
Meridian 1

Symposium Agent Greeting 2.0

NTVQ09AB Maintenance and Troubleshooting Guide

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About this guide

This document describes the maintenance procedures related to the Agent Greeting hardware and software and provides information on troubleshooting installation issues and the commands available to debug these issues.

Agent Greeting Card Test and Debug Capabilities

The NTVQ09AB Agent Greeting Card provides maintenance and diagnostic features at various technical levels to identify and clear fault conditions. Also included are upgrade features which require the user to have access to VxWorks. The Agent Greeting Card features include:

- Self Test Features
- Factory Test Features
- Debug Features (user name and password required)
- Application Loadware Upgrade
- Digital Signal Processing (DSP) Loadware Upgrade
- Auxiliary Processor Loadware Upgrade
- VxWorks Shell Debug Utilities

Self Test Features

The Agent Greeting Card runs various diagnostics to detect hardware faults and ensure correct operation. The test coverage breaks down into the following categories:

- 8051 co-processor power up self tests
- BIOS diagnostics
- Base code self tests

Progress information of self tests is available through the serial port on the Agent Greeting Card.

Factory Test Features

Factory test features include the Hex Display, Status LED and Reset Switch.

Hex Display

The Agent Greeting base card includes a Hexadecimal (Hex) LED display to provide status information during maintenance operations. During power-up and diagnostic tests, this display provides a visual progress indication, and information on the first failure detected. The Hex LED display codes are indicated in Table 2, “: Hex Display codes during bootup,” on page 14.

During normal operation the display cycles through the number of enabled M2616 (Aries) ports, the number of booted DSP ports, the number of ports authorised by a keycode, and the total port capacity of the card. For example the Hex display could contain:

Table 1: Hex Display codes during normal operation

Display Field	Meaning
A:XX	Number of enabled Agent Greeting Ports
D:XX	Number of installed DSP ports
K:XX	Capacity of card enabled via Keycode
C:XX	Current capacity of card (smallest of A,D & K)

The RS-232 port may also be used to monitor the progress of self tests. Messages indicating the completion of each self test phase, as well as any detected faults will be printed to this port. Support for boundary scan and access to the boundary scan interface on the FPGAs is provided.

Status LED

A single red LED is provided on the faceplate to indicate the enabled / disabled status of the Agent Greeting Card, as well as providing an indication of the status of the power on self test.

The LED is OFF if:

- the port capacity of the Agent Greeting Card is non-zero.

and

- the card is in the normal mode of operation.

The LED is ON if:

- the port capacity of the Agent Greeting Card is zero.

or

- the card is in maintenance mode.

Reset Switch

A reset switch is provided on the faceplate to allow an operator to manually reset the card without having to power down. This switch is normally used to clear a fault condition during setup or during non-traffic periods.

CAUTION



Before using the Reset switch ensure that the Agent Greeting card has been disabled in LD 32 using the DISC command. Otherwise some of the ports may cause an OVD error on the Meridian CPU and become disabled when the card resets. Once the card is active again (the Hex display has passed T:21 state) reenable the card in LD 32 using the ENLC command.

Table 2: Hex Display codes during bootup

Display Code	Definition
T:00	Initialization
T:01	Testing Internal RAM
T:02	Testing ALU
T:03	Testing address modes
T:04	Testing Boot ROM
T:05	Testing timers
T:06	Testing watchdog
T:07	Testing external RAM
T:08	Testing Host DPRAM
T:09	Testing DS30 DPRAM
T:10	Testing for presence of dongle (see note below)
T:11	Testing flash memory
T:12	Programming PCI FPGA
T:13	Programming DS30 FPGA
T:14	Programming CEMUX FPGA
T:15	Programming DSP FPGA
T:16	Testing CEMUX interface
T:17	Testing EEPROM
T:18	Booting 486, waiting for response with self test information
T:19	Waiting for application start-up message from 486
T:20	CardLAN enabled, waiting for Request Config. Message
T:21	CardLAN operational, A07 enabled, display now under host control

Note: The security dongle is required for normal Agent Greeting Card operation. A keycode is supplied during installation, which is matched to the dongle and authorises a number of ports for use.

