



# SHARKFEST '14

WIRESHARK DEVELOPER AND USER CONFERENCE

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## BOF session Woman and IT

Megumi Takeshita, CEO  
ikeriri network service co., Ltd



# About Megumi Takeshita 竹下恵



- Founder, ikeriri network service co.,ltd
- 10+ books about packet capturing, analysis, inspection,
- Reseller of Riverbed Technology ( former CACE technologies ) and Metageek, and more in Japan
- Attend all Sharkfest since 1<sup>st</sup> Sharkfest !



# Sharp X1 CK TV PC

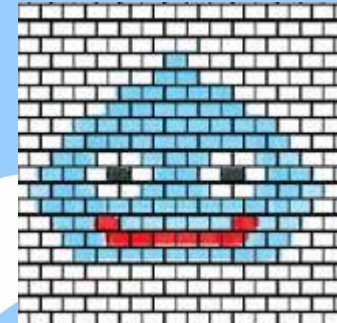
- My father works at a insurance company so my family moved a lot ( Kagoshima, Niigata, Oita, Nagano, and more )
- In Primary school age, I have no friends and my mother tell me to study ...
- My father bought X1 for his business but he never use this, Z-80A, X1 was my thread
- It need no time that I was captive of the Dream box



Z80A/4MHz  
64KB RAM  
640\*200\*8colors  
including 2700bps  
data recorder and  
watch TV

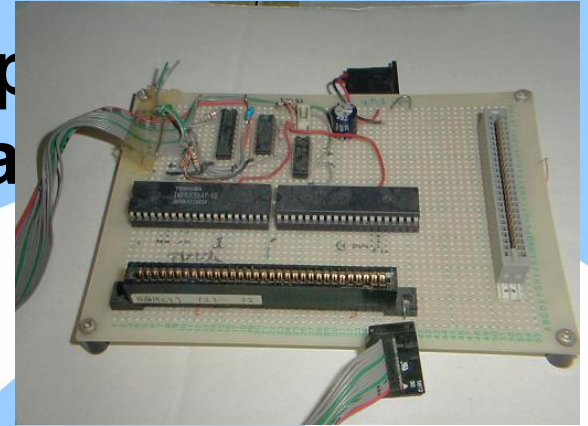
# Captive of 8bit Dream Box

- X1 was clean computer ( no ROM ) only with BIOS so so we could load Basic, CP/M, and machinery code
- Video system has character generator, change VRAM area assigned for other character so that we can create new game dot-based character using crosshair papers
- Scrolling screen is the most interesting things in X1, people use screen mode, binary shift..



# Backuping ( no W@res ☺ )

- In 1980s there are software shops in Japan, those rental games in a few day ( oh !!!)
- The protection war began between vender and otaku.
- ROM ( NES or some) is easy, cassette tape just dubbing
- Floppy is the main Warfield that we need to learn sector, BIOS, FDC and Z80A mnemonic
- Many protection style for example change sector instruction in first sector ( outside )



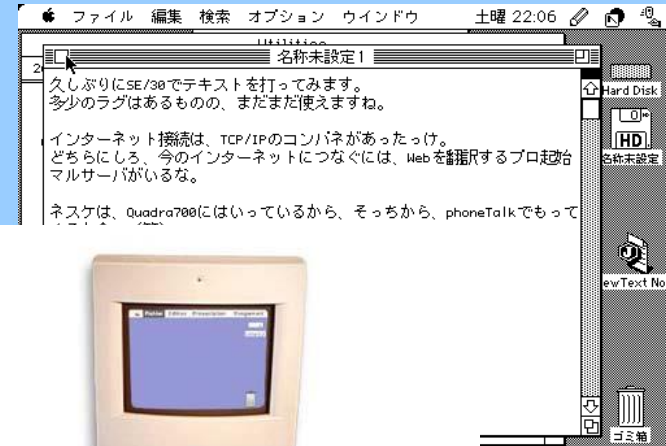
# Communication comes !

