BACKGROUND

- Separate Control Rooms and Response Centres existed for long time for both Disaster Management and Internal Security/Civil Defence in various Central Ministries and Departments. They were mostly run by terrestrial networks.

- A need was felt to have an integrated crisis management centre that can address the operational requirements of both Internal security and Disaster Management.

IMPERATIVES

- Distributed functioning – inefficiency

- Evolving security scenario

- DM – a political imperative

- Data and response overlaps – internal security and disaster management

- Both require reliable communications, crowd-sourcing of information, alerts/warnings, etc.

- Improve response on continuous basis

MAJOR DRIVERS OF RESPONSE

1. Situational Awareness

2. Resources Availability & Utilization

NEOC – THE GAME CHANGER

NEOC comprehensively address all issues of collaboration, convergence, networking and integration and brings all authorities under one umbrella.

A full-fledged NEOC, inter-alia, requires:

- A disaster-resilient structure

- Internal infrastructure and kitting out

- Evidence-based and Vetted state-of-art technologies.

- Reliable data and communication linkages - to all States and local level authorities, stakeholders and the public

TIMELINES AND PHASING

PHASE – I:

Interpolate and set up 'Integrated Control Room for Emergency Response' (ICR-ER) with two Divisions:

- Internal Security Division
- Disaster Management Division

PHASE – II:

Establish the NEOC:

- Build disaster-resilient structure
- Internal infrastructure
- Merge existing ICR-ER with emergent technologies
- Concurrently, upgrade and integrate Emergency Operation Centers (EOCs) of our States / UTs

BROAD FUNCTIONS OF ICR-ER OR NEOC

1. Data Collection, Transaction and Processing

2. Provide improved Situational Awareness

3. Decision Support and Incident Analysis

4. Securely access Databases of the Government

5. Crowd-sourcing of information (through a Call Centre)

6. Prophylactic dissemination of information (Alerts/Warnings/Advisories)

7. Monitoring of response, with near-real-time Feedback

8. Generation of Situation Reports (SITREPS)

SATCOM ARCHITECTURE (1)

PRE DISASTER

- All existing means -
- National Emergency Response System (NERS)(pan-India number) and Call Centre(s)(Centre and States)
- Dissemination by a Common Alert Protocol

