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Taking Command of Defense Cloud Costs: FinOps

October 2024

Introduction of DoD FinOps Guidance

The Department of Defense (DoD) manages numerous mission-critical workloads across both cloud and on-premises environments, and has driven cloud adoption through multiple avenues, such as the <u>DoD Cloud Strategy</u> and the <u>DoD Software Modernization Strategy</u>, aimed at technology and process transformation. There has been a rapid adoption of cloud. The total cloud budget for the DoD in FY2024 is estimated to be \$2.3 billion with more than 95% of it dedicated to commercial cloud services.

The rapid adoption of cloud technologies offers many benefits but also presents challenges, such as managing cloud assets across multiple providers with inconsistent terms and agreements. Differing cloud acquisition methodologies from on-premise systems can hinder the DoD's understanding of cloud-related expenditures and impacts. Competing demands may prioritize operational and migration concerns over resource optimization, leading to unnecessary spending and delays in mission objectives. As the DoD continues to leverage cloud technologies, FinOps can enhance cost-effectiveness and operational maturity.

The <u>DoD Cloud FinOps Strategy</u> outlines several imperatives to guide the DoD to solve critical issues, but with limited manpower and resources, implementing this guidance may seem daunting. We at Deloitte have been on this FinOps journey with many government agencies and military components since 2021 and would like to provide support and share some of our thoughts on how to best execute the strategy and navigate the DoD into greener cloud pastures.

<u>What is FinOps?</u>

FinOps is an evolving cloud financial management discipline and cultural practice that enables organizations to get maximum business value by helping engineering, finance, technology, and business teams to collaborate on data-driven spending decisions. The focus is a balance between **culture**, **processes**, **and tools** that work to optimize cloud and ensure that cost awareness is embedded throughout the end-to-end life cycle of every resource in the cloud.

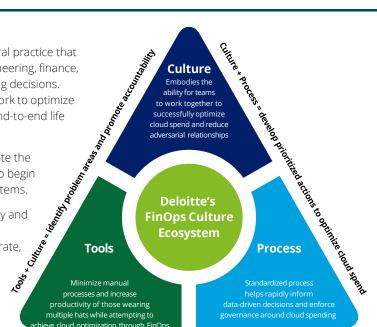
While beginning FinOps before a resource is ever stood up can generate the best results, a FinOps journey can start at any time in cloud adoption to begin realizing its benefits and maximizing mission impact through cloud systems.

FinOps not only aids in return on investment but also enhances visibility and understanding of cloud data, leading to more accurate forecasts and estimates of cloud spending. Without FinOps, estimates can be inaccurate,

and lead to more cloud waste.

FinOps improves operational agility and strategic decision-making by contextualizing cost data with the growth, changes, and usage of the cloud system for the DoD mission. High-fidelity data tracking allows

for trend identification, key performance indicator (KPI) benchmarking, and confident funding and budgeting with near real-time data.



Tools + Process = drive reporting and automation

Given that cloud computing differs significantly from on-premises computing, new tools and methodologies are essential for efficient leverage. Integrating FinOps with cloud deployment is crucial for maximizing cloud benefits while mitigating the risks and costs associated with migrating to a dynamic pricing environment.

🛞 Deltek, GovWin federal market analysis, August 2023.

How Deloitte Navigates the DoD FinOps Framework

INFORM: Enabling visibility and transparency

The Inform phase is primarily about gaining visibility and understanding of cloud costs and usage. This foundational step is crucial for effective cloud financial management.

TOO MANY DEFINITIONS, NOT ENOUGH CONSENSUS

In an organization as vast and complex as the DoD, the absence of a common IT vocabulary or cross-cloud service equivalency (e.g., understanding the equivalent of an m5.xlarge across cloud service providers [CSPs] or calculating billing units) can result in significant data gaps and inefficiencies. Different branches, divisions, and departments often use varied terminologies, creating barriers to effective collaboration and data-sharing beyond the technology lexicon as well.

Standard IT lexicon

In alignment with the DoD's guidance section 4.1 "Obtain Visibility of Cloud Cost and Utilization Data," the adoption and implementation of a **standardized IT lexicon tailored to mission needs** can mitigate confusion and prevent the loss of ideas in translation. Just as a Memorandum of Understanding (MOU) outlines terms, ensuring that the cloud provider's data is mapped and aligned to a standard lexicon reduces confusion and streamlines data ingestion. Additionally, collaborating with stakeholders to define essential terms and concepts, creating accessible documentation, conducting training sessions to disseminate the new lexicon, and keeping the information up-todate are all ways to help prevent miscommunication. For example, in a conversation with multiple division directors, ensure your organization's definition of "environment" is clear. One division director may define it as a single cloud account, while another believes it to be anything in a production build. This can extend to using common contract terms and conditions for cloud acquisition—further aligning with the Office of Management and Budget's <u>Cloud</u> <u>Smart Strategy</u>.

