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CANADIAN FORCES COLLEGE / COLLÈGE DES FORCES CANADIENNES  
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EXERCISE/EXERCICE NEW HORIZONS

**ADJUSTING FOCUS: HOW THE INFORMATION MANAGEMENT GROUP MUST  
REORIENT TO REMAIN SUCCESSFUL**

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## **ABSTRACT**

The aim of the paper is to show that the Information Management Group (IM Gp) must make substantive changes to its culture, organization and doctrinal focus in order to be the operational contributor required by the CF in the transformational era. To build the case for the changes, each area is examined in turn to establish the current status and the likely demands of the "Transformational Era." The current IM Gp culture is assessed as highly corporate and technically oriented and therefore requires adoption of an operational focus. Currently the IM Gp organization is a mix of staff and line functions intermixed with a complex staff matrix. There is a clear requirement for a CF IM and IO Operational Force Commander with a supporting HQ to conduct force generation and force employment planning and execution management. Finally, although there has been tremendous progress in departmental strategic IM concepts and architectures, as well as individual system concepts of operation, there is a debilitating lack of operational IM Doctrine that must be rectified in order for IM forces to adequately support CF Transformation.

**ADJUSTING FOCUS: HOW THE INFORMATION MANAGEMENT GROUP  
MUST REORIENT TO REMAIN SUCCESSFUL**

*The ability to adapt to change and to internalize the capacity to plan and implement effective transformation is what sets organizations that excel apart from organizations that merely perform.<sup>1</sup>*

*Stephen Hallihan,  
Director General  
Strategic Change*

After unification and integration in the early 1970s, the Department of National Defence (DND) and the Canadian Forces (CF) were provided strategic and operational level communications forces and capabilities through Canadian Forces Communication Command (CFCC), supported by a variety of engineering directorates spread across the department.<sup>2</sup> For that relatively stable strategic and technological era, this approach was successful. The end of the Cold War, with its expectation of a more stable world, brought a demand for a peace dividend as well as immense pressure on defence both budgets and organizations.

Amidst this tumultuous time of budget cutting, there was a hugely significant, but relatively unknown Vice Chief of Defence Staff (VCDS) Study and Report on Communications and Electronics capabilities.<sup>3</sup> As a result of this study CFCC was disbanded and integrated into the new Defence Information Systems Organization (DISO). The goal of DISO was to provide a single, efficient and integrated source of information services, engineering, and information management to meet both departmental and CF operational and

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<sup>1</sup> Stephen Hallihan, "Message From the Director General Strategic Change," *Bravo Defence*, Fall 2004, 2.

<sup>2</sup> Military Communications and Electronics Museum, "A Hundred Years of Military Communications and Electronics," [http://www.c-and-e-museum.org/hist\\_e1.htm](http://www.c-and-e-museum.org/hist_e1.htm); Internet; access 23 April 2005.

<sup>3</sup> Vice Chief of Defence Staff Study Team Report, *Central Communications and Electronics Services in DND*, (NDHQ 2700-DGFD (C&E Study)), quoted in Major Guy R. Thibault, "The Defence Information Services Organization (DISO) - Empire Building or Framework For Success?" (Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1995), 1.

strategic needs.<sup>4</sup> This was followed closely in 1995-98 by further major departmental reorganization as a result of the Management Command and Control Re-Engineering Team (MCCRT) Study. To meet the demands for both increased efficiency and fiscal accountability, the command and control (C2) of the CF was rationalized by removing a layer of Headquarters.<sup>5</sup> For the Communications and Electronics (C & E) community this meant that, despite recognition of an increased reliance on information technology (IT), DISO was reengineered and downsized, evolving into the Information Management Group (IM Gp).<sup>6</sup> Cumulatively, these actions effectively embedded what was once an independent military operational and strategic headquarters and capability into a civilian led combined DND/CF Group.

As DND worked to achieve maximum efficiency from each defence dollar, there was tremendous focus placed on resource stewardship and accountability processes within the department. The era of business planning had begun. For the joint C&E community, now embedded in the IM Gp, and responsible to both departmental and CF direction, a dramatic shift in focus towards a "business" versus an "operations" focus was underway.

Concurrent with these internal fiscal and structural initiatives was a worldwide explosion in computing and information systems technology. During the 1990s decade the DND/CF introduced thousands of workstations running dozens of systems. A key task of the IM Gp was, and continues to be, consolidating and controlling the burgeoning communications and information systems (CIS) technology within the department in order to

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<sup>4</sup> *Ibid.*, 1.

<sup>5</sup> Department of National Defence, "*MCCR Information Package for Senior Managers*," (Ottawa: Department of National Defence, 1996), 5-7.

<sup>6</sup> *Ibid.*, 18.

establish a level of control on this technology spiral.<sup>7</sup> Therefore, as a new organization at the dawn of the millennium, Assistant Deputy Minister Information Management (ADM(IM)) led IM Gp was faced with concurrently developing the intellectual constructs for information management and information operations, managing, supporting and integrating the ever burgeoning national CIS fleet, cutting costs, all the while continuing to meet its force generation and force employment mandate.<sup>8</sup>

Into this already complex, budget cutting, efficiency focused and high tempo environment came strategic initiatives such as CF Strategy 2020,<sup>9</sup> concepts such as the Revolution in Military Affairs<sup>10</sup> and Network Centric Warfare<sup>11</sup> and transformational

<sup>7</sup> Department of National Defence, "Organization and Accountability - Guidance for Members of the Canadian Forces and Employees of the Department of National Defence, Second Edition," [http://www.forces.gc.ca/site/minister/eng/authoriy/OA\\_e.htm](http://www.forces.gc.ca/site/minister/eng/authoriy/OA_e.htm); Internet; accessed 11 March 2005.

