



NETWORK CENTRIC WARFARE

'Weapons are not the only instrument of power. Information, as it has often been said, is power'

Author Unknown

Introduction

At the onset of the 21st Century, Information Technology (IT) has been the major technological phenomenon which is responsible for rapid change in the society at an extremely rapid pace. It is evident that the world as a whole is transiting from Industrial Age to the Information Age. Warfare which is about human behaviour in a context of organised violence directed toward political ends, has no exception and has been influenced by the information technology. Since the war is a product of its age, the tools and tactics of how we fight has also evolved with the technology. The Chief of Naval Operations Admiral Jay Johnson of US Navy has called, Network Centric Warfare (NCW) 'a fundamental shift from Platform Centric Warfare'¹. He defined NCW as information superiority enabled concept of operations that generates increased combat power by networking sensors, decision makers, and shooters to achieve shared awareness, increased speed of command, higher tempo of operations, greater lethality, increased survivability and a degree of self synchronisation. In short, NCW translates information superiority into combat power by effectively linking knowledgeable entities in the battle space.

What is NCW?

The term NCW broadly describes the combination of strategies, emerging tactics, techniques, procedures and organisations that a fully or even a partially networked force can employ to create a decisive war fighting advantage². It is applicable at all three levels of warfare – strategic, operational and tactical, and across the full range of military operations from major combat operations to stability and peace keeping operations. NCW is an essential enabler for the conduct of effect based operations (EBO) which are sets of actions directed at shaping the behaviour of friends, neutrals and enemies in war, crisis and peace³.

NCW is more about networking than networks and it is about the increased combat power that can be generated by a network centric force. The power of NCW is derived from the effective linking or networking of knowledgeable entities that are geographically or hierarchically dispersed. The networking of knowledgeable entities enables sharing information and collaborating to develop shared awareness and also to collaborate with one another to achieve a degree of self-synchronisation. The net result is increased combat power.

¹Adm Jay Johnson, CNO, USN, Address given at the USN Institute Annapolis Maryland on 23 April 1997.

²John J Gartska, 'Network Centric Warfare Offers War Fighting Advantage', Signal, May 2003, p. 58

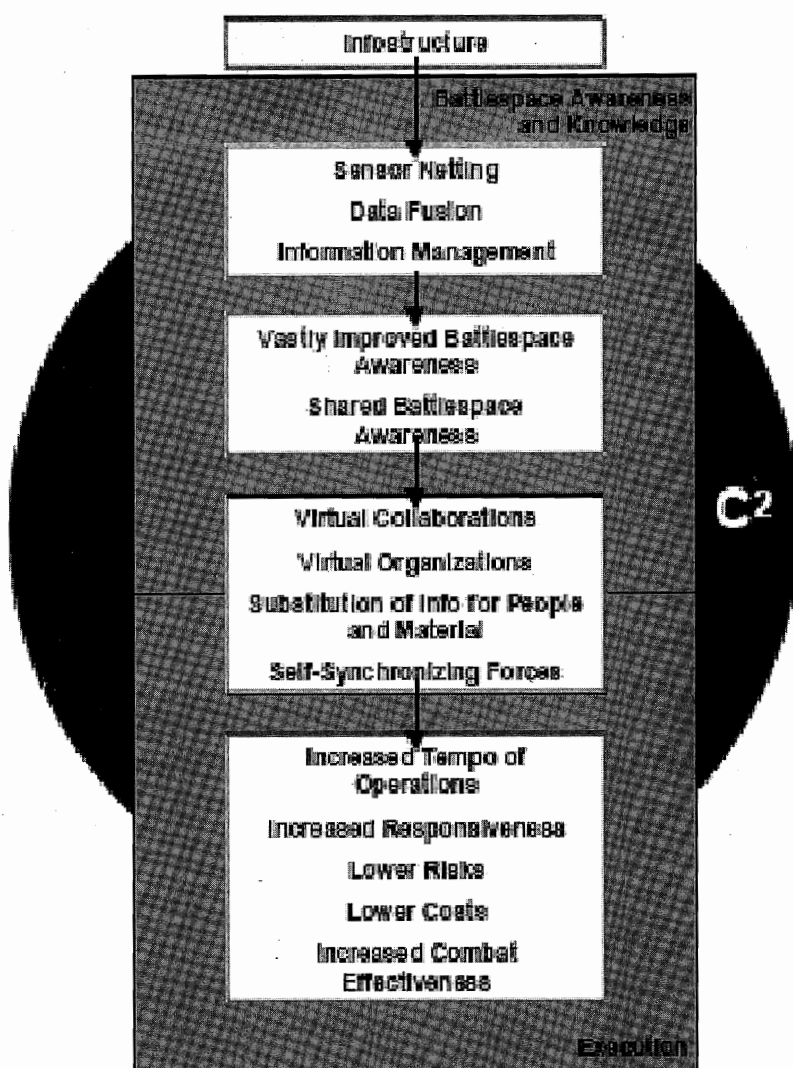
³Edward A Smith Jr., Effects Based Operations: Applying Network Centric Warfare in Peace, Crisis and War, Washington DC, Dept of Defence CCRP, 2002, p. 108.



