

# Staffing Cyberspace Operations

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Using military personnel for roles that are not truly military essential can be costly, both financially and manpower-wise.

**T**he Challenge: Choosing the wrong total force mix for the Cyber Mission Force can put the mission at risk or create inefficiencies that consume scarce resources. This problem is compounded by the lack of a legal framework for identifying combatants in cyberspace operations.

## Background

Building a Cyber Mission Force (CMF) capable of carrying out cyberspace operations is currently a major force planning effort in the Department of Defense (DoD). Determining the appropriate total force mix, defined as the choice between military, civilian, and contractor performance of DoD activities, is a key component in this planning effort. Choosing the wrong total force mix can put the mission at risk or result in inefficiencies that consume scarce defense resources. In the cyber arena, the problem is complicated by a lack of legal framework for determining which roles include direct participation in hostilities (DPH), and should, by law, be performed by military personnel. Faced with these challenges, DoD asked IDA to assess the current and projected total force mix for the CMF and, if possible, suggest alternative staffing plans.

## Process

In general, any manpower requirement can be classified into one of three categories:

- **Military Essential:** Military essentiality is governed by DoD Instruction (DoDI) 1100.22, which identifies five criteria for designating a requirement as military essential: (1) military-unique knowledge or skills are required; (2) military incumbency is required by law, Executive Order, treaty, or international agreement (e.g., DPH); (3) military performance is required for command and control, risk mitigation, or esprit de corps; (4) military manpower is needed to provide for overseas and sea-to-shore rotation, career development, or wartime assignment; and (5) unusual working conditions or costs are not conducive to civilian employment.
- **Inherently Governmental:** The definition of *inherently governmental* is found in the Office of Management and Budget's Office of Federal Procurement Policy Letter 11-01 and

is built around the well-established statutory definition in the Federal Activities Inventory Reform Act of 1998 as “a function so intimately related to the public interest as to require performance by Federal Government employees.”

- **Non-Governmental Commercial Activity:** Activities that are not military essential or inherently governmental are considered commercial in nature.

Military essential requirements must be filled with military personnel. Any manpower requirement that does not meet these criteria shall be designated for *civilian performance* if the requirement is inherently governmental or subject to least-cost civilian or *contractor performance* if the requirement is a non-governmental commercial activity. There is room for interpretation in determining which roles should fall into which category. These determinations should not be made lightly. Using military personnel for roles that are not truly military essential can be costly, both financially (military personnel are generally more expensive than their civilian counterparts) and manpower-wise (military personnel performing non-military essential roles still count against the total authorized end-strength).

IDA’s research focused on studying the CMF mission to determine which roles should be considered military essential, inherently governmental, or commercial activities open to the least costly performance type (civilian or contractor). To understand the CMF mission

requirements, we studied existing DoD cyberspace strategies, doctrine, and current concepts of operation and employment for CMF.

A central element of IDA’s methodology was to determine those positions that involve direct participation in cyber hostilities, which are deemed military essential. Criteria involving the intention to cause harm and the existence of a causal link between the actions of a billet holder and the infliction of damage were used. Upon this determination, the researcher team developed an alternative force mix that satisfied the staffing criteria as economically as possible. The researchers calculated the full costs of military, civilian, and contractor personnel for each Service’s current force mix and an IDA-developed alternative.

## Findings

Staffing targets for CMF teams were put forth in the Chairman of the Joint Chiefs of Staff’s Action Memorandum to the Secretary of Defense. (Chairman of the Joint Chiefs of Joint Staff 2012) Only the Army developed a staffing plan that strictly followed the workforce mix recommended in the memorandum. The other three Services viewed the recommended workforce mix as planning guidance. Their actual staffing plans reflected what they thought was the best force mix for their CMF teams.

The five CMF teams are (1) the National Mission Team, (2) the Combat Mission Team, (3) the National Support Team, (4) the Combat Support Team, and (5) the Cyber Protection

Team. The staffing mixes employed by each Service for the five teams are presented below along with the alternative staffing plan produced by the IDA analysis.<sup>1</sup> A description of the roles performed by each team can be found in our full-length report. (Barth, et al. August 2016)

Each Service's **National Mission Team** employs just under 60 personnel. While all four Services used a similar share of military officers, the use of enlisted military, civilians, and contractors varied. The Navy used the fewest civilians, while the Marine Corps (USMC) employed the most. IDA's alternative mix for the National Mission Team (shown in Figure 1) featured the fewest military personnel (primarily through reducing the number of enlisted) and more civilians.

