



International Civil Aviation Organization

AMHS WORKSHOP

# REGIONAL WORKSHOP ON AMHS

## ATSMHS Specifications

(Dakar, 28-29 May 2013)

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# Outline

- ✈ **Overview**
- ✈ **ATS message user agent specification**
- ✈ **ATS message server specification**
- ✈ **Parameters**
- ✈ **Subsetting rules**



# Overview of the specification

For the support of the basic ATSMHS, an ATS message user agent complies with:

- ✈ a) **the UA profile specified in 3.1.2, based on profile AMH21 as specified in ISO/IEC ISP 12062-2:1995 (1st or later Edition) and supporting the requirements of Repertoire Group A, for messages including a body part whose type is an extended body part type of general-text-body-part type; and**
  
- ✈ **b) the provisions related to traffic logging as specified in 3.1.3.**



# Overview of the specification (cnt'd)

For the support of the **extended ATSMHS**, an **ATS message user agent additionally complies with:**

- a) the **specifications in 3.1.4.2** which mandate the support of the **IPM BC FG as specified in ISO/IEC ISP 12062-2:2003** (3rd Edition) and bilaterally-defined body parts, in **addition to the message content profile specification defined for the basic ATSMHS;**
- b) **the UA profile specified in 3.1.4.3**, based on one of the following profiles, and depending on the inclusion of an MS in the attachment ATS message server and the application-contexts supported by the attachment ATS message server:
  - 1) AMH23 (MTS access – P3) as specified in ISO/IEC ISP 12062-4:2003;
  - 2) AMH25 (MTS 94 access – P3) as specified in ISO/IEC ISP 12062-4:2003;
  - 3) AMH24 (enhanced MS access – P7) as specified in ISO/IEC ISP 12062-5:2003; or
  - 4) AMH26 (enhanced MS 94 access – P7) as specified in ISO/IEC ISP 12062-6:2003;
- c) **the DUA profile specified in 3.1.5.**

# UA profile specification in support of the basic ATSMHS



- ➔ In the basic ATSMHS, there is no profile specification for the ATS message user agent at the level of the access protocol, i.e. at the level of the communication with the associated ATS message server, as this is considered to be a matter of policy local to each AMHS management domain.
- ➔ If it is desired to use standard ISO/IEC 10021 protocols for this communication, then profile AMH23 (for P3) or profile AMH24 (for P7) as specified in ISO/IEC ISP 12062-4:1995 (or a later edition) or ISO/IEC ISP 12062-5:1995 (or a later edition), respectively, may be implemented.
- ➔ It is intended that the extended ATSMHS will eventually be supported by all ATSMHS users, so that the basic ATSMHS will no longer be required. However, the latter may be maintained for transition purposes as long as required.

# UA profile specification in support of the basic ATSMHS



## Message content profile specification

- ✈ In an ATS message user agent, the content of the IPMs conveyed in support of the basic ATSMHS shall conform to the basic requirements of profile AMH21 as specified in Clause A.1 of ISO/IEC ISP 12062-2:1995 (or a later edition), Annex A and to the additional requirements described in Table 3-1 which are specific to the basic ATSMHS.
- ✈ Table 3-1 specifies the additional requirements in the form of a PRL expressing restrictions to a set of rows of the profile AMH21, which are referred to using their reference in ISO/IEC ISP 12062-2. The specified requirements imply the use of interpersonal messaging as specified in 1988 version or later.

