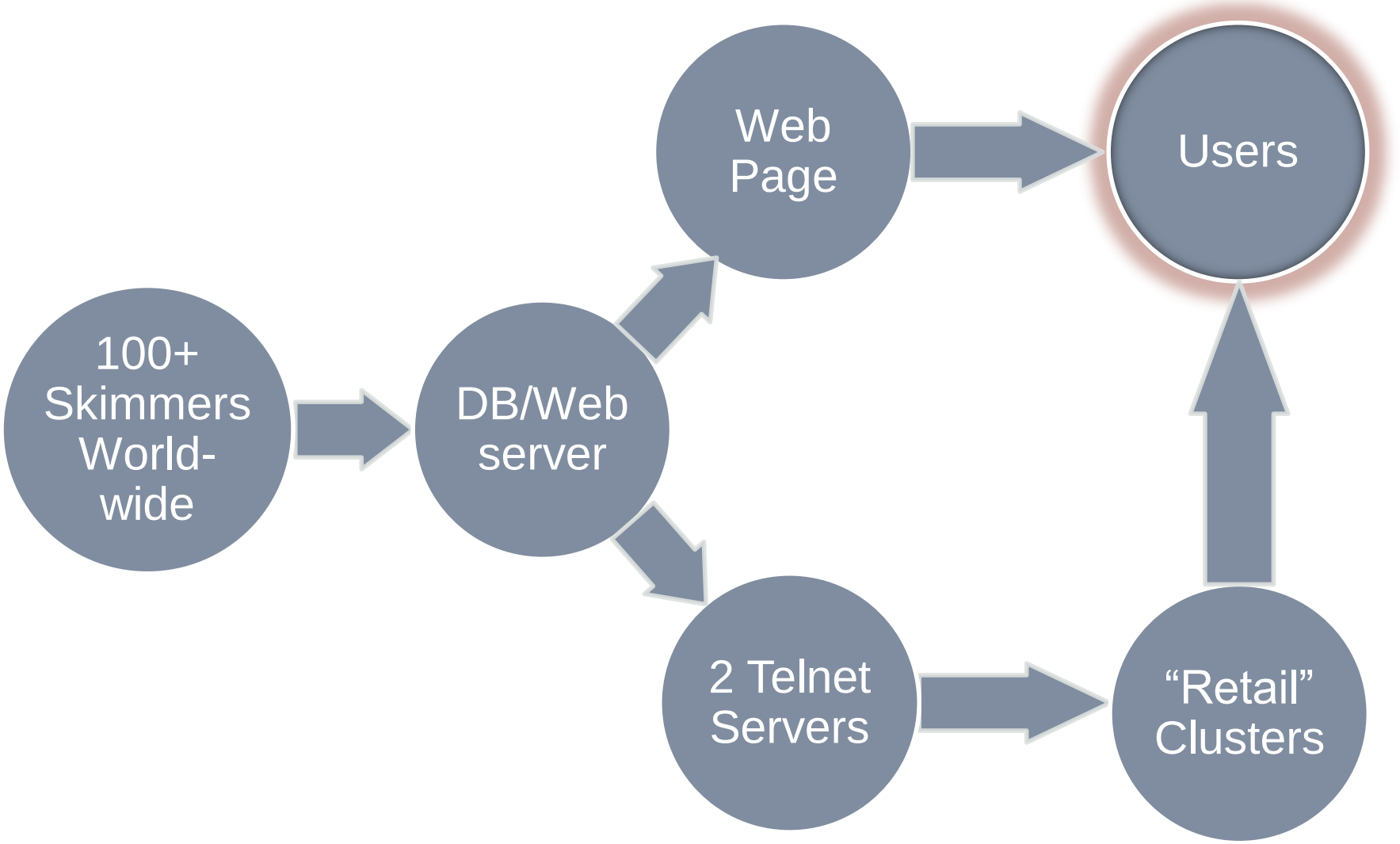
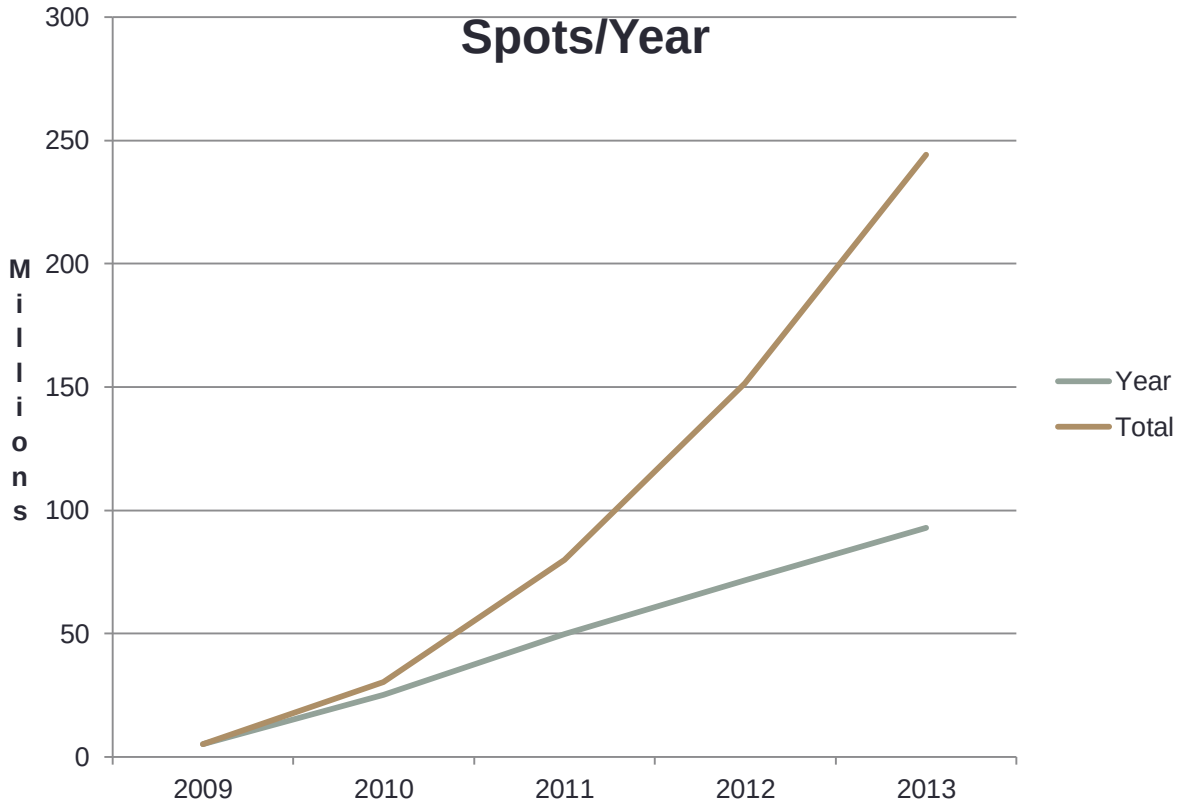
THE REVERSE BEACON NETWORK – SPOTS AND MORE

Pete Smith, N4ZR and the RBN Team

How the RBN Works



RBN Spots by Year



What's a Skimmer?