The Agent Greeting Card reports a missing dongle during boot up via a message on the serial connection and the faceplate 4 segment display. Once a dongle is inserted the serial number is reported during boot up.

Debug Terminal Access

The Agent Greeting Card Debug Terminal access is provided via an RS-232 port. This is accessible via the NTAG81CA faceplate serial cable. Messages indicating the completion of each self test phase, as well as any detected faults will be logged to this serial port.

The pinouts for the Mini-DIN Connector, to which the faceplate serial maintenance cable connects, are given in Table 3 on page 15.

The terminal connected to the serial port requires these settings: 9600bps, 8 data bits, 1 stop bit, no parity, and no flow control.

Table 3: Faceplate Mini-DIN Connector pinout

Pin No.	Signal	Dir	Description
1	BDTRB-	O	Port B Data Terminal Ready
2	BSOUTB-	O	Port B Serial Data Out
3	BSINB-	I	Port B Serial Data In
4	SGND	C	Signal Ground
5	BSINA-	I	Port A Serial Data In
6	BCTSA-	I	Port A Clear To Send
7	BSOUTA-	O	Port A Serial Data Out
8	BDTRA-	O	Port A Data Terminal Ready

Debug Features

While the Agent Greeting Card is booting, the 8051 auxiliary processor has control of the serial port, and uses it to provide debug information, progress of self tests, etc. Once the 8051 releases the main processor (i486) from reset, the main processor by default grants VxWorks shell access through this port. The Agent Greeting Card also supports remote access to the shell via telnet.

Once the card is operational, the RS-232 port may be used to monitor CardLAN and Time Compression Multiplexing (TCM) signaling between the card and the Meridian 1 system.

The VxWorks Shell

The VxWorks shell, which is used for doing basic OA&M (the most important of which is loadware upgrade), can be accessed via a serial connection to the maintenance port or via a telnet connection. The shell is protected from unauthorized access by a username and password. This password is common across FTP, telnet and the serial port. If the shell is idle for a period of time the password and username must be reentered to gain access. This timeout defaults to 10 minutes, but can be set to any value between 30 seconds and 4095 seconds (1 hour 8 minutes 15 seconds) using the *shell* function *shellTimeoutSet n* where *n* is the desired timeout in seconds. The current value of the shell timeout in seconds is returned by the shell function *shellTimeoutGet*.

```
-> shellTimeoutSet 600  
-> shellTimeoutGet
```

The shell (and FTP) password can be changed using the shell function *shellPasswordSet*. Invoking this command will prompt you for the current username, current password, new username, new password and a final confirmation of the new password.

```
-> shellPasswordSet  
Enter current username: username1  
Enter current password: password1  
Enter new username: username2  
Enter new password: password2  
Enter new password again to confirm: password2
```

The shell timeout, username and password are stored in NVRAM, so changes are maintained across a reboot. The default username and password are “vpsdseuser” and “welcome2vp” respectively.

Note: Once the shell username and password have been successfully entered the user has complete access to all the VxWorks commands. Incorrect usage of some shell commands will cause the VP to reboot and may change operational behavior.

Application Loadware Upgrade

The Agent Greeting Card stores up to two versions of loadware in flash. This mechanism ensures that if there is a power outage or other failure during upgrade the card still has a valid load in flash. A small boot code segment is located in the BIOS flash area, which chooses the “newest” load from one of two flash banks to uncompress into DRAM. Once the uncompress has completed, execution switches to the code entry point in DRAM.

During upgrade, the flash bank with the oldest load is erased and the new load is stored in this area. Once the upgrade has completed successfully, the new load is marked as “newer”. If the upgrade fails for some reason (for example, checksum corruption), the older load remains the image to boot as the failed upgrade will not checksum correctly and will therefore not be selected by the load picker algorithm in the boot ROM. The card must be rebooted/reset for the new loadware to execute.

