

**An E-Commerce Solution for the**  
**Solicitation of Business**  
**Sensitive Items and Services**

Advanced Management Program

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21<sup>ST</sup> CENTURY PROBLEM SOLVERS (TCPS)

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## INTRODUCTION

This paper proposes a low-cost solution to further automate procurement of complex repair parts and business sensitive items or services using E-Commerce. By providing business sensitive data (ordering data and drawings) electronically via the Internet vs. paper form or compact disk, 7-14 days can be sliced from the 40-day procurement process for this type of material or services. That's a 17-35% reduction in procurement lead-time.

The Navy has developed multiple E-Commerce solutions to resolve the electronic interface between Contracting Officers and suppliers. Overlooked, however, is the development of an E-Commerce solution to exchange "business sensitive" technical information between the Contracting Officers and suppliers. While the processing of business sensitive information is a small part of the overall Navy procurement process, the development of a low-cost solution would allow for total automation of these procurements.

The term business sensitive information is defined as information that is not classified but may contain proprietary (patented) or sensitive information about higher-level systems/components or weapons system platforms. The Navy Electronic Commerce On-line (NECO) web site (<http://www.neco.navy.mil>) is the Navy's answer to E-Commerce. However, the NECO program or linked web sites do not store or process business sensitive information. The inability to provide electronic business sensitive data to the supplier prevents a total E-Commerce solution for this type of acquisition. The Environment section of this paper contains more details on the NECO web site. For illustration purposes, the current Navy Inventory Control Point (NAVICP) procurement process is outlined in Appendix A.

The Naval Nuclear Propulsion Program (NNPP) is piloting an E-Commerce solution that is compatible with the NECO web site to process unclassified Naval Nuclear Propulsion Information (U-NNPI). U-NNPI is defined as any unclassified information pertaining to the Naval Nuclear Propulsion Program. This solution can be easily adapted to handle business sensitive information for the procurement of systems/components/repair parts/services and U-NNPI. We believe this solution has the potential for widespread application within the Department of the Navy and even other activities within the Department of Defense.

## ENVIRONMENT

Research (NAVICP survey of major Navy suppliers) indicates suppliers are moving toward an electronic environment (exchange of information and contracts via the Internet). It is generally accepted that future suppliers will not accept non-electronic contracts or a premium will be paid for processing non-electronic transactions. The NECO web site was developed to reduce the overall procurement lead-time and provide an electronic method for the procurement/contracting of material and services.

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Specifically, NECO was developed to resolve problems identified between Contracting Officers and suppliers through Electronic Data Interchange (EDI) and the Federal Acquisition Computer Network (FACNET).

The NECO program has been very successful. Specifically, over 52,087 solicitations, 100,713 awards and \$5.138 Billion in Navy contracts have been facilitated using the NECO site. We think we should build on that success. The NECO web site provides a bulletin board approach to solicit quotes for Navy requirements. NECO is linked to the Navy Library Link (NLL) web site to provide suppliers with drawings, military specifications, Quality Control documents, etc. However, the Navy Library Link does not contain business sensitive information.

The NECO Program Office is reviewing several enhancements to the NECO web site. Specifically, upgrading the computer hosting equipment, converting from Hyper Text Markup Language (HTML) to Extensible Markup Language (XML) and requiring all users to have a Public Key Infrastructure (PKI) certificate for identification. Currently, the NECO program office has no plan to develop the ability to process business sensitive information. Our proposal does just that -- provide a low-cost E-Commerce solution for the auditable processing of business sensitive information.

Our proposed E-Commerce solution can be applicable to other Department of Defense buying activities. While this paper has focused on the Naval Inventory Control Point since it is likely the largest buyer of complex repair parts, it would be useable by any activity that contracts for material or services that have related business sensitive technical ordering data. Based on our inquiries, it would be expected that buying activities that support the Naval Warfare centers, Naval Shipyards, Naval System Commands (NAVSEA, NAVAIR, SPAWAR), Naval Facilities Engineering Command, and Defense Logistics Agency would be able to use such a process to pass this information electronically to authorized vendors.

## **PROPOSAL**

We propose that an E-Commerce solution be implemented in conjunction with the NECO web site to automate the exchange of technical data packages for business sensitive repair parts and services between Contracting Officers and suppliers. This solution will reduce the time spent providing the technical data packages to the suppliers, thereby reducing procurement lead-time. Appendix B provides a graphic illustration and explanation of our proposed process. Appendix C details the initial hardware/software costs as well as annual operating costs for this solution.