DURING AND POST DISASTER

- Existing terrestrial networks, where possible
- SATCOM by redundancy
- Police radio nets
- NERS and Call Centre(s)
- Amateur Radio operators ('Ham' radio)
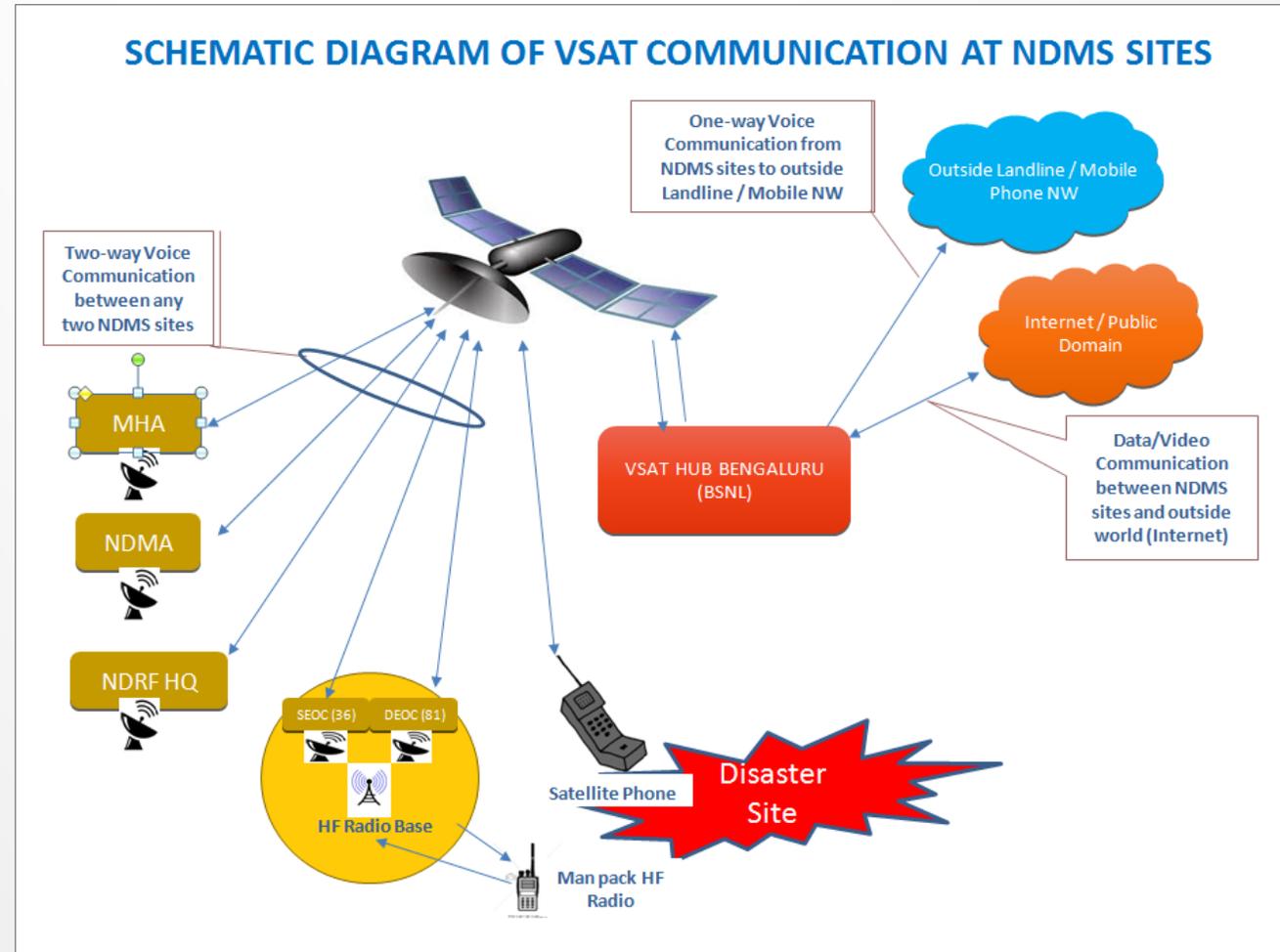- Dissemination – Common Alert Protocol

SATCOM ARCHITECTURE (2)

SATCOM-based network to integrate VSAT, HF Radio & Satellite Phone with State Wide Area Network (SWAN). It has already connected 120 vulnerable locations with MHA, NDMA, NDRF HQ, 36 States/UT HQs, 81 districts)

