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Re-evaluating the Defence and Security Landscape:

The Pan Domain Approach

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Introduction

The recent tectonic shifts in the security and defence landscape has caused states to re-frame their understanding of defence and security requirements. These tectonic shifts include the re-emergence of great power competition and the blurring lines of competition, conflict, and peace. Canada and its alliances have had to ensure their ability to sustain their security by integrating a joint all-of-military approach. This approach has been termed Pan-Domain Operations (PDO)/Multi-Domain Operations (MDO). PDO/MDO has been developed in order to address the shifts in the defence and security arena with the ultimate goal of deterring, or if necessary, defeating adversaries. This brief evaluates the concept of PDO/MDO and the opportunities and constraints for Canada and its allies to implement the approach into a doctrine.

The primary points for discussion in this brief include: what is PDO/MDO; key points of commonality and distinction among Canada and its allies the United States, the United Kingdom, Japan, Norway, and Australia PDO/MDO concepts; points of failure; and Canada's way forward.

What is PDO/MDO?

PDO/MDO characterizes a turn in the way that the military lever is commissioned. This shift involves a more integrated military force with innovative structures and executive approaches in the operationalization of all domains. Historically, the domains of land, maritime, and air have been the three distinct arenas in which adversarial military forces compete. However, the rise of great power competition and globalization has led to the development of space and cyberspace as further domains. The evolution of the interconnected nature of these domains pose a security threat to Canada and its allies. While the contours of the PDO/MDO concepts may compare and contrast among Canada and its allies, there is a general recognition that PDO/MDO must encompass the development and implementation of advanced technology, further integration of services across armed forces, and renewed attention on competition beyond the margins of armed conflict. The most



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general purpose of the PDO/MDO concepts is to defeat adversaries and defend national security by enhancing the military's ability to achieve military objectives. As outlined by NATO's Allied Command Transformation, PDO/MDO is developed to "enable NATO's Military Instrument of Power to prepare, plan, orchestrate, and execute synchronized activities, across all operational domains and environments at scale and speed." (NATO, 2022). This delineation of PDO/MDO emphasizes military power while maintaining that operations across military, diplomatic, information, and economic sectors are critical to the success of interoperability and interconnectedness.

Country Concepts of PDO/MDO

Collaboration with partners, stakeholders, and non-military actors are critical to the success and interconnectedness of PDO/MDO. Alignment with allies greatly enhances the capabilities and capacities of PDO/MDO. Understanding what capabilities are accessible to certain countries, leaders, and militaries, and effectively joining multiple facets of capabilities leads to the implementation of desired political outcomes (U.S Army TRADOC, 2017). While Canada and its allies emphasize the need for a balance between threat-based analysis and capability-based planning to drive force development, differences remain. These differences most notably surround the 'grey zone' short of war, a communal managing language, and the development of agreed lines of authority.

Canada's PDO concept is intended to align and adapt military action with other Government of Canada activities in order to maintain an optimal scope, scale, sequencing, and duration across all domains. The approach is the foundation of all future efforts made by the Canadian Armed Forces (CAF) to guarantee Canada's security. While Canada does not have the ability to fully leverage the PDO/MDO concepts to their greatest magnitude in all domains, by engaging in the pan-domain approach, the CAF has the capacity to successfully engage in activities broader than combat such as managing competition, conducting information operations capacity building, conflict prevention, peace and stability operations. Canada's understandings of PDO/MDO takes a centrist position between the US and the UK's ideas of surrounding the integration of military capabilities and seamlessly integrating engagement between military and civilian organizations. Although, Canada is unique in its outline to the extent that it emphasizes the need for cultural change in order to bring PDO/MDO to its full capacity. The US MDO concept places an emphasis on winning large-scale conflict against technologically capable adversaries such as China and Russia. The MDO approach in this context thus focuses on the operation as a response to the developing security realm, encompassing emerging arenas such as the air-land battle and artificial intelligence, computing and communication technologies, and hypersonic missiles. The US places an overt emphasis on data transmission and networking assets but fails to dedicate importance to integration with non-military organizations. Unlike the US, the UK places a great emphasis on the engagement between military and non-military departments in order to promote an integrated approach across government (Multi-domain Integration). The UK highlights the emergence of Russia as a primary threat, and "below the threshold" attacks, which undermines the country's unity. The UK's MDO concept emphasizes the need for greater integration across services, and the "inclusion of other government agencies, non-state security actors and allies" (The United Kingdom MDO Report). The UK also stresses

the need for a single sharing environment across allies which would make targeting and mission data readily available, leading technological development to be a primary subject of pursuit. Similarly, to the UK, Japan places a heavy emphasis on technological enhancement to enable PDO/MDO and bridge the gap to adversaries. Japan's approach to the PDO/MDO concept has centered around the shifting geopolitical environment whereby China, Russia, and North-Korea pose a threat to their defence and security capabilities. More specifically, Japan focuses on its response to developing domains such as space, cyberspace, and the electromagnetic spectrum. These domains are further stressed by France who places a great emphasis on the threat in the cyber arena. While France mirrors the other states in their concern regarding emerging threats, they place particular emphasis on the threat of the cyber domain. France, similarly to its allies, focuses on leveraging alliances and ensuring interoperability. Following this concept, France highlights the potential of the development of new alliance structures in Europe in order to enable alignment of capabilities. Alliances are also seen as a critical component to the perseverance and development of Norwegian security. However, Norway offers a unique approach to its security and defence vision, with a "Total Defence" concept. This concept aims to increase civil defence, societal resilience, and mutual cooperation between the security and defence sector and civil society.

