

# M&S in FMN Workshop

## Creating Initialization, Order and Report Messages

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APPROVED FOR PUBLIC RELEASE

# Workshop Agenda

subject to revision

1. Welcome and setup (.5 hour)
2. Refresher summary of MSG-194 RTC (1 hour)
3. C2SIM & NETN HLA standard hands-on internal details (1.5 hour)  
Ontologies, Messages, information flow
4. Assembling C2SIM Initialization, Orders and Reports (1 hour)
5. Individuals create tasking orders and run independently (1 hour)
6. Group runs a collective exercise and group discussion (1 hour)

# C2SIM Open Source Software Repository

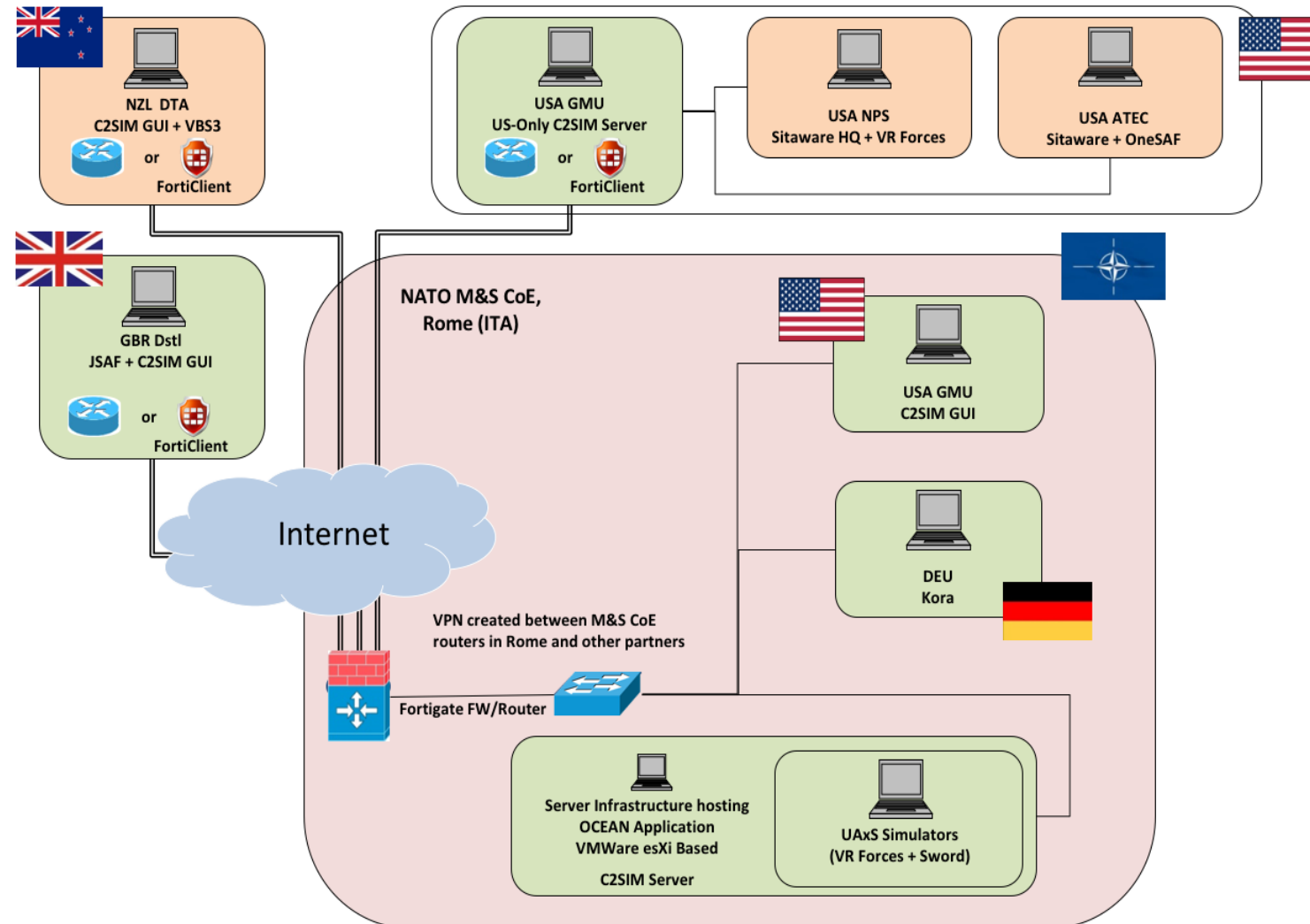
- <https://openc2sim.github.io>
- Collected open source software for C2SIM
- Maintained by GMU
  - Planned to change to SISO C2SIM administration

