



INTERNATIONAL CIVIL AVIATION ORGANIZATION

**COORDINATED PLAN
FOR THE IMPLEMENTATION OF THE NATIONAL DATA BANK
IN THE CAR/SAM REGION**

SECOND EDITION (PROVISIONAL) - 2000

**CAR/SAM REGIONAL PLANNING AND IMPLEMENTATION GROUP
(GREPECAS)**

Coordinated Plan for the Implementation of the National Data Bank (NASC) in the
CAR/SAM Regions

CAR/SAM Regional Planning and Implementation Group (GREPECAS)

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1. BACKGROUND

1.1 As result of the different meetings of the AIS/MAP Automation Task Force of the Caribbean and South American Regions (CAR/SAM), the CAR/SAM Planning and Implementation Regional Group (GREPECAS) in its Seventh Meeting agreed the following:

Conclusion 7/10 AUTOMATION IN THE CAR/SAM REGIONS

Recognizing the urgent need for improving the aeronautical information exchange necessary for air operations through the coordinated use of automated AIS systems, that the Regional Offices forward and promote among the CAR/SAM States the execution and use of:

- a) The Coordinated Plan for the Implementation of National and Regional AIS Data Banks (NASC) in the CAR/SAM and;
- b) The Common Operational Procedures Manual to the CAR/SAM Integrated Automated AIS Systems (COPM CAR/SAM).

1.2 Afterwards, with the Conclusion 8/5, the GREPECAS agreed what is indicated below:

Conclusion 8/5 IMPLEMENTATION OF THE CAR/SAM INTEGRATED AUTOMATED AIS SYSTEMS

That:

- a) ICAO Regional Offices consider to include in their programs of activities for 1999-2000 the necessary resources to carry out a meeting in the short term to coordinate pertinent actions for the implementation of CAR/SAM integrated automated AIS systems and, also, the convenience of preparing special implementation projects (SIP) to support the States in achieving said objective; and;
- b) the CAR/SAM States that have not yet taken pertinent actions to consider the inclusion in their corresponding 1999-2000 budgets the purchase of the necessary equipment to establish data banks in their respective international NOTAM offices and, as well as, to efficiently collaborate with the ICAO NACC and SAM Regional Offices to carry out the activities mentioned in paragraph a) above

1.3 The ICAO Manual, Aeronautical Information Services, Document 8126-AN/872, Chapter 8, Organization of an Automated System of the Aeronautical Information Services, and the Appendix C, AIS Automation, provides automation basic principles and a description of an Integrated Automated AIS System at the regional level.

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1.4 The RAN CAR/SAM/3 incorporated in Part VIII of the CAR/SAM Air Navigation Plan a new “Concept of a CAR/SAM Integrated Automated AIS System”. The CAR/SAM AIS Automation Task Force made reference to all these documents as guidance in the development of this plan and orientation to establish and operate the National Data Banks (NASC).

2. PLAN OBJECTIVE

2.1 This plan was prepared taking into account the facilities currently available in the CAR/SAM Regions, the plans of States for the development and/or modification of the current systems, and the need to gradually migrate towards complete NASC concept and, at the same time, permit the future evolution of the new concepts to be managed with respect to the AIS database.

2.2 Based on the current situation in the CAR/SAM Regions, the objectives of this plan are:

- a) To define the projection of the NASC and its service areas in the CAR/SAM Regions;
- b) To propose the orientations for the implementation of the NASC in the CAR/SAM Regions; and
- c) To propose a calendar for the implementation of the NASC in the CAR/SAM Regions.

3. OPERATIONAL CONCEPT OF A NASC IN THE CAR/SAM REGIONS

3.1 A NASC obtains information from national sources, producing this information in NOTAM format, storing it in its database and making it available for users within the State of the integrated regional system or worldwide as well. This is done keeping up with previously agreed procedures or through query procedures.

3.2 The aeronautical information required from other State should be received in NOTAM format to be directly entered into the NASC database or subsequent processing, if necessary, to enable the NASC to fulfil the specific requirements of international aeronautical information.

3.3 The development and implementation of the NASC systems in each State is necessary for the effective NOTAM operation at the national, regional and worldwide levels. States must plan for requirements and resources needed to promote an ample, efficient and reliable service among users.

3.4 Some NASC should be able to provide services to the NOF and AIS Offices of aerodromes of other States that cannot achieve an automated AIS system according to the pre-established agreements.

3.5 Data links among NASCs, between NASC and NOF, and between NASC and other regional and worldwide system, require appropriate communication capacities. Although it is expected that the Aeronautical Fixed Services (AFS) will serve in the short term for the development of the system, faster and more reliable communications are necessary to serve these data links.

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3.6 In the specific case of COCESNA, where the legal basis that gave origin to the Organization do not permit assuming the NASC concept, a Sub Regional Automated AIS Centre will be recognized for the attention of the NOTAM service in the Central America States.

3.7 The implementation and effective operation of the NASC will depend upon strict compliance with the NOTAM format and the common operating procedures. It is necessary, therefore, the compliance with the Common Operational Procedures Manual for an Integrated Automated AIS System in the CAR/SAM Region (COPM) and of any other reference that could be used as a guide for the NASC development and future evolution.

