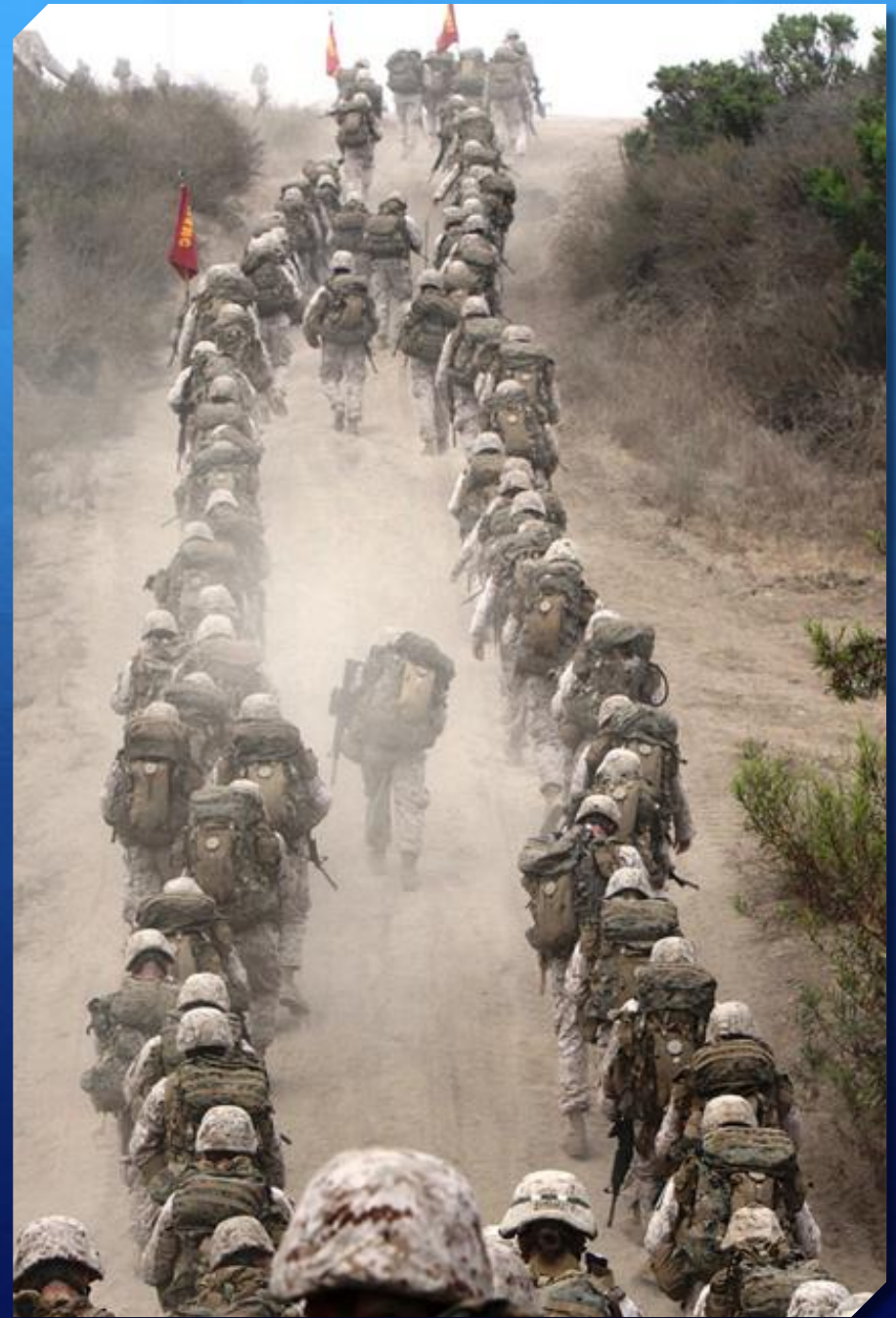


Would that work here?





What always works...