# Message content profile specification: Additional requirements



Ref	Element	Origination		Reception		Basic ATSMHS support	Doc 9880 reference	ISP 12062-2 notes/ references
		Base	ISP	Base	ISP			
Part 1: AMH21/A.1.3 IPM body								
1	ia5-text	O	O	O	M	O/M		
1.2	data	M	M	M	M	M/M	3.3.3	
Part 2: AMH21/A.1.3.1 Extended body part support								
1	ia5-text-body-part	O	O	O	M	O/M		see AMH21/A.1.3/1
11	general-text-body-part	O	M	O	M	M/M	3.3.3 and Part IV, Table 3-1	
Part 3: AMH21/A.1.5 Common data types								
1	RecipientSpecifier							
1.2	notification-requests	O	O	M	M	M/M	3.3.6	
1.2.1	m	O	O	O	O	M/M	3.3.6	
1.2.2	nm	O	O	M	M	M/M		
2	ORDescriptor							
2.1	formal-name	M	M1	M	M1	M1/M1	3.3.2	
Part 4: AMH21/A.1.3.2 General text repertoire support								
1	Basic (ISO 646) (repertoire identifiers {1, 6})	M	M	M	M	M/M		Repertoire Group A
2	Basic-1 (ISO 8859-1) (repertoire identifiers {1, 6, 100})	O	M	O	M	O/O		Repertoire Group B
M = mandatory support M1 = mandatory O/R name minimal support O = optional support								

# UA profile specification in support of the basic ATSMHS



## **Additional requirements for MT elements of service at an ATS message user agent**

- ✈ For the support of the basic ATSMHS, the priority element of an AMHS message generated at an ATS message user agent shall take the value “urgent” if, and only if, the value of the priority indicator in the ATS message priority as specified in 3.3.3.7.2 is “SS”.



# UA profile specification in support of the basic



## **ATSMHS Additional requirements for MT elements of service at an ATS message user agent**

- ➔ For the support of the basic ATSMHS, the priority element of an AMHS message generated at an ATS message user agent shall take the value “urgent” only if it is ascertained that the MF-addresses identifying the message recipients do not specify a DL-name. Failure to meet this dynamic behaviour requirement may result in the absence of receipt-notification, even if the message has been properly delivered to the DL.
- ➔ In the basic ATSMHS, the method for determining that an MF-address does not specify a DL-name is considered a local matter

# UA profile specification in support of the basic



## Interpretation of UTC time values

- ✈ When generating and interpreting UTC time values, an ATS message user agent shall associate dates up to **ten years prior to the current time** and **up to forty years ahead of the current time** with the corresponding century, with the interpretation of the remaining 49 years being implementation dependent.
- ✈ This requirement is aligned with the convention used in ISO 10021-4:1997/Cor. 1:1998 and in ISO 10021-7:1997/Cor. 1:1998 for equivalent purposes.

# Additional UA profile specification in support of the extended ATSMHS



## Message content profile specification

- ➔ An ATS message user agent supporting the extended ATSMHS also needs to maintain the basic ATSMHS capability. Therefore the requirements in this section are in addition to those in 3.1.2
- ➔ An ATS message user agent supporting the extended ATSMHS shall conform to:
  - ➔ a) the requirements of 3.1.2.2;
  - ➔ b) the requirements additional to AMH21, described in Clause A.2.5 of ISO/IEC ISP 12062-2:2003 for the support of the IPM BC FG; and
  - ➔ c) the additional requirements described in Table 3-2.

# Additional UA profile specification in support of the extended ATSMHS



## Message content profile specification

- ➔ An ATS message user agent supporting the extended ATSMHS also needs to maintain the basic ATSMHS capability. Therefore the requirements in this section are in addition to those in 3.1.2
- ➔ An ATS message user agent supporting the extended ATSMHS shall conform to:
  - ➔ a) the requirements of 3.1.2.2;
  - ➔ b) the requirements additional to AMH21, described in Clause A.2.5 of ISO/IEC ISP 12062-2:2003 for the support of the IPM BC FG; and
  - ➔ c) the additional requirements described in Table 3-2.

