CASE STUDY

NASA'S JET PROPULSION LABORATORY PARTNERS WITH DYNAMIC SYSTEMS TO

UPGRADE ITS GLOBAL ARCHITECTURE FOR DEEP SPACE NETWORK

ABOUT THE CLIENT

Industry: Research and Development
Location: Pasadena, California

DYNAMIC SYSTEMS INC

AT A GLANCE

Challenge

NASA's Jet Propulsion Laboratory (JPL) is responsible for operating the Deep Space Network (DSN), a global network of large antennas located in California, Spain, and Australia. The agency required an integrated solution to address problems with standardization across global deployments .

Results

- An IT Partner familiar with its programs and objectives
- Strong technology partner relationships
- Engineering expertise
- Contract vehicles to ensure best price/performance

Solution

Dynamic Systems provided a converged architecture solution based on Oracle's PCA Engineered System.

Overview

The renowned Jet Propulsion Laboratory of NASA was able to deploy a highly available, fully protected, and scalable system for the management of the Deep Space Network using Dynamic Systems' solutions.

Challenge

JPL-DSN is responsible for tracking, communications, and data distribution for all national and international deep space missions. Any data loss receives Congressional scrutiny and can seriously affect future funding of programs. With IT infrastructure spanning 7 locations, including the antenna sites several challenges were observed:

Infrastructure across locations were aging

Data center resiliency and efficiency were posing concerns

Standardization of platforms, processes, and support have proven to be problematic

The NASA research and development center required a converged architecture solution. The technology had to be applicable to all sites globally and easier to manage.

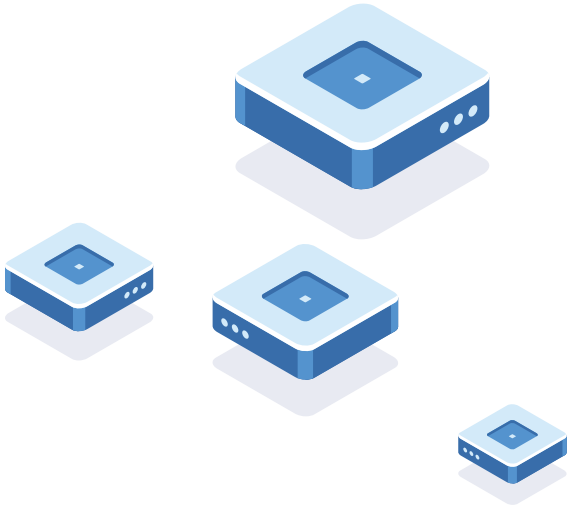
Solution

NASA's Jet Propulsion Laboratory is a world renowned agency known for its work on the Deep Space Network, which handles interplanetary spacecraft missions and links telemetry between spaceborne platforms and earthbound tracking stations. An advanced and highly reliable architecture is crucial to its work. Dynamic Systems has been a long time partner of JPL and an integral part of the lab's success.

Dynamic Systems partnered with Oracle to develop a business plan that addressed all of JPL's concerns and criteria for the DSN technology migration. Dynamic Systems was intimately involved early in the planning stages of the DSN project as JPL prepared itself for budget allocations.

The converged architecture solution was based on Oracle's PCA engineered system. This is a tightly integrated solution that provides computing, networking, storage, and virtualization in a single rack. The PCA is a fully redundant platform that can scale in any direction depending on project needs. Data protection is provided using storage mirroring and the ZFS file system.

Dynamic Systems managed the integration and deployment of all the PCAs by staging at the JPL headquarters, asset tagging all components, and shipping directly to various locations around the world. Engineering help during the installation and operation was made available through Dynamic Systems and Oracle 24x7.



Results

The economies of scale that the PCA platform provided addressed all three of DSN's top three concerns: high availability, data protection, and scalability.

With Dynamic Systems' solution, the customer has:

An IT Partner familiar with its programs and objectives

Dynamic Systems has been a long time partner of JPL and an integral part of the lab's success. The two have been engaged since 1991, and Dynamic Systems continues to be a significant contributor to JPL's mission objectives. NASA has voted Dynamic Systems as Small Business Partner of the Year.

Strong technology partner relationships

With Dynamic Systems providing technological support, DSN is able to better focus and allocate its resources.

Engineering expertise

Dynamic Systems provided the client with consistent engineering assistance throughout all stages of the project.

Contract vehicles to ensure best price/performance

Dynamic Systems provided JPL-DSN with the optimal solution with expedited delivery and maximum benefit-cost ratio.

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