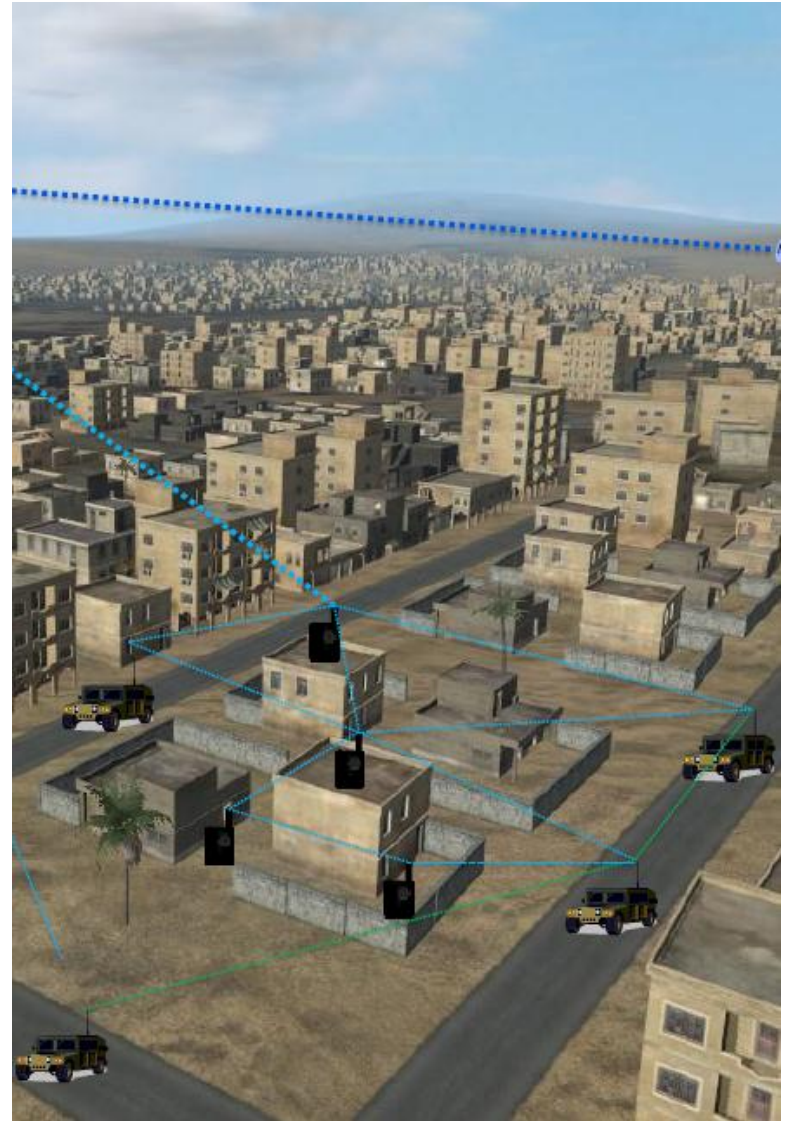
Proposed Requirements

Drawn from existing technologies



Requirement 1

- ✧ Robust, scalable tactical network that supports data and voice simultaneously
- ✧ MANET strongly recommended





Requirement 2

- ✧ Access to data at tactical level
- ✧ Recommend using hardened "Smart" devices
- ✧ Intuitive apps





Requirement 3

- ✧ OTH Backhaul
- ✧ Recommend retaining option for aerial radio relay or SatCom at tactical level
- ✧ SatCom will be primary long-range communication method in distributed operations
- ✧ Integrate with MANET
- ✧ Develop field servers for gateway control and network management





Requirement 4

- ✧ Expeditionary Power
- ✧ Solar panels help, but not always most practical
- ✧ Explore man-portable fuel cells
- ✧ Renewables make tactical sense