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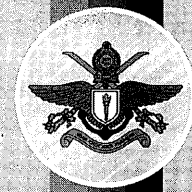
NCW is about human and organisational behaviour. It focuses on the combat power that can be generated from the effective linking or networking of the war fighting enterprise. It is characterised by the ability of geographically dispersed forces to create a high level of shared battle space awareness that can be exploited via self-synchronisation and other network-centric operations to achieve commander's intent.⁴ NCW supports speed of command – the conversion of superior information position to action. NCW is transparent to mission, force size and geography. It has the potential to contribute to the coalescence of the tactical, operational and strategic levels of war. In brief, NCW is not narrowly about technology, but broadly about an emerging military response to the information age.



The Military as a Network Centric Enterprise

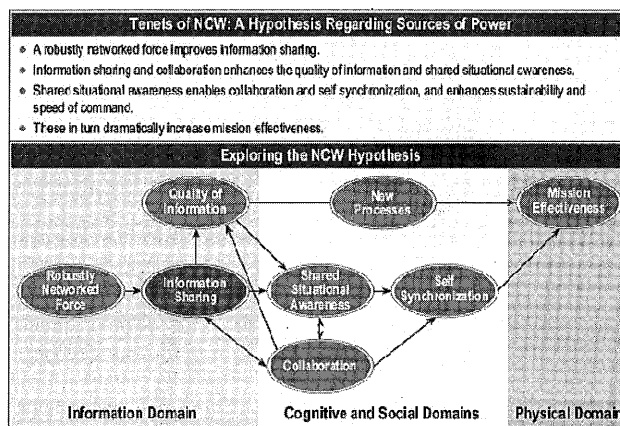
Source: Network Centric Warfare: Developing & Leveraging Information Superiority, 2nd Edition

⁴VADM AK Cebrowski, USN and JJ Garstka, Network Centric Warfare: Its Origin and Future' Proceedings of the Naval Institute 124:1, 1998, pp 28-35



Tenets of NCW

The basic tenets of NCW begin with the existence of a robustly networked force. Such a force can only be achieved if there is a high level of interoperability among mission participants and the systems that support them. Interoperability, the ability to work together, needs to simultaneously occur at a number of levels or layers to enable entities to communicate, share information and collaborate with.

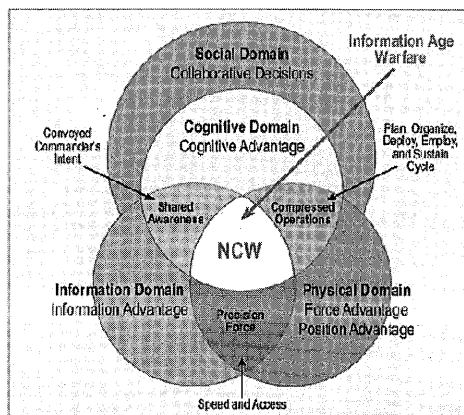


Source: The Implementation of NCW, US Department of Defence, Office of Force Transformation

Organisational Implications

Information networks will enable soldiers at the lowest levels to know as much as the most senior commanders about the combat situation throughout an entire theatre of operation. The result of this information networking will be a decentralisation of command authority with individual war fighters empowered as never before. It would offer unprecedented opportunities for initiative and independent operations by individuals and small units.

While a networked organisation may be ideal for sharing information gathering it may not be the best model for military commanders when dealing with tough decisions in combat as they must really make life and death decision and put subordinate at risk. War requires commanders, not collaborators. Thus, decision making may be a more hierarchical function.