3.8 CAR/SAM States, as part of the NASC implementation process should clearly define the area of service to be covered. CAR/SAM States, which NOF and Aerodromes AIS Offices may require to be served through other NASC will need to establish Letters of Agreement for NASC-NOF arrangements and for appropriate communication systems.

3.9 CAR/SAM will need to carefully plan for the resources and training required to operate the NASC.

3.10 In Annex 1, the Concept of an Automated AIS System for the CAR/SAM Regions approved by the RAN CAR/SAM/3 Meeting is described.

4. PROPOSED NASC LOCATIONS AND DISTRIBUTION OF AREAS OF RESPONSIBILITY

4.1 The location of each NASC will correspond to NOTAM Offices of each CAR/SAM State, which is the responsible instance of the NOTAM information administration, processing and elaboration.

4.2 The State is responsible for the distribution of each NASC's responsibilities. The reception and processing of NOTAMs will be as described in Annex 2, information that corresponds to CAR/SAM ANP planning as established in the RAN CAR/SAM/3 Meeting, taking into account the possibility of changes according to the particular characteristics of each States, specifically in terms of the NASC implementation. Changes could occur even in those States implementing automated AIS services, depending on future development of AIS services in aerodromes.

4.3 Annex 4 to this Plan presents basic configurations of the Automated Integrated AIS System Concept for the CAR/SAM Regions.

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5. DEVELOPMENT OF THE PLAN

5.1 The implementation of the Automated AIS Plan for the CAR/SAM Regions requires the approval of the Aeronautical Authorities of the States for supplying the necessary resources and for a mutual cooperation between the States, as well as full compliance with the described programme and according to the following timetable:

- a. Revision of the Coordinated Plan for the implementation of the National and Regional Data Banks (NASC and RASC) in the CAR/SAM Regions

Finalization: September 2000

- b. Finalization of the revision and adaptation of all the guidance materials required for the implementation of this plan:

- 1) Common Operational Procedures Manual for an Integrated Automated AIS System in the CAR/SAM Regions (COPM CAR/SAM).

Finalization: September 2000

- 2) Guide on resources and requirements for the implementation of a NASC.

Finalization: September 2000

- 3) If needed, draft letters for the agreements between the States for supply and for receiving the NASC services.

Finalization: September 2000

- 4) Purchase of the equipment and training of the necessary human resources, provision of the programmes and computer software, and installation of the equipment needed for the full operation of the NASCs.

Finalization: March 2001

- 5) Beginning of joint operations of the NASCs in the CAR/SAM Regions.

Date: March 2001

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ANNEX 1
**A CONCEPT OF AN INTEGRATED AUTOMATED AIS SYSTEM FOR THE CAR/SAM
REGIONS**

1. SYSTEM CONFIGURATION

- 1.1 The system should be based on the facilities of participating States with the following structure:
- a. Automated AIS systems of States, providing national service (NASC);
 - b. Automated AIS systems of States providing services to other States on the basis of bilateral and multilateral agreements; and
 - c. Non-automated AIS.

2. AREA TO BE SERVED

2.1 The system should have the potential capacity of holding aeronautical information to fulfil the operational requirements for AIS pre-flight briefing service for flights from point of origin to final destination.

3. SYSTEM SERVICE

3.1 The system over-all should provide a service as detailed in 11 and 12 below:

National service

3.2 The main function of the NASC should be that of supplying aeronautical information to the users of a determined State, following predetermined agreements or through computer query. The NASC should compile adequate aeronautical information from national sources, publish it in NOTAM format, keep it in the NASC database and make it available to user in the States, in the integrated regional system, as well as worldwide, according to predetermined arrangements.

3.3 The aeronautical information required from other States should be received in NOTAM format so it can be directly entered in the NASC database or be processed afterwards. This proceeding is necessary to permit the NASC performance according to the specific requirements of the international aeronautical information.

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3.4 The NASC should be able to provide service to users of other participant States not having an automated AIS system. A NASC should collect NOTAM information from national sources and transmit this information outside its defined service area in accordance with predetermined arrangements. A State without an automated AIS system but participating in the regional system has the option to be linked with an adjacent NASC via intelligent or non-intelligent remote terminal.

4. SYSTEM FUNCTIONS

4.1 A number of system functions should be performed at regional and national levels.

5. COMMUNICATION

5.1 The Aeronautical Fixed Service (AFS) should satisfy the communication requirements at an international level. An optimum use should be given to the available communication network for dissemination, exchange and retrieval of aeronautical information, particularly NOTAMs.

5.2 The selection of the various means for the retrieval of data at a national level should be at the discretion of the individual State and should be largely dependent on the availability and cost of the various services, communication links available and user requirements.

5. SYSTEM RELIABILITY AND REDUNDANCY

6.1 The system configuration should assure adequate reliability and redundancy.

7. FALL BACK PROCEDURES

7.1 In the case of a system failure, the service within the related service area should be continued according to the established procedure for each service area, which should also cover the necessary communication arrangements.

8. RESPONSE TIME

8.1 Short response times should be assured due to the features provided by the system, the use of modern computer techniques and means of communication.

9. PLANNING FOR IMPLEMENTATION

9.1 The planning for implementation of the system should be guided and adjusted by considerations related to efficiency, cost-effectiveness and experience.