Canada and its allies offer many overlapping facets of their PDO/MDO approach. These overlaps include the threat of rising powers China and Russia, and their access to advanced technologies. Canada and the UK note in their PDO/MDO concepts the range of threats emerging in the 'left-of-battle' space. These threats have emerged to create operational advantages for adversaries, and these 'grey-zones' have the capacity to accumulate and become a strategic threat. Additionally, Canada and its alliances stress the need for the PDO/MDO concepts to capitalize on its capacity. In order to exploit its capacity, there must be the incorporation of advanced technologies to develop communication, store and share data, and military kinetic war-fighting equipment. Joint, cross service operations are critical for fully integrating military capabilities and maximizing on the potential that PDO/MDO has to offer. This includes the inclusion of other government agencies, non-state security actors, allies, and civilians. While Canada and its allies identify many points of commonalities regarding the nature of the threat environment, they also offer points of distinction in their PDO/MDO concepts. These include the competition space and deterrence, civilian-military engagement, information, and the significance and function of allies. Canada and its allies have also not formed coherent, universal understanding of PDO/MDO, war and peace. The development of an alliance-wide definition pertaining to these concepts is important in ensuring unity and preventing misunderstandings. While Canada and its allies highlight the importance of alliances and partnerships, the expected extent of their roles are suggestive of a disconnect between the US and Canada and its other allies, which can impact the capabilities of PDO/MDO.

Gaps and Points of Failure

There are multiple 'headline' challenges that remain as a common thread throughout the PDO/MDO concepts of Canada, the US, the UK, France, Japan, and Norway. Experts who critique PDO/MDO often argue that the concepts do not represent a meaningful change in

the approach to defence and security (Townsend, 2018). These critiques highlight confusion surrounding the extent of change. However, PDO/MDO concepts represent a qualitative change in addressing security challenges, and while the purpose of the concepts is broad, the expansiveness allows flexibility to enable the concepts to remain viable in the context of future technological and geopolitical developments. Thus, more work is required in order to develop a common understanding of PDO/MDO represented by a succinct articulation of the concept which can be accepted across alliances and within all organizations involved in defence and security. A common misconception across the concepts were the role and the level of importance of non-military organizations. The role of non-military organizations must be made clearer, and overt buy-in from political leadership is required in order to ensure requisite connectivity. This will require more training and exercises targeted towards military and non-military personnel. Additionally, a common theme among the country concepts is the need for new robust and resilient technology in order to share intelligence and gather data and ensure adequate communication. In reference to the importance of technology, it is equally as important to develop an awareness on how adversaries are able to react and adapt to technological and geopolitical developments.

Canada's Way Forward

The development of PDO/MDO provides numerous opportunities for Canada in a technological, operational, and conceptual framework. These opportunities must be embraced by Canada, or Canada risks getting left behind by its allies. In a technological context, Canada can use its expertise to enhance data storage, transmission, and analysis in defence and security operations. Canada is “positioned to leverage its comparative technological advantage” (Budning, 2021). In an operational and conceptual context, Canada can engage in meaningful theoretical and practical testing. This can include developing a research hub for Canada and its allies and developing a curriculum for PDO/MDO training which would further cement Canada as a central actor in the PDO/MDO realm amongst its alliances. Canada must follow the principles outlined by NATO's C2 CQE, and NATO Multi-Domain Operations Conferences in order to ensure technological and doctrinal development.

Conclusion

The PDO/MDO represents a meaningful evolution in the defence and security realm. The concept allows Canada to leverage its capacity, while ensuring its national security and protecting and aiding its allies. The success of the PDO/MDO concepts is reliant on adequate funding, the procurement of effective technology, the ability for the military to develop its culture effectively, engagement among military and non-military organizations, and alignment across allies and partners. Canada and its allies have developed understandings of PDO/MDO that align relatively correspondingly, highlighting that the existing approaches to ‘domains’ must be enhanced by recognizing their inherent connectivity. However, the flaws of the PDO/MDO approach can be located in the juxtaposing understandings of the role and implementation of PDO/MDO. Canada has the capacity to maximize its interests through enacting PDO/MDO while being mindful of its allies. PDO/MDO represents an

opportunity and necessity for Canada and its allies to adapt to the unprecedented growth of emerging domains, and the return of great power competition.

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