SCHEMATIC DIAGRAM OF VSAT COMMUNICATION AT NDMS SITES

Communication Network
- Voice
- Data

OTHER SUPPORTING TECHNOLOGY

Computer and Data Processing Systems

❑ Workstations, servers, application software to address security, communication interface and data exchange
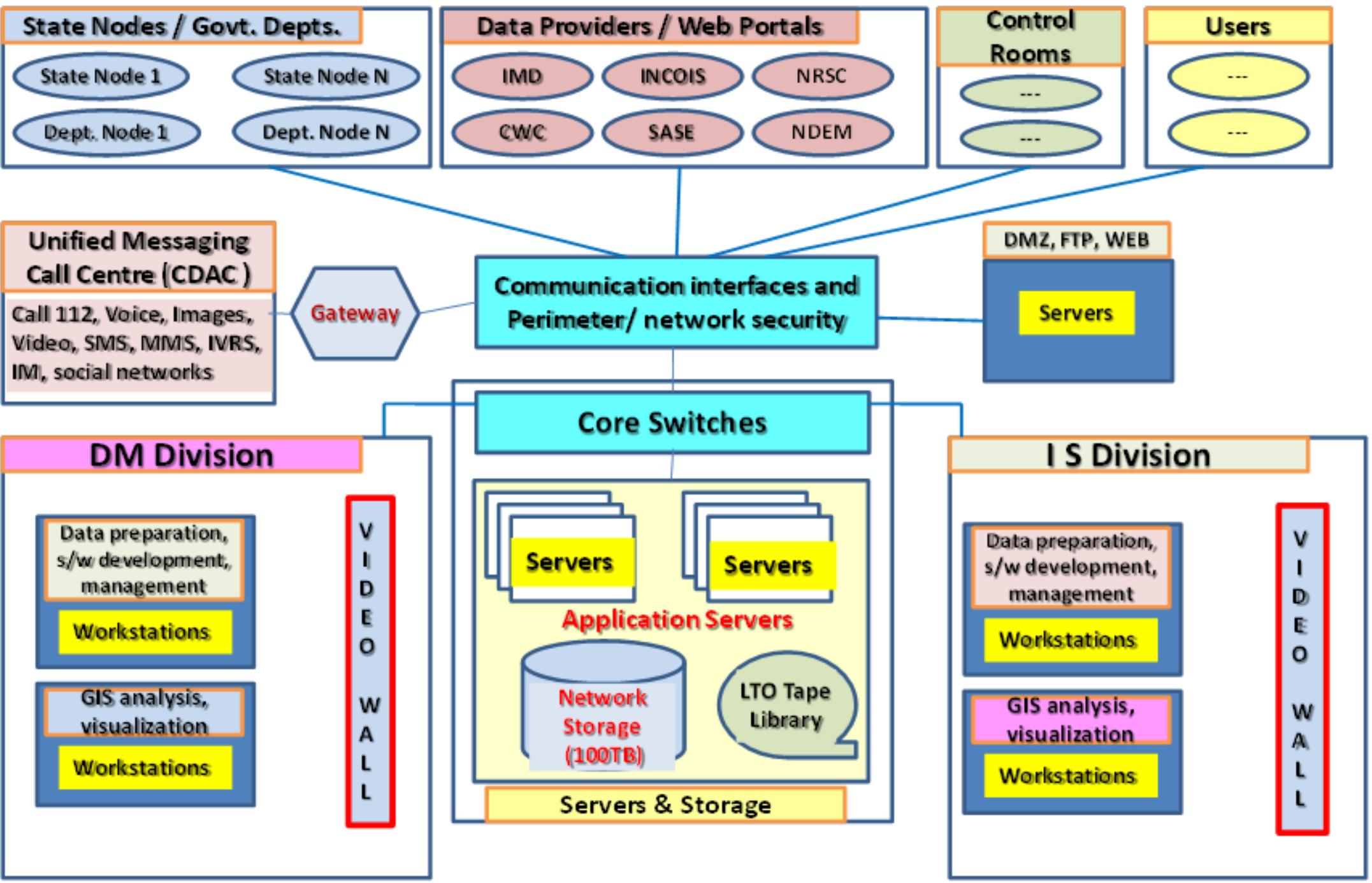❑ Envisaged architecture to be 'Cloud' compliant

Digital Segregation

❑ Side-by-side functioning of IS Division and DM Division
❑ But digital segregation of sensitive information of IS information, with role-based access control of data.

"Video Walls"

