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**CISCO**
**The bridge to possible**

# Defense Agencies Modernizing Core IT

**Leveraging the power, density, and management simplicity of Cisco UCS C-Series servers**



## Challenges

- Reduce server and cabling footprints

- Simplify infrastructure management and scaling

- Minimize operating costs

## Solutions

- Cisco® Unified Computing System™ (Cisco UCS®) C-Series Multinode Rack Servers, powered by AMD EPYC™ processors

- Cisco UCS Manager

- Cisco Intersight™ Private Virtual Appliance

## Sample Results

- Consolidated 20 racks of gear down to a single rack

- Reduced 200 cables down to 80

- Lowered power consumption and licensing costs

## Challenge: Modernize and simplify IT infrastructure within the defense industry

Defense agencies around the world are working to modernize their IT infrastructure, taking advantage of high-performance servers that are more dense, less costly, and easier to manage than legacy systems. In fact, various defense departments in multiple countries are now using the powerful combination of:

- Cisco UCS C4200 Series Rack Server Chassis, which hosts four rack server nodes in two rack units (2RU) with shared power and cooling

- Cisco UCS C125 M5 Rack Server Nodes, which are powered by AMD EPYC processors that deliver the highest core density in the industry

## Footprint and cost consolidation

One defense agency wanted to expand its private cloud, but had limited physical space in a shared environment. The agency replaced its legacy servers with Cisco UCS C-Series to get more performance and capacity without additional rack space.

Instead of three chassis and 24 nodes in a single rack, the agency now has 10 Cisco C4200 chassis and 40 Cisco UCS C125 M5 server nodes in a single rack. Two-hundred cables have been reduced to 80. And because of the improved performance of the new environment, the agency was able to significantly reduce its hypervisor licensing costs.

Another defense agency had a mishmash of rack and blade servers, with an equally varied collection of management tools. The agency wanted to reduce 20 racks of gear down to a single rack and was able to do so with the Cisco UCS C-Series. The deployment significantly reduced the agency's IT footprint, power consumption, and operating costs, and was easily replicated across 25 field sites and within an associated agency's server environment.
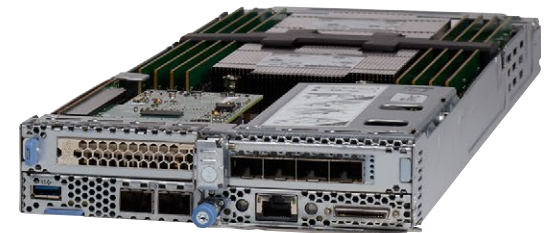
## Simplified management and scaling

One defense agency deployed the Cisco UCS C-Series to simplify infrastructure management and scaling. Instead of manually managing servers on an individual basis, the agency is now orchestrating its servers collectively using software-defined service profiles.

Leveraging Cisco UCS Manager, service profiles are easily deployed to both rack and blade servers — up to 160 nodes simultaneously. As a result, the defense agency has streamlined infrastructure management, established greater consistency of server configuration and security, and simplified scaling without the need for downtime.

Another defense agency is using the Cisco Intersight Private Virtual Appliance to simplify and centralize server management. In addition to enabling thousands of nodes to be managed collectively, the appliance aligns seamlessly with Ansible and other open source tools for infrastructure automation and orchestration.

## Performance and reliability

All of the defense agencies have noted the exceptional performance and unwavering reliability of Cisco UCS C-Series servers. Often deployed in the field where technical skills, physical spaces, and power resources are limited, the robust and resilient Cisco C4200 chassis with Cisco UCS C125 M5 server nodes help ensure mission success.

### Cisco UCS C4200 Series Rack Server Chassis

- **Support for four nodes**
  Up to four Cisco UCS rack server nodes can populate this 2RU chassis

- **Up to 512 cores per chassis**
  With the AMD EPYC processor, industry-leading core density is achieved

- **Shared power and cooling**
  N+1 redundant power supplies support all four servers and provide sufficient power to support top-bin processors

- **Up to 24 Small-Form-Factor (SFF) drives**
  The drive bays are allocated so that each rack server node has access to six SAS, SATA, or up to four disk drives and two NVMe drives

### Cisco UCS C125 M5 Rack Server Nodes

- **Up to 2 AMD EPYC processors**
  Choose the number of cores you need for your workload with consistent processor features, from 8 to 64 cores per CPU

- **16 DIMM slots**
  Up to 2 TB of memory

- **2 PCIe 3.0 slots**
  Use to connect to the I/O infrastructure that best suits your needs

- **Optional fourth-generation Cisco VICs**
  Complete programmability of the number and type of I/O devices, making it easier to host different workloads

- **Flexible OCP 2.0 slot**
  For third-party I/O devices

- **Internal drive connectivity**
  Up to 6 SAS or SATA drives or up to 2 NVMe drives plus 4 SAS or SATA disk drives

- **Internal SD or M.2 boot options**

## For more information

- [Cisco UCS C-Series C4200](#)
- [Cisco UCS Manager](#)
- [Cisco Intersight Private Virtual Appliance](#)