Cost and utilization frameworks

Building on a standardized IT lexicon, standardizing cost and usage data can further enhance the DoD's ability to manage and optimize cloud spending by creating parity in language across the different cloud providers. This approach can reduce out-of-cycle budget requests and streamline government budget and IT capital planning exercises. Using a standardized framework for cost and usage data, the DoD can achieve greater efficiency in data collection and reporting, facilitating benchmarking and optimization efforts. The alignment between a unified lexicon and comprehensive, accurate data reporting creates a cohesive strategy for enabling visibility and transparency into cloud costs and usage.



OPTIMIZE: Setting optimization targets through data analysis

Once there is a comprehensive understanding of cloud spending, the Optimize phase focuses on reducing costs and improving efficiency without compromising performance or business needs.

This phase encompasses various strategies, including planning, estimating, forecasting, budgeting, benchmarking, and implementing mission-focused unit economics (for example, cost per service member, per Common Access Card (CAC) printed, per base supported).

SUPPORTING NEEDS, REVIEWING WANTS, ELIMINATING WASTE

According to the Flexera 2024 state of cloud report, organizations believe that 27% of their cloud spend is wasted. Many costs are necessary to support the DoD's needs and ensure compliance with policies while maintaining or improving performance and operations. FinOps focuses on reducing unnecessary spending without compromising performance.

Identifying optimization opportunities

While there are many ways to optimize, it is often observed that when compute instances are decommissioned the associated boot and block volumes are not always removed at the same time. These costs can be easily removed by deleting the unattached volumes or archiving data depending on retention requirements.

Acting on utilization data provided through the reporting framework to rightsize or remove a resource can optimize spending and eliminate waste. With proper tagging and reporting, we can see when a resource is consistently using less central processing units (CPU) than required, allowing us to downsize that resource and lower cost. We also see when resources get spun up and when they are no longer in use. Resources that are not removed or spun down while not in use can still incur charges. To mitigate this, life cycle policies can be applied to resources that meet certain requirements, and they can be deleted after those requirements are met.



Quantifying mission value

In large organizations and divisions within the DoD, different teams such as engineering, finance, and operations often have their own metrics and priorities, leading to misalignment and misunderstandings about how cloud resources are being utilized and their impact on overall mission goals. It is important to create a common set of metrics that align cloud costs with mission outcomes, facilitating better cross-functional communication and collaboration.

This is where unit economics comes into play, providing a structured approach to track and optimize cloud spending, align costs with strategic value, and make data-driven decisions.

These metrics need to be **clear, meaningful, and track how cloud use affects the DoD's priorities**. Furthermore, the metrics established need to be paired with clear, actionable, and achievable targets so that stakeholders feel a sense of ownership and accomplishment regarding the metrics.

Defining KPIs

In alignment with the DoD's guidance in section 4.2, "Define and Display Metrics for Optimization," Deloitte FinOps has identified eight categories of KPIs that offer significant insights into business value. These categories include forecasting, optimization, unit economics, operations, automation, compliance and security, strategic alignment, and cost allocation.

A comprehensive guide on KPI analysis would require additional discussion because each organization's cloud environment and mission priorities are unique. Consequently, a KPI that is effective for one organization may not be suitable for another.

Additionally, the best KPIs for tracking cloud value can and will change over time as an organization matures. As the DoD progresses in its cloud journey, the focus may shift from basic cost management to more sophisticated metrics that align with evolving strategic goals and operational efficiencies.

Below are some common KPIs that can be used as a beginning guide to setting goals around funding of cloud, visibility of cloud data, and optimization of cloud:

- Total bill versus forecast—Including variance percentage of forecasted versus actual bill.
- **Percentage cost attributable**—The proportion of costs that can be directly attributed to specific activities or departments.
- **Percentage of orphaned resources**—Identifying and managing resources that are no longer in use but still incur costs.

Once more traditional FinOps KPIs are established, mission-focused KPIs and unit economics can be implemented, such as lowering the cost of each CAC printed by a certain percentage.

