FINAL

Flight Information Exchange Model US Extension Data Dictionary

The Flight Information Exchange Model (FIXM) is a global standard for achieving interoperable exchanges of flight information. FIXM is based on a standardized (yet extensible and dynamic) set of data elements that increase interoperability and data exchange among automated systems. FIXM is part of a family of technology-independent, harmonized, and interoperable information exchange models and Extensible Markup Language (XML) schemas [alongside the Aeronautical Information Exchange Model (AIXM) and Weather Information Exchange Model (WXXM)]. FIXM is designed to support the information needs of global aviation stakeholders such as Air Traffic Management (ATM), airlines, airport personnel, and Air Navigation Service Providers (ANSP).

This FIXM Data Dictionary (FIXM DD) defines the flight data elements (FDEs) expected to be exchanged using the FIXM standard. Currently, the FIXM DD includes a definition for each FDE, as well as alternate names that reflect various nomenclatures across systems and operational domains, relationships among FDEs, data types, value ranges (where applicable), business rules associated with the individual use of each FDE, and references to authoritative sources where more information can be found regarding the referenced FDE. The FIXM DD is complementary to the other FIXM artefacts such as the FIXM models and the FIXM schemas.

FIXM v3.0.0 catalogues FDEs associated with the exchange of the ICAO 2012 Flight Plan, 4D Trajectories, the Globally Unique Flight Identifier (GUFI), the tracking of Dangerous Goods, Air Traffic Services (ATS) messages, ATS Interfacility Data Communications (AIDC) messages, Traffic Flow Management Data Exchange (TFM-DE), Collaborative Decision Making (CDM), fleet prioritization, ANSP to ANSP Boundary Crossing, Aircraft Situation Display to Industry (ASDI)/Flight Table Manager (FTM) Connect, and Code Share.

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Contents

Document History

Item	Version	Version Type	Description	Entered By
1	0.90	Draft	• Initial draft for internal review	Booz Allen Hamilton
2	0.91	Draft	• Draft for internal review	Booz Allen Hamilton
3	0.92	Draft	• Formatting; updates to notes	Booz Allen Hamilton
4	1.00	Draft	• Grammatical; minor updates to notes	Booz Allen Hamilton
5	1.00	Final	• Enhanced metadata definitions • Grammatical; minor updates to notes • Added Data Type Descriptions	Booz Allen Hamilton
6	1.10	Final	• Changed Classified Speed Indicator to Aircraft Speed that is represented by 3 types • Added format information to Notes in Computer ID • Added implementation notes to Coordination Fix	Booz Allen Hamilton
7	2.00	Final	• Updated data types and Element Metadata • Added additional elements not applicable to FIXM Core v2.0.0 – Times, Speeds, etc.	Booz Allen Hamilton
8	3.00	Draft	• Draft release for final review by FAA	Booz Allen Hamilton
9	3.00	Final	• Editorial updates to data types • Updates to DE data type descriptions • Major release for publication	Booz Allen Hamilton

1. Element Metadata Definitions

Element-level metadata are used to capture the meaning of the data elements, to provide the context in which they appear and their associated business rules. The element-level metadata are:

1.1   Name

This metadata captures a unique, descriptive name for the data element. The naming convention used in this document attempts to fulfil the following goals:

1. The data element name should not contain acronyms – to the extent possible. The use of acronyms raises the risk of the names being used erroneously. Commonly used aviation domain terms are optimal for naming conventions; however, in some cases, the use of synonyms may be the most practical approach.

2. The name should express – as much as possible – the type of data it represents (e.g., time, speed, altitude).

3. The names should be constructed such that related data elements are adjacent in an alphabetized list. For example, "Alternate Destination Aerodrome" was named "Destination Aerodrome – Alternate", to allow its record to be documented adjacent to another related data element called "Destination Aerodrome".

1.2   Definition

This metadata describes the data element in unambiguous and universal terms such that a reader, with a basic level of aviation domain knowledge, can have a clear understanding of what information the data element represents. If necessary, the description may point to references that provide further clarification. This description should avoid jargon or references to systems' behaviour to the extent possible and should be clear and succinct.

1.3   Alternate Names

This metadata captures alternate terms (i.e., terms from other domains that are used synonymously), and any other information that would facilitate the discovery of semantically equivalent (or related) data elements.

1.4   Has Parts

This metadata lists any other (possibly more basic) data elements contained by the data element to which the metadata refers. Therefore, when the "Has Parts" metadata is populated, this data element will always be denoted as a "Container" data type. For example, for the FIXM Data Dictionary v2.0.0, "Route Impact List" has the following parts: "Predicted Airways", "Predicted Units", and "Predicted Sectors". These data elements are described as unique data elements in the data dictionary as well.

1.5   Is Part Of

This metadata will be populated if the referenced data element is part of a "Container". It specifies the name of the container data element to which the referenced data element belongs. For example, for the FIXM Data Dictionary v2.0.0, "Predicted Airways" is part of "Route Impact List".

Note: The "Container" element will list the name of the referenced data element in its "Has Parts" field.

1.6   Range of Values

This metadata indicates the range of values the data element can take. This is accomplished by either providing upper and lower threshold values or by explicitly enumerating all the possible values. In the case of an enumeration, this metadata also specifies if the data element can take only one or more than one of the enumerated values.

There are a few exceptions to how this metadata is used in the Data Dictionary:

1.   In some cases, the list of all possible values for a data element is too long to be captured in this document. In those cases, the "Range of Values" metadata field will contain a reference to the document(s) that specify the valid list of values.

2.   Some data elements can assume more than one value from a controlled vocabulary. In this case, Range of Values captures the controlled vocabulary, and the "Notes" section clarifies which combinations of values are acceptable.

Notation
The following notation conventions are used to describe the Range of Values:

1.   Discrete enumeration. Predefined values are listed explicitly and exhaustively. They are separated by commas, and the whole collection is delimited by curly brackets. Example: {IFR, VFR}. In a software implementation, this type of discrete enumeration would be implemented as an enumeration.

2.   Numeric range. This is a range of numbers defined implicitly by specifying the lower and upper limits, separated by a dash symbol ('-') and delimited by square brackets. Example: [0-99] specifies a range of 100 numeric values starting with 0 (inclusive of 0) and ending with 99 (inclusive of 99). Some numeric ranges are specified in bases other than 10, such as base 8 (octal) or 16 (hexadecimal). In these cases, an explanatory note is provided.

3.   Alphabetic range. This is a range of alphabetic characters defined implicitly by specifying the first and last characters, separated by the dash symbol ('-') and delimited by square brackets. Example: [A-Z] specifies a range of letters (ordered alphabetically) starting with upper-case 'A' and ending with upper-case 'Z'. Please note, unless specified otherwise, all alphabetic characters are assumed to be upper case letters corresponding to the American Standard Code for Information Interchange (ASCII) characters in the range of 41hex to 5Ahex.

These notation conventions can be combined, in order to express more complex types of value ranges. For example:

1.   [A-Z, 0-9] represents upper-case letters and numbers

2.   {[A-Z], +, -, ,} represents upper-case letters, the '+' (plus) character, the '-' (minus) character . and the ',' (comma) character

The Range of Values, as defined above, can be accompanied by a modifier which further defines the range:

1.   Multiplicity. The number of values each data element can have is specified in plain language, preceding or following the range definition. For example, if the data element can take only one value from a discrete enumeration (i.e., the enumeration has mutually exclusive values), then

8

the range is specified as "{V1, V2, V3, V4}". If multiple values are acceptable, the range is specified as "one or more of the following values: {V1, V2, V3, V4}". If there is an upper limit on how many values can be combined, that is specified also ("up to 3 of {V1, V2, V3, V4, V5}".

2. Exclusion. In certain cases, some values in an implicit range are not valid. In those cases, the invalid values are specified after the range. For example: "[A-S] excluding {I, N, O}".

Other considerations:

1. Free-form text. Unless otherwise specified, the default value range for the acceptable characters in free-form text is {[A-Z], [0-9], -, ?, :, (,), ., ,, ', =, /,+}.

2. Complex data elements. Certain data elements are complex in nature (they contain multiple data elements as components.)

3. In all cases, if the Range of Values is already captured within the description of the data type, this metadata will be left blank.

1.7 Business Rules

This metadata defines or constrains some aspect of the use of a particular data element. They have the following functions:

1. Describes how data elements are used together in a functional or operational context

2. Defines roles or functionality associated with data elements

3. Describes rules for using the data elements in specific contexts

Business Rules will be defined by guidance documents and will outline when and how the referenced data element will be used. Multiple Business Rules should be in a bulleted list.

For example, specific Business Rules are:

1. Boundary Crossing Condition: "This data element is always associated with Boundary Crossing Level – Transition."

2. Departure Airport: "If expressed as ICAO location identifier, values comply with ICAO Doc. 7910."

3. Flight Operator Category: "In the United States, the Flight Operator Category is determined by TFMS (Traffic Flow Management System) based on internal matching tables."

1.8 Notes

This field captures any other pertinent information or knowledge regarding the referenced data element that does not fit in any of the other data fields. This section may include descriptions of enumerated values, descriptions of the operating environment, the individual data types comprised by a complex data type, data type formatting, examples and other information in the reference documentation. Limited guidance-specific XML may be listed here for clarification purposes. Multiple Notes should be in a bulleted list.

1.9 References

This metadata lists specific sources which further define, explain, and/or provide additional information about the data element, its context and its role. Multiple References should be in a bulleted list.

2 Data Type

Data Types	Description
4D Trajectory	Type: Array Definition: A construct containing the four-dimensional (x, y, z, and time) trajectory of an aircraft from gate-to-gate, at the level of fidelity required for attaining the agreed ATM system performance levels. Has Parts: 4D Point Notes: For FIXM v3.0, this data type only covers the airborne segment. However, future versions of FIXM will cover gate-to-gate operations.

Aerodrome	Type: Union
	
	Definition: A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.
	
	Notes: This data type can be described as one of the following:
	
	• The four (4) character code from ICAO 7910 that identifies the aerodrome, if one is available (enumerated type)
	
	• If a code is not available, then
	
	    o Aerodrome Location (location)
	
	    o Aerodrome Name or Alternate Identifier (character string)

Air Traffic Services Unit	Type: Union Definition: A generic term meaning variously, air traffic control unit, flight information centre or air traffic services reporting office. Notes: • This data type contains the four (4) character code from ICAO 7910 that identifies the unit, if one is available (enumerated type) • If a code is not available, a character string contains the unit name or alternate Air Traffic Services Unit (ATSU) identifier (character string)
Alpha Character	Definition: One upper-case alphabetic character in the range [A-Z].
Alpha String	Definition: String containing only upper-case alphabetic characters in the range [A-Z].
Altitude	Type: Union Definition: The vertical distance of a level, a point or an object considered as a point, measured from mean sea level.