9.2 Relevant bilateral or multilateral agreements should aim at minimizing costs by leading to work saving and data exchange beneficial to all participants.

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9.3 A planning/implementation group should coordinate the general development of the system and the activities required of States, and should monitor the over-all situation for the purpose of detecting in advance divergences in developments that could lead to the later incompatibilities.

10. SYSTEM MANAGEMENT

10.1 The strategic operation of the system should be closely monitored by States to permit speedy reaction to problems encountered and to shortcomings identified. The CAR/SAM Regional Air Navigation Planning and Implementation Group (GREPECAS) should develop an appropriate form of system management.

11. USER REQUIREMENTS IN AN AUTOMATED AIS SYSTEM

11.1 The latest pre-flight information bulletin of the specific type needed (i.e. route, area or aerodrome) should be available.

11.2 Information on specific items for given areas required by flight planning services, ATS, AIS or other users, should be provided.

11.3 A list of NOTAM entered into the system after a specific date-time group, to facilitate briefing, should be obtainable.

11.4 Immediate notification capability of items that are of urgent operational significance should be provided.

12. TYPE OF INFORMATION TO BE PROVIDED

12.1 The system should provide NOTAM data to fulfil the operational requirements.

12.2 The system should additionally provide the following pre-flight information bulletins and lists:

- a) Route type bulletin containing NOTAM relevant to aerodrome of departure, the planned route based on FIR crossed, aerodrome of destination; and alternate aerodromes;
- b) Area type bulletin containing NOTAM relevant to FIR or State;
- c) Aerodrome type bulletin containing NOTAM concerning any aerodrome or group of aerodromes;
- d) Immediate notification items;

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- e) Checklists of NOTAM by State, FIR, aerodrome; and
- f) List of NOTAM for a specific period or NOTAM entered into the system after a specific date-time group.

12.3 The updating of pre-flight information bulletins should be covered by system products listed in 12.2 d), e), and f), or by the request for a new pre-flight information bulletin.

12.4 The system features described in 14 below should permit pre-flight information bulletins to be tailored to the needs of the users and should provide flexible options of information content ranging from full system data coverage to data of urgent operational significance.

12.5 Pre-flight information bulletins should be provided in a standard format and standard sequence of information.

13. MULTIPLE ACCESS TERMINALS

13.1 AIS terminals should ultimately be capable of providing OPMET information relating to pre-flight bulletins.

13.2 AIS terminals should ultimately be capable of being used for the filing of a flight plan.

14. SYSTEM FEATURES

NOTAM

14.1 The NOTAM, in standard ICAO NOTAM format, should constitute the basic data exchange source in the system.

14.2 The NOTAM should be prepared only once, at the entry into the system.

14.3 The system should provide for exchange of NOTAM between NASC.

Common set of qualifiers (Field Q)

14.4 A common set of qualifiers, forming an integral part of the ICAO NOTAM format (Field Q) should be used to assure compatibility in data exchange and to permit the production of standard system output products.

Decoded NOTAM text

14.5 The NOTAM text (Field E) of the ICAO NOTAM format should be composed of the significations/uniform abbreviated phraseology assigned to the ICAO NOTAM Code, complemented by ICAO abbreviations, indicators, identifiers, designators, calls signs, frequencies, figures and plain language.

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NOTAM selection criteria

14.6 The NOTAM code contained in PANS-ABC (Doc 8400) is the most comprehensive description of information requiring NOTAM promulgation and should, therefore, constitute criteria for:

- 1) The storage and retrieval of information;
- 2) The decision as to whether a particular item is of operational significance;
- 3) The decision as to the relevance of particular items for various types of flight operations; and
- 4) The selection of items of operational significance, which require immediate notification.

14.7 Consequently, the NOTAM code should constitute the basis for the determination of the qualifiers for TRAFFIC, PURPOSE and SCOPE. .

Geographical reference qualifier

14.8 Sufficient flexibility and tailoring of information for the first step of automation in AIS are achieved by the use of the geographical reference qualifier. This qualifier consists of latitude and longitude accurate to one minute and a three-digit distance figure-giving radius of influence.

14.9 The provision of more flexible and refined data retrievals can be satisfied by the application of a geographical reference system, which may be required for the expansion of the over-all system in order to meet future requirements. These requirements may derive from the introduction of RNAV operations, the expansion of automation within the air traffic services, and the users' systems.

14.10 Consequently, in the evolution of the regional system, the geographical reference system based on LAT/LONG coordinates of the World Geodetic Reference System (WGS-84) must be used as a standard.

15. SYSTEM QUERY PROCEDURES

15.1 The system should provide a common set of query procedures.

15.2 The common set of query procedures should make the best use of the databank management system applied in order to give rapid response to simple and short request.

15.3 The query procedures should also provide users friendly access to the System without assistance of AIS personnel to obtain the required information.