<sup>8</sup> ADM (IM) is, as part of his mandate, directed in Organization and Accountability, responsible not only for strategic IM policy and IT and communications technology management, but also for generating and sustaining non-tactical IM and IO forces on CF operations. As well, ADM (IM) continuously "employs" IM forces in Canada in order to terminate, manage and operate the national communication and information system (CIS) backbone. The IM Gp daily force employment tasks are conducted primarily by 76 Comm Gp, and the CF Information Operations Group (CFIOG) in Ottawa, supported by commercially leased facilities.

<sup>9</sup> Department of National Defence, "Chief of the Defence Staff ' Part II: Strategy 2020- Canadian Defence into the 21<sup>st</sup> Century, Shaping our Future - Implementing the Strategy," [http://www.cds/forces.gc.ca/pubs/strategy2k/s2k08\\_e.asp](http://www.cds/forces.gc.ca/pubs/strategy2k/s2k08_e.asp); Internet; accessed 11 March 2005. Strategy 2020 is a broadly based strategy developed by DND senior leadership that is touted as "an achievable and pragmatic roadmap for the future of Canadian defence, based on a thorough strategic assessment of the challenges and opportunities in the emerging defence environment of the 21<sup>st</sup> century."

<sup>10</sup> Benjamin S. Lambeth, "The Technology Revolution in Air Warfare," in *Survival (Spring 1997)*, 75, quoted in Elinor C. Sloan, *The Revolution in Military Affairs - Implications for Canada and NATO* (Kingston/Montreal: McGill-Queens University Press, 2002), 3. The revolution in military affairs is not a Canadian concept but an international military concept which "an RMA is "a major change in the nature of warfare brought about by innovative application of technologies which, combined with dramatic changes in military doctrine and operational and organizational concepts, fundamentally alters the character and conduct of military operations."

<sup>11</sup> Sandy Babcock, "Canadian Network Enabled Operations Initiatives," (Paper released at DND/ CF NEOps Symposium - Ottawa December 2004), 4. NEOps is a relatively new concept for Canada and is derived from the US Network Centric Warfare Concept. The definition of NEOps proposed for Canada by Babcock is "Network Enabled Operations (NEOps) represent an approach to the conduct of military operations characterized by common intent, decentralized empowerment and shared information, enabled by appropriate

programs such as Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR).<sup>12</sup> The common element of each of these is their transformational nature and the pivotal role that information management and information operations are required to play in the achieving success. Thus, although a major information management strategic review (IMSR) was conducted in 2001-2002,<sup>13</sup> the IM Gp, as the focal point for the joint CIS community, continues to struggle to reach a position where CF operational activities are truly a key focus. The aim of the paper is to show that the IM Gp must make substantive changes to its culture, organization and doctrinal focus in order to be the operational contributor required by the CF in the upcoming transformational era. Although doctrine can be pervasive to the entire discussion, to build the case for the changes in culture, structure and doctrinal focus, each will be examined in turn. By describing the present status and the likely demands of the "Transformational Era", conclusions will be drawn about the refocusing required with the IM Gp in order to pave the way for IM Gp success into the future.

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culture, technology and practices." NEOps are currently being viewed as being information technology heavy but not necessarily information technology centric.

<sup>12</sup>Department of National Defence, "*Canadian Forces C4ISR Command Guidance and Campaign Plan* (Ottawa: DND Canada, 2003), 4 - 7. C4ISR - Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance is a DCDS led CF program to gain and maintain unity of purpose with respect to the development and implementation of C4ISR capabilities across the force. The aim is to support increased effectiveness of CF C2 by delivering a robust, integrated and interconnected C4ISR capability. This program is regarded as transformational in nature due to its cross-functional and spiral development process. It is attempting to use the Defence Services Program in a novel manner to achieve the timely and integrated fielding of C4ISR capabilities.

<sup>13</sup>Department of National Defence, *Defence Information Management Strategy 2020 and Strategic Operating Concept* (Ottawa: DND Canada, 2004), 2.

## TRANSFORMATION

Given that "CF Transformation" has become the CF's means of embracing the future, it is necessary to first establish an understanding of this pivotal concept. The CF Integrated Operating Concept defines transformation as:

. . . a process of strategic re-orientation in response to anticipated or tangible changes to the security environment, designed to shape the nation's armed forces to ensure their continued effectiveness and relevance. Transformation does not, however, seek to complete the re-structuring or re-equipping of Canada's military forces, but instead blends existing and emerging systems and structures to create greatly enhanced capabilities relevant to future missions and tasks. It is a continuing process - it does not have an end state.<sup>14</sup>

The key elements of this definition, for the purposes of this analysis, are that transformation is about shaping the military forces with a focus on effectiveness and relevance.

