

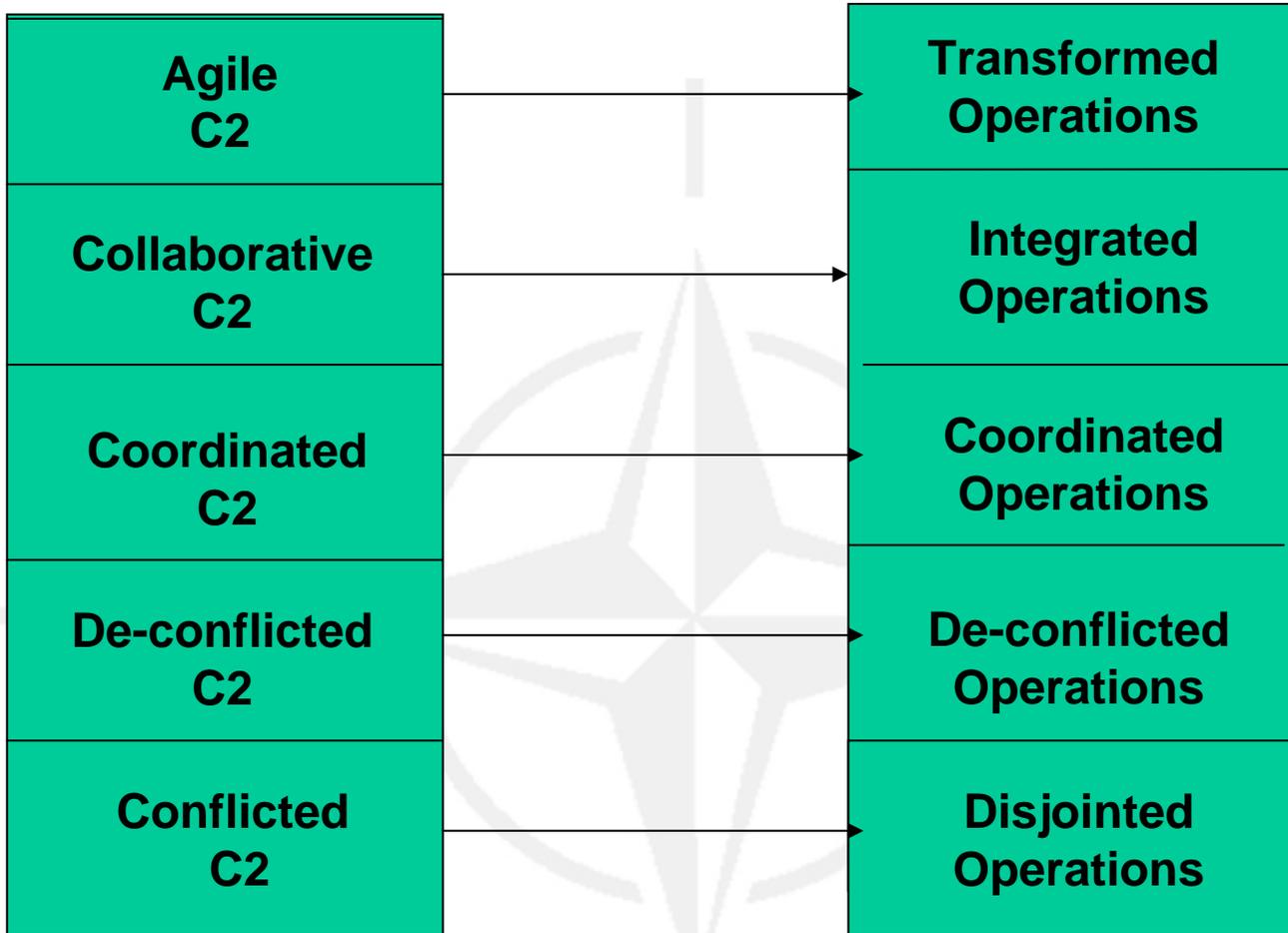
The Response to Hurricane Katrina: A Case Study of Changing C2 Maturity



