



Developing Exercise Control Tools ; Linking Simulation Models with Others

LTC Son, Eun Chul
; Chief of Simulation Control,
Joint Battle Simulation Center



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Overview

- Portray military situations with diverse tools during complex simulation driven exercise.
- White cell needs synchronized confirmation & control for all exercise situations.
- Suggest the design of integrated control tool for white cell's controllers to confirm and control for all exercise situations.

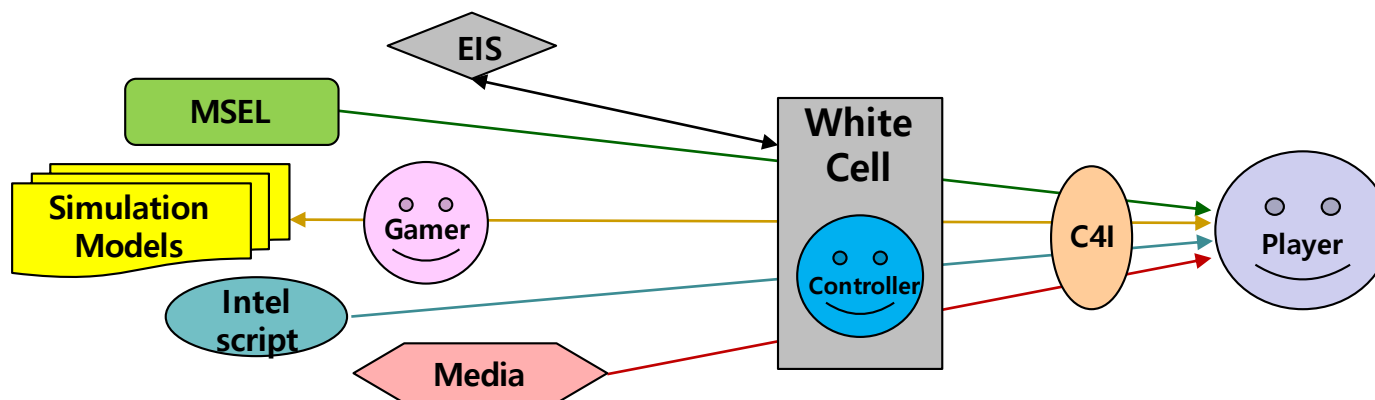


Current Status (1/5)

- Each tool has its own functions to portray training situations independently
 - Main battlefield situations(unit location, maneuver, engagement, battle damage assessment) by Simulation models
 - Supplement non-simulation area event by MSEL and Intel script
 - Supply training broadcasting by Media
- ✘ *No interoperable functions among Simulation models, MSEL, Intel script and Media*

Current Status (2/5)

- **White cell is restricted to synchronize all kinds of exercise situations**
 - All factors are operated independently without interoperable function
 - Need to build interoperable system for real-time integrated exercise control





Current Status (3/5)

- **COP of White cell consists of each tool's information**
 - Simulation events of simulation models are displayed on each model's situation map and white cell recognize it
 - * AAR model can collect most information of each model
 - MSEL can be shared with MSEL program and C4I system
 - Intel Script can be shared with C4I system's e-mail
 - White cell use web portal, VTC, and e-mail on special EIS(Exercise Information System) to control exercise and share information



Current Status (4/5)

- **Need integrated system to display synchronized event of unit and date**
 - **Organize synchronized white cell COP to understand all kinds of exercise situations and share it together**
 - **Exercise controller in white cell should confirm complex exercise events from diverse tools and control easily**
 - **Publish all unit's situation events connected with each tool**

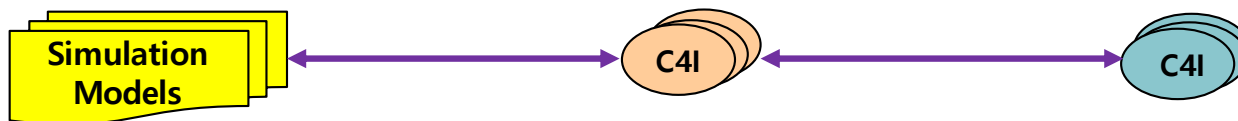
Current Status (5/5)