Transformation is not a specific program with a defined end state or product, but a paradigm shift towards a process, or way of thinking, that focuses on the capabilities to achieve future missions. Transformation will focus the CF on 'operations' vice 'resources.' Confirmation of this is apparent in the newly released Defence Policy Statement that indicates, "...consequently, the operational transformation of the CF will focus on the establishment of new joint organizations and combat structures that can meet the Government's expectations for effectiveness, relevance and responsiveness."<sup>15</sup>

## ORGANIZATIONAL CULTURE

The Canadian Forces Integrated Operating Concept (CFIOC), along with establishing a clear definition of CF Transformation, also implies that organizational culture will have to

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<sup>14</sup> Department of National Defence, *Canadian Forces Integrated Operating Concept (Draft Ver 01/18 Mar 05 for CDS Review)* (Ottawa: DND Canada, 2005), 5.



change. This is especially true for a hybrid departmental and military organization such as the IM Gp. Edgar H. Schein, a noted organizational development expert from the MIT Sloan School of Management, characterizes organizational culture as an intrinsically soft area of study, where organizational culture is defined as:

A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.<sup>16</sup>

The Brunel University Business Open Learning Archive (BOLA) dovetails leadership into the definition, by hypothesizing that within organizational culture, leadership "...shapes the way that people behave, feel, contribute, interact, perform as employees of an organization ...initiate debates, set the imperatives and priorities."<sup>17</sup> A key element of these definitions is the people centric nature of organizational culture. As well, the tone and imperatives established by the leadership will play a significant role in establishing the culture.

To examine and draw conclusions regarding an organization's culture, Schein purports that one need examine the tangible and visible elements, or artifacts, of an organization.<sup>18</sup> An examination of several IM Gp cultural artifacts, including the IM Gp website, the Newsmagazine -*The IM FORUM*, and documentation produced by senior leaders is very revealing. Once one works through the "business/client lexicon" of the website, the IM Gp describes itself as "operations focused" with a mission statement, "To

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<sup>15</sup> Department of National Defence, A-JS-005-000/AG-001 *Canada's International Policy Statement - A Role of Pride and Influence in the World - DEFENCE* (Ottawa: DND Canada, 2005), 12.

<sup>16</sup> Edgar H. Schein, "Organizational Culture and Leadership," <http://www.tnellen.com/ted/tc/schein.html>; Internet; accessed 20 April 2005.

<sup>17</sup> Brunel University Business Open Learning Archive, "Culture, Control and Engineering," <http://www.brunel.ac.uk/~bustcfj/bola/culture/culture.html>; Internet; accessed 24 March 2005.

contribute to the success of CF operations by ensuring commanders and staff have global access to the knowledge needed to achieve information superiority and to operate the defence organization as one high performing team."<sup>19</sup> Unfortunately, while first appearing to be an operationally oriented culture, the IM Gp displays far more corporate and technical artifacts as outlined below. A review of several issues of The *IM Gp FORUM* Magazine show little reference to operational activity with a heavy focus on project management, departmental efficiency successes and technology issues. In reviewing IM Gp strategic documentation such as the *IM Strategic Concept*, the *IM Strategic Review (IMSR)*, the *IM Strategic Plan (Draft)* and *The Framework for Further IMSR and IM Gp Transformation*, it is noticeable that there are only passing references to operational activities. Yet, within each of these artifacts, there are substantial discussions on issues of governance, business planning, enterprise architecture and information technology management.<sup>20</sup> In fact, the draft IM Management Review Implementation Plan leaves the key operational entities of the CF Information Operation Group and the Communication Reserve to the category of "Areas for Further Examination."<sup>21</sup> These artifacts certainly do not establish a strong sentiment for an operational cultural within the IM Gp.

The IM Gp stated organizational values also reveal a decidedly non-operational focus with descriptors that include, "Customer satisfaction is our focus. Excellence is our

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<sup>18</sup> Edgar H. Schein, "Organizational Culture and Leadership," <http://www.tnellen.com/ted/tc/schein.html>; Internet; access 20 April 2005.

<sup>19</sup> Department of National Defence - Information Management Group, "Mission, Vision, Goals and Values," [http://www.img.forces.gc.ca/adm\\_im/mission/mission\\_e.htm](http://www.img.forces.gc.ca/adm_im/mission/mission_e.htm); Internet; accessed 14 March 2005.

<sup>20</sup> IT is recognized that a document review is hardly as definitive as scientific analysis, but the sheer volume of corporate focus in these artifacts leaves a decidedly business and technology flavor.

<sup>21</sup> LCol P. Imai, *Information Management Review Implementation Plan - 8 Jan 2003*, attachment to DND email 22 March 2005, 1.

standard. Skilled people are our strength. Continuous improvement is our pathway. Integrity is our foundation."<sup>22</sup> For a business corporation these values would be entirely appropriate. Through the inclusion of "customer" and the complete lack of reference to operational success, fighting spirit, courage, teamwork or other elements of the CF Ethos and values, it would seem that the IM Gp reality is that of a business oriented and technology focused culture. This is especially apparent when compared with the United States Defence Information Systems Agency (DISA), an organization with a similar role, organizational construct, and mandate as the IM Gp. DISA consistently refers to its role of supporting the "nation's warfighters" and the DISA role as a combat support agency with a large technical component.<sup>23</sup>

The fact that the IM Gp has a business and technology centric culture unto itself would not be an issue if the IM Gp role were only as a strategic departmental organization. Given the IM Gp's essential operational role to continuously provide critical CF C2 systems, protect CF networks, provide communications links to live operations and provide strategic and operational information operations support, the apparent lack of operational culture is significant. Further, CF Transformation, with its demands of operational centricity will demand an even greater emphasis for an operational culture. The problem then is one of reorientation within the IM Gp to achieve a better balance between the operational culture and the current customer, business unit and technology centric culture.

