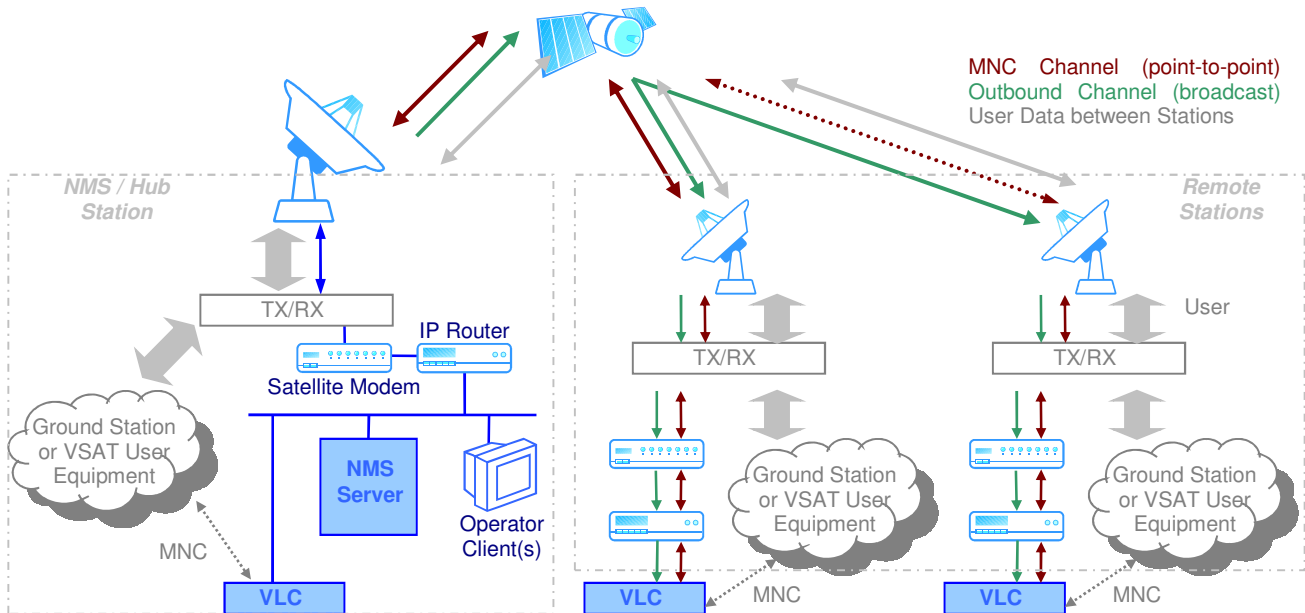


sat-nms SCC - Satellite Control Channel

The new *sat-nms* SCC Satellite Control Channel option enhances the *sat-nms* System with the capability of controlling remote ground terminals or VSAT's via satellite, without the need of a terrestrial communication link. This enables the customer to set up a small or medium-sized VSAT System with the cost-efficient *sat-nms* NMS from SatService GmbH and to monitor and control equipment of different vendors (like transceivers, satellite modems, router, etc.) at the remote station.



The *sat-nms* NMS normally uses dial-up telephone lines (analog telephone, ISDN, GSM) for the monitor & control connections between the *sat-nms* NMS and each remote station. The *sat-nms* SCC Satellite Control Channel option enhances the *sat-nms* System with the capability of controlling VLC's via satellite, without the need of a terrestrial communication link or a permanent bidirectional satellite link to all stations. The *sat-nms* NMS Server controls the remote VLC's (VSAT Local Controller) via a broadcast channel and establishes a bi-directional Monitoring and Control Channel only on demand. This works parallel to the transmission of the common user data.

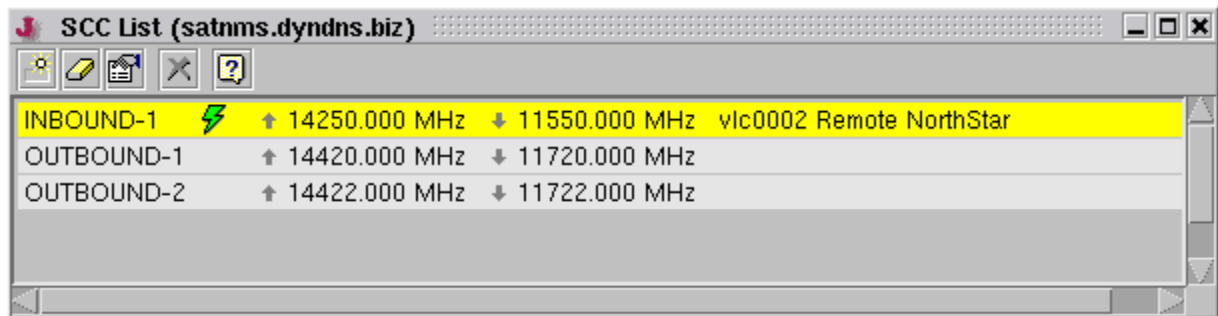
For the remote control via satellite, the MNC Communication is split up into two different modes:

1. The **outbound communication channel** is a signal broadcasted from the NMS to all VLC's in the network. This channel transports commands to each VLC. The addressing scheme allows to address messages either to particular VLC's or to broadcast messages to multiple/all VLC's.
2. Besides, the outbound channel, an **MNC point-to-point communication** can be set up to one VLC at a time. This bi-directional and fully transparent network link is used to fetch the actual status of the VLC and to perform configuration- or maintenance tasks where a full access to the VLC is required. The establishment of this channel will be commanded via the outbound communication channel.

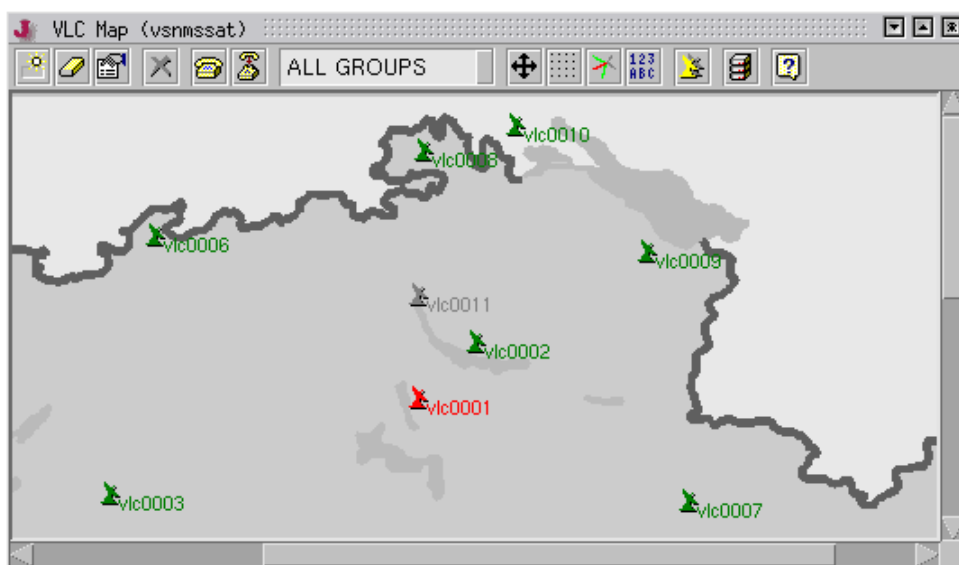
The *sat-nms* SCC System has the capability of recovering the settings of all transmit and receive equipment at the remote station if the VLC does not receive the one of the outbound channels anymore. This protects the operator against misconfigurations that would lead to a permanent loss of connection to the remote site.

The system uses two outbound channels for redundancy reasons that allow changing the *sat-nms* SCC Frequencies without interrupting the service. The *sat-nms* SCC Facility also provides multiple point-to-point connections from the central to the remote sites to monitor and control more than one remote station at the same time.

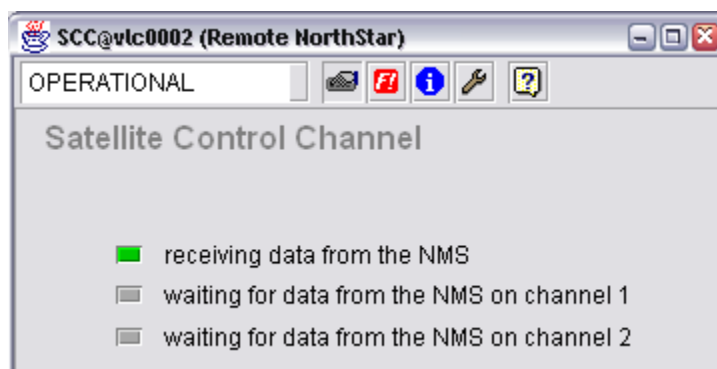
sat-nms SCC User Interface



sat-nms SCC Channel List



Remote Station Map



sat-nms SCC Status Window

Key Features

- MNC Channel over Satellite for remote Ground Stations (two-way Communication)
- Channel Recovering
- Seamlessly integrated into *sat-nms* NMS
- Support for multiple MNC Channels
- Works besides the User Data Transmissions

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