

**SUMMARY  
of the Sixth Meeting of the Providers' Forum**

**19 and 22 October 2010**

**Turin, Italy**

The sixth meeting of the Providers' Forum, co-chaired by the European Union and the United States of America, was held in conjunction with the fifth meeting of the International Committee on Global Navigation Satellite Systems (ICG) in Turin, Italy. The meeting consisted of two sessions, on 19 and 22 October 2010. China, India, Japan, the Russian Federation and the United States of America, as well as the European Union, were represented at the meeting.

After consideration of the items on its agenda, the Providers' Forum adopted the report on the meeting containing the recommendations and decisions set out below.

**Summary of discussions and recommendations**

**1. Promotion of compatibility and interoperability**

A presentation entitled "Position, navigation and timing (PNT) improvement supported by BeiDou" was provided by a representative of China. The presentation provided the simulation results of the dilution of precision (DOP) improvement by adding the BeiDou constellation to GPS, Galileo and GLONASS constellations. A conclusion of the presentation was that BeiDou would improve the quality of PNT services.

*Review of principles on compatibility and interoperability*

Results of the ICG Working Group A interoperability survey were presented by the Working Group co-chair. It was noted that the current definition of interoperability appears not to need any further modification. Based on the results of the compatibility workshop held on 7 June 2010, it was also noted that the current definition of compatibility also requires no further modifications.

*Status of the consolidated report on planned and operating systems based on member input consistent with the template for information-sharing*

The Providers' Forum noted that the achievements of the Providers' Forum were reflected in the publication entitled "Current and planned global and regional navigation satellite systems and satellite-based augmentation systems" (ST/SPACE/50) that was produced by the Office

for Outer Space Affairs of the United Nations, in its capacity as Executive Secretariat of the ICG, on the basis of reports submitted by the members of the Providers' Forum on their planned or existing systems and on the policies and procedures that govern the service they provide.

## **2. Open service information dissemination**

The representative of the United States provided a presentation entitled "Enabling multi-constellation advanced receiver autonomous integrity monitoring (ARAIM)". This presentation was in regards to aviation use. It was noted that a GNSS Evolutionary Architecture Study (GEAS) recommended utilizing dual frequency and ARAIM for advanced aviation benefits. Some important performance parameters are being investigated for possible inclusion in future performance standards. It was recommended that other service providers consider including these parameters in developing their performance standards, when their definitions are finalized.

The representative of the United States also provided a presentation entitled "Template for GNSS Service Performance Commitments". The presentation concluded with a proposal that other system providers consider using the GPS Standard Positioning Service Performance Standard as a starting point for template for their own performance standard.

## **3. Spectrum protection: Interference detection and mitigation**

A discussion on spectrum protection was initiated with a presentation on the United States Patriot Watch Program entitled "GPS Interference Detection and Mitigation (IDM)". The presentation provided information on the actions the United States is taking to mitigate and detect signal interference through the IDM program. It was noted that this topic is in the ICG Work Plan and progress on this topic within the ICG has been limited. It was suggested that a Workshop or multi-disciplinary ICG Task Force be established to progress this topic.

## **4. Report on a multi-GNSS demonstration project in the Asia/Oceania region**

The representative of Japan provided a presentation entitled "A multi-GNSS demonstration project in the Asia/Oceania region". It was noted that four discussion groups were established at the first meeting held on 25-26 January 2010. It was proposed that the ICG works more closely with this project by establishing frequent reports, and the project extending an invitation to the co-chairs of the ICG Working Groups A and D to be members of the steering committee in the multi-GNSS project. The Providers' Forum noted that the next meeting will take place on 21-22 November 2010 in Melbourne, Australia. A request was also made for other providers to contribute to this project.

## **5. ICG Information Centres**

The Providers' Forum took note of a programme on GNSS applications focusing on building capacity, specifically in deploying instruments for the International Space Weather Initiative (ISWI), developing a GNSS education curriculum, utilizing regional reference frames and the application of GNSS in various areas to support sustainable development. It was also noted that the ICG Information Centres established in the Regional Centres for Space Science and Technology Education affiliated to the United Nations could play a relevant role.

## **6. Glossary of terms related to the work of the ICG and the Providers' Forum**

The Providers' Forum noted that the glossary of terms needs to be completed and that a draft had been produced by the ICG Executive Secretariat that consisted of three appendices containing undefined terms, acronyms, and glossary definitions. It was noted that the United States provided the glossary definition through a previous contribution to the ICG. This document would serve both as a consolidated report on GNSS and as a resource for use within and outside the ICG. A proposal was made that each member provides a point of contact and participate in a working group to complete this document before the next ICG meeting.

## **7. Document consolidating decisions and conclusions**

The Providers' Forum noted that there are two possible functions for this document. One is that it could serve as a series of conclusions at the policy level, which could be used outside the ICG. The other is that it could be used as a resource guide for ICG work. Further discussion will be required to agree on the function of the document.

## **8. Joint GNSS Outreach**

The Providers' Forum noted two joint GNSS outreach events. The first is the Providers' Forum Panel at the Institute of Navigation (ION) Conference to be held on 20 – 23 September 2011, in Portland, United States of America. The second event is the International Satellite Navigation Forum to be held on 1 -2 June 2011 in Moscow, Russian Federation. It was also noted that the China Satellite Navigation Conference 2011 may be another event for joint GNSS outreach. The United States, China and the Russian Federation requested a point of contact to be identified from each provider to facilitate preparation for each respective Conference.

## **9. Review and discussion of presented ICG working group reports**

The co-chairs of the ICG Working Groups presented and submitted, for consideration by the Providers' Forum, a set of recommendations as contained in the reports of the working groups. Working Group A on compatibility and interoperability submitted six recommendations; Working Group B on enhancement of the performance of GNSS services submitted seven recommendations; Working Group C on information dissemination and capacity-building submitted two recommendation; Working Group D on reference frames, timing and applications submitted five recommendations.

## **10. Chair and next meeting of the Providers' Forum**

The Provider's Forum agreed that Japan and the United States would co-chair its next meeting to take place at the United Nations Office at Vienna on 31 May 2011 immediately preceding the 54<sup>th</sup> session of the Committee on the Peaceful Uses of Outer Space, from 1 to 10 June 2011, Vienna International Centre, Vienna, Austria.