# Requirements specific to the extended ATSMHS in addition to the basic ATSMHS



Ref	Element	Origination		Reception		Extended ATSMHS support	Doc 9880 reference	ISP 12062-2 notes/ references
		Base	ISP	Base	ISP			
Part 1: AMH21/A.1.2 IPM heading fields								
17	extensions	M	M	M	M	M/M	3.3.4.1	
17.6	authorization-time	O	O	O	O	M/M	3.3.4.2	
17.12	originators-reference	O	O	O	O	M/M	3.3.4.3	
17.13	precedence-policy-identifier	O	O	O	O	M/M	3.3.4.5, 3.3.4.6 and 3.3.4.7	
Part 2: AMH21/A.1.3 IPM body								
10	bilaterally-defined	O	O	O	M	O/M	3.3.5	
Part 3: AMH21/A.1.3.1 Extended body part support								
9	bilaterally-defined-body-part	O	O	O	O	O/M	3.3.5.1	
12	file-transfer-body-part	O	O	O	O	M/M	3.3.5.1 and 3.3.5.2	AMH21/ A.1.3.3
Part 4: AMH21/A.1.5 common data types								
1	RecipientSpecifier							
1.4	recipient-extensions	O	M	O	M	M/M	3.3.4.1	
1.4.3	precedence	O	O	O	O	M/M	3.3.4.8	
M = mandatory support M1 = mandatory O/R name minimal support O = optional support								

# Requirements for MT elements of service at an ATS message user agent



## Security requirements

- ➔ For the support of security in the context of the extended ATSMHS, an ATS message user agent shall make use of the ECDSA as specified in Part IV for the signature algorithm.
- ➔ For the generation of a secure AMHS message in compliance with the AMHS security policy defined in 2.2.3.2, an ATS message user agent supporting the extended ATSMHS shall include in the per-recipient-extensions of the message envelope, for each intended recipient, a message token:
  - ➔ a) generated as specified in Table 3-3; and
  - ➔ b) with a criticality field of the extension element taking the abstract-value “non-critical”.

# Requirements for MT elements of service at an ATS message user agent



## Security requirements

- ➔ For the support of the extended ATSMHS, an ATS message user agent shall support one of the following, depending on the inclusion of an Message Store (MS) in the attachment ATS message server and the application-contexts supported by the attachment ATS message server:
- ➔ a) a profile based on profile AMH23 (MTS access – P3), as specified in ISO/IEC ISP 12062-4:2003,
- ➔ b) a profile based on profile AMH25 (MTS 94 access – P3), as specified in ISO/IEC ISP 12062-4:2003,
- ➔ c) a profile based on profile AMH24 (enhanced MS access – P7) as specified in ISO/IEC ISP 12062-5:2003,
- ➔ d) a profile based on profile AMH26 (enhanced MS 94 access – P7) as specified in ISO/IEC ISP 12062-6:2003

# Requirements for MT elements of service at an ATS message user agent



## Security requirements

- ✈ In a secure AMHS message, the token-type-identifier element shall take the abstract-value “asymmetric-token”.
- ✈ In a secure AMHS message, each asymmetric-token element shall be computed as specified in ISO/IEC 10021-4
- ✈ In a secure AMHS message, the signature-algorithm-identifier element of each message-token shall contain the algorithm OID value corresponding to the ATN signature scheme (“ecdsa-with-SHA1”), as specified in Part IV, and NULL parameters.
- ✈ The name element of each message-token shall contain either the MF-address or the directory name of the intended recipient.
- ✈ The time element of each message-token shall contain the time at which the message was generated.



# Requirements for MT elements of service at an ATS message user agent



## Security requirements

The content-integrity-check extension element of each message-token shall contain:

- ✈ a) a digital signature applied to the concatenation of the OID value corresponding to the ATN signature scheme and the message-content; and
- ✈ b) a criticality field of the extension element taking the abstract-value “non-critical”..
- ✈ Upon reception of an AMHS message containing security elements, an ATS message user agent supporting the extended ATSMHS shall make use of a valid originator’s certificate to decode and verify the contained security elements by application of the ATN AVP specified in Part IV.