By focusing on these KPIs, the Department of Defense can better align its cloud spending with its strategic objectives, ensuring both cost efficiency and operational effectiveness.



OPERATE: Implement enhancements into the organization

The Operate phase is about embedding FinOps practices into the day-to-day operations of the organization, ensuring ongoing management and optimization of cloud costs.

Our experience tells us tools alone only yield information, but capitalizing on optimization opportunities requires a holistic approach to sustain cost-optimized cloud environments and act on the information provided by tools. A successful FinOps implementation requires the seamless integration of culture, processes, and tools to drive cloud cost optimization and governance.

FINOPS IS MORE THAN ONE TEAM

Operate may sound like a phase that only applies to the cloud engineers or application owners, but FinOps works best when all stakeholders embrace the culture and collaboration that supports the FinOps cycle. Every member of an organization applies FinOps practices and processes in their cloud-related roles, from engineers to procurement to cyber.

Improving FinOps literacy

For FinOps to be effective, the DoD needs to foster a cost-conscious culture across mission partners and organizations alike, from the Office of the Secretary of Defense down to every defense agency within. This allows teams to work together to successfully optimize cloud spend and reduce adversarial relationships.

We recommend approaching the culture shift on the individual level. By empowering individuals directly, a more organic growth of culture will prevail and sustain itself. By clearly defining who is accountable for what tasks or roles, each team understands its part in the broader FinOps strategy. This clarity fosters a sense of ownership and accountability, which is crucial for the successful implementation of FinOps practices. A key component is also to have regular and frequent conversations with contracts and procurement teams to understand how cloud is procured and funded. Similarly, ensuring the Contracting Officer's Representatives (COR) understand the different procurement model of cloud versus software or on-premises hardware is key to a good cloud acquisition and foundation for FinOps.

Integrating FinOps into governance

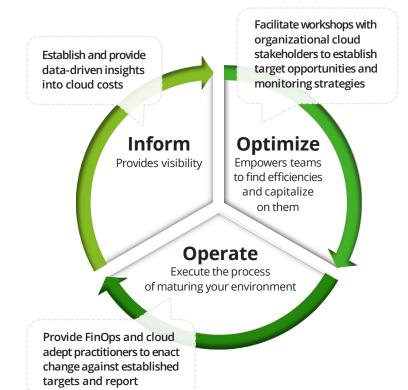
On the governance side, it is important to work with DoD leadership to develop policies that adhere to DoD guidelines to operate and manage cloud services effectively and efficiently (e.g., budgets and cost thresholds, cloud user permissions to provision resources, backup, and snapshot policies).

We recommend spending time developing governance that balances achieving FinOps goals without creating burdensome tasks for DoD employees. Processes should be easily repeatable and low effort to maintain, making them easier to implement.

When new processes do create "more work," it is important to have a level of transparency explaining why the governance is in place. Adoption of new processes is more likely to be successful when the users understand the reason behind the work and why they benefit from the updates.

ITERATE: Continue the cycle

FinOps is iterative. Each revolution of the Inform, Optimize, Operate cycle is going to allow the DoD to mature its practices and processes. If the last cycle created a standardized report in the Inform phase, this cycle could create a dashboard to make that information even more accessible. Any optimizations that are implemented and successful should be evaluated for possible automation. Small steps in each phase promote sustainable growth and FinOps maturity. The DoD's needs will continue to evolve, and Deloitte can support its progress as the DoD FinOps practice matures and incorporates more complex KPIs.



Key Takeaways

Embracing FinOps principles is a strategic imperative that can transform the DoD's operational landscape by enhancing cloud financial management, ensuring cost efficiency, operational agility, and strategic alignment.

Deloitte's extensive experience and tailored approach to FinOps can provide the DoD with the necessary tools, processes, and cultural practices to navigate the complexities of cloud adoption and compliance with the DoD FinOps guidance.

Implementing the DoD FinOps framework offers significant value by **providing visibility** into cloud usage and costs, ensuring that every dollar spent is maximized for mission success and operational efficiency. It **enhances operational agility** by leveraging commercial technology and innovation, allowing the DoD to adapt quickly to changing mission requirements. Additionally, FinOps **fosters a cost-conscious culture and robust governance frameworks**, aligning cloud investments with strategic objectives to drive greater mission value.

This alignment with DoD strategic objectives and guidance will enable exponential growth, address cyber challenges proactively, and support the war fighter with the latest technology.



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