Data Types	Description
	Notes: The altitude can be expressed in two ways:
	1. Flight Level (character string) is a standard nominal altitude of an aircraft, calculated from the international standard pressure datum of 1013.25 hPa (29.92 inches in Hg), the average sea-level pressure. Flight Level is expressed in metres or feet. It is not necessarily the same as the aircraft's true altitude, either above mean sea level or above ground level. Two alternative conventions are available for the expression of flight level data:
	• "F" followed by three (3) decimal numeric characters: indicates a flight level number, e.g. Flight Level 330 is expressed as "F330";
	• "S" followed by four (4) decimal numeric characters: indicates standard metric level in tens of metres, i.e. Standard Metric Level 11,300 metres (Flight Level 370) is expressed as "S1130";
	2. Altitude (character string) is the real altitude calculated by the aircraft, by measuring the air pressure and adjusting it for the local air pressure. Altitude is expressed in metres or feet. Two alternative conventions are available for the expression of altitude:
	• "A" followed by three (3) decimal numeric characters: indicates altitude in hundreds of feet, e.g. an altitude of 4,500 feet is expressed as "A045";
	• "M" followed by four (4) decimal numeric characters: indicates altitude in tens of metres, e.g. an altitude of 8,400 metres is expressed as "M0840".
	Range of values: [0-130,000] when expressed in feet, [0-40,000] when expressed in metres.
Array	Definition: The array data type stores a number of elements of same type in a specific order.
Beacon Code & Mode	Type: Record

Definition: The Secondary Surveillance Radar (SSR) mode and transponder code of the flight.

Notes:

• SSR Mode (enumeration): {A, C, S}

  o The enumeration "S" refers to selective interrogation for ADS-B and is associated with the aircraft address

• Octal range of Beacon Code (numeric string): [0000 - 7777] |
| Boolean | Definition: The Boolean type represents the values: true and false. |
| Character | Definition: A character that is standardized by UTF-8 (Uniform Transformation Format 8-bit)

Notes: UTF-8 is the default encoding for XML. |

Data Types	Description
Character String	Definition: A string of characters as standardized by UTF-8 Notes: UTF-8 is the default encoding for XML.
Constrained Airspace	Type: Character String Definition: The defined region of airspace that is used to identify flights that are subject to a constraint. Notes: • It is usually associated with a date/time
Date Time	Type: Character String Definition: Represents a specific instance of date and time. Notes: • The pattern for this data type is YYYY-MM-DDThh:mm:ss[.SSS][Z | GMT-zzzz] where YYYY represents the year, MM the month, and DD the day, preceded by an optional leading negative (-) character to indicate a negative number. If the negative character is omitted, positive (+) is assumed. The T is the date/time separator, and hh, mm, and ss represent hours, minutes, and seconds respectively. • Additional digits can be used to increase the precision of fractional seconds, if desired. For example, the format ss.ss..., with any number of digits after the decimal point is supported. Specifying fractions of a second is optional. This representation may be immediately followed by a "Z" to indicate Coordinated Universal Time (UTC) or to indicate the time zone. For example, the difference between the local time and UTC, immediately followed by a sign, + or -, followed by the difference from UTC represented as hh:mm (minutes is required). If the time zone is included, both hours and minutes must be present.
Direction	Type: Float Definition: Indicates direction relative to either true north or magnetic north. Notes: • Range of values is [0-360], expressed in degrees • Include all data elements that represent a heading, bearing, or ground track
Enumeration	Definition: Represents one or multiple choices from a finite, predefined collection of choices (controlled vocabulary). Notes: The controlled vocabulary is specified in the "Range of Values" field, whenever practicable. If the enumeration is too large to be included explicitly, a reference is provided.
Flight Rules	Type: Enumeration

Data Types	Description
	Definition: Rules of the flight as dictated by regulations, weather, and separation minimums for IFR and VFR flights.
	Notes: An enumerated listing of an Aircraft's flight rules {I, V}, as defined in ICAO 4444 where:
	• I - Instrument Flight Rules (IFR)
	• V - Visual Flight Rules (VFR)
Float	Definition: The floating point data type contains fractional values. In the context of FIXM, it represents single-precision, 32-bit floating-point numbers.
Frequency	Type: Float
	Definition: Describes the radio frequency used for communications and navigation between aircraft-ground, ground-ground, or aircraft-aircraft.
	Notes:
	• The range of values is [3-3000]
	• Expressed in megahertz (MHz)
Integer	Definition: The integer data type represents positive whole numbers {1, 2, 3,...}, negative whole numbers {-1, -2, -3, ...}, and zero {0}.
Location	Type: Union
	Definition: A place indicating a specified location used to define an ATS route or the flight path of an aircraft or for other navigation/ATS purposes.
	Notes: This data type can be identified in any of the following ways:
	• Location Identifier (enumerated): a predefined two (2) to five (5) character string. This string can be a fix name
	• Latitude/Longitude (record: defined by a pair of latitude and longitude coordinates.
	• Fix-radial-distance (character string): defined by three values: a navigation aid identifier (typically a VOR), a magnetic heading (expressed as a "Direction"), and a distance (expressed in nautical miles).
Numeric Character	Definition: One numeric character in the range [0-9].
Numeric String	Definition: String containing only numeric characters in the range [0-9].
Record	Definition: The record data type is a value that contains other values, typically in fixed number and sequence and typically indexed by names. The elements of records are usually called fields or members.
Route	Type: Record
	Definition: A Route defines the path of a flight over the surface of the earth. It also includes altitude and speed information. It represents the intent of the flight.

Data Types	Description
	Has Parts: • Cruising Altitude - Requested • Cruising Speed • Route String • Airway • Significant Point • Expanded Route
Sector	Type: Character String Definition: The position of the air traffic controller (ATC) or small group of ATCs within the ATSU. Notes: • This designator is always associated with a unit
Sector Airspace	Type: Character String Definition: A subdivision of a designated control area. Notes: • It is always associated with an ATSU airspace
Speed	Type: Float Definition: An instantaneous measurement of the rate of movement for an aircraft. Notes: • Range of [0-2500] when expressed in knots • Range of [0-4630] when expressed as KPH • Range of [0-3.8] when expressed in Mach
Time Duration	Type: Character String Definition: The length of time that something exists or lasts. Notes: • The pattern for duration is nYnMnDTnHnMnS, where nY represents the number of years, nM the number of months, nD the number of days, T the date/time separator, nH the number of hours, nM the number of minutes, and nS the number of seconds
Union	Definition: The union data type definition will specify which of a number of permitted primitive types may be stored in its instances, e.g. "float or integer". Contrast with a record (see below), which could be defined to contain a float and an integer; whereas, in a union, there is only one value at a time.
Vertical Rate	Type: Float

Data Types	Description
	Definition: The value of an aircraft's vertical rate of change. Notes: • climb if positive, descent if negative • [(-30,000)-30,000] when expressed in ft/min • [(-15)-15] if expressed in m/s
Weight	Type: Float Definition: The measurement of the pull of gravity on an object. Notes: • expressed in pounds, grams (mass), or kilograms (mass)

3 Data Elements

3.1 Adapted Arrival Route Clearance Support Alphanumerics

Adapted Arrival Route Clearance Support Alphanumerics	
Definition	This field contains the route string with an Adapted Arrival Route (AAR) to be provided to the controller at the time the auto-route is applied.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Character String
Range of Values	
Business Rules	- AAR alphanumerics include the AAR Transition-fix. - These alphanumerics are preceded by the Field 10 element (in the filed route) that precedes the AAR Transition-fix in the merged route. - For alphanumerics not in field 10 format, the + delimiter will precede and follow the non-field 10 format elements.
Notes	- AARs are used to control the flow and separation of traffic arriving at designated airports. - Based on information about the flight and restrictions encoded in AAR adaptation data, an AAR may be applied automatically to the flight during the route conversion process. - Differs from the route string in that this data might not be in Field 10 route string format. - This is a structured string. [ATM IPOP ICD] Transmitted in AH, FH, and HU messages as CMS 142e, 142f Preferential Route Alphanumerics (AAR) field 10 format, non-field 10 format.
Reference	National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.2 Adapted Arrival Route Identifier

Adapted Arrival Route Identifier	
Definition	The five character identifier used to internally identify an adapted arrival route.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Character String
Range of Values	
Business Rules	
Notes	• Adapted Arrival Routes (AARs) are used to control the flow and separation of traffic arriving at designated airports. • Based on information about the flight and restrictions encoded in AAR adaptation data, an AAR may be applied automatically to the flight during the route conversion process. • This ID is defined in NAS adaptation. • It consists of five (5) alphanumeric characters. • [ATM IPOP ICD] Transmitted in AH, FH, and HU messages as CMS 141c Adapted Route indicator (AAR).
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.3   Adapted Departure Arrival Route Clearance Support Alphanumerics

Adapted Departure Arrival Route Clearance Support Alphanumerics	
Definition	This field contains the route string with an Adapted Departure Arrival Route (ADAR) to be provided to the controller at the time the auto-route is applied.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Character String
Range of Values	
Business Rules	• For alphanumerics not in field 10 format, the + delimiter will precede and follow the non-field 10 format elements.
Notes	• Adapted Departure Arrival Routes (ADARs) are used to control the flow and separation of traffic departing and arriving between specific pairs of airports. • Based on information about the flight and restrictions encoded in ADAR adaptation data, an ADAR may be applied automatically to the flight during the route conversion process. • Differs from the route string in that this data might not be in Field 10 route string format. • This is a structured string. • [ATM IPOP ICD] Transmitted in AH, FH, and HU messages as CMS 142a, 142b Preferential Route Alphanumerics (ADAR) field 10 format, non-field 10 format.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.4 Adapted Departure Arrival Route Identifier

Adapted Departure Arrival Route Identifier	
Definition	The five character identifier is used to internally identify an Adapted Departure Arrival Route (ADAR).
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Character String
Range of Values	
Business Rules	
Notes	• ADARs are used to control the flow and separation of traffic departing and arriving between specific pairs of airports. • Based on information about the flight and restrictions encoded in ADAR adaptation data, an ADAR may be applied automatically to the flight during the route conversion process. • This ID is defined in NAS adaptation. • It consists of five (5) alphanumeric characters. • [ATM IPOP ICD] Transmitted in AH, FH, and HU messages as CMS 141a Adapted Route indicator (ADAR).
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.5 Adapted Departure Route Clearance Support Alphanumerics