The proposed E-Commerce solution is based on the NNPP developed E-Commerce pilot for the procurement of repair parts containing U-NNPI. U-NNPI for the purposes of this paper should be treated as business sensitive data. Naval Inventory Control Point (Code 87) and a NNPP Prime Contractor, Bectel Plant Machinery Inc, are currently performance



testing the NNPP E-Commerce pilot. However, if our proposal is approved and implemented, NAVICP Code 87 could use it and the NNPP procurement pilot would be terminated. Appendix B provides points of contacts for additional information about the NNPP E-Commerce pilot.

## **BENEFITS**

Once implemented, our proposal shortens the acquisition lead-time for buying complex repair parts and services. Specifically, benefits include:

**Supports E-commerce** - Our proposal supports the efforts of both the federal government and the commercial sector to use the Internet to conduct business. Recently the Office of Management and Budget (OMB) issued the E-Government Strategy. It identifies actions that seek to improve the quality of service to citizens, businesses, and government. Additionally, this strategy reduces the burden on businesses by: 1) adopting processes that dramatically reduce redundant data collection; 2) provide one-stop streamlined support for businesses; and 3) enable digital communication with businesses using the language of E-business (XML). One of the initiatives under this strategy is E-Authentication. It builds and enables mutual trust to support the widespread use of electronic interactions between entities by providing common solutions to establish “identity.” Our proposal is directly aligned with the E-Government strategy and E-Authentication initiative.

**Reduces procurement costs** - Another benefit of our E-commerce solution is the reduction in procurement processing costs. The table below illustrates that E-commerce methods led to a reduction in processing costs by almost 80% as compared to manual methods within the Department of Agriculture. We would expect to see similar results within the Department of Defense.

Dept of Agriculture	Processing Cost
Purchase Order Generation	\$77.00
Purchase Card Implementation	32.00
E Commerce	17.00

(Source: GAO/NSIAD-96-138)

**Reduces lead-time** - A closely related benefit would be the reduction in lead-time. Under the current process, the vendor has to wait for the related technical data to arrive via the mail before placing his bid with the buying activity. By using authentication and encryption, the authorized vendors can access the technical data the same day it’s posted on the secure server. Estimates provided by NAVICP indicate that 7-14 days would be saved by using our proposal. With this reduction in procurement lead-time, order frequency can be reduced along with the amount of material stocked in inventory.

## **COSTS:**

The costs associated with the proposal are relatively small, consisting of computer hardware and software. Appendix C provides a listing of both one-time and annual maintenance costs necessary to store business-sensitive technical data on a separate server. While the configuration shown in the appendix would have the capacity to store a large amount of information, the costs of adding more servers/memory would be relatively minor.

## **IMPLEMENTATION STRATEGIES**

We propose a two-prong approach to implement this proposal.

- 1) Forward the recommended E-Commerce solution to the NAVSUP NECO Program Manager (SUP 02XB) for implementation. Since the recommendation is an enhancement to the NECO web site, endorsement of the NECO Program is essential to implementation of the recommendation.
- 2) Forward the recommended E-Commerce solution to the DoN E-Business Operations Office (NAVSUP). They are responsible for reviewing E-Commerce solutions and determining which solutions should be funded and implemented.

## **RECOMMENDATION**

Following the approval of the Advanced Management Program's Review Panel, submit this proposal to NAVSUP 02 and the NAVSUP E-Business Office for concurrence, funding and implementation.

## **REFERENCES:**

GAO/NSIAD-96-138, Acquisition Reform: Purchase Card Use Cuts Procurement Costs, Improve Efficiency, August 1996.

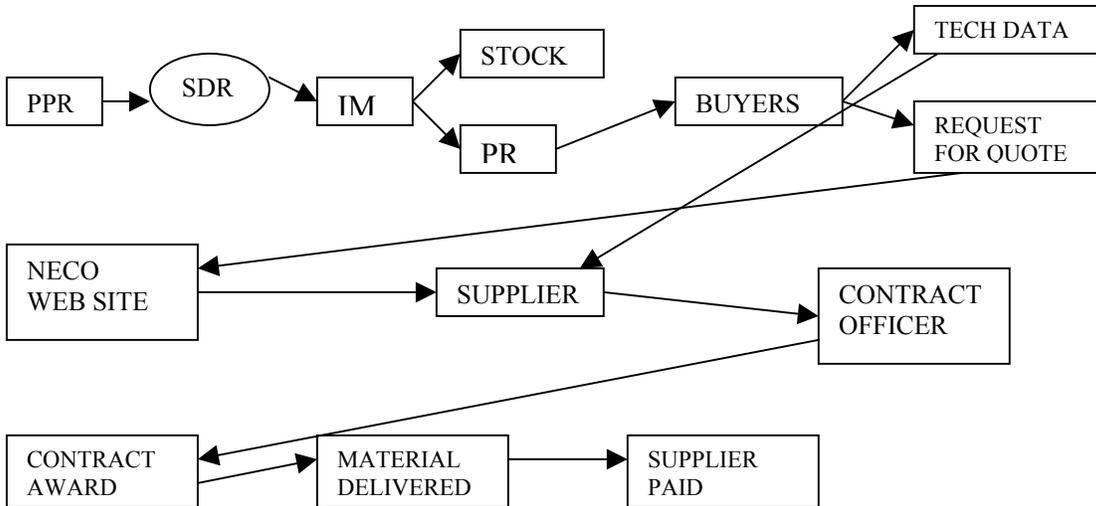
E-Government Strategy, Office of Management and Budget (OMB), February 27, 2002.

