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Visualising the Status of On-going Air Operations

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Air tasking orders are issued in context. Consistency with the master air defence plan (MADP) and the airspace coordination plan (ACP) is necessary. Moreover, there is a complex of actors and stakeholders that include—but are not limited to—the following:

- Joint task force (JTF) air operations
- Airspace control authority (ACA)
- Joint force air component commander (JFACC)
- Area air defence commander (AADC)

In large scale operations, there may be as many as 4000 sorties, and 2000 separate missions in a day, involving

- Fixed wing aircraft [from the Air Force, Navy, Marine Corps, Coalition]
- Helicopters, artillery, rocket systems [from the Army]
- Cruise missiles [air and sea launched]

To be useful during operations, a visual rendering must help planners and controllers (16-20 operators) to deconflict in real time, and must present the whole plan after completion so as to be readily comprehended by commanders and staff. Clearly a simple spreadsheet will not suffice for the required operations picture.

Defensive visual renderings require different grain for different purposes—simple coverage maps over a wide area will suffice for command and planning, while smaller-

area records of surveillance and acquisitions and are needed for post mission analysis.

Visualisation VCR

A suggestion is the video cassette recorder (VCR) as a metaphor. Conceived to record missions as planned (in animated and computer-generated fashion) for preview, playback, pause, fast forward/rewind, and freeze frame at selected times.

For Post Mission Analysis, also using the VCR metaphor, the suggestion is to record missions as executed (combat ops), including the replans, diverts, and scrambles.

Summary

Obviously, a visual presentation must satisfy the user (not the technologist) and help him or her to control the overall information content and select the appropriate subset to understand the situation and make informed decisions. Can this be accomplished? Some of the familiar PowerPoint charts are useful, but there needs to be more and better means to visualise them from real planning data, in real data bases for planning, replanning, and analyzing.

Can it be done?—perhaps the “VCR” can help.