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ANNEX 2
PROPOSED NASC AND SERVICE AREAS TO BE COVERED
IN THE CAR/SAM REGIONS

NASC / STATE	SERVICE AREA TO BE COVERED
NASC / ARGENTINA	NOF BUENOS AIRES
NASC / BAHAMAS	NOF NASSAU
NASC / BOLIVIA	NOF LA PAZ
NASC / BRASIL	NOF RÍO DE JANEIRO
NASC / CHILE	NOF SANTIAGO
Automated AIS Sub regional Centre COCESNA	BELICE COSTA RICA EL SALVADOR GUATEMALA HONDURAS NICARAGUA
NASC / COLOMBIA	NOF BOGOTA
NASC / CUBA	NOF HABANA
NASC / ECUADOR	NOF GUAYAQUIL
NASC / ESTADOS UNIDOS	NOF WASHINGTON
	<i>NOTAM SERVICE:</i> TURKS AND CAICOS ISLANDS PUERTO RICO
NASC / GUYANA	NOF GEORGETOWN
NASC / GUYANA FRANCESA	NOF ROCHAMBEAU
NASC / HAITI	NOF PORT -AU-PRINCE
NASC / JAMAICA	NOF KINGSTON
	<i>NOTAM SERVICE:</i> CAYMAN ISLANDS
NASC / MÉXICO	NOF MÉXICO

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NASC / STATE	SERVICE AREA TO BE COVERED
NASC / NETHERLANDS ANTILLES	NOF CURAÇAO <i>NOTAM SERVICE:</i> ARUBA
NASC / PANAMÁ	NOF TOCUMEN
NASC / PARAGUAY	NOF ASUNCIÓN
NASC / PERÚ	NOF LIMA
NASC / REPUBLICA DOMINICANA	NOF SANTO DOMINGO
NASC / SURINAME	NOF PARAMARIBO
NASC / TRINIDAD Y TOBAGO	NOF PORT OF SPAIN <i>NOTAM SERVICE:</i> ANGUILA, ANTIGUA AND BARBUDA FRENCH ANTILLES BARBADOS DOMINICA GRENADA MONTSERRAT ST. KITTS AND NEVIS ST. LUCIA ST. VINCENT AND LOS GRENADINES BRITISH VIRGIN ISLANDS
NASC / URUGUAY	NOF MONTEVIDEO
NASC / VENEZUELA	NOF CARACAS

Note: the NOF of London supplies The NOTAM Service of the State of Barbuda, which is one of the National Automated AIS Centers in Europe.

ANNEX 3
GUIDANCE ON RESOURCES AND OTHER REQUIREMENTS
FOR IMPLEMENTING A NASC

1. GENERAL CONCEPTS

1.1 The NASC is an automated AIS system that acquires information not only from national sources but also from any other State it serves. The main role of a NASC shall be to provide aeronautical information to users within a given State, not only in keeping with predefined arrangements but also through computer requests. The information provided shall conform to the needs of the various user categories. A NASC may provide service to users from another participating State that does not have an automated AIS system.

2. IMPLICATIONS FOR THE IMPLEMENTATION OF A NASC

2.1 To implement a NASC, a State initially needs an adequate level of expertise, with full knowledge of automated services, and the economic resources to cover all the expenses involved in the development of the project.

2.2 The level of responsibility assumed by a NASC is that of an organization charged with storing, processing and distributing the information required for air navigation in the States of the area served.

2.3 The NASC shall be capable of maintaining its equipment in optimum working conditions, with the necessary redundancy to achieve the highest level of safety.

2.4 It shall have a permanent training program and sufficient human resources in all the areas required for the operation of the automated system, mainly system analysts, AIS specialists, programmers, digital equipment operators, specialized technicians to maintain and repair the computers, and other support personnel. The costs of the human resources shall depend on the economic conditions of each State.

3. NASC ADMINISTRATIVE REQUIREMENTS

- a) State Civil Aviation Authorities must formally advise ICAO that they are in a position to assume the responsibilities and functions inherent to a NASC. The official path and the appropriate mechanism to formalize this offering shall be established by the ICAO NACC and SAM Regional Offices;
- b) The State Civil Aviation Authorities should establish a specific organization to manage the activities related to the implementation, operation and maintenance of the system, in order to ensure full compliance with the standards recognized by ICAO; and

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- c) In addition to other activities, the State Civil Aviation Authority responsible for the management of the system shall coordinate or establish agreements with the authorities of the States concerned.

4. NASC OPERATIONAL REQUIREMENTS

- a) Continuous operation, 24 hours a day, with availability of the appropriate technicians and equipment;
- b) The programs shall have the necessary safety levels to protect the stored information and the services provided;
- c) The system must be capable of connecting to terminals and other networks of interests to the AIS service;
- d) The system must be capable of automatically processing all NOTAMs sent by a national NOF to comply with the requirements of its area of service in an accurate and efficient manner;
- e) It must be capable of supporting simultaneous communications with users, with no response delays;
- f) The system must support the access method required by the user, including AFTN and terminals;
- g) The system must be capable of providing a response within a maximum of 60 seconds;
- h) The system must be capable of generating statistics from the processed information, based on Decision 4/9 of the AIS Subgroup, which will be sent to the Regional Offices in January of each year;
- i) Operators must have followed the AIS Specialist Course (AIS 021-CAR/SAM) and know about NOTAM standards and processing, as well as of NASC operations;
- j) The NASC shall be capable of solving operational problems, including the existence of the necessary materials and equipment to maintain and improve the operation of the system.

