Asterix category 032 - Miniplan Reports to an SDPS

category: 032

edition: 1.1

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Preamble

Surveillance data exchange.

Description of standard data items

I032/010 - Server Identification Tag

Definition: Identification of the Server of track information.

Structure:

> **I032/010/SAC** - *System Area Code*
>
> - 8 bits [. . . . .]
> - raw value
>
> **I032/010/SIC** - *System Identification Code*
>
> - 8 bits [. . . . .]
> - raw value

Notes:

1. The up-to-date list of SACs is published on the EUROCONTROL ASTERIX Web Site (http://www.eurocontrol.int/services/system-area-code-list).
2. In case of message originating from an FPPS, the Server Identification Tag corresponds to the SDPS unit receiving the Miniplan.
3. In case of message originating from a SDPS, the Server Identification Tag corresponds to the SDPS unit sending the Miniplan.

I032/015 - User Number

Definition: Identification of the User of the track data.

Structure:

- 16 bits [. . . . .]
- unsigned integer

Notes:

1. The User numbers are predefined in the User registration data base of the SDPS Unit to which the User wants to connect.
2. In case of message originating from an FPPS, the User Number corresponds to the FPPS one.
3. In case of message originating from an SDPS, the User Number corresponds to the SDPS unit receiving the Miniplan.

I032/018 - Data Source Identification Tag

Definition: Identification of the data source (FPPS system) from which the information contained in the message was initially originated.

Structure:

I032/018/SAC - *System Area Code*

- 8 bits [........]
- raw value

I032/018/SIC - *System Identification Code*

- 8 bits [........]
- raw value

Note:
- The up-to-date list of SACs is published on the EUROCONTROL ASTERIX Web Site (http://www.eurocontrol.int/services/system-area-code-list).

I032/020 - Time of ASTERIX Report Generation

Definition: Time of the generation of the ASTERIX category 032 report in the form of elapsed time since last midnight, expressed as UTC.

Structure:

- 24 bits [........................]
- unsigned quantity
- unit: "s"
- LSB = $1/2^7$ s $\approx 7.81e-3$ s

Notes:

1. The Time of ASTERIX Report Generation is reset to zero at every midnight.
2. This time is determined at an application level (e.g. time at which a message is filled), and not at the communication level (i.e. not the time at which the datablock is sent).

I032/035 - Type of Message

Definition: This data item allows for a more convenient handling of the message at the receiver side by further defining the type of transaction.

Structure:

I032/035/FAMILY

- 4 bits [....]
- values:

    1: Information sent by an FPPS

I032/035/NATURE

- 4 bits [....]
- values:

1: Flight Plan to track initial correlation
2: Miniplan update
3: End of correlation
4: Miniplan Cancellation
5: Retained Miniplan

Note:

- The composition of the messages is described in the following table. :

Data Ref Num	Description	FPL to track Initial Correlation ($11), Miniplan update ($12)	End of correlation ($13), Miniplan cancellation ($14), Retained Miniplan ($15)
I032/010	Server id ...	M	M
I032/015	User Number	O	O
I032/018	Data Source ...	M	M
I032/020	Time of ...	M	M
I032/035	Type of Message	M	M
I032/040	Track Number	M from FPPS X from SDPS	M from FPPS X from SDPS
I032/050	Composed trknum...	M from SDPS X from FPPS	M from SDPS X from FDPS
I032/060	Track Mode 3/A	O	X
I032/400	Callsign	O	X
I032/410	Plan Number	O	X
I032/420	Flight Category	O	X
I032/430	Type of Aircraft	O	X
I032/435	Wake Turbulence ...	O	X
I032/440	Departure ...	O	X
I032/450	Destination ...	O	X
I032/460	Allocated SSR Codes	O	X
I032/480	Current Cleared FL...	O	X
I032/490	Current Control Pos...	O	X
I032/500	Supplementary FD...	O	X

I032/040 - Track Number

Definition: Identification of a track (track number)

Structure:

- 16 bits [................]
- unsigned integer

I032/050 - Composed Track Number

Definition: Identification of a system track.

Structure:

Extended item.

I032/050/SUI - *System Unit Identification*

- 8 bits [........]
- unsigned integer

I032/050/STN - *System Track Number*

- 15 bits [...............]

- unsigned integer

(FX)

- extension bit

    0: End of data item
    1: Extension into next extent

Notes:

1. Each Track Number (i.e. either a Master or a Slave Track Number) is composed of a System Unit Identification (i.e. the identification of the SDPS unit processing the) together with the relevant System Track Number (i.e. the number of the track local to the SDPS Unit in question).
2. The Composed Track Number is used by co-operating SDPS units to uniquely identify a track. It consists of the unit identifier and system track number for each unit involved in the co-operation. The first unit identification identifies the unit that is responsible for the track amalgamation.
3. The Master Track Number and the possible extensions (Slave Tracks Numbers) are identically composed.

I032/060 - Track Mode 3/A

Definition: Mode 3/A code associated to the track

Structure:

I032/060/(spare)

- 4 bits [....]