There are two options for doing an upgrade of the loadware. The first is to use an FTP Client to connect to the card, copy the loadware onto the PCMCIA “/A:” disk of the card and then do the upgrade from there using the command “upgradePCMCIA”, which will take the loadware file from the PCMCIA disk and program it into flash. The second option is to place the loadware file on an FTP Server and use the “upgrade” command to retrieve the file from the FTP Server and program it into flash. Both options are described below.

Loadware upgrade from PCMCIA Flash Card

Using this method the loadware binary is first copied onto the PCMCIA flash card on the Agent Greeting Card. It is then programmed into flash on the Agent Greeting motherboard.

At this point FTP into the IP address of the Agent Greeting card. The FTP username and password are the same as that of the shell, as described above. Change directory to the “/A:” drive and copy the loadware file onto the Agent Greeting Card in binary format. Logout of the FTP session.

From the VxWorks shell execute the command “upgradePCMCIA” as shown below, the expected successful output is also shown:

```
-> upgradePCMCIA "/A:agent_greet.bin"<CR>
Updating sector: 16..17..18..19..20..21..22..23..file read complete
Program Address = 0xf9900000, Checksum = 0x51a4737d,length = 0x76338
Upgrade completed OK
Reboot the pack to run new loadware
value = 0 = 0x0
```

Loadware upgrade from a FTP Server

To upgrade the loadware over the network from an FTP server you must copy the loadware binary file to an FTP server. The upgrade is then performed by running the "upgrade" command in the VxWorks shell as shown below:

```
-> upgrade "<server IP address>","<userid>","<password>",
"<path>","agent_greet.bin"<CR>
Connecting to <server IP address>...
connected to <server IP address> OK
Updating sector: 16..17..18..19..20..21..22..23..file read complete
Program Address = 0xf9900000, Checksum = 0x51a4737d,length = 0x76338
Upgrade completed OK
Reboot the pack to run new loadware
value = 0 = 0x0
```

The <userid> and <password> above are those of the FTP server and the <path> above is the path to the file on the FTP server.

Note: The updated sectors for Bank 1 start at sector 16 (as in example above) whereas the start sector for Bank 0 is sector 0. Successive successful upgrades alternate between banks for storing the upgrade image.

The Agent Greeting Card must be in maintenance mode before an upgrade can be executed. Maintenance mode is entered by disabling the card via Overlay 32 on the Meridian switch. Once upgrade is complete the card can be reenabled via Overlay 32.

DSP Loadware Upgrade

Similar to the loadware upgrade described above, the DSP loadware may also be upgraded via two methods, across the network from an FTP server or locally from the PCMCIA disk.

DSP Loadware upgrade from PCMCIA Flash card

Using this method the loadware binary is first copied onto the PCMCIA flash card on the Agent Greeting Card. It is then programmed into the flash area of each DSP section.

To use this method, first FTP into the IP address of the Agent Greeting card. The FTP username and password are the same as that of the shell, as described above. Change directory to the “/A:” drive and copy the DSP loadware file onto the Agent Greeting Card in binary format. Logout of the FTP session.

From the VxWorks shell execute the command “upgradePCMCIAdsp” as described below.

The DSP loadware file is loaded via FTP from a file server. The file is stored in a dedicated 2 MB flash device in each DSP section. The same loadware strategy is implemented for the Agent Greeting on-board DSP section and the DSP cards. No special recovery mechanism is required. If the upgrade fails for some reason (e.g., incorrect file used), the DSP will fail to reboot and the upgrade must be performed again. The upgrade is performed by running the upgradePCMCIAdsp command in the VxWorks shell as follows:

```
-> upgradePCMCIAdsp <dsp no>，“/A:lmag84aa.bin”<CR>  
Updating sector:  
0..1..2..3..4..5..6..7..8..9..10..11..12..13..14..15..16..17..18..19..20..21..22..23..24..25..  
26..27..28..29..30..31..
```

After a successful upgrade, the following messages are printed (along with channel deletion/creation messages for existing channels):

```
DSP Checksum OK!!!  
DSP Load upgraded OK  
value = 0 = 0x0
```

After a failed upgrade, the following messages are printed:

DSP Code checksum failed
Checksum = 0xf8f9c9b6
DSP Load upgrade Failed!!!!
0x36b254 (tUpgradeDsp): On-board DSP section in reset.
0x36b254 (tUpgradeDsp): Powering up dsp 0

DSP Loadware upgrade from a FTP Server

To upgrade the loadware over the network from an FTP server you must copy the loadware binary file to an FTP server. The upgrade is then performed by running the “upgrade” command in the VxWorks shell as shown below:

The DSP loadware file is loaded via FTP from a file server. The file is stored in a dedicated 2 MB flash device in each DSP section. The same loadware strategy is implemented for the Agent Greeting on-board DSP section and the DSP cards. No special recovery mechanism is required. If the upgrade fails for some reason (Ethernet link to server goes down, incorrect file used), the DSP will fail to reboot and the upgrade must be performed again. The upgrade is performed by running the upgradeDsp command in the VxWorks shell as follows:

```
-> upgradeDsp <dsp no>,"<server IP address>",  
"<user id>","<password>","<path>","lmag84aa.bin"<CR>  
Connecting to <server IP address>...  
connected to <server IP address> OK  
Updating sector:  
0..1..2..3..4..5..6..7..8..9..10..11..12..13..14..15..16..17..18..19..20..21..22..23..24..25..  
26..27..28..29..30..31..
```

The <userid> and <password> above are those of the FTP server and the <path> above is the path to the file on the FTP server.

After a successful upgrade, the following messages are printed (along with channel deletion/creation messages for existing channels):

```
DSP Checksum OK!!!  
DSP Load upgraded OK  
value = 0 = 0x0
```

After a failed upgrade, the following messages are printed:

DSP Code checksum failed
Checksum = 0xf8f9c9b6
DSP Load upgrade Failed!!!!
0x36b254 (tUpgradeDsp): On-board DSP section in reset.
0x36b254 (tUpgradeDsp): Powering up dsp 0

The Agent Greeting Card must be in maintenance mode before an upgradeDsp can be executed. Maintenance mode is entered by disabling the card via Overlay 32 on the Meridian switch. Once upgrade is complete the card can be reenabled via Overlay 32.

VxWorks Shell Debug Utilities

Several debug utilities are available from the VxWorks shell which can be used to print the state of certain global variables. A list of available debug commands is provided in Table 4.

Table 4: Debug Commands

Command	Description
clientDebugOn	Enable debugging information on TTY interface
clientDebugOff	Disable debugging information on TTY interface
printAllErrors	Prints logged fatal errors
getAriesState	Prints current state of all 32 M2616 (Aries) sets
printAriesState x	Prints globals associated with M2616 (Aries) set 'x'
printVpGlobs	Prints all VP globals
printVpChannel x	Prints globals associated with VP channel 'x'
tr "tMaint"	Resumes suspended task 'tMaint'
swInfoGet	Prints the loadware, DSP and 8051XA firmware versions
ifShow	Prints the IP and Ethernet addresses
inetstatShow	Prints the status of all network links
ping "10.85.15.60",x	Pings IP address 10.85.15.60 'x' number of times. Press Ctrl-C to stop to return to vxWorks shell.

In addition to the debug facilities described above Table 5 on page 22 describes the Multi-Card specific debug commands and extra logging commands that are available for use with Agent Greeting Multi-card.