5. TECHNICAL REQUIREMENTS

5.1 Basic equipment configuration of a NASC

5.1.1 Minimum configuration of an application server:

- a) Central Process Unit with linear multiprocessing capability

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- b) At least two activated processors, each of 100 Mhz.
 - c) Hard disk: 2GB
 - d) SVGA color monitor
 - e) Diskette drive: 3 1/2 inches (144 Mb.)
 - f) CD ROM Unit
 - g) Backup unit: 150 Mb. (tape or disk).
 - h) RAM memory: 64 MB.
 - i) Operating system with graphic environment (UNIX, WINDOWS 95 or equivalent)
 - j) UPS capable of keeping the equipment in operation for 30 minutes
- AMOUNT: 2 servers (one for backup) or 1 server (with hard discs backup).

5.1.2 Minimum configuration of a workstation:

- a) Central Process Unit: 100 MHz. processor
- b) Hard disk: 1 GB
- c) SVGA color monitor
- d) Diskette drive: 3 1/2 inches (144 Mb)
- e) CD ROM unit
- f) Backup unit: 100 Mb (tape or disk)

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- g) RAM memory: 32 Mb
- h) Operating system with graphic environment (UNIX, WINDOWS 95 or equivalent)
- i) UPS capable of keeping the equipment in operation for 15 minutes.

AMOUNT: Depends on the NASc data volume

Note: Depending upon the requirements of each State, it could be necessary to purchase servers and work stations or only work stations.

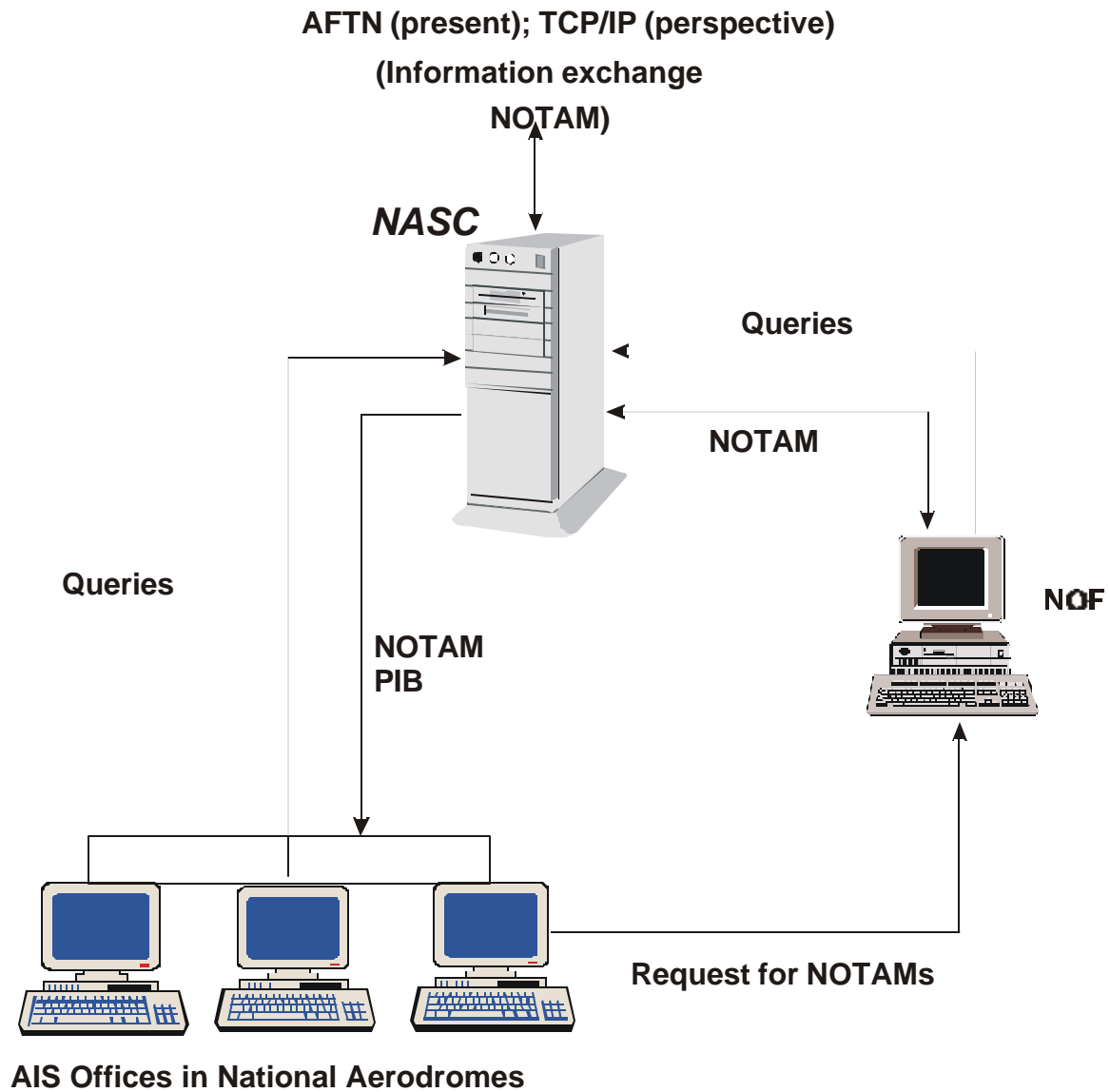
5.2 Access to the AFTN network

5.2.1 Each NASc shall define its particular technical requirements (Hardware/Software) according the possibilities of the States, but the access to the AFTN network for the incoming NOTAM is a compulsory condition.

