



# Modem Watch Dog for SONY Satellite Receiver

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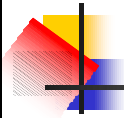
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## Outline

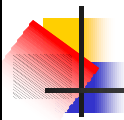
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- What is “Modem Watch Dog”?
- Why do we use MWD?
- How does MWD works?
- Simple demonstration
- Installation Trial



## What is Modem Watch Dog?

- Modem Watch Dog (MWD)
  - A simple tool for monitoring satellite modems
- MWD focuses link status information
  - General settings of satellite modem
  - Strength of receiving radio wave
  - and more
- MWD visualizes the collection of information using WWW

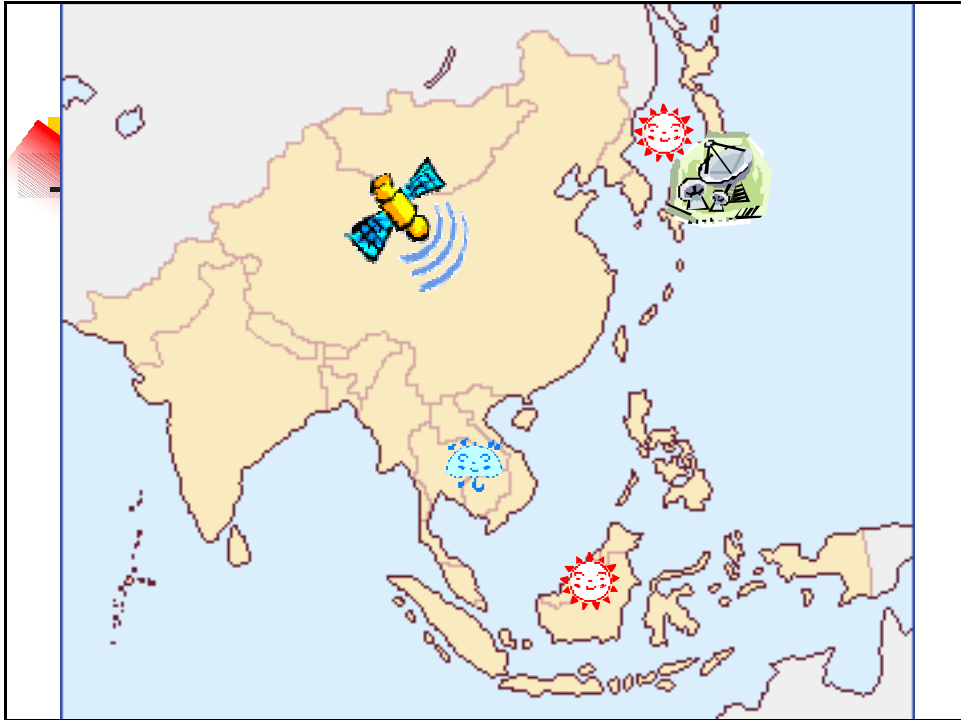


## Why do we use MWD?

- We have to monitor the satellite link (layer2) status as same as other layers' status

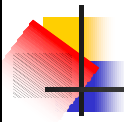
	Satellite	Ethernet
Layer3	Ping	Ping
Layer2	MWD / Check modems by your self	SW(HUB) SYNC / tcpdump

- Satellite link has some important parameters
  - Fixed parameters
    - TxFreq, RxFreq, etc...
  - Variable parameters
    - SYNC, RSL, Eb/No, BER, C/N, etc...



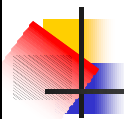
## What information do we get?

- C/N (Carrier over Noise Ratio)
  - Strength of carrier ( signal) against Noise
- AGC (Automatic Gain Control)
  - Level of mechanism for flattening the receiving signal

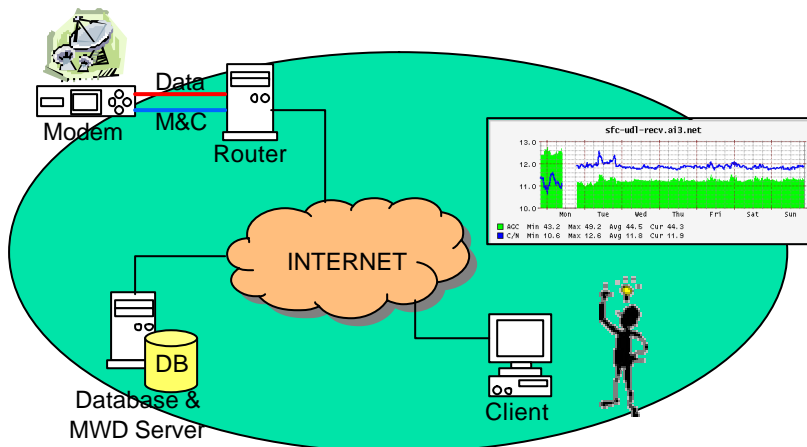


## When is MWD useful?

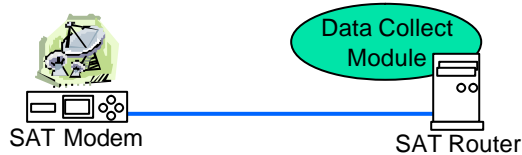
- In the daily operation
  - Continuous monitoring
- If the network seems down
  - MWD helps to find the trouble source
    - 1. Try “ping somewhere”
    - 2. Access MWD to check the modem status
      - How is your site?
      - How are other sites?