- A volunteer operator – no experience required
- A Software Defined Receiver – US$20-900
  - Receives bands, not individual frequencies
- A multi-band antenna or antennas
- CW Skimmer software running on a Windows XP/7/8 PC. Some now also running DL4RCK's RCKSkimmer for RTTY and PSK31
- Aggregator software – provided by the RBN free
- A moderate-speed Internet connection

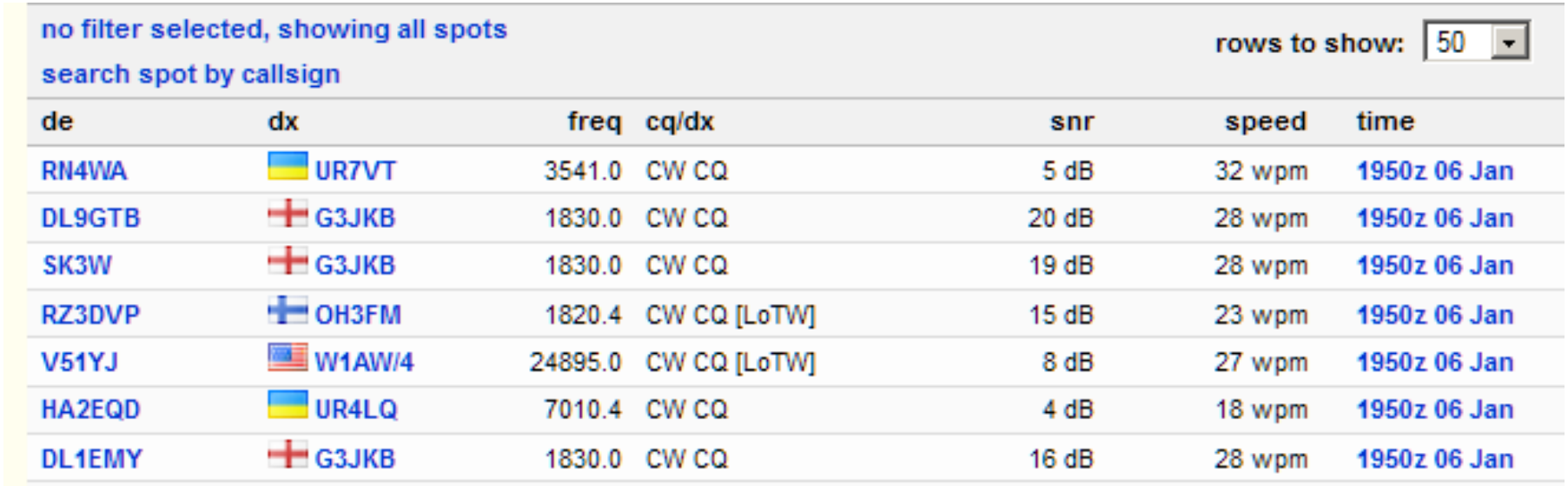
Milestones

- 2008 – CW Skimmer released and RBN begun as a web-based system..
- 2008-9 - SDR-IQ and QS1R receivers introduced.
- 2009 - First RBN spots
- 2010 – F5VIH/SV3SJ developed Spots Analysis Tool
- 2011-13 – Huge increase in spot volume and number of Skimmers
- 2013 – Release of Viewprop. Beginning of RBN/Yasme Gapfiller program

The RBN Web Site

What You Can Get There

- Spots as They Happen



no filter selected, showing all spots

search spot by callsign

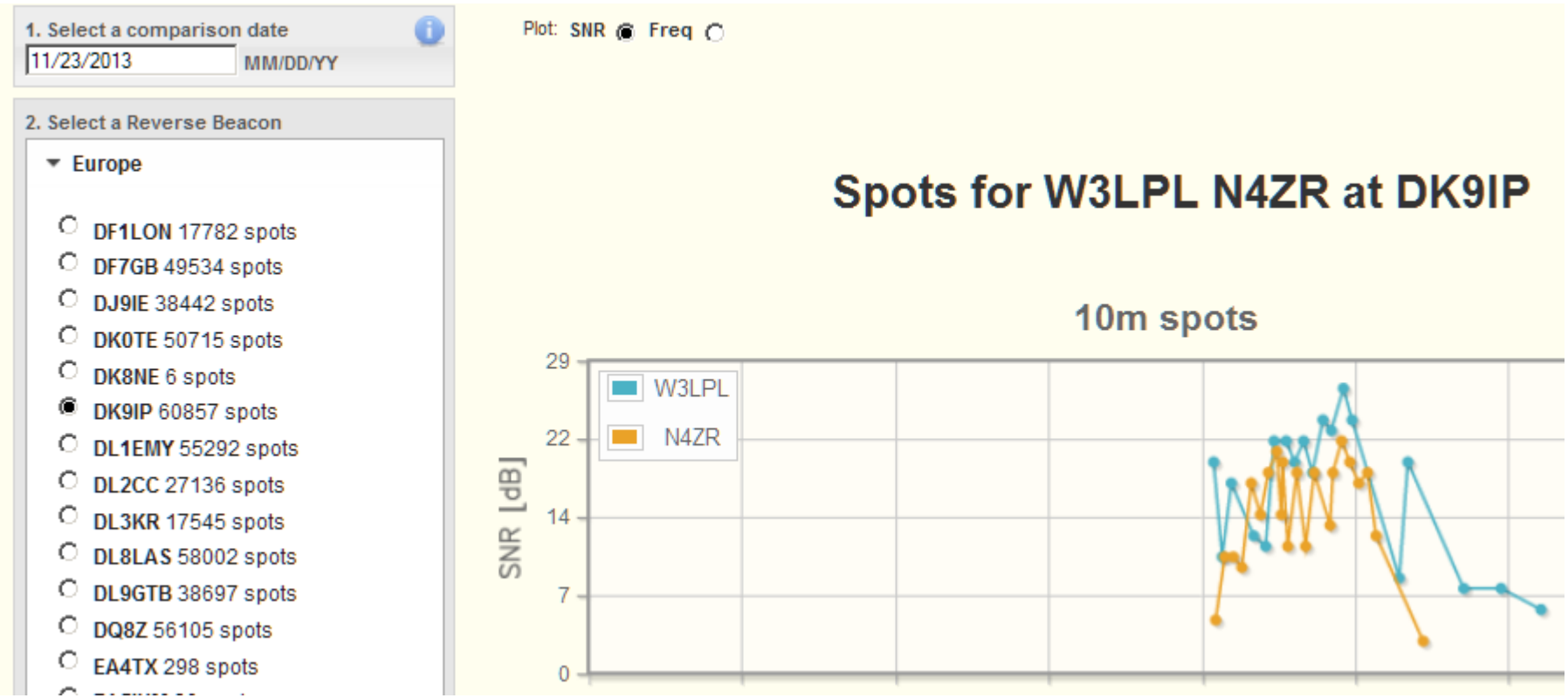
rows to show: 50

de	dx	freq	cq/dx	snr	speed	time
RN4WA	UR7VT	3541.0	CW CQ	5 dB	32 wpm	1950z 06 Jan
DL9GTB	G3JKB	1830.0	CW CQ	20 dB	28 wpm	1950z 06 Jan
SK3W	G3JKB	1830.0	CW CQ	19 dB	28 wpm	1950z 06 Jan
RZ3DVP	OH3FM	1820.4	CW CQ [LoTW]	15 dB	23 wpm	1950z 06 Jan
V51YJ	W1AW/4	24895.0	CW CQ [LoTW]	8 dB	27 wpm	1950z 06 Jan
HA2EQD	UR4LQ	7010.4	CW CQ	4 dB	18 wpm	1950z 06 Jan
DL1EMY	G3JKB	1830.0	CW CQ	16 dB	28 wpm	1950z 06 Jan

Archived Raw Data

November			
01	Friday	2074KBytes	20131101.zip
02	Saturday	6941KBytes	20131102.zip
03	Sunday	14996KBytes	20131103.zip
04	Monday	3100KBytes	20131104.zip
05	Tuesday	1509KBytes	20131105.zip
06	Wednesday	1603KBytes	20131106.zip
07	Thursday	1874KBytes	20131107.zip
08	Friday	1823KBytes	20131108.zip
09	Saturday	4978KBytes	20131109.zip
10	Sunday	4347KBytes	20131110.zip
11	Monday	1599KBytes	20131111.zip
12	Tuesday	1450KBytes	20131112.zip