- X1 turbo with 2 5-inch FD and communication port gives future
- At first 9600bps and Niftyserve ( just as CompuServe in Japan )
- Then V.24 and 14400bps with local BBS server and AT com
- Finally V.90 appears but I am scolded by my father because NTT telephone fee costs very expensive in a month
- We were professional of editing auto pilot software to compact telephone fee



# Amateur radio and Internet

- There are possibilities that we can connect TNC into the shack and use some protocol such as UUCP or SIP but we have no such environment in young age.
- My First internet is “first class, black mountain service” with color classic and system 6, KanjiTalk
- Real time Coffee pot, CU-See me, many FTP servers



# Growing Up Geek



- Windows95 in university
- Digital camera !!
- I am mobile person that uses heavy laptop ( may be 3kg ! ) and many PMA/PDA devices. (Tokyo by train )

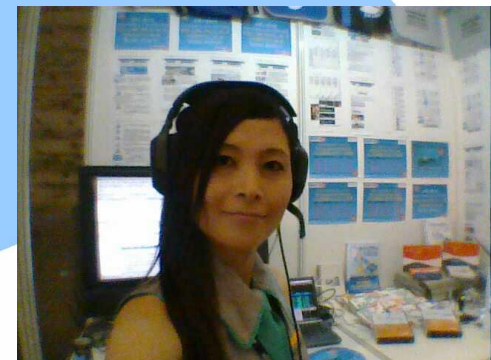




# Cosplay and game show in Tokyo

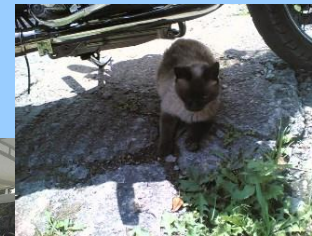


video game generation  
NES, SNES, SEGA  
GENESIS, Dreamcast,  
Sony Playstation series,  
and more game things  
So Tokyo Game show  
is the wondering event  
so that people comes in  
costume and play  
games !

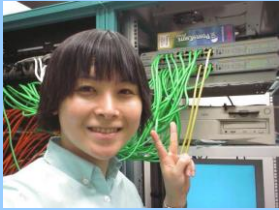


# Motorcycle days in Tokyo

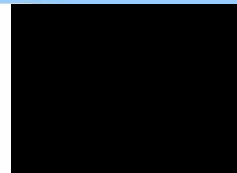
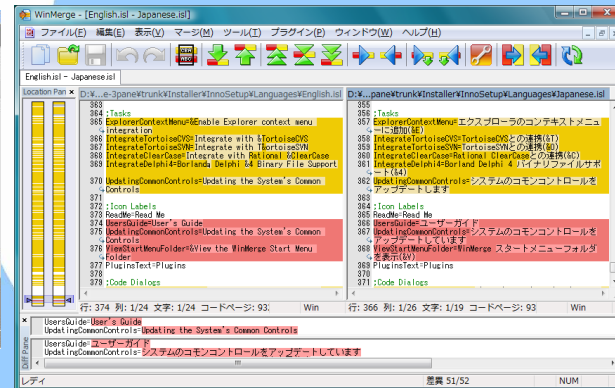
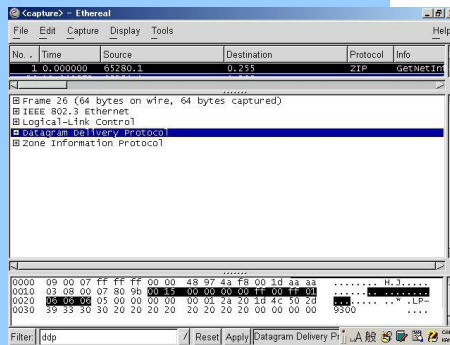
- I had become motorcycle otaku after graduated school
- Motorcycle is important in Tokyo crazy traffic congestion



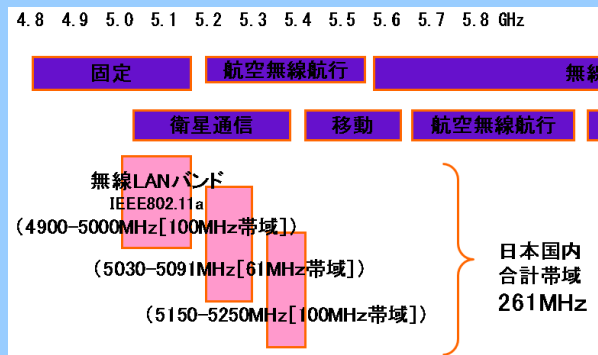
# Sector dissection -> packet dissection



- Then I worked at Bay Network in Tokyo office, as IS and support selling Bay Stack switches and accera router
- After merged into Nortel, I also debug many network / server things including huge Exchange server trouble.
- Using Sniffer, ethereal, winmerge I found the packet dissection is the same as sector dissection !