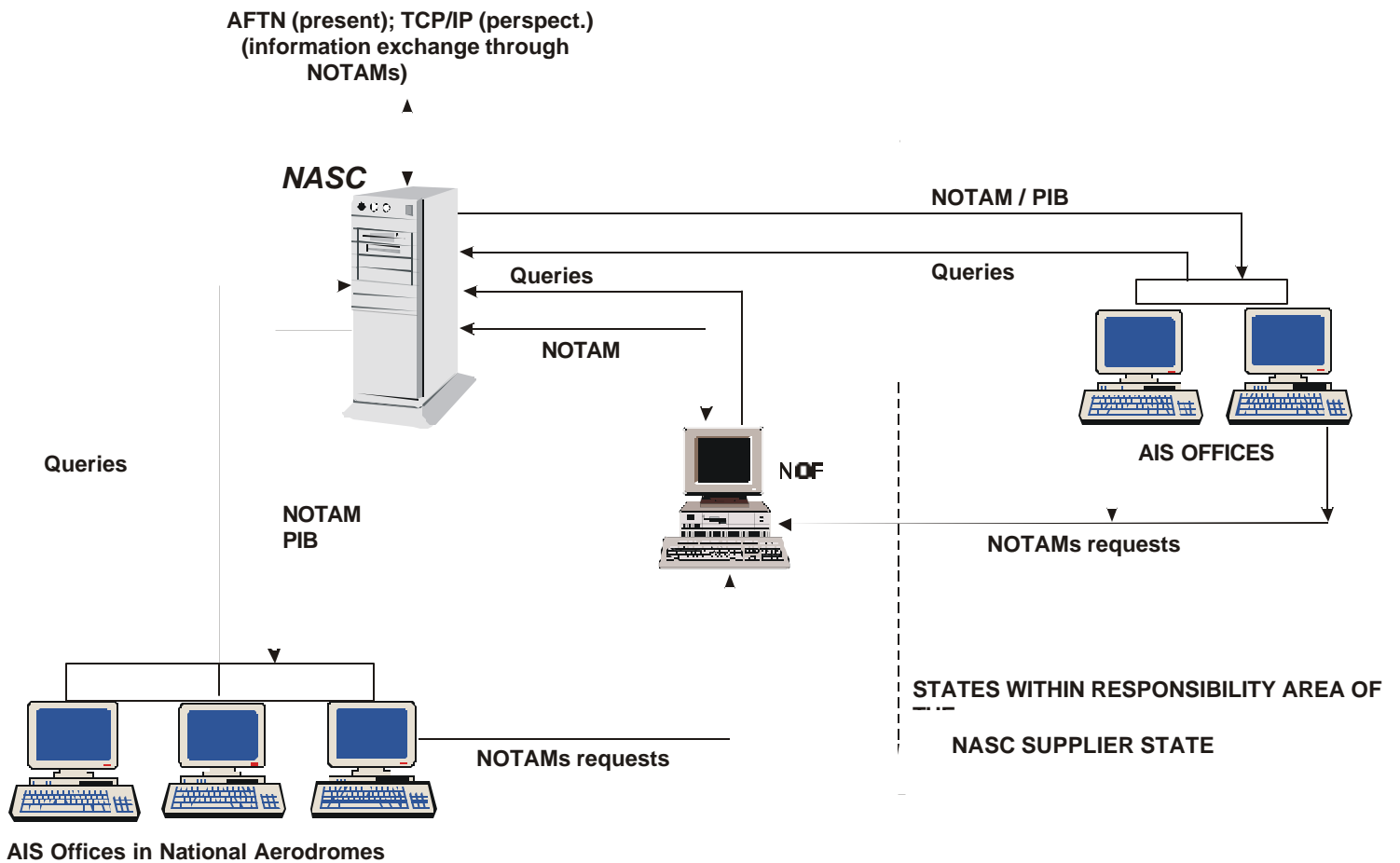
ANNEX 4

BASIC CONFIGURATIONS NEEDED TO COVER THE CONCEPT OF THE INTEGRATED AUTOMATED AIS SYSTEM FOR THE CAR/SAM REGIONS

**BASIC CONFIGURATION OF AN AUTOMATED AIS SYSTEM
HAVING NATIONAL COVERAGE**

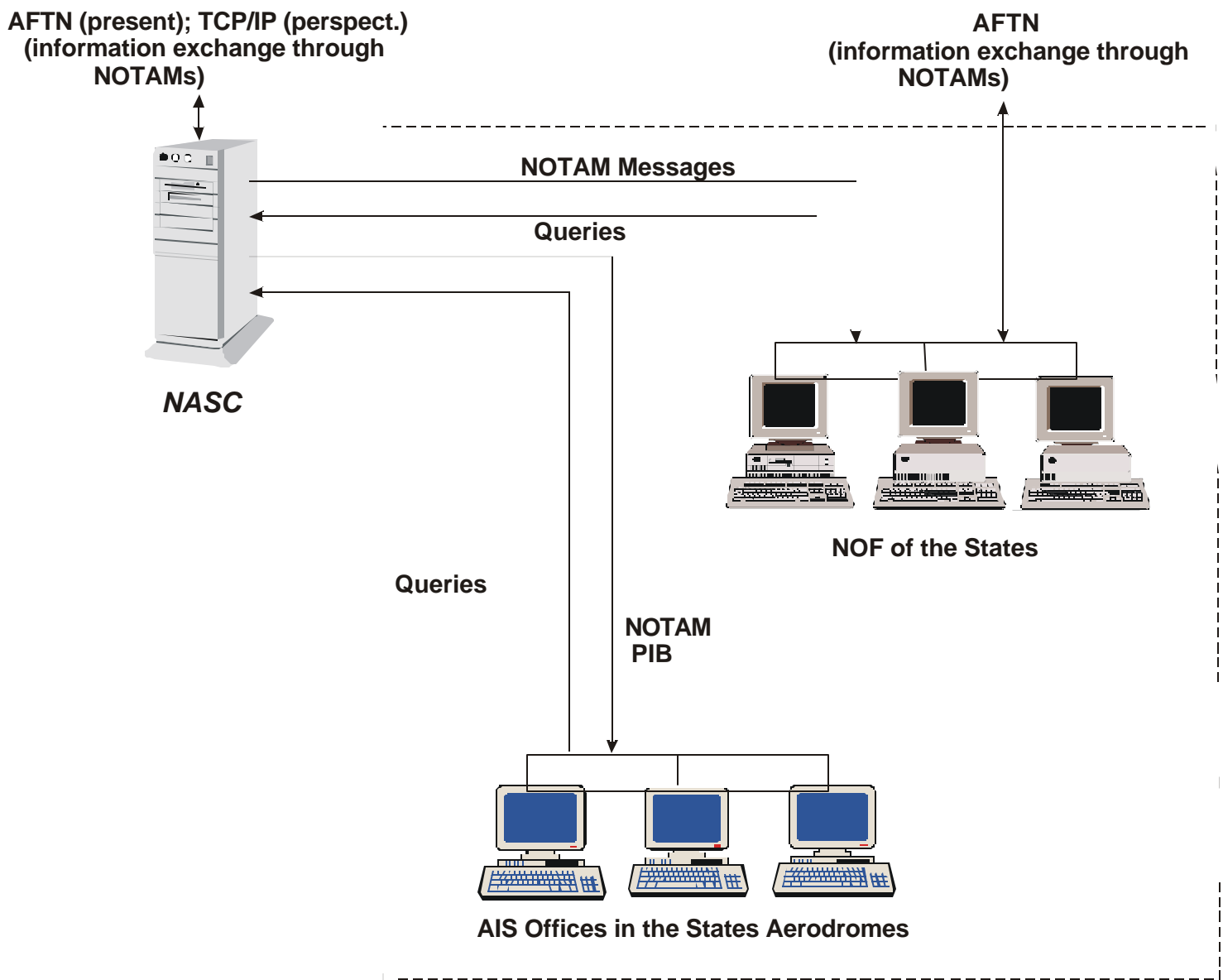


BASIC CONFIGURATION OF AN AUTOMATED AIS SYSTEM HAVING INTERNATIONAL COVERAGE



Note: This same configuration scheme is applicable to COCESNA as the AIS Automated Sub regional Center attending Central American States.

**BASIC CONFIGURATION OF NON-AUTOMATED AIS SYSTEMS
BEING SERVED BY OTHER NASC**



ANNEX 5
LETTER OF AGREEMENT FOR THE RECEIPT, PROCESSING AND DISTRIBUTION
OF NOTAMs AND VERIFICATION LISTS
BETWEEN THE _____ NASC AND THE _____ NOF

This Letter of Agreement describes the mechanisms for the receipt, processing and distribution of NOTAMs and verification lists of the FIR _____ + _____ (other FIRs if this are required), and the NASC _____ and the NOF _____.

This Agreement between these Organizations is effective on DD/MM/YY.

I. SCOPE

1. Annex 15, Aeronautical Information of the International Civil Aviation Organization (ICAO) defines the standards and recommended practices for the issuance and distribution of the integrated aeronautical information package, which includes NOTAMs.
2. According to the 1944 Convention of the International Civil Aviation Organization (ICAO), each contracting State undertakes to cooperate in achieving the highest possible level of uniformity in terms of organization, regulations, standards, recommended practices and international procedures for dealing with the publication and transmission of NOTAMs.
3. ICAO Annex 15 stipulates that a contracting State that is not automated may come to an understanding with another State for the provision of NASC services.

