Navy Cash Training

# Disbursing Unit 6: Maintenance Procedures

Objectives

- Provide an overview of Navy Cash Equipment
- Explain hardware maintenance and troubleshooting procedures
- Discuss how to replace damaged or lost parts and components
- Discuss Distance and Online Support
- Explain software maintenance procedures
- Discuss Casualty Reporting procedures

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Equipment Overview

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Navy Cash Server

- Typical Set-up (cabling diagram)

NAVY CASH SERVER RACK 1.4.7 REFRESH CABLING DIAGRAM

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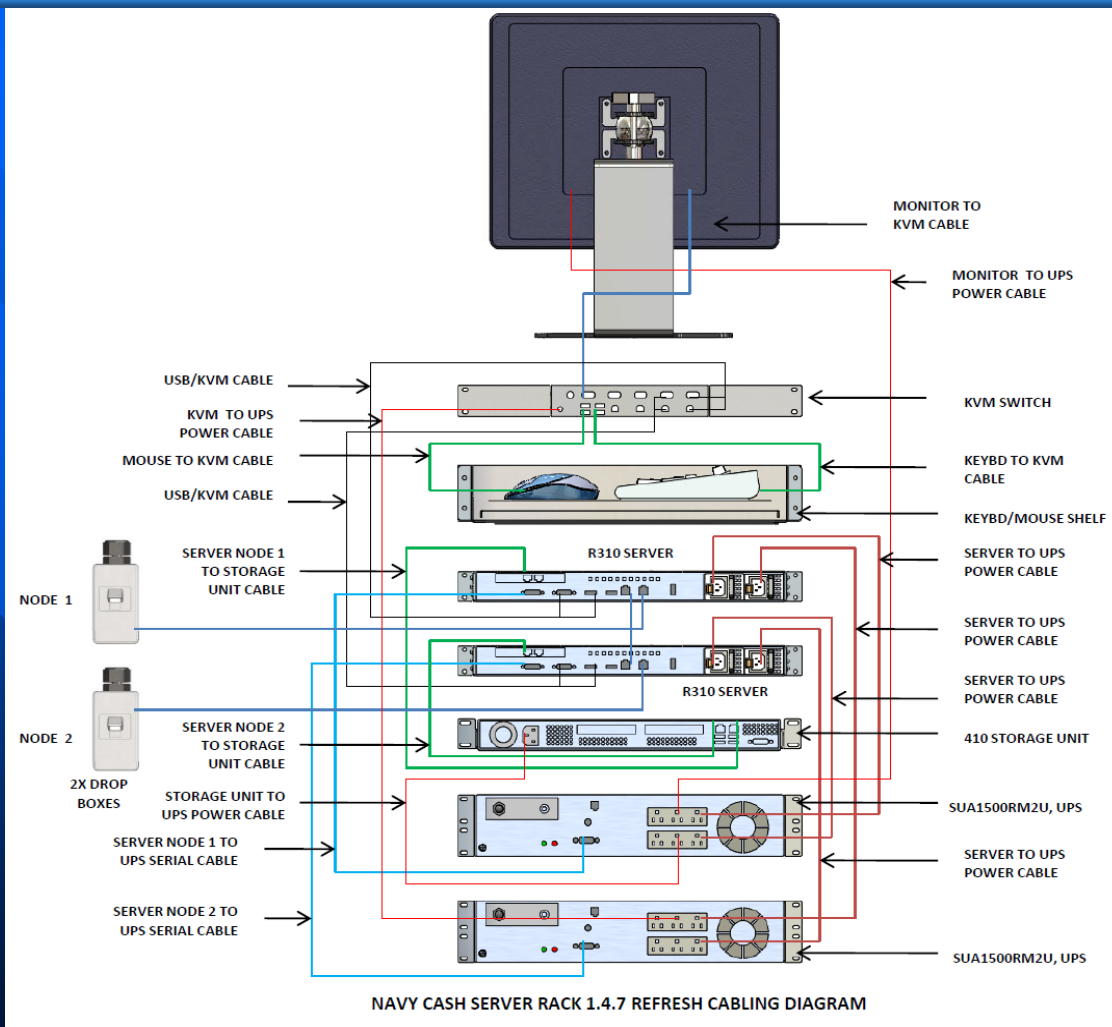
System Equipments