# Requirements for MT elements of service at an ATS message user agent



**Table 3-3. Use of security elements (message token) in the extended ATSMHS**

Ref	Element	Static support requirements			Dynamic action upon generation of a secure message	ATN reference
		Base	ISP (with support of SEC S0 FG)	Extended ATSMHS		
Part 1: AMH12/A.1.9/4 Extension data types (message token)						
4	MessageToken	O	M	M	G	
4.1	token-type-identifier	M	M	M	G	3.1.4.3.6
4.2	asymmetric-token	M	M	M	G	3.1.4.3.7
4.2.1	signature-algorithm-identifier	M	M	M	G	3.1.4.3.8
4.2.2	Name	M	M	M	G	3.1.4.3.9
4.2.3	Time	M	M	M	G	3.1.4.3.10
4.2.4	signed-data	O	M	M	G	
4.2.4.1	content-confidentiality-algorithm-identifier	O	C1	O	O	see Note
4.2.4.2	content-integrity-check	O	M	M	G	3.1.4.3.11
4.2.4.3	message-security-label	O	O	O	O	see Note
4.2.4.4	proof-of-delivery-request	O	O	O	O	see Note
4.2.4.5	message-sequence-number	O	O	O	O	see Note
4.2.5	encryption-algorithm-identifier	O	O	O	O	see Note
4.2.6	encrypted-data	O	O	O	O	see Note
4.2.6.1	content-confidentiality-key	O	O	O	O	see Note
4.2.6.2	content-integrity-check	M	M	M	O	see Note
4.2.6.3	message-security-label	O	O	O	O	see Note
4.2.6.4	content-integrity-key	O	O	O	O	see Note
4.2.6.5	message-sequence-number	O	O	O	O	see Note
C1 = if S0C then M else O G = generated M = mandatory support O = optional support						

# ATS message user agent DUA profile



- For the support of the extended ATSMHS, an ATS message user agent shall include a DUA:
  - a) supporting the DAP profile specified in Part IV; and
  - b) supporting the DUA object classes and attribute types specified in Part IV.
- The communication and interworking between the message handling service UA and the DUA included in an ATS message user agent are considered to be a local implementation matter, and as such they are not specified in this manual.



# ATS MESSAGE SERVER SPECIFICATION



# ATS MESSAGE SERVER SPECIFICATION

## Overview of the specification

For the support of the basic ATSMHS, an ATS message server shall comply with:

- a) the profile specification expressed in 3.2.2; and
- b) the provisions related to traffic logging as specified in 3.2.3



# ATS MESSAGE SERVER SPECIFICATION

## Overview of the specification

For the support of the extended ATSMHS, an ATS message server shall additionally comply with:

a) one or several of the MTS-access and/or MS-access profiles specified in 3.2.4, based on the following profiles, depending on the inclusion of an MS in the ATS message server, and on the application-contexts supported by the ATS message server:

- 1) AMH12 (MTS access – P3) as specified in ISO/IEC ISP 10611-4:2003;
- 2) AMH14 (MTS 94 access – P3) as specified in ISO/IEC ISP 10611-4:2003;
- 3) AMH13 (enhanced MS access – P7) as specified in ISO/IEC ISP 10611-5:2003; and
- 4) AMH15 (enhanced MS 94 access – P7) as specified in ISO/IEC ISP 10611-6:2003.

b) the DUA profile specified in 3.2.5.



# ATS MESSAGE SERVER SPECIFICATION

## Profile specification in support of the basic ATSMHS

### P1 and upper layer

- In an ATS message server, the message transfer (P1) implementation of the IPM service in support of the basic ATSMHS shall conform to:
  - a) the basic requirements of profile AMH22 as specified in Clause B.1 of ISO/IEC ISP 12062-3:1995, Annex B; and
  - b) the additional requirements described in Clause B.2.2 for the support of the IPM DL FG.
- The specification in 3.2.2.1 implicitly places the following requirements on the P1 implementation:
  - a) the basic requirements of profile AMH11 specified for common messaging in Annex A.1 of ISO/IEC ISP 10611-3:1994 implying mandatory support of profile AMH111 implementing the MTS-transfer application context; and
  - b) the additional requirements specified for the common messaging DL FG in Annex A.2.2 of ISO/IEC ISP 10611-3:1994.