I032/060/MODE3A - *(Mode 3/A Code) 4 Digits, Octal Representation*

- 12 bits [............]
- Octal string (3-bits per digit)

I032/400 - Callsign

Definition: Callsign (in 7 characters) of an aircraft (provided in the Miniplan).

Structure:

- 56 bits [... 56 bits ...]
- Ascii string (8-bits per character)

Note:
- Each one of the seven octets contains an ASCII Character. The Callsign is always left adjusted. It contains up to seven upper-case alphanumeric characters, the remaining character positions (if any) are padded with space characters.

I032/410 - Plan Number

Definition: The Plan Number is an integer value representing a unique reference to a Flight-plan record within a particular FPPS.

Structure:

- 16 bits [................]
- unsigned integer

I032/420 - Flight Category

Definition: Flight Category.

Structure:

I032/420/GATOAT

- 2 bits [..]
- values:

  0: Unknown
  1: General Air Traffic
  2: Operational Air Traffic
  3: Not applicable

I032/420/FR1FR2

- 2 bits [..]
- values:

  0: Instrument Flight Rules
  1: Visual Flight rules
  2: Not applicable
  3: Controlled Visual Flight Rules

I032/420/SP3

- 1 bit [.]
- raw value

I032/420/SP2

- 1 bit [.]
- raw value

I032/420/SP1

- 1 bit [.]
- raw value

I032/420/(spare)

- 1 bit [.]

Note:
- The definition of the sub-categories is system dependent and shall be descried in the system ICD.

I032/430 - Type of Aircraft

Definition: Type of Aircraft.

Structure:

- 32 bits [................................]
- Ascii string (8-bits per character)

Notes:

1. Each one of the four octets composing the type of aircraft contains an ASCII Character (upper-case alphabetic characters with trailing spaces).
2. The types of aircraft are defined in the ICAO Document 4444.

I032/435 - Wake Turbulence Category

Definition: Wake turbulence category of an aircraft.

Structure:

- 8 bits [. . . . .]
- values:

  76: Light
  77: Medium
  72: Heavy
  74: Super

I032/440 - Departure Aerodrome

Definition: Departure Aerodrome

Structure:

- 32 bits [. . . .]
- Ascii string (8-bits per character)

Notes:

1. Each octet contains one ASCII Character (Upper Case Alphabetic)
2. The Aerodrome Names are indicated in the ICAO Location Indicators book.

I032/450 - Destination Aerodrome

Definition: Departure Aerodrome

Structure:

- 32 bits [. . . .]
- Ascii string (8-bits per character)

Notes:

1. Each octet contains one ASCII Character (Upper Case Alphabetic).
2. The Aerodrome Names are indicated in the ICAO Location Indicators book [Ref. 5].

I032/460 - Allocated SSR Codes

Definition: List of successive SSR Codes allocated to a flight.

Structure:

Repetitive item, repetition factor 8 bits.

I032/460/(spare)

- 4 bits [. . . .]

I032/460/OCT1 - *1st Octal Digit*

- 3 bits [. . .]

• raw value

I032/460/OCT2 - *2nd Octal Digit*

- 3 bits [. . .]
- raw value

I032/460/OCT3 - *3rd Octal Digit*

- 3 bits [. . .]
- raw value

I032/460/OCT4 - *4th Octal Digit*

- 3 bits [. . .]
- raw value

I032/480 - Current Cleared Flight Level

Definition: Current Cleared Flight Level

Structure:

- 16 bits [. . . . .]
- unsigned quantity
- unit: "FL"
- LSB = $1/2^2$ FL $\approx$ 0.25 FL
- value $>= 0$ FL
- value $<= 1500$ FL

I032/490 - Current Control Position

Definition: Identification of the Control Position currently controlling a flight.

Structure:

I032/490/CEN - *Centre*

- 8 bits [. . . . .]
- raw value

I032/490/POS - *Position*

- 8 bits [. . . . .]
- raw value

Note:
- The Centre and Control Position Identification Codes are implementation specific and have to be agreed upon between communication partners.

I032/500 - Supplementary Flight Data

Definition: Flight related data provided by ground based systems.

Structure:

Compound item (FX)

I032/500/IFI - *IFPS FLIGHT ID*

I032/500/IFI/TYP

- 2 bits [. .]
- values:

    0: Plan Number
    1: Unit 1 internal flight number
    2: Unit 2 internal flight number
    3: Unit 3 internal flight number

I032/500/IFI/(spare)

- 3 bits [. . .]

I032/500/IFI/NBR

- 27 bits [. . . . .]
- unsigned integer
- value >= 0
- value <= 99999999

I032/500/RVP - *RVSM & Flight Priority*

I032/500/RVP/(spare)

- 5 bits [. . . . .]

