Infrastructure Engineering Case Study: DOL ITOM

Customer

United States Department of Labor (US DOL), Office of the Chief Information Officer (OCIO), Office of the Assistant Secretary for Administration and Management (OASAM).

Challenge

The customer has 7 primary agencies that are made up of various sub-agencies for a total of 28 individual functional areas. These agencies propel the mission of the department in the areas of worker safety, health, and civil rights, as well as strengthening initiatives for the American workforce.

The customer has an infrastructure that consists of two co-located data centers in Virginia and St. Louis, as well as a handful of regional sites in cities such as San Francisco and Salt Lake City. Amplify Federal and our partners are assisting the customer in managing the environment so that all programs and applications that are utilized for the American workforce can be protected and run at optimal efficiency.

Virtual Infrastructure Engineering

Amplify Federal, a Service-Disabled Veteran Owned Small Business, provides comprehensive engineering support and expertise for maintaining, improving, and iterating upon the virtual infrastructure environment for the Department of Labor.

The current environment consists of providing all-encompassing support for nearly 4,000 virtual machines that are situated on 240 physical hosts. The customer utilizes VMWare vCenter, along with ESXI, as the backbone of the environment. Our work consists of providing solutions and support for the appropriate hardware from HPE, Dell, and Cisco.

Our engineers provide full lifecycle support for both the physical and software side of the virtual infrastructure. We engage in both building and decommissioning of virtual machines that will be utilized across various sectors and applications for both Windows and Unix platforms. This support also includes hardware maintenance and support for the underlying physical hosts. This can consist of a simple component replacement or upgrade but can be as extensive as the building and installation of new hosts within the co-located data centers.

Storage Resource Solutions

The United States Department of Labor storage solutions require advanced engineering and data management resources which Amplify Federal provides. Daily monitoring, architecture design, and engineering is needed to assess, manage, and quantify over 4 petabytes of data. This includes continually accessing DoL-specific legacy applications and databases that are

well over 15 years old.

We deploy and maintain hardware across various storage vendors. The current storage infrastructure of the department is comprised of NetApp and Dell/EMC as both primary and secondary storage appliances. Tertiary data is also managed in Amazon Web Services S3 storage tier. These resources enable agile deployment and utilization of department data via a variety of services and applications.

Backup Infrastructure Engineering and Management

Amplify Federal is proud to provide the customer with resources that protect the United States Department of Labor's crucial data sets that help the American worker every day. We provide cumulative engineering support for the data protection environment across the two major co-located data centers, as well as the regional sites that the department maintains.

Utilizing the Commvault suite of data protection and management software, subject matter experts continue to build and iterate on the new and improved data protection platform that has been instituted for the customer over the last several years. Our engineers are integral in designing and maintaining the existing backup infrastructure as well as planning for the future expansion of DOL's backup schema into new cloud platforms such as Amazon Web Services and Azure Cloud.

Data engineers from Amplify Federal currently protect over 4 petabytes of data for the customer. This protection comes in the form of multiple copies with tertiary data being stored in AWS S3 cloud storage. Under the current design that we have implemented, we can meet customer Service Level Agreements of having restores, including complex whole-server or applications, completed in under 4 hours. The data protection platform designed and maintained by our engineers ensures departmental continuity even in the event of a disaster.

The work and services we provide the customer allows us to operate and secure a diverse set of IT infrastructures, applications, services, and technology-enabled solutions. Our work impacts and protects the data of more than 4,000 end users in the DOL's OASAM OCIO headquarters office in Washington, D.C. and 16,000 end users throughout the United States.