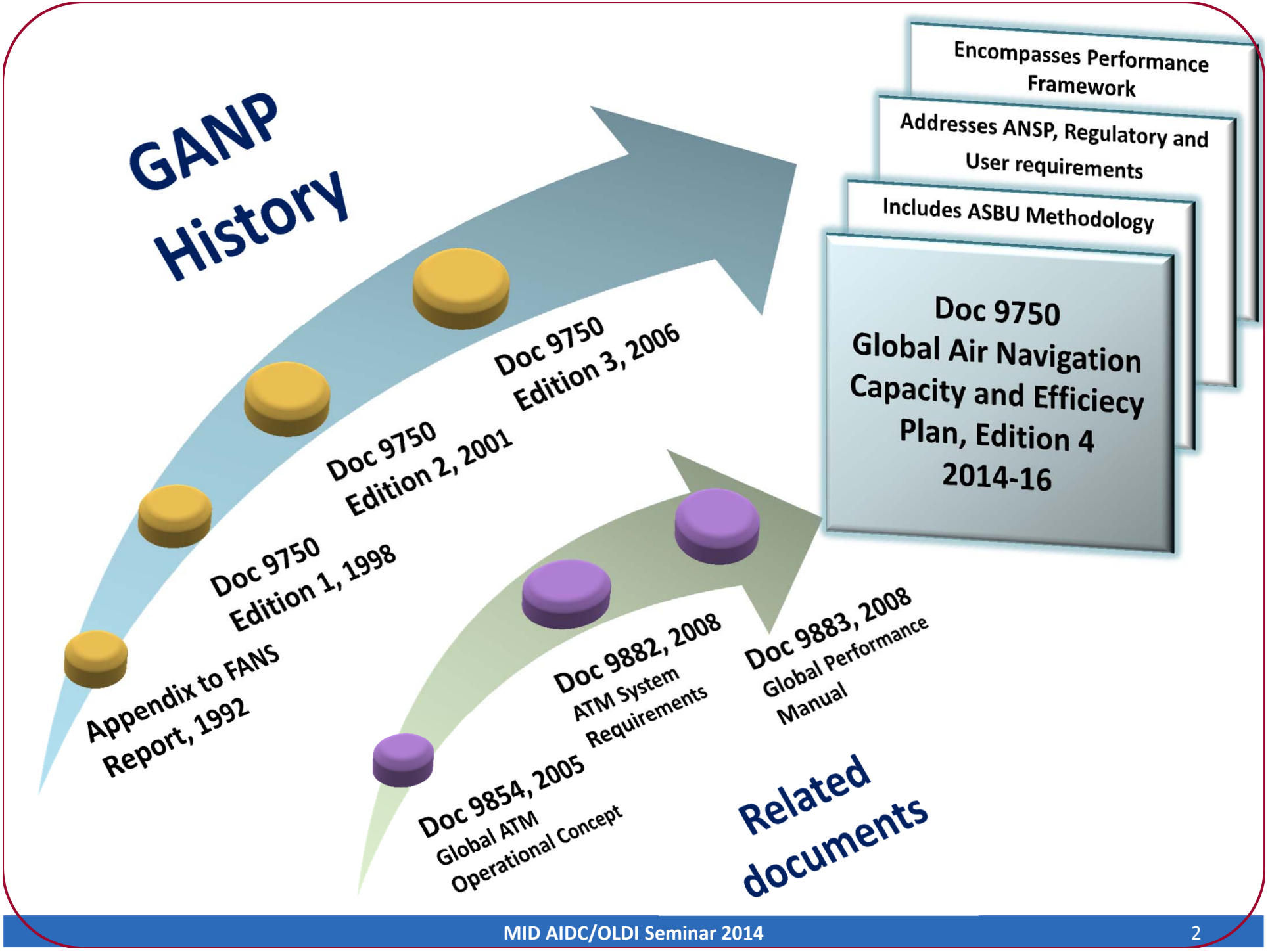
International Civil Aviation Organization