# ATS MESSAGE SERVER SPECIFICATION

## Profile specification in support of the basic ATSMHS

### Use of the transport service

- ✈ The basic ATSMHS shall make use of the connection mode transport service in either or both of the following configurations:
  - a) provided by the ATN ICS as generally specified in Part III with the additional specifications in 3.2.2.2.3 to 3.2.2.2.6; or
  - b) provided by the IPS as generally specified Doc 9896, with the additional specifications in 3.2.2.2.7, 3.2.2.2.8 and 3.2.2.2.9. The specification in 3.2.2.1 implicitly places the following requirements on the P1 implementation:
- ✈ For the support of the basic ATSMHS, the use of the expedited data option at the establishment of the transport connection is a local matter which may depend on the implemented application-context





# ATS MESSAGE SERVER SPECIFICATION

## Profile specification in support of the basic ATSMHS

### Interpretation of UTC time values

When generating and interpreting UTC time values, an ATS message server shall associate dates up to ten years prior to the current time and up to forty years ahead of the current time with the corresponding century, with the interpretation of the remaining forty-nine years being implementation dependent.

This requirement is aligned with the convention used in ISO 10021-4:1997/Cor. 1:1998 for equivalent purposes.



# ATS MESSAGE SERVER SPECIFICATION

## Traffic logging requirements at an ATS message server

The ATS message server shall perform a long-term logging, for a period of at least thirty days, of the actions taken with respect to every message received at the ATS message server, whether from an ATS message user agent or from another ATS message server, and to every report received or generated at the ATS message server.

For the long-term logging of information related to a message submitted to or received by an ATS message server, the following parameters related to the message shall be logged:

- a) message-identifier;
- b) priority;
- c) content-type;



# ATS MESSAGE SERVER SPECIFICATION

## Traffic logging requirements at an ATS message server

- d) originator-name;
- e) recipient-name elements on responsibility list, which identify recipients whose per-Recipient-Indicator responsibility bit has the abstract-value “responsible”;
- f) message-content-size;
- g) last element of the trace-information (if any); Part II. Ground-Ground Applications — ATSMHS Chapter 3. ATSMHS Specification 3-11
- h) arrival-time or submission-time;
- i) transfer destination (if any);



# ATS MESSAGE SERVER SPECIFICATION

## Traffic logging requirements at an ATS message server

- j) transfer time (if any);
- k) this-recipient-name (if message delivery is performed by the ATS message server);
- l) delivery-time (if any);
- m) delivery and/or non-delivery reports generated (if any); and
- n) event date/time.



# ATS MESSAGE SERVER SPECIFICATION

## Traffic logging requirements at an ATS message server

- j) transfer time (if any);
- k) this-recipient-name (if message delivery is performed by the ATS message server);
- l) delivery-time (if any);
- m) delivery and/or non-delivery reports generated (if any); and
- n) event date/time.



# ATS MESSAGE SERVER SPECIFICATION

## Traffic logging requirements at an ATS message server

For the long-term logging of information related to a report generated or received by an ATS message server, the following parameters related to the report shall be logged:

- a) report-identifier;
- b) subject-identifier;
- c) actual-recipient-name elements;
- d) report-type elements;
- e) report-destination-name;



# ATS MESSAGE SERVER SPECIFICATION

## Traffic logging requirements at an ATS message server

- f) last element of the trace-information (if any);
- g) arrival-time in the ATS message server or generation time;
- h) transfer destination (if any);
- i) transfer time (if any);
- j) OR-name of the report recipient (if report delivery is performed by the ATS message server);
- k) delivery-time (if any); and
- l) event date/time



# ATS MESSAGE SERVER SPECIFICATION

## Additional profile specification in support of the extended ATSMHS

### *Additional requirements for the P1 profile*

For the support of the extended ATSMHS, an ATS message server shall conform to the additional requirements described in Clause A.2.8 of ISO/IEC ISP 10611-3:1994 (or a later edition), for the support by an MTA of the DIR FG.

