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**The Canadian Navy's Drive for Trust and Technology in Network-Centric Coalitions: Riding Comfortably Alongside, or Losing Ground in a Stern Chase?**

By/par

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## ABSTRACT

The Canadian Navy has long pursued interoperability with the United States Navy (USN) as a cornerstone of force development policies. This focus has recently increased in strategic importance due to the post-Cold War emergence of the U.S. as the dominant power in a unipolar world. There have always been challenges to effective interoperability; however the adoption of Network Centric Warfare as a key component of 21<sup>st</sup> Century USN doctrine has significantly compounded these challenges. Collaborative knowledge-based command and control of tomorrow's Carrier Strike Group battle-space will rely on classified wide area networks to which the Canadian Navy does not have access. Technological solutions are being developed to overcome these obstacles, however a restrictive information sharing culture in the U.S. is proving to be as difficult a problem as the technical one. Until these problems are resolved, the Canadian Navy's necessary vision of seamless technological and procedural interoperability with the USN will remain highly problematic.

## **The Canadian Navy's Drive for Trust and Technology in Network-Centric Coalitions: Riding Comfortably Alongside, or Losing Ground in a Stern Chase?**

...while US forces retain unilateral capability, whenever possible they will seek to operate alongside alliance or coalition forces...US commanders should expect to conduct operations as part of a multinational force.

U.S. Joint Publication 3-16<sup>1</sup>

We are not going to slow down because they [allies] are behind us. We cannot afford to do that. The US military must remain the pre-eminent military in the world when it comes to technology...the US is not going to give away its high technology systems, and allies do not have the money to catch up.

Lieutenant-General Joseph Kellogg, U.S. Army<sup>2</sup>

### **Introduction**

The world today is one of unprecedented and accelerating complexity. Chaos theories are increasing in popularity, if only as a means to explain the unexplainable and predict the unpredictable.<sup>3</sup> Futurists delight in debating the potential transnational impacts of forecast changes in information technology, economic globalization, climate and human security. Amid the noise, one constant has clearly emerged as influencing practically every aspect of global affairs – the preeminent stature of the United States of America. This fact has not been lost on the Canadian government, and most certainly not on the senior leadership of the Canadian Forces (CF).

A crucial component of American dominance is the current scale and capability of its Armed Forces. Throughout the final decade of the 20<sup>th</sup> century, the U.S. successfully

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<sup>1</sup> United States, Department of Defense, *Joint Doctrine for Multinational Operations - JP 3-16* (Washington, D.C.: U.S. Government Printing Office, 5 April 2000), I-3.

<sup>2</sup> Robert K. Ackerman, "Military Crystal Ball Portends Network-Centric Supremacy," *Signal Magazine*, (June 2001) [journal online]; available from <http://www.afcea.org/signal/archives/content/June 01/military-june.html>; Internet; accessed 14 October 2004.

<sup>3</sup> For an excellent discussion on Chaos Theory and its military applications, see Christopher D. Kolenda, "Transforming How We Fight: A Conceptual Approach," *Naval War College Review*, Vol 56, No 2 (Spring 2003), pp 100-122.

harnessed the tremendous latent power of information and weapons technologies, and applied it to refine their operational art, all under the rubric of the Revolution in Military Affairs (RMA). The result, at this early juncture in the Global War on Terror (GWOT), is a capacity for unprecedented American superiority of the global battle space – a space that is often described in terms of the Global Information Grid.<sup>4</sup> The stunning and lightning quick operational successes of Operations Enduring Freedom (Afghanistan 2001) and Iraqi Freedom (Iraq 2003) have left no doubt as to the ability of the U.S. to reach out globally in order to decisively defend its vital interests. At the same time, the American leadership has understood that the international community does not easily recognize the legitimacy or just causes of unilateral military actions. The recent declaration by the Secretary-General of the United Nations that the U.S.-led invasion of Iraq was illegal makes this clear.<sup>5</sup> Therefore, U.S. foreign policy has embraced the coalition environment as the ideal for hosting military campaigns, such as today's ongoing war in Iraq. However, like the Roman god Janus protecting the doorways of Roman houses, this policy has two distinct faces, one that looks forward to the political leverage accrued by participating in coalitions, and the other that looks back at the relative ease in working alone. As James Thomas described it:

The U.S. finds it politically difficult to take unilateral military action. At the same time, coalitions are widely perceived by the country's military and the general public as restricting U.S. freedom of action in conducting operations.<sup>6</sup>

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<sup>4</sup> United States, Department of Defense. *Directive Number 8100.1 Global Information Grid (GIG) Overarching Policy*

Nora Bensahel calls this the “coalition paradox”, and used it as the title of her doctoral thesis. As she put it,

...because there is a necessary tradeoff between military efficiency and political cohesion, the coalition may be unable to achieve either its military or its geo-strategic objectives.<sup>7</sup>

The leading and transformational role assumed by the United States Navy (USN) throughout the RMA, and its performance during recent and ongoing operations has been very impressive. Network-centric operations, precision missile strike, and strategic lift have all combined to provide the USN with the ability to completely dominate the littoral sea-shore interface. This paper will focus on the command and control element of network-centric sea operations, and the challenges to effective Canadian participation in coalition warfare that it presents. The USN is pressing way ahead with its network-centric vision of sea power, and allies like Canada are lagging behind. The information technology gap is increasing. Specifically, the sharing of critical information and the development of the technology to do so is becoming increasingly problematic. The difference between the command and control of coalition operations during the Gulf War in 1991, and the GWOT in 2001 is the technology that hosts knowledge-based, network-centric processes. The technology includes barriers to the critical operational knowledge that it carries. Moreover, the element of trust between Canada and the U.S. is in flux. There is a fundamental and operationally debilitating tension between the open architecture of net-centric warfare, and the closed doors to the information-sharing necessary to support it. In short, there is reason to be concerned, and reason to question whether the Navy is doing the right thing.

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<sup>7</sup> Nora Bensahel, *The Coalition Paradox: The Politics of Military Cooperation*, (Doctoral Thesis, Stanford University, 1999), 7.

This paper will examine the two key issues – technology and trust, and conclude that indeed, the Navy is on track in its pursuit of USN interoperability. However, it is not a rosy picture. Are we comfortably riding alongside the coalition Flagship, or are we caught up in an uncertain and slow stern chase? I believe that it is the latter. Essentially, it appears that there is no credible option competing with the continued drive for interoperability, other than significantly diminished participation in, or even complete withdrawal from, USN-dominated naval alliances. The associated risks include the possibility of a quick descent into what could be considered operational irrelevance in international waters. I must agree with Anne Griffiths who stated:

Unless Canadians are willing to pump huge resources into the military and are willing to take a stand alone on some international issues, we either have to work with the U.S. or we have to abandon the Canadian tradition of internationalism.<sup>8</sup>

### **Canada and Coalitions**

In order to understand why the Canadian Navy is pursuing a doctrine of coalition interoperability with the USN, it would be useful at the outset to examine the historical precedents that have led to present day decisions. Desmond Morton has described Canada as “a country that has never fought a foreign war outside an alliance.”<sup>9</sup> Douglas Bland has expanded on the theme by saying “interoperability is as Canadian as a beaver.”<sup>10</sup> They’re both right. Due to small size, not of the country, but of the population and industrial base, Canada has always chosen to side with a more powerful partner with

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<sup>8</sup>Ann L. Griffiths, “Preface”, in *The Canadian Forces and Interoperability: Panacea or Perdition?*, ed. Ann L. Griffiths, (Dalhousie University Centre for Foreign Policy Studies, 2002), ix.