For projection of analysed data, online data feeds and spatial data to assist decision making.
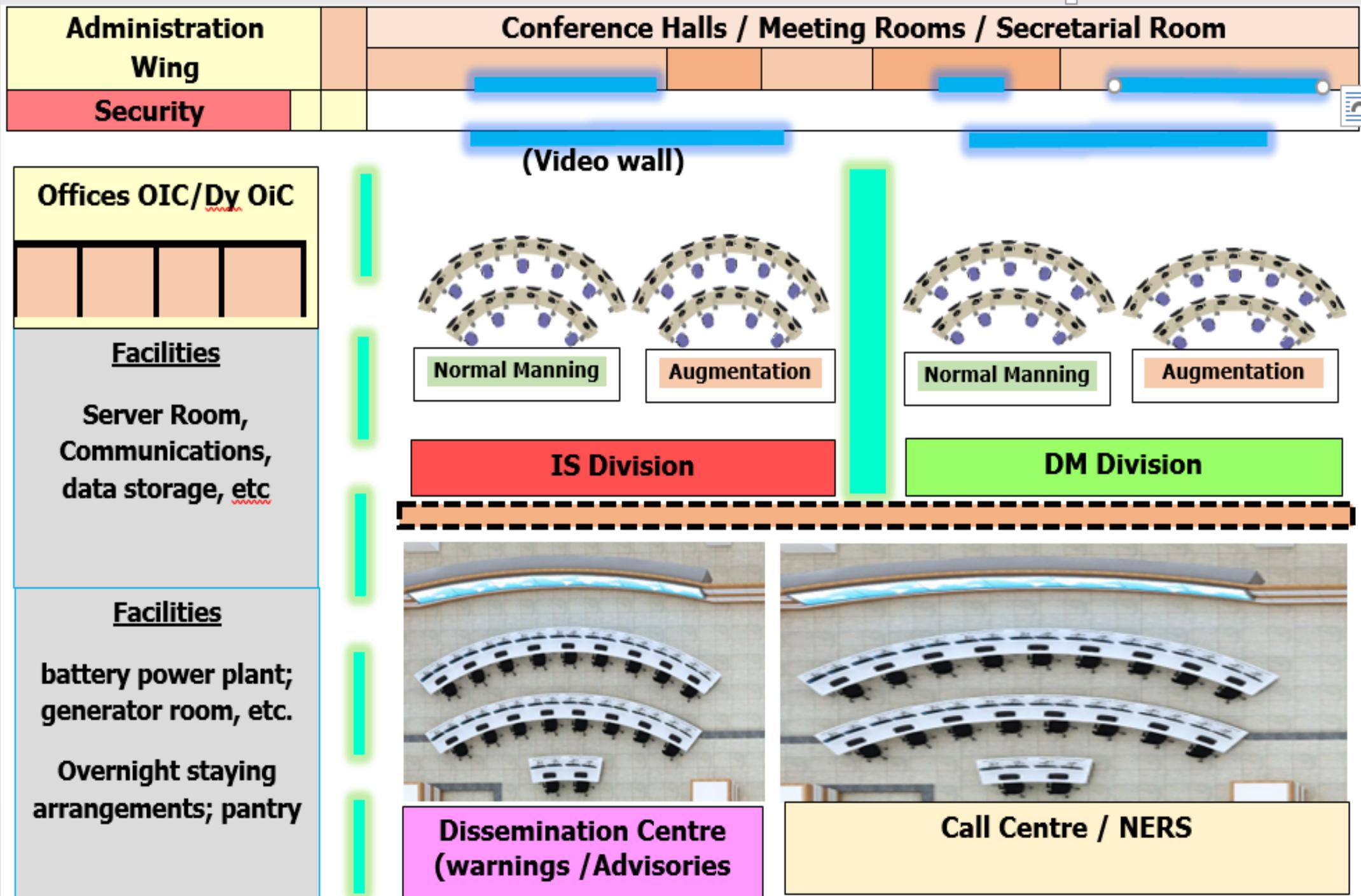
COMPUTER AND COMMUNICATIONS SYTEM ARCHITECTURE - OVERVIEW

SCHEMATIC LAYOUT OF ICR-ER/NEOC

Administration Wing

Security

Conference Halls / Meeting Rooms / Secretarial Room

(Video wall)

Offices OIC/Dy OiC

Facilities

Server Room, Communications, data storage, etc

Facilities

battery power plant; generator room, etc.

Overnight staying arrangements; pantry

Normal Manning

Augmentation

Normal Manning

Augmentation

IS Division

DM Division

Dissemination Centre (warnings /Advisories

Call Centre / NERS

ORGANISATIONAL STRUCTURE FOR ICR-ER/NOEC