Regional Policy

ASBU Module N° B0-FICE(25)/PIA-2

Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration

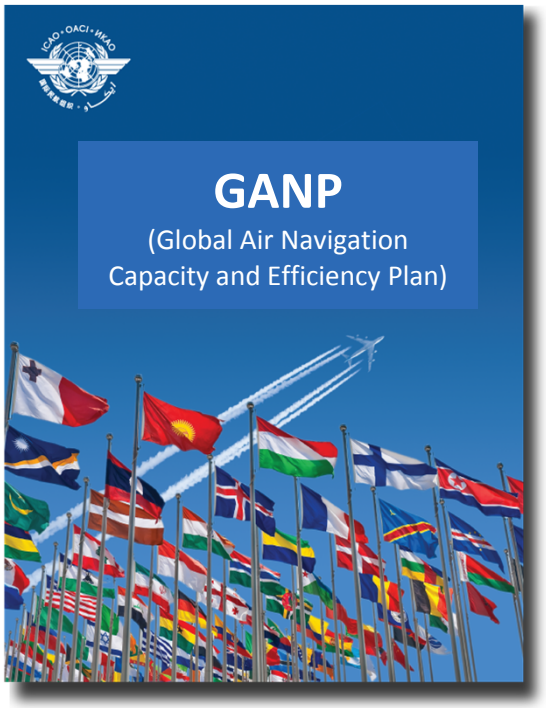

GANP History
Appendix to FANS Report, 1992
Doc 9750 Edition 1, 1998
Doc 9750 Edition 2, 2001
Doc 9750 Edition 3, 2006
Doc 9750 Global Air Navigation Capacity and Efficiecy Plan, Edition 4 2014-16
Includes ASBU Methodology
Addresses ANSP, Regulatory and User requirements
Encompasses Performance Framework
Related documents
Doc 9854, 2005 Global ATM Operational Concept
Doc 9882, 2008 ATM System Requirements
Doc 9883, 2008 Global Performance Manual

GANP- Contents (DOC 9750)

Strategic Objective: Capacity and Efficiency

EXCUTIVE VIEW

Chapter 1: Global Air Navigation Policy
Chapter 2: Implementation-Turning ideas into action
Chapter 3: Near Term Standardization – Block 1
Chapter 4. Continuing Research – Blocks 2 and 3
Chapter 5: Aviation System Performance management



Appendices:

1. **Fourth edition GANP: Evolution and Governance**
2. **Hyperlinked Online Support Documentation**
3. **Technology Roadmaps**
4. **Module Dependencies**
5. **SARPs Development Planning**
6. **Acronym Glossary**

MIDANPIRG/14

- ***CONCLUSION 14/5: MID REGION AIR NAVIGATION PRIORITIES***

That,

- *a) the ASBU Block 0 Modules prioritization Table at Appendices 4.1E to the Report on Agenda Item 4.1 be endorsed as the initial version of the MID ASBU Implementation Plan; and*
- *b) the ASBU Block 0 Modules prioritization Table be reviewed on regular basis and be extended to cover Block 1 Modules, as appropriate.*

MID REGION ASBU BLOCK 0 MODULES PRIORITIZATION TABLE

Module Code	Module Title	Priority	High level Implementation Indicator	Remarks
B0-APTA	Optimization of Approach Procedures including vertical guidance	1	% of international aerodromes having at least one instrument runway provided with APV with Baro VNAV procedure implemented	
B0-WAKE	Increased Runway Throughput through Optimized Wake Turbulence Separation	2	% of applicable international aerodromes having implemented increased runway throughput through optimized wake turbulence separation	List of applicable ADs to be established through regional air navigation agreement.
B0-RSEQ	Improve Traffic flow through Runway Sequencing (AMAN/DMAN)	2	% of applicable international aerodromes having implemented AMAN / DMAN	List of applicable ADs to be established through regional air navigation agreement.
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	1	% of applicable international aerodromes having implemented A-SMGCS Level 2	List of applicable ADs to be established through regional air navigation agreement.
B0-ACDM	Improved Airport Operations through Airport-CDM	1	% of applicable international aerodromes having implemented improved airport operations through airport-CDM	List of applicable ADs to be established through regional air navigation agreement.
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration	1	% of FIRs within which all applicable ACCs have implemented at least one interface to use AIDC / OLDI with neighbouring ACCs	
B0-DATM	Service Improvement through Digital Aeronautical Information Management	1	- % States having implemented an intergrated aeronautical information database - % States having implemented QMS	
B0-AMET	Meteorological information supporting enhanced operational efficiency and safety	1	- % of States having implemented SADIS / WIFS - % of States having implemented QMS	

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Aviation System Block Upgrades