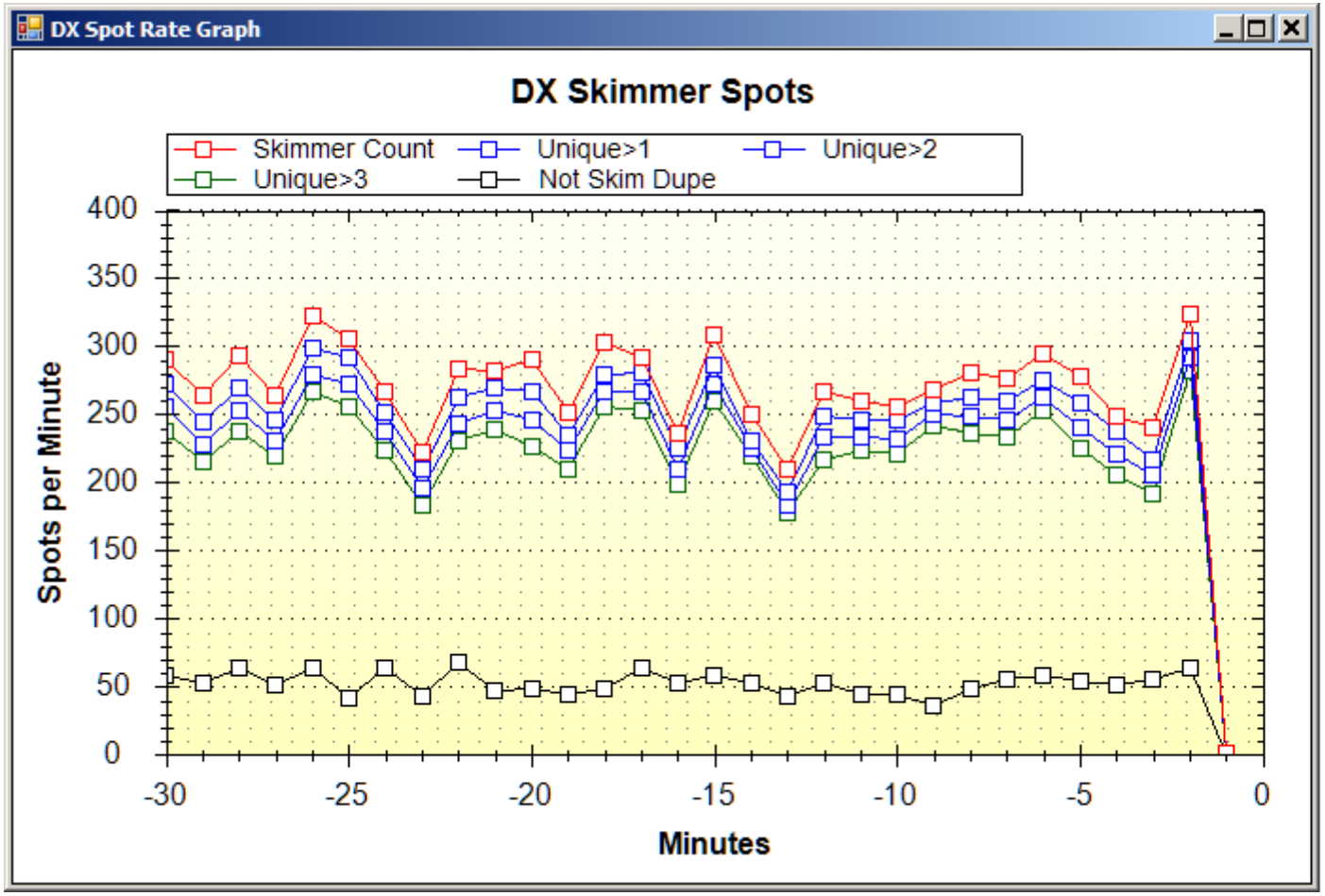
The Spots Analysis Tool



Pros and Cons of RBN Spots

- 100x as many spots as traditional spotting network
- Everything spotted, not just those judged as “rare”
- Duplicate spots (though not on CC Cluster)
- Too many busted spots, despite 99% accuracy per Skimmer, because there are so many Skimmers
- Occasional frequency “images” due to SDR setup problems.

What the RBN Sends



Using RBN Spots

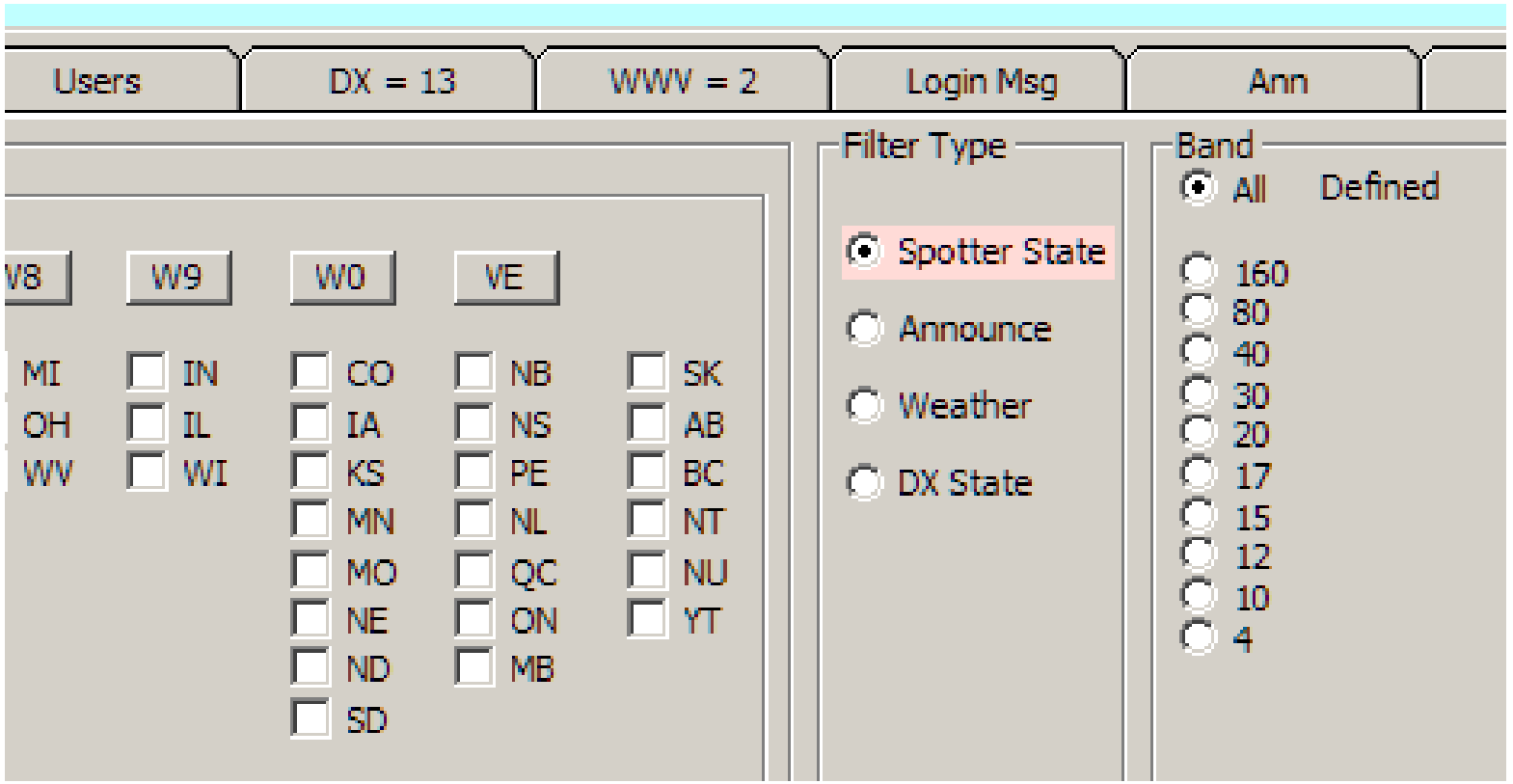
- Use filters that you set at DX cluster node or in client
  - Save favorite combinations in logging software
    - AR Cluster has extensive filtering options for RBN spots – CT1BOH quality filters really work!
    - CC Cluster does most filtering, dupe removal for you
  - Develop techniques for jumping spots quickly
  - Experiment!