# About UUIDs

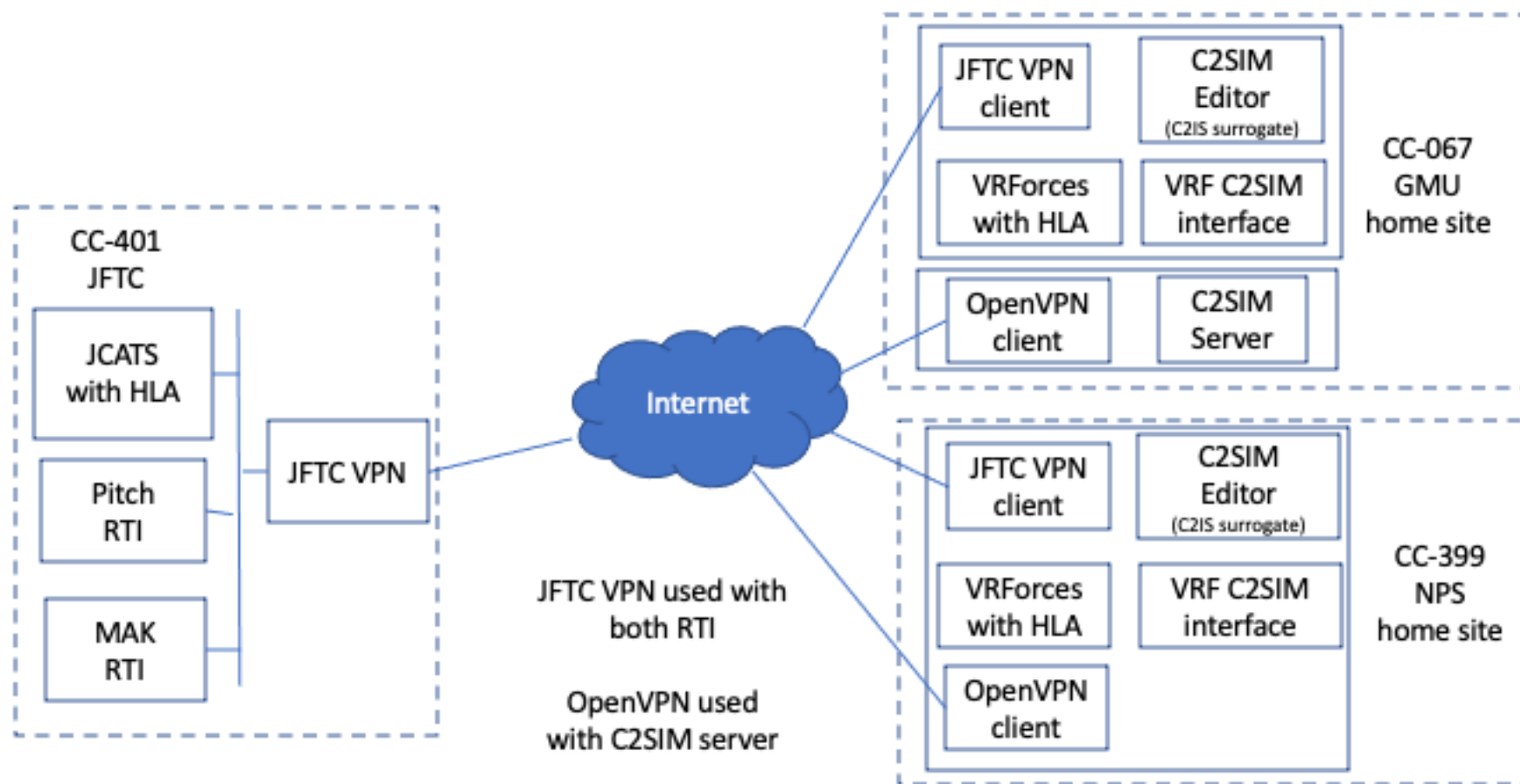
- Universally Unique Identifier
  - standardized by the Open Software Foundation (OSF) as part of the Distributed Computing Environment (DCE)
- For all practical purposes, each is unique
- 40 hexadecimal digits
  - Represented in pattern 8-4-4-4-12 digits
  - 123e4567-e89b-12d3-a456-426614174000
- Used throughout C2SIM standard to identify
  - Units, Orders, Tasks, Objects of any kind
  - For C2SIM testing (only) we use non-standard UUIDs such as 00000000-0005-0001-1000-000000000001
    - Much easier for humans to ,manipulate