<sup>9</sup> Desmond Morton, “Interoperability and Its Consequences”, in *The Canadian Forces and Interoperability: Panacea or Perdition?*, ed. Ann L. Griffiths, (Dalhousie University Centre for Foreign Policy Studies, 2002), 160.

<sup>10</sup> Douglas L. Bland, “Military Interoperability: As Canadian as a Beaver”, in *The Canadian Forces and Interoperability: Panacea or Perdition?*, ed. Ann L. Griffiths, (Dalhousie University Centre for Foreign Policy Studies, 2002), 51.

whom common strategic and cultural values were shared, and through whom influence might be applied on the international stage.

From Confederation through the first half of the 20<sup>th</sup> century that partner was Great Britain. With World War II came the transfer of dominant western geopolitical power status from Britain to the U.S. Concurrently, Canada began the transition to a new senior partner. Indeed, World War II was a battle of coalitions, and as Stephen Cimbala has observed,

The Normandy invasion demanded of U.S., Canadian and British commanders a commitment to intelligence sharing, cooperative planning, and combined execution of operations on a scale without precedent.<sup>11</sup>

Through the Cold War, this close relationship was reflected at sea through shared surveillance efforts against Soviet ballistic missile firing submarines on station within range of North America.<sup>12</sup> When the Cuban Missile Crisis erupted in 1962, Canadian admirals dispatched several warships from Halifax (apparently in the absence of political direction from Ottawa) to relieve USN warships on Atlantic patrol in order to free them to contribute to the Cuban blockade.<sup>13</sup> In later years, NATO blue-water doctrine evolved to the point where, in the 1980s, Halifax-based Canadian destroyer squadrons routinely exercised with USN Carrier Battle Groups (CVBG) as part of NATO's Striking Fleet Atlantic forward deployed to the Norwegian littoral in order to contain the Soviet threat.<sup>14</sup>

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<sup>11</sup> Stephen J. Cimbala, "The Politics of Interoperability", in *The Canadian Forces and Interoperability: Panacea or Perdition?*, ed. Ann L. Griffiths, (Dalhousie University Centre for Foreign Policy Studies, 2002), 73.

<sup>12</sup> John L. Orr, "The Canadian Forces and the Doctrine of Interoperability: A Response", in *The Canadian Forces and Interoperability: Panacea or Perdition?*, ed. Ann L. Griffiths, (Dalhousie University Centre for Foreign Policy Studies, 2002), 191.

<sup>13</sup> Peter T. Haydon, *The 1962 Cuban Missile Crisis: Canadian Involvement Reconsidered*, (Toronto: Canadian Institute of Strategic Studies, 1993).

<sup>14</sup> Canada. Department of National Defence. *1987 Defence White Paper*. (Ottawa: Canada Communications Group, 1987).



There are many Canadian defence analysts, as well as serving and retired senior officers, who have taken to describing the 1990s as the “decade of darkness”, due to the terrible upheaval caused by significant cut-backs and rust-out, increased operational tempo instead of the expected post-Cold War dividend, and the gut-wrenching after-effects of the Somalia Inquiry.<sup>15</sup> Yet for the Canadian Navy, relative to the other Services, the masthead light was shining brightly. During Operation Friction, Canada’s response to the Iraqi invasion of Kuwait in 1990, a three-ship Task Group joined the U.S.-led, U.N.-sponsored coalition in the Arabian Gulf, as part of the multi-national maritime force. Although the ships lacked an area air defence capability necessary to counter the Iraqi anti-ship missile threat, the high level of communications and procedural interoperability with USN forces enjoyed by the Canadian ships led to the Task Group Commander being appointed a subordinate warfare commander responsible for the Combined Logistics Force (CLF). The CLF played an important role in the southern Arabian Gulf, ensuring the force protection of auxiliary vessels tasked with delivering fuel, munitions and critical stores to the strike and carrier groups stationed farther north. The force protection assets were multinational ships from navies serving nations as varied as Argentina and Denmark. This presented a unique challenge, which required the Canadians to act as an intermediary between the U.S. leadership and the rest of the Force – a sort of step-up or step-down transformer.<sup>16</sup> Dan Middlemiss agrees with this assessment:

Moreover, astute Canadian commanders in situ were able to parlay the benefits of a reputation for reliable performance, naval vessels that were highly interoperable (especially in communications), and the intangible attribute of ‘understanding the

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<sup>15</sup> Sharpe, G.E. *The Decade of Darkness*, Canadian Forces Leadership Institute Paper, 2003.

<sup>16</sup> For in-depth analysis of Operation Friction, see Richard H. Gimblett and Jean H. Morin, *The Canadian Forces in the Persian Gulf: Operation Friction 1990-1991*, (Toronto: Dundurn Press, 1997).

way they [the Americans] do business' into a highly visible, Combined Logistics Command sub-command of the coalition's operations – a distinction unique to Canada during the Gulf conflict.<sup>17</sup>

Along with the introduction of the multi-purpose Halifax Class frigates and the modernization of the Iroquois Class destroyers (which included the area air defence capability that had been missed during Op Friction), the mid-90s saw increased emphasis on working with the USN. As Commander Mark Tunnicliffe, a naval planner in Ottawa has explained,

The key institutional imperative for the Canadian Navy has been interoperability with allied navies, with a doctrinal and material imperative to integrate into the command and control structures of its senior partner.<sup>18</sup>

The Pacific fleet seized the initiative in 1995, with HMCS Calgary deploying to Op Tranquility in support of U.N. sanctions against Iraq. The following years saw continued single ship deployments, with each one reape reap

attacks, an impressive undertaking the likes of which had not been seen since the Korean War. As in 1990-91, Canada was able to leverage the successes of integration and interoperability in order to secure key non-U.S. warfare commands such as Amphibious Support Force Defence Commander during the invasion of Afghanistan in 2001, and command of Task Force 151, the multinational force responsible for interdiction operations in the Gulf of Oman and Southern Arabian Gulf during the 2003 war in Iraq.<sup>20</sup> Again, a unique ability of the Canadian ships to bridge coalition interoperability gaps with the USN proved to be a main ingredient of multi-national success. Still, before we slap ourselves on the back, it is important to ensure the maintenance of a balanced perspective on how effective the interoperability really was. As will be shown, current levels of technical and doctrinal interoperability do not necessarily provide the panacea for which Canadian naval officers yearn. In 1999, for example, a USN officer was compelled to write: “Even the most technologically advanced allied nations...still have not achieved the level of technical sophistication and integration that the US demonstrated in the [90-91] Gulf War.”<sup>21</sup>

It is not surprising that the increased dominance of the U.S. military in a unipolar world is having a profound impact on the development of CF doctrine at this early juncture in the 21<sup>st</sup> century. At the strategic level, in the absence of coherent, informed and timely political direction on national defence (the current White Paper is over ten years old), the CF has identified increased interoperability with U.S. Forces in U.S.-led

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<sup>20</sup> Richard Gimblett,, *Operation Apollo. The Golden Age of the Canadian Navy in the War Against Terrorism*, (Ottawa: Magic Light Publishing, 2004), 107-112.

