Terms of Reference
for a

Joint Committee of
Business Aviation Operators and Manufacturing Industries
on
Development of a Strategy and Plan to integrate Business Aviation into the the global implementation and operation of CNS/ATM.

Purpose

These Terms of Reference describe the background, scope, objectives and management structure for a joint operational and technical committee tasked with development of a strategy and plan for the introduction of evolving CNS/ATM systems by business aviation.

Background

In the 1980s, ICAO, Member States, service providers and the aviation user community started work on development of a new plan for managing the world's airspace and navigation systems, taking into account the new emerging technologies. It was recognized that the existing approach to provision of air traffic services and aircraft navigation were limiting capacity and efficiency.

The task of exploring a new dynamic was assigned in 1983 to an ICAO Special Committee on the Future Air Navigation System (FANS),in which IBAC participated. The FANS work culminated in the ICAO 10th Air Navigation Conference in 1991, where the FANS concept was endorsed.

Following acceptance by the ICAO Council, FANS was subsequently renamed the Communications, Navigation, Surveillance/ Air Traffic Management (CNS/ATM) concept. Implementation of CNS/ATM was initially planned through a 'Global Co-ordinated Plan for transition to ICAO CNS/ATM Systems'. Later, with maturation of the concept, a Global Air Navigation Plan for CNS/ATM was developed.

In the intervening years it became evident that in order to ensure better use of CNS/ATM technologies and to ensure coordinated implementation, an Operational Concept was needed. The ICAO Air Traffic Management Operational Concept Panel (ATMCP) was formed to develop the Operational Concept which was produced and then sanctioned by the 11th Air Navigation Conference held in September 30, 2003. Work is continuing on development of Standards and Recommended Practices that will govern new equipment in the future.

In parallel with this activity and based on Required Navigation Performance (RNP), material was developed and introduced into ICAO PANS ATM (Doc 4444) to accommodate reductions in horizontal separation criteria. Work continues in this field by the ICAO SAS Panel (formerly the RGCS Panel).

Separation based on RNP10 has been implemented in a number of ICAO Regions, including AS/PAC and MID. Further reductions in horizontal separation based on RNP 4 are under consideration in several Regions, including the NAT. Such further reductions will require direct pilot controller communication using data link.

In addition to the adoption of technical characteristics for a number of air-ground 'links', specifications have also been adopted for ADS and CPDLC message sets and related operational procedures. Work continues under the ICAO OPLINK Panel (formerly the ADS Panel).

The CNS/ ATM operational concept covers a large range of institutional, infrastructural, procedural and technological issues. Technology issues apply to many new systems such as GNSS, ADS/B, CPDLC, datalink and other emerging systems.

It has become clear through the years of development of the various CNS/ATM plans that the airline industry has been the primary user focal point for technological and procedural development. The airline industry has been extremely active and engaged in planning activities and contributing to work by ICAO and service providers. The business aviation industry has been very active at discussions at the high level, and has presented various papers on the impact of CNS/ATM to business aviation operations. However, since the business aviation industry lacks a cohesive technological planning mechanism, the business aviation industry has not been able to significantly influence the specific planning forums dealing with technologies and procedures.

The business aviation industry is very diverse, with a wide spectrum of manufacturers (as opposed to the two very large manufacturers in the airline industry). Operators are generally small and lack the R&D staff to develop new concepts. With over 14,000 operating companies, business aviation is very significant in numbers, but given the horizontal shape of the industry it is very difficult to coordinate harmonized statements of requirements.

Generally, business aviation has lacked a mechanism to provide leadership in developing a clear statement of operational requirement. Aircraft manufacturers have been looking to the operators to define their requirements; yet operators generally do not have the critical mass in terms of expertise and available staff to provide the input.

A mechanism is recommended herein to develop coordinated input from business aviation for CNS/ATM plans and input to Standards and Recommended Practices. A Joint Committee of the Operators and Manufacturing Industries is proposed to develop a Business Aviation CNS/ATM Operational Plan.

Objectives

The objectives of the Joint Committee are to:

- ✓ Assess ICAO data link technical SARPs
- ✓ Review emerging CNS/ATM technologies;
- ✓ Review ICAO CNS/ATM Global Plan
- ✓ consider evolving Regional implementations and plans
- ✓ Review the CNS/ATM Operational Concept
- ✓ Develop options for a harmonized business aviation position;
- ✓ Develop a strategy and plan to integrate business aviation into the evolving CNS/ATM implementation and RNP operations in;
- ✓ 1) oceanic airspace, and
- ✓ 2) continental airspace
- ✓

Scope

The Joint Committee is to develop a more detailed action plan during the first series of meetings and will propose changes to the Terms of Reference as required.

Initially it is proposed that the Joint Committee consider all elements of the CNS/ATM Operational Concept as it relates to technologies in the cockpit. In so doing, the JC is expected to recommend an appropriate balance of attention to the near-to-intermediate term related to evolving CNS/ATM implementation and the longer term involving the transition towards and realization of the CNS/ATM Operational Concept.

Secondly, the JC should consider other aspects related to airspace organization and management, aerodrome operations, demand and capacity balancing and traffic synchronization & coordination be assessed to determine if a bizav position could be of benefit..

Membership

The Joint Committee should consist of representatives from:

- ✓ business aircraft operators;
- ✓ aircraft manufacturers;
- ✓ avionics manufacturers;
- ✓ service providers;
- ✓ business aviation associations.

Management

It is not proposed that a Steering Committee be established. Governance for the project will be through the Terms of Reference and any authority granted and expenditure allowances it contains.

The Terms of Reference will be approved by the contributing organizations consisting of:

- ✓ the International Business Aviation Council (IBAC);
- ✓
- ✓
- ✓

A Project Manager will be appointed by the contributing organizations.

Meetings

Meetings will be organized by the Project Manager with support from the contributing organizations. It is expected that approximately 4 to 6 meetings will be required to develop the draft Implementation Concept.

Schedule

The detailed schedule will be developed by the Joint Committee. The target delivery of a draft Plan will be approximately one year from start of work.

Costs

Expenses of Members of the Joint Committee will be born by their respective organizations or companies. Costs for the Project manager will be born by IBAC, with any assistance from contributing organizations as required. IBAC will fund administrative costs for the Joint Committee such as meeting rooms.

The Project Manager will develop cost estimates following the first full meeting of the Joint Committee.

Other comments from Bill Stine

1. Where is the accountability?
2. To whom does the JC report?
3. Need para to define the 'Deliverables'