■ Using many kinds of interoperability system in CAX

- Many models can be interoperable with each other



- Most models can stimulate to C4I systems and all C4I systems can be interoperable with another C4I

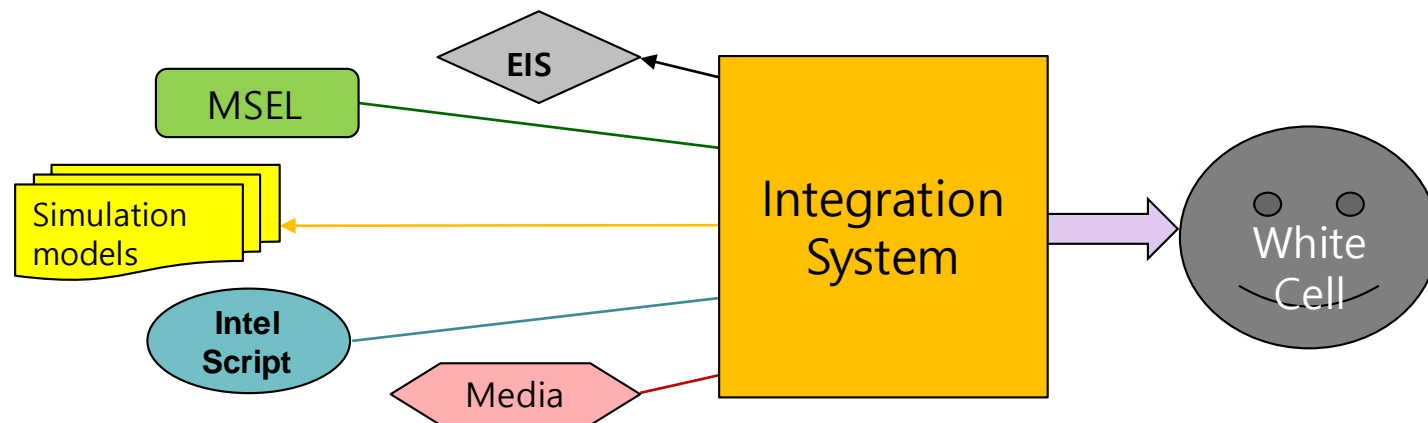


- Exercise information systems also can be interoperable with another EIS



Solution Suggestion (1/6)