# Test Configurations

# CWIX 2019



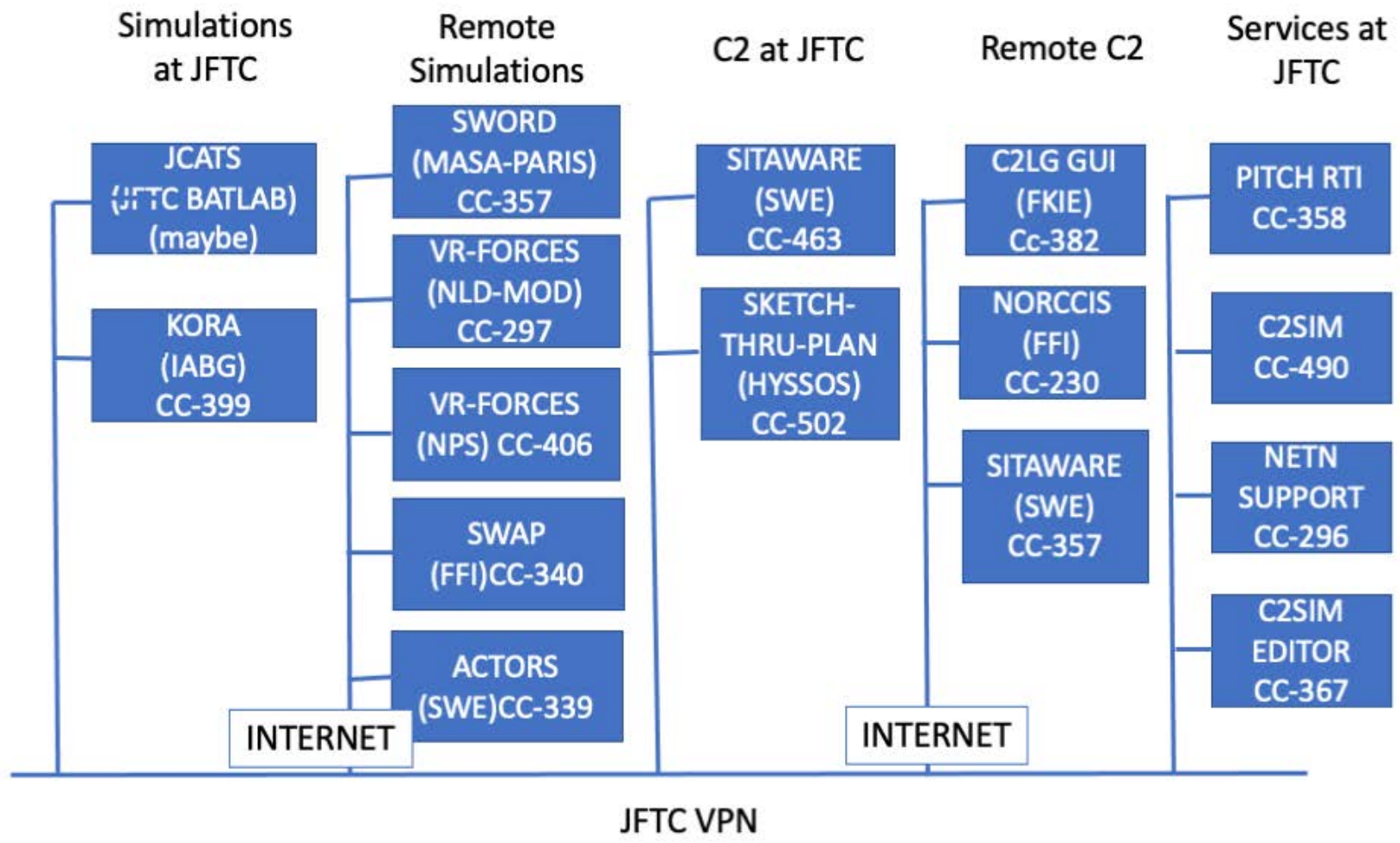
# CWIX 2021



