

ABSTRACT

What indicates that the desired end state for an operation or mission has been reached? Are the indicators selected for that purpose appropriate to provide an unequivocal output that signifies that a particular mission has been accomplished? Can indicators generate numerical outputs that actually reflect the complex internal dynamics of systems of interest? In particular, is it possible to produce robust definitions for feedback stability indicators for use in Counter Terrorist Operations? What happens when members of a planning staff have different professional, cultural, and ethnic and/or religious backgrounds or national origins? A real need exists for operational facilities that can harmonize and integrate such differences. Strategic military planning requires the definition of an End State and the selection of indicators that can identify when such a condition has been achieved as well as the progress being made during execution of an operational plan. In Effect-Based Operations those activities require a direct statement of the nature of the Effective End State and specification of what effect the planners are striving to create.

The paper describes work that is being undertaken at the Swedish National Defence College and elsewhere to develop a new understanding of operational planning processes and to provide enhanced facilities to support those processes. In particular study of the behaviour of dynamical systems can provide useful information for use as indicators of system behaviour. Indicators that reflect the properties of models of an operational environment can provide significant advantages and support to operational planning processes. Development and use of the DMSCupol facility to support operational planning as well as the Strategic Management System (STRATMAS) to support the analysis and assessment of operational plan effectiveness and some of the capabilities of those facilities is outlined in the paper.

BACKGROUND

The Swedish Armed Forces are financing development of networked-enabled and focussed defence capabilities. Related work at the Swedish National Defence College (SNDC) is concentrated on the development and use of a decision environment to do research on group decision-making. The SNDC is setting up experiments in the SNDC laboratory involving new software methods, procedures, and hardware in order to produce an increasing understanding of military and other processes and how they might be commanded and controlled in order to achieve desired outcomes.

In order to support these activities and to bring some unity to the various discussions, requirements, and viewpoints, an artist was commissioned in 1996 to provide a rendering of the concepts expressed by project scientists in a visual object. The picture created by the artist and scientist team has served as a starting point for further discussions on the design of a future Swedish command post capable of being responsive to new and emerging challenges (Figure 1). This paper reports on some aspects of that work by describing the need for robust indicators that can provide information on the nature and success of on-going activities and phenomena of interest to military commanders, planners, and analysts. The paper also reports on how production of such indicators can support the ongoing research for a networked-enabled Swedish Command Post of the Future based on these and other concepts.