■ Integration concept diagram

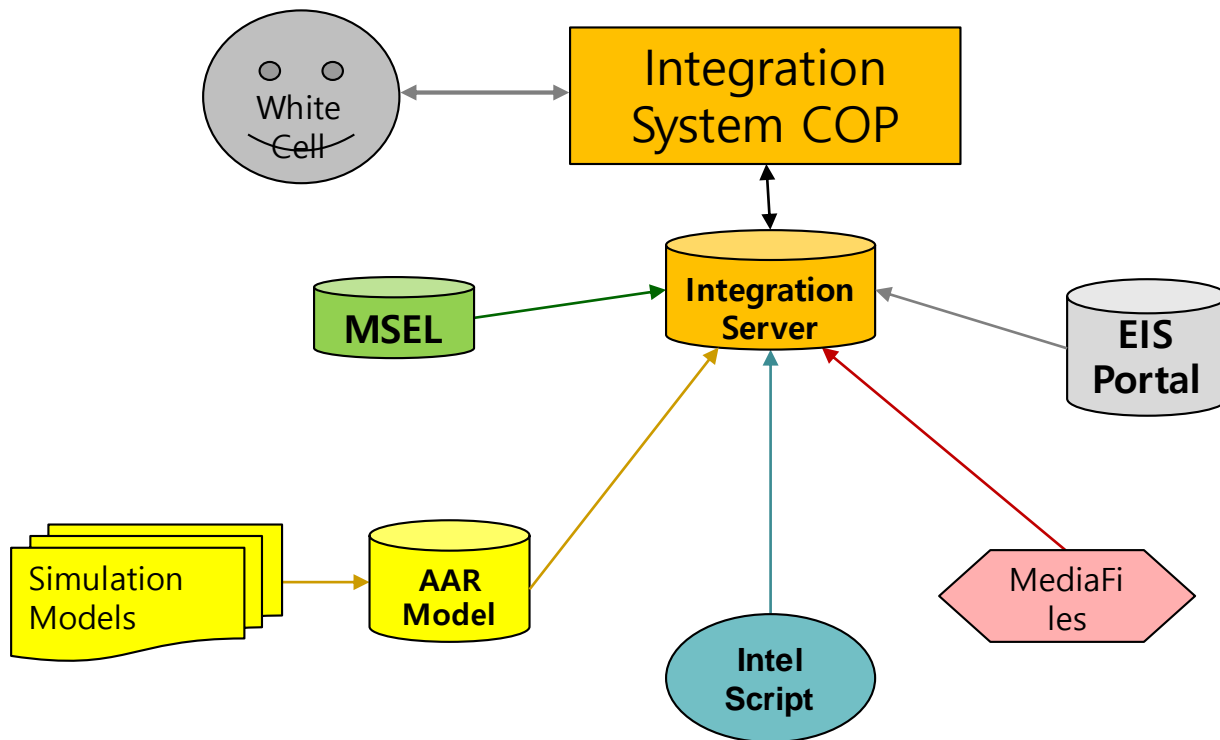


- Changing situation input flow from individual data on existing system to integrating data on integrating system to white cell's persons
- White cell can recognize all exercise situation data through new integration system interface

Solution Suggestion (2/6)

■ System integration diagram

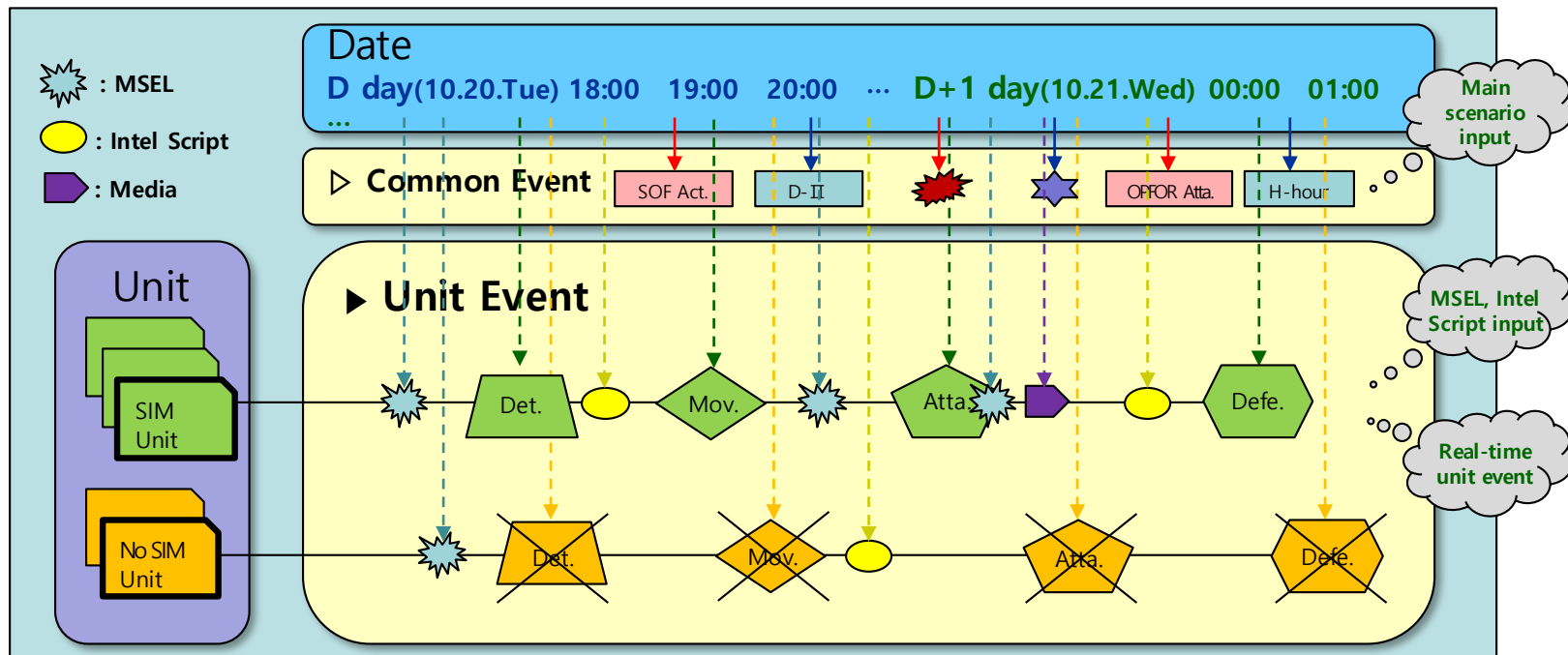
- Integration server can connect with each system servers