II. OPERATIONAL PROCEDURES

1. The _____ NOF shall transmit the NOTAMs and verification lists to the _____ NASC, using the format described in Annex 15, Doc. 8126, Aeronautical Information Service Manual and Common Operating Procedures Manual for the CAR/SAM Regions Integrated Automated AIS System (COPM CAR/SAM).
2. El _____ NASC shall verify the NOTAMs and verification lists of the _____ NOFs. The NOTAMs and verification lists shall be corrected, stored and distributed to other NASC/NOFs, as agreed. Incorrect NOTAMs and verification lists must be corrected whenever possible.
3. If correction is not possible, the NOTAMs and verification lists shall be returned to the originating NOF.
4. In case of failure of the _____ NASC and in order to prevent an interruption in the distribution of NOTAMs and verification lists, the _____ NOF shall transmit the NOTAMs and verification list to other NASC previously selected as backup by bilateral agreement.

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5. The _____ NASC shall act in favor of the _____ NOF to supply direct information of importance for operations, providing a trigger NOTAM (by State) for AIP Amendments or Supplements, which should be included in a pre-flight information bulletin.
6. Request procedures to the _____ NASC shall be published in the Aeronautical Information Circular of the signatory States of this Letter.

III. AREA OF RESPONSIBILITY

1. The _____ NASC shall provide the _____ NOF with NOTAMs and verification lists of the following Flight Information Regions and airports:

FIR

AIRPORTS

_____	_____
_____	_____
_____	_____

IV. SERVICE AREA

1. The NOTAMs and verification list of the _____ NOF shall be distributed to the following NOF/NASC:

_____	_____	_____
_____	_____	_____
_____	_____	_____

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V. COMMUNICATIONS

1. The primary means of communication is the AFTN.
2. The following AFTN addresses and/or faxes, email, FTP and/or telephone numbers shall be used for communication purposes:

	AFTN	FAX	E-MAIL	FTP	TELEPHONE
NASC A					
NOF					
Backup NASC					

VI. BACKUP PROCEDURES

1. In the event of equipment failure, the _____ NOF shall inform the _____ NASC the communication means through which the information will be exchanged and vice versa.
2. The _____ NASC and the _____ NOF shall have the capacity of reestablishing functionality between the first hour.
3. In case of link failure with the _____ NASC, the NOTAMs and verification lists shall be transmitted directly by the _____ NOF to the _____ backup NASC by the AFTN, and if the network is not operating, by the means of communication agreed upon.

Note: The backup NASC should be previously defined by the NASC and/or NOF involved in the Letter of Agreement.

4. The responsibility of updating data processed during the failure period will correspond to the principal NASC and should be done after being reestablished.

VII. AMENDMENT, CANCELLATION

1. This Letter shall not be modified nor cancelled without the total agreement of both parts.

On behalf of _____ NASC

On behalf of _____ NOF

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ANNEX 6
LETTER OF AGREEMENT FOR THE PROCESSING AND DISTRIBUTION OF NOTAMS
BETWEEN NASC A AND NASC B
IN CASE OF SYSTEM FAILURE

This Letter of Agreement describes the practices of processing and distribution of NOTAMs between NASC A and NASC B, in case of failure of the systems.

This Agreement between these Organizations is effective on DD/MM/YY.

I. SCOPE

1. Annex 15, Aeronautical Information Services, of the International Civil Aviation Organization (ICAO), defines the standards and recommended practices for the issuance and distribution of the integrated aeronautical information package that includes NOTAMs.
2. According to the 1944 Convention of the International Civil Aviation Organization (ICAO), each contracting State undertakes to cooperate in achieving the highest possible level of uniformity in terms of organization, regulations, standards, recommended practices and international procedures for dealing with the publication and transmission of NOTAMs.

II. OPERATIONAL PROCEDURES

1. To activate backup procedures, NASC A shall transmit the information to NASC B as soon as it is possible, using the most expedite means of communication.
2. NASC B, which is responsible of assuming backup functions of NASC A, shall process and distribute all NOTAMs of the NASC issuing the information and of the NOF associated to this NASC, until the systems reestablishment is notified.
3. While NASC B, which is operating as backup, shall send NASC A, undergoing a failure, all NOTAM information on those FIR and aerodromes considered of operational interest, indicated in this Letter of Agreement, the same as the associated NOF.
4. NASC A shall notify NASC B its reestablishment as soon as possible. Backup NASC B shall then update NASC A information lost during its failure.
5. In case of link failure between NASC A and NASC B, the signatory parties shall specify the communication means through which they will distribute the information.

III. AREA OF RESPONSIBILITY

1. NASC B is in charge of processing, storing and transmitting the NOTAM information of the following FIR and airports of NASC A.

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FIR

AIRPORTS

2. NASC B is in charge also of processing, storing and transmitting NOTAM information of the following FIR and airport of the _____ and _____ NOF (if required) associated to NASC A.

FIR

AIRPORTS

3. NASC B shall send through the most appropriate means to NASC A and _____ and _____ associated NOF (if required) the NOTAM information of the following FIR and priority airports to guarantee the Pre-flight Information Service:

FIR

AIRPORTS

IV. COMMUNICATIONS

1. The primary communication means shall be the AFTN.
2. The following AFTN addresses and/or faxes, email, FTP and/or telephone numbers shall be used for communication purposes:

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	AFTN	FAX	E-MAIL	FTP	TELEPHONE
NASC A					
NOF					
Backup NASC					

V. AMENDMENT, CANCELLATION

1. This Letter shall not be modified nor cancelled without the total agreement of both parties.

On behalf of NASC A _____

On behalf of NASC B _____