Module N° B0-FICE(25)/PIA-2

Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration

Module N° B0-FICE

Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration

Summary	To improve coordination between ATS Units by using AIDC. The transfer of communication in a data link environment improves the efficiency of this process particularly for Oceanic ATSUs	
Main Performance Impact	**-KPA-02 Capacity**	**- KPA-04 Efficiency**
	- KPA-07 Global Interoperability	**- KPA-10 Safety**
Operating Environment/Phases of Flight	**All flight phases and all type of ATS units**	
Applicability Considerations	**Applicable to min. 2 ACCs dealing with en-route and/or TMA airspace. Greater number of consecutive participating ACCs ✈ increase the benefits.**	
Global Concept Component(s)	**CM - Conflict management** **IM - Information Management**	
Global Plan Initiatives (GPI)	**GPI-16 Decision Support Systems**	
Pre-Requisites	**Link with B0-40 (TBO – DATALINK)**	
Global Readiness Checklist		**Status**
	Standards Readiness	**Ready**
	Avionics Availability	**No requirement**
	Ground systems Availability	**Ready**
	Procedures Available	**Ready**
	Operations Approvals	**Ready**

Module N° B0-FICE - Baseline

- Classical coordination by phone and procedural and/or radar distance separations
- **New Flight Plan 2012 and AMHS/IPS (not included in this module) but mapped to this module**

Module N° B0-FICE – Change Brought by the Module

- Implementation of the set of AIDC messages in the Flight Data Processing System (FDPS) of the different ATS units
- Establishment of Letter of Agreement (LoA) to determine the appropriate parameters.
- First step towards 4D trajectory exchanges between both G/G & A/G according to the ICAO *Operational Concept* (Doc 9854).

Module N° B0-FCIE – Intended performance Operational Improvement

Capacity	**-Reduced controller workload** **-Increased data integrity supporting** **- Reduced separations translating directly to cross sector or boundary capacity flow increases.**
Efficiency	**- Reduced separation can be offered more frequently to aircraft flight levels closer to the flight optimum; in certain cases, this also translates in reduced en-route holding.**
Global Interoperability	**Seamlessness: the use of standardised interfaces reduces the cost of development, allows controller to apply the same procedures at the boundaries of all participating centres and border crossing becomes more transparent to flights.**
Safety	**Better knowledge of more accurate flight plan information**
CBA	**Increase of throughput at ATC unit boundary, reduced ATCo Workload will exceed FDPS software changes cost.**

Module N° B0-FICE – Necessary Procedures (Air & Ground)

- Required procedures exist
- Experience from other regions can be a useful reference

Module N° B0-FICE – Necessary System Capability

- **Avionics**
  - No specific airborne requirements
- **Ground Systems**
  - Technology is available.
  - Implemented set of AIDC messages in Flight Data Processing and could use the ground network standard AFTN-AMHS or ATN.
  - Europe is presently implementing IP Wide Area Networks
  - It also includes for oceanic ATSUs a function supporting transfer of communication via data link.

Module N° B0-FICE – Training and Qualification Requirements

- Training for the automation support will be required.
- Training in the operational standards and procedures are also required.
- Likewise, the qualifications requirements are identified in the regulatory requirements in Section 6 which form an integral part to the implementation of this module.

Module N° B0-FICE– Regulatory/Standardization needs and Approval Plan (Air & Ground)

- Regulatory/Standardization: Use current published criteria that include:
  - ICAO Doc 4444, *Procedures for Air Navigation Services — Air Traffic Management*;
  - EU Regulation, EC No 552/2004.
- Approval Plans: To Be Determined, based upon regional consideration of AIDC.

Module N° B0-FICE – Reference Documents

Standards

- Annex 10 Vol II Chapter 4
- ICAO Doc 4444, Procedures for Air Navigation Services - Air Traffic Management, Appendix 6 - ATS Interfacility Data Communications (AIDC) Messages
- ICAO Doc 9880, Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols, Part II — Ground-Ground Applications — Air Traffic Services Message Handling Services (ATSMHS).

Procedures: To be determined.