Adapted Departure Route Clearance Support Alphanumerics	
Definition	This field contains the route string with an Adapted Departure Route (ADR) to be provided to the controller at the time the auto-route is applied.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Character String
Range of Values	
Business Rules	• ADR alphanumerics include the ADR Transition-fix. • These alphanumerics are followed by the Field 10 element (in the filed route) that follows the ADR Transition-fix in the merged route. • For alphanumerics not in field 10 format, the + delimiter will precede and follow the non-field 10 format elements.
Notes	• ADRs are used to control the flow and separation of traffic departing designated airports. • Based on information about the flight and restrictions encoded in ADR adaptation data, an ADR may be applied automatically to the flight during the route conversion process. • Differs from the route string in that this data might not be in Field 10 route string format. • This is a structured string. • [ATM IPOP ICD] Transmitted in AH, FH, and HU messages as CMS 142c, 142d Preferential Route Alphanumerics (ADR) field 10 format, non-field 10 format.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.6 Adapted Departure Route Identifier

Adapted Departure Route Identifier	
Definition	The identifier used to internally identify the Adapted Departure Route (ADR).
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Character String
Range of Values	
Business Rules	
Notes	- Adapted Departure Routes (ADRs) are used to control the flow and separation of traffic departing designated airports. - Based on information about the flight and restrictions encoded in ADR adaptation data, an ADR may be applied automatically to the flight during the route conversion process. - The identifier is defined in NAS adaptation. - It consists of five (5) alphanumeric characters. [ATM IPOP ICD] Transmitted in AH, FH, and HU messages as CMS 141b Adapted Route indicator (ADR).
Reference	National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.7 Airborne Equipment Qualifier

Airborne Equipment Qualifier	
Definition	A value assigned to the aircraft, based on its navigational equipment, whether or not it has a transponder, and if it has a transponder, whether the transponder supports Mode C.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Enumeration
Range of Values	One of the following values: {A, B, C, D, G, H, I, L, M, N, P, S, T, U, V, W, X, Y, Z}
Business Rules	

Notes	The meaning of the enumerated values are:
	
	 • RVSM
	     ○ Any Navigation Capability
	         ▪ H - Failed transponder or Failed Mode C capability
	     ○ No GNSS, No RNAV
	         ▪ W - Transponder with Mode C
	     ○ RNAV, No GNSS
	         ▪ Z - Transponder with Mode C
	     ○ GNSS
	         ▪ L - Transponder with Mode C
	 • No RVSM
	     ○ No DME
	         ▪ X - No Transponder
	         ▪ T - Transponder with no Mode C
	         ▪ U - Transponder with Mode C
	     ○ DME
	         ▪ D - No Transponder
	         ▪ B - Transponder with no Mode C
	         ▪ A - Transponder with Mode C
	     ○ TACAN

	▪ M - No Transponder
	
	        ▪ N - Transponder with no Mode C
	
	        ▪ P - Transponder with Mode C
	
	    o RNAV, No GNSS
	
	        ▪ Y - No Transponder
	
	        ▪ C - Transponder with no Mode C
	
	        ▪ I - Transponder with Mode C
	
	    o GNSS
	
	        ▪ V - No Transponder
	
	        ▪ S - Transponder with no Mode C
	
	        ▪ G - Transponder with Mode C
	
	[ATM IPOP ICD] Transmitted in FH, AH, DH, HU, NP and NU messages as CMS 03e.

Reference	• FAA Order JO 7110.65U, Air Traffic Control; dated February 9; 2012 • National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.8　Aircraft Identification – Previous

Aircraft Identification – Previous	
Definition	The aircraft identification prior to a modification.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Character String
Range of Values	[A-Z][A-Z0-9]{1,6}
Business Rules	
Notes	• Found in CMS messages when an aircraft identification is modified. • [ATM IPOP ICD] Transmitted in IH and NI messages as Flight Identification (New Identifier).
Reference	• NAS-IC-82422412-01, REVISION B, En Route Automation Modernization (ERAM)/User Systems via Air Traffic Management (ATM) Intermediate Point of Presence (IPOP), April 30, 2012

3.9 Airport Movement Area Holding - Arrival Information

Airport Movement Area Holding - Arrival Information	
Definition	Indicates the intent for an arriving flight to hold in the airport movement area due to unavailability of a parking stand or ramp access, and the time when the flight is estimated to exit the airport movement area.
Alternate Names	
Has Parts	Airport Movement Area Holding Intent - Arrival, Movement Area Exit Time - Airspace User Requested
Is Part Of	Flight Intent
Data Type(s)	Record
Range of Values	
Business Rules	
Notes	
Reference	• Terminal Flight Data Manager (TFDM) Core for Airport Traffic Control Towers (ATCT) Concept of Operations, ConOps-PMO-02-TFDM-13-001, Rev. 2.1, Terminal Flight Data Manager Program Office, November 4, 2013.

3.10 Airport Movement Area Holding - Departure Information

Airport Movement Area Holding - Departure Information	
Definition	Indicates the intent for a departing flight to hold in the airport movement area when surface departure metering or other Traffic Management Initiatives are in effect, and the time when the flight is estimated to request entry in the airport movement area.
Alternate Names	
Has Parts	Airport Movement Area Holding Intent - Departure, Movement Area Entry Time - Airspace User Requested
Is Part Of	Flight Intent
Data Type(s)	Record
Range of Values	
Business Rules	
Notes	
Reference	• Draft U.S. Airport Surface Collaborative Decision Making (CDM) Concept of Operations (ConOps) in the Near-Term, Application of Surface CDM at United States Airports, Federal Aviation Administration (FAA) Air Traffic Organization Surface Operations Office, July 23, 2013. • Terminal Flight Data Manager (TFDM) Core for Airport Traffic Control Towers (ATCT) Concept of Operations, ConOps-PMO-02-TFDM-13-001, Rev. 2.1, Terminal Flight Data Manager Program Office, November 4, 2013.

3.11 Airport Movement Area Holding Intent - Arrival

Airport Movement Area Holding Intent - Arrival	
Definition	Indicates the intent for an arriving flight to hold in the airport movement area due to unavailability of a parking stand or ramp access.
Alternate Names	
Has Parts	
Is Part Of	Airport Movement Area Holding - Arrival Information
Data Type(s)	Boolean
Range of Values	
Business Rules	
Notes	
Reference	• Terminal Flight Data Manager (TFDM) Core for Airport Traffic Control Towers (ATCT) Concept of Operations, ConOps-PMO-02-TFDM-13-001, Rev. 2.1, Terminal Flight Data Manager Program Office, November 4, 2013.

3.12 Airport Movement Area Holding Intent - Departure

Airport Movement Area Holding Intent - Departure	
Definition	Indicates the intent for a departing flight to hold in the airport movement area when surface departure metering or other Traffic Management Initiatives are in effect.
Alternate Names	
Has Parts	
Is Part Of	Airport Movement Area Holding - Departure Information
Data Type(s)	Boolean
Range of Values	
Business Rules	
Notes	
Reference	• Draft U.S. Airport Surface Collaborative Decision Making (CDM) Concept of Operations (ConOps) in the Near-Term, Application of Surface CDM at United States Airports, Federal Aviation Administration (FAA) Air Traffic Organization Surface Operations Office, July 23, 2013. • Terminal Flight Data Manager (TFDM) Core for Airport Traffic Control Towers (ATCT) Concept of Operations, ConOps-PMO-02-TFDM-13-001, Rev. 2.1, Terminal Flight Data Manager Program Office, November 4, 2013.

3.13 Airspace Entry Time - Earliest

Airspace Entry Time - Earliest	
Definition	The earliest time the flight could enter the constrained airspace.
Alternate Names	FCA Earliest Entry, EENTRY
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	• This element can be part of the Trajectory Airspace Impact record associated with the Airspace identifier, but also as a standalone element.
Reference	• CSC, Traffic Flow Management System (TFMS) Collaborative Trajectory Options Program (CTOP) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, version 3.2, July 2, 2013 • CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013 • CSC, TFMS ADL and Broadcast File Format Specification for the Traffic Flow Management-Modernization (TFM-M) Program, Draft, Release 10, Version 14.0, December 5, 2013

3.14 Airspace Entry Time - Initial

Airspace Entry Time - Initial	
Definition	The date and time at which a flight was originally planning to enter into the airspace.
Alternate Names	IENTRY
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	- Used to determine the priority order when allocating flights to slots. - The Airspace Entry Time - Initial (IENTRY) is set as follows: - For a Flow Evaluation Area (FEA), the Airspace Entry Time - Initial (IENTRY) is always set to the Airspace Entry Time - TFMS Estimated (ENTRY) minus any delay the flight has already incurred (Runway Departure Time - TFMS Estimated (ETD) – Off-Block Time - Initial (IGTD)). - For a Flow Constrained Area (FCA), the Airspace Entry Time - Initial (IENTRY) is set as follows. When a flight is first observed to be traversing the FCA, the Airspace Entry Time - Initial (IENTRY) is set to the Airspace Entry Time - TFMS Estimated (ENTRY) minus any delay the flight has already incurred (Runway Departure Time - TFMS Estimated (ETD) – Off-Block Time - Initial (IGTD)). Thereafter it is never changed. - If a flight is created from an "active" message (e.g. departure message, airborne flight plan, etc.), the Airspace Entry Time - Initial (IENTRY) is set to null.
Reference	CSC, TFMS ADL and Broadcast File Format Specification for the Traffic Flow Management-Modernization (TFM-M) Program, Draft, Release 10, Version 14.0, December 5, 2013

3.15 Airspace Entry Time - Original

Airspace Entry Time - Original	
Definition	The last Airspace Entry Time - Traffic Flow Management System Estimated modeled by the Traffic Flow Management System (TFMS) before either a Traffic Management Initiative is issued, or the flight departs, or the flight is "time-out" delayed by TFMS.
Alternate Names	OENTRY
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	The data element is used to "back out" of a Traffic Management Initiative (TMI), and it does NOT include any time-out delay modeled by TFMS.
Reference	• CSC, TFMS ADL and Broadcast File Format Specification for the Traffic Flow Management-Modernization (TFM-M) Program, Draft, Release 10, Version 14.0, December 5, 2013

3.16 Airspace Entry Time - Slot Credit Substitution Earliest Acceptable

Airspace Entry Time - Slot Credit Substitution Earliest Acceptable	
Definition	The earliest time at which the Airspace user will accept a slot in a Traffic Management Initiative (TMI) Airspace Flow Program (AFP) in return for a yielded slot.
Alternate Names	Slot Credit Substitution Earliest Acceptable Runway Time of Arrival
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	• Provided by airspace users via Slot Credit Substitution CDM message.
Notes	
Reference	• CSC, Traffic Flow Management System-to-Airline Operation Center Network (TFMS-to-AOCNET) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, Release 9, November 19, 2012

3.17 Airspace Entry Time - Slot Credit Substitution Latest Acceptable

Airspace Entry Time - Slot Credit Substitution Latest Acceptable	
Definition	The latest time at which the Airspace user will accept a slot in a Traffic Management Initiative (TMI) Airspace Flow Program (AFP), in return for a yielded slot.
Alternate Names	Slot Credit Substitution Latest Acceptable Runway Time of Arrival
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	• Provided by airspace users via Slot Credit Substitution CDM message.
Notes	
Reference	• CSC, Traffic Flow Management System-to-Airline Operation Center Network (TFMS-to-AOCNET) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, Release 9, November 19, 2012