Solution Suggestion (3/6)

■ Interface design (1/3)

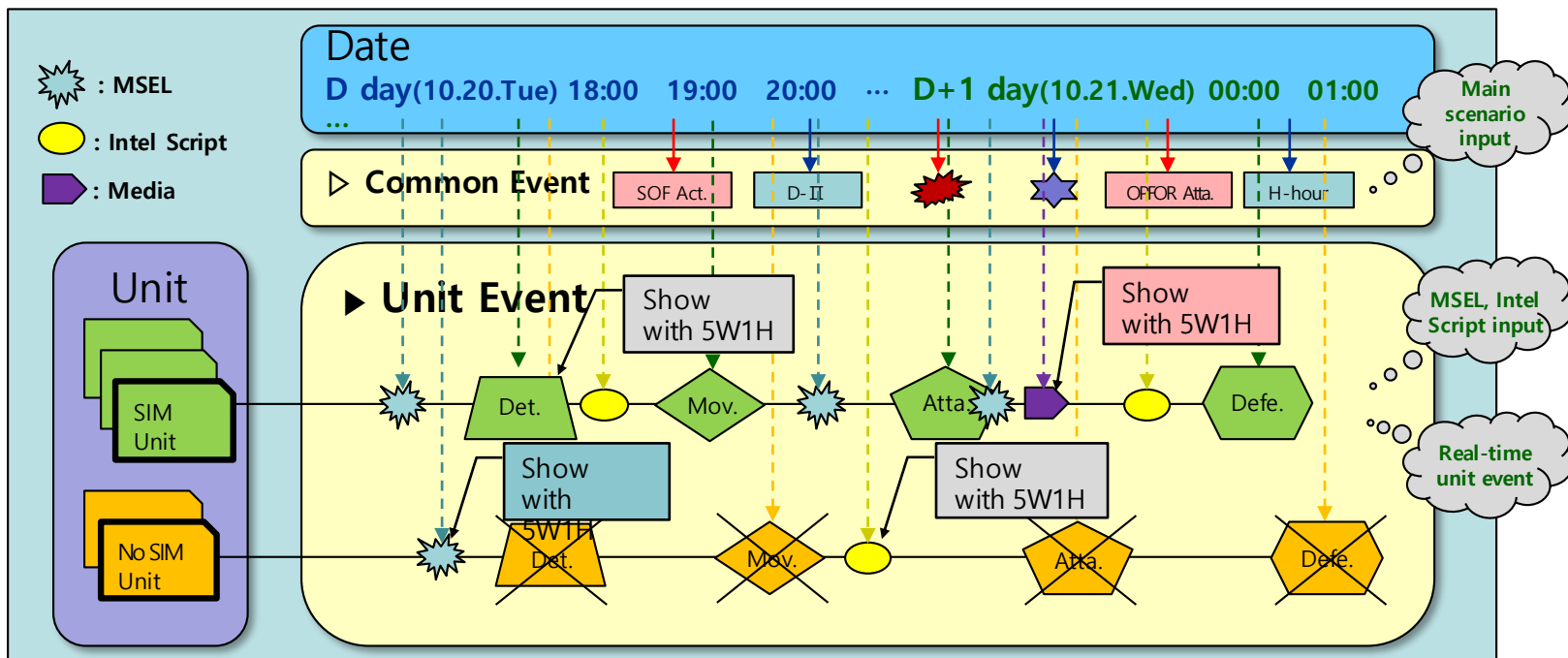
- Unit : Unit DB of Sim models and Non-Sim tools
- Date/Event : Sim, MSEL, Intel Script events of each date



Solution Suggestion (4/6)