Table 5: Multi-card specific debug commands

Command	Description
mcHelp	list of multi-card debug and maintenance commands
mcStatus	status of the Agent Greeting application and of the status of the cards in the group
mcShellMCCheckUp	runs a series of diagnostic tests. If trouble is reported about missing tasks, or multicast, or memory allocation, try to recover by using the mcShellMCRestart command.
mcShellPrintLastLog	display the LOG info of previous sessions (before reboot). May contain the reason of previous reboot.
mcShellPrintCurrentLog	display the current LOG file (last dbLog_XXX file in "/A:DEBUG" directory).
mcShellMCRestartAll	from Server card only, asks every card in the group to stop and restart.
mcRebootGroup	from Server only, ask every card in the group to reboot.
mcShellSetMcIP	"aa.bb.cc.dd" : sets multicast IP address. If run on a Server, this information is propagated to other cards and the group is automatically restarted
mcShellSetMcOptions	<p>Display and set multicast options. If run on a Server, this information is propagated to other cards and the group is automatically restarted.</p> <p>Multicast options are stored in "/A:MC/OPTIONS.TXT" file.</p> <p>Default options are :</p> <ul style="list-style-type: none"> IP address : 224.0.0.1 port number : 5300 Time To Live : 1 loop back : 0
mcShellRestoreGroup	Server files are restored to every other card in the group. If some file discrepancy is suspected on Client cards, this command will force them to be updated from the current state of the Server card. Expected time : up to 2 hours per Client card.
mcUpgradePCMCIA	"/A:filename.mms" : from the Server card only, upgrade the loadware image of each card in the group from a loadware file copied on the PCMCIA card of the Agent Greeting Server card.

Event Logging

Log files are stored in the DEBUG directory on the /A: drive. These are limited to a maximum size and are rolled over to prevent the disk being filled. They will hold a substantial log of activity on the system.

These files can be displayed using the mcShellPrintLastLog and mcShellPrintCurrentLog functions as described above. See Table 5 on page 22 for more details on these functions.

Fatal Error Logging

When the Agent Greeting application encounters a problem which is classed as a *Fatal Error*, it will log the error in NVRAM and if relevant print messages to the vxWorks shell. The Agent Greeting Card is then rebooted. If a *Fatal Error* is logged three times within a certain period, the tMaint task will suspend itself on startup to prevent further reboots and allow debugging of the errors.

The NVRAM stores up to six fatal errors, starting with the most recent. The command printAllErrors is used to show the errors, and appears as follows:

```
-> printAllErrors
Error (1): Error Code 0x3001, logged at 23:35:11 05/02/1998
Error (2): Error Code 0x4004, logged at 23:33:13 05/02/1998
Error (3): Error Code 0x5003, logged at 23:31:02 05/02/1998
Error (4): Empty
Error (5): Empty
Error (6): Empty
value = 30 = 0x1e
```

Each error consists of a four-digit hex identifier and a timestamp. The first digit of the identifier corresponds to the task which logged the error, the other three making up a unique error number. The actual fatal error codes and brief descriptions are shown in the Appendix “Error codes” on page 31.

Troubleshooting Agent Greeting

Network Interfaces

Agent Greeting generates network traffic for the following reasons:

- Multicast traffic from server card for auto-discovery of clients (one packet every 15 seconds during discovery sequence, one packet per minute during normal operation).
- FTP traffic for transfer of greetings during normal operation.
- HTTP traffic for Browser User Interface interactions.
- Telnet for maintenance access.

Loss of network connectivity



If the network becomes disconnected from the Agent Greeting Card, the serial maintenance port will display the following each time it attempts to transmit a packet:

-> InIsa0: no carrier

InIsa is the device driver for the network interface. No Carrier indicates a cable or hub fault on the network.

Duplicate IP Addresses



If another device on the network is responding to the same IP address as an Agent Greeting card, a warning message will be displayed on the Agent Greeting Maintenance terminal giving the Ethernet MAC address of the duplicate node.

Greetings not being played

Agent Greeting plays a single agent recorded greeting in MAX/ACD environments and skillset specific greetings in Symposium environments.

In a MAX/ACD environment the Agent's Login ID is used to identify the Agent involved in each specific call. As the Agent Greeting port is conferenced in, the Agent's Login ID is sent to the Agent Greeting port as a display message. The Agent Greeting card then picks up this display message and uses it to match a pre-recorded greeting stored on the card's hard disk.

In Symposium environment, the top line of the Agent's display is also forwarded to the Agent Greeting card. The first word of the Agent's display must be the skillset name as entered in the Browser User Interface. Only the first word is used to match so it must be unique.

If a skillset specific greeting match is not found then the default greeting for the Agent is played. If there is no default greeting for the agent a brief warning tone is played.