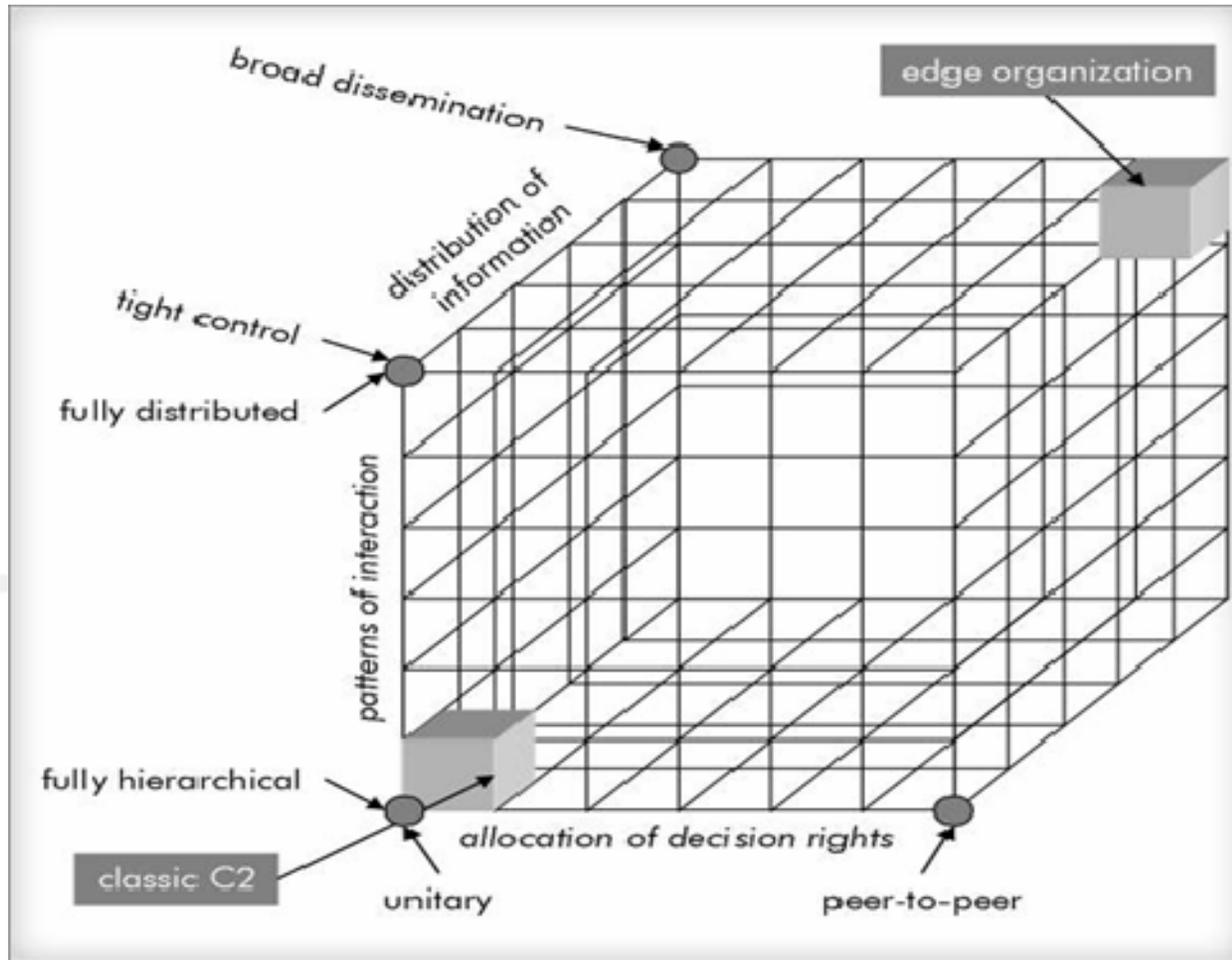
James Moffat
Dstl, Ministry of Defence, UK