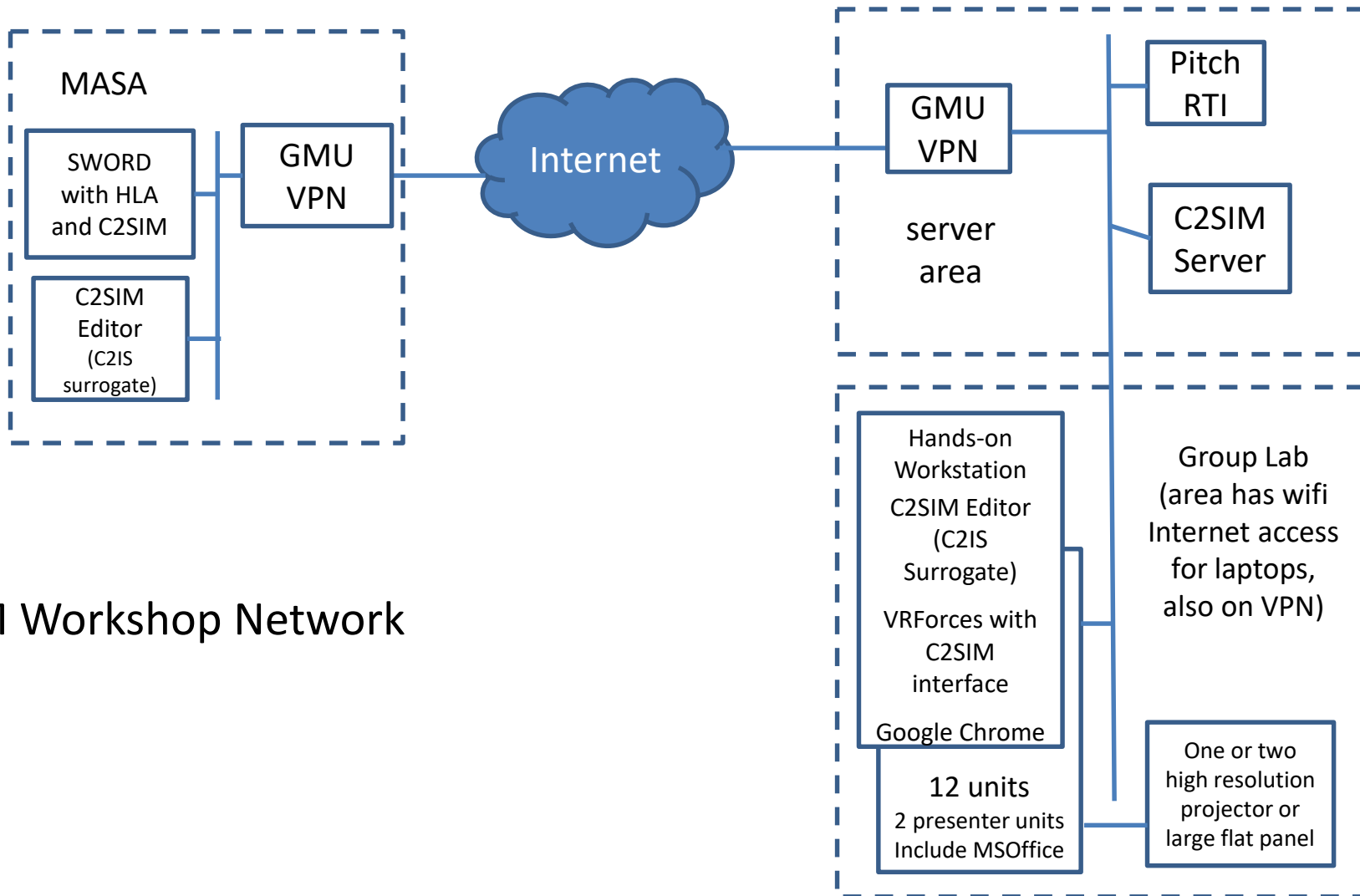
C2-simulation + HLA interoperation in CWIX 2021 CC-067/399/401