This is where the leadership must play a key role in reorienting the organization's culture. For the IM Gp to adopt an operational culture, the leadership must introduce

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. Department of National Defence - Information Management Group, "Mission, Vision, Goals and Values...", Internet; accessed 14 March 2005.

changes both major and subtle. Firstly, "operations" within the defence team (DND/CF) are the purview of the CF; therefore a stronger military presence within the IM Gp should be initiated. Although currently 50% of the director generals are serving military officers this is insufficient. There needs to be a greater effort to recruit operationally experienced, operationally focused military officers and noncommissioned members (NCMs) into the organization, so that their operational culture permeates throughout the organization. This is not to deride the immense contribution of the civilian defence team members, but to adjust the balance by reintroducing CF operational values to inspire an operational culture derived from the CF ethos.<sup>24</sup>

A second area of effort is the reorientation of cultural artifacts. Operational activities should be emphasized over technical project management and business planning. Technical activities should be examined to show how they are meeting CF operational capability and transformation goals as a priority. An example of this would be for the Integrated Defence Enterprise Architecture (IDEA) to demonstrate how it supports, as a priority, operational success. The extract below taken from the IDEA overview highlights the current business and corporate focus as the IDEA overview states, "The Business View represents the highest view of the enterprise. This View makes the connections to the external influences of DND/CF and translates their impact through policy and procedures that ultimately govern programs."<sup>25</sup> Reorientation of this cultural artifact would see the IDEA showing, as a

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<sup>23</sup> United States Defence Information Systems Agency, "Mission, Vision, and Values," <http://www.disa.mil/main/about/missman.html>; Internet; accessed 14 March 2005.

<sup>24</sup> Department of National Defence, A-PA-005-000/AP-001 *Duty With Honour - The Profession of Arms in Canada* (Ottawa: DND Canada, 2003), 26.

<sup>25</sup> Department of National Defence, "Integrated Defence Enterprise Architecture," [http://img.forces.gc.ca/adm\\_im/dgeas/idea\\_e.htm](http://img.forces.gc.ca/adm_im/dgeas/idea_e.htm); Defence Intranet; accessed 14 March 2005.

priority, how the enterprise approach will support an integrated joint expeditionary CF instead of highlighting the business model. This is but one example of how an artifact can be reoriented to emphasize the operational aspects of the CF, without diluting the overall strategic validity of the model.

In short, all elements of the IM Gp should demonstrate how they are supporting the CF to achieve its mandate of defending Canadians, assisting in the defence of North America and contributing to peace and stability in the world. Cultural artifacts within the IM Gp should highlight the operational success of the Canadian Forces Information Operations Group (CF IOG), the successful operational deployments of the CF Communications Reserve (Comm Res), and the tireless, daily operational support provided by entities such as 76 Comm Gp. To create an organizational culture that is synchronized with the operational transformation of the CF, the IM Gp must de-emphasize business culture and the top down departmental strategic orientation while concurrently increasing emphasis on the operational CF military culture.

## **ORGANIZATION STRUCTURE**

The CF Transformational agenda is very specific in that the aim of transformation is not reorganization but rather, "a fundamental change to the culture of our military to ensure a fully integrated and unified approach to operations."<sup>26</sup> That said, ADM(IM) is relatively unique in the defence milieu as he is "equally responsible to the Deputy Minister and the

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<sup>26</sup> Department of National Defence, A-JS-005-000/AG-001 *Canada's International Policy Statement - A Role of Pride and Influence in the World - DEFENCE* (Ottawa: DND Canada, 2005) , 4.

Chief of Defence Staff."<sup>27</sup> Thus, it is likely that the organizational implications of transformation will be more complex than for either a pure military or pure departmental organization. Firstly, it is necessary to understand the responsibilities of ADM(IM) as shown below:

The ADM (IM) is responsible for ensuring effective and efficient information management and exploitation of information assets in the support of the missions and operations of the Department and the Canadian Forces. This involves a major role in the planning and implementation of the IM portion of the Long Term Capital Equipment Plan as well as direct IM/IT support for day-to-day DND and CF operations.... setting strategic direction and plans for effective IM within DND and the CF . . . providing leadership, standards, policies, and architecture for the conduct of IM/IT projects, their subsequent implementation and eventual use in operations. . . providing common information management services and support to meet the corporate needs . . . providing the single Department focal point for an integrated information management environment . . .<sup>28</sup>

Unlike the Environmental Chiefs (Army, Navy and Air Force) who have high priority force generation and force employment roles, or other ADMs, such as ADM Policy, who have departmental strategic roles, ADM (IM) carries the weight of tasks from both the departmental and the CF domains.<sup>29</sup> ADM (IM) provides support to departmental policy and information initiatives, while also generating forces for DCDS led missions. Further, he employs IM forces himself on a daily basis to provide, manage and protect a range of departmental and CF networks and ongoing information operations activities.

Before proceeding to a more detailed examination of the IM Gp structure, it is important to understand the organizational theory behind this structure. In 1993, Major Guy

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<sup>27</sup> Department of National Defence, *Organization and Accountability* ..., Internet; accessed 11 March 2005.

<sup>28</sup> Department of National Defence, *Organization and Accountability* ..., Internet; accessed 11 March 2005.

<sup>29</sup> Department of National Defence, *Organization and Accountability*..., Internet; accessed 11 March 2005.