Conference Call between AMP Team #1 and Mr. Stan Jones, NECO Program Manager, SUP 02XB, 1 March 2002.

Conference Call between AMP Team #1 and LCDR Mark Newell, Mr. Brad Powers, Ms. Gini Deshields, FISC Puget Sound Contracting Department, 4 March 2002.

## APPENDIX A

## CURRENT PROCUREMENT PROCESS

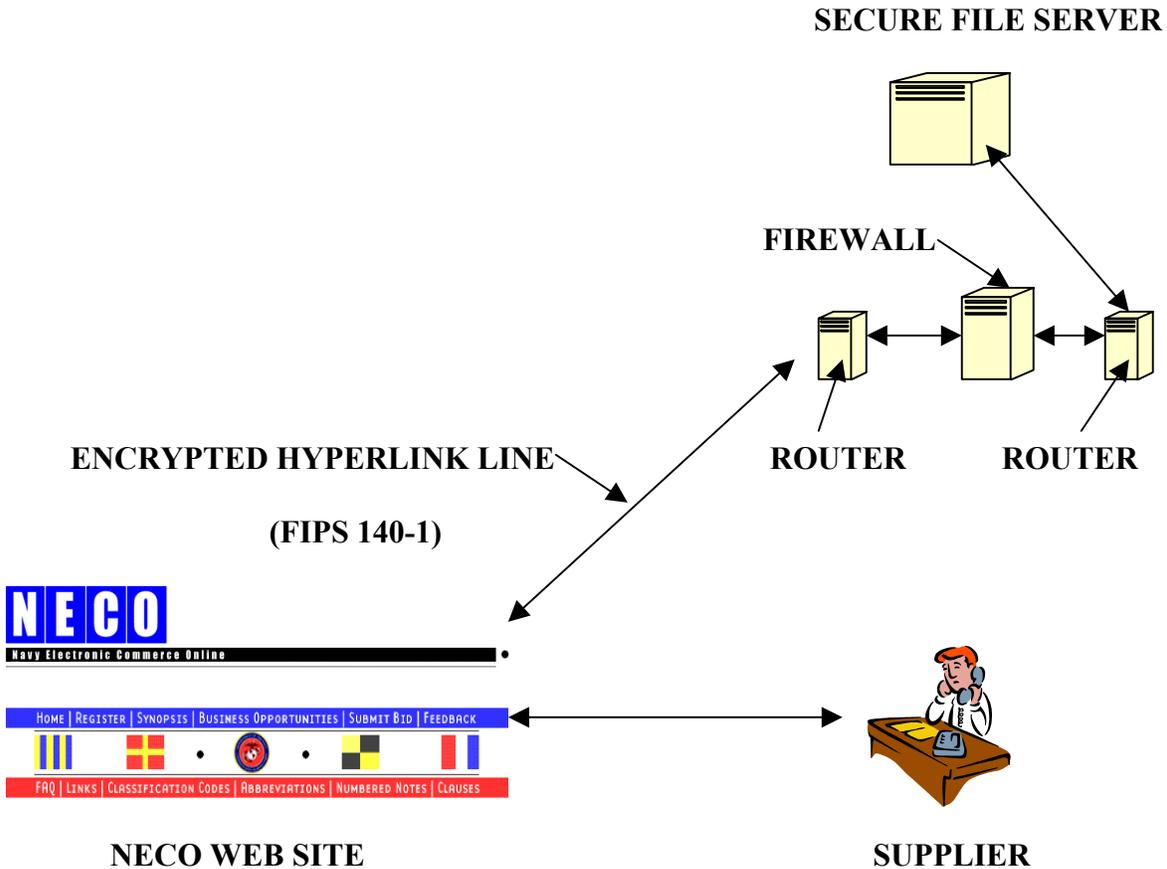


The current Naval Inventory Control Point procedure for procuring business sensitive repair parts and services is as follows. A Planned Program Requirement (PPR) is input into the NAVICP computer. Then, a monthly stratification determination review (SDR) is extracted and given to the applicable Item Manager (IM). The IM determines if the requirement can be satisfied from on-hand stocks or if procurement should be initiated. If procurement is required, a purchase request is sent to the buyers. The buyers request technical data (ordering requirements, drawings, quality assurance requirements, etc) be assembled for the item. The buyer develops a solicitation for suppliers to provide a quote (price) and timeframe for the required item or service.