3.18 Airspace Entry Time - Traffic Flow Management System Estimated

Airspace Entry Time - Traffic Flow Management System Estimated	
Definition	The estimated airspace entry time considering all data sources, as determined by Traffic Flow Management System (TFMS).
Alternate Names	ENTRY
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	
Reference	• CSC, TFMS ADL and Broadcast File Format Specification for the Traffic Flow Management-Modernization (TFM-M) Program, Draft, Release 10, Version 14.0, December 5, 2013

3.19 Airspace Exit Time - Traffic Flow Management System Estimated

Airspace Exit Time - Traffic Flow Management System Estimated	
Definition	The estimated airspace exit time considering all data sources, as determined by Traffic Flow Management System (TFMS).
Alternate Names	EXIT
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	• If the airspace (Flow Evaluation Area (FEA)/Flow Constrained Area (FCA)) is a fix or line segment, then the Airspace Exit Time - TFMS Estimated (EXIT) equals the Airspace Entry Time - TFMS Estimated (ENTRY).
Reference	• CSC, TFMS ADL and Broadcast File Format Specification for the Traffic Flow Management-Modernization (TFM-M) Program, Draft, Release 10, Version 14.0, December 5, 2013

3.20 Airspace Identifier

Airspace Identifier	
Definition	Unique Identifier for the constrained airspace to be traversed by the trajectory option.
Alternate Names	
Has Parts	
Is Part Of	Trajectory Airspace Impact
Data Type(s)	Constrained Airspace
Range of Values	
Business Rules	
Notes	
Reference	- CSC, Traffic Flow Management System (TFMS) Collaborative Trajectory Options Program (CTOP) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, version 3.2, July 2, 2013 - CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.21 Arrival Center

Arrival Center	
Definition	Indicates the Air Route Traffic Control Center (ARTCC) for the arrival point for a flight.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Air Traffic Services Unit
Range of Values	
Business Rules	
Notes	Includes non-standard codes which combine a number of non-CONUS centers, e.g., • ZEU - Europe • ZSA - South America • ZPA - Pacific Full list provided in the reference: CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008.
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013 • CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008

3.22 Arrival Point

Arrival Point	
Definition	The final point or other final entity where the air traffic control/management system route terminates.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Union
Range of Values	
Business Rules	
Notes	- This element could be the Arrival Aerodrome (similar to the way it is defined in core), which could be an ICAO identifier or an FAA Location identifier, or the location - a named fix, Fix Radial Distance (FRD) or Lat/Long. - This could also be the location of a point being over flown - a named fix, FRD or Lat/Long. - This could also be a Special Use Airspace (SUA). - This could also be the identifier for the destination center. - This data element is composed of the following pieces of information. The data type is listed after the colon. - Unit: unit - Unit Format: - LLL - Examples include: - ZLA - ZLN - CZY - Airport or Fix: 2-12 character alphanumeric string - Fix formats include: - aa(a)(a)(a), for fix name or - aa(a)(a)(a)dddddd, for fix radial distance or - dddd(L)/(d)dddd(L), for lat/long - Examples include:

	- AB - BUJ - DFW - KDFW - ATOKA - AB200010 - SHP090015 - ATOKA300040 - 3500/04000 - 3500N/04000W
Reference	- CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.23 Arrival Slot - NAS

Arrival Slot - NAS	
Definition	A time slot at an airport or airspace entry point that identifies a point in time when an aircraft is constrained to arrive at the airport or airspace entry point.
Alternate Names	ASLOT
Has Parts	
Is Part Of	
Data Type(s)	Character String
Range of Values	
Business Rules	
Notes	- This element has been created to address the specific naming convention used in the United States: - NAS format is: 11,12, or 14 characters: aaa(a).dddddL or FCA: ccc.dddddL, where the airport or FCA name is followed by a period, slot date and time (DDHHMM) and an alpha character. - In the United States, when an arrival delay at an airport is implemented, the Traffic Flow Management System (TFMS) allocates the airport capacity into arrival slots that are spaced out to achieve the desired acceptance rate to handle the traffic demand. TFMS then assigns a flight to the slot and updates the flight with the flight specific delay information. - Arrival Slots not assigned to flights and, therefore, available for use are called Unassigned Slots.
Reference	CSC, Traffic Flow Management System-to-Airline Operation Center Network (TFMS-to-AOCNET) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, Release 9, November 19, 2012

3.24 Assigned Altitude

Assigned Altitude	
Definition	The cruise altitude assigned to the active flight.
Alternate Names	Flight Level
Has Parts	
Is Part Of	
Data Type(s)	Record
Range of Values	[0-130000] expressed in feet
Business Rules	
Notes	• This Complex data type is comprised of a block of altitudes. • [ATM IPOP ICD] Transmitted in AH, FH, HU, NP, NU and TH messages as CMS 08[a b c d e f g h] Assigned Altitude. • [ATM IPOP ICD] May be represented as any one of the following: o Altitude or flight level o VFR-on-top o VFR-on-top with altitude o Block of altitudes or flight levels o Aircraft operating above a specified altitude o Altitude/fix/altitude o VFR flight o VFR flight with altitude
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.25 ATC Intended Route

ATC Intended Route	
Definition	The current cleared flight plan route with any unacknowledged auto routes (preferential routes, transition fixes and A-line fixes) already applied.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Character String
Range of Values	
Business Rules	
Notes	• The ATC Intended Route includes to-be-applied AARs (Adapted Arrival Routes) not to be notified in the current center. • Up to 1000 character length string consisting of any letter or digit, plus '/', '+', '*', '.', ' ' representing preferential routes, transition fixes and A-line fixes. • This is a structured string. • [ATM IPOP ICD] Transmitted in AH, FH and HU messages as CMS 10c ATC Intended Route. • [ATM IPOP ICD] Fixes in the route are represented using a fix name, latitude/longitude, or fix radial distance.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.26 Boundary Crossing Position - Actual

Boundary Crossing Position - Actual	
Definition	The actual boundary crossing point inbound to the Air Route Traffic Control Center (ARTCC) for the flight.
Alternate Names	Boundary Crossing Point
Has Parts	Boundary Crossing Time - Actual
Is Part Of	
Data Type(s)	Location
Range of Values	
Business Rules	
Notes	Part of the Boundary Crossing Update.
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.27 Boundary Crossing Time - Actual

Boundary Crossing Time - Actual	
Definition	The actual time at which a flight crosses the associated boundary crossing point.
Alternate Names	
Has Parts	
Is Part Of	Boundary Crossing Position - Actual
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.28 Classified Speed Indicator

Classified Speed Indicator	
Definition	The indication that the speed for this flight is classified and is not to be recorded.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Enumeration
Range of Values	CLASSIFIED
Business Rules	
Notes	[IMPLEMENTATION_NOTES] NAS_EXTENSION: This data element is associated with FIXM Core data element Cruising Speed (FIXM_version - 1.0). [ATM IPOP ICD] Transmitted in AH, FH, HU, NP, NU, and TH messages as CMS 05 [d] Aircraft Speed.
Reference	National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.29 Coast Indicator

Coast Indicator	
Definition	An indicator the aircraft was unexpectedly not detected by radar (after a period of tracking).
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Boolean
Range of Values	
Business Rules	
Notes	• [ATM IPOP ICD] Transmitted in TH message as CMS 153a Coast Indicator.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.30 Collaborative Trajectory Options Program Identifier

Collaborative Trajectory Options Program Identifier	
Definition	The Traffic Flow Management System generated unique identifier for the Collaborative Trajectory Options Program.
Alternate Names	
Has Parts	
Is Part Of	Traffic Flow Management Collaborative Trajectory Options Program Information
Data Type(s)	Character String
Range of Values	
Business Rules	
Notes	Format: CTP\d{3}
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.31 Collaborative Trajectory Options Program Name

Collaborative Trajectory Options Program Name	
Definition	The name for the Collaborative Trajectory Options Program as defined by the traffic manager.
Alternate Names	
Has Parts	
Is Part Of	Traffic Flow Management Collaborative Trajectory Options Program Information
Data Type(s)	Character String
Range of Values	
Business Rules	
Notes	Format: Up to 30 characters
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.32 Computer ID

Computer ID	
Definition	A unique identification assigned by ERAM to each flight plan.
Alternate Names	NAS CID, ECID, ERAM CID
Has Parts	
Is Part Of	
Data Type(s)	Character String
Range of Values	[A-Z] excluding {I, O}, [0-9]
Business Rules	
Notes	• CID is used by controllers as a quick reference to enter commands for a flight. • [ATM IPOP ICD] Transmitted in AC, AH, AK, BA, CL, DH, ET, FH, HB, HC, HD, HE, HF, HH, HO, HP, HT, HU, HV, HX, ID, IE, IH, IM, IO, LH, NI, NL, NP, NU, OH, PH, PT, RE, RH, TH and UI messages as CMS 02d ERAM Computer Identification (ECID) or NAS CID. • A three character code in one of the following formats: two digits plus one letter (ddL), one digit plus one letter plus one digit (dLd), or one digit plus two letters (dLL).
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.33 Coordination Fix

Coordination Fix	
Definition	The fix to be used in conjunction with the Coordination Time so processing for this flight (and its trajectory) can be synchronized for the next sector/facility. It "coordinates" the flight plan with the aircraft position.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Location
Range of Values	
Business Rules	
Notes	[ATM IPOP ICD] Transmitted in AH, FH, HP, and HU messages as CMS 06a Coordination Fix. [ATM IPOP ICD] For a flight, the coordination point is the starting point to begin processing the flight plan route from one of the following points: - the departure airport - the airfile fix or - the reference fix for an active flight
Reference	National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.34 Coordination Time

Coordination Time	
Definition	The time to be used in conjunction with the Coordination Fix so processing for this flight (and its trajectory) can be synchronized for the next sector/facility. It "coordinates" the flight plan with the aircraft position.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	

Notes	• [IMPLEMENTATION_NOTES] NAS_EXTENSION: This data element is closely associated with FIXM Core data elements: Off Block Time-Estimated (FIXM_version - 2.0) and Runway Departure Time - Actual (FIXM_version - 2.0).
	
	• For two values of the Coordination Time Type, the Coordination Time is the same value as an element in FIXM Core:
	    ○ P = FIXM Core data element Off Block Time-Estimated (FIXM version 2.0)
	    ○ D = FIXM Core data element Runway Departure Time - Actual (FIXM version 2.0)
	
	• When the value of the Coordination Time Type is "E", then Coordination Time does not have a direct correspondence to an element in Core.
	
	• [ATM IPOP ICD] Transmitted in AH, DH, FH, HP, and HU messages as CMS 07b or d Coordination Time Element.

Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.35 Coordination Time Type

Coordination Time Type	
Definition	The indicator for the type of "Coordination Time".
Alternate Names	Type of Time Action Indicator Element
Has Parts	
Is Part Of	
Data Type(s)	Enumeration
Range of Values	{P, D, E}
Business Rules	

Notes	• The valid values are:
	
	    o P = Proposed flight plan preparing for departure
	
	    o D = Flight has departed from the departure airport
	
	    o E = Active flight plan; aircraft is flying
	
	• [ATM IPOP ICD] Transmitted in AH, DH, FH, HP, and HU messages as CMS 07a Type of Time Action Indicator Element.

Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.36 Current RVSM Flight Compliance

Current RVSM Flight Compliance	
Definition	Indicates if the flight is currently Reduced Vertical Separation Minimum (RVSM) compliant in RVSM airspace, as determined by the Traffic Flow Management System.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Boolean
Range of Values	true, false
Business Rules	

Notes	• TFMData feed provides the following for this element:
	    o a - if compliant,
	    o NC - non-compliant
	• TFMS FIXM adapter converts the above values into boolean true/false
	• TFMS determines the compliance in the RVSM airspace based on Airborne Equipment Qualifier and other factors

Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.37 Deicing Information

Deicing Information	
Definition	Indicates the intent for the flight to be deiced and the intended deicing location.
Alternate Names	
Has Parts	Deicing Intent, Deicing Location
Is Part Of	Flight Intent
Data Type(s)	Record
Range of Values	
Business Rules	
Notes	
Reference	• Terminal Flight Data Manager (TFDM) Core for Airport Traffic Control Towers (ATCT) Concept of Operations, ConOps-PMO-02-TFDM-13-001, Rev. 2.1, Terminal Flight Data Manager Program Office, November 4, 2013.

3.38 Deicing Intent

Deicing Intent	
Definition	Indicates the intent for the flight to be deiced.
Alternate Names	
Has Parts	
Is Part Of	Deicing Information
Data Type(s)	Boolean
Range of Values	
Business Rules	
Notes	
Reference	• Terminal Flight Data Manager (TFDM) Core for Airport Traffic Control Towers (ATCT) Concept of Operations, ConOps-PMO-02-TFDM-13-001, Rev. 2.1, Terminal Flight Data Manager Program Office, November 4, 2013.

3.39 Deicing Location

Deicing Location	
Definition	Indicates the location where the flight intends to be deiced.
Alternate Names	
Has Parts	
Is Part Of	Deicing Information
Data Type(s)	Character String
Range of Values	
Business Rules	
Notes	
Reference	• Terminal Flight Data Manager (TFDM) Core for Airport Traffic Control Towers (ATCT) Concept of Operations, ConOps-PMO-02-TFDM-13-001, Rev. 2.1, Terminal Flight Data Manager Program Office, November 4, 2013.

3.40 Delay Time to Absorb

Delay Time to Absorb	
Definition	Indicates the amount of time that needs to be absorbed during the flight. It is corrective action for meeting the goal of Estimated Departure Clearance Time (EDCT), when flight is already active and needs to arrive at the destination later than originally planned.
Alternate Names	Arrival Delay, Provide Delay Time
Has Parts	
Is Part Of	
Data Type(s)	Time Duration
Range of Values	
Business Rules	
Notes	• The Estimated Departure Clearance Time (EDCT) entered for the flight to delay arrival time at an airport is used by automation to determine and assign the Delay Time to Absorb. • [ATM IPOP ICD] Transmitted in AH, DH, FH, HP and HU messages as CMS 07e Coordination Time. In CMS, the field is called Provide Delay Time.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.41 Departure Center

Departure Center	
Definition	Indicates the Air Route Traffic Control Center (ARTCC) for the departure point for a flight.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Air Traffic Services Unit
Range of Values	
Business Rules	
Notes	Includes non-standard codes which combine a number of non-CONUS centers, e.g., • ZEU - Europe • ZSA - South America • ZPA - Pacific Full list provided in the reference: CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008.
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013 • CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008

3.42 Departure Point

Departure Point	
Definition	The first point or other initial entity where the air traffic control/management system route starts.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Union
Range of Values	
Business Rules	
Notes	- This element could be the Departure Aerodrome (similar to the way it is defined in core), which could be an ICAO identifier or an FAA Location identifier or the location - a named fix, Fix Radial Distance (FRD) or Lat/Long. - This could also be the location of a point being flown - a named fix, FRD or Lat/Long. - This could also be a Special Use Airspace (SUA). - This could also be the identifier for the departure center. - This data element is composed of the following pieces of information. The data type is listed after the colon. - Unit: unit - Unit Format: - LLL - Examples include: - ZAU - ZLN - CZY - Airport or Fix: 2-12 character alphanumeric string - Fix formats include: - aa(a)(a)(a), for fix name or - aa(a)(a)(a)dddddd, for fix radial distance or - dddd(L)/(d)dddd(L), for lat/long - Examples include:

	- AB - BUJ - DFW - KDFW - ATOKA - AB200010 - SHP090015 - ATOKA300040 - 3500/04000 - 3500N/04000W
Reference	- CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.43 En Route Clearance Heading

En Route Clearance Heading	
Definition	Contains the En Route Controller Clearance heading, as entered by the controller in the fourth line of the Full Data Block.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Direction
Range of Values	
Business Rules	
Notes	• [ATM IPOP ICD] Transmitted in HV message as CMS 155a FDB Fourth Line Heading.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.44 En Route Clearance Speed

En Route Clearance Speed	
Definition	This data element contains the En Route Controller Clearance speed, as entered by the controller in the fourth line of the Full Data Block.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Speed
Range of Values	
Business Rules	
Notes	• The method of measurement is Indicated Airspeed (IAS), usually in knots or mach. • [ATM IPOP ICD] Transmitted in HF message as CMS 155b FDB Fourth Line Speed.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.45 En Route Clearance Text

En Route Clearance Text	
Definition	This data element contains free-form text entered by the En Route Controller, to be associated with the Clearance in the fourth line of the Full Data Block.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Character String
Range of Values	
Business Rules	• Valid input includes up arrow, down arrow, and overcast symbol.
Notes	• [ATM IPOP ICD] Transmitted in HF message as CMS 155c Free Form Text. • This element may contain symbols that are not standard ASCII characters. The symbols originated in ERAM and could be sent to NAS consumers such as SFDPS (SWIM Flight Data Publication Service). The SWIM consumer of this data element needs to be aware that these non-standard ASCII characters could be present and translate accordingly.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.46 Fixed Airspace Volume Number Containing First Adapted Arrival Route Fix

Fixed Airspace Volume Number Containing First Adapted Arrival Route Fix	
Definition	Contains the uncombined Fixed Airspace Volume (FAV) number containing the first Adapted Arrival Route (AAR) fix.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Numeric String
Range of Values	
Business Rules	• [ATM IPOP ICD] The FAV containing the first AAR fix may be repeated up to four times.
Notes	• [ATM IPOP ICD] Transmitted in AH, FH and HU message as CMS 143b Uncombined FAV Containing the First AAR Fix.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.47 Flight Class

Flight Class	
Definition	Denotes the flight class of the aircraft which is determined by the aircraft call sign that is in the Aircraft Situation Display to Industry (ASDI) feed.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Enumeration
Range of Values	{GA,lifeguard,taxi,Canadian GA,Military}
Business Rules	
Notes	Partial Match with Flight Type in v2.0, not all values match. Description under TFMData seems to be incomplete.
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.48 Flight Intent

Flight Intent	
Definition	A container for the list of intent values provided by the flight operator that designate the intentions of a flight prior to departure from an aerodrome or after arrival at an aerodrome.
Alternate Names	
Has Parts	Deicing Information, Stand Return Intent, Intended Departure Spot, Intended Arrival Spot, Airport Movement Area Holding - Departure Information, Airport Movement Area Holding - Arrival Information
Is Part Of	
Data Type(s)	Record
Range of Values	
Business Rules	For airport surface management in the United States.: • Intent for a departing flight to hold in the Airport Movement Area when surface departure metering or other Traffic Management Initiatives are in effect • Intent for an arriving flight to hold in the Airport Movement Area due to unavailability of a parking stand or ramp access • Intent for a flight to be de-iced • Intended departure spot (entry point in the airport movement area from the non-movement area) • Intended arrival spot (entry point in the non-movement area from the airport movement area) • Stand return Intent
Notes	For airport surface management in the United States., this data element facilitates airport surface departure management.
Reference	• Draft U.S. Airport Surface Collaborative Decision Making (CDM) Concept of Operations (ConOps) in the Near-Term, Application of Surface CDM at United States Airports, Federal Aviation Administration (FAA) Air Traffic Organization Surface Operations Office, July 23, 2013. • Terminal Flight Data Manager (TFDM) Core for Airport Traffic Control Towers (ATCT) Concept of Operations, ConOps-PMO-02-TFDM-13-001, Rev. 2.1, Terminal Flight Data Manager Program Office, November 4, 2013.

3.49 Flight Plan Identifier

Flight Plan Identifier	
Definition	The flight plan identifier is used to uniquely name a flight plan within the scope of its flight.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Character String
Range of Values	
Business Rules	

Notes	• This element could be used to identify a handle or key for the flight object in some system - for example, a legacy system that uses some identifier for the flight object other than Globally Unique Flight Identifier (GUFI). The usage of this element will be determined at the regional level, and it may be the case this element is not exchanged globally.
	
	    o This could be an identifier generated by an Air Navigation Service Provider (ANSP). In the United States, this will be the ERAM GUFI - an identifier unique for the flight in the National Airspace System (NAS).
	
	    o This could be an identifier generated and used by the aircraft operator.

Reference	• FIXM Development Team collaboration

3.50 Flight Rules - NAS

Flight Rules - NAS	
Definition	The regulation, or combination of regulations, that governs all aspects of operations under which the pilot plans to fly in the NAS.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Enumeration
Range of Values	I, V, D
Business Rules	• May change during the course of the flight based on contents of the route field.

Notes	• [IMPLEMENTATION_NOTES] NAS_EXTENSION: This data element extends, by adding an additional value, FIXM Core data element Flight Rules.
	