Thibault conducted a detailed examination of IM organizational structures. His research, primarily from an analysis of the work of Don Tapscott and Art Caston, showed that:

Describing DND's IM structure as either centralized, decentralized or dispersed is problematic because it is effectively a hybrid. For the purpose of this discussion I would describe it best as a dispersed structure, with a strong, combined central IM staff and IM function for department-wide activities.<sup>30</sup>

This hybrid structure was designed to "ensure interoperability, efficiency and effectiveness of the ITI (Information Technology Infrastructure) and true corporate sharing of information across the department."<sup>31</sup> Although much has changed in the information management world in the eight years since Thibault's analysis, his conclusion that, "...there is no definitive solution to addressing an organization's IM problems...everything is matter of relative degree,"<sup>32</sup> seems to continue to be relevant today given the broad mandate of ADM (IM) and the IM Gp.

Although many of Thibault's recommendations, such as moving DISO from under the VCDS to become an independent departmental Level One ADM, have been achieved, the issue of 'degree' still persists. ADM (IM)'s still faces the dilemma of balancing the requirement to meet departmental organizational efficiency goals while also delivering on the military effectiveness levels required to meet the mandate of a transforming CF. Currently, ADM (IM) is organized around 4 major Divisions; Information Management Operations (DGIMO), Enterprise Application Services (DGEAS), Information Management Project (DGIMPD) Delivery, Information Management Strategic Direction (DGIMSD) and a

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<sup>30</sup> Major Guy R. Thibault, "The Defence Information Services Organization (DISO) - Empire Building or Framework For Success?" (Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1995), 24.

<sup>31</sup>*Ibid.*, 24.

<sup>32</sup>*Ibid.*, 27.

number of field units that report directly to the ADM(IM).<sup>33</sup> Although this appears to be a simple hierarchical organization structure, it actually relies on the extensive use of a highly complex matrix approach to achieve the ADM (IM) mandate. A short examination of Director General Information Management Operations (DGIMO) illustrates this complexity. As both a departmental director general and the military J6,

The DGIMO is responsible for the provision of support to the defence mission with globally deployable and sustainable communication resources to defend Canada and Canadian interests and values while contributing to international peace and security.

- Operating and sustaining voice, data and communications capabilities to globally deployed CF Commanders and Defence users.
- Conducting information operations and computer network defence in support of CF Commanders and Defence users. This includes Signal Intelligence (SIGINT) and Electronic Warfare (EW).
- Generating and sustaining a combat ready Communication Reserve.<sup>34</sup>

Here we have a departmental Director General and staff advisor (J6) responsible for the staff functions of advising and planning IM and IO operations through his J6 role while concurrently carrying some command authority to execute communication information systems (CIS) operations and information operations. Layered onto this is a responsibility to force generate a component of the IM force, a clear command task, while also coordinating other IM force elements that are generated in other parts of the IM Gp. This represents a classic intermixing of command and staff functions. Further, the ultimate authority and accountability for the execution of military CIS and Information Operations flows to/from

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<sup>33</sup>Department of National Defence - Information Management Group, "Organization - Divisions," [http://www.img.forces.gc.ca/adm\\_im/organization/neworg\\_e.htm](http://www.img.forces.gc.ca/adm_im/organization/neworg_e.htm); Internet; accessed 14 March 2005.

<sup>34</sup>Department of National Defence - Information Management Group, "Organization - Information Management Operations," [http://www.img.forces.gc.ca/adm\\_im/organization/neworg\\_e.htm#Enterprise](http://www.img.forces.gc.ca/adm_im/organization/neworg_e.htm#Enterprise); Internet; accessed 14 March 2005.



the CDS through Chief of Staff (COS IM), another staff officer. The situation that has been created is akin to a G3 or N3 also commanding an infantry battalion or a ship; with a civilian leader included in the chain.

In addition to this intermixed line/staff relationship, are the multiple support linkages required to successfully execute operations. Although DGIMO has responsibility for the operation of networks, the engineering resources to achieve this are arrayed under DG Enterprise Application Services and DG Information Management Project Delivery. Further, DGIMO exercises no command authority over the deployed CIS/ IO elements, or 76 Comm Gp, the managers of the Canadian component of the CIS networks. In fact, units, such as 76 Comm Gp, which are deployed domestically 24/7 to provide real time communications and network operating capability to the National Capital Region, appear as orphans within the IM Gp as they seem to report directly to the civilian ADM(IM). What becomes readily apparent is a clear lack of regard for the military principles of unity of command and selection and maintenance of the aim. Although the matrix may leverage staff expertise to solve a problem, in this case the staff matrix creates a confusing apportionment of authority, staff advice and accountability for military CIS operations and IO.

Rather than dwelling further on the current level of confusion, it is important to identify the organizational adjustments required as CF transformation gathers momentum. In the new CF IOC, the CDS states that the CF will adopt a new vision where:

The Canadian Forces, through greater integration of their land, sea, air and special operating forces, will strengthen the defence of Canada and the security of North America and will become more globally relevant, responsive and effective to provide greater influence in shaping the international environment in accordance with Canadian interests and values.<sup>35</sup>

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<sup>35</sup> Department of National Defence, *Canadian Forces Integrated Operating Concept ...*, 1.

The CF IOC goes on to direct that "The notion of Primacy of Operations will guide all decision making within this command climate . . . Robust networking will assist by providing information to subordinate commanders to create a shared view of the battlespace."<sup>36</sup> The clear reference to: the importance of information, the primacy of operations, and the focus on operational effectiveness, should be embraced by ADM (IM) as key drivers for the IM Gp organizational rebalancing.