NATO NEC C2 Maturity Model

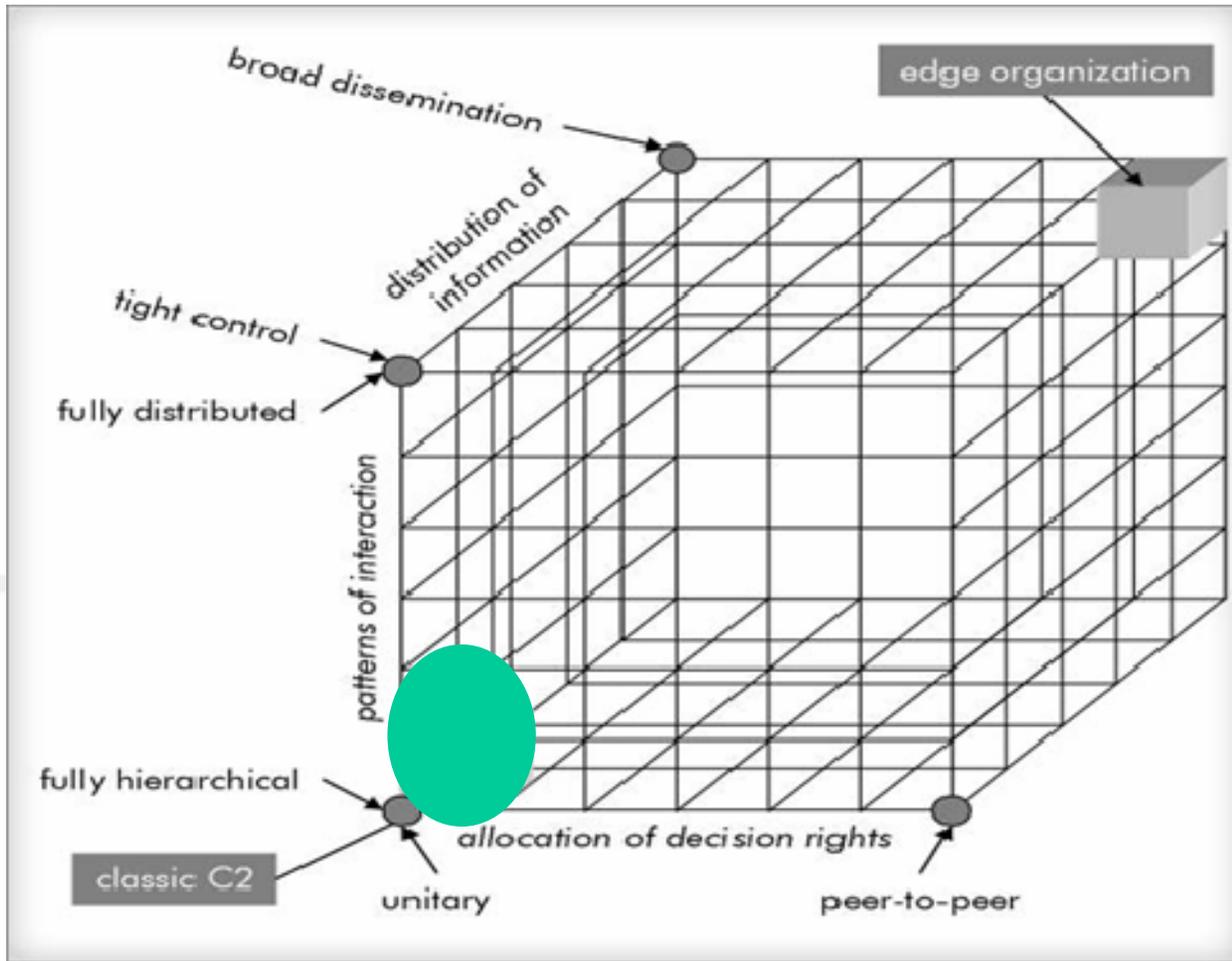
- Being Developed by NATO RTO SAS Panel WG 065
- Context: A coalition force composed of a number of contributing entities – A ‘Complex Endeavour’
 - NATO military elements
 - NATO civilian elements
 - Non-NATO countries
 - Non-Government Organizations (NGOs)
 - Private Voluntary Organizations (PVOs)



