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4 June 2002

TO: Distribution

FROM: Alan R. Whitney

SUBJECT: 29 May 2002 e-VLBI telecon summary

Attendees:
Lee Foster, Pat Gary, Chuck Kodak, Kevin Kranacs, Paul Lang, Bill Wildes – GSFC
Steve Bernstein, Lorraine Prior, Peter Schultz – Lincoln Laboratory
Tom Lehman – ISI-E
Richard Crowley, Kevin Dudevoir, Hans Hinteregger, Mike Titus, Alan Whitney – Haystack Observatory

This telecon is one of an ongoing series of telecons to prepare for gigabit/sec e-VLBI demonstrations between NASA GSFC and MIT Haystack Observatory using a combination of network facilities including all or part of Glownet, Bossnet, ISI-E, SuperNet, Max and GSFC/HECN.

Status Reports

The attached figures of the e-VLBI path have been updated to reflect current status and are pretty much self-explanatory; critical status items are indicated in red. In addition, the following comments are relevant:

− Bossnet problems

- Peter reported that the Bossnet OC-48 link is still down (since 30 April). LL is debugging, but problem has not been fully isolated; optical power received at D.C. from Baltimore is 15dB down. Link was up for a few minutes 29 May but then down again. People must be sent to debug the bad optical segment; hopefully this will happen within next week. Good possibility that problem is in Quest fiber between Baltimore and D.C.

- Tom reported that, before Bossnet went down on 30 April, he observed single-stream TCP from ISI-E to LL at ~900 Mbps, but slow in other direction. When link was up briefly a week ago, the opposite was observed; could send from LL to ISI-E at ~900, but reverse was slow. Hopefully, once the Bossnet problem is fully resolved, we will be able to sustain ~900 Mbps in *both* directions.

- Tom can provide someone in D.C. to assist in the Bossnet debugging; tentatively scheduled for Tuesday, 04 June 02.

- Tom has heard that someone might have been investigating the placing of some equipment in the Bossnet rack in Baltimore in preparation for FC02(?) around 30 April; details unknown, but might be worthwhile to investigate in relation to current Bossnet problem. Jerry Sobieski at MAX should know the details.

– Tom reported that additional test workstations (G7A and G7B) have been added at ISI-E, along with another Summit 5i (G4).

– G4 Mac system purchased by Bill Wildes has been deployed to GGAO (at L6) and named 'pluto'; has been tested to confirm K7/L1 link from GSFC Bldg 28 to GGAO.

– Thanks to several people, a fairly complete detailed list of test workstations has now been assembled. Alan will distribute this information via e-mail to e-VLBI group; will include skeleton information on Mark 5 systems at A1, B1, B3 and L4.

– Lorraine reported that Lincoln radar is back on-line on Glownet, so e-VLBI must return to scheduled usage, as in the past.

– Juniper M160 (H7) has still not been configured to use path H9. Pat and Tom will contact Jerry Sobieski to try to get this resolved.

Performance Testing

Tom reported significantly better performance from ISI-E (G7) to Superglide (E5A) at LL than from ISI-E (G7) to the Dell Poweredge 500C (E5), also at LL. The reason for the difference is currently unknown. Tom is actively involved in a study to determine why data-transfer performance is so variable among various platforms between same network nodes. Variables include motherboards, PCI chip sets, interrupt handling, CPU's, NIC's, OS kernel, etc.

Kevin would like to get OS tuning parameters of all test systems in order to try to understand performances differences.

Steve reminded everyone that the Juniper router at E7 also services traffic from MIT campus over which we have no control and which shares with e-VLBI on OC-48 link F1.

Other

Alan reported that Haystack is preparing a proposal to NSF in collaboration with MIT Laboratory for Computing Science and MIT LL. The proposal includes developing special protocols for e-VLBI to better utilize network facilities, as well as infrastructure building and testing for e-VLBI.

Pat reported that GSFC is testing 'class-of-service' features with both Extreme and Cisco switches. Extreme switches were easy to configure and use; Cisco switches were very difficult to configure and could not be made functional – a trouble report has been filed with Cisco.

Action Items

Alan: Distribute workstation configuration information to group.

Steve: Keep tabs on status of Bossnet and notify group when problem is fixed.

Pat/Tom: Work with Jerry Sobieski to configure Juniper M160 at H7.