■ Server

- Rack-mounted in Disbursing or Supply
- Made up of two servers or "nodes"

■ Switches or Routers

- Mounted behind the Kiosks
- Minimal Disbursing interaction required

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Card Accepting Device (CAD)

- Installed in Vending Machines
- Uses SAM to interact with the Chip on a Navy Cash Card
- Uses a SD Card to store transactions when offline
- 3 Hidden Buttons
- Can function in online or offline mode

iPA 280 Point of Sale Device

- Used to record sales transactions
- Can be operated online or offline
- Functions in *Proxy* mode (connected to workstation) or *Normal* mode (portable)
- Has SD card and SAM Chip

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Navy Cash Kiosk

- Used to move funds between home bank and Navy Cash Card

- Used to make PIN changes

- Used to *Check-in* to the ship

- Requires continuous network connection to Navy Cash Server to process a transaction

- Uses a SAM to interact with the Chip on a Navy Cash card

Powering System On/Off

Navy Cash Server Setup

- Node 1

- Node 2

- Overland Storage Unit

NAVY CASH SERVER RACK 1.4.7 REFRESH CABLING DIAGRAM

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Power-on Sequence

- Power on the Overland Storage Unit

- Power on the 1st node and log in

- Power on the 2nd node and log in

- Launch Failover Cluster Manager and ensure resources show ONLINE

Note: For more detailed procedures, refer to your Navy Cash Quick Info sheet attached to the Navy Cash Server

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Power Off Sequence

This procedure assumes that Node 1 is in control

- Start at Node 2 and perform Windows shut down sequence

- Switch to Node 1 and perform Windows shut down sequence

- Power-off the **NAS / RAID**

Note: For more detailed procedures, refer to your Navy Cash Quick Info sheet attached to the Navy Cash Server

Power On CADs and ATMs

- CADs and Kiosks should remain powered on at all times unless performing maintenance
  - CADs are simply plugged in the vending machine with no power switch
  - Kiosks are plugged to the UPS

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iPA 280 Sign On

86 mm (3.38 inches)

190 mm (7.48 inches)

42 mm (1.65 inches)

- **Ensure POS is communicating with Navy Cash Server**
- **Normal Mode**
  - Requires at least one configured merchant
  - If no merchant is configured, an *"Error Initializing Device State, No Configured Merchant"* message is displayed
- **Proxy Mode**
  - POS is connected to Disbursing Workstation
  - Supports transfer of funds or card maintenance functionality

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Hardware Maintenance Procedures

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Ownership

- Navy Cash Accountable Officer (DISBO) and Navy Cash Deputy
  - Own, operate, and maintain Navy Cash servers, workstations, laptops, POSs, Kiosks, CADs

- Ships IT
  - Owns, operates, and maintains the ship's network configuration
  - Has primary responsibility to support Navy Cash network and communication issues

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Training

- Navy Cash Accountable Officer (DISBO)
  - Ensures Navy Cash Deputy and Ship's IT are trained on Navy Cash Operations, maintenance, and troubleshooting
  - Refresher courses are provided by SAIC (Navy Cash Contractor) in Fleet Concentration areas on a regular basis

Preventive Maintenance

- Daily
  - On Navy Cash Server, Check Failover Cluster Management
    - » A change of nodes could indicate a failure of a component or failure of NC service

  - Check the status of Round Trips
    - » Engage Ship's IT if a pending batch is not completed within 6 hours

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Preventive Maintenance

- Weekly
  - Wipe down all unit screens
  - Clean card readers in the IPA 280s, KIOSKs, and CADs
    - » Use card reader cleaners