<sup>21</sup> Commander James Carr USN, “Network Centric Coalitions: Pull, Pass, or Plug-in?” (Newport: Naval War College Paper, 1999), 13.

expeditionary coalitions as the prime mover behind future force development and generation. Indeed, the draft CF Strategic Operating Concept states that:

The ability of the CF to integrate into a coalition is imperative, and for the most part will be based upon a robust networking ability...CF networks must be able to plug into those of the US forces...<sup>22</sup>

Perhaps the reticence of the political leadership to fully address the issue of Canadian-U.S. interoperability, as part of a wider open public debate on national defence and foreign affairs policies, is a result of an assumption, annoyingly popular in the anti-American crowd, that increased interoperability implies proportional decreases in national sovereignty. In this era of transnational threats and concerns over homeland vulnerabilities and continental security, I believe that nothing could be farther from the truth, but that would constitute the subject of another paper.<sup>23</sup>

The Canadian Navy has embraced both the RMA and U.S. interoperability as cornerstones of its force development and generation policies – all with the aim of sustaining operational relevance in support of traditional strategic policy objectives. To Dalhousie University's Dan Middlemiss, it all makes sense:

The U.S. is leading the RMA, and thus, by remaining interoperable with U.S. forces, Canada will remain interoperable with any major, future coalition force led by the U.S.<sup>24</sup>

Integration of Canadian warships into U.S. CVBGs, and the recent operational level Canadian leadership of a Coalition Task Force in the Arabian Gulf during Operation Enduring Freedom by Commodore Roger Girouard underscore this commitment.<sup>25</sup>

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<sup>22</sup> Canada. Department of National Defence, *Canadian Forces Strategic Operating Concept (Draft 4.4)*, Ottawa, ON: Department of National Defence, DCDS, 21 May 2004, 30.

<sup>23</sup> Richard H. Gimblett, "Canada-US Interoperability: Towards a Home Port Division of the United States Navy?", in *The Canadian Forces and Interoperability: Panacea or Perdition?*, ed. Ann L. Griffiths, (Dalhousie University Centre for Foreign Policy Studies, 2002), 101.

<sup>24</sup> Middlemiss, "Doctrine of Interoperability," 26.

<sup>25</sup> Gimblett, *Operation Apollo...*, 111.

Notwithstanding the fact that the Navy is shaping a course towards seamless USN integration, and that this same course could pass close to, or even over the dangerous rocky ground of divergent political will, there are significant challenges still to be faced at the operational level in order to achieve success.

### **The USN and Network-Centric Warfare**

The preceding discussion could lead to the conclusion that all is well with the Canadian Navy and that it has consistently made the right force development decisions to ensure that ships can be generated operationally ready to work capably in U.S.-led coalitions. Indeed, given several consecutive years of defence budget cuts in the '90s, as well as the 1994 White Paper that directed the CF to sustain the ability to “to fight alongside the best, against the best”,<sup>26</sup> I believe that the Navy’s progress has been remarkable. But nothing is ever as it seems, and the most disconcerting issue facing naval planners today is that the USN is transforming at a rate and in directions over which Ottawa has virtually no control. A major concern is that the CF’s commitment to “rapid and seamless sensor-to-shooter links”<sup>27</sup> and integrated coalition Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) structures that will allow “dynamic military targets identified during collaborative planning to be effectively engaged within a collapsed sensor-to-shooter timeframe”<sup>28</sup> may be beyond the reasonable expectations of the “Next Navy”, as described in “Leadmark”,

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<sup>26</sup> Canada. Department of National Defence, *1994 Defence White Paper* (Ottawa: Canada Communications Group, 1994), 14.

<sup>27</sup> *CF Strategic Operating Concept*, 21.

<sup>28</sup> Canada. Department of National Defence, *CF Joint Operating Concept 2012* (Draft), (Ottawa: Director General Joint Force Development, 2003), 9.

Canada's naval strategic guidance document. As Robert Riscassi has observed in articulating his principles of coalition warfare,

Unless the architecture incorporates the ability to share with, and in turn receive from other national forces, the battlefield will not be seamless and significant risks will be present.<sup>29</sup>

To understand why, it is important to measure the increasingly rapid pulse of the USN. Since Vice-Admiral Arthur Cebrowski explained his vision of Network-Centric Warfare (NCW) in 1998, American naval doctrine has embraced the concepts of netted warriors on a collaborative weapons and sensor grid, where each tactical unit represents a node.<sup>30</sup> With the introduction of the "Cooperative Engagement Capability", this concept was pushed farther to imply that a node (ship) could be tasked to engage an over-the-horizon target based on targeting data originating in another node. This node could be another ship, or any other tactical asset in the joint battle space, including for example an unmanned aerial vehicle several hundred miles inland. Furthermore, in an article published late last year, two USN Admirals described the "Next Revolution at Sea" as being about getting "connected, modular and unmanned."<sup>31</sup> They described a common and open combat systems architecture working across different platforms and services from which ships will "launch and link to a school or flock of unmanned vehicles that will carry sensors and weapons over land and under the sea."<sup>32</sup> Concurrently, another senior USN officer, Rear Admiral Thomas Zelibor, referred to this common architecture in terms of a new USN concept introduced in 2002 by the Chief of Naval Operations

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<sup>29</sup> Robert W. Riscassi, "Principles for Coalition Warfare." *Joint Forces Quarterly*, no.1 (Summer 1993): 12.

<sup>30</sup> Cebrowski, Arthur K. and John J. Garstka. "Network-Centric Warfare: Its Origin and Future." *U. S. Naval Institute Proceedings* 124, no. 1 (January 1998): 28-35.

<sup>31</sup> Rear Admiral H.G. Ulrich III and Rear Admiral Mark J. Edwards, USN, "The Next Revolution at Sea", *U. S. Naval Institute Proceedings* 129, no. 10 (October 2003): 67.

<sup>32</sup> *Ibid*: 66.

Admiral Vern Clark called FORCEnet. Building on Admiral Clark's description of FORCEnet as the "glue that binds the Sea Power 21 Vision elements of Sea Strike, Sea Shield and Sea Basing"<sup>33</sup>, Rear Admiral Zelibor stated that FORCEnet will serve as the backbone or digital integrator of disparate systems on the web<sup>34</sup>. Just recently, yet another senior officer Rear Admiral James Stavridis concluded:

The resultant constellation of widely dispersed, netted naval power integrated with joint and coalition forces across a unified battle space will operationalize the USN's Sea Power 21 vision.<sup>35</sup>

So, the question is: what do the prognostications of several USN Admirals have to do with the Canadian Navy? Lots. As one more junior USN officer put it:

The entire concept of using Net Centric warfare to a Commander's advantage is predicated on information superiority achieved by fusing multi-source data into a common picture, and then sharing that picture with all applicable echelons.<sup>36</sup>

The key is the reference to coalition forces in Rear Admiral Stavridis' remarks, and the question as to whether or not they constitute "applicable echelons". It is telling that this is one of the few references to coalition operations to be found in recent articles published by senior USN officers. It is easy to conclude that the USN is steaming ahead with Sea Power 21, without a clear idea of how this might impact on the USN's ability to effectively integrate multinational ships, as stipulated in U.S. combined doctrine.