Next telecon

Next telecon will be Mon, 24 June 2002 at 2 pm.

xc: Steve Bernstein, LL
        Jim Calvin, LL
        Lorraine Prior, LL
        Leslie Weiner, LL
        Herbert Durbeck, GSFC
        Lee Foster, GSFC
        Pat Gary, GSFC
        Chuck Kodak, GSFC
        Kevin Kranacs, GSFC
        Paul Lang, GSFC
        Aruna Muppalla, GSFC
        Bill Wildes, GSFC
        Dan Magorian, UMCP
        Tom Lehman, ISI
        Jerry Sobieski, Max
        Richard Crowley, Haystack
        Kevin Dudevoir, Haystack
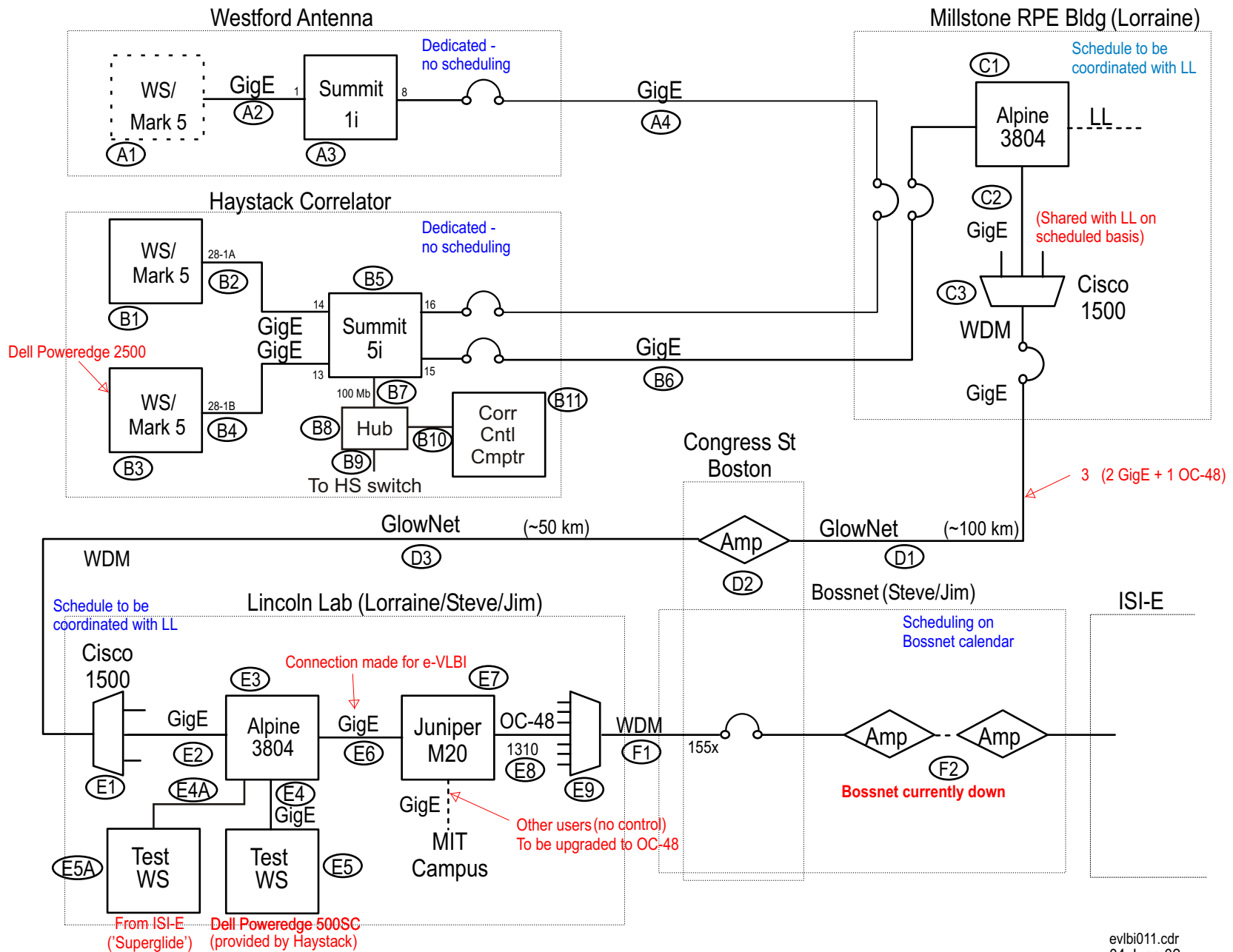   Hans Hinteregger, Haystack
        Arthur Niell, Haystack
        Joe Salah, Haystack

Figure 1: e-VLBI Path - Haystack to ISI-E

Figure 2: e-VLBI Path - ISI-E to GSFC/GGAO

evlbi012.cdr
04 June 02