Information Age Warfare – Domains of Conflict

Source: The Implementation of NCW, US Department of Defence, Office of Force Transformation

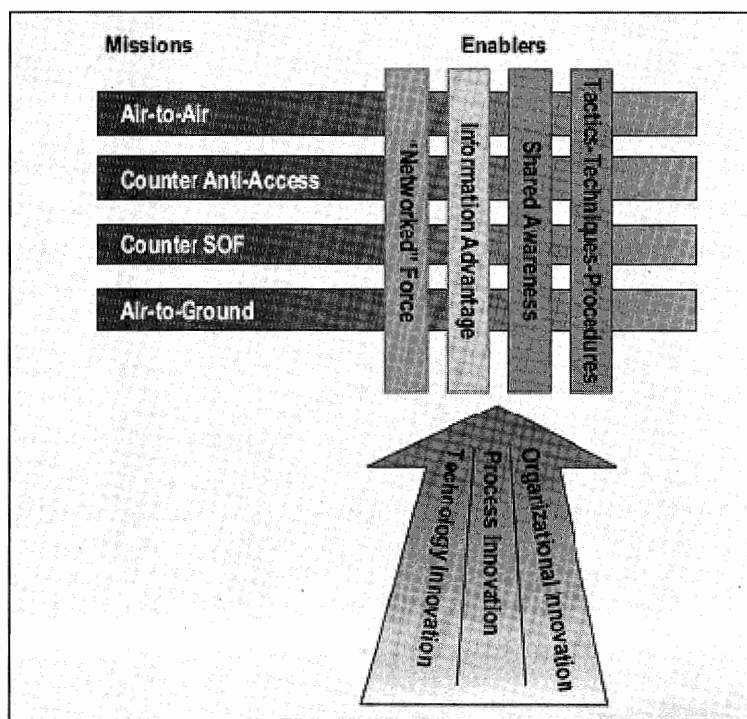


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Benefits of NCW

Traditional Method	NCW	Advantage
Commanders travel across the battlefield to be in the same place at the same time to plan operations	Commanders interact via video terminal conference, which result in a significant reduction in planning time and elimination of time to travel	Decreased planning time provides commanders with the operational flexibility to enable their forces to rehearse, move to contact, re-supply, repair or rest. Net result is enhanced combat power.
Deployment of large number of warriors and other resources in the battle space	Robustly networked force requires only limited number of personnel and other resources to meet the requirement	Quick operational capability enables operations commanders to deploy its troops and resources effectively
Deployment of support entities with operational units	Specialists provide virtual services from a centralised locations by moving information	Improved services are provided at reduced cost
Deployed forces communication with families is difficult	Efficient increased communication facilities via video conferencing, E-mails, telephones etc on daily basis	Deployed soldiers are able to solve family problems in close to real time, interact with family, worry goes down, morale goes up and operational effectiveness remains at a higher level over long deployments
Soldiers are to be released from the battlefield to attend training etc.	Distance learning facilities are carried out using video conferencing etc	Manning levels are maintained, opportunities for career development is extended to deployed forces, Operational proficiency and morale boost up
Intelligence are gathered independently and disseminates as and when required	Collaborative information sharing avails required intelligence at finger tips in databases	Significantly improved intelligence sharing and access to it from distance



Understanding the Evidence for NCW War Fighting Advantage

Source: The Implementation of NCW, US Department of Defence, Office of Force Transformation



Conclusion

The networking of sensors, weapons, command and control processes in NCW will undoubtedly improve the ability to conduct conventional warfare more efficiently and jointly. However, claims of eliminating risk, casualties and friction from war are not realistic. The revolutionary possibilities of network centric operations will not be new technologies but how it is integrated in a synergistic relationship so that shape and are shaped by doctrine, operational concepts and organizational adaptation. Older forms of warfare are likely to persist alongside the new. Speed of information flow will be critical to success but numbers and endurance will also count.

In order to take advantage of new technologies, one has to be fully engaged by now, looking not only for answers but also critically assessing the ideas, concepts, organisation and the fundamental tenets of the military culture. Successful adaptation of NCW requires an organizational cultural change as well. NCW cannot be achieved without widespread discussion, debate, experimentation and ultimately broad acceptance.

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