Conversely, as Nora Bensahel has described it,

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<sup>33</sup> Admiral Vern Clark, USN, "Sea Power 21", *U. S. Naval Institute Proceedings* 128, no. 10 (October 2002) [journal online]; available from <http://www.usni.org/proceedings/Articles02/proCNO10.htm>; Internet; accessed 14 October 2004.

<sup>34</sup> Rear Admiral Thomas E. Zelibor, "FORCEnet is Navy's Future", *Armed Forces Journal*, (December 2003): 48-53.

<sup>35</sup> Rear Admiral James Stavridis and Captain Frank Pandolfe, USN, "From Sword to Shield: Naval Forces in the Global War on Terror", *U.S. Navy Institute of Proceedings* 130, no. 8 (August 2004): 49.

<sup>36</sup> Lieutenant Commander Lawrence R. diRusso, "Casting our Net: Can Network Centric Warfare and Multinational Operations Coexist?", (Newport: Naval War College Paper, 2001), 4.

Allies fear that they will become relegated to peripheral roles as they become increasingly unable to communicate and operate with the U.S., and that this will undermine the foundations of their alliances.<sup>37</sup>

Certainly the USN wishes to press ahead with coalition interoperability, but to what degree? Commander James Carr, USN has been quite blunt: “Hence, the U.S. is becoming increasingly unable to conduct coalition operations, and interoperability is becoming a remote memory.”<sup>38</sup>

Even though Admiral Clark recently extolled his senior leaders to “define baseline architecture and open standards required for the use of secure web, email, chat, and collaboration in an ad hoc coalition”<sup>39</sup>, there remain significant technological and cultural impediments to be overcome before the Admiral’s objectives can be met.

For example, how can Canada, as well as other allies, get onto the coalition (read U.S.) grid, and once there contribute in an operationally relevant way? Put another way, how are the challenges resident in emergent information technologies going to be addressed?

Perhaps more importantly, how much does the USN really want to make coalition operations work? The American Services have found it tough enough to move towards the Joint imperatives of the Goldwater-Nichols Act of 1986. Listen to any U.S. war-fighter from any of the four Services describe their perceptions of how joint fires should be commanded and controlled in the littoral battle space, and the challenges of inter-service rivalry and interoperability become crystal clear. If one takes those challenges

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<sup>37</sup> Bensahel, *Coalition Paradox*, 24.

<sup>38</sup> Carr, “Network Centric Coalitions”, 14.

<sup>39</sup> United States Navy, “CNO Guidance for 2004: Accelerating Our Advantages,” <http://www.chinfo.navy.mil/navpalib/cno/clark-guidance2004.html>; Internet; accessed 15 October 2004.



one step further, into the Combined battle-space, the complexity of the problems can easily seem overwhelming. As Commander Carr went on to hypothesize,

American forces may find themselves at a critical point in the future choosing to operate unilaterally, because it is easier, quicker and more effective, and operations with non-networked allies would expose critical vulnerabilities to the adversary.<sup>40</sup>

### **The Technical Challenge**

The key to the professional command and control exercised by Canadian Task Group Commanders during Op Apollo was, as previously stated, interoperability with their U.S. counterparts and senior officers, up to and including the Commander U.S. Fifth Fleet, a Vice-Admiral. The glue, in this case, was the Combined Wide Area Network or COWAN, an AUSCANUKUS or “4-eyes” allied network designed to facilitate the exchange of classified coalition information up to and including Secret, plus attachments.<sup>41</sup> There are dozens of similar stand-alone networks hosted by the U.S. military worldwide in order to share various levels of classified information with allies, either as part of multilateral arrangements or, more frequently, as part of bilateral agreements. It must be stressed that these coalition systems are stand-alone and physically separate from national systems. This means that operators must identify releasable and necessary information on national systems such as command briefings, and “air-gap” it to the COWAN for coalition distribution. The process is neither rapid nor seamless.

Use of the COWAN was spearheaded in the Canadian Pacific Fleet during exercises with both the U.S. Third Fleet and the Royal Australian Navy in the late-90s, as

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<sup>40</sup> Carr, “Network Centric Coalitions”, 16.

<sup>41</sup> The “4-Eyes” Nations are Australia, Canada, the United Kingdom and the United States.

well as during the single-ship CVBG-integration deployments. Ironically, the Atlantic Fleet Task Group that deployed to the Arabian Sea in October 2001 to join the War on Terror had to scramble to fit the ships with COWAN, and train their operators prior to arriving in theatre. In fact, the Atlantic Fleet Commander, Commodore Drew Robertson had only just learned of COWAN and its potential applications through a letter from the Pacific Fleet Chief of Staff in June 2001. After 9/11, he retrieved the letter and directed his staff to ensure that the ships deploying for Op Apollo would be fitted with COWAN.<sup>42</sup> Interestingly enough, a similar and concurrent decision was being made in Norfolk with USN Second Fleet staff officers, who were not yet up to speed with Third Fleet developments.<sup>43</sup> Commodore Robertson concluded that if it hadn't been for COWAN connectivity, he would not have been able to enjoy the trust and scope of command delegated to him as Amphibious Readiness Group Defense Commander.<sup>44</sup> Captain Tom Wisecup, a senior Fifth Fleet line officer with whom Robertson dealt extensively at sea agreed when referring to coalition operations in the Arabian Sea: "COWAN brought integration to a level we would not have thought possible."<sup>45</sup>

Yet was it enough? I don't think so. Notwithstanding this praise for COWAN, the problem was and remains that COWAN is not where the real battle is being fought, at least not yet, and perhaps never. Certainly it was invaluable for exchanging timely coalition command intentions and coordinating maritime interdiction operations in the Arabian theatre, but it only offered a small and sometimes opaque window into the total

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<sup>42</sup> Rear Admiral Drew W. Robertson, email to author 26 September 2004.

<sup>43</sup> Captain Phil Wisecup and Lieutenant Tom Williams, USN, "Enduring Freedom: Making Coalition Naval Warfare Work," *U. S. Naval Institute Proceedings* 128, no. 9 (September 2002) [journal online]; available from <http://www.usni.org/proceedings/Articles02/proCNO10.htm>; Internet; accessed 15 October 2004.

<sup>44</sup> Rear Admiral Robertson, email to author 26 September 2004.