For the support of the extended ATSMHS, an ATS message server shall support one or two profiles based on profiles AMH12 and/or AMH14 as specified in ISO/IEC ISP 10611-4:2003, conforming to:

- a) the basic requirements of profiles AMH12 and/or AMH14, as specified in Clause A.1 of the referenced ISP for an MTA;
- b) the additional requirements described in Clause A.2.7 of the referenced ISP for an MTA, for the support by an MTA of the SEC





# ATS MESSAGE SERVER SPECIFICATION

**Additional profile specification in support of the extended ATSMHS**

***Additional requirements for the P1 profile***

**For the support of the extended ATSMHS, if it includes one or several MS, an ATS message server shall support one or two profiles based on profile AMH13 as specified in ISO/IEC ISP 10611-5:2003 and/or profile AMH15 as specified in ISO/IEC ISP 10611-6:2003 conforming to:**

- a) the basic requirements of AMH13 and/or AMH15, as specified in Clause A.1 of the referenced ISPs for an MS;**



# ATS MESSAGE SERVER SPECIFICATION

**Additional profile specification in support of the extended  
ATSMHS**

***Additional requirements for the P1 profile***

- b) the additional requirements described in Clause A.2.5 of the referenced ISPs for the support by an MS of the SEC FG, implementing Security-Class S0; and**
  
- c) the additional requirements described in Clause A.2.6 of the referenced ISPs for the support by an MS of the DIR FG.**



# ATS MESSAGE SERVER SPECIFICATION

## ATS Message server DUA

For the support of the extended ATSMHS, an ATS message server shall include a DUA:

- a) supporting the DAP profile specified in Part IV; and
- b) supporting the DUA object classes and attribute types specified in Part IV.

The communication and interworking between the MTA and the DUA included in an ATS message server are considered to be a local implementation matter, and as such they are not specified in this manual.



# PARAMETERS

## General characteristics

The parameters used upon creation of an IPM depend upon:

- a) the level of service ( basic or extended) supported by the originator;
- b) the nature of data (text or binary) which is intended to be exchanged; and
- c) the level of service (basic or extended) supported by the intended recipients.

A direct AMHS user may determine from the information stored in the AMHS directory what level of service

is supported by the intended recipients of the message.



# PARAMETERS

## AMHS addresses

In the AMHS, the O/R address of a direct AMHS user belonging to an AMHS management domain shall be an MF-address.

# PARAMETERS

## Text

IA-5-text body or body parts shall be used only for IPMs in support of textual data exchange. The body of an IPM shall comprise a single body part carrying IA-5 characters and structured as depicted in Table 3-4.

