

# Experimental Wide Band HFIP System SkyNet

Nur Serinken  
Communications Research Centre  
Ottawa, Canada  
NATO HF-BLOS  
Sept 2012 York, UK



- Motivation
- SkyNet System description
- Experimental setup
- Future plans
- Questions

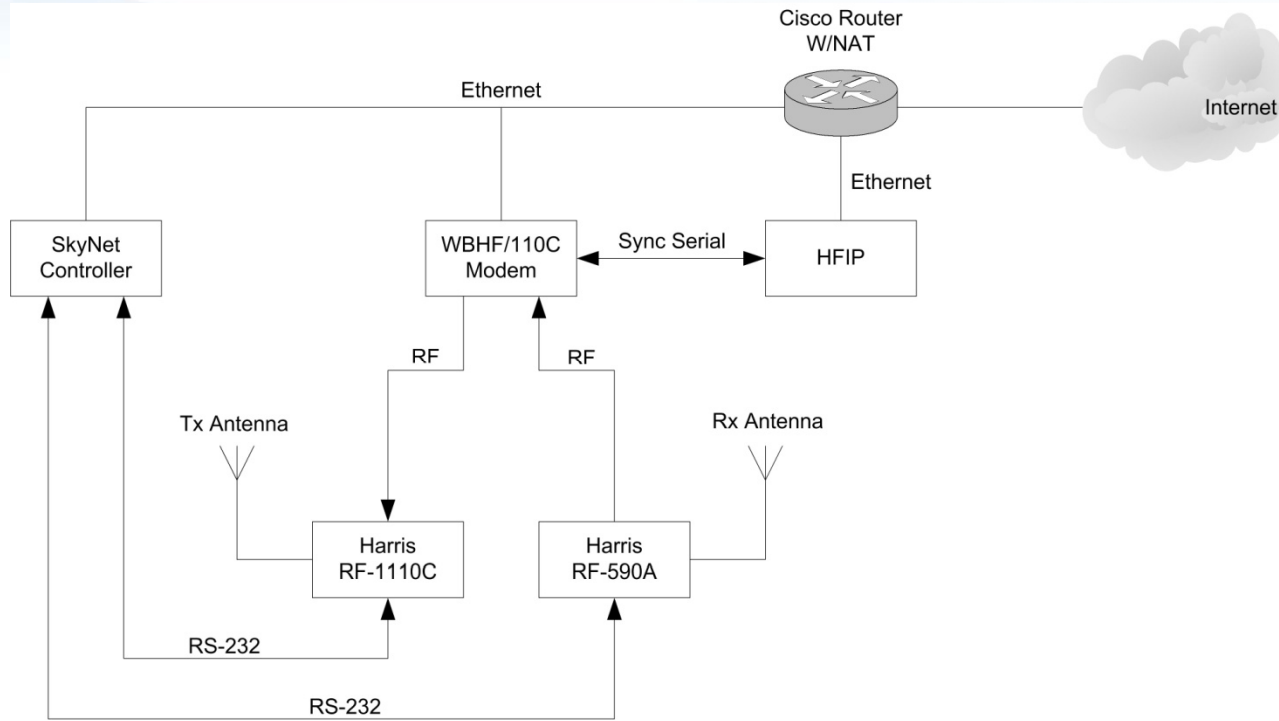


- Provide alternate data communication paths for BLOS links
- Operate in space denied environments
- Demonstrate Internet extension
- Long term evaluation of MIL-STD-188-110C wide band waveform

## Key system features

- More like a mobile system
- Ease of operation provides reduced user training requirement

# SkyNet System Node



- Office of Naval Research, SPAWAR, NATO C3 agency
- STANAG 5066 with Annex L for Naval applications (ground wave)

## Capabilities:

- A method for exchanging general IP data for TCP and UDP based applications over radio channels.
- Error free automatic delivery of e-mail messages, ASCII text files, and binary files (such as images and graphics), and other TCP/UDP based applications with packet compression.
- An at-sea Wide Area Network (WAN) IP capability.
- Maximum use of standard infrastructure, which includes HF radios, antenna assets, and KG-84C or KIV-7 cryptos.
- Network connectivity from ships to shore in support of littoral operations and terrestrial LAN infrastructure extension.
- Hub-spoke secure communications, whereby the station can send/receive IP traffic to/from a ship and/or shore equipped with HFIP system and interface to command secure networks.

- Controls the receiver, transmitter and data modem.
- Sets the radio frequency, bandwidth, data rate and data format.
- Frequency management is predetermined predicted frequencies (hour, month and year) read from a schedule text file.
- Adjusts the transmission bandwidth if some of the frequency assignments do not accommodate 24 kHz wide band signals.



- Automated self configuring masterless network
- Delivery of error free IP packets
- Interface for smart phone or tablet computer devices

## Exploring Collaborative Activities with Canadian Forces:

- Evaluation over sky wave paths from CRC to Atlantic Coast
- Testing in the Arctic, Possible sites Resolute, Iqaluit, Alert, Yellowknife
- Testing to/from ships,
- Inclusion in future exercises (AUSCANNZUKUS)





Questions ?



Defence R&D Canada

Nur Serinken  
(Canada) 613-998-2289  
E-mail: [nur.serinken@crc.gc.ca](mailto:nur.serinken@crc.gc.ca)