<sup>45</sup> Captain Phil Wisecup and Lieutenant Tom Williams, USN, "Enduring Freedom: Making Coalition Naval Warfare Work," *U. S. Naval Institute Proceedings* 128, no. 9 (September 2002) [journal online]; available from <http://www.usni.org/proceedings/Articles02/proCNO10.htm>; Internet; accessed 15 October 2004.

situational awareness of the USN's battle space.<sup>46</sup> To illustrate this point, consider the following additional remarks of Rear-Admiral Zelibor, in reference to his command of Task Force 50, the USS Eisenhower CVBG deployed to the Arabian Gulf during Operation Enduring Freedom:

We were introduced to, and rapidly embraced a process using a 'knowledge web'. It lived on the Secret Internet Protocol Router Network, or SIPRNET... Warfare commanders and staff personnel maintained Web pages for a set of warfare areas. The pages were accessible across the battle group and, in reality, to anyone with access to SIPRNET... With access to the Web pages and multiple SIPRNET chat rooms for online discussions and reporting, our war-fighting processes improved dramatically. The knowledge web became ground truth for the battle group.<sup>47</sup>

That sounds very slick, and is a strong endorsement of the principles of net-centric operations. However, the problem, from a coalition perspective, is that there is no mention of the COWAN in the Admiral's remarks. The SIPRNET on which the 'knowledge web' lives, is a U.S.-only network. Access to Canadians is strictly denied and, therefore, by extension, so is the "ground truth for the battle group". The reason why access to the SIPRNET is restricted to Americans is that it is populated by national websites that may have information classified up to and including Secret. Just like surfing the Internet, authorized users can visit classified web pages hosted by virtually every U.S. Service, Command, defense organization, and related agency. Like the Internet, it provides users with an extremely effective knowledge web of the information needed to acquire information superiority in a net-worked battle-space. This is perfectly understandable from a U.S. national operating perspective, but the door is shut and will remain shut to allies for reasons of national security.

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<sup>46</sup> Rear Admiral Robertson, email 26 September 2004.

<sup>47</sup> Rear Admiral Zelibor, "FORCEnet...", 50.

The following personal anecdote will further illustrate the challenges associated with SIPRNET access denial. In 2001 when I reported for duty at a new position established for a Canadian officer in U.S. Space Command Headquarters (Computer Network Defense Division) in Colorado Springs, I was assigned a desk in the hallway outside of the office cubicles, as there was concern among my American colleagues that I might be tempted to “shoulder-surf”, or glean classified information by deliberately or inadvertently glancing at the information displayed on their SIPRNET monitors. Although their concerns were quickly addressed by getting to know and trust me as a professional ally, the SIPRNET block proved to have a hugely adverse affect on my ability to contribute meaningfully to the Division’s mission.

It follows then, that Canadian warships integrating into a future U.S.-led coalition that is deriving command and control situational awareness from a SIPRNET backbone, will find themselves out in the “hallway”, or on the periphery of the web looking in. This is not a minor problem, and must be addressed if the Navy is going to continue investing heavily in USN interoperability. A Canadian staff officer in a Combined Headquarters would not normally be put at personal risk if he is denied information, but a Canadian coalition warship Captain certainly is and, more importantly, so is his crew. For example, if he doesn’t have the same real-time appreciation of the littoral threat, and what’s being done to defeat it, whether that threat is enemy conventional submarines or coastal anti-shiping missile batteries, then he is operating at higher risk than his USN colleagues in the battle group. Clearly, that would not and should not be acceptable in Ottawa.

The potential panacea to resolve this problem is being touted as the Coalition Wide Area Network or CWAN. The CWAN concept is the product of the Multinational Interoperability Council (MIC) that was established in 1999:

To provide a multinational forum to address coalition operational requirements, identify coalition information interoperability issues, and develop solutions that positively impact on coalition operational policy, doctrine, and planning.<sup>48</sup>

Its members are the previously mentioned 4-Eyes group, plus France and Germany. It is an operations-focused group that works closely with the more technically minded Combined Communications Electronics Board (CCEB).<sup>49</sup> Essentially, the MIC has taken on the task of articulating operational network requirements, and the CCEB has taken on the task of designing the system to meet those requirements.

The fact that the CCEB is an AUSCANNZUKUS or 5-Eyes arrangement that includes New Zealand as a founding member, and does not include France or Germany (from the MIC), highlights one of the principal challenges to seamless interoperability – when, with whom, and how does a nation choose to share sensitive information?

What sets the notional CWAN apart from other wide area networks is its operating concept. The CWAN aim is to link national command and control systems of participating coalition partners (currently limited to the six MIC member nations) and join them in a common coalition domain at the operational and strategic levels. As stated in the MIC CWAN Concept of Operations,

The CWAN, when fully implemented, will provide an apparently seamless and robust network capable of exchanging and sharing information that is

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<sup>48</sup> Multinational Interoperability Council, “Purpose,” <http://www.defenselink.mil/nii/org/c3is/ccbm/mic.html>; Internet; accessed 15 October 2004.

<sup>49</sup> Combined Communications Electronics Board (CCEB), “An Introduction to the CCEB,” <http://www.dtic.mil/jcs/j6/cceb/>; Internet; accessed 15 October 2004.

operationally relevant to all coalition partners involved in multinational operations.<sup>50</sup>

As an aside, it is interesting to note that the vision is very similar to that found in the draft CF Joint Operating Concept for 2012 (CF JOC), which states, “it will be critical for our integrated C4ISR architecture to be interoperable with those of our security partners, and particularly the U.S. as our closest ally.”<sup>51</sup> My impression is that the success of the CF JOC has been based on a high-risk assumption – that seamless interoperability with the U.S. will occur as a matter of course. Time will tell, but as this paper is arguing, CF planners should be wary of taking the JOC vision for granted, at least at sea.

With respect to the CWAN, the implication for the Navy is that the proposed architecture would allow real time command and control information exchange into the coalition domain from the SIPRNET, and from allied systems such as Canada’s national classified equivalent - the TITAN or J2CIS network. This would eliminate the need for stand-alone coalition systems such as the previously described COWAN. Effectively, USN operators would not need to “air-gap” critical, and (hopefully, by extension) coalition releasable information to the COWAN. Instead, they could execute a permissive command that would flag SIPRNET information as automatically releasable to the coalition. The information, including access to a full range of distributed collaborative planning services would pass through a Boundary Protection Service (BPS) and into the coalition domain. This would greatly facilitate effective command and control within a net-centric coalition battle space, by getting Canadian ships as close as possible to Rear-

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<sup>50</sup> Multinational Interoperability Council, “Coalition Wide Area Network Concept of Operations”, quoted in CCEB, “Coalition Networking Strategy,” <http://www.dtic.mil/jcs/j6/cceb/>; Internet; accessed 15 October 2004, 4.

<sup>51</sup> *CF Joint Operating Concept 2012* (Draft), 6.