Examples of Filtering

- AR Cluster: set/dx/filter call=N4ZR or (not skimmer and spottercont=NA) or ((skimmer and unique>2) and (spotterstate=[WV,MD,VA,PA,NC]))

- CCCluster: Use Client to set criteria and send to cluster

CC User

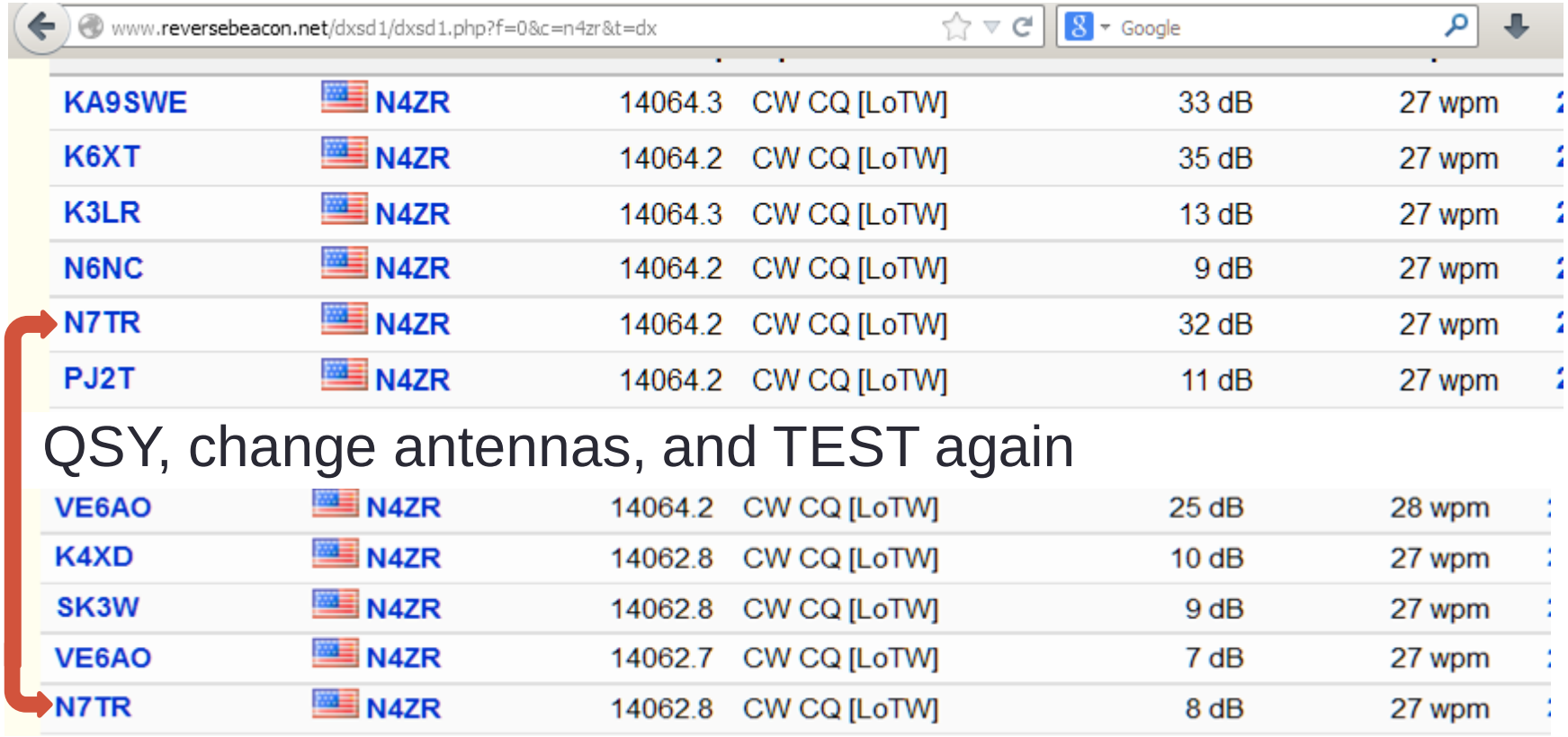

Users
DX = 13
WWW = 2
Login Msg
Ann
W8
W9
W0
VE
MI
OH
WV
IN
IL
WI
CO
IA
KS
MN
MO
NE
ND
SD
NB
NS
PE
NL
QC
ON
MB
SK
AB
BC
NT
NU
YT
Filter Type
Spotter State
Announce
Weather
DX State
Band
All
Defined
160
80
40
30
20
17
15
12
10
4

What Else?

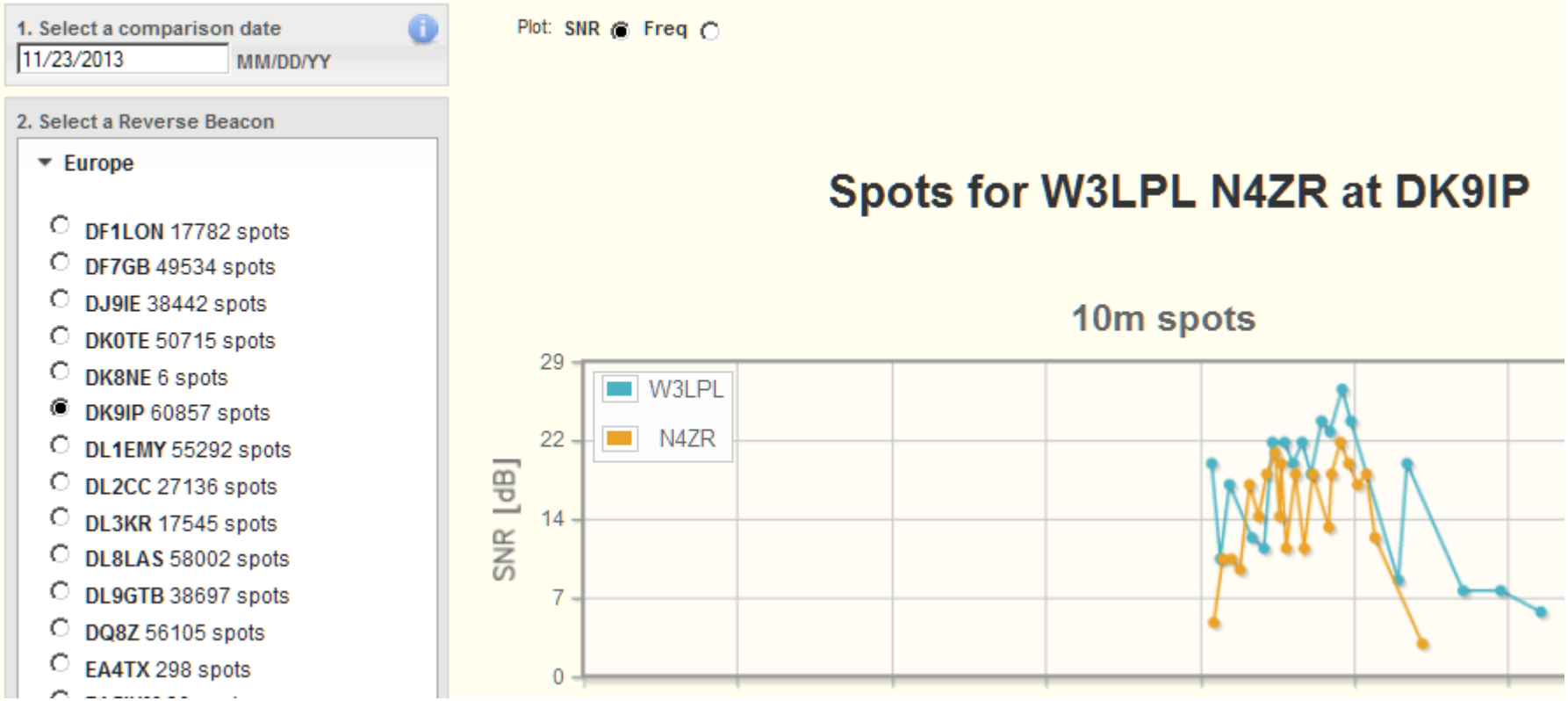
- Antenna tests/comparisons
- Near real-time propagation reporting
- Potential for propagation research/validation of propagation predictions