Here are the known reasons for greetings not being played or default greetings not being played:

- Default greeting has not being recorded by the Agent.
- Skillset specific greeting has not been recorded by the Agent (default greeting only is being played).
- Skillset name as entered in the BUI is not the same as that entered in Symposium
- The agent's Symposium Phoneset Display Presentation parameter has not been set wide enough to allow the entire skillset name to be displayed on the Agent's set

Debugging Skillset name issues

From the maintenance port (telnet or serial) it is possible to enable debug that will display the messaging the Agent Greeting card is receiving from the Meridian switch. To do this, from the command line execute:

-> clientDebugOn

Messaging from the Meridian will then be displayed. This will include the display messages showing the Agent's ID and top line of the Agent's display. These can then be manually matched to what has been entered in the BUI.

Ensure that this debugging is disabled before leaving the command line, as there is a severe realtime penalty in providing this information, which may cause greetings not to be played. The command to disable the message dumping is:

```
-> clientDebugOff
```

CAUTION



Failure to disable debugging mechanisms can cause greetings not to be played due to realtime issues on the card.

Ensure that you invoke `clientDebugOff` before exiting the maintenance port.

Telephony User Interface becoming disabled

The TUI is disabled during the following operations

- Backup
- Restore
- Purge of Agents
- Loss of Server card (if the server card is unavailable on the network).

This is to ensure that the Agent database is not updated and new files stored on the disk while these are in progress.

Multi-Card operation across routers

Changing Multi-cast parameters

Agent Greeting multicast packets have their TTL (Time To Live) values set to 1 by default. This ensures that the multicast traffic from Agent Greeting is contained within a single subnet. In some setups it may be required to have server cards and client cards separated by routers. To facilitate this the TTL value must be made greater than 1. Each time the packet traverses a router this value is decremented by 1. If a router sees a packet with a TTL of 1 it silently drops the packet. This protects networks from proliferation of broadcast and multicast packets. If you wish to propagate the multicast packets across routers then you must set the TTL to a value of the number of routers to be traversed plus one.

This can be done using the `mcShellSetMcOptions` command from the maintenance port. This command also allows the multicast address and port number to be changed. Table 5 on page 22 provides further information on multi-card commands.

Agent Greeting card spontaneous reboots

Cards may reboot spontaneously in the following conditions :

- when the ethernet driver has reported an invalid Ethernet address error (FF:FF:...:FF) and after a timeout of 15 minutes without receiving any Agent Greeting Multicast frames.
- when a card (Unassigned or Client) is distributed a keycode by the Agent Greeting Server card, it will then be forced to reboot by the Server.
- when Server sets a Client to unassigned (as a result of a BUI command), its files are erased and the card is rebooted by the Server.
- after a loadware upgrade, the `mcUpgradePCMCIA` utility automatically causes the cards to reboot.

In addition cards can be rebooted from the Browser:

- when the operator clicks on "Reset" button, the Server and every card in the group will reboot.
- after a new group keycode is entered.

- after a Restore (recommended, but no message is displayed because the Browser User Interface does not know when a Client's Restore operation is finished).
In case of Restore operation you must wait 2 hours per card for the operation to complete.

Restarts

A Restart differs from a Reboot in that only the Agent Greeting tasks are deleted and restarted. In many cases, a Restart is enough to recover from trouble, and much faster than a Reboot (20 seconds versus 2 minutes).

Spontaneous Restart can occur in the following conditions :

- when the ethernet driver has reported an invalid Ethernet address error (FF:FF:...:FF) and after a timeout of 3 minutes without receiving any Multicast frames.
- after setting Multicast options. See "Changing Multi-cast parameters" on page 28.
- On a Restore operation, Client cards are restarted by the Server (all files are erased before the Restore commences)
- Client cards disconnect from the Server while the Server is doing a Backup (therefore no TUI operation can occur during the Backup).

How to change the role of a card

To change a card from Unassigned to being the Server - from the BUI assign a group keycode and reboot.

To change a card from Unassigned to being a Client - from the BUI, click on "Modify Group/Acquire" and Acquire the card.

To change a card from Client to Server: replace the dongle of the Client with the dongle of the Server and reboot.

For any other case, using the Telnet or serial connection and type in : `diskInit "/A:"` (command is case sensitive). On reboot the card will be Unassigned.