	• [ATM IPOP ICD] Transmitted in AH, FH, and HU messages as CMS 10a Flight Plan Route
	
	•
	
	• The meaning of the values is as follows:
	    o I - Instrument Flight Rules (IFR)
	    o V - Visual Flight Rules (VFR)
	    o D - Defense Visual Flight Rules (DVFR)

Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.51 Future RVSM Flight Compliance

Future RVSM Flight Compliance	
Definition	Indicates if the flight will be Reduced Vertical Separation Minimum (RVSM) compliant when it reaches the RVSM airspace, as determined by the Traffic Flow Management System (TFMS).
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Boolean
Range of Values	true, false
Business Rules	
Notes	- TFMData feed provides the following for this element: - a - if compliant, - NC - non-compliant - TFMS FIXM adapter converts the above values into boolean true/false - TFMS determines the compliance in the RVSM airspace based on Airborne Equipment Qualifier and other factors
Reference	CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.52 Handoff Accepting Sector

Handoff Accepting Sector	
Definition	The Air Traffic Control (ATC) sector accepting control of the aircraft as a result of a handoff.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Sector
Range of Values	
Business Rules	The sector where the handoff was actually accepted. This may be different from the 'Handoff Receiving Sector" due to the controller's capability of accepting a handoff not routed to him, using the /OK override.
Notes	[IMPLEMENTATION_NOTES] NAS_EXTENSION: This data element is closely associated with FIXM Core data element Handoff Receiving Sector. [ATM IPOP ICD] Transmitted in the OH message as CMS 335a Accepting Sector.
Reference	National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2009

3.53 Handoff Accepting Unit

Handoff Accepting Unit	
Definition	The Air Traffic Control (ATC) unit accepting control of the aircraft as a result of a handoff.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Air Traffic Services Unit
Range of Values	
Business Rules	The Unit where the handoff was accepted. This will always be the same unit as the receiving unit.
Notes	[IMPLEMENTATION_NOTES] NAS_EXTENSION: This data element is closely associated with FIXM Core data element Handoff Receiving Unit. [ATM IPOP ICD] Transmitted in the OH message as CMS 334a Accepting Facility.
Reference	- National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2009 - ICAO 7910, Location Indicators, latest published edition.

3.54 Handoff Event Category

Handoff Event Category	
Definition	Characterizes a handoff in terms of its status.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Enumeration
Range of Values	{ I, A, R, T, U, F}
Business Rules	
Notes	• [ATM IPOP ICD] Transmitted in OH message as CMS 336a Handoff Event Indicator. • The meaning of the enumerated value is: I for Initiation, A for Acceptance, R for Retraction, T for Take Control, U for Update, F for Failure.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.55 Hold Data Expect Further Clearance Time

Hold Data Expect Further Clearance Time	
Definition	The time the flight can expect further clearance at the specified hold fix.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	• [ATM IPOP ICD] Transmitted in HH and HO messages as CMS 21d Hold Data Time.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.56 Hold Data Fix

Hold Data Fix	
Definition	The location for the flight to Hold along the filed route of flight.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Location
Range of Values	
Business Rules	
Notes	• [ATM IPOP ICD] Transmitted in HH and HO messages as CMS 21a Hold Data Fix.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.57 In-Block Time - Scheduled

In-Block Time - Scheduled	
Definition	Scheduled gate time of arrival for a flight, as provided by the OAG (Official Airline Guide).
Alternate Names	Scheduled Gate Time of Arrival, SGTA
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	• The element is only present for flights which were created from the OAG; otherwise, it is null.
Notes	• This element is Traffic Flow Management System (TFMS) specific, indicating the flight was created from the OAG.
Reference	• CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008

3.58 Intended Arrival Spot

Intended Arrival Spot	
Definition	Indicates the location intended for the flight to enter the non-movement area from the airport movement area.
Alternate Names	
Has Parts	
Is Part Of	Flight Intent
Data Type(s)	Character String
Range of Values	
Business Rules	
Notes	
Reference	• Terminal Flight Data Manager (TFDM) Core for Airport Traffic Control Towers (ATCT) Concept of Operations, ConOps-PMO-02-TFDM-13-001, Rev. 2.1, Terminal Flight Data Manager Program Office, November 4, 2013.

3.59 Intended Departure Spot

Intended Departure Spot	
Definition	Indicates the location intended for the flight to enter the airport movement area from the non-movement area.
Alternate Names	
Has Parts	
Is Part Of	Flight Intent
Data Type(s)	Character String
Range of Values	
Business Rules	
Notes	
Reference	• Terminal Flight Data Manager (TFDM) Core for Airport Traffic Control Towers (ATCT) Concept of Operations, ConOps-PMO-02-TFDM-13-001, Rev. 2.1, Terminal Flight Data Manager Program Office, November 4, 2013.

3.60 Interim Altitude Information

Interim Altitude Information	
Definition	The altitude an aircraft is cleared to maintain different from that in the flight plan.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Union
Range of Values	
Business Rules	
Notes	• The aircraft will (climb or descend to and) maintain the new altitude for a short period of time and, subsequently, be re-cleared to the altitude in the flight plan, or a new altitude, or a new interim altitude. • An interim value of "D" indicates the interim altitude has been deleted. • Consists of an altitude (of Type Altitude) or an indicator to delete ((Enumeration {D}). • [ATM IPOP ICD] Transmitted in HE, LH, NP, and NU messages as CMS 76ab Interim Altitude. [ATM IPOP ICD] Leading zeroes are required.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.61 Local Intended Route

Local Intended Route	
Definition	The flight plan route that is coordinated to penetrated facilities. It consists of the filed route (CMS field 10a) merged with any expected-to-be-applied-by-the-controlling-center Adapted Departure Routes (ADRs), Adapted Departure Arrival Routes (ADARs) or Adapted Arrival Routes (AARs) applied.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Character String
Range of Values	
Business Rules	
Notes	• Limit length to 1000 character alphanumeric string with the addition of the asterisk (*) character representing the route. • [ATM IPOP ICD] Transmitted in AH, FH and HU messages as CMS 10b Local Intended Route.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.62 Movement Area Entry Time - Airspace User Requested

Movement Area Entry Time - Airspace User Requested	
Definition	Indicates the time when the flight is estimated to request entry in the airport movement area.
Alternate Names	
Has Parts	
Is Part Of	Airport Movement Area Holding - Departure Information
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	
Reference	• Draft U.S. Airport Surface Collaborative Decision Making (CDM) Concept of Operations (ConOps) in the Near-Term, Application of Surface CDM at United States Airports, Federal Aviation Administration (FAA) Air Traffic Organization Surface Operations Office, July 23, 2013. • Terminal Flight Data Manager (TFDM) Core for Airport Traffic Control Towers (ATCT) Concept of Operations, ConOps-PMO-02-TFDM-13-001, Rev. 2.1, Terminal Flight Data Manager Program Office, November 4, 2013.

3.63 Movement Area Entry Time - Target

Movement Area Entry Time - Target	
Definition	The time at which a flight is assigned to enter the Airport Movement Area (AMA) when airport surface departure metering procedures are in effect.
Alternate Names	Target Movement Area Entry Time (TMAT)
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	For airport surface management in the United States, this data element facilitates airport surface departure management.
Reference	• Draft U.S. Airport Surface Collaborative Decision Making (CDM) Concept of Operations in the Near-Term, Application of Surface CDM at United States Airports, Federal Aviation Administration (FAA) Air Traffic Organization Surface Operations Office, July 23, 2013.

3.64 Movement Area Exit Time - Airspace User Requested

Movement Area Exit Time - Airspace User Requested	
Definition	Indicates the time when the flight is estimated to exit the airport movement area.
Alternate Names	
Has Parts	
Is Part Of	Airport Movement Area Holding - Arrival Information
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	
Reference	• Terminal Flight Data Manager (TFDM) Core for Airport Traffic Control Towers (ATCT) Concept of Operations, ConOps-PMO-02-TFDM-13-001, Rev. 2.1, Terminal Flight Data Manager Program Office, November 4, 2013.

3.65 NAS Advisory Information

NAS Advisory Information	
Definition	A container for Traffic Flow Management advisories pertinent to a single flight.
Alternate Names	
Has Parts	Traffic Flow Management Advisory Number, Traffic Flow Management Advisory Type, Traffic Flow Management Advisory Update Time
Is Part Of	
Data Type(s)	Record
Range of Values	
Business Rules	
Notes	TFMData FI messages: • afpAdvisory • afpCancel • gdpAdvisory • gdpCancel • gsAdvisory • gsCancel • reroute • ctopDefinition • ctopCancel
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.66 NAS Route

NAS Route	
Definition	This element is the filed route. It only includes acknowledged auto routes. Once the flight is active, this element shows the currently cleared route the airplane will fly from the departure airport to the arrival airport.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Character String
Range of Values	
Business Rules	• The field must contain a minimum of two elements containing the departure element followed by the destination element.
Notes	• [IMPLEMENTATION_NOTES] REPLACES: This data element replaces FIXM Core data element Route. • [ATM IPOP ICD] Transmitted in AH, FH, and HU messages as CMS 10a Flight Plan Route. • [ATM IPOP ICD] The field is an optionally repeating fix-route-fix sequence, where the first element of the route field is the first fix element, and the second element of the route field is the first route element. Periods (.) delimit elements in the flight plan route, and a fix or route element may be null (..). When a fix element is followed by a null route element followed by a fix element (fix..fix), the sequence is called a direct route segment. When a route element is followed by a null fix element followed by a route element (route..route), the junction fix is implied. Special tailoring symbol may be included (./.), as well as, special second elements such as .., .VFR., .DVFR., special indicators for military routes with reentry, and special optional control suffixes on fixes. Special suffixes can include Auto Route Inhibit and Delay Data for a fix. • For Collaborative Trajectory Options Program (CTOP), this is the route associated with a single trajectory option for a flight. It indicates the intent of the flight and includes the path over the surface of the earth, the altitude and the speed for the flight.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008 • CSC, Traffic Flow Management System (TFMS) Collaborative Trajectory Options Program (CTOP) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, version 3.2, July 2, 2013 • CSC, System Wide Information Management (SWIM) Traffic Flow Management

	Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.67 NAS Route - Reentry for Military Route

NAS Route - Reentry for Military Route	
Definition	An indication that a portion of a Military Route is to be flown more than once. The element includes an indication of which adapted portion of the route as well as the number of times the fixes are to be flown. It is filed in a NAS Route string and associated with a Military Route. There can be up to two of these per Military Route in the NAS route string.
Alternate Names	Special Route Indicator
Has Parts	
Is Part Of	
Data Type(s)	Record
Range of Values	
Business Rules	
Notes	[IMPLEMENTATION_NOTES] NAS_EXTENSION: This data element extends FIXM Core data element Route. [ATM IPOP ICD] Transmitted in AH, FH, and HU messages as CMS 10a Flight Plan Route. [ATM IPOP ICD] Format is - MilitaryRoute+Rd(d) - MilitaryRoute+Sd(d) - MilitaryRoute+Rd(d)+S(d) [ATM IPOP ICD] - The Military routes can have a Special indicator to fly over a portion of the same FIXs more than one time as follows: - FIXA.MilitaryRoute+R2.FIXB..FIXC - The Military route will have a number of FIXs adapted as reentry FIXs. If the Reentry +Rd(d) is filed, ERAM will produce the extra FIXs the number of times specified. If the Reentry is not filed, ERAM will not insert the Reentry FIXs that are adapted while flying the route. - FIXA.MilitaryRoute+R2+S1.FIXB..FIXC - The same process applies to the "Sd(d) Reentry Special route element. - The complex datatype is comprised of: - An indication of which set of fixes adapted in the Military Route are to be

	flown (R or S)
	○ The number of times the indicated portion of the route is to be flown (Integer in range 1-99)
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.68 Off-Block Time - Scheduled

Off-Block Time - Scheduled	
Definition	Scheduled gate time of departure for a flight, as provided by the OAG (Official Airline Guide).
Alternate Names	Scheduled Gate Time of Departure, SGTD
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	• The element is only present for flights which were created from the OAG; otherwise, it is null.
Notes	• This element is Traffic Flow Management System (TFMS) specific, indicating the flight was created from the OAG.
Reference	• CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008

3.69 Other Flight Information

Other Flight Information	
Definition	This element consists of an identification tag/indicator and the relevant value. This information is "extra" information about the flight that does not fall into some other predefined category.
Alternate Names	ICAO Item 18 adapted indicators
Has Parts	
Is Part Of	
Data Type(s)	Record
Range of Values	
Business Rules	

Notes	• This data element is composed of the following pieces of information. The data type is listed after the colon.
	
	    o Identification tag: Up to four character tag, formatted as an Alpha string.
	
	    o Identification value: Free form text that contains the content associated with the Identification Tag. Formatted as an Alphanumeric string.

Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2009 • North American (NAM) Common Coordination Interface Control Document (ICD) VOLUME 1: Area Control Centre (ACC) to ACC, 1/20/12

3.70 Performance-Based Navigation Accuracy

Performance-Based Navigation Accuracy	
Definition	This is the flight's navigation accuracy value for the phase of flight, specified in the Performance-Based Navigation Phase.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Float
Range of Values	[0.01-99.99]
Business Rules	
Notes	• [ATM IPOP ICD] Transmitted in FH, AH, and HU messages as CMS 925 [a b c d e f g h i j k l] RNV entries and RNP entries. • [ATM IPOP ICD] If the accuracy measurement includes on-board navigation performance monitoring and alerting, the measurement measures Required Navigation Performance (RNP); if not, the measurement measures Area Navigation (RNAV).
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.71 Performance-Based Navigation Category

Performance-Based Navigation Category	
Definition	This is an enumeration indicating whether the accuracy measure in Performance-Based Navigation Accuracy is measuring Area Navigation (RNAV) or Required Navigation Performance (RNP).
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Enumeration
Range of Values	{RNP, RNV}
Business Rules	

Notes	• Valid values are:
	
	    o RNV - Area Navigation
	
	    o RNP - Required Navigation Performance
	
	• [ATM IPOP ICD] Transmitted in FH, AH, and HU messages as CMS 925[a b c d e f g h i j k l] RNV entries and RNP entries.
	
	• [ATM IPOP ICD] If the accuracy measurement includes on board navigation performance monitoring and alerting, the measurement is called RNP; if not, the measurement is categorized as RNAV.

Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.72 Performance-Based Navigation Phase

Performance-Based Navigation Phase	
Definition	The phase of flight for which navigation performance is being recorded.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Enumeration
Range of Values	{D, A, E, G, L, S}
Business Rules	

Notes	• The meaning of the enumerated values is:
	
	    o D - Departure
	
	    o A - Arrival
	
	    o E - Enroute
	
	    o G - Oceanic
	
	    o L - Spare1
	
	    o S - Spare2
	
	• [ATM IPOP ICD] Transmitted in FH, AH, and HU messages as CMS 925[a b c d e f g h i j k l] RNV entries and RNP entries.

Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.73 Predicted Airways

Predicted Airways	
Definition	Current prediction of the airways along the trajectory of a flight.
Alternate Names	
Has Parts	
Is Part Of	Route Impact List
Data Type(s)	Array
Range of Values	
Business Rules	
Notes	• In the United States, the TFMS Aircraft Situation Display to Industry (ASDI) feed provides the list of airways as shown in the example below: o <nxce:airway sequenceNumber="1">ACO2</nxce:airway> o <nxce:airway sequenceNumber="2">SBV4</nxce:airway>
Reference	• CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008 • CSC 'Aircraft Situation Display to Industry: Functional Description and Interface Control Document for the XML Version', Ver. 1.8, April 15, 2011

3.74 Predicted Fixes

Predicted Fixes	
Definition	Current prediction of fixes along the trajectory of a flight, where these predictions are based on all the information available to the Traffic Flow Management System (TFMS).
Alternate Names	
Has Parts	
Is Part Of	Route Impact List
Data Type(s)	Array
Range of Values	
Business Rules	
Notes	Aircraft Situation Display to Industry (ASDI) example:<nxce:fix sequenceNumber="1">DTW</nxce:fix><nxce:fix sequenceNumber="2">ACO2</nxce:fix><nxce:fix sequenceNumber="3">CAGAP</nxce:fix><nxce:fix sequenceNumber="4">VEELA</nxce:fix><nxce:fix sequenceNumber="5">MAARS</nxce:fix><nxce:fix sequenceNumber="6">SPHRE</nxce:fix><nxce:fix sequenceNumber="7">AZTRO</nxce:fix><nxce:fix sequenceNumber="8">ACO</nxce:fix><nxce:fix sequenceNumber="9">AIR</nxce:fix><nxce:fix sequenceNumber="10">EKN</nxce:fix><nxce:fix sequenceNumber="11">ROA</nxce:fix><nxce:fix sequenceNumber="12">SBV4</nxce:fix><nxce:fix sequenceNumber="13">SBV</nxce:fix><nxce:fix sequenceNumber="14">ALDAN</nxce:fix><nxce:fix sequenceNumber="15">BILLA</nxce:fix><nxce:fix sequenceNumber="16">DUHAM</nxce:fix><nxce:fix sequenceNumber="17">RDU</nxce:fix><nxce:fix sequenceNumber="18">RDU</nxce:fix>
Reference	1. CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008 2. CSC 'Aircraft Situation Display to Industry: Functional Description and Interface Control Document for the XML Version', Ver. 1.8, April 15, 2011

3.75 Predicted Sectors

Predicted Sectors	
Definition	Current prediction of the sectors along the trajectory of a flight.
Alternate Names	
Has Parts	
Is Part Of	Route Impact List
Data Type(s)	Array
Range of Values	
Business Rules	

Notes	• Complex data type consists of a series of Sector Airspace data types
	
	• In the United States, the TFMS Aircraft Situation Display to Industry (ASDI) feed provides the list of sectors as shown in the example below:
	
	    o <nxce:sector sequenceNumber="1">ZOBDTW</nxce:sector>
	
	    o <nxce:sector sequenceNumber="2">ZOB21</nxce:sector>
	
	    o <nxce:sector sequenceNumber="3">ZOB75</nxce:sector>
	
	    o <nxce:sector sequenceNumber="4">ZOB48</nxce:sector>
	
	    o <nxce:sector sequenceNumber="5">ZDC22</nxce:sector>
	
	    o <nxce:sector sequenceNumber="6">ZDCRDU</nxce:sector>
	
	• The List of Sectors includes also the terminal control area sectors.

Reference	• CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008 • CSC 'Aircraft Situation Display to Industry: Functional Description and Interface Control Document for the XML Version', Ver. 1.8, April 15, 2011

3.76 Predicted Units

Predicted Units	
Definition	Current prediction of the en route Air Traffic Control units (centres) along the trajectory of a flight.
Alternate Names	Predicted Centres
Has Parts	
Is Part Of	Route Impact List
Data Type(s)	Array
Range of Values	
Business Rules	
Notes	- Complex data type consists of a series of Air Traffic Services Unit data types. - In the United States, the TFMS Aircraft Situation Display to Industry (ASDI) feed provides the list of centres as shown in the example below: <nxce:center sequenceNumber="1">ZOB</nxce:center> <nxce:center sequenceNumber="2">ZDC</nxce:center>
Reference	- CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008 - CSC 'Aircraft Situation Display to Industry: Functional Description and Interface Control Document for the XML Version', Ver. 1.8, April 15, 2011

3.77 Predicted Waypoints

Predicted Waypoints	
Definition	Current prediction of the waypoints of the trajectory for a flight, where these predictions are based on all the information available to the Traffic Flow Management System (TFMS).
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Array
Range of Values	
Business Rules	
Notes	Aircraft Situation Display to Industry (ASDI) example:<nxce:waypoint sequenceNumber="1" latitudeDecimal="2532" longitudeDecimal="5001"/><nxce:waypoint sequenceNumber="2" latitudeDecimal="2531" longitudeDecimal="4992"/><nxce:waypoint sequenceNumber="3" latitudeDecimal="2531" longitudeDecimal="4992"/><nxce:waypoint sequenceNumber="4" latitudeDecimal="2531" longitudeDecimal="4990"/><nxce:waypoint sequenceNumber="5" latitudeDecimal="2530" longitudeDecimal="4988"/><nxce:waypoint sequenceNumber="6" latitudeDecimal="2530" longitudeDecimal="4987"/><nxce:waypoint sequenceNumber="7" latitudeDecimal="2530" longitudeDecimal="4986"/><nxce:waypoint sequenceNumber="8" latitudeDecimal="2530" longitudeDecimal="4984"/><nxce:waypoint sequenceNumber="9" latitudeDecimal="2529" longitudeDecimal="4979"/><nxce:waypoint sequenceNumber="10" latitudeDecimal="2529" longitudeDecimal="4978"/>
Reference	1. CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008 2. CSC 'Aircraft Situation Display to Industry: Functional Description and Interface Control Document for the XML Version', Ver. 1.8, April 15, 2011

3.78 Requested Altitude

Requested Altitude	
Definition	The cruise altitude filed or requested for the proposed flight.
Alternate Names	Flight Level
Has Parts	
Is Part Of	
Data Type(s)	Record
Range of Values	
Business Rules	
Notes	- This complex data type is comprised of one or a block of Altitudes and Flight Rules. [IMPLEMENTATION_NOTES] NAS_EXTENSION: This data element extends FIXM Core data element Cruising Level (FIXM_version - 1.0). [ATM IPOP ICD] Transmitted in AH and FH messages as CMS 09[a b c d e f g] Requested Altitude. [ATM IPOP ICD] May be represented as any one of the following: - altitude or flight level - vfr-on-top - vfr-on-top with altitude - aircraft operating above a specified altitude - block of altitudes or flight levels - vfr flight - vfr flight with altitude
Reference	National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.79 Route Impact List

Route Impact List	
Definition	Current traffic flow management prediction of en route Air Traffic Control units (centres), sectors and airspace elements along the trajectory of a flight.
Alternate Names	
Has Parts	Predicted Airways, Predicted Units, Predicted Sectors, Predicted Fixes, Predicted Waypoints
Is Part Of	
Data Type(s)	Record
Range of Values	
Business Rules	
Notes	
Reference	• CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008 • CSC 'Aircraft Situation Display to Industry: Functional Description and Interface Control Document for the XML Version', Ver. 1.8, April 15, 2011