Antenna Tests

Send TEST or CQ twice, your call 2-3 times, and look for spots

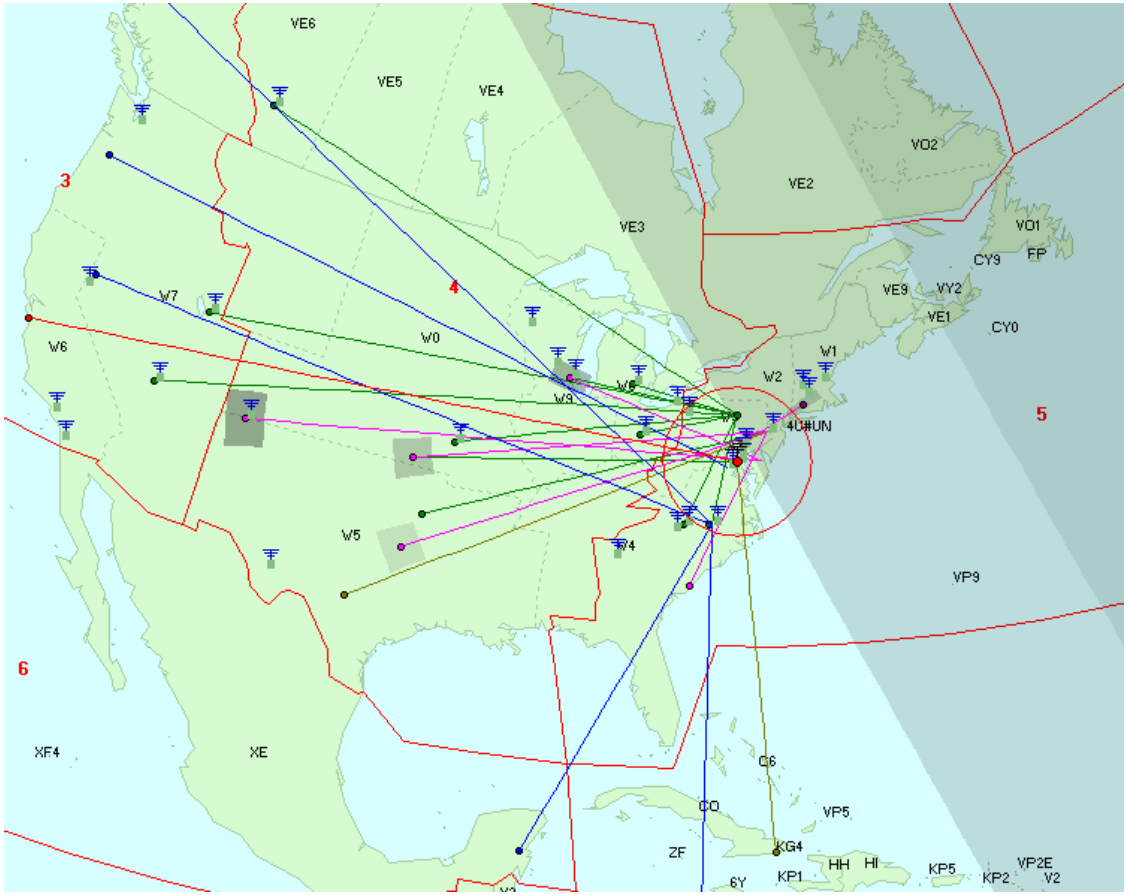


Or Use the Spots Analysis Tool



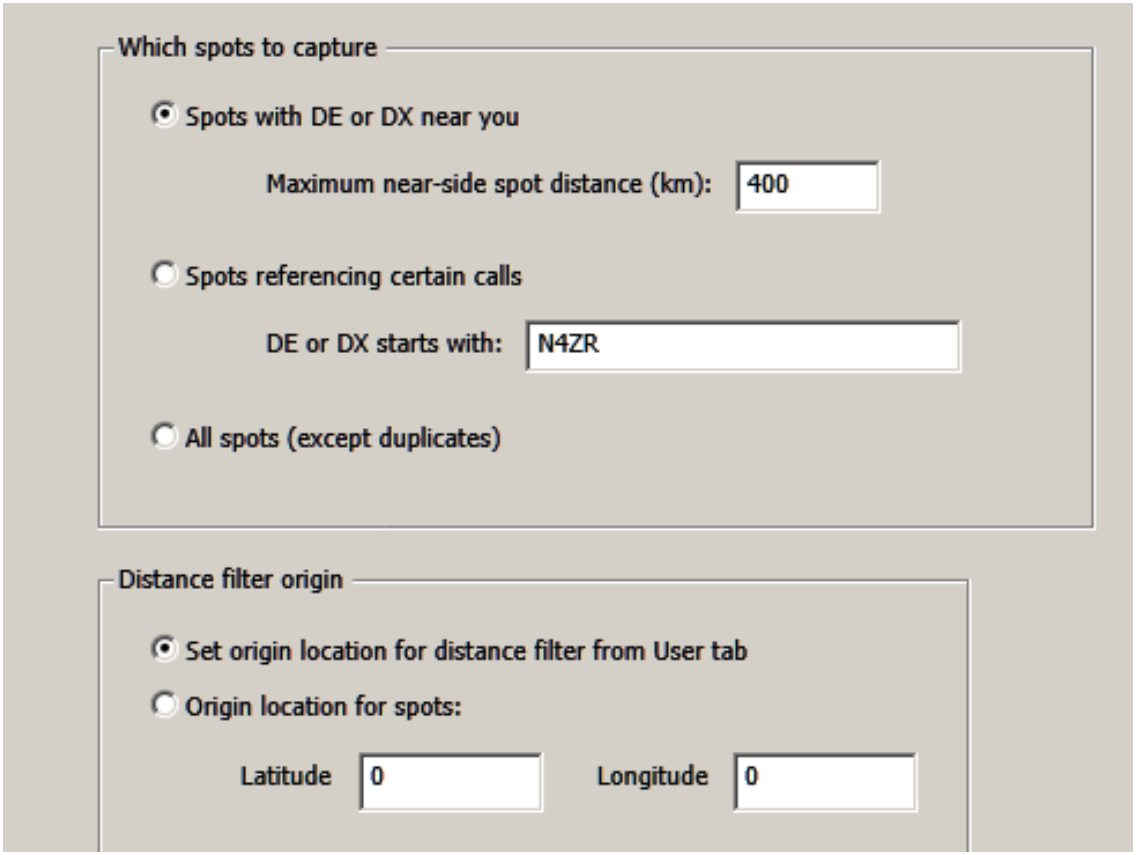
Near Real-time Propagation Info

ViewProp - Developed by ZL2HAM – Currently in beta



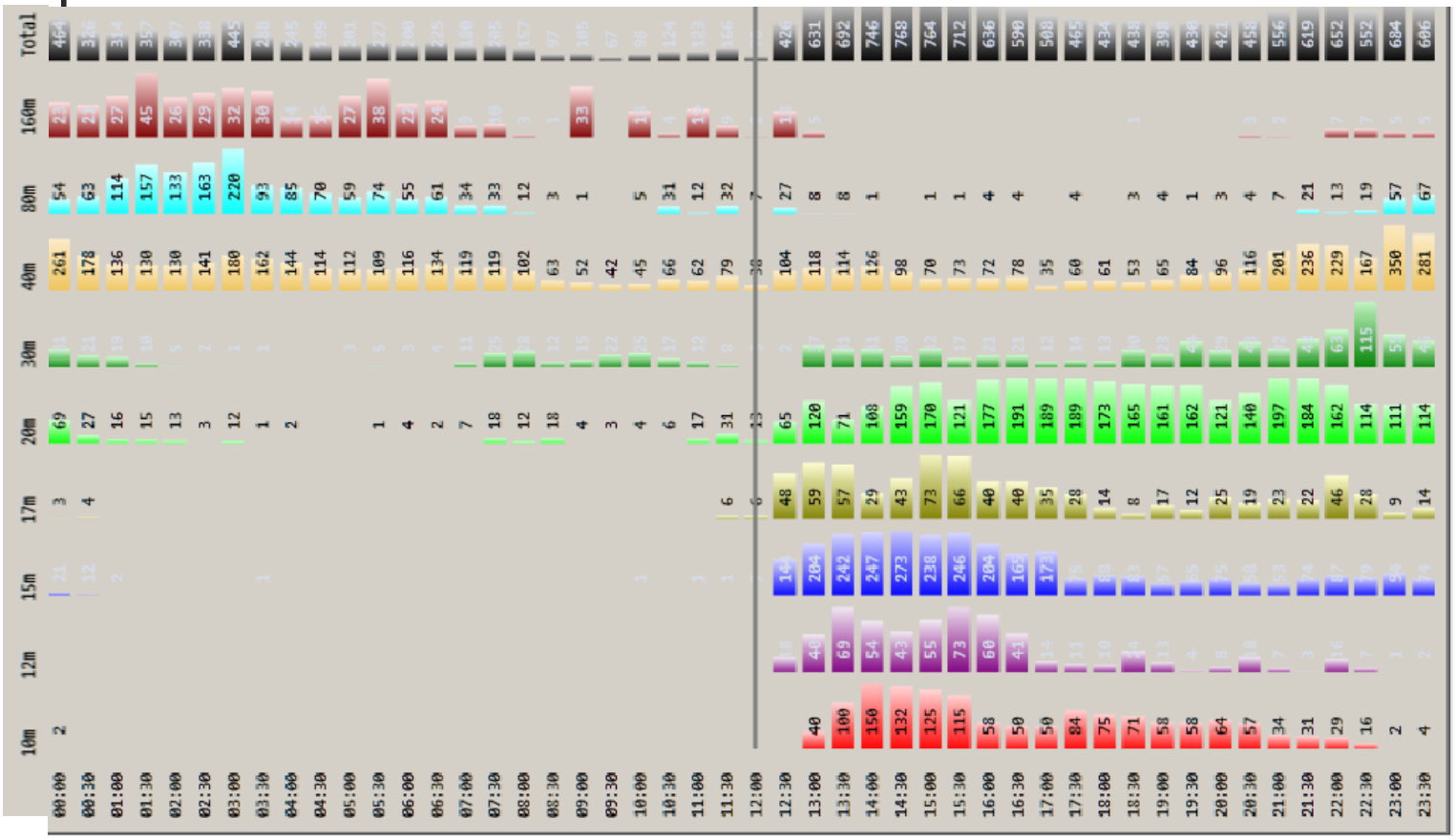
The Big New Idea

- Use RBN spots ***to and from*** an area you define to characterize propagation in near real time.