Note: The `diskInit` command formats the PC Card disk and will therefore erase all agent information and agent greetings. Use with care.

Appendix A: Error codes

The following are descriptions of the Error codes that can be logged by Agent Greeting in NVRAM in the case of a reboot.

Table A-1: Maintenance Task Errors

Error Id	Description
0x1001	Serious hardware fault found during boot-up
0x1002	VP Application startup failed
0x1003	Error initializing Maint Task
0x1004	Process incoming base code events other VP Application tasks: task in ERROR state
0x1005	A VP task failed self-test
0x1006	Aries Task Failed to go operational
0x1007	VP Application Task failed to go operational
0x1008	Task suspended itself three times

Table A-2: Server Task Errors

Error ID	Description
0x2001	Ethernet device has no IP address
0x2002	Error opening VP-AP Master socket
0x2003	Error binding a network address (name) to the socket
0x2004	Error enabling connections to the socket
0x2005	Error in accepting connection from a client
0x2006	Error; Main Server Task loop exited

Table A-3: VP Application Errors

Error Id	Description
0x3001	Malloc failed during DSP Card Removal
0x3002	Malloc failed during handling of channelRelease action
0x3003	Malloc failed during handling of clientRelease action
0x3004	Malloc failed during handling of clientRelease action
0x3005	Malloc failed during handling of modifyCardState action

Table A-3: VP Application Errors

Error Id	Description
0x3006	Malloc failed during handling of EnableDigitNotification action
0x3007	Malloc failed during handling of action to Aries task
0x3008	Message send to the VP Application Task fails
0x3009	Message send to the VP Application Task fails
0x300A	Malloc failed during posting of event to all clients
0x300B	Malloc failed during shell function call
0x300C	Malloc failed during retrieval of segmentSet Id
0x300D	Malloc failed during creation of segment path name
0x300E	Malloc failed during creation of segment path name
0x300F	Malloc failed during copying of action
0x3010	Channel in incorrect state while verifying generateDTMF action
0x3011	Channel in incorrect state while verifying stopVoice action
0x3012	Channel in incorrect state while verifying playAnnouncement action
0x3013	Channel in incorrect state while verifying collectDigits action
0x3014	Malloc failed during creation of bit mapped array
0x3015	Malloc failed during creation of bit mapped array
0x3016	Realloc failed during changing of bit mapped array
0x3017	Malloc failed during copying of bit mapped array
0x3018	Malloc failed during handling of DSP Card removal
0x3019	Malloc failed during handling of DSP Card removal
0x301A	Malloc failed during channel creation
0x301B	Transaction error during prompt playback
0x301C	Transaction error during stopping of prompt playback
0x301D	Malloc failed during request creation
0x301E	Malloc failed during request creation
0x301F	Transaction error during emptying of request list
0x3020	Malloc failed during request creation
0x3021	Malloc failed during request creation
0x3022	Incorrect channel state when handling dsp play finished message
0x3023	Malloc failed during handling of dsp play finished message

Table A-3: VP Application Errors

Error Id	Description
0x3024	Invalid action type found during handling of dsp play finished message
0x3025	Incorrect channel state when handling dsp play finished message
0x3026	Malloc failed during handling of dsp play finished message
0x3027	Invalid action type found during handling of dsp play finished message
0x3028	Malloc failed during handling of dsp digit detection message
0x3029	Malloc failed during forwarding of digit event
0x302A	Malloc failed during handling of channelAcquire error
0x302B	Malloc failed during handling of channelAcquire error
0x302C	Malloc failed during initialisation of VP App task globals
0x302D	Error during channel acquire; channel not in enabled state
0x302E	Malloc failed during handling of channelSplit RFA
0x302F	Malloc failed during handling of channelSplit RFA
0x3030	Malloc failed during handling of clientMessage
0x3031	Malloc failed during handling of digitTimeoutEvent
0x3032	Malloc failed while searching for a free transaction
0x3033	Malloc failed while searching for a free transaction