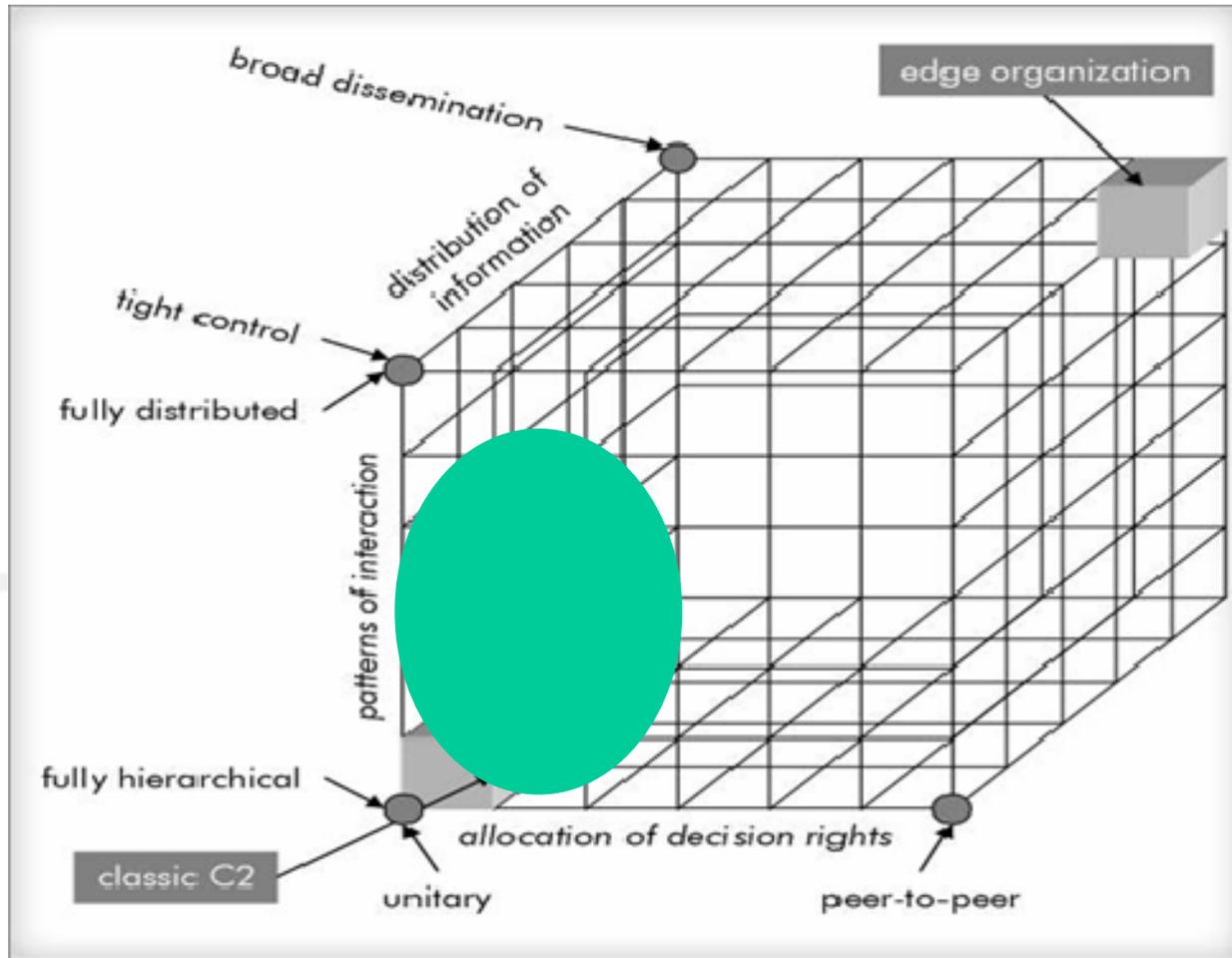
The C2 Approach Space



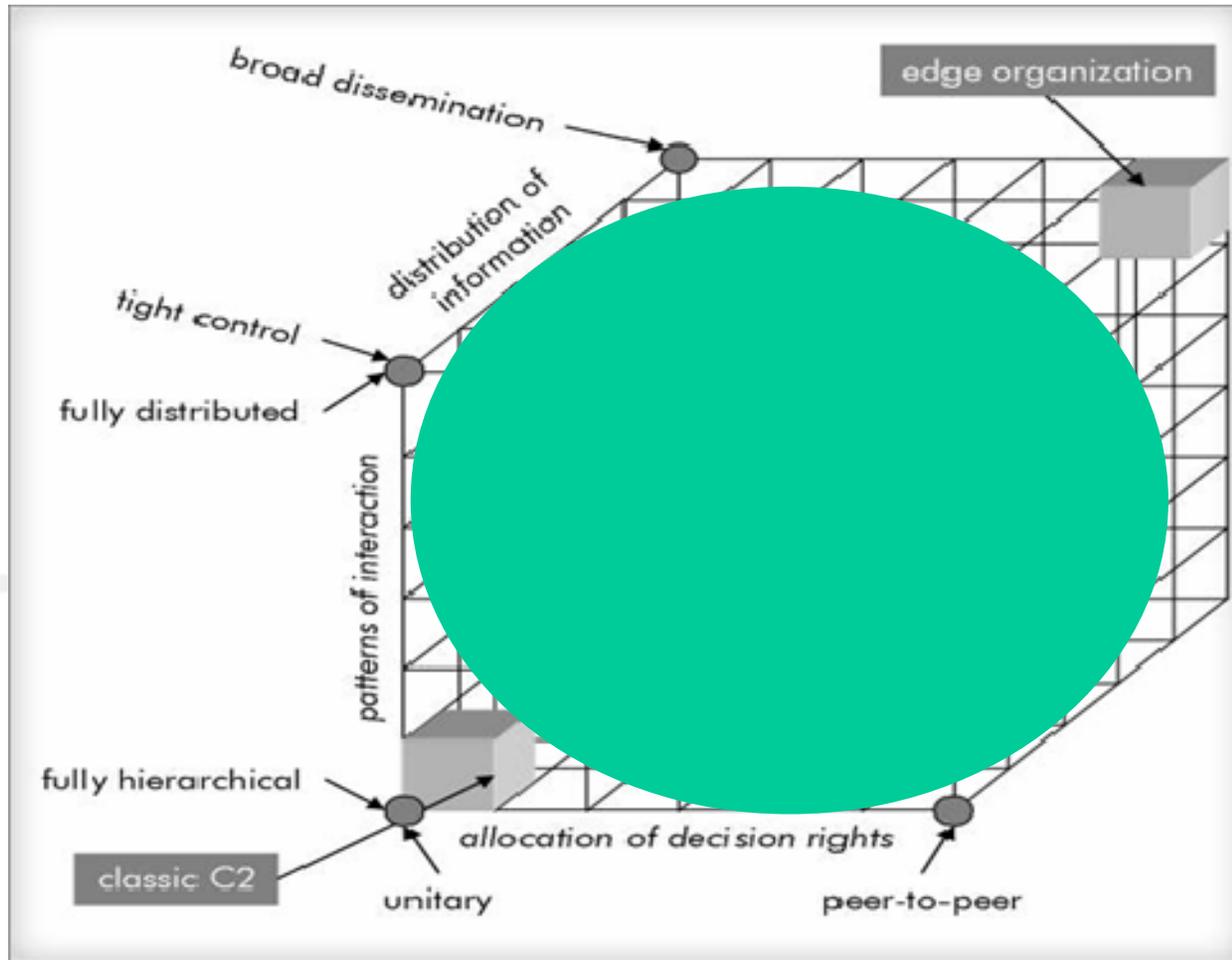
De-conflicted C2



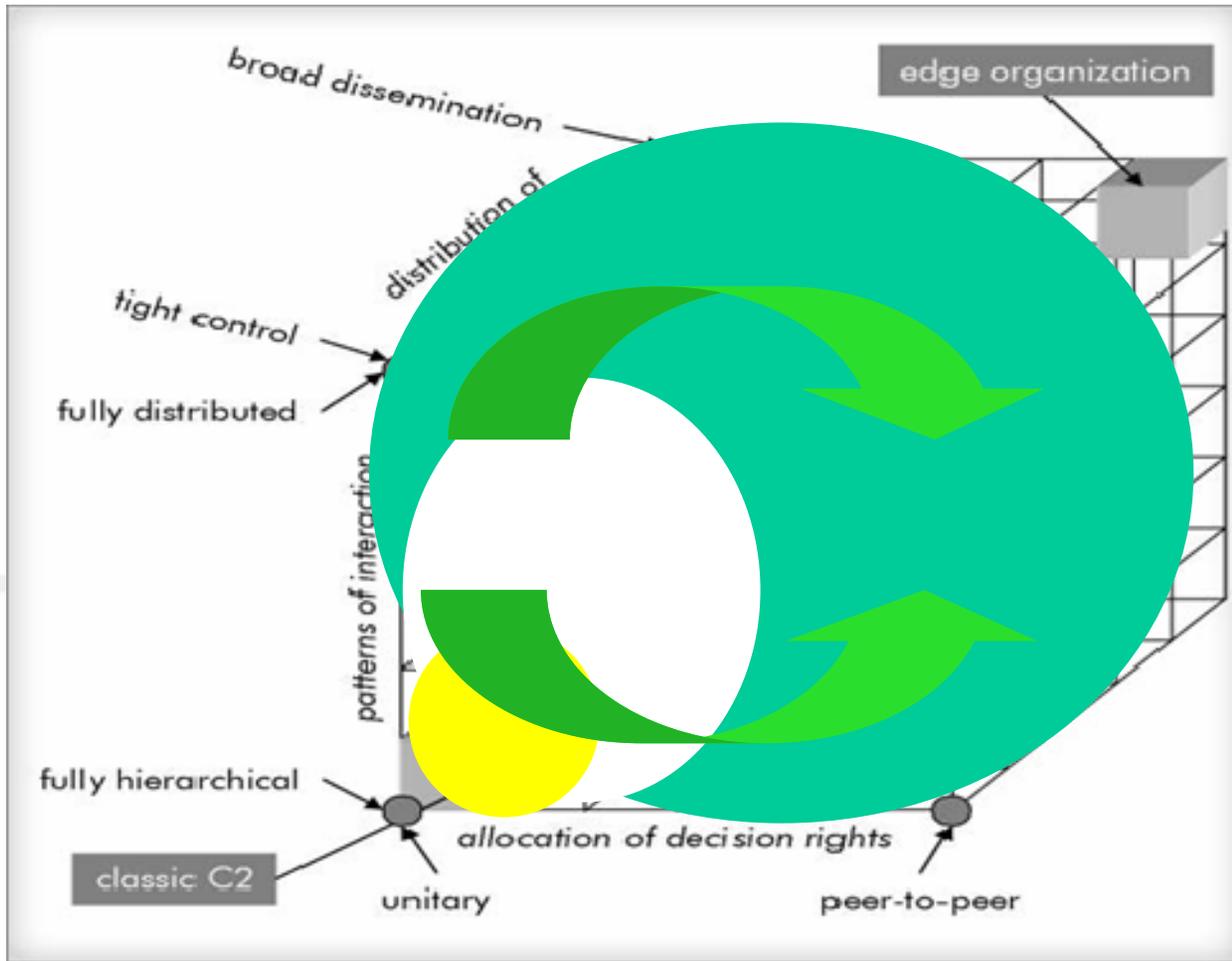
Coordinated C2



Collaborative C2