Although the discussion in this paper thus far has been relatively critical of IM Gp, it is important to note that some elements required for future operational success are already in place. The creation of the CF Information Operations Group (CF IOG) stands out as a success. As an operational entity charged with executing specific aspects of CF Information Operations, it is capable of executing operations globally from inside Canada while also conducting limited force generation and force sustainment activities. As well, the recent creation of the CF Network Operations Centre (CFNOC) within the CF IOG realm further consolidates the ability to execute tactical through to strategic network support tasks. What is missing is the command centric organizational structure above the CF IOG that creates unity of command and effort, for all CF non-tactical CIS operations and information operations. Specifically, the CF requires a single joint commander of CIS and Information Operations. To support this command presence, a military HQ establishment that is capable of planning IM and IO force generation, force training and managing force employment is also required. As well, this HQ should oversee the force sustainment aspects thereby integrating regular and Comm Res forces to provide the continuous C2 network and strategic information operations capabilities required both domestically and internationally. With an

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<sup>36</sup> *Ibid.*, 11.

organizational structure as outlined above, the departmental and military responsibilities would be effectively rebalanced. This would meet the CF strategic goal as outlined in *Duty With Honour - The Profession of Arms in Canada* whereby,

Professional responsibilities coexist with organizational responsibilities. The pre-eminent [military] professional responsibilities are those associated with maintaining operational effectiveness and the appropriate, successful generation and use of military force.<sup>37</sup>

For the IM Gp this may result in an organizational structure that is perhaps not the most corporately efficient approach, but it would provide unity of command and clear military planning and accountability for the IM and IO forces which are a key aspect of CF Transformation.

What has clearly emerged is that due to the extensive and complex departmental mandate of ADM (IM), a hybrid organizational structure was implemented in the 1990s. That structure now requires rebalancing and the creation of a clear operational level IM and IO command presence, or force commander, and the separation of operational and strategic staff functions in order to position the CF IM and IO Forces to achieve success in the transformational era.

## **DOCTRINAL FOCUS**

Cultural reorientation and organizational realignment will not lead to operational IM and IO success in a transformed CF, without the addition of a comprehensive IM operational doctrine and force generation/force employment concept. Within the CF doctrine is currently defined as,

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<sup>37</sup> Department of National Defence, A-PA-005-000/AP-001 *Duty With Honour - The Profession of Arms in Canada* (Ottawa: DND Canada, 2003, 47).

. . . the fundamental principles by which military forces guide their actions in support of objectives. It is authoritative but requires judgment in application . . . doctrine describes the factors involved and provides the broad "how" to plan and execute operations or military activities . . . [and is] applicable across all services and levels of military activities . . .<sup>38</sup>

From this definition, the importance of doctrine stands out not only in establishing the fundamental guidelines for the conduct of operational tasks, but also in providing a baseline for training during force generation and in creating operational performance standards such as battle task standards. Doctrine also provides the necessary unity of thought, both internal to an organization such as the IM Gp, but also within the wider CF. Doctrine can integrate and synchronize overarching strategies and widely fragmented individual operating concepts into a single cohesive body of thought. Given the wide ranging mandate of the IM Gp discussed previously, the development of comprehensive IM doctrine will play a major role in IM Gp setting conditions for IM and IO success in the CF Transformation era.

The IM Gp's lack of focus on operational doctrine originates right from the strategic level with the Defence IM Strategy. Defence IM pertains to how to achieve best value from information as a corporate resource within the defence establishment. The strategic corporate nature of Defence IM is evident in the Information Management Strategic Review of 2002 conclusions listed below:

- There is an overwhelming need for an Enterprise Approach to information management.
- There is a need for an IM organization similar to that of any other comparably large and complex organization.
- Information management, is a critical enabler to DND/CF operations and requires management as a horizontal function, not the authority of a functional authority, and

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<sup>38</sup> Department of National Defence, "*What is Doctrine?*" [http://www.dcds.forces.gc.ca/jointDoc/pages/j7doc\\_doctrine\\_e.asp](http://www.dcds.forces.gc.ca/jointDoc/pages/j7doc_doctrine_e.asp); Internet; accessed 22 April 2005.

- Information operations and intelligence need to be distinguished from IM work.<sup>39</sup>

It should be noted that there were no conclusions regarding IM organizational structure, doctrine, or force generation/employment concept. Admittedly, there is an element of operational consideration in follow on *2020 Defence IM Information Management Strategy and Operating Concept* where the strategic IM framework and three IM portfolios are introduced. The corporate portfolio focuses on the information and systems required to conduct the business of defence, while the military portfolio focuses on decision support, sensor and weapon control systems. The common portfolio includes such elements as network operating systems and information security systems.<sup>40</sup> These portfolios are then to be managed through the three strategic thrusts of Defence IM Rationalization (Governance), Sustain and Improve the Defence IM Program (Enterprise) and Defence IM Transformation (Capability).<sup>41</sup> What becomes evident at the strategic IM level is that there are very few threads to the operational business of the CF, as the predominant effort is corporately and technically focused.

Moving departmental strategic documentation to the internal IM Gp documentation, it is notable that there is little evidence of IM operational concepts or doctrine. The *2001-2002 ADM (IM) Level One Business Plan* makes only passing reference to the requirement for an operational concept and the lack of doctrine and force employment concepts are not

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<sup>39</sup>Department of National Defence, *Defence Information Management Strategy 2020 and Strategic Operating Concept* (Ottawa: Department of National Defence, 2004), 6.

