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## Session Objectives

- By the end of this session, you will
  - Perform basic troubleshooting
  - Be able to identify VSAT Link- disconnect causes on the NMS



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# VSAT Configuration Procedure

Operational Verification

- After finishing the VSAT configuration and installation the state of the VSAT will be as follows
  - RX LED should be ON
  - SYNC LED should be ON
  - On-line LED should be ON
  - Tx should flash once for each packet being transmitted



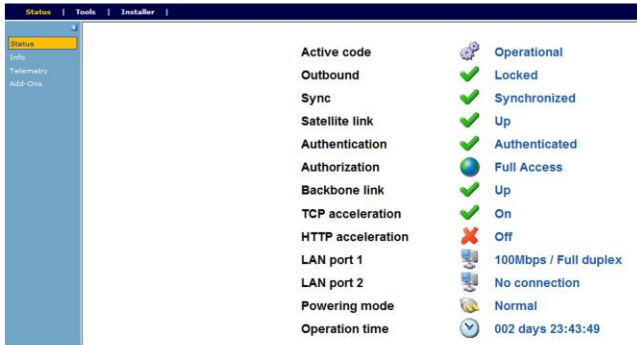
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# VSAT Configuration Procedure

## Operational Verification

- The SkyManage status window should look as follows:



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If VSAT should work through ServerFarm, then HTTP acceleration should be Green as well.

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## VSAT Troubleshooting

- Use the VSAT LEDs and SkyManage status screen to understand at what stage the VSAT is “stuck”
- Check the VSAT’s Log On flow diagram to verify what is missing to go to the next step
- Remember there is a difference between a VSAT that was On-Line once before, and a new VSAT

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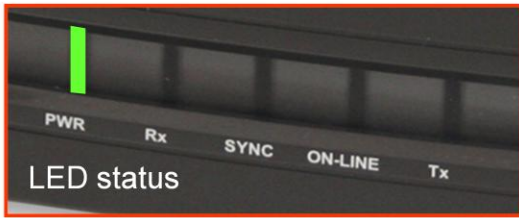
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# 1. No Outbound Signal

(RF Problems)

Active code		Boot
Outbound		Unlocked
LAN port 1		100Mbps / Full duplex
LAN port 2		No connection
Powering mode		Normal
Operation time		000 days 00:01:26



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# 1. No Outbound Signal

Possible Causes and Solutions

- **No Outbound signal**
  - The RX and TX cables may be reversed → switch the cables
  - RX cable may be faulty → check the cable and replace it if necessary
  - General Outbound failure → hub problem
- **Antenna miss-pointed**
  - Check the antenna → realign it if necessary
- **Wrong parameters → reconfigure the VSAT**
  - Outbound symbol rate
  - Outbound frequency
  - Wrong LNB L.O.

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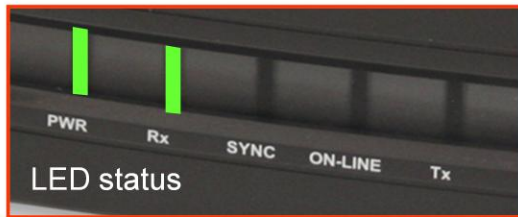
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## 2. No SYNC

Active code: Boot  
Outbound: Locked  
LAN port 1: 100Mbps / Full duplex  
LAN port 2: No connection  
Powering mode: Normal  
Operation time: 000 days 00:00:16

Active code	Operational
Outbound	Locked
Sync	Not synchronized
Satellite link	Down
Authentication	Authentication Unknown
Authorization	Full Access
Backbone link	Down
TCP acceleration	Off
HTTP acceleration	Off
LAN port 1	100Mbps / Full duplex
LAN port 2	Closed
Powering mode	Normal
Operation time	000 days 00:00:23



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## 2. No SYNC

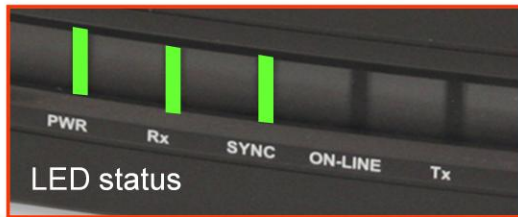
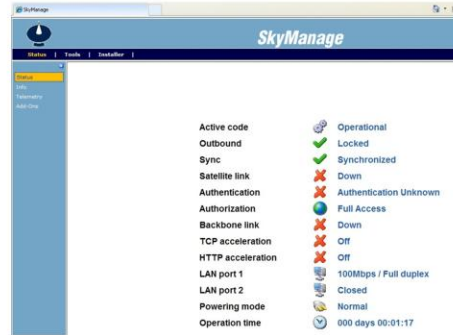
Possible Causes and Solutions

- No operational software for VSAT
- Hub/Sync problems
- Wrong parameters
  - IB ID
- VSAT is not receiving DVB-RCS tables
  - Hub problem
- NCR is not transmitted

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### 3. No ON-LINE



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### 3. No ON-LINE

- TX cable faulty or disconnected
  - Check the TX cable and the connection
- Wrong parameters configured in VSAT
  - Wrong VSAT coordinates
  - Wrong BUC L.O.