Admiral Zelibor's SIPRNET-based battle rhythm, without compromising U.S. national security concerns.<sup>52</sup>

While all this sounds good, unfortunately the multi-level security technology required to facilitate the dynamic and secure flow of information through the CWAN BPS has not yet been developed, nor have the associated multi-lateral accreditation standards been devised. The MIC assesses that it is simply a matter of time before the CCEB can harness the technical acumen necessary to overcome the BPS challenge, and has set 2006 as the target year for resolution. Judging by the exponential progress that has been made in information technology since the advent of computer networking, I would like to agree with the MIC's optimistic assessment. Yet, it is obviously not a simple technical fix, otherwise it would have been developed and implemented by now, and not only to support military operations. Certainly there are potential commercial applications that are driving research and development in this area. Therefore, for the near-term, and quite possibly until 2012 and beyond, a more cautious optimism is appropriate. This approach is underscored by the MIC itself that warned, in its Strategic Plan published earlier in 2004,

Regrettably, the desired end state cannot yet be achieved. Until Multi-Level Security solutions are developed, the realistic and achievable End State is the exchange of information between national classified systems using multiple, cryptographically-separated domains to connect different nations and communities of interest.<sup>53</sup>

The related but separate network accreditation challenge should not to be taken lightly either. Each nation, and particularly the U.S., has developed rigorous technical,

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<sup>52</sup> Multinational Interoperability Council, "Strategic Plan Version 4.0 March 10 2004," <http://www.defenselink.mil/nii/org/c3is/cbcm/mic.html>; Internet; accessed 15 October 2004.

<sup>53</sup> CCEB, "Coalition Networking Strategy," <http://www.dtic.mil/jcs/j6/cceb/>; Internet; accessed 15 October 2004, 6.

training, and operating standards aimed at ensuring that unauthorized access is never gained to the classified information carried on national networks. There is an almost intuitive resistance among many U.S. network security specialists to allowing other nations to connect to the SIPRNET, no matter how robust the network defence. They are keenly aware that sophisticated cyber-attack capabilities against strategic critical infrastructures have matured rapidly in recent years, and that a successful enemy hack into the SIPRNET, by way of a potentially less secure coalition domain, would be a profound compromise of national security.

Another problem, related not just to the CWAN, but also to generic NCW, is the issue of bandwidth. Collaborative web-based command and control applications require significant amounts of leased satellite bandwidth. Canada's frigates typically sail with a 64 or 128 kilobyte/second (kbs) capacity. That is not much, when one considers that a standard residential high-speed Internet connection (100 megabytes/sec) provides one thousand times more capacity. Such capacity translates directly into the amount of information that can be transferred on a network, and, just as importantly, the rate at which it can be shared. Through judicious planning and discipline, frigate Captains can just manage the increasing demands that collaborative services are placing on their limited bandwidth access. Therefore, the ability to optimize the CWAN vision will remain highly problematic.

Interestingly, the two Canadian warships that are most bandwidth capable are the Atlantic Fleet's Iroquois Class Destroyers. Fitted with Super High Frequency (SHF) satellite transceivers in the late '90s in support of the rotational requirement for a



Canadian Commodore to command the NATO Rapid Response Force – Maritime<sup>54</sup>, these command and control ships enjoy a wide bandwidth access to the British Skynet satellite constellation. When I commanded HMCS Iroquois during Op Apollo in 2003, we benefited enormously from a dual-SHF 256 kbs lease, in addition to the standard 128 kbs frigate arrangement, and finally to a 64 kbs INMARSAT lease. This enlarged (704 kbs) communications pipe allowed Iroquois to meet her commitments as Flagship to the multinational Task Force 151 commander, Canadian Commodore Roger Girouard. In fact, Iroquois' command and control capability was precisely the reason why Girouard had requested that she be dispatched in 2003, as he was anticipating the added complexity and increasing demands for real-time information that would be needed if and when the U.S. decided to invade Iraq.<sup>55</sup> Ironically, although still very capable at over 30 years of age, the Iroquois Class is rapidly approaching end-life. There is no current project funded to replace the Class and its command and control capability.

On the positive side, the MIC/CCEB partnership is gaining increased visibility through the progress it has made. Earlier this year, U.S. Joint Forces Command invited the MIC to participate in the third of a series of four planned Multinational Experiments aimed at evaluating:

The ability of coalition nations and the NATO Response Force to develop and assess processes and organizations and to identify technology requirements to support the planning of a coalition effects-based campaign.<sup>56</sup>

In addition, the annual Joint Warrior Interoperability Demonstration (JWID), a Chairman of the U.S. Joint Chiefs of Staff showcase for industries to demonstrate

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<sup>54</sup> The NRF-M is the follow-on from NATO's Standing Naval Force Atlantic (SNFL). Canada last commanded SNFL in 1992-93 and 1999-2000. A Canadian Commodore will command again in 2006.

<sup>55</sup> Gimblett, *Operation Apollo*, 112.

<sup>56</sup> United States Joint Forces Command, "Multinational Experiment III," <http://www.jfcom.mil/about/experiments/mne3.htm>; Internet; accessed 18 October 2004.

emergent technologies with military applications, has recently seen increasing focus on coalition information sharing solutions, as well as increased multi-national participation. For example, the theme of JWID 2003, hosted by the U.S. Defense Information Systems Agency was “Coalition Interoperability, the 21<sup>st</sup> Century Warfighter’s Environment”<sup>57</sup>, while this year’s Demonstration was hosted by the new Homeland Security focused U.S. Northern Command (NORTHCOM) and boasted “Forging New Coalitions” as its theme.<sup>58</sup> Significantly, the JWID was very recently renamed the Coalition Warrior Interoperability Demonstration (CWID)<sup>59</sup>. CWID 2005 will again be hosted by NORTHCOM and will build on the 2004 theme. Incidentally, NORTHCOM, which has very close links to NORAD and the Canada-U.S Bi-national Planning Group on Homeland Security, has adopted the mantra “need to share” in articulating its key themes for doctrinal development.<sup>60</sup>

The importance of all this activity, from a Canadian naval perspective, is that a great deal of ‘shaft horsepower’ is being harnessed in order to solve the multi-level security problem in standing and ad hoc coalitions. The degree to which the USN is paying attention to developments in JFCOM and CWID, and how that might affect future at-sea systems development, is difficult to discern. One good indicator may be that the Commander of JFCOM is a full Admiral, and that he recently stated:

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<sup>57</sup> Lawlor, Maryann. “Multinational Communications Capabilities Move Forward.” *Signal* Vol. 58, Issue 1 (September 2003). Journal on-line; available from <http://www.afcea.org/signal/articles>; Internet; accessed 18 October 2004.

<sup>58</sup> Lawlor, Maryann. “Coalition Interoperability Strategy Comes Home.” *Signal* Vol. 58, Issue 6, (February 2004); <http://www.proquest.umi.com>; Internet; accessed 18 October 2004.

<sup>59</sup> Lawlor, Maryann, “Interoperability Work Advances Beyond Technology.” *Signal* Vol 59, Issue 2, (October 2004). Journal on-line; available from <http://www.afcea.org/signal/articles>; Internet; accessed 18 October 2004.

<sup>60</sup> Major General Dale W. Meyerrose, quoted in M. Lawlor, “Coalition Interoperability Strategy Comes Home.” *Signal* Vol. 58, Issue 6, (February 2004); <http://www.proquest.umi.com>; Internet; accessed 18 October 2004.

We [JFCOM] have been given significant authority to work with Services like the Navy, for example, in management initiative decisions. That allows us oversight in programs that involve joint command and control.<sup>61</sup>

So, assuming that the technical fix will eventually come, it would be prudent to look at the other critical piece - the rules and culture that drive how and when information is, or is not going to be shared.