Troubleshooting NC Equipment

- **Communication Issues**
  - Refer to Communications Troubleshooting Guide
    - » Appendix S of NC SOP
- **Basic Troubleshooting**
  - Refer to NC SOP, Pub 727
  - Maintenance Videos
- **Technical Support**
  - Phone: Navy Cash CSU – 1-866-662-8922
  - E-mail: navycashcenter@frb.org

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Troubleshooting NC KIOSK

- **Restart Feature**
  - Touch the *"Restart"* button on the Admin Menu to re-initialize all Kiosk application components
  - This should be the <u>first</u> step in troubleshooting the Kiosk to determine if a simple re-initialization fixes the problem

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Troubleshooting NC KIOSK

- **Start-up Messages**
  - Series of screens which shows the current state of the Kiosk as it starts up
  - Examples of Start-up Error Messages
    - » *Out of Service–C1 –* main card reader cannot be activated
    - » *Out of Service – S2 –* SAM is detected but cannot be activated
    - » *Out of Service – N1 –* network communications cannot be established
    - » *Out of Service - T1 –* Terminal ID for Kiosk is not set

Troubleshooting NC KIOSK

■ Error Messages

– When Kiosk is inoperable, it shows an *"Out of Service"* message followed by an *error code*

Error Code	Reason for Out-of-Service Status
C1	General card reader error.
D1	Error creating database.
D2	Error opening database.
D3	Database on device is more recent than application database version. Application needs to be updated.
D4	Error updating database.
D5	Application database version does not match version of database on device.
D6	Error getting database version.
D7	General database error.
DF	Database capacity has been exceeded.
B1	Error creating backup database.
B2	Error opening backup database.
B3	Backup database on SD card is more recent than application backup database version. Application needs to be updated.
B4	Error updating backup database.
B5	Application database version does not match version of backup database on SD card.

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Troubleshooting NC KIOSK

■ Error
   Codes

Error Code	Reason for Out-of-Service Status
B6	Error getting backup database version.
B7	General backup database error.
BF	Backup database capacity has been exceeded.
S1	SAM not present.
S2	Error powering on SAM.
S3	Maximum number of allowed SAM errors reached. Please clean or replace SAM.
N1	Network initialization error.
NN	Network down. No response from Navy Cash server.
P1	General PIN pad error.
SD	SD card not present.
T1	Terminal ID has not been set.
C21	Chip-to-chip failure after first card entered. Message being sent to server.
C2D	Chip-to-chip failure after second card entered. Message being sent to server.
C2E	Chip-to-chip failure after first card reentered. Message being sent to server.
CP	Change PIN – shown during a PIN change.
GT	General transfers – shown during transfers.
CR	Card removal error

Troubleshooting NC KIOSK

- **Diagnostic Screen**
  - Displays information that can be helpful in troubleshooting
  - Any error or abnormal state is shown in _red_

General

- Current date/time (*GMT*)
- Kiosk application version
- Device database version
- Operating system information
- SAM status (present/not present)
- Chip version (if card inserted)
- Chip date (if card inserted, mm/dd/yyyy format)

Network

- Terminal ID number
- Device IP address
- Port
- Network connectivity status (online / offline)
- Server log-on status (logged on / not logged on)

Hotlist

- Hotlist size (number of entries)
- Date / time of last hotlist update (*GMT* mm/dd/yyyy hh:mm)

Queue

- Total number of items in queue
- Number of transactions in queue
- Number of errors in queue
- Number of reversals in queue
- Number of card burn messages in queue
- Number of any other messages in queue
- Message queue capacity remaining (percentage)

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Troubleshooting NC KIOSK

Kiosk
Diagnostic
Screen

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Troubleshooting NC KIOSK

- **Severe troubleshooting may be necessary:**
  - Issue with PIN pad, network card, smart-card reader, or when access to Windows Operating System
  - Technical Support:
    - » Navy Cash Central Support Unit (CSU)
      - Phone: 1-866-662-8922
      - navycashcenter@frb.org

Troubleshooting POS

- Rebooting the POS should always be the first step in troubleshooting
  - Touch small RESET button with a stylus

- Clean or replace SAM chip

- Replace SD card

- Replace any faulty POS with a new unit. Each ship is issued several spares.