Guidance Material

- ICAO Doc 9694, Manual of Air Traffic Services Data Link Applications; part 6
- GOLD Global Operational Data Link Document (APANPIRG, NAT SPG), June 2010;
- Pan Regional Interface Control Document for Oceanic ATS Interfacility Data Communications (PAN ICD) Coordination Draft Version 0.3. 31 August 2010; (Coordination Draft Version 0.81 — 27 July, 2013)
- Asia/Pacific Regional Interface Control Document (ICD) For ATS Interfacility Data Communications (AIDC). ICAO Asia/Pacific Regional Office. http://www.bangkok.icao.int/edocs/icd_aidc_ver3.pdf
- EUROCONTROL Standard for On-Line Data Interchange (OLDI); and EUROCONTROL Standard for ATS Data Exchange Presentation (ADEXP)

Module N° B0-FICE Implementation - Benefits and Elements

Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration

- **Benefits: Capacity, Efficiency, Global Interoperability and safety**
- **Elements:**
  - **New Flight Plan (Not included in the Module)**
  - **AMHS/IPS (Not included in the Module)**
  - **AIDC**

To be reflected in ANRF and/or ASBU Plan

Capacity

CAPACITY BY REGION *(ICAO Statistical Regions)*

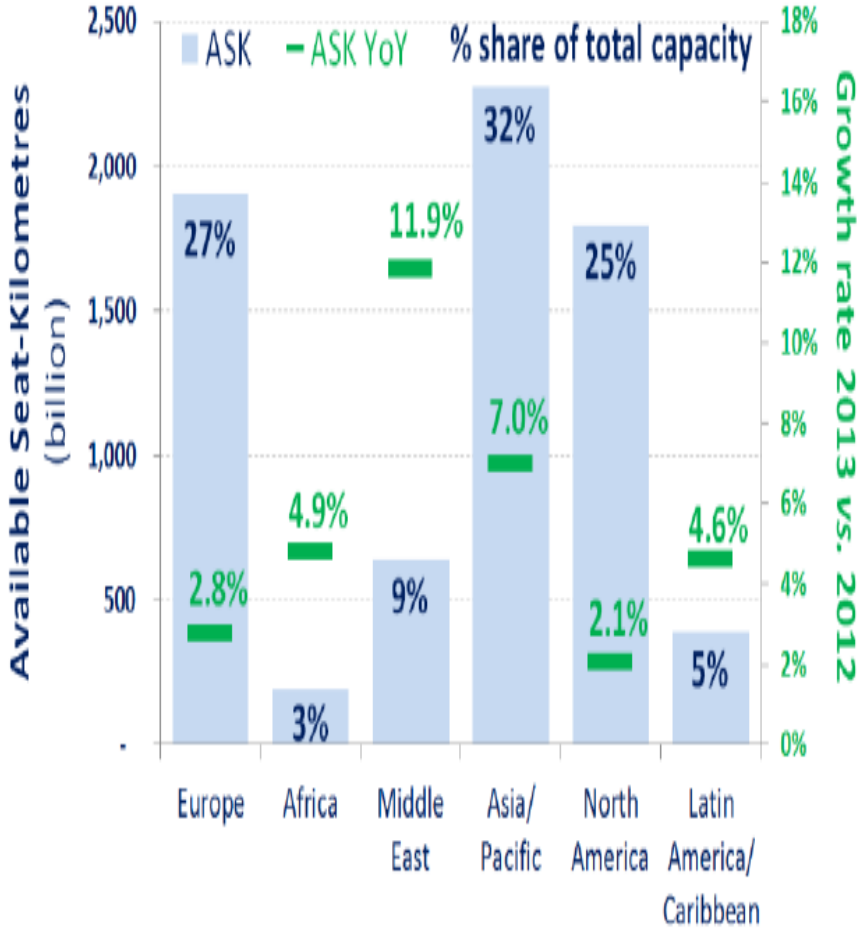
2013

Based on 2013 figures, **Asia/Pacific remains the world's largest** region, with a **32% share of total capacity** representing an increase of **+7.0%** over 2012.

Despite an improving economic climate in Europe and North America, the capacity of the **European and North American** airlines grew **below the world average**, growing at **+2.8% and +2.1%**, respectively.

The **Middle East region** remains the **fastest growing** in the world, expanding at **+11.9% in 2013** and accounting for 9% of the world traffic.

The capacity offered by the airlines of **Latin America/ Caribbean and Africa** represents respectively **5% and 3%** of the world total, and expanded **+4.6% and +4.9%**, respectively.



Note: Total scheduled services

The sum of the shares of the regions does not match 100% due to roundings

Conclusion

- Global Plan
- Regional Plan
- Is there benefit
- Are there guidance
- Will there any more standard (PAN ICD)
- What is next

Thank you

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IP ADDRESS PLAN

AIDC/OLDI SEMINAR

3-5 MARCH

MIDANPIRG/14

- **Apprised of the IP Network surveys results and the proposal for an IP address plans for the MID Region as at Appendices 4.5E and 4.5F**
- **was of the view that these results should be further discussed during the AIDC/OLDI Seminar.**