<sup>40</sup> *Ibid.*, 19.

<sup>41</sup> *Ibid.*, 20.

even mentioned as an initiative to be undertaken or identified as a 'gap' area.<sup>42</sup> On the premise that IM is a joint activity, IM Gp accepts that IM doctrine is a DCDS responsibility.<sup>43</sup> Although the DCDS staff should play an integral role in IM doctrine development, the fact that ADM (IM) is both the functional and horizontal authority for IM should place the IM Gp as the lead agency. Unfortunately, instead of dedicating effort to this critical intellectual military force development task, extensive effort is focused on system procurement, engineering and support for corporate governance efforts. While Director General Information Strategic Direction (DGIMSD) has nominal responsibilities for doctrine, this is currently limited to the coordination of requirements, concepts and doctrine, not the actual creation of the products.<sup>44</sup> It is worrisome that requirements are being coordinated for a wide range of technology projects when a comprehensive operational IM doctrine does not exist.

It would be unfair to imply that no IM doctrine exists, as the recently released rewrite of the CF Operations Manual, Chapter 14, introduces some of the first usable IM doctrinal elements.<sup>45</sup> Further, the DCDS Directorate of Plans, Doctrine and Training has established a place holder for CIS doctrine in the CF Doctrine Hierarchy, indicating that within the DCDS Joint Staff efforts to create IM doctrine appear to be underway. This effort is to be applauded as it shows recognition within the operational community of the need for IM

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<sup>42</sup> Department of National Defence, "FY 2001-2002 IM Group Level 1 Business Plan (Draft) (Ottawa: DND Canada, 2000), 16.

<sup>43</sup> Department of National Defence - Directorate Plan, Doctrine and Training, "CF Doctrinal Hierarchy Tree," [http://www.dcds.forces.gc.ca/jointDoc/pages/j7doc\\_hierlist\\_e.asp](http://www.dcds.forces.gc.ca/jointDoc/pages/j7doc_hierlist_e.asp); Internet; accessed 22 April 2005.

<sup>44</sup> Department of National Defence - Information Management Group, "Organization - Information Management Strategic Direction," [http://www.img.forces.gc.ca/adm\\_im/organization/neworg\\_e.htm](http://www.img.forces.gc.ca/adm_im/organization/neworg_e.htm); Internet; accessed 14 March 2005.

<sup>45</sup> Department of National Defence B-GJ-005-300/FP-000 *Canadian Forces Operations* (Ottawa DND Canada, 2004), 14-1 to 14-13.

doctrine in the future. What is unfortunate in the current situation is that given ADM (IM)'s mandate for IM and IO technical oversight, force generation and force employment, one would expect the IM Gp to take a leadership role in the development of a comprehensive IM doctrine.

Is IM doctrine important one might ask, or is this simply an esoteric discussion? Certainly the US military community regards CIS doctrine as critical as the US Joint Publication JP6.0 indicates that, "... C4 networks and systems provide the means to synchronize forces . . . The synthesis of advanced C4 capabilities and sound doctrine leads to battlespace knowledge essential to success in conflict."<sup>46</sup> Within the CF, operational CIS units have recognized the importance of operational doctrine as well. In fact, the need was so immediate that CF Joint Signal Regiment (CFJSR) and individual staff officers within the CF J6 Ops Cell took it upon themselves to produce a doctrinal like document in the form of the CFJSR Concept of Operations. Written and approved in 6 months in 2004, this document proved essential in establishing a baseline of common CIS operating parameters and also provided unity of thought and purpose between J6 operational planners and the CIS forces responsible for executing CIS operations within the DCDS Gp.<sup>47</sup> The Auditor General of Canada also captured the importance of doctrine in the IM world with her comment and recommendation that:

In August 2002, the Department noted that no effort was under way for the development of joint doctrine for C4ISR. At the time of this audit, the Department still had no plans to develop C4ISR doctrine even though the Defence Plan had called for joint interoperability doctrine and procedures to be developed and implemented by July 2004 . . . In order to develop systems consistent with its

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<sup>46</sup> United States, Joint Chiefs of Staff, *Joint Publications 6-0, Doctrine for Command, Control, Communications, and Computer (C4) Systems Support to Joint Operations*. (n.p., 1995), preface.

<sup>47</sup> Department of National Defence, *Canadian Forces Joint Signal Regiment Concept of Operations-Version 1.0* (Ottawa: DND Canada, 2004), 1.

C4ISR vision, the Department needs to have doctrine and a concept of operations in place to ensure that it is not going in the direction it had warned itself against—that is, the development of duplicate or incompatible systems. With planned C4ISR expenditures totaling almost \$6 billion over the next 10 years, these key elements should be in place as soon as possible.<sup>48</sup>

The importance of putting effort into operational doctrine seems to be overwhelming as it emanates from departmental, governmental and even operational unit sources.

When the lack of doctrinal effort within the IM Gp is contrast with a mature *IM Corporate Framework* and the advanced state of the Integrated Defence Enterprise Architecture (IDEA), a lack of operational focus becomes truly evident. Clearly, the intellectual tools required to deliver operational capability are sorely lagging behind corporate governance and resource management. This is not to say that governance and resource stewardship should be neglected, but in an organization that has such a large operational mandate, one would expect to see a strong and vibrant concepts and doctrine cell working vigorously to integrate IM technical system understanding with the CF operational doctrine. It could be argued that the lack of overarching CF doctrine has limited IM doctrinal development, however this would contradict the national doctrinal definition which directs that, " CF doctrine can be developed and promulgated in advance of or in the absence of policy but must be modified, as required, when policy is promulgated."<sup>49</sup> Thus it seems clear that had an operational focus instead of a corporate focus existed an interim CIS operational doctrine could be in existence today.