### **The Trust Challenge**

Even if the technological solutions did exist, and I am confident that eventually they will, then only half the battle would have been won. The ability to share critical information will mean little, if there is not a corresponding and healthy human element of trust. As Kevin O'Connell and Robert Tomes have recently written, "Information does not flow like water. Connecting the pipes only creates the potential to share."<sup>62</sup> Assuming that optimizing interoperability with the FORCEnetted coalition-leading USN of the Sea Power 21<sup>st</sup> century will continue to be a cornerstone of Canadian naval policy, there remains one very important question still begging to be asked. What are the mechanisms whereby USN operators will identify information to be released, and how will they release it? Clearly, Canadian naval commanders at the tactical and operational levels of war will never achieve the desired transparency of the web, and the time-compressed advantages that drive Boyd's "OODA loop" towards zero, if USN operational commanders don't champion a cultural shift towards freer information sharing with coalition allies. As the Chairman of the House Government Reform Committee's

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<sup>61</sup> Keeter, Hunter C. "Interview: Adm. Edmund P. Giambastiani Jr., NATO Supreme Allied Commander Transformation, and Commander Joint Forces Command." *Sea Power*, Vol. 47, Issue 9, (September 2004) [journal on-line], available from [http://www.navyleague.org/sea\\_power/sep\\_04\\_issue.php](http://www.navyleague.org/sea_power/sep_04_issue.php); Internet; accessed 18 October 2004.

<sup>62</sup> O'Connell, Kevin; and Tomes, Robert R. "Keeping the Information Edge." *Policy Review* Issue 122, (December 2003/January 2004): 36.

National Security, Emergency Threats and International Relations Subcommittee recently stated: “He who protects everything protects nothing. The old Cold War paradigm of ‘need to know’ must give way to the modern strategic imperative, ‘need to share’.”<sup>63</sup>

Perhaps the Chairman is a frequent visitor to NORTHCOM! Following along that line, consider the following passage from the University of Alberta’s Professor W. Andy Knight:

To be truly interoperable, one has to break down any barriers that might prevent the full realization of the union necessary to bring about the ease in operation of the envisioned concept. This means eliminating to the greatest extent possible anything that would hinder openness, sharing, communication and access between two or more entities that wish to become interoperable in their operations.<sup>64</sup>

Apart from technology, the principal barrier is one of trust, or the lack thereof.

Hypothetically, if the U.S. fully trusted its “most trusted”<sup>65</sup> allies, then technology would not present a problem - SIPRNET access would be guaranteed. Obviously, from an American perspective, that’s not yet a reasonable scenario, and probably never will be, as the SIPRNET and other national classified systems are routinely populated with information that is judged as being potentially injurious to American national security if released into the wrong hands. As Commander Carr observed,

The fundamental principle of net-centric warfare, open and unimpeded access to the operational picture, appears to violate security lessons learned through hundreds of years of experience.<sup>66</sup>

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<sup>63</sup> Representative Christopher Shays, quoted in “DOD Reviewing Information Classification Decisions.” FDCH Regulatory Intelligence Database; 25 August 2004, <http://search.epnet.com/citation.asp>; Internet; accessed 12 September 2004.

<sup>64</sup> Knight, W. Andy. “Interoperability: The Next Stage in Canada-US Integration?” in *The Canadian Forces and Interoperability: Panacea or Perdition?*, ed. Ann L. Griffiths, (Dalhousie University Centre for Foreign Policy Studies, 2002), 140.

<sup>65</sup> The U.S. has traditionally considered the U.K., Canada and Australia as its key allies, arguably in that order. This is the “4-eyes” group. With Canada opting out of Operation Iraqi Freedom, and Australia and the U.K. anchoring the ‘Coalition of the Willing’, there is conjecture that Canada may be on the verge of finding itself on the outside looking into a new exclusive “3-eyes” arrangement.

<sup>66</sup> Carr, “Network Centric Coalitions...”, 16.

At the other end of the trust spectrum however, is the possibility of restricting U.S. classified information on coalition networks to the point where the network becomes for all intents and purposes an unclassified, and operationally irrelevant system. The key then is to achieve the right, and mutually beneficial balance, or as O'Connell and Tomes have concluded:

The answer lies somewhere along the spectrum between the current stovepipes, with their inherent knowledge seams, and the point where too much openness creates vulnerabilities.<sup>67</sup>

As a policy document, the unclassified U.S. Department of Defense Directive on disclosure of classified military information is straightforward. Disclosure must provide a “clear benefit to the U.S.”, and must “balance mutual defense and foreign policy objectives and preservation of military secrets.”<sup>68</sup> It makes reference to the classified National Disclosure Policy-1, which one must assume provides detailed amplifying guidance on the criteria to be used by the originators of new information when determining the level of classification, i.e., Confidential, Secret or Top Secret. More importantly for Canada, the originator must also discern whether the dissemination control caveat “Not Releasable to Foreign Nationals” or NOFORN must be placed on the information.<sup>69</sup> This is a risk determination. The obvious implication is that anything marked SECRET NOFORN can't be shared with Canadians. Unfortunately, from a Canadian or Allied perspective, it is commonly accepted that U.S. Original Classification Authorities (OCA), in essence the “owners” of information, are notoriously risk-averse

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<sup>67</sup> O'Connell and Tomes, “Keeping the Information Edge...”, 37.

<sup>68</sup> United States, Department of Defense. *Directive (DOD) Number 5230.11 Disclosure of Classified Military Information to Foreign Governments and International Organizations*, 16 June 1992.

<sup>69</sup> *Ibid.*

when considering release criteria<sup>70</sup> or, if they are not risk averse, they simply do not consider the potential coalition applications of the information they own. Complicating the issue is the fact that classified joint information cannot be released without the “prior agreement of all Departments or Agencies having control or jurisdiction” over that information.<sup>71</sup> The U.S. military is a huge institution, comprised of several large institutions, and much more energy is exerted addressing inter-service and inter-agency information-sharing concerns than in addressing the coalition challenge. In addition, the majority of U.S. military personnel have had limited multinational exposure in NATO, U.N. or other combined headquarters appointments. In fact, contrary to the coalition vision espoused in U.S. strategic guidance documents like Joint Vision 2020, most U.S. military officers harbour grave doubts about the reliability of allies, the political will resident in their capital cities, and the military capabilities that limited defence budgets can produce.<sup>72</sup> In this type of environment, when considering releasability, the tendency for OCAs will always be away from sharing with allies. Resolving this problem, according to O’Connell and Tomes will require “...at the very least a whole new infostructure”.<sup>73</sup>

When I was working in USSPACECOM, I lost count of the number of times my U.S. colleagues advised me they had information they wanted to share in support of our common mission, but couldn’t because the information was marked NOFORN.

Furthermore, after close perusal of the material, they were never able to identify why the

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<sup>70</sup> Carol A. Haave, US Deputy Undersecretary of Defense for Counterintelligence and Security, quoted in “Overclassification as a Barrier to Information Sharing.” FDCH Regulatory Intelligence Database; 24 August 2004, <http://search.epnet.com/citation.asp>; Internet; accessed 12 September 2004.