■ Interface design (2/3)

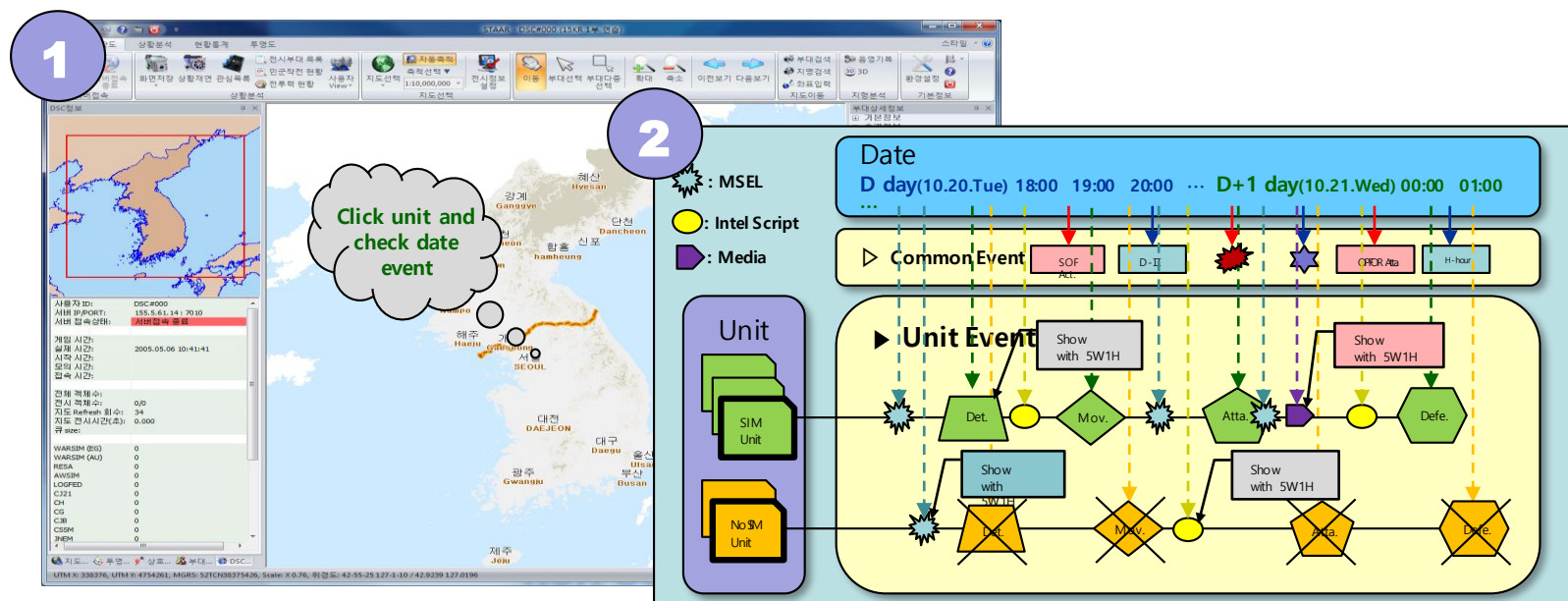
- Show detail information when clicking each event
- Compare plan/action (**new**, **modify**, **delete**), feedback to evaluation



Solution Suggestion (5/6)

Interface design (3/3)

- Operate dual monitor : situation map & unit/date event
 - Monitor #1 : map, overlay, analysis, statistics data so on
 - Monitor #2 : unit/date events(Sim, MSEL, Intel Script)





Solution Suggestion (6/6)

■ Functions

- Exercise scenario editor : input unit/date event
 - * Compare real-time event → new regulation, modify and delete
- Map : 2D/3D, shade/satellite, engagement status
- Overlay draw/save/edit/share
- Situation analysis : unit search, combat power inquiry, move path, screen capture, and terrain analysis
- Statistics data : unit power, maneuver/movement, engagement/BDA, obstacles, logistics(personnel, equipment), magic order, and media files



Conclusion

- Total awareness about diverse exercise situations
- Improve white cell COP function
- Enhance synchronized control capability
- Progress interoperability by integration system
- Guarantee advantage of simulation driven exercise