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Troubleshooting POS

- **Error Messages:**
  - *Error Initializing SAM*
    - » May occur during POS initialization because SAM is not present
      - Action: Install SAM in POS device
  - *Error Authenticating Card*
    - » Card is blocked
      - Action: Have cardholder report to Disbursing

Troubleshooting POS

- **Error Messages (cont)**
  - Examples:
    - *SD Card Error* – SD card is not present or SD card message queue is full
      - Action: Install SD card or if POS is offline and SD card is full, plug POS into network connection point
    - *SAM Error* – SAM needs to be replaced
      - Action: Clean SAM or replace SAM
    - *Boot up Errors* (various) – occur when starting POS
      - Action: Insert good SAM or SD Card, or reboot POS

Other iPA-280 Errors

- ■ Failed SD Card
  - – *Error: Initializing Backup Database*
  - – *Error: Opening Backup Data*
    - » *Actions: For both errors above, Replace SD Card, Power off /on the POS*

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Troubleshooting CAD

- Verify if ship's network is up
  - If network is down, do not cycle power
  - CAD can operate in offline mode
- Verify if routers are powered on
- Check the cables from the CADs to the routers
- Cycle power to the vending machine (turn off and turn on vending machine)
- Clean SAM chip or Replace SAM chip
- Check SD card
- Replace CAD from stock

Troubleshooting CAD

- **For Technical Assistance**
  - Contact Navy Cash Central Support Unit (CSU)
  - CSU will assign a case number that will be used to track the trouble call
  - CSU will handle trouble call directly or forward it to the proper person
  - Use Navy Cash Trouble Call Worksheet

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Troubleshooting CAD

- **Failed CADs**
  - When directed to return CAD to NC Depot, record the traceable tracking number and date shipped on the Trouble Call Worksheet
  - Include Case # assigned by CSU and equipment serial number

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Troubleshooting CAD

- **Stuck transactions**
  - When directed, CADs with stuck transactions are sent to Cogent Systems
  - Record the traceable tracking number and date ship on the Trouble Call Worksheet
  - Include Case # assigned by CSU and equipment serial number
  - Sales Officer will retain a copy of the Trouble Call Worksheet with monthly report

Troubleshooting CAD

- Card Readers
  - Proper cleaning of the card readers can significantly reduce the incidence of card readers failing to read a Navy Cash Card

- Shipboard Network or NC Server down for extended period
  - Revert to accepting cash (if authorized by CO)
  - Replace CAD with a dollar bill validator and/or turning on the coin changer

Troubleshooting CAD

- Error Messages are displayed if :
  - SD Card is not present
  - CAD is disabled
  - Vending Machine is out of stock
  - System Error
  - Examples:
    - » *Out of Service-SD* – no SD card in the CAD
      - Insert SD card
    - » *CAD Disabled* – no communications between CAD and MDB interface

