

# 48th Directing Board Meeting – Summary Minutes

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*Location:* Wetzell, Germany  
*Date:* 18 June 2023  
*Note taker:* Dirk Behrend  
*Version history:* 6 October 2023

Attending Board members: Rüdiger Haas (Chair), Dirk Behrend, Johannes Böhm, Patrick Charlot, Pablo de Vicente, Alet de Witt, John Gipson, Phillip Haftings, Hayo Hase, Masafumi Ishigaki, Nancy Kotary, Lucia McCallum, Alexander Neidhardt, Chet Ruszczyk, Fengchun Shu, Oleg Titov, Gino Tuccari, Anastasiia Walenta.

## 1. Welcome and approval of agenda (Rüdiger Haas)

Rüdiger Haas welcomed the Board members. The Board approved the agenda for the 48th DB meeting.

## 2. Update station and correlator situations (Dirk Behrend)

Dirk Behrend summarized the evolution of the VGOS station and correlator networks. The observing network had about 12 stations with five further stations joining soon. Additional growth was anticipated in the longer term. There were gaps in Africa, South America, and Antarctica (i.e., a scarcity of stations in the southern hemisphere in general).

The VGOS correlation capabilities evolved from a single correlator (in 2019) to a network of up to seven distributed correlators that could process VGOS sessions operationally. Tsukuba had limited resources that allowed VGOS Intensive processing only. Other correlators (e.g., Yebes) might evolve over time to a full-blown VGOS correlator.

## 3. Update Task Force on VLBI scale drift (John Gipson)

The task force was pretty active until the fall of 2022, then the efforts quieted down. There were a few presentations on the scale drift at the EVGA meeting. At the Analysis Workshop, Karine Le Bail agreed to assume the chairmanship of the group going forward. Investigations included the evaluation of station-related origins as well as model-related origins for the drift. Rüdiger Haas commented that IGN France and JPL were both using the CATREF software, which is solution based with time series. The DTRF frame solution created by DGFI, on the other hand, was based on stacking of normal equations and did not exhibit any scale drift.

#### **4. Update VGOS frequencies (Hayo Hase, Alexander Neidhardt)**

The Board agreed that Hayo needed support in his efforts and supported the formation of a Task Force for Frequency Management. The task force could initially be an ad-hoc endeavor and be formalized later. Suggested members include: Hayo Hase, Derek Hudson (GSFC), Phil Erickson (MIT), Marta Bautista (IGN Spain), and reps from Australia, China, Japan.

#### **5. ITRF2020 usage and regular updates (John Gipson)**

The IVS transitioned to using ITRF2020 at the end of March 2023. It is planned to have annual updates in the future. To phase this in, ACs should submit SINEX files for the period 2021 through 2023. The Combination Center will submit their solution to the IERS by 1 March 2024. The SINEX files should include additional information to enable the IERS to remove loading effects. Given some model differences to the original ITRF2020 (e.g., gravitational deformation models for six stations, PSD models) there will be inconsistencies. However, the short turnaround time does not allow for a consistent reprocessing of the full 40-year history of data. After this initial 3-year approach, the ACs are expected to reprocess all data on an annual basis using the best available models starting in 2024.

Anastasiia Walenta agreed to start a regular meeting series between the Analysis Centers and the Combination Center.

#### **6. Conclusions from IVS AW (John Gipson)**

The new vgosDB naming convention (retaining the session code) became effective at the end of 2022. The group to establish PIs for all IVS sessions was revitalized and is now chaired by Lucia McCallum. An ad-hoc working group on IVS-related websites not tied to any institution was endorsed; Phillip Haftings was suggested as lead of this group. There was general agreement that all IVS sessions (24-hour sessions, 1-hour Intensives) should be scheduled with calibrator sources. The idea of a dedicated fringe test before each session was abandoned.

The Board discussed features of the calibrator scan implementation. Possible scenarios included having calibrator scans every 2 hours (1) that have a length of 45 seconds (VGOS) resp. 2 minutes (S/X) or (2) that reach SNR targets of 100 (VGOS) resp. 35 (S/X). A decision was postponed until after feedback was received from the correlators (by the end of June).

Anastasiia Walenta agreed to write a draft charter for a Working Group on Data Documentation for the next Directing Board meeting.

## **7. Conclusions from IVS retreat 2023 (Rüdiger Haas)**

Rüdiger Haas agreed on writing up a summary of the retreat for the next Directing Board meeting. Important aspects covered at the retreat include enhancing the professionalism of the service, fixing the VGOS frequencies, and approaching ESA for information about the GENESIS mission.

Nancy Kotary said that another outcome of the retreat was the need for a roadmap for the transition from S/X to VGOS.

## **8. Performance metrics**

Alexander Neidhardt agreed on checking the possibilities and query stations about measuring abilities and overall quality in performance metrics. Verification should be an important aspect for fulfilling the metrics.

John Gipson mentioned that documentation made available through the web tools is important. The available documentation, however, should be checked for outdated entries.

## **9. IVS professionalism**

The Board agreed on establishing a Task Force on the IVS Web Presence. The task force consists of Phillip Haftings (lead), Nancy Kotary, Dirk Behrend, Alexander Neidhardt, and John Gipson.

For IVS presentations at conferences, a repository of presentation material for public use would be helpful. A team consisting of Nancy Kotary, Rüdiger Haas, and Dirk Behrend agreed to look into this.

## **10. VGOS transition and development plan**

Rüdiger Haas volunteered to work on a draft of a transition plan from legacy S/X to VGOS and distribute the draft for review. Phillip Haftings mentioned that there was a need to outline the need for the continuation of legacy S/X stations; this could also be covered in an earlier, shorter document (2–4 pages).

Lucia McCallum suggested discontinuing running the IVS-R4 and VGOS-OPS sessions on the same day. John Gipson added that the Intensive program could be (partially) shifted to center on UT midnight (S/X) and 12 UT (VGOS). Dirk Behrend agreed to review both recommendations within the OPC.

## **11. Planning IVS GM 2024 and IVS 25th Anniversary**

Masafumi Ishigaki outlined the organization. The venue is the Tsukuba International Congress Center with a room for 200 people, breakout rooms, poster room, and ice-breaker room. The chair of the LOC is Kensuke Kokado. Splinter meetings include gatherings of the VTC and AOV groups.

## **12. IVS special issue in JOGE?**

The Board agreed that the relevance of special issues had diminished and that an issue on IVS would not be worthwhile. Chet Ruszczyk suggested instead publishing a technical engineering paper that could provide technical details (e.g., in *Sensors*).

## **13. Miscellaneous**

The Board decided that the introduction of a new IVS data or product type (and thus inclusion in the data center repository) should be based on the approval of a proposal made to the Board and adjudicated on a case-by-case basis.