Ref	Element	Basic ATSMHS support		Value	IA-5 encoding
		Orig	Rec		
1	ATS-message-Header	M	M	see 3.3.3.3	
1.1	start-of-heading	M	M	(SOH)	(0/1)
1.2	ATS-message-Priority	M	M		
1.2.1	priority-prompt	M	M	PRI:(single space)	(5/0)(5/2)(4/9)(3/10)(2/0)
1.2.2	priority-indicator	M	M	see 3.3.3.3.2	see 3.3.3.7.2
1.2.3	priority-separator	M	M	(CR)(LF)	(0/13)(0/10)
1.3	ATS-message-Filing-Time	M	M		
1.3.1	filing-time-prompt	M	M	FT:(single space)	(4/6)(5/4)(3/10)(2/0)
1.3.2	filing-time	M	M	see 3.3.3.3.3	see 3.3.3.7.3
1.3.3	filing-time-separator	M	M	(CR)(LF)	(0/13)(0/10)
1.4	ATS-message-Optional-Heading-Info	O	M		
1.4.1	OHI-prompt	M	M	OHI:(single space)	(4/15)(4/8)(4/9)(3/10)(2/0)
1.4.2	optional-heading-information	M	M	see 3.3.3.3.4	see 3.3.3.7.4
1.4.3	OHI-separator	M	M	(CR)(LF)	(0/13)(0/10)
1.5	start-of-text	M	M	(STX)	(0/2)
2	ATS-message-Text	M	M	see 3.3.3.4	see 3.3.3.8
M = mandatory support O = optional support					



# PARAMETERS

## Text

### *ATS message header*

The ATS message header shall be generated by the originating user if:

- a) the originator supports only the basic ATSMHS; or
- b) at least one of the intended recipients of the message supports only the basic ATSMHS.

This requirement relates to the dynamic behaviour of the user upon origination.



# PARAMETERS

## Text

### *ATS message header*

#### *a) ATS message priority*

Each message shall be assigned to one of five priority groups which are designated by the priority indicators SS, DD, FF, GG and KK, and are contained in the priority-indicator element if the ATS message header is generated by the originating user.

#### *b) ATS message filing time*

Each message shall include a filing-time element, designated as a date-time group consisting of six numerical characters, the first two digits representing the date of the month and the last four digits the hours and minutes in UTC, if the ATS message header is generated by the originating user.





# PARAMETERS

## Text

### *ATS message header*

#### *c) ATS message optional heading information*

It shall be possible to associate optional heading information with each message, contained in the optional-heading-information element, if the ATS message header is generated by the originating user.

The value of the optional-heading-information element shall comprise a character string with a maximum length of either:

- 53 characters if the message priority differs from “SS”; or
- 48 characters if the message priority is “SS”.

The ATS-message-optional-heading-info shall be absent if the optional-heading-information is empty

# PARAMETERS



## Text

### *ATS message text*

***The ATS-message-text element shall be composed of IA-5 characters with no further restriction.***

# PARAMETERS



## Use of IPM elements in support of the extended ATSMHS

The following IPM heading fields and recipient extensions shall be generated by an originating extended ATSMHS user if all the intended recipients of the message support the extended ATSMHS:

- a) authorization-time;
- b) originators-reference;
- c) precedence-policy-identifier; and
- d) precedence.

# PARAMETERS



## Use of IPM elements in support of the extended ATSMHS

### *Authorization-time*

Each message generated by an originating extended ATSMHS user shall include an authorization-time IPM heading field, as specified in ISO/IEC 10021-7:2003, Section A.1.6, whose value will be equivalent to that of a filing time in the basic ATSMHS, if all the intended recipients of the message support the extended ATSMHS;

### *Originators-reference*



# PARAMETERS

## Use of IPM elements in support of the extended ATSMHS

### *Originators-reference*

It shall be possible to associate optional heading information with each message generated by an originating extended ATSMHS user, contained in the originators-reference IPM heading field, as specified in ISO/IEC 10021-7:2003, Section A.1.12, if all the intended recipients of the message support the extended ATSMHS.

The value of the optional heading information shall comprise a character string with a maximum length of either:

- a) 53 characters if the message priority differs from “SS”; or
- b) 48 characters if the message priority is “SS”

# PARAMETERS



## Use of IPM elements in support of the extended ATSMHS

### *Precedence-policy-identifier*

In support of the extended ATSMHS, a precedence policy, as defined in ISO/IEC 10021-7:2003, shall apply as follows:

- a) the only authorized values for the IPM precedence are those listed in the column “precedence value” of Table 3-5; and
- b) the mapping between the IPM precedence and the AFTN priority is as stated in Table 3-5.