3.80 Runway Arrival Time - Airspace User Estimated

Runway Arrival Time - Airspace User Estimated	
Definition	The estimated time of runway arrival, as provided by the Airspace User.
Alternate Names	Flight Operator Estimated Runway Time of Arrival, LRTA
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	• Provided by airspace users via CDM messages.
Notes	
Reference	• CSC, Traffic Flow Management System-to-Airline Operation Center Network (TFMS-to-AOCNET) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, Release 9, November 19, 2012 • CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008

3.81 Runway Arrival Time - Earliest

Runway Arrival Time - Earliest	
Definition	The earliest acceptable arrival time provided by the Airspace user for a flight.
Alternate Names	Earliest Runway Time of Arrival, ERTA
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	• Provided by airspace users via CDM messages. • The field may be null.
Notes	• In U.S. CDM, if the user has sent this field in a CDM FC or FM message, then the most recent such time is contained in this field. A user can limit how much earlier TFMS will move a flight by sending an Earliest Runway Time of Arrival (ERTA). This ensures a flight will not get assigned a Controlled Time of Arrival (CTA) in a Ground Delay Program earlier than desired by the user.
Reference	• CSC, Traffic Flow Management System-to-Airline Operation Center Network (TFMS-to-AOCNET) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, Release 9, November 19, 2012

3.82 Runway Arrival Time - Original

Runway Arrival Time - Original	
Definition	The last Runway Arrival Time - Traffic Flow Management System (TFMS) Estimated modeled by TFMS before either a Traffic Management Initiative (TMI) is issued, or the flight departs, or the flight is "time-out" delayed by TFMS.
Alternate Names	OETA, Original ETA
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	The data element is used to "back out" of a TMI, and it does NOT include any time-out delay modeled by TFMS.
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.83 Runway Arrival Time - Preferred

Runway Arrival Time - Preferred	
Definition	A runway arrival time which, when considered in aggregate with other flights for that Airspace User, indicates the preferred arrival sequence.
Alternate Names	Preferred Runway Arrival Time
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	- A Preferred Time is not the same as a Slot. - A Slot is a time allocated by Air Traffic Control (ATC) in certain air traffic management situations, while a Preferred Time indicates the Airspace User's desire. - A Slot may align with a Preferred Time, or it may differ. - A Slot has a higher operational priority for achievement than a Preferred Time. - A Preferred Time also supports activities which may be proposing or revising a Slot and is an indication in situations where a Slot has not been, or is not normally, allocated. - Note that, although most major airports employ Slot allocation practices, it is not a mandatory practice for all airports.
Notes	
Reference	K. Howard, CDM Message Formats, Version 2.2, Volpe NTSC (USDOT RITA) Memorandum, 3 November 2005.

3.84 Runway Arrival Time - Slot Credit Substitution Earliest Acceptable

Runway Arrival Time - Slot Credit Substitution Earliest Acceptable	
Definition	The earliest time at which the Airspace user will accept a slot in a Traffic Management Initiative (TMI) Ground Delay Program (GDP) in return for a yielded slot.
Alternate Names	Slot Credit Substitution Earliest Acceptable Runway Time of Arrival
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	• Provided by airspace users via Slot Credit Substitution CDM message.
Notes	
Reference	• CSC, Traffic Flow Management System-to-Airline Operation Center Network (TFMS-to-AOCNET) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, Release 9, November 19, 2012

3.85 Runway Arrival Time - Slot Credit Substitution Latest Acceptable

Runway Arrival Time - Slot Credit Substitution Latest Acceptable	
Definition	The latest time at which the Airspace user will accept a slot in a Traffic Management Initiative (TMI) Ground Delay Program (GDP), in return for a yielded slot.
Alternate Names	Slot Credit Substitution Latest Acceptable Runway Time of Arrival
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	• Provided by airspace users via Slot Credit Substitution CDM message.
Notes	
Reference	• CSC, Traffic Flow Management System-to-Airline Operation Center Network (TFMS-to-AOCNET) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, Release 9, November 19, 2012

3.86 Runway Arrival Time - Traffic Flow Management System Estimated

Runway Arrival Time - Traffic Flow Management System Estimated	
Definition	The estimated runway arrival time considering all data sources, as determined by Traffic Flow Management System (TFMS).
Alternate Names	Estimated Time of Arrival, ETA
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	
Reference	• CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008 • CSC 'Aircraft Situation Display to Industry: Functional Description and Interface Control Document for the XML Version', Ver. 1.8, April 15, 2011

3.87 Runway Departure Time - Airspace User Estimated

Runway Departure Time - Airspace User Estimated	
Definition	The estimated time of runway departure, as provided by the Airspace User.
Alternate Names	Flight Operator Estimated Runway Time of Departure, LRTD
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	• Provided by airspace users via CDM messages.
Notes	
Reference	• VNTSC 'CDM message Formats' ver 2.2, March 31, 2005 • CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008

3.88 Runway Departure Time - Earliest

Runway Departure Time - Earliest	
Definition	Earliest acceptable runway departure time (wheels-off time) an Airspace user provides for a flight.
Alternate Names	Earliest Runway Time of Departure, ERTD
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	• Provided by airspace users via CDM messages. • The field may be null.
Notes	
Reference	• CSC, Traffic Flow Management System-to-Airline Operation Center Network (TFMS-to-AOCNET) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, Release 9, November 19, 2012

3.89 Runway Departure Time - Original

Runway Departure Time - Original	
Definition	The last Runway Departure Time - Traffic Flow Management System (TFMS) Estimated modeled by TFMS before either a Traffic Management Initiative (TMI) is issued, or the flight departs, or the flight is "time-out" delayed by TFMS.
Alternate Names	OETD, Original ETD
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	The data element is used to "back out" of a TMI, and it does NOT include any time-out delay modeled by TFMS.
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.90 Runway Departure Time - Preferred

Runway Departure Time - Preferred	
Definition	A runway departure time which, when considered in aggregate with other flights for that Airspace User, indicates the preferred departure sequence.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	A Preferred Time is not the same as a Slot. A Slot is a time allocated by Air Traffic Control (ATC) in certain air traffic management situations, while a Preferred Time indicates the Airspace User's desire. A Slot may align with a Preferred Time, or it may differ. A Slot has a higher operational priority for achievement than a Preferred Time. A Preferred Time also supports activities which may be proposing or revising a Slot, and is an indication in situations where a Slot has not been, or is not normally, allocated. Note that, although most major airports employ Slot allocation practices, it is not a mandatory practice for all airports.
Notes	
Reference	

3.91 Runway Departure Time - Traffic Flow Management System Estimated

Runway Departure Time - Traffic Flow Management System Estimated	
Definition	The estimated runway departure time considering all data sources, as determined by Traffic Flow Management System (TFMS).
Alternate Names	Estimated Time of Departure, ETD
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	
Reference	• CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008

3.92 SFDPS Flight Status

SFDPS Flight Status	
Definition	Identification of the current aspect of the flight life cycle as determined by the SWIM Flight Data Publication Service (SFDPS).
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Enumeration
Range of Values	One of the following: {PROPOSED, ACTIVE, COMPLETED, CANCELLED, DROPPED}
Business Rules	
Notes	The meaning of the enumerated values are: • PROPOSED - There is at least one non-cancelled flight plan in place, and the flight has not yet become airborne. • ACTIVE - Flight is airborne, and updates are still being generated for the flight. • COMPLETED - Flight has landed at its destination. • DROPPED - Data updates terminated before the flight landed. It is unknown whether the flight is still airborne or not. This could be a flight that has left FAA airspace or a flight that has switched to Visual Flight Rules. • CANCELLED - There are only cancelled flight plans for the flight, and it was never airborne.
Reference	

3.93 Site Specific Plan Identifier

Site Specific Plan Identifier	
Definition	Site Specific Plan Identifier is a unique ID for each system plan in each ERAM facility.
Alternate Names	SSPID
Has Parts	
Is Part Of	
Data Type(s)	Integer
Range of Values	1 to 4000
Business Rules	
Notes	• [ATM IPOP ICD] Transmitted in AC, AH, AK, BA, CL, DH, ET, FH, HB, HC, HD, HE, HF, HH, HO, HP, HT, HU, HV, HX, ID, IE, IH, IM, IO, LH, NI, NL, NP, NU, OH, PH, PT, RE, RH, TH and UI messages as CMS 167A ERAM Site Specific Plan Identifier.
Reference	• NAS-IC-82422412-01, REVISION B, En Route Automation Modernization (ERAM)/User Systems via Air Traffic Management (ATM) Intermediate Point of Presence (IPOP), April 30, 2012

3.94 Slot Hold Status

Slot Hold Status	
Definition	If a flight is controlled and cancelled [e.g., has a Controlled Time of Departure (CTD), Controlled Time of Arrival (CTA), and Arrival Slot (ASLOT)], the slot hold status indicates whether the slot associated with this flight is being held, or would be held, by the Airspace User for the next full compression.
Alternate Names	SL_HOLD
Has Parts	
Is Part Of	
Data Type(s)	Enumeration
Range of Values	{H, R}
Business Rules	• Provided by airspace users via CDM messages (FM, FX messages). • Only applies for a flights controlled as part of a Ground Delay Program (GDP).

Notes	• Values:
	    o H - Hold
	    o R - Release

Reference	• CSC, Traffic Flow Management System-to-Airline Operation Center Network (TFMS-to-AOCNET) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, Release 9, November 19, 2012

3.95 Special Aircraft Qualifier

Special Aircraft Qualifier	
Definition	Indicates the flight is a heavy jet, B757 or, if not present, a large jet and if the flight is either equipped or not with TCAS. This indicator is used for output purposes such as strip printing and message transfers to other facilities such as Automated Radar Terminal System (ARTS).
Alternate Names	New Flight Aircraft Specification
Has Parts	
Is Part Of	
Data Type(s)	Enumeration
Range of Values	{Heavy-Jet and TCAS, Heavy-Jet, B757, B757 with TCAS, TCAS}
Business Rules	
Notes	• Could not find any other element that would better match this TFMData/ASDI element. • New Flight Aircraft Specification is the updated information to the Special Aircraft Qualifier • [ATM IPOP ICD] Transmitted in AH, DH, FH, HU, NP and NU messages as CMS 03a Special Aircraft Indicator.
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013 • National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.96 Stand Return Intent

Stand Return Intent	
Definition	Indicates the intent for the flight to return to the stand.
Alternate Names	Gate Return Intent
Has Parts	
Is Part Of	Flight Intent
Data Type(s)	Boolean
Range of Values	
Business Rules	
Notes	In the United States, the term gate is used interchangeably with the term stand
Reference	• Terminal Flight Data Manager (TFDM) Core for Airport Traffic Control Towers (ATCT) Concept of Operations, ConOps-PMO-02-TFDM-13-001, Rev. 2.1, Terminal Flight Data Manager Program Office, November 4, 2013.