The solicitation for a quote on the required item or service can be uploaded to the NECO web site, but the technical data package cannot be provided electronically. The technical data package and the solicitation (if the solicitation is not uploaded to the NECO web site) are transferred to a compact disk read only memory (CD-ROM) or to the reproduction department to have sufficient paper copies made to send out to each appropriate supplier. The suppliers receive the solicitation and technical data package in the mail and then return the completed solicitation to the NAVICP Contracting Officer for evaluation. The process to provide the vendor the solicitation and technical data package is about 40 days. Providing this same information via E-Commerce could reduce this process by 7-14 days depending upon the site's process.

## APPENDIX B

## PROPOSED E-COMMERCE SOLUTION



Our proposed E-Commerce solution consists of using the NECO web site as a “front door” for use by the supplier. A hyperlink from the solicitation on the NECO site to the secure file server will allow authorized suppliers to gain access to the business sensitive information. The hyperlink from the solicitation on the NECO web site to the specific business sensitive data file on a separate secure file server (encrypted by configuring the file server to meet Federal Information Processing System 140-1 requirements) will contain the required ordering information and drawings.

Access to the secure file server will be controlled by requiring user identification and password accounts be established for each authorized user. The NECO Program Office should administer the authorized user accounts. In order to encourage new suppliers, the



**APPENDIX B (Continued)**

secure file server should allow new suppliers to request a user account from the NECO Program Office.

Using a combination of router/firewall protection to filter the communications between the NECO web server and the E-Commerce web server can enhance security of the E-Commerce solution. This allows authorized users to access the secure server via a web browser (Internet Explorer 5.5 +) while prohibiting access via File Transfer Protocol (FTP) or Telnet. Communication between the web server and the web browser will be encrypted via Secure Socket Layer (SSL). The secure file server will use a FIPS 140 accredited encryption algorithm (IIS 4.0 on Windows 2000 or later) to encrypt the information. Additionally, each authorized user of the secure server should be assigned a PKI to confirm individual identification.

Data should be uploaded to the secure file server in a Post Data Script Format (PDF) using compression software such as WinZip. The use of compressed PDF will facilitate both the upload and download process of data and optimize storage of files on the secure server. Software required by vendors includes a web browser (Internet Explorer 5.5+), WINZIP and Adobe Acrobat Reader.

Points of Contact for the NNPP E-Commerce solution are:  
NAVICP Code 87: Mr. Robert Taylor 1-717-605-7548  
BPMI: Ms. Teri Thiele 1-412-829-8444  
NAVSEA 08: Hal Jones 1-202-781-5933

## APPENDIX C

## Hardware/Software and Costs

Initial Cost				Quantity	Unit Price	Total
Server				1	\$10,000.00	\$10,000.00
2 – 550 MHz PIII Xeons with 512K ECC Cache						
2 – 9 GB SCSI Boot Hard Drives (Hot Swappable)						
4 – 128 MB PCI ECC EDO DIMMS (512 total) RAM						
Integrated video card						
Integrated Intel Lan card						
CDROM						
Floppy						
2 – 400 Watt Power Supplies						
Monitor 15"						
2nd Server for Failover Clustering, as above				1	\$10,000.00	\$10,000.00
3rd Server for Firewall, as above				1	\$10,000.00	\$10,000.00
Tape Backup (DLT4000 AUTOLOADER)				1	\$10,000.00	\$10,000.00
Tapes/Cleaning Tapes				50	\$ 80.00	\$ 4,000.00
Raid Array- 100 GB capacity				1	\$10,000.00	\$10,000.00
American Power Smart-UPS 1400RMNET				1	\$ 720.00	\$ 720.00
Cabinet				1	\$ 2,210.00	\$ 2,210.00
Miscellaneous - Cables, Tape drive cartridges, etc.					\$ 1,500.00	\$ 1,500.00
MS Windows NT 4.0 Server				2	\$ 1,500.00	\$ 3,000.00
MS Windows NT 4.0 Client License				40	\$ 25.00	\$ 1,000.00
Internet Information Server				2	\$ - 0 -	\$ - 0 -
Backup Exec				1	\$ 1,200.00	\$ 1,200.00
Oracle Server License with 10 concurrent users				1	\$ 3,000.00	\$ 3,000.00
					<b>TOTAL</b>	\$66,630.00
<b>Annual Costs</b>						
Oracle Support				1	\$ 1,000.00	\$ 1,000.00
Tapes				50	\$ 80.00	\$ 4,000.00
					<b>TOTAL</b>	\$ 5,000.00



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