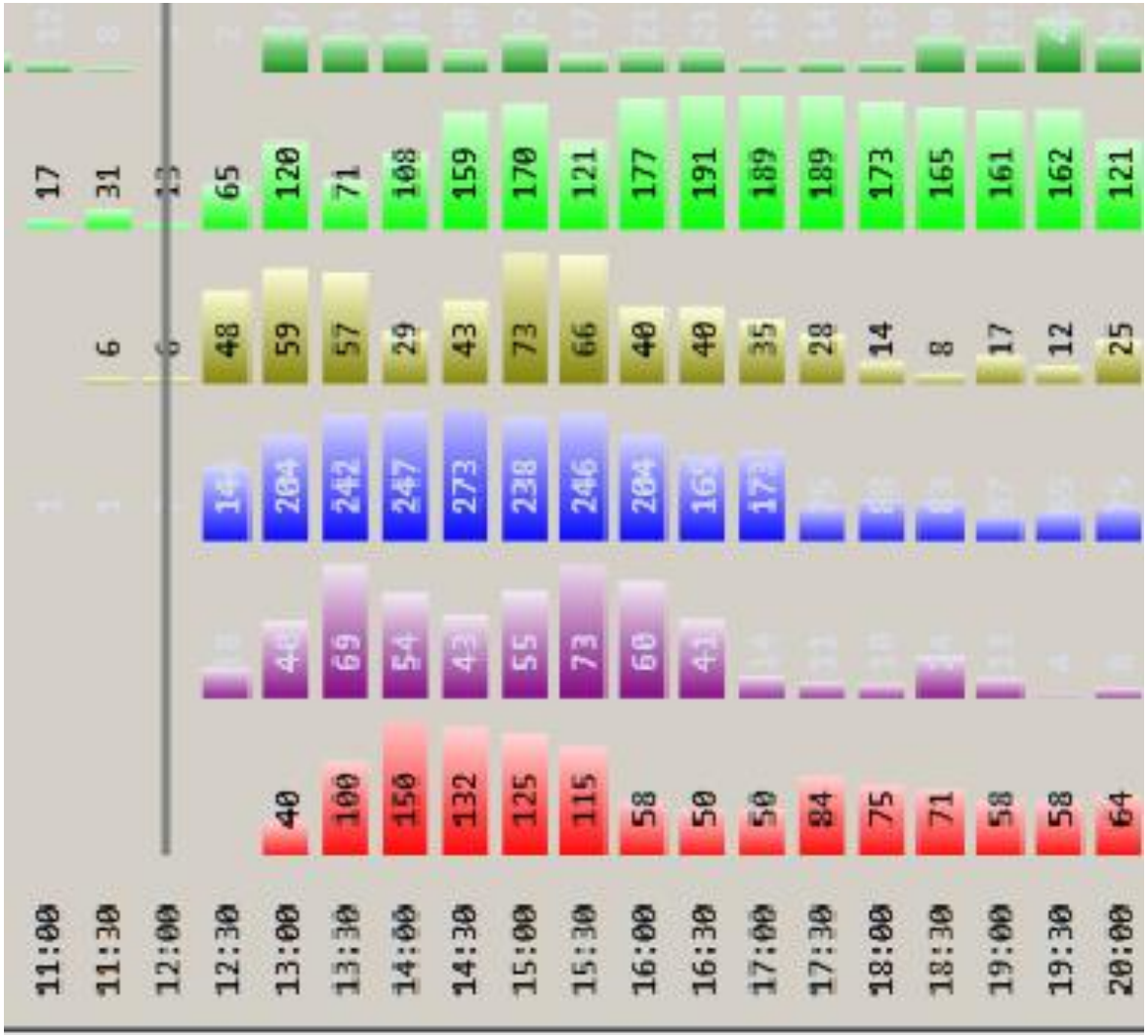


Other Key Features

- Continuous charting of propagation for rolling 24 hour period



Zooming In


11:00
11:30
12:00
12:30
13:00
13:30
14:00
14:30
15:00
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16:00
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17:00
17:30
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31
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120
71
108
159
170
121
177
191
189
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173
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204
242
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273
238
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173
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69
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43
55
73
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41
100
150
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125
115
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84
75
71
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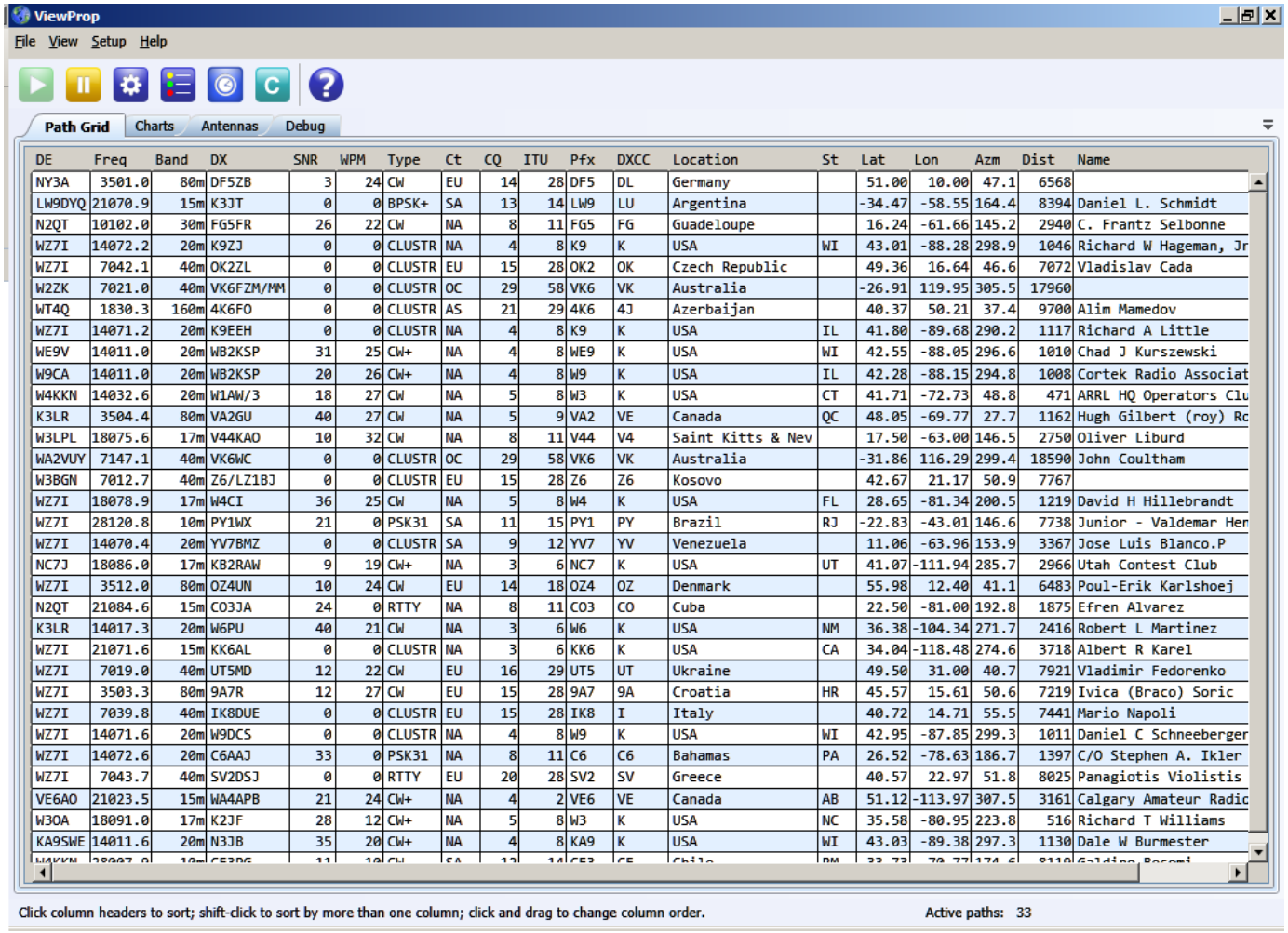
58
64

