

An A-10C Thunderbolt II, piloted by the 40th Flight Test Squadron, flies over what's left of a target that was successfully hit by a Laser Joint Direct Attack Munition drop on the Eglin range. (U.S. Air Force photo/Master Sgt. Joy Josephson) | WikiCommons Public Domain



CASE STUDY

EGLIN AIR FORCE BASE



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A USAF F-15C flying over Fresno, California, in 2013 (Master Sgt. Roy Santana, US Air Force) | WikiCommons Public Domain

MEETING GOVERNMENT SECURITY REQUIREMENTS WITH CLEARCUBE PC BLADES

Eglin Air Force Base is home to the Air Force Material Command's Air Armament Center (AAC), which tests and evaluates non-nuclear munitions, electronic combat systems and navigation/guidance systems.

The Center plans, directs and conducts the testing and evaluation of U.S. and allied air armament, navigation and guidance systems, and command and control systems, including the F-15 Eagle Fighter Aircraft, the F-16 Fighting Falcon Aircraft, the F-22 Raptor fighter aircraft, and the A-10 the Thunderbolt bomber aircraft.



Both Lockheed-Boeing-General Dynamics YF-22s. (U.S. Air Force photo) | WikiCommons Public Domain



Provide high-performance computing at an Air Force F-15 testing facility while meeting government emission security (EMSEC) requirements for data security



The ClearCube solution saves valuable workspace, decreases support costs, and increases security in this mission-critical facility.



Deploy ClearCube Technology's PC Blades to support multiple secure networks per user.

COMPUTING PERFORMANCE GROUNDED DUE TO SPACE & SECURITY ISSUES

In order to support users at various security clearance levels while complying with emissions security (EMSEC) requirements, the Operational Flight Program Combined Test Force (OFP CTF) of Eglin AFB had to utilize five different networks.

These stipulations also required the air force base to keep a one-meter distance between each network and between each desktop PC to prevent the transfer of sensitive data between networks.

The EMSEC space requirements posed an obvious logistical challenge, explains Roger Chilcott, Senior Engineer, SENTEL Corporation, OFP CTF, Eglin AFB.

"If we had wanted to use desktop PCs for this architecture, we would have had to make a significant investment to increase space, power and cooling at the user desks." In addition to the space constraints caused by housing five different PCs at each user workstation, the cost of PC support was also prohibitive.

CLEARCUBE TECHNOLOGY GETS SECURITY CLEARANCE

The OFP CTF turned to ClearCube for a more manageable solution that would provide the security and high-performance computing demands of its F-15 testing facility, which collects data from F-15 fighter jets, performs development and operational testing, and ensures that all software upgrades made to the F-15 will work within the parameters of combat.

ClearCube removes the PC from the desk, compresses it to a PC Blade form-factor, and rack-mounts it in a secure, centralized location. All that's left at the end user's desk is a keyboard, monitor, mouse and a small User Port that connects all PC peripherals to the Blade through existing cabling infrastructure.

Each PC Blade contains all standard PC components, including the latest Intel® processors, memory, hard drives and video cards. ClearCube PC Blades also support both copper and fiber cabling infrastructures, providing additional system protection.

Realizing the security and cost benefits of the ClearCube solution, the OFP CTF outfitted each of its employees with five PC Blades on five

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F-22 Raptor during "Red Flag" exercise in front of Area 51 – USAF (Senior Airman Matthew Lancaster) | WikiCommons Public Domain

separate networks. Because the Blades were housed in different racks in the data center, the air force base was able to comply with EMSEC provisions without incurring additional support costs or space demands.

"There is no data transmitted from the User Ports, so we can stack them together and keep them out of the way of the users," says Chilcott.

The OFP CTF was also able to significantly reduce the risk of data theft by keeping PC Blades in a secure data center and "locking out" users from attaching USB and removable storage drives.

By restricting the use of mass storage devices such as disk drives and CD drives, Eglin prevented users from downloading sensitive data and uploading potentially harmful software.

MISSION ACCOMPLISHED

The centralized location of the PC Blades enabled the OFP CTF's IT staff to remotely manage the system without disruptive and time-consuming trips to the user's workstation.

If a PC Blade fails or needs to be moved or upgraded, IT can switch the user to a spare Blade within minutes and then perform repairs or alterations at a later point in time. When users need to move, their applications, data, settings and preferences follow them to the next location, no matter where it is.

With PC Blades, the OFP CTF of Eglin AFB was able to comply with EMSEC requirements and accommodate twice the number of original users in one facility. The easy deployment of the Blades was also a key advantage in both time and cost savings, explains Chilcott. "With PC Blades, everything is all in one place."

Chilcott says that the users are very pleased with the ClearCube PC Blades, and the IT support staff is thrilled with the ease of support and maintenance.

"ClearCube delivered security, manageability and space savings at the desk. This is an optimized solution for us."

Roger Chilcott
Senior Engineer, SENTEL, OFP CTF,
Eglin AFB

