'*The needs of the customer are paramount to Fujitsu and they do everything with the customer in mind.*'

Mike Woodward - NavyStar Project Manager

SUMMARY OF KEY FACTS

Organisation
Royal Navy

Contract signing date
July 2000

Service/s delivered
- Designed, built and installed a PC in ruggedised mounts, using normal commercial components but packaged to a reduced footprint size
- Agreed development roadmap of PCs, with predetermined upgrades, such that all EMC testing may be carried out in advance of user needs

Benefits for MoD
- New PC footprint is little more than a set-top box, but offers better performance than a conventional desktop
- More space for ships' staff
- Reduced costs in building desktop locations
- Cost savings in EMC testing
- The PC, in a ruggedised containment system, withstands up to 30g
- No danger of injury from equipment disintegration
- From shelf to ship in as little as 20 - 25 days
- Cut RESTRICTED Lan Interconnect congestion
- Easy to implement
- Robust and resilient
- Easy to roll-out elsewhere.

The challenge

The Royal Navy needed an affordable information infrastructure capable of supporting its administrative services onboard vessels. The requirement was for PCs, servers, printers and network equipment from commercial sources that would work in the unique environment aboard ship, be reliable, and meet the standards required for equipment installations on their vessels.

Space afloat is extremely limited, and the desktop equipment had to fit within predefined space envelopes in the confined working areas in compartments.

In rough seas and battle conditions, shock forces on board can be extremely high. To withstand the impact of shock all equipment had to be contained in specialised ruggedised mountings and tested to stringent standards to protect ships' staff.

The electronic environment is also a tough one - a warship carries sensitive fighting and communications kit and interference is unacceptable - therefore all equipment had to meet predefined EMC standards for conducted and radiated emissions.

Finally, every Royal Navy ship is a workplace that must comply with Health and Safety Standards, so all the equipment used had to be compliant and all Substances Hazardous to Health (COSHH) identified.

The solution

The NavyStar project first started fitting an information systems infrastructure into Royal Navy vessels in 1997 and in 2000 went out to tender again to ensure best value for money inviting submissions from a number of IT suppliers.

Fujitsu won the contract on the basis of a bid that offered best value for money across the range of services required by NavyStar, and in 2001 started supplying and installing branded commercial PCs in ruggedised mounts, as called for in the specification.

Before long, however, Fujitsu realised that the size of standard branded PCs was not suited to the Royal Navy environment and the commercial marketplace too volatile to maintain the stability and equipment roadmaps demanded by NavyStar. Components could be upgraded and processor speeds changed

almost every other month. This meant that time and money had to be spent testing and re-testing for EMC compliance every time a part was superseded. Ruggedisations needed to be redesigned as the shape and size of the processor box and flat screen altered.

Instead, Fujitsu decided to design and build a PC, using normal commercial components but packaged to make it even smaller and better suited to the Royal Navy environment than the branded PCs normally available.

At the same time, Fujitsu agreed a development roadmap with NavyStar, with predetermined processor upgrades, so that all EMC testing could be performed up front leaving no surprises or extra costs for the lifetime of the equipment. The success achieved has culminated in the latest PC product with a combined processor, flat screen and keyboard containment with a footprint only marginally greater than an earlier flat screen mount.

Benefits for our Customer

Reduced size, higher power. The new PC's footprint is little more than that of a set top box, but it has considerably better performance than the previous branded PCs.

Cost savings in testing. Frequent EMC testing is now reduced, saving testing costs and allowing NavyStar to influence the specification of the PC.

Improved work conditions. Smaller PCs mean more space for ships' staff which is at a premium afloat.

Reduced costs in building desktop locations. In the past, desktops often had to be reengineered or extended to allow sufficient working space for equipment and keyboard to meet basic Display Screen Equipment (DSE) regulations.

Withstands up to 30g. The ruggedised containment system and mounting which houses the PC, keeps it intact even when subjected to enormous shock forces. This containment system has been reduced in size by approximately 50% from the previous solution.

Safer for personnel. The device stays in place whatever is happening on board. There's no danger of injury from equipment disintegration.

From shelf to ship in as little as 20 - 25 days. Although the NavyStar ordering process for a complete vessel fit is based on a 15 week lead time, late changes to the refit programme can significantly reduce these timescales.

A 50-workstation system can be procured, built, tested, installed and working within 25 days. Systems can be premanufactured and stored ready for deployment in any part of the world.

Our Approach

Fujitsu provides an equipment supply and installation service, installing and setting to work all active system components, servers, PCs, printers and network devices. The installation programme embraces all types of Royal Naval vessels from aircraft carriers to mine hunters, submarines and Royal Fleet Auxiliaries (RFAs). Most of the work is undertaken in the UK, although it may be carried out wherever the vessel happens to be in the world, from Scotland to Singapore.

To minimise installation problems, Fujitsu sets up, configures and tests all equipment for each ship prior to dockyard delivery.

Work is normally undertaken whilst the vessel is in refit or a docking period, however the installation window is often very small at the end of the refit and the installation has to be complete and the system available to ships' staff as they move back on board. Working in a refit environment presents its own difficulties and challenges, despite these Fujitsu has achieved every installation commitment.

Our Expertise

Mike Woodward, NavyStar project manager says: *'The needs of the customer are paramount to Fujitsu and they do everything with the customer in mind. They have a strong understanding of our requirements and issues, and the technical quality of the team is exceptional. We have a good, open, honest working relationship with common goals and objectives.'*

Mike also praises Fujitsu's 'can do attitude' and their innovative approach to equipment design and selection, which contributed to the ongoing success story of NavyStar.

Fujitsu has successfully fitted over 90 ships and submarines with the NavyStar solution.

The future

NavyStar is a Defence Information Infrastructure (DII) current system and it will migrate to the new DII (Future) solution, which will deliver a secure and coherent Information Infrastructure for Defence.

Fujitsu is a Tier 1 contractor for DII(F) and will be delivering the new DII(F) solution afloat.

ASK FUJITSU

Phone 0870 242 7998
email askfujitsu@uk.fujitsu.com

Ref. 2095