- VSAT blocked from the NMS
  - Unblock VSAT from the NMS

Active code		Operational
Outbound		Locked
Sync		Synchronized
Satellite link		Down
Authentication		Authentication Unknown
Authorization		Persistent Tx Block
Backbone link		Down
TCP acceleration		Off
HTTP acceleration		Off
LAN port 1		100Mbps / Full duplex

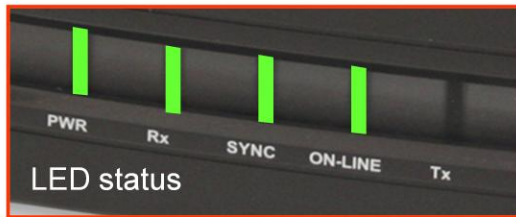


# 4. No Browsing

## Networking Failure

Active code	Operational
Mode	Installation
Outbound	Locked
Sync	Synchronized
Satellite link	Up
Authentication	Not Authenticated
Authorization	Full Access
Backbone link	Down
TCP acceleration	Off
HTTP acceleration	Off
LAN port 1	100Mbps / Full duplex
LAN port 2	Closed
Powering mode	Normal
Operation time	000 days 00:05:04

Active code	Operational
Mode	Installation
Outbound	Locked
Sync	Synchronized
Satellite link	Up
Authentication	Authenticated
Authorization	Full Access
Backbone link	Down
TCP acceleration	Off
HTTP acceleration	Off
LAN port 1	100Mbps / Full duplex
LAN port 2	No connection
Powering mode	Normal
Operation time	000 days 00:01:53



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## 4. No Browsing

Possible Causes and Solutions

- Wrong mgmt PID
- Wrong VSAT IP configuration in NMS
- Wrong VSAT HW configuration in NMS (No Authentication)
- Wrong VSAT ID
- Networking configuration
  - Normal mode
    - Check your PC IP configuration using ipconfig
    - PC-host's IP address should be within the VSAT's subnet
- PC disconnected
- Network connection disabled

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Open the command screen on the PC.

Type **arp -a** and ping one of the addresses →if there is no ping, perform the following:

On your Windows desktop, right-click the **Network** icon →Properties→ Right click the **Network** card icon→ Properties→ Internet Protocol TCP/IP

If using DHCP, verify that on the appropriate network cards the **Obtain an IP address automatically** radio button is checked.

If using manual IP address, verify the PC IP Address is on the VSAT subnet.

```
C:\>arp -a

Interface: 10.101.2.62 on Interface 0x1000003
 Internet Address      Physical Address      Type
 10.101.0.10          00-10-4b-41-12-a4    dynamic
 10.101.0.12          00-d0-b7-20-d7-79    dynamic
 10.101.0.14          00-02-b3-17-17-39    dynamic
 10.101.0.129         00-d0-b7-84-fc-df    dynamic
 10.101.0.150         00-80-2d-c6-a2-00    dynamic
 10.101.241.242       00-80-5f-a6-82-5c    dynamic
```



## 5. Slow Browsing /No Browsing

IPA and Networking



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## 5. Slow Browsing /No Browsing

IPA and Networking - Possible Causes and Solutions

- HPA problems on the hub site
  - Wait until HPA becomes operational again



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# Link Disconnect Cause

- Use the NMS events screen to identify problematic VSATs
- Use the Link disconnect causes documents to learn more about the possible fault causes

System-wide Alarms									
Fault Management Alarms									
All Alarms		HUB Alarms		VSAT Alarms					
Severity	Alarm ID	Status	Date	Time	Alarm Name	Element Name	Element Type	Element ID	Description
Info	105	Open	08 Jan 07	18:28:11	Element Status	HSP_66	HSP	66	Request timed out.
Critical	104	Open	08 Jan 07	18:28:11	HealthCheck	HSP_66	HSP	66	Ping Failed: Request timed out.
Critical	103	Open	04 Dec 06	17:32:02	Element Status	MGW_1024	MGW	1024	Request timed out.
Critical	102	Open	04 Dec 06	17:32:02	HealthCheck	MGW_1024	MGW	1024	Ping Failed: Request timed out.
Critical	101	Ack.	04 Dec 06	17:32:16	EI Out of Sync	NGW_1024	MGW	1024	
Warning	100	Open	03 Dec 06	15:51:06	Auto DB Bip	NMS Database	NMS	Backup	Automatic Database Backup

VSAT Disconnect Causes

January 2008

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**Details**

Alarm Code:  Parent Name:  Subsystem ID:  User ID:

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## Test Your Knowledge

1. **When would you suspect network problems?**  
\_\_\_\_\_
2. **In what case would you suspect that VSAT is blocked from NMS?**  
\_\_\_\_\_
3. **When the On-Line LED is ON the VSAT is**  
\_\_\_\_\_
4. **In what case would you check for Management PID parameters?**  
\_\_\_\_\_
5. **In what case would you check for RX and TX cables?**  
\_\_\_\_\_
6. **How will the VSAT performance be affected by IPA problems?**  
\_\_\_\_\_

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**Thank You**



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