## How does MWD work?

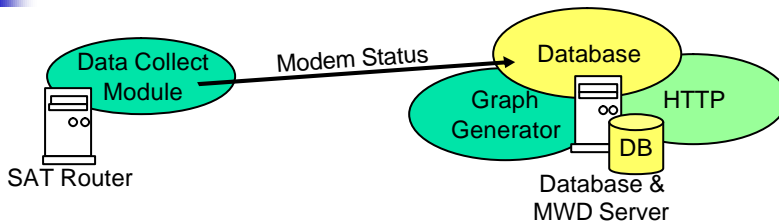


## Data Collect Module

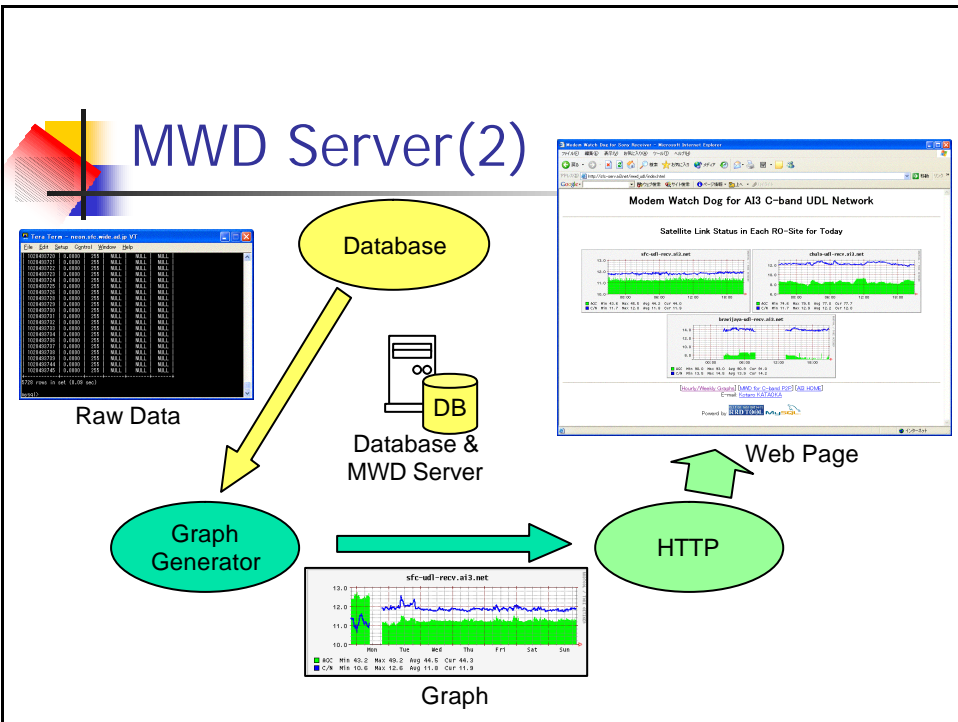


1. Data Collect Module sends some commands to SAT Modem
2. SAT Modem returns the result
3. The module send the result to the MWD server

## MWD Server(1)



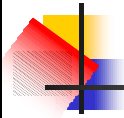
- Database stores Modem Status ordered by Time Stamps
- Graph generator makes a graph by plotting C/N and AGC values in it
- Graphs are put into WWW



# MWD Client

- Open the browser and just type

[http://sfc-serv.ai3.net/mwd\\_udl/](http://sfc-serv.ai3.net/mwd_udl/)



## Required Software

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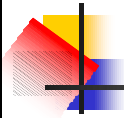
- Data Collect Module
  - mwd\_snr
  - mysql\_3.23.52 (Database)
- MWD Server
  - mysql\_3.23.52 (Database)
  - rrdtool\_1.0.38 (Graph Generator)
  - httpd\_2.0.40 (WWW Server)



## Install Practice of MWD

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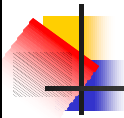
- Get Mysql and MWD source code
- Install Mysql first
- Do some preparations in mysql
- Install MWD second



## Mysql Configuration

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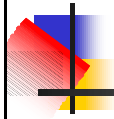
- User authentication
- Create Database
- Create Table



## Data Collect Module Configuration

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- See INSTALL



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