Agile C2



Hurricane Katrina

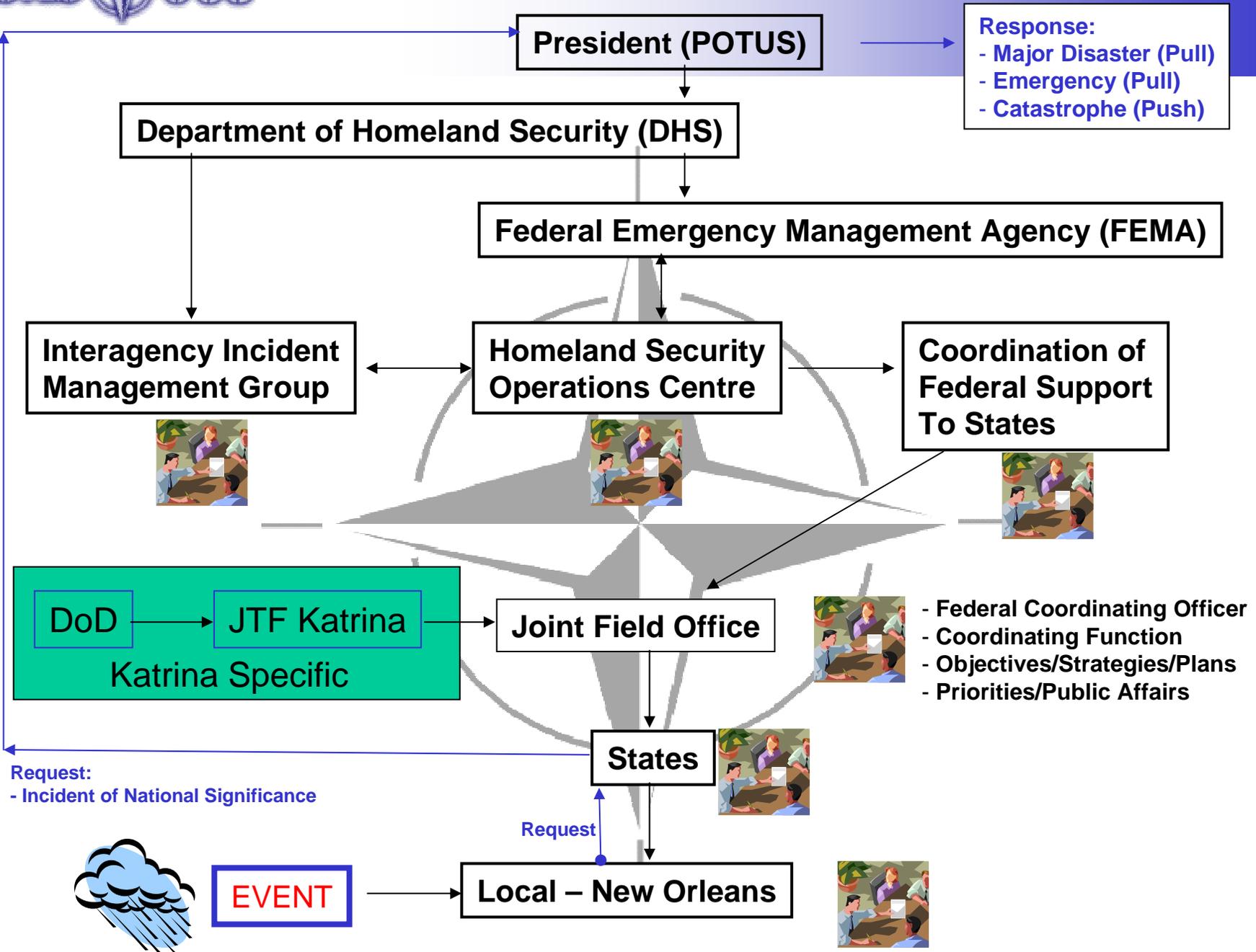
- 'A Catastrophe on a par with the events of 11th Sept 2001'
- Three authoritative reports supplied by the US
- Examples observed of Maturity Levels from Conflicted C2 to Agile C2, changing over time
- Balance towards Conflicted C2 end of scale
- Observed variables and transitions consistent with Maturity Model