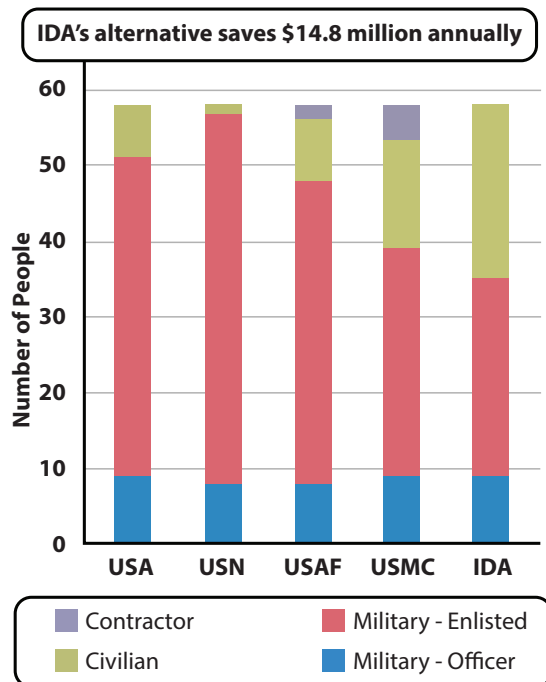


Figure 1. National Mission Team Composition

The **Combat Mission Teams** were also composed of approximately 60 personnel. As with the National Mission Teams, all four Services used a similar share of military officers. The use of enlisted military, civilians, and contractors varied (with the USMC again employing the most civilian-intensive mix). IDA's alternative mix for the Combat Mission Team (shown in Figure 2) featured the fewest military personnel (primarily through reducing the number of enlisted) and more civilians.

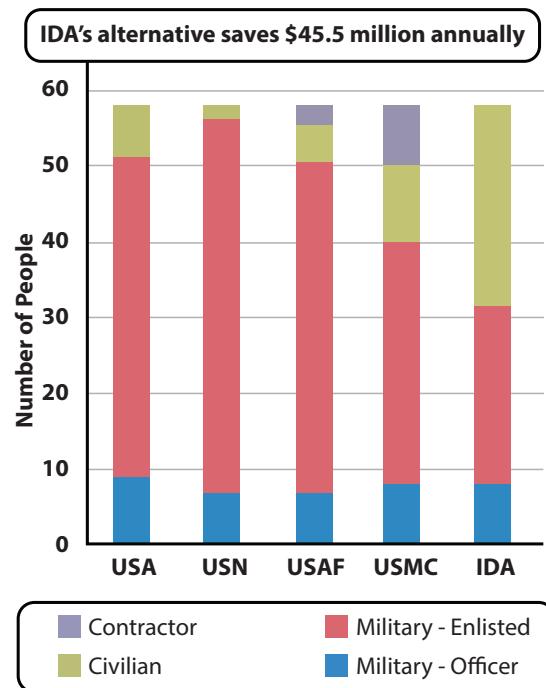


Figure 2. Combat Mission Team Composition

The **National Support Teams** were smaller in size (just over 30 personnel). The Air Force used significantly fewer military personnel when compared to the Army and Navy (the USMC had no

<sup>1</sup> While IDA did determine certain roles were non-governmental commercial activities, contractors are not featured in the IDA alternative CMF team force mixes, as they were found to be more costly than government civilians.

team). The IDA alternative (shown in Figure 3) maintained a military officer mix similar to that of the Air Force, but greatly reduced enlisted personnel in favor of civilians.

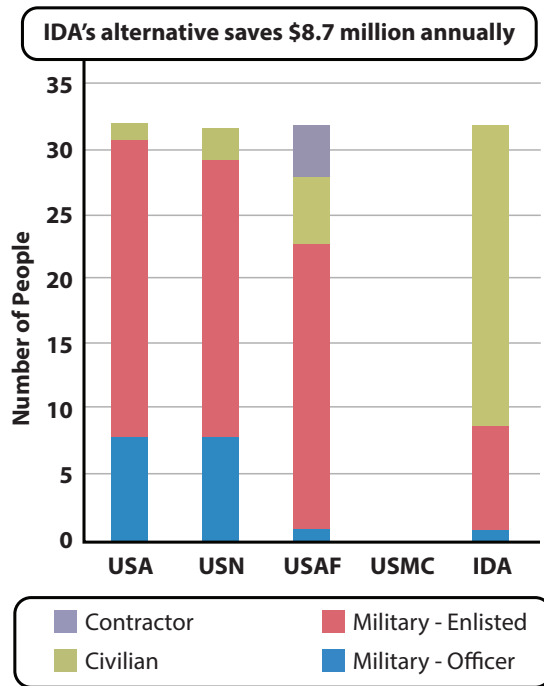


Figure 3. National Support Team Composition

The **Combat Support Teams** were made up of approximately 35 personnel. The force mix employed by each Service varied greatly. The Army and Navy teams were primarily military (although they varied in their officer/enlisted mix, with the Navy employing a much higher share of officers). The Air Force and USMC teams included a higher share of civilians and contractors, while the IDA alternative (shown in Figure 4) employed the fewest military personnel.

