

# Multiple Air Force Bases Conquer Complex vSphere Upgrade Across Locations

## Executive Summary

The U.S. Air Force was operating seven IT programs as separate entities in different locations. All were running an out-of-date version of VMware vSphere software, as well as disparate hardware systems, with different data center architectural designs and incongruent procedures for deploying and running third-party applications. Managing disparate environments became overwhelming, and vSphere needed to be upgraded.

## Challenges

- » An older version of VMware vSphere needed to be upgraded
- » Seven completely separate IT programs were running incompatible environments
- » The customer was wrestling with the limitations of old software and a multitude of disparate IT environments

## Primary Solution

- » VMware vSphere

## Business Impacts

- ✓ The customer received a validated design configuration for vSphere that provides a standardized and technically current foundation across all seven programs.
- ✓ Older vSphere environments were upgraded to the latest and most up-to-date software versions.
- ✓ A bond between August Schell and the customer was forged, creating an open environment for shared communications and teamwork.
- ✓ A long-term relationship was also created, giving the customer an ongoing resource available for consult on any VMware-related issues, questions or challenges.

## Air Force Working to Manage 7 Incompatible IT Environments

A U.S. Air Force base was running seven technology programs with outdated versions of VMware vSphere. Not only did they require a software upgrade, but their multiple environments were causing more complexity than IT was able to reasonably manage.

“One of the biggest challenges was that every single program was its own entity. They each had their own different, separate hardware configuration, different data center architectural designs, and different methods for incorporating and running third-party applications,” Frank Floyd, VMware consultant at August Schell explained.

Some of the hardware was newer or more modern, while other hardware was aging. Much of the hardware in use was compatible with VMware’s hardware compatibility list (HCL), but some of the gear was not. Fortunately, August Schell was brought into the engagement at the beginning and tasked to handle one program at a time to get things organized. Since each of these programs varied significantly in scope, August Schell personnel planned to provide design, documentation, and step-by-step manuals from the beginning so that Air Force personnel would be able to work with their new environments more easily.

## vSphere Upgrades Carried Out, From Health Checks to Triumphant Implementation

The engagement was kicked off with a system-wide health check of each environment. The August Schell VMware engineering team gathered detailed information such as hardware type, networking details, versions of VMware software in-use, as well as current organizational and security constraints. “We made sure to define their processes, hardware configurations, and anything that could potentially constrain them from upgrading the vSphere software,” Floyd said.

Post-health check, it was time to provide the customer with an updated, new design and a roadmap describing the way forward. Floyd led the engineering efforts to put together a design document, complete with subsystem configurations, a listing of current systems and their details, a process for implementation, and a go-forward plan. “We were careful to work through the design based on VMware’s validated design specifications that rely on proven best practices. Since each of the programs vary in size, producing a qualified design can take anywhere from two to three months to complete,” Floyd recalled.

The implementation began, including write-ups for Air Force personnel to utilize in the field. The August Schell team also provided directions on how to complete an upgrade independently should any IT team members wish to carry out the implementation on their own. “They really wanted to have hands on the keyboard,” Floyd explained. “So our aim was to let them do that and provide the guidance, knowledge, consultation, and write-ups for them to carry out the upgrade steps on their own, based on our VMware-approved design.”

Major upgrades require a fine balance of management boards’ agreement and downtime maintenance windows, so August Schell worked with the customer to set up changes at minimum-impact times while providing documentation for

change management stakeholders. Because so many programs were involved, careful attention was paid to coordinating across all locations. “There has to be coordination. Even if it’s the same program, each base can have its own variation of particulars as to how they run it, which meant that we really needed to be talking to the right people at every single base.”

When the implementation was in place, August Schell moved onto the testing phase to ensure proper functionality. “We were able to confirm that everything was working as expected, so there wasn’t any need to implement our back out procedure,” Floyd said. Testing was completed, followed by monitoring for an additional two weeks to ensure no anomalies were present. Finally, the upgrades were completed, and August Schell began a maintenance phase with continued, comprehensive monitoring.

## Multiple Air Force Bases Bring vSphere to the Modern Day and Secure an Ongoing VMware Resource

Despite all of the considerations that had to be made for these many disparate environments, it was great to finally complete the upgrades and provide a solid virtualization platform for the Air Force.

“Performing seven vSphere upgrades is a lot more involved than completing just one. Ultimately, we made sure their programs were made current, but I think the real key to this engagement was being available to our customer as subject matter experts. I feel very strongly that excellent communication with the customer has enabled us to make such a large undertaking a huge success,” Floyd said.

Thanks to Floyd’s above-and-beyond communications efforts, not only were the vSphere upgrades completed, but a strong bond was formed between the team at the Air Force base and August Schell. The customer gained a permanent adjunct knowledge base, available to address any questions related to VMware vSphere for the long haul.