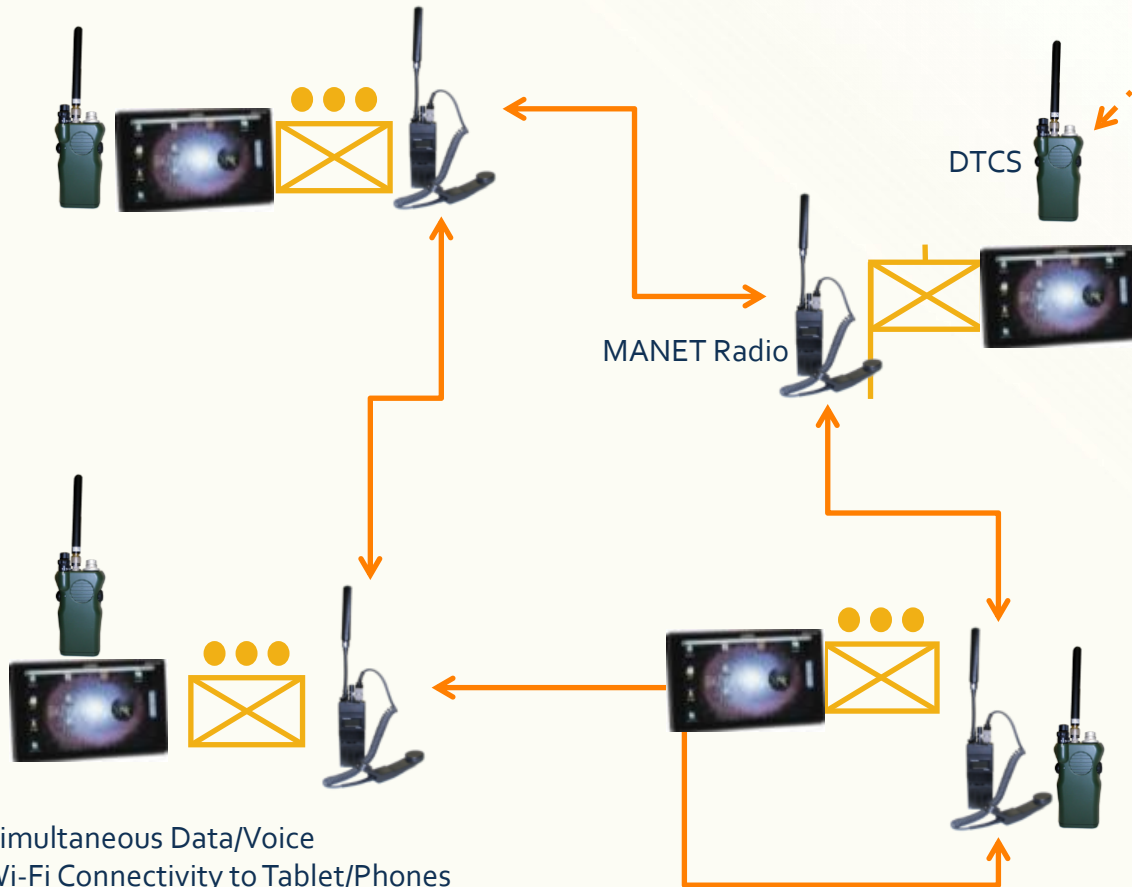




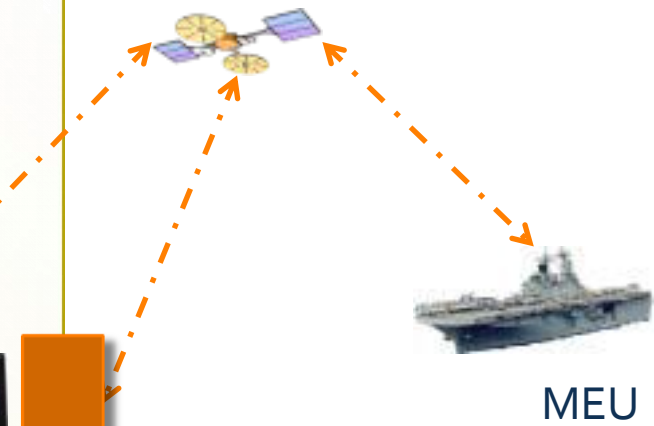
What does this give us?