- US Emergency Structure
- Hurricane Katrina timeline
- Examples of C2 Maturity levels
 - Change over time
- Summary

US Emergency Structure



US Emergency Structure



Hurricane Katrina Timeline



- Local emergency preliminary responses within each State
- First FEMA teleconference – Federal/State/Local
- Plans for evacuation and shelter
- FEMA initial pre-positioning
- Rapid needs and emergency response teams on alert
- Local private sector entities respond
- **Maturity Level**
 - De-Conflicted C2 at Federal/State Level
 - Conflicted C2 at Local level
 - Separate Local responses

- Phase 1 of LA Emergency Evacuation Plan
 - implemented and MS informed
- LA and MS Departments of transportation linked
 - Evacuation transportation plans coordinated
- FEMA activates National Disaster Medical Systems teams
- FEMA and FEMA regional HQs in TX and GA go to level 1
- FEMA Mobile Emergency Response Support Detachment deploys to LA from TX
- Fed CO appointed (heads Joint Field Office)
- LA and MS implement contra-flow traffic plans
- LA and MS deploy personnel and pre-position resources
- Fed emergency declared by Pres after request from Gov LA
- Gov AL offers assistance to LA and MS
- **Maturity Level – Coordinated C2 at Federal/State level**
 - Limited linking of plans and actions

- Storm hits
 - Huge damage to power, communications
 - Damage to infrastructure, transport, healthcare
 - Mayor of New Orleans could not communicate for 48-hrs
- LA and MS request Nat Guard assets from other States
- Conflicting reports to Local/State/Fed level
 - Inaccurate and incomplete information
- Lack of situation awareness and Common Operational Picture (COP)
 - Breaching of levees unclear
- Impossible to establish functioning incident command centres
- Some emergency responders did not respond
- Search and Rescue begins

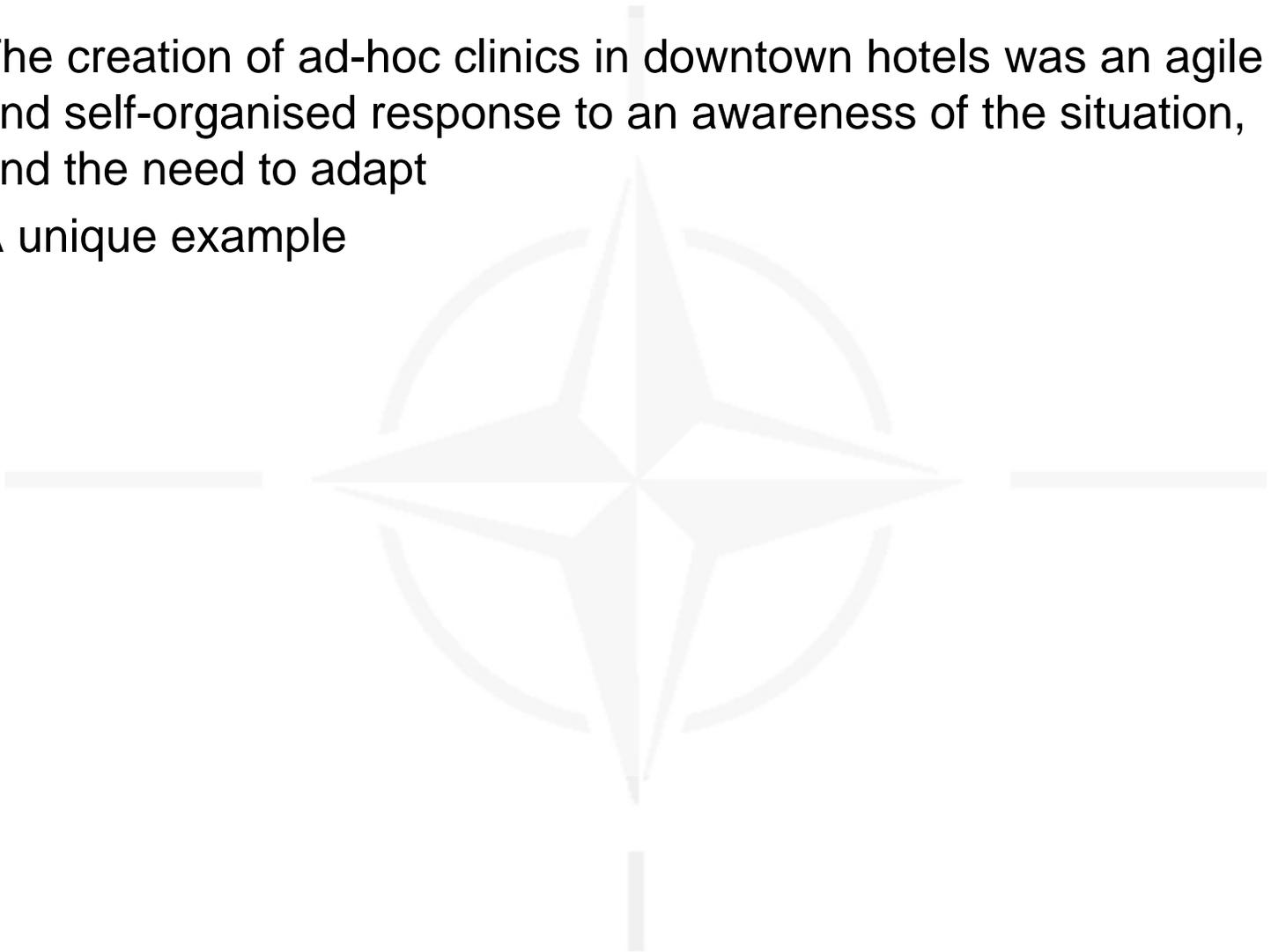
- Maturity Level – Conflicted C2 at Local level
 - Search and Rescue