### PROPOSED MSG-201 CWIX 2023 NETWORKED SYSTEMS v4

NOTE: In 2022 we concluded as many systems as possible should be at JFTC







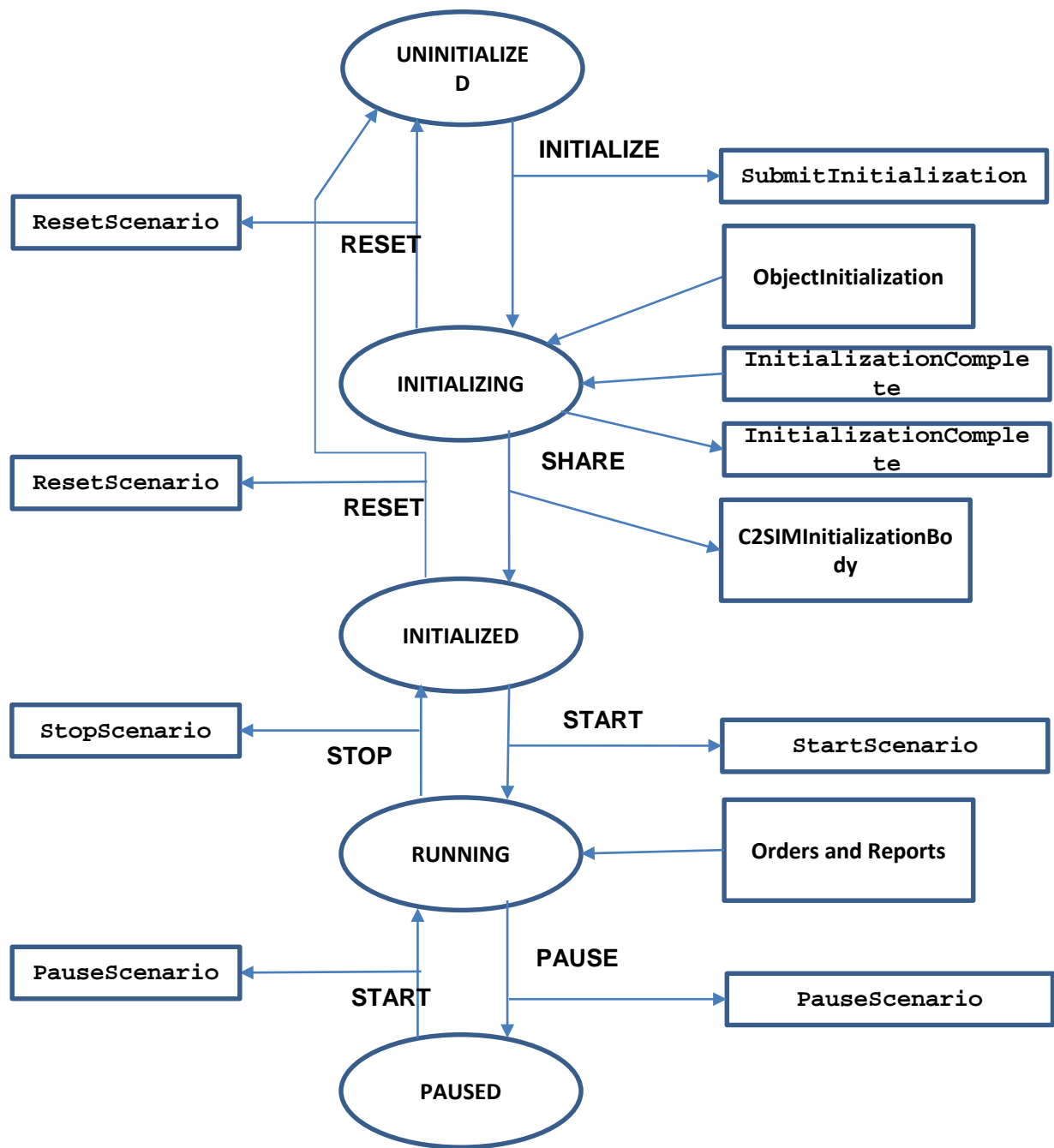
- C2SIM Workshop Network

## CWIX 2022-2024

- MSG-193 assisted NATO Federated Mission Networking (FMN) with M&S standards & practices
  - This included CWIX 2021 for basic aspects of C2SIM/HLA/MSaaS
- Now executing MSG-201 to complete M&S input through FMN Spiral 6 or 7
  - A much more complete CWIX effort through 2024
  - Expect to demonstrate this for FMN Coalition Interoperability Assurance and Validation (CIAV)

