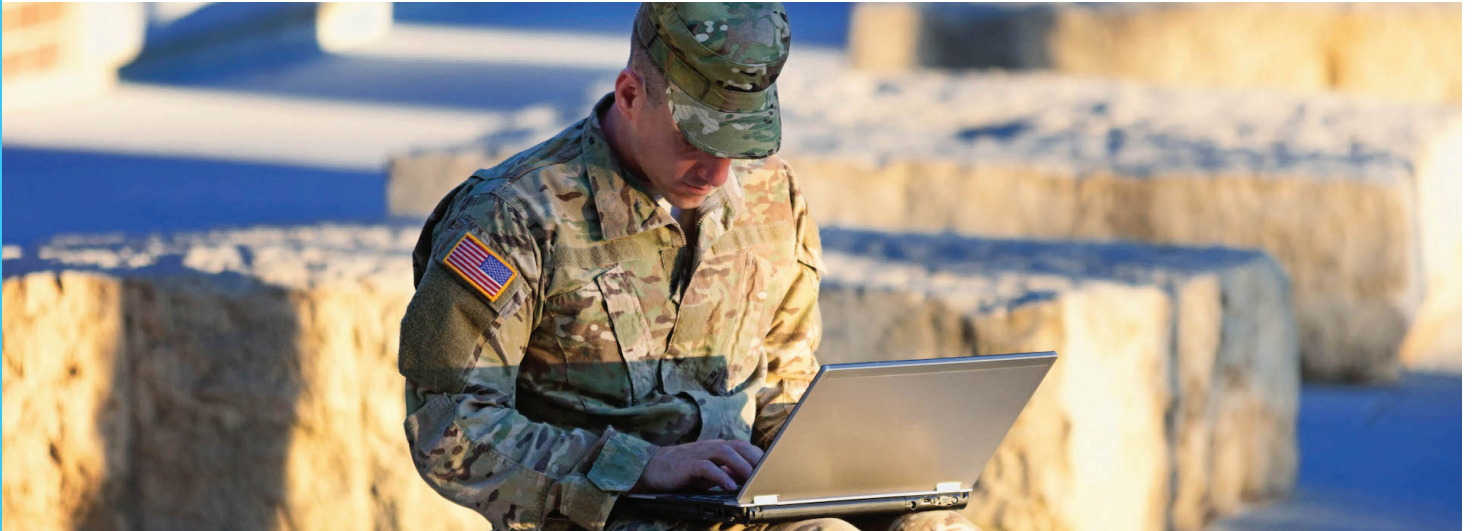


Providing enhanced defense at the edge



The DoD is driving its own internal efforts to streamline infrastructure and processes to create the most agile national defense possible.

US government agencies are operating under both Congressional and executive branch mandates to modernize their IT capabilities. The Department of Defense has vast IT resources that are subject to these mandates.

Challenge: Agility, cost control, no-compromise security

DoD's modernization efforts are a thoughtful combination of leveraging new computing approaches such as the cloud and innovating for the future of its mission. Its goals include:

- **Innovate for Competitive Advantage:**
DoD will realize the benefits from cloud computing, big data analytics, mobility, Internet of Things (IoT), increased automation and availability and use of secure platforms to increase competitive advantage against adversaries.
- **Optimize for Efficiencies and Improved Capability:**
This plan includes a shift to an enterprise-wide operations and defense model including right-sizing DoD data centers, optimizing office productivity and collaboration capabilities as well as voice and video capabilities.
- **Evolve Cybersecurity for an Agile & Resilient Defense Posture:**
Improves endpoint security and continuous monitoring, enhances enterprise perimeter protection capabilities, implements automated patch management, and enhances cybersecurity situational awareness through big data analytics.
- **Cultivate Talent for a Ready Digital Workforce:**
By implementing an agile and responsive workforce management system supporting recruiting, training, and retention capabilities the DoD plans to build the workforce of the future.

In all cases, realizing the solution to each of the above challenges involves a mix of centralized resources, such as cloud-hosted applications, and decentralized efforts to acquire and analyze data. Then to ultimately act on the data by deploying command and control or collaborative systems to manage a highly complex global organization.

Security is of paramount concern. Latency is also a huge issue as the military is asset-intensive and those assets are at their most useful when they are in motion.

Controlling these assets from thousands of miles away potentially introduces hundreds of milliseconds of latency which could be catastrophic. In addition, latency issues bring security concerns. Slow responses to hostile probing or intrusions could open vulnerabilities.

Solution: Edge computing moves applications and security to the network edge

In many cases, a cloud-like capability at the edge addresses both operational and security concerns. Applications can execute much closer to where they are actually used and security responses can move into action immediately.

Lumen® Edge Computing Solutions architect an Acquire, Analyze, Act framework. Vast amounts of data can be acquired at the edge and staged at a data base camp using Storage as a Service capability. Some amount of processing can be applied at that “base camp” level so that the right data can be cost-effectively transmitted to the DoD’s intelligent data engines to perform analytics. As insights are gleaned from that analysis, algorithms and control logic can be redeployed back to the edge so the DoD can act on business logic close to interactions among devices and machines.

Security systems deployed in edge compute facilities can move security response closer to devices and endpoints to protect the network and enhance security. With our robust Web Application Firewalls (WAF), Bot Management and API Protection service – as well as one of the world’s largest DDoS deployments – Lumen security at the edge is seamless, built-in, automated and informed by high fidelity threat intelligence to help protect and accelerate application experiences for our customers and their end users.

Results: Security and resilience without sacrificing flexibility for workers

These architectures composed of Lumen Intelligent Solutions components, expertise and managed services can modernize networks and secure workloads at the edge. Consider just a few effects of this edge computing infrastructure for DoD installations:

- Reduced latency for control applications and security response
- Edge-based security for sensitive data
- Lower network costs from transporting only relevant data to the cloud
- A more resilient technology infrastructure

Edge computing approaches put data processing and storage closer to the network edge where the processes take place.

Visit [Lumen](#) today for more information or contact a Lumen Expert for consultation to get started.

Edge computing complements both cloud computing and the IoT, creating seamless, low latency and secure solutions.

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