I032/500/RVP/RVSM

- 2 bits [. .]
- values:

    0: Unknown
    1: Approved
    2: Exempt
    3: Not approved

I032/500/RVP/HPR

- 1 bit [.]
- values:

    0: Normal Priority Flight
    1: High Priority Flight

I032/500/RDS - *Runway Designation*

I032/500/RDS/NU1 - *First Number*

- 8 bits [. . . . .]
- Ascii string (8-bits per character)

I032/500/RDS/NU2 - *Second Number*

- 8 bits [. . . . .]
- Ascii string (8-bits per character)

I032/500/RDS/LTR - *Letter*

- 8 bits [. . . . .]
- Ascii string (8-bits per character)

I032/500/TOD - *Time of Departure / Arrival*

Repetitive item, repetition factor 8 bits.

I032/500/TOD/TYP

- 5 bits [. . . . .]
- values:

    0: Scheduled Off-Block Time
    1: Estimated Off-Block Time
    2: Estimated Take-Off Time
    3: Actual Off-Block Time
    4: Predicted Time at Runway Hold

5: Actual Time at Runway Hold
6: Actual Line-Up Time
7: Actual Take-Off Time
8: Estimated Time of Arrival
9: Predicted Landing Time
10: Actual Landing Time
11: Actual Time off Runway
12: Predicted Time to Gate
13: Actual On-Block Time

I032/500/TOD/DAY

- 2 bits [. .]
- values:

    0: Today
    1: Yesterday
    2: Tomorrow
    3: Invalid

I032/500/TOD/(spare)

- 4 bits [. . . .]

I032/500/TOD/HOR

- 5 bits [. . . . .]
- unsigned integer
- value $>= 0$
- value $<= 23$

I032/500/TOD/(spare)

- 2 bits [. .]

I032/500/TOD/MIN

- 6 bits [. . . . . .]
- unsigned integer
- value $>= 0$
- value $<= 59$

I032/500/TOD/AVS

- 1 bit [.]
- values:

    0: Seconds available
    1: Seconds not available

I032/500/TOD/(spare)

- 1 bit [.]

I032/500/TOD/SEC

- 6 bits [. . . . . .]
- unsigned integer
- value $>= 0$
- value $<= 59$

I032/500/AST - *Aircraft Stand*

- 48 bits [... 48 bits ...]
- Ascii string (8-bits per character)

I032/500/STS - *Stand Status*

I032/500/STS/EMP

- 2 bits [. .]
- values:

    0: Empty
    1: Occupied
    2: Unknown
    3: Invalid

I032/500/STS/AVL

- 2 bits [..]
- values:

    0: Available
    1: Not available
    2: Unknown
    3: Invalid

I032/500/STS/(spare)

- 4 bits [....]

I032/500/SID - *Standard Instrument Departure*

- 56 bits [... 56 bits ...]
- Ascii string (8-bits per character)

I032/500/STAR - *Standard Instrument Arrival*

- 56 bits [... 56 bits ...]
- Ascii string (8-bits per character)

Notes:

1. NU1, NU2 and LTR each contain an ASCII character (upper case alphabetic).
2. For details refer to ICAO Annex 14 Chapter 5 [Ref. 4].
3. Estimated times are derived from flight plan processing systems. Predicted times are derived by the fusion system based on surveillance data. For definitions see [Ref.4]
4. Each one of the six Octets contains an ASCII Character. The Aircraft Stand identification is always left adjusted. It contains up to six upper-case alphanumeric characters, the remaining character positions (if any) are padded with space characters.
5. Each one of the seven Octets contains an ASCII Character. The SID is always left adjusted. It contains up to seven alphanumeric characters, the remaining character positions (if any) are padded with space characters.
6. Each one of the seven Octets contains an ASCII Character. The STAR is always left adjusted. It contains up to seven alphanumeric characters, the remaining character positions (if any) are padded with space characters.

I032/RE - Reserved Expansion Field

Definition: Expansion

Structure:

Explicit item (RE)

User Application Profile for Category 032

- (1) `I032/010` - Server Identification Tag

- (2) `I032/015` - User Number

- (3) `I032/018` - Data Source Identification Tag

- (4) `I032/035` - Type of Message
- (5) `I032/020` - Time of ASTERIX Report Generation
- (6) `I032/040` - Track Number
- (7) `I032/050` - Composed Track Number
- `(FX)` - Field extension indicator
- (8) `I032/060` - Track Mode 3/A
- (9) `I032/400` - Callsign
- (10) `I032/410` - Plan Number
- (11) `I032/420` - Flight Category
- (12) `I032/440` - Departure Aerodrome
- (13) `I032/450` - Destination Aerodrome
- (14) `I032/480` - Current Cleared Flight Level
- `(FX)` - Field extension indicator
- (15) `I032/490` - Current Control Position
- (16) `I032/430` - Type of Aircraft
- (17) `I032/435` - Wake Turbulence Category
- (18) `I032/460` - Allocated SSR Codes
- (19) `I032/500` - Supplementary Flight Data
- (20) `(spare)`
- (21) `I032/RE` - Reserved Expansion Field
- `(FX)` - Field extension indicator