<sup>71</sup> DOD 5230.11

<sup>72</sup> Thomas, *Transatlantic Coalitions*, 30.

<sup>73</sup> O’Connell and Tomes, “Keeping the Information Edge...,” 35.

information had been marked NOFORN in the first place. We agreed that the “default setting” appeared to be fixed at NOFORN. Going back to the OCA with a request to release to Canadians is a cumbersome and bureaucratic process which, in my case, proved very frustrating, perhaps deliberately so. I agree with Dr. Paul Mitchell who has written:

Information release policies are purposefully inefficient tools in order to protect the information, the sources used to gain it, and the organizations using the information from the harm that would result from disclosure to hostile forces.<sup>74</sup>

Yet, what if that information potentially represents an important link in the shared coalition battle space awareness? Will it be released? This is an open question out of Canada’s control, the answer to which has serious ramifications.

To fully understand the complexity of the US information-sharing issue, it is useful to explore developments in the area since 9/11. There has been much public debate over the degree to which American Intelligence agencies were or were not sharing indicators of a potential attack with one another prior to 9/11. Inquiries have found fault with the security mechanisms and policies that have governed inter-agency information sharing for decades. The Under Secretary of Defense for Counter-Intelligence recently conceded in testimony that “Over-classification may limit the information sharing required to fight terrorism...people have a tendency to err on the side of caution.”<sup>75</sup> More to the point, she was referring to Americans sharing with Americans, not with Allies. If the U.S. has not yet cracked the nut of internal information sharing, one must assume by extension, that the coalition piece is far from being addressed. O’Connell and Tomes have concluded:

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<sup>74</sup> Mitchell, Paul T. “The Interoperability Blackbox: Network Centric Warfare, Allied Interoperability, and International Anarchy.” Draft, unpublished paper, (Toronto: Canadian Forces College, October 2004), 14.

<sup>75</sup> Haave, “Overclassification as a Barrier...”

Despite significant initiatives to transform, government-wide information-sharing innovations and intelligence-integration initiatives are evolving too slowly... This requires embracing a new attitude within the U.S. government – and, at some level, in society as a whole – about more active information sharing across federal and domestic agencies...<sup>76</sup>

Applying the above description to the U.S. military, one can recognize the joint information challenges confronting the Services and their key Agency partners. Yet, it is important to avoid concluding that, by unraveling the gordian knot of joint information sharing, a solution to the coalition challenge will appear by association.

What this all boils down to is the requirement for a higher level of trust in which Canada can be held by its senior partner, and the readiness to assume the added vulnerability and risk that comes with it. The premise on which net-centric warfare was conceived is open and seamless information sharing. The political premise, on which coalitions are built, is international legitimacy. In order for the U.S. to find an optimal balance between the two, a new trust paradigm will be required. At the operational level, the best that the Canadian Navy can do is to continue leading by example when conducting combined operations. As Nora Bensahel concluded:

Commanders who trust their coalition partners and respect their military abilities are more likely to establish close working relationships that sustain coalition operations. Those relationships become extremely important when inevitable national disagreements arise, and can enable those disagreements to be resolved quickly and quietly without disrupting the operation.<sup>77</sup>

Bensahel must have experienced a moment of prescience in shaping her comments – they describe exactly what occurred with Commodore Girouard in the Arabian Sea during the lead-up to the Iraq invasion in 2003. Although there was an acute and unpleasant political difference over Iraq between Jean Chretien and George Bush, the

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<sup>76</sup> O'Connell and Tomes, "Keeping the Information Edge." 23.

<sup>77</sup> Bensahel, *Coalition Paradox*, 238.



Commodore and his three Op Apollo predecessors had built up such good will and trust with USN Fifth Fleet Flag Officers, that there was no doubt as to Canada's unique ability to lead the Maritime Interdiction Operation concurrent with and independent of the operation in Iraq.

## **Conclusion**

Let's be clear - the U.S. Navy is sailing in a world of its own – literally. The fruition of its transformational Sea Power 21 concepts in the years to come will see the oceans commanded by a network-centric and expeditionary carrier-based striking force possessing enormous offensive capability. Unquestionably, the Americans will be prepared to respond unilaterally to any conceivable threat at sea, ranging from terror attacks in the littoral to ballistic missile defense closer to home. On the other hand, the much smaller Canadian Navy will continue its drive toward optimizing seamless interoperability with the Americans, in accordance with strategic direction, and in following with bilateral precedents set in the 1990s. As stated previously, I believe that the Navy has no other choice but to continue pressing hard for further interoperability. Only through Canada's exploitation of the enormous coalition potential resident in net-centric operations, will the true operational relevance of the Canadian Navy be realized. This relevance will translate directly into strategic influence in Washington, always a key consideration in Ottawa. Conversely, once the USN develops the trust necessary to reach out to the periphery of the web and to invite their most interoperable partners into the inner screen, they will quickly recognize just how much advantage can be gained through fully empowering a coalition with the tools necessary to win the critical battles – both at the strategic and operational levels of war.

There are enormous challenges still to be faced. The two impediments to effective U.S.-led coalition command and control at sea are technology, in the form of multi-level secure networks, and trust, in the form of externally vice internally focused information-sharing policies. The multi-level security mechanisms necessary to allow meaningful real-time information exchange across national and coalition domains do not yet exist. Although tremendous effort has been made over the past three years to develop technical solutions, Canadian warships, along with other coalition and alliance partners, will continue to struggle in their attempts to develop operational pictures that closely approximate those found in U.S. warships. The good news is that there is high confidence that solutions will eventually be forthcoming through alliance-focused fora like the Multinational Interoperability Council and the Coalition Warrior Interoperability Demonstration, and that a robust, trustworthy naval hybrid of the Coalition Wide Area Network could be at sea and operational in a time-frame that would accurately reflect the CF Joint Operating Concept for 2012. There are reasons to be optimistic, but I believe that this optimism must remain guarded until the U.S. military, and especially the U.S. Navy, unconditionally embraces coalition doctrine, and totally buys into the Combined battle space as the preferred operations medium.

However, I believe that the information-sharing impediment is much more problematic. Although Canada and the U.S. enjoy a long history of bilateral cooperation on security issues, there still exists a fundamental tension in the U.S. military culture between the need to know and the need to share, between the desire to stand alone at the operational level and the strategic need to seek legitimacy through coalitions, and between the need to get connected and the need to protect the connections. An American

revolution in trust is required that will see risk-averse classification and disclosure policies turned on their heads, so that tomorrow's technological command and control pipes can be pressed full with the information necessary to truly enable and empower Canadian naval operational potential in support of coalition mission objectives.

The Canadian Navy has a key role to play in shaping the future of this critical relationship. It must continue to articulate the reasons why greater access to the common operating picture will be of mutual benefit in coalition operations. The best way to do this will be to continue demonstrating proven Canadian leadership and operational excellence that bring positive synergies to Battle Group competencies whenever the opportunity to operate at sea with U.S. naval forces presents itself. Concurrently, the Canadians must make every effort possible to ensure that it is never a source of any action that might cast aspersion on the foundation of trust that has been built over several decades of cooperation at sea. Credibility can only be lost once.

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