Other Key Features

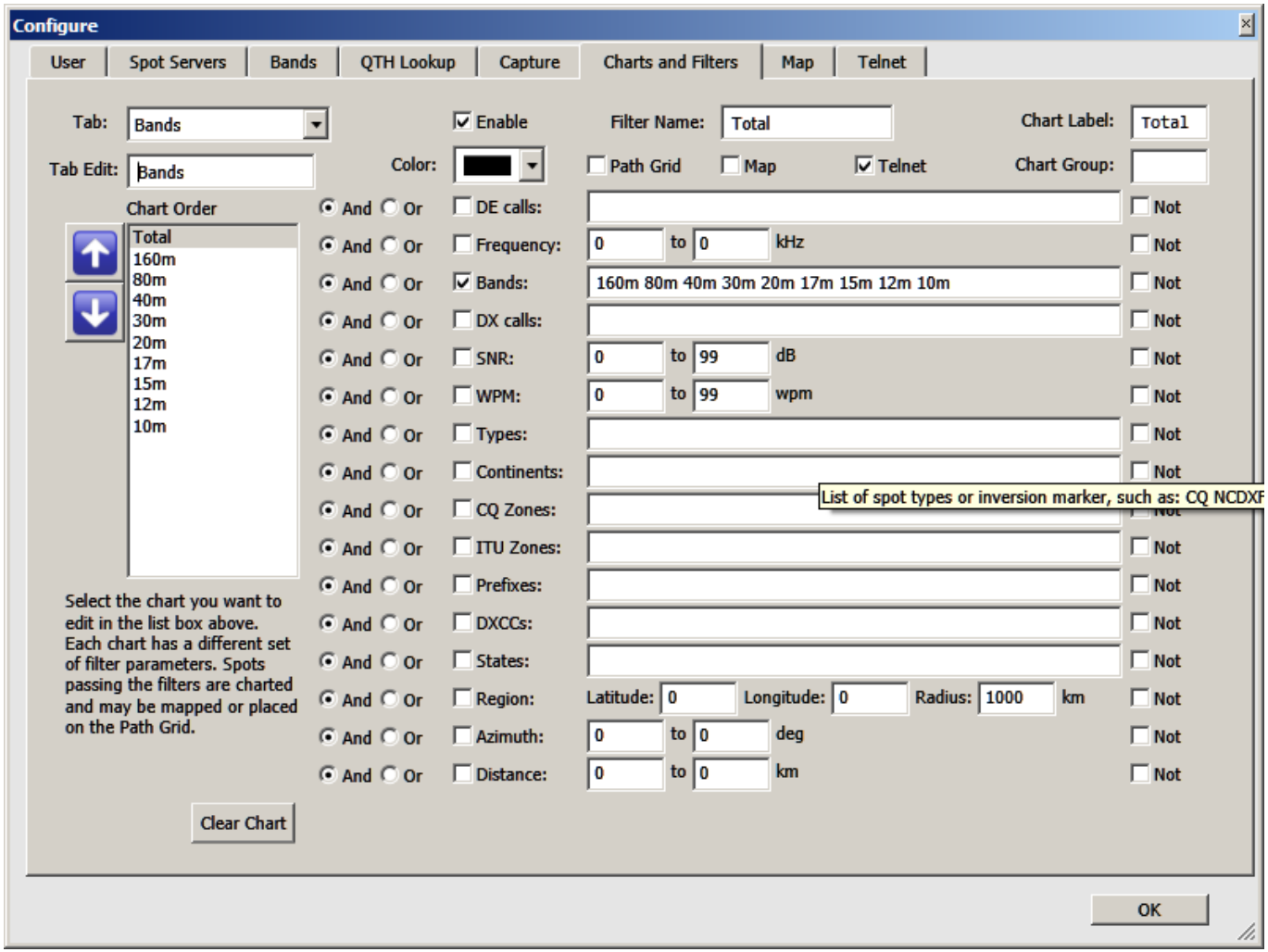
- Path Grid



DE	Freq	Band	DX	SNR	WPM	Type	Ct	CQ	ITU	Pfx	DXCC	Location	St	Lat	Lon	Azm	Dist	Name
NY3A	3501.0	80m	DF5ZB	3	24	CW	EU	14	28	DF5	DL	Germany		51.00	10.00	47.1	6568	
LW9DYQ	21070.9	15m	K3JT	0	0	BPSK+	SA	13	14	LW9	LU	Argentina		-34.47	-58.55	164.4	8394	Daniel L. Schmidt
N2QT	10102.0	30m	FG5FR	26	22	CW	NA	8	11	FG5	FG	Guadeloupe		16.24	-61.66	145.2	2940	C. Frantz Selbonne
WZ7I	14072.2	20m	K9ZJ	0	0	CLUSTR	NA	4	8	K9	K	USA	WI	43.01	-88.28	298.9	1046	Richard W Hageman, Jr
WZ7I	7042.1	40m	OK2ZL	0	0	CLUSTR	EU	15	28	OK2	OK	Czech Republic		49.36	16.64	46.6	7072	Vladislav Cada
W2ZK	7021.0	40m	VK6FZM/MM	0	0	CLUSTR	OC	29	58	VK6	VK	Australia		-26.91	119.95	305.5	17960	
WT4Q	1830.3	160m	4K6FO	0	0	CLUSTR	AS	21	29	4K6	4J	Azerbaijan		40.37	50.21	37.4	9700	Alim Mamedov
WZ7I	14071.2	20m	K9EEH	0	0	CLUSTR	NA	4	8	K9	K	USA	IL	41.80	-89.68	290.2	1117	Richard A Little
WE9V	14011.0	20m	WB2KSP	31	25	CW+	NA	4	8	WE9	K	USA	WI	42.55	-88.05	296.6	1010	Chad J Kurszewski
W9CA	14011.0	20m	WB2KSP	20	26	CW+	NA	4	8	W9	K	USA	IL	42.28	-88.15	294.8	1008	Cortek Radio Associat
W4KKN	14032.6	20m	W1AW/3	18	27	CW	NA	5	8	W3	K	USA	CT	41.71	-72.73	48.8	471	ARRL HQ Operators Clu
K3LR	3504.4	80m	VA2GU	40	27	CW	NA	5	9	VA2	VE	Canada	QC	48.05	-69.77	27.7	1162	Hugh Gilbert (roy) Rc
W3LPL	18075.6	17m	V44KAO	10	32	CW	NA	8	11	V44	V4	Saint Kitts & Nev		17.50	-63.00	146.5	2750	Oliver Liburd
WA2VUY	7147.1	40m	VK6WC	0	0	CLUSTR	OC	29	58	VK6	VK	Australia		-31.86	116.29	299.4	18590	John Coultham
W3BGN	7012.7	40m	Z6/LZ1BJ	0	0	CLUSTR	EU	15	28	Z6	Z6	Kosovo		42.67	21.17	50.9	7767	
WZ7I	18078.9	17m	W4CI	36	25	CW	NA	5	8	W4	K	USA	FL	28.65	-81.34	200.5	1219	David H Hillebrandt
WZ7I	28120.8	10m	PY1WX	21	0	PSK31	SA	11	15	PY1	PY	Brazil	RJ	-22.83	-43.01	146.6	7738	Junior - Valdemar Her
WZ7I	14070.4	20m	YV7BMZ	0	0	CLUSTR	SA	9	12	YV7	YV	Venezuela		11.06	-63.96	153.9	3367	Jose Luis Blanco.P
NC7J	18086.0	17m	KB2RAW	9	19	CW+	NA	3	6	NC7	K	USA	UT	41.07	-111.94	285.7	2966	Utah Contest Club
WZ7I	3512.0	80m	OZ4UN	10	24	CW	EU	14	18	OZ4	OZ	Denmark		55.98	12.40	41.1	6483	Poul-Erik Karlshoej