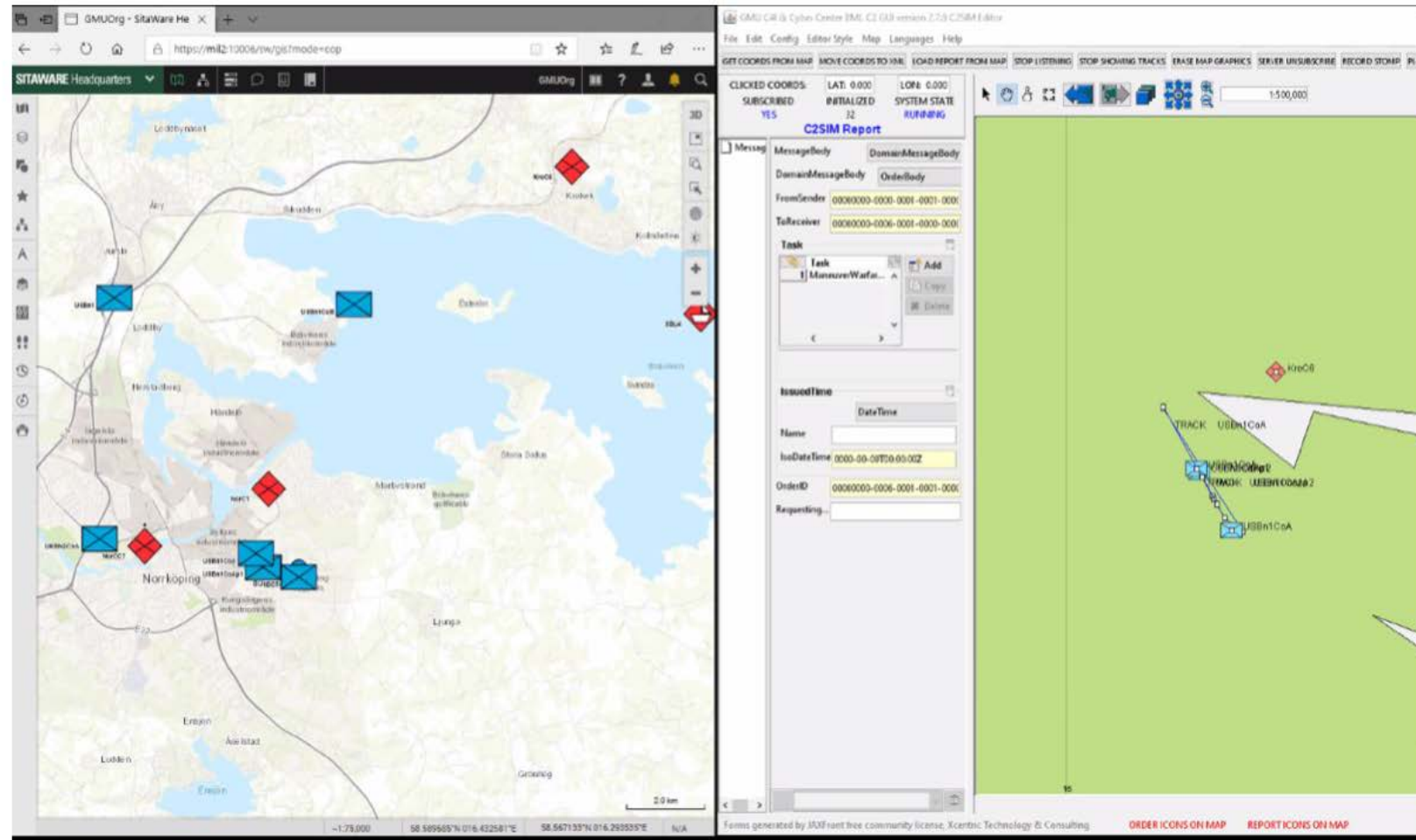
# Protegé Ontology Tool Demo

# C2SIM Coalition States and related server control messages



# C2SIMGUI Editor

# Execution as Seen in SitaWare and Editor



GMU C4I & Cyber Center BML C2 GUI version 2.8.1 C2SIM Editor

**FILE & CONFIG TABS** File Edit Config Editor Style Map Languages Help

**MAP DISPLAY CONTROL** GET COORDS FROM MAP INSERT COORDS FROM MAP LOAD REPORT FROM XML LISTEN TO XML STOP SHOWING TRACKS UNSUBSCRIBE STOMP RECORD STOMP STOP PLAYBACK

**SERVER SUBSCRIPTION-RECORD PLAYBACK**

CLICKED COORDS: LAT: 0.000 LON: 0.000

**SERVER STATUS** SUBSCRIBED INITIALIZED SYSTEM STATE YES 46 RUNNING

**C2SIM Report**

**XML DOCUMENT DISPLAY/EDIT FORM**

MessageBody DomainMessageBody  
DomainMessageBody OrderBody  
FromSen... 00000000-0000-0000-00  
ToReceiv... 00000000-0000-0000-00

**Task**

Task Add Copy Delete  
1 Maneuver...

**IssuedTime** DateTime

Name  
IsoDate... 0002-11-30T00:00:00Z  
OrderID 00000000-0002-0001-00  
Requesti...

**MAP AND IMAGE PANEL**

Lat, Lon (58.686, 16.365) - x, y (584,7)

Forms generated by JAXFront free community license, Xcentric Technology & Consulting

**REMOVE ORDER ICONS** **REMOVE REPORT ICONS**

## C2SIMGUI Demo

- Please pay careful attention to the File menu in the C2SIMGUI regarding XML files
  - New: make an empty file (we will not use)
  - Open: load an existing file into JaxFront
  - Push: push it into the C2SIM Server
  - Open and Push: Open a file and push immediately (without chance to change it)
  - Save JAXFront: save file that has been edited
  - Push JAXFront: push file that has been edited
  - Server Control: push commands to C2SIM server (see previous C2SIM Coalition States slide)
    - **students must not use**



# Questions?