

## IT Infrastructure for Fast, Worldwide Data Access



The Naval Air Systems Command's (NAVAIR) ability to make rapid decisions in support of emerging Navy Fleet requirements is an essential part of our nation's security.

### FLIGHT SAFETY REQUIRES CUTTING-EDGE COMPUTING ENVIRONMENT

#### THE CHALLENGE:

Naval and Marine flight safety and mission success depend on accurate and timely maintenance. Hard copy technical manuals that impact maintenance are only updated every six months, however, and managing large volumes of repair data is difficult. When current maintenance data is unavailable, aircraft and pilots are placed in jeopardy, and as a result, the U.S. Navy must ground or fly them at half schedules, costing them millions of dollars.

The Naval Air Systems Command (NAVAIR) faced a serious challenge to provide up-to-date information to worldwide fleet-and shore-based resources on a frequent basis. Ultimately, NAVAIR needed to provide faster, more reliable data access to carriers and shore-based units. Keeping maintenance data current would require an automated maintenance and logistics infrastructure updated on daily or weekly basis. Such a system would also act as a redundant backup in case of data loss, improve access to critical data, and reduce project costs overall. The Navy has made a considerable investment in top-of-the-line hardware, software, satellite communications, and related services to develop this infrastructure.

#### THE PROJECT OBJECTIVES:

- Provide faster, more reliable data access to carriers and shore-based units
- Implement an automated maintenance and logistics infrastructure

#### THE SOLUTION:

As part of its infrastructure, the Navy implemented a Microsoft Windows-based Compaq client/server environment to support maintenance, configuration management, and logistics functions. The system includes commercial and government off-the-shelf hardware, database applications, and software to integrate and update technical data. This worldwide information system gives personnel access to technical manuals, parts lists, specifications, 2D/3D drawings, repair histories, flight data, and automated data files for all Navy aircraft, destroyers, and Marine Corps mill vans.

#### PROFILE:

**Name** – United States Navy Naval Air Systems Command (NAVAIR)

**Web site** – [www.navair.navy.mil/](http://www.navair.navy.mil/)

The U.S. Naval Air Systems Command's vision is to provide cost-wise readiness and dominant maritime combat power to make a great Navy/ Marine Corps team better.

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**Size** – The United States Navy currently has 377,600 active duty and 148,586 ready reserve personnel.

#### KEY BENEFITS:

- Faster access to technical and engineering data
- Modern maintenance information system architecture

#### PRODUCTS USED:

- Microsoft® Windows® operating system
- Commercial and government off-the-shelf (COTS and GOTS) hardware, database applications, and software
- VERITAS Backup Exec™

The Navy chose Intergraph to support them in this crucial endeavor. A trusted Navy contractor with more than three decades of experience in systems integration, Intergraph offers special expertise in Windows-based hardware, including the ability to recommend solutions for special shipboard environments. Intergraph provides hardware prototyping, testing, delivery, and installation; support for software, operating system, and network management applications; and life-cycle maintenance, documentation, and field support.

The system includes three tiers of hardware and software. The foundational user tier provides squadron-level access to technical data and applications to support maintenance and help document flight data downloaded from aircraft. The mid-tier includes strategically placed servers that temporarily store and forward baseline data. The top tier, which includes two regional servers, houses a depot database storing original copies of technical data and necessary maintenance records for helicopters and aircraft.

NAVAIR initially emphasized the mid-tier – a key component of the system. With dozens of servers located at Navy and Marine shore- and ship-based sites, the mid-tier server array temporarily stores data, updates the top and bottom tiers, and allows technicians to monitor and maintain hardware and networks. Intergraph is working with NAVAIR to deliver rack-mounted servers and management software such as VERITAS Backup Exec. The Intergraph team also helped select sites migrate to a Windows architecture and upgrade to more efficient systems. In addition, Intergraph supported the development of Web-based software, such as the Joint Aviation Technical Data Integration (JATDI), to make periodic checks on the database and integrate data systems.

From 1999 to 2006, the Navy will have installed the system at 72 sites, including 11 aircraft carriers and 7 L-class ships, as well as domestic and overseas shore-based locations. Currently, Intergraph continues to support hardware testing and certification, software development, and systems integration at five Navy and Marine prototype sites throughout the continental U.S.: Chesapeake, Virginia; Julian's Creek, Virginia; North Island, California; and several sites near Patuxent River, Maryland, where the Navy houses the functional maintenance database. While the Navy continues system development and testing at

a fast pace, Intergraph is working to integrate the various hardware systems the Navy uses and coordinate vendor support for easy maintenance and upgrades.

### FAST ACCESS TO CRITICAL DATA

NAVAIR continues working with Intergraph to interface software applications and hardware, prepare for deployment at new sites, and expand the number of servers at existing sites while using the prototypes to improve the concept of operation. Once the system is fully in place, top-of-the-line servers will give maintenance and logistics specialists faster access to more online engineering data.

Although the Navy presently plans to install the maintenance architecture only at Navy and Marines sites, the system's possibilities have attracted much attention. By using cost-effective commercial products and state-of-the-art security measures in line with joint Department of Defense requirements, the prospect of expanding to other branches continues as a viable option. With this modern maintenance information system architecture, the Navy is prepared for the high information demands of tomorrow.

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## ABOUT INTERGRAPH

Intergraph Corporation is the leading global provider of spatial information management (SIM) software. Security organizations, businesses, and governments in more than 60 countries rely on the company's spatial technology and services to make better and faster operational decisions. Intergraph's customers organize vast amounts of complex data into understandable visual representations, creating intelligent

maps, managing assets, building and operating better plants and ships, and protecting critical infrastructure and millions of people around the world.



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