Proposed Data Architecture

Local MANET Private Network
Shared Information Environment



Simultaneous Data/Voice
Wi-Fi Connectivity to Tablet/Phones
Multi-hop Extended Range

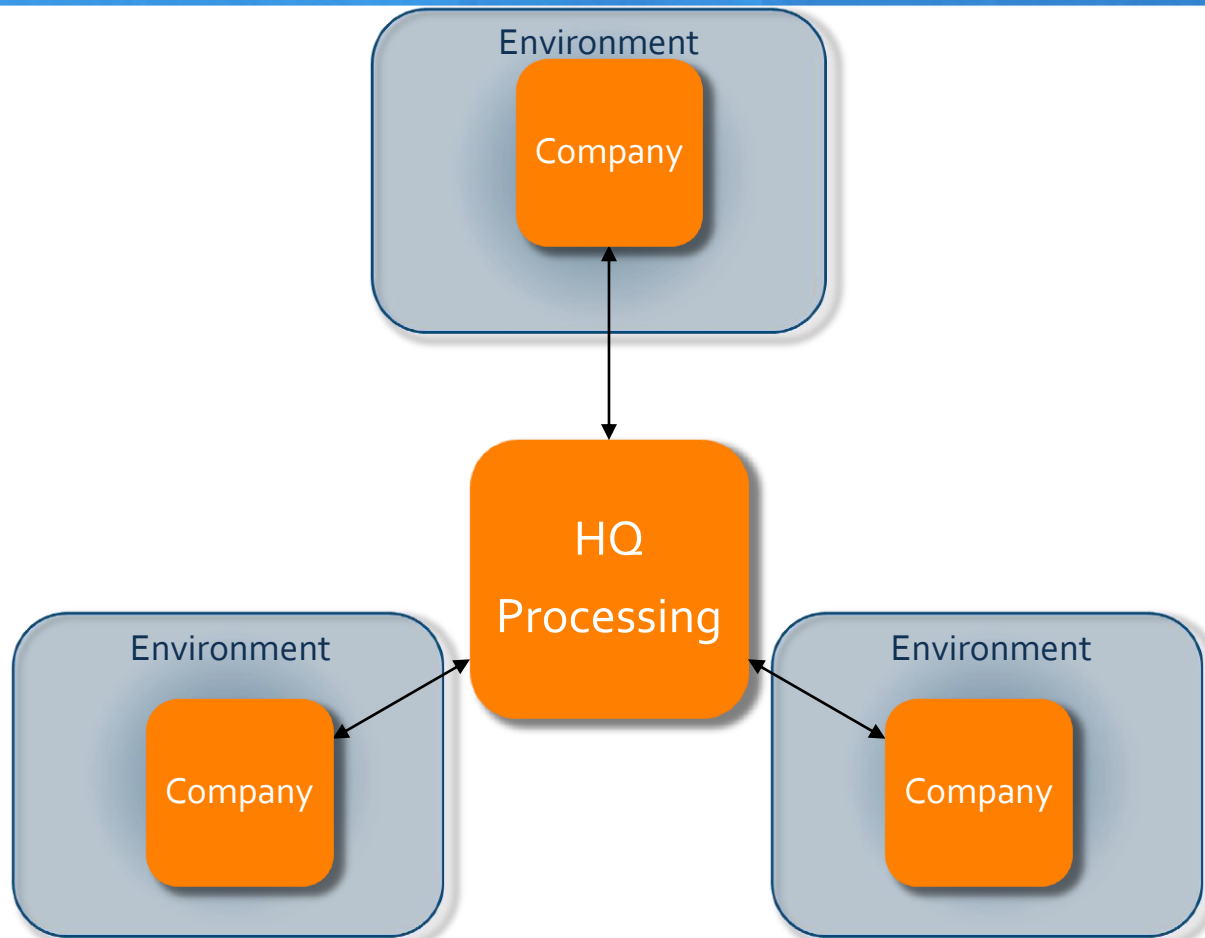


Server

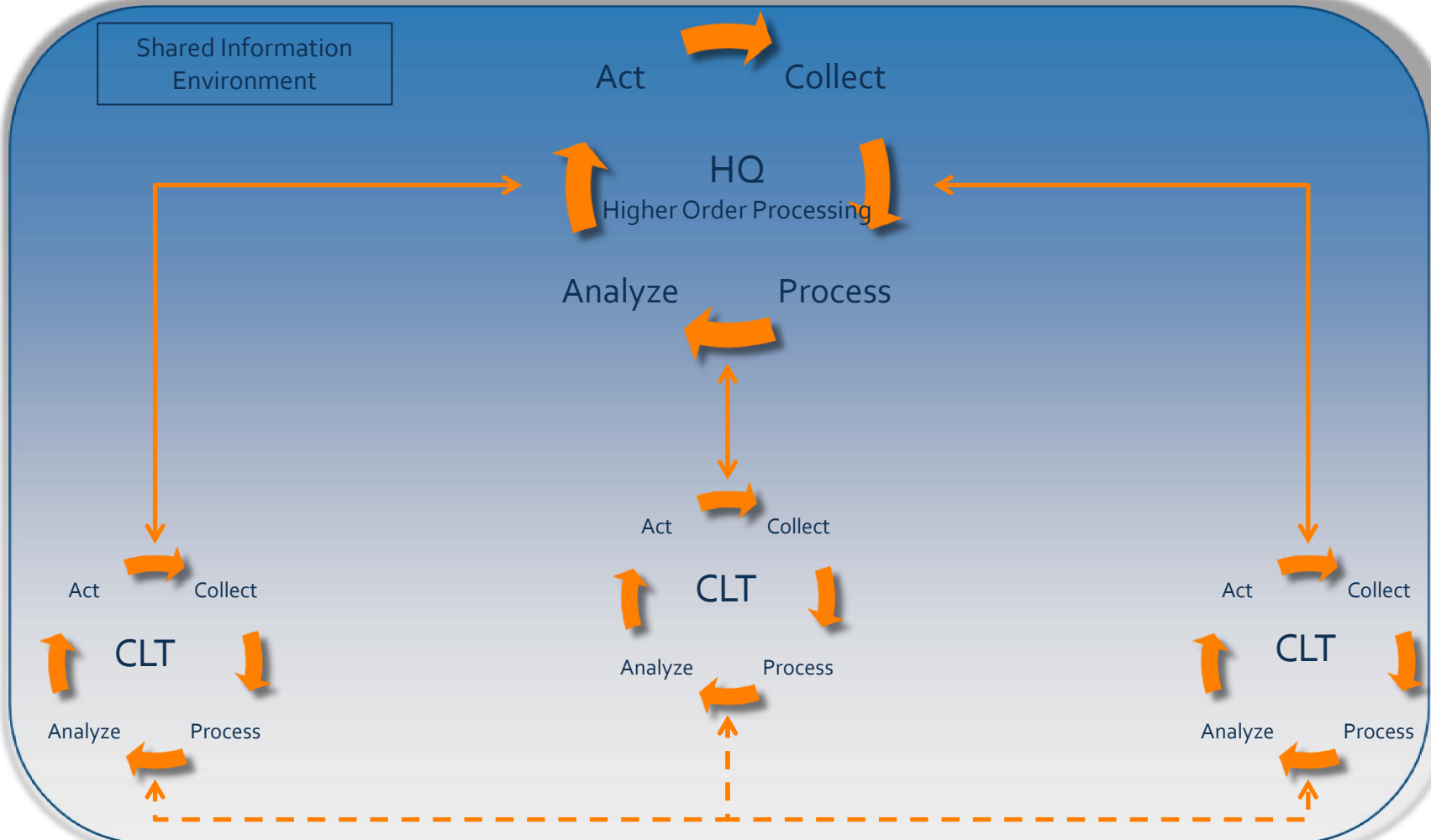
- Connects to Satellite Terminal
- Selective Gateway/
Local Network Border
- Local Data Storage

MEU

Traditional Information Flow



Proposed Information Flow



BOTTOM LINE

These solution sets are not hypothetical; they already exist.

It would require minimal acquisition time for the systems themselves. Our focus should be on first establishing a doctrinal framework for their deployment and use.

The US Military has essentially missed out on the last quantum leap in communications as part of the information age advancements of the past decade.

We are deluding ourselves to think we have an adequate capability to fulfill our current and future missions

It comes back to this...





Questions?