N2QT	21084.6	15m	CO3JA	24	0	RTTY	NA	8	11	CO3	CO	Cuba		22.50	-81.00	192.8	1875	Efren Alvarez
K3LR	14017.3	20m	W6PU	40	21	CW	NA	3	6	W6	K	USA	NM	36.38	-104.34	271.7	2416	Robert L Martinez
WZ7I	21071.6	15m	KK6AL	0	0	CLUSTR	NA	3	6	KK6	K	USA	CA	34.04	-118.48	274.6	3718	Albert R Karel
WZ7I	7019.0	40m	UT5MD	12	22	CW	EU	16	29	UT5	UT	Ukraine		49.50	31.00	40.7	7921	Vladimir Fedorenko
WZ7I	3503.3	80m	9A7R	12	27	CW	EU	15	28	9A7	9A	Croatia	HR	45.57	15.61	50.6	7219	Ivica (Braco) Soric
WZ7I	7039.8	40m	IK8DUE	0	0	CLUSTR	EU	15	28	IK8	I	Italy		40.72	14.71	55.5	7441	Mario Napoli
WZ7I	14071.6	20m	W9DCS	0	0	CLUSTR	NA	4	8	W9	K	USA	WI	42.95	-87.85	299.3	1011	Daniel C Schneeberger
WZ7I	14072.6	20m	C6AAJ	33	0	PSK31	NA	8	11	C6	C6	Bahamas	PA	26.52	-78.63	186.7	1397	C/O Stephen A. Ikler
WZ7I	7043.7	40m	SV2DSJ	0	0	RTTY	EU	20	28	SV2	SV	Greece		40.57	22.97	51.8	8025	Panagiotis Violistis
VE6AO	21023.5	15m	WA4APB	21	24	CW+	NA	4	2	VE6	VE	Canada	AB	51.12	-113.97	307.5	3161	Calgary Amateur Radic
W3OA	18091.0	17m	K2JF	28	12	CW+	NA	5	8	W3	K	USA	NC	35.58	-80.95	223.8	516	Richard T Williams
KA9SWE	14011.6	20m	N3JB	35	20	CW+	NA	4	8	KA9	K	USA	WI	43.03	-89.38	297.3	1130	Dale W Burmester

Other Key Features

- Extremely “granular” filtering capabilities



Other Key Features

- Ability to download and chart RBN data for any day in the past.
- Built-in Telnet server
  - Insert between any server with RBN spots and your logging program
  - Use ViewProp’s filters to feed your logging program

Resources

- RBN website – http://reversebeacon.net
- RBN blog – http://reversebeacon.blogspot.com
- Tutorial - http://reversebeacon.blogspot.com/2013/12/a-new-tutorial-on-using-rbn.html
- Download of Aggregator – on the RBN web site
- Download of ViewProp - http://zl2ham.wikispaces.com/
- ARCluster filters – http://ab5k.net/ArcDocsVer6/UserManual/ArcCmdSummary.htm
- CCUser - http://www.bcdxc.org/ve7cc/default.htm#prog
- Mailing lists:
  - skimmertalk@contesting.com
  - viewprop@yahoogroups.com
  - RBN-OPS@yahoogroups.com

- That's all folks!