# DFS debugging example



AP always listens the radar signals, and when AP detected, then changes Channel. 30 min :AP cannot use again the detected CH. 1 min :AP listen and check the CH is ok

- In Japan ( may be in US ), we faces tons of wireless problems, and now CH is so crowded that people move to W52, W53 bandwidth.
- DFS (Dynamic Frequency Selection) and IEEE802.11h emerges one of the big problem in the wireless troubleshooting



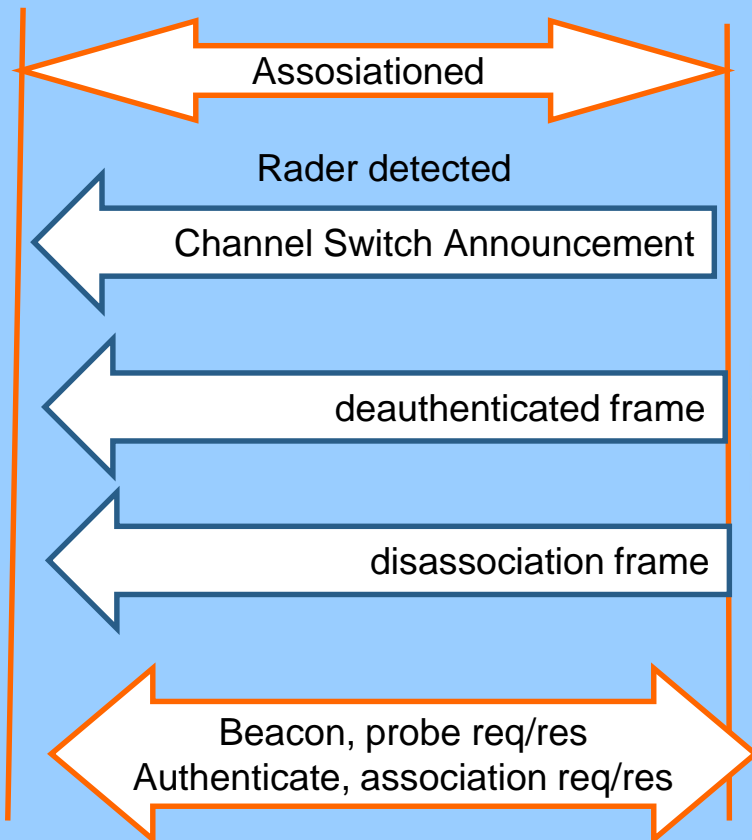
# Channel Switch Announcement not works



Clients



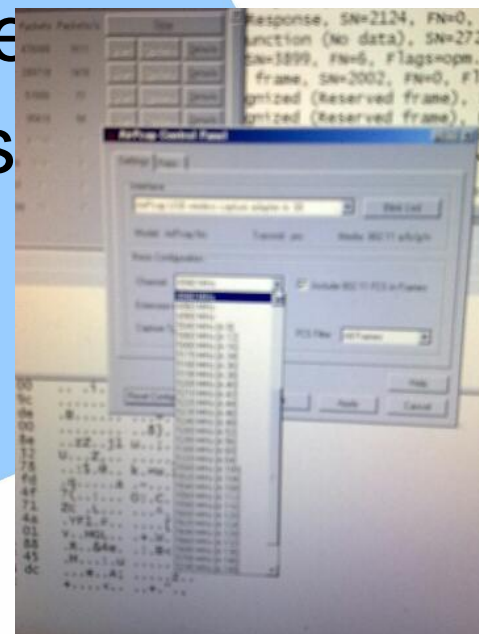
APs



- IEEE802.11h is not implemented well and the behaviors are different  
CSA frame sends in old CH or new CH ? It not works we expected
- APs sends deauthenticated frame, disassociation frame in old/new CH ?
- Clients can receive and change immediately CH ?

# APs and Clients not works that we expected

- We bring 8 AirPcapNXs and 8 PCs into the office and keep capturing all the day in all W53, W56 CH, come back with tons of pcap files.
- After many dissection and debugging, check logfiles and more
- DFS problem happens 1 or 2 times an hour in the inside office !!
- AP was'nt send info, and Clients didn't start connection procedure immidiately, all things are different
- Update drivers,firmware and many.



# Keep up holding your interests



- Packet capturing and dissection is very much interesting so we can study , work, think, holding interests is important for me.

Thank you very much  
**Wireshark**  
and you