Table A-4: Aries Task Errors

Error Id	Description
0x4002	Malloc failed during handling of channelAcquire action
0x4003	msgQSend failed after makeCallTimer timeout
0x4004	msgQSend failed after transferCallTimer timeout
0x4005	msgQSend failed after addOnCallTimer timeout
0x4006	msgQSend failed after noHoldConferenceCallTimer timeout
0x4007	Malloc failed during handling of system companding law message
0x4008	Malloc failed during handling of system companding law message
0x4009	Malloc failed during sending of cardReset message to Meridian Manager task

Table A-4: Aries Task Errors

Error Id	Description
0x400A	Malloc failed during forwarding of an RFA message to the VP App task
0x400B	msgQSend failed during forwarding of an RFA message to the VP App task
0x400C	Malloc failed during forwarding of an RFA message to the VP App task
0x400D	msgQSend failed during forwarding of an RFA message to the VP App task
0x400E	Malloc failed during forwarding of an Event to the VP App task
0x400F	msgQSend failed during forwarding of an Event to the VP App task
0x4010	Malloc failed during forwarding of an displayEvent to the VP App task
0x4011	Malloc failed during forwarding of an displayEvent to the VP App task
0x4012	msgQSend failed during forwarding of an Event to the VP App task
0x4013	Error; Main Aries Task loop exited
0x4015	msgQReceive failed in Aries task input queue
0x4016	Malloc failed during handling of message from VP App task
0x4017	Error; Aries Audit task loop exited
0x4018	Malloc failed during construction of DS30 message
0x4019	Malloc failed during construction of DS30 message
0x401A	Malloc failed during extraction of DS30 message from Meridian Manager
0x4020	msgQSend failed after answerCallTimer timeout
0x4021	msgQSend failed after disconnectCallTimer timeout
0x4022	msgQSend failed after conferenceCallTimer timeout
0x4023	msgQSend failed after retrieveOriginalTimer timeout
0x4024	msgQSend failed after channelReleaseTimer timeout
0x4025	msgQSend failed after retryReleaseTimer timeout
0x4026	msgQSend failed after finalRetryTimer timeout
0x4028	Error in creating ring buffer while initialiasing Aries task
0x4030	Error in filling ring buffer when sending key press message to Meridian Manager

Table A-4: Aries Task Errors

Error Id	Description
0x4031	Error in filling ring buffer when sending message to Meridian Manager
0x4032	Error in filling ring buffer when sending message to Meridian Manager
0x4033	Error in filling ring buffer when sending message to Meridian Manager
0x4034	Error in filling ring buffer when sending message to Meridian Manager
0x4035	Error in filling ring buffer when sending message to Meridian Manager
0x4038	Error in retrieving characters from a ring buffer
0x4039	Error in retrieving characters from a ring buffer
0x403A	Error in retrieving characters from a ring buffer
0x403B	Error in retrieving characters from a ring buffer
0x403C	Error: Meridian Manager Send Queue task loop exited
0x403F	Malloc failed while constructing a DS30 message
0x4040	msgQSend failed after faultTimer timeout
0x4041	msgQSend failed after lampUpdateRequestTimer timeout

Table A-5: Client Task Errors

Error Id	Description
0x5001	Malloc failed during action creation
0x5002	Malloc failed during sending of card event state
0x5003	Malloc failed during retrieval of message from socket
0x5004	Malloc failed while extracting an IE string
0x5005	Malloc failed while extracting an Channel List IE
0x5006	Malloc failed while flushing a socket
0x5007	Malloc failed during sending of result fail message
0x5008	Malloc failed during handling of playAnnouncement message
0x5009	Malloc failed during handling of collectDigits message
0x500A	Malloc failed during sending of collectDigits result
0x500B	Malloc failed during handling of promptAndCollectDigits message
0x500C	Malloc failed during sending of promptAndCollectDigits result

Table A-5: Client Task Errors

Error Id	Description
0x500D	Malloc failed during sending of enableDigitNotifiaction result
0x500E	Malloc failed during sending of clientRegistration result
0x500F	Malloc failed during force RESET function

Meridian 1

Agent Greeting

Maintenance and Troubleshooting Guide

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