



## Airport Uses Secure Remote Access Solution with Zero Latency for its Control and Training Centers

### CHALLENGE

In airports, security is critical for the safety of employees and passengers. A safe arrival and departure monitoring service ensures the security from a control tower. Air-traffic controllers in the towers need to know about obstacles from climate and weather changes as well as other planes in the runways and on the outskirts of the runways.

In pilot training rooms, a training system server controls airplane simulators. This setup must also be safe, easy to navigate, and error-free for a streamlined workflow.

A customer previously used a third-party for distributing video, audio, and USB peripherals (Keyboard, Video, Mouse [KVM]) and only initially approached Black Box for an AV Splitter. When Nobuho Nakai, Sales Manager for Black Box Japan spoke at length with the customer, he discovered that they were also looking for some KVM extenders.

Black Box took the assignment and started looking for replacement products for the existing KVM extender system. The customer was faced with the challenge of supporting 4K 60 Hz with a DDC/CI (Command Interface) at a local airport control tower. Their existing KVM system could support the necessary video requirements, but the solution became too expensive. While DDC/CI was needed in the tower, the DDC/CI feature was not needed in the pilot training room that also required a remote control solution. The customer wanted a cost-effective solution.

### SOLUTION

Black Box suggested testing the DKM extender solution. It provided the desired 4K 60 Hz resolution that the user requested and the mouse worked perfectly. As airports have high security demands for their mission-critical environment, Nobuho supplied references of organizations with equally demanding applications, including train management and U.S. Navy solutions that

**INDUSTRY:**  
TRANSPORTATION – ATC

**SOLUTION:**  
CONTROL ROOM

**PRODUCT:**  
DKM



## SOLUTION (CONTINUED)

are already successfully using the DKM system. Testing, end-user references, and Black Box's long-standing tenure as a trusted manufacturer for over 40 years convinced the customer that DKM is the right solution for the airport.

With assistance from an application engineer and a technical support engineer, Nobuho provided the customer with a solution to fit their exact requirements. Nobuho also arranged for evaluation units to be supplied to the customer.

The new deployed solution consists of 215 DKM Compact Extenders, 29 DisplayPort AV Extenders, and 112 Modular DKM Extender chassis fitted with transmitter or receiver modules that matched the specific interface combination required by the end user. The devices are installed in a number of airports with an equal setup, connecting the remote systems with the pilot's simulation center.

The Black Box solution is tailored to the customer's specific application. The DKM transmitters are attached to the critical computing hardware in a secure and temperature-controlled server room, far away from the user consoles in the tower and pilot training rooms. The system administrator receives a video loop on a local monitor - which is great for monitoring and administration right at the computer in the server room.

The end-user must receive the video latency-free with no delay and 4K resolution must be crystal-clear on his screen. His user experience is the same as with a direct desktop - plus, it's easy to use. More importantly, fast, efficient USB and audio control enables controllers and pilots to react instantly, which is crucial to maintain safety in the towers as well as the simulation center.

The customer's workflow is significantly improved thanks to the convenience of the KVM solution, ease of mouse movement, and superior video, and now workers have precise visuals of what is going on at the airport with crystal-clear resolution on their monitors so they can act quickly to avert problems.

## RESULT

The Black Box solution meets all of the customer's requirements. They now have a state-of-the-art DKM solution with seamless mouse movement. The DKM systems deliver 4K video to the end users for precise visualization and efficient workflows. The solution provides a fully-functioning result that the customer can use now and in the years to come. Plus, the DKM solution is much more cost-effective than the customer's original system. The customer was impressed with the rock-solid security that DKM provides.

Because the Modular DKM FX extender setup provides the widest range of possible interface combinations, it precisely suits the customer's exact application. In the towers, DDC/CI (Command Interface) enables the computers and monitors to send and receive commands to/from each other.

Employees enjoy pixel-perfect 4K resolution on the monitors at their desktops, making it easy for air-traffic control personnel and pilots alike to make quick, accurate decisions by clearly visualizing the situation in real-time, whether in the tower or simulation room. As requested, mouse speed is not compromised; the mouse keeps pace with operator movements.

The customer was pleased with the results. To ensure customer satisfaction, all questions from the customer were answered in a timely manner. Plans to expand this solution across international airports are in the works.