# PARAMETERS



## Use of IPM elements in support of the extended ATSMHS *Precedence-policy-identifier*

**Table 3-5. Correspondence between IPM precedence and ATS message priority indicator**

<i>ATS message priority indicator</i>	<i>Precedence value (integer)</i>
SS	107
DD	71
FF	57
GG	28
KK	14

# PARAMETERS



## Use of IPM elements in support of the extended ATSMHS

### *Precedence-policy-identifier*

Each message generated by an originating extended ATSMHS user shall include a precedence-policy-identifier IPM heading field, as specified in ISO/IEC 10021-7:2003, Section A.1.13, if all the intended recipients of the message support the extended ATSMHS.

The precedence-policy-identifier IPM heading field shall have the object-identifier value {iso (1) identified-organisation (3) icao (27) atn-amhs (8) parameters (0) amhs-precedence-policy (0)}.



# PARAMETERS



## Use of IPM elements in support of the extended ATSMHS

### *Precedence*

Each recipient-specifier element in a message generated by an originating extended ATSMHS user shall include a recipient-extensions field in which the precedence recipient extension, as specified in ISO/IEC 10021-7:2003, Section A.2.2 is present and has one of the values specified in Table 3-5, if all the intended recipients of the message support the extended ATSMHS.

# PARAMETERS



## Binary data exchanges

The use of bilaterally-defined body parts for IPMs in support of binary data exchanges should be avoided.

File-transfer body parts shall be used only for IPMs in support of the data exchanges that contain any binary data.

For the support of file-transfer body parts, an ATS message user agent shall comply with the requirements of ISO/IEC ISP 12062-2:2003 (AMH21), Section A.1.3.3 (file transfer parameters). .

# PARAMETERS



## Notification requests

The notification-requests element in a Recipient Specifier in an IPM Heading shall take the abstract-value “rn” if, and only if, the value of the priority-indicator is “SS”, and the message is not an acknowledgement message as specified in Annex 10, Volume II, 4.4.10.1.6.1 and 4.4.15.6.

This provision places no constraint on its implementation, which takes place at the level of the user interface..

# PARAMETERS



## SUBSETTING RULES

Implementation of an ATS message UA or ATS message server claiming conformance with this manual for either the basic ATSMHS or extended ATSMHS shall support the ATSMHS FGs as shown in Table 3-6

**Table 3-6. Classification of ATSMHS FGs**

<i>FG</i>	<i>Status (basic service)</i>	<i>Status (extended service)</i>	<i>Associated predicate</i>
Basic ATSMHS	M	M	Basic
Use of file transfer body parts for binary data exchange	O	M	FTBP
Use of IPM heading extensions	O	M	IHE
AMHS security	O	M	SEC
Use of directory	O	M	DIR
M = mandatory support O = optional support			

# PARAMETERS

## SUBSETTING RULES

Implementation of an ATS message UA or ATS message server claiming conformance with this manual for a subset of the extended ATSMHS shall support one configuration among those defined in Table 3-

7.

<i>List of configurations: ATSMHS subsets</i>		<i>Doc 9880 Status (basic)</i>	<i>Doc 9880 Status (extended)</i>
I.	Basic ATSMHS (basic)	M	C.1
II.	Basic + FTBP	-	C.1
III.	Basic + IHE	-	C.1
IV.	Basic + DIR	-	C.1
V.	Basic + DIR + FTBP	-	C.1
VI.	Basic + DIR + IHE	-	C.1
VII.	Basic + DIR + SEC	-	C.1
VIII.	Basic + IHE + DIR + SEC	-	C.1
IX.	Basic + IHE + DIR + FTBP	-	C.1
X.	Basic + IHE + DIR + FTBP + SEC	-	C.1
C.1 = Only one configuration must be supported. M = Mandatory support			



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# Questions?



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Thank you