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<sup>48</sup> Office of the Auditor General of Canada, "2005 Report of the Auditor General of Canada," <http://www.oag-bvg.gc.ca/domino/reports.nsf/html/20050404ce.html>; Internet; accessed 27 April 2005.

<sup>49</sup> Department of National Defence, "What is Doctrine?" [http://www.dcds.forces.gc.ca/jointDoc/pages/j7doc\\_doctrine\\_e.asp](http://www.dcds.forces.gc.ca/jointDoc/pages/j7doc_doctrine_e.asp); Internet; accessed 22 April 2005



To gain a doctrinal focus in support of the upcoming transformational initiatives, the IM Gp needs to take ownership of IM doctrine, and working with the DCDS Joint Staff, produce an interim IM force employment concept. From this first step, a robust, permanent IM doctrinal team needs to be established that can deliver a baseline doctrinal product in synchronicity with the CF Transformation operating concepts and doctrine. Even the Canadian Auditor General has indicated the importance of doctrine in information heavy projects with her comment that, "National Defence must put a priority on producing its joint C4ISR doctrine, a concept of operations, a clear definition of interoperability, and a common understanding of what C4ISR means to better guide its development."<sup>50</sup> It is essential that CF transformation, including such activities as the creation of Canada Command, be conducted with a baseline national IM doctrinal product in hand. Without coherent operational IM doctrine to feed into the transformational processes, the success of information centric transformation activities such as C4ISR and network enabled operations may be jeopardized

## **CONCLUSION**

There should be no doubt that the IM community at large, and the IM Gp specifically, face substantial challenges in this demanding era of network enabled operations, RMA and transformation. Further, it is well acknowledged that ADM (IM) has evolved significantly from the early days of MCCRT that saw all non-tactical information management largely relegated to a corporate management support function.<sup>51</sup> However,

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<sup>50</sup> Office of the Auditor General of Canada, "2005 Report of the Auditor General of Canada," <http://www.oag-bvg.gc.ca/domino/reports.nsf/html/20050404ce.html>; Internet; accessed 27 April 2005.

<sup>51</sup> Department of National Defence, *MCCR Information Package for Senior Managers...*, C-11.

there is still much to be done if ADM (IM) and the IM Gp are going to be poised to contribute to a successful CF Transformation.

To converge with the CF Transformational objectives including agility, responsiveness and lethality, the culture within the IM Gp must be realigned. To achieve this, the emphasis on corporate and technical IT cultures that has gained prominence in the preceding decade must be reoriented. Consideration should be given to developing operational centric values derived from the CF values and ethos; including fighting spirit and duty and courage. This would not be entirely new ground as the US Defense Information Systems Agency (DISA) describes itself as "supporting the warfighter."<sup>52</sup> That said, the strongest requirement is for ADM (IM) leadership to emphasize operations vice corporate priorities and establish a path and rate of advancement for IM Gp cultural evolution.

Next, the IM Gp requires organizational restructuring in the near term. The complexity, frequency of deployment and sustainability of the CIS and IO force generation/force employment tasks are such that an operational level CIS and IO force commander must be created; supported by a robust military headquarters entity. Staff directorates, with desk officers "matrixed" together are insufficient to provide the level of command and control required to generate and manage the CIS and IO forces required to support a transforming CF. The creation of the CF IOG, with its combination of IO and network operations capabilities represent solid first steps, but success will require a robust and focused HQ element that is capable of coherent force generation, focused management of employed forces and the generation of the doctrine, concepts and training required to sustain all non-tactical CIS and IO forces.

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<sup>52</sup> United States Defence Information Systems Agency, "*Mission, Vision, and Values*," <http://www.disa.mil/main/about/missman.html>; Internet; accessed 14 March 2005.

Finally, the generation of operational IM doctrine is a key challenge for the CF in general, but the IM Gp specifically. Doctrine provides the essential underpinnings for how military operations are to be conducted. This is especially critical in the IM world, which has evolved to such a high level of complexity in a relatively short period. Trying to conduct operations that are synchronized in both the physical battlespace and cyberspace, without clear guidance on IM and IO methods of operation, will become problematic as transformation proceeds. Corporate governance and grand strategic corporate IM architectures have their place in the Department of National Defence, but the time has come to shift focus and leverage this work into the delivery of operational military intellectual products such as a clear usable IM doctrine. Within the IM Gp, a significant level of emphasis must shift towards developing the operational concepts, doctrine and training necessary to generate and employ forces. This is not simply a DCDS joint force issue, but also a key issue for the IM Gp in its role as the IM functional authority. Coherent and relevant IM doctrine will play a significant role in providing the CF with well led, highly effective and cohesive IM and IO force packages.

Over the course of this paper the discussion has examined organizational culture, organizational structure and doctrine. What has become clear is that, IM and IO effects, be they achieved through traditional communications activities, advanced network operations, or signals intelligence support, all are essential to a transforming CF. Therefore, the IM Gp would do well to heed the CDS' advice to the CF at large that "...they need to refocus their approach and enhance certain capabilities in order to make a genuine difference in the world."<sup>53</sup>

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<sup>53</sup> Department of National Defence, *Canadian Forces Integrated Operating Concept...*, 1.

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