- LA and Fed working together to plan evacuation to other States
- DoD, DoT, State
 - local delivery of food, water
 - plan further evacuation activities from New Orleans
- No Federal active duty forces in the area
 - due to incorrect situational awareness
- Large crowds at Convention Centre
 - no food or water
- Search and Rescue
 - Evacuees deposited on high ground with no coordination or unified command structure
- Maturity Level
 - Conflicted C2 at Local level
 - Search and Rescue
 - Coordinated C2 in parts of Federal/State levels

- Evacuation of Convention Centre starts
 - Food, water and medicine now available
 - 25,000 to be evacuated
- Superdome evacuation continuing
- Maturity Level
 - De-Conflicted C2 for evacuations
 - Between National Guard and Active Duty Forces via JTF Katrina

- Establishment of Law Enforcement Coordination Centre
 - Unified Command for Law Enforcement
 - New Orleans Police, LA State Police, National Guard, Federal Law Enforcement
- Maturity Level
 - Collaborative C2 emerging

- The creation of ad-hoc clinics in downtown hotels was an agile and self-organised response to an awareness of the situation, and the need to adapt
- A unique example



Changing Maturity Levels - A Case History

Time

- Conflicted C2 (initial stage post landfall)
 - Lack of situational awareness
 - Impossible to coordinate immediate emergency response operations
 - Multiple rescue teams in the same area while other areas not covered.
- De-Conflicted C2 (Emerging during first few days post landfall)
 - National Guards and active duty units deployed to different geographical areas
- Collaborative C2 emerging (By end of first week post landfall)
 - Complex and multifaceted C2 structure in place
 - Coordinating States, civilians, military at both State and Federal level
 - JTF-Katrina command active units through task forces

- **'The Federal response to Hurricane Katrina: Lessons Learned'**. US Dept. of Homeland Security, Washington DC, USA, Feb 2006.
- L E Davis et al **'Hurricane Katrina: Lessons Learned for Army Planning and Operations'**. RAND Arroyo Centre, Santa Monica, CA, USA, 2007.
- **'A Failure of Initiative: Final Report of the Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina'** US House of Representatives, Feb 2006.

Summary

- Examples were observed of changing C2 Maturity Levels ranging from Conflicted to Agile, during the build up to and immediate post landfall of Hurricane Katrina.
- The factors marking out these differing Maturity levels have been identified, and are consistent with the current NATO NEC C2 Maturity Model.
- In a slightly longer timeframe, the post landfall planning for the reconstruction of the Hurricane Protection System in New Orleans was an example of the Collaborative level of C2 Maturity.