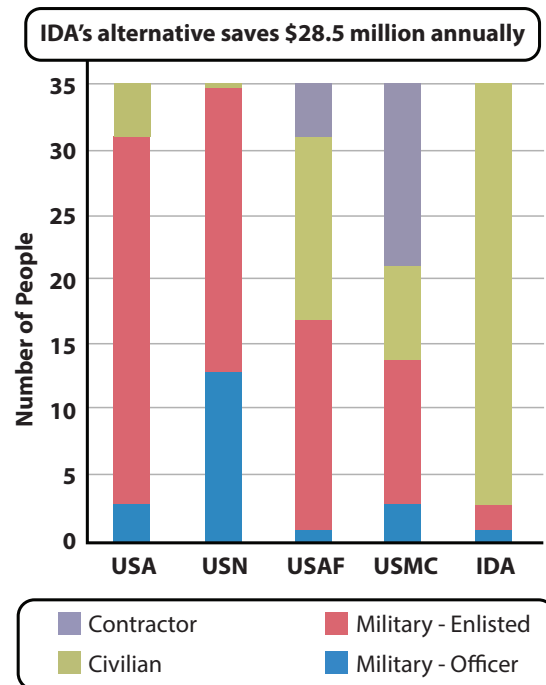


Figure 4. Combat Support Team Composition

The makeup of the **Cyber Protection Teams** also varied by Service. The Army and Navy again had a more military-intensive mix than the Air Force or USMC, and the IDA mix (shown in Figure 5) featured the highest civilian share.

To understand the budgetary implications of the various force mixes, we calculated the full cost of manpower for each Cyber Team using the total force mix employed by the Services (all Services combined) and the IDA alternative force mix (replacing each Service's current mix with the IDA alternative). The costing was performed in accordance with guidance and cost elements laid out in DoDI 7041.04. (DoD Instruction 7041.04 July 3, 2013)

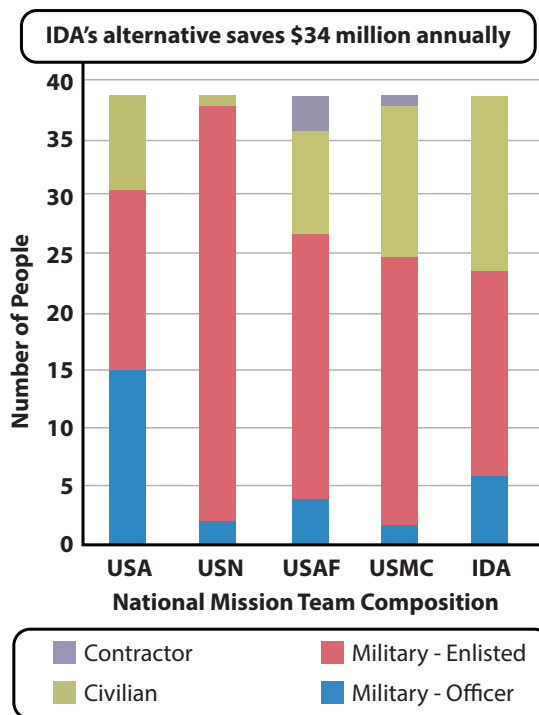


Figure 5. Cyber Protection Team Composition

## Conclusions and Recommendations

The IDA CMF staffing analysis concluded that a more civilian-intensive force mix could save the DoD approximately \$130 million annually while maintaining compliance with DoDI 1100.22. Below we discuss some potential caveats to this analysis and make two recommendations for improving DoD's ability to assess the optimal total force mix.

### Develop a Legal Framework for Determining Combatants in Cyberspace Operations

As part of this analysis, the IDA team developed a protocol based on DPH to guide its determination of what billets require military personnel. This analysis was required because DoD currently lacks a legal framework for determining CMF work roles that are direct participants in *cyberspace* hostilities. It would be prudent for DoD/U.S. Cyber Command (USCYBERCOM) to develop such a legal framework, informed by any existing Government legal opinions on the topic of DPH.<sup>2</sup>

Additionally, a closer comparison of the position descriptions with the actual work to be performed would result in better factual information on the nature of the positions. This would provide Service manpower planners with a better framework to guide cyberspace operations workforce mix assessments, much like they now have for considering kinetic combat operations.

### Evaluate CMF Team Effectiveness

During the research period, the Services had just started standing up their initial teams in the CMF. In the future, performance data will be essential for evaluating the levels of expertise, experience, and continuity needed in a team's work roles for the team to accomplish its mission. This information would inform decisions about civilian and military mix.

<sup>2</sup> We did not have access to such U.S. government legal positions for DPH or other legal matters relating to this research. This would most certainly be an area for detailed research and analysis.

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## References

Barth, Thomas H., Jerome J. Burke, Mark F. Kaye, Drew Miller, Linda Wu, and Stanley A. Horowitz. August 2016. *Staffing for Cyberspace Operations*. IDA Paper P-5217, Institute for Defense Analyses, Alexandria, VA.

Chairman of the Joint Chiefs of Joint Staff. 2012. Action Memorandum to the Secretary of Defense, "JCS Tank on CYBERCOM Mission Manpower." 30 November 2012. Washington, D.C.: Joint Staff, December 5.

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