Troubleshooting CAD

❑ CAD Diagnostic Screen

➢ *Provide tools that can be helpful in managing, diagnosing, and solving problems with the CAD*
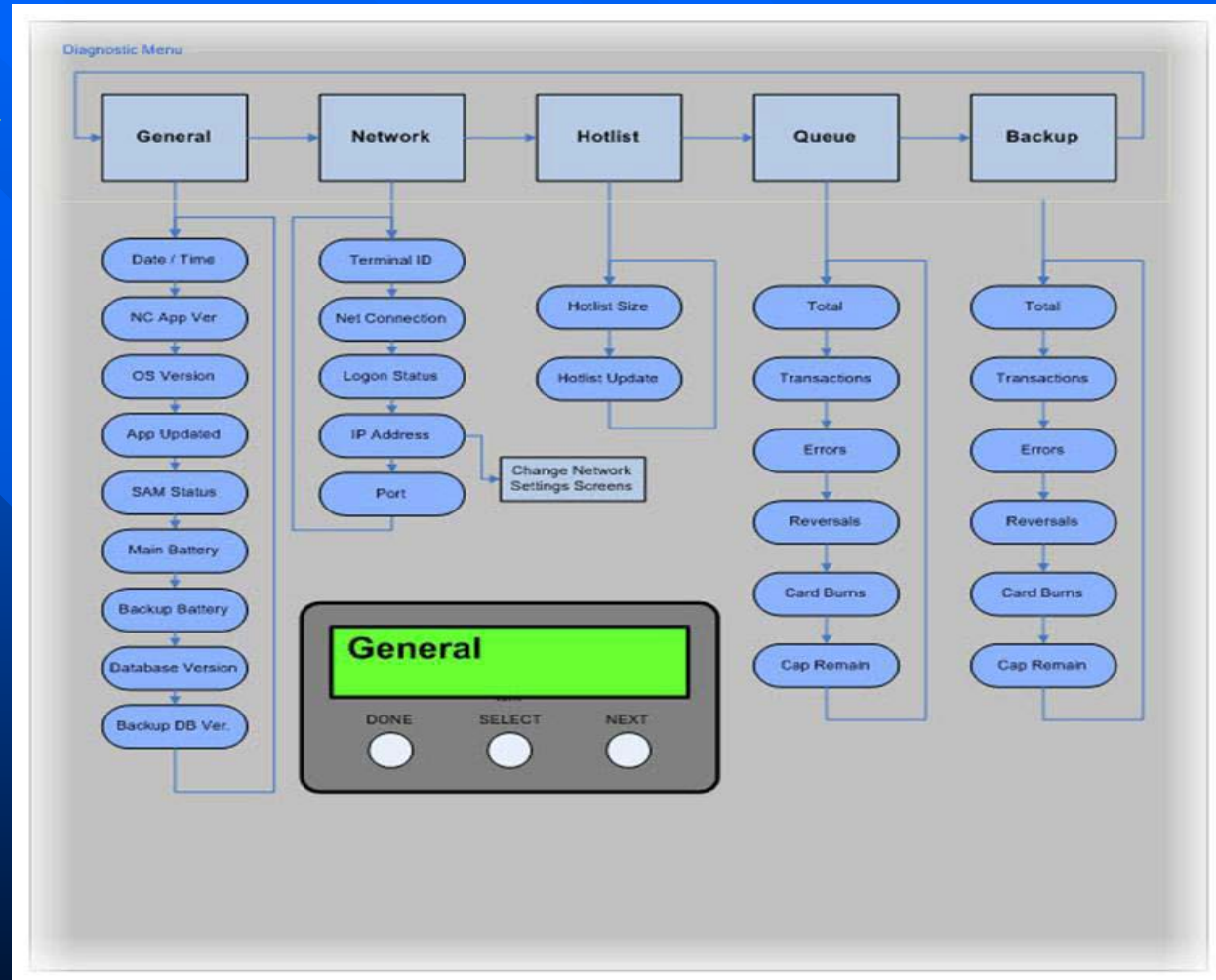
Navy Cash Trouble Call Worksheet

- Navy Cash Trouble Call Worksheet
  - Used in reporting hardware, software, communications, or operation
  - Completed form lays out information DISBO/Deputy DO needs before contacting CSU
  - Case number assigned by CSU and equipment serial number should be included with all returns

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Trouble Call Worksheet

NAVY CASH TROUBLE CALL WORKSHEET
Please be prepared to provide the information below to the Central Support Unit (CSU)
Retain form as your Trouble Call Log

CENTRAL SUPPORT UNIT (CSU)
Phone: (866) 6NAVYCASH
(866) 662-8922
E-Mail: navycashcenter@frb.org
Fax: (617) 619-8945
Web Site: www.navycash.com

OTCnet *Paper Check Conversion* OTCnet CUSTOMER SERVICE TEAM (866) 945-7920 (302) 323-3159 DSN: (510) 428-6824 fiscalservice.otcchannel@citi.com	**ROM** CONTACT APPROPRIATE FLEET ASSISTANCE TEAM SAN DIEGO: (619) 556-5725/5733 PEARL HARBOR: (808) 473-7519 YOKOSUKA: 011-8146-816-7965 NORFOLK: (757) 443-2522 MAYPORT: (904) 270-7178

SHIP NAME	DATE OF CALL		TIME OF CALL
SHIP LOCATION/PORT (AND COUNTRY IF DEPLOYED)	CASE NUMBER *(obtained from CSU)*		NAME OF CSU REPRESENTATIVE
CALLER NAME	RANK/RATE	PHONE	E-MAIL ADDRESS

POINTS OF CONTACT SO TECHNICAL OR FIELD SUPPORT REPRESENTATIVE CAN CONTACT SHIP IF REQUIRED

LOCATION	NAME	RANK/RATE	PHONE	E-MAIL ADDRESS
DISBURSING OFFICE				
SALES OFFICE				
SUPPLY OFFICE				
EMO/ADP OFFICE				
QUARTERDECK				

IF A HARDWARE PROBLEM, IDENTIFY SPECIFIC EQUIPMENT, MODEL NUMBER, AND SERIAL NUMBER

SERVER:	SWITCH:	KIOSK:
WORKSTATION:	UPS:	POS DEVICE:
DISPLAY:	KVM SWITCH:	CAD (VENDING):
LAPTOP:		
OTHER:	ROM:	OTCnet SCANNER:

DESCRIBE THE NATURE OF THE HARDWARE, SOFTWARE, COMMUNICATIONS, OR OPERATIONAL PROBLEM *(include any error messages or error codes if possible—attach any printouts or screen prints as needed)*

DESCRIBE ANY TROUBLESHOOTING STEPS YOU HAVE ALREADY TRIED *(include references you used in troubleshooting the problem, e.g., SOP, SYS ADMIN Manual, Maintenance CD, MRC, system log files reviewed—attach any log file printouts or screen prints as needed)*

SHIPPING INFORMATION

When directed to return failed equipment via traceable means to the Navy Cash depot (POSs or CADs with stuck transactions are sent to Gemalto Cogent), record the tracking number and date shipped below. With all Navy Cash equipment returns, remember to include a copy of this Trouble Call Worksheet annotated with the case number assigned by the CSU, the equipment serial number, POC with e-mail address and phone number, and a return address to get equipment back to ship (recommend providing address for ship's LSR). For POSs or CADs with stuck transactions, include the number of transactions on the device and the estimated dollar value of the transactions so the device can be properly insured for the return shipment.

SHIPPING ADDRESS NAVY CASH DEPOT SAIC ATTN: Navy Cash Depot 7580 Metropolitan Drive, Suite 207 San Diego, CA 92108 Phone: (619) 881-5408 *(Shipment related issues only)*	SHIPPING ADDRESS GEMALTO COGENT Gemalto Cogent ATTN: Ryan Settle, Navy Cash Equipment Return 3300 Acorn Street Williamsburg, VA 23188 Phone: (757) 564-4604 *(Shipment related issues only)*

TRACEABLE TRACKING NUMBER		DATE SHIPPED
NAME OF POINT OF CONTACT	E-MAIL ADDRESS	PHONE NUMBER

RETURN ADDRESS *(recommend providing address for ship's Logistics Support Representative (LSR) at the Logistics Support Center (LSC))*

CITY	STATE	ZIP CODE
NUMBER OF TRANSACTIONS *(for POSs OR CADs with stuck transactions)*	ESTIMATED DOLLAR VALUE *(for stuck transactions)*	

Trouble Call Worksheet v14   PAGE 2 of 2   11-Jan-19

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Central Support Unit (CSU)

- When on-site troubleshooting cannot remedy the issue, contact the Navy Cash CSU for further support:
  - The Navy Cash CSU issues a case number when receiving a trouble call
  - The Navy Cash CSU determines the severity of the issue and the response necessary to assist
  - The Navy Cash CSU will provide phone support, a tech visit or trainer visit if deemed necessary to fix the problem
  - Ensure to utilize the Navy Cash Trouble Call Worksheet when contacting the Navy Cash CSU

Central Support Unit (CSU)

- When contacting the Navy Cash CSU, always have:
  - Precise description of the problem
  - List of troubleshooting procedures that have been tried (i.e. power up/down server, switch nodes, cycle power on Kiosk or vending machines, etc.) and the results
- *Note: The more specifics provided, the better the assistance that will be provided in troubleshooting and correcting the problem.*

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Distance/On-site Support

Distance/On-Site Support

- *Tier 1 Support*
  - Provided by Navy Cash CSU, 24/7
    - » Answers calls and takes basic info about any technical problem
    - » Forwards trouble calls to Navy Cash Technical Support (NCTS) Team
    - » CSU assigns a case number, tracks problem

- *Tier 2 Support*
  - Provided by Navy Cash Technical Support Team
    - » Provides troubleshooting guidance to the fleet via phone and e-mail
    - » Assisted by Navy Cash Depot

Distance/On-site Support

- *Tier 3 Support*
  - Onsite technical assistance
  - Resolve Navy Cash-specific problems that cannot be resolved over the phone or e-mail
  - Generally used when all other Distance Support troubleshooting efforts have been exhausted
  - Provided by Treasury Agent NCTS and Navy Cash Depot

Distance/On-site Support

- **Critical Issues**
  - CSU forwards issue to NCTS immediately
  - Examples are:
    - *One server node is down and cannot transfer control to second node*
    - *Cluster Administrator – NCP and NCService resources are offline*
    - *All Navy Cash Kiosks are offline*
    - *All devices are offline (POS, Kiosks, and CADS)*
    - *Communication/no round-trip (i.e. 5 or more days) issues*
    - *End of Month (EOM) issues (within last 4 days of month)*
    - *SPO affecting multiple members*
    - *Any issue involving Admiral, CO, or XO*

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Remote Access

- *GotoAssist*

  – Browser-based service that enables NCTS (or NC Depot) to access and control the Navy Cash system remotely

  – Allows NCTS (or NC Depot) to troubleshoot and resolve issues and provide technical support

    » *NCTS sends a secure e-mail to DISBO with a unique remote session key code and provide instructions*

    » *DISBO must maintain an updated POC information on the Navy Cash Disbursing Website*

Remote Access

– Remote access support is limited to:

» critical issues

» system back-up failures

» security audits

» preparations for security inspections

» *Note: For critical issues, it is recommended that DO calls CSU rather than sending an e-mail to ensure that case is escalated properly.*

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Disbursing Contact Info

Navy Cash
Disbursing Website
- ➢ *Under Ships*
  - ➢ *Contacts Tab*

Ensure POC
Information shows
updated information

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Replacing Damaged/Lost Components

Replacing Damaged/Lost Components

- Spare components are provided as a part of the NC installation.
  - Part for Part replacement policy (return the bad device before a replacement is sent)
- The Sales Officer is responsible for all CADs
- Disbursing is responsible for all IPA 280s
- Navy Cash Depot maintains replacement spares
  - A DD Form 200 (Financial Liability Investigation of Property Loss) is required before replacing a lost device

Shipping Equipment

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Shipping POS Device

■ Packaging iPA-280 for shipment
- – Shipping/Mailing iPA-280
  - » Remove rechargeable lithium-ion battery
  - » Imbedded lithium-metal back-up battery is _installed_ in iPA-280
- – Ship via traceable means (UPS, USPS, FedEx, etc)
- – Treated as air shipments
- – Include an _Accompanying Lithium Battery Document_

Shipping POS Device

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Disposal of POS Batteries

- Disposal
  - Dispose depleted batteries (or batteries that will no longer be used) locally following proper procedures
  - Likewise, *recalled, damaged, or defective* batteries must be disposed following local procedures
    - » *Do not mail or ship these batteries under any circumstance*

Software Maintenance Procedures

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Software Maintenance

- **IAVA**
  - Information Assurance Vulnerability Management
  - Important in maintaining security posture of Navy Cash system
  - All known vulnerabilities must be patched effectively and in a timely manner
- **Installation Alerts**
  - Provide an automated mechanism of applying software updates (includes IAV patches)
  - Ideally, install patches at end of business day

Software Maintenance

- ## WSUS (Windows Server Update Services)
  - Enable IAV and other software patches to be provided remotely and applied automatically
    - » Install bug fixes and any new functionality

- ## Anti-Virus Definitions
  - Symantec (or McAfee) anti-virus Live Update solution on Navy Cash Severs, Laptops, and workstations
    - » Configured to automatically retrieve virus definitions on a daily basis directly from Symantec (or McAfee)

- *Note: A patch should never be applied to the Navy Cash system without direct assistance of Treasury Agent NCTS or Engility.*

Software Maintenance

■ Navy Cash Laptops

– Digital Sender LAN drop is available:

» All spare laptops (including the Marine Disbursing laptop on LHA/LHDs) must be powered up and connected to the ship's network permanently

– Digital Sender LAN or dedicated LAN drop is not available:

» Disconnect workstation and connect laptop to network

» Laptop is powered up at least once each week for at least 48 hours

» Updates occur automatically, but some updates may require a reboot

– With regular updates, laptop will be ready if it is ever needed as a backup

Casualty Procedures

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Casualty Procedures

- If off-ship communications go down, the NC system can run independently for several weeks

- Anyone with SPO will be credited by using the "Provisional Split Pay Option" under the Utility Function

- If the NC Server go down:
  - Use IPA 280's offline (provided operator is logged on)
  - CADs will continue to work unless ship's power is lost

Casualty Procedures

- **In a worse-case scenario, go back to using cash**
  - Disbursing Office still carries cash
  - Replace CAD with the dollar bill validator and/or coin changer for each Vending Machine
- **When the system comes back online, the NC server onboard ship will be updated via shore communications.**

Casualty Reporting Procedures

- Casualty Report (CASREP)
  - CASREP message is sent by ship for urgent maintenance problems beyond shipboard capabilities
    - » include *NAVSUPSYSCOM MECHANICSBURG PA//41//* for action or information, as appropriate

- Replacement parts necessary to enable correction of the CASREP are:
  - shipped within 24 hours after acknowledgement of receipt of CASREP

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Summary

- Ship is responsible for the initial efforts to troubleshoot, isolate, and correct problem
- If device fails, ship is responsible for installing a spare in its place
  - » Selected spares are available on board the ship to replace failed equipment
- In unable to repair, ship initiates a trouble call to Navy Cash CSU

Summary

- **Trouble Calls**
  - Ship is responsible for initiating a trouble call
  - Navy Cash CSU assigns a case number and forward the call to a technician
  - Support personnel cannot take action until a case number is assigned

- **Navy Cash Depot**
  - Maintains replacement parts
  - Normally, spare parts are shipped one business day following receipt of request
  - Can expedite shipment the same day when emergency arises

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Questions

DISBURSING UNIT 6 REVIEW

1. What are the two modes of operation for the IPA-280 POS Device?

2. What is the first step in troubleshooting an IPA-280 POS Device?

3. Where do you send CADs with stuck transactions?

4. What form is required before we can replace a lost Navy Cash Device?

5. Who is responsible for initial troubleshooting of the Navy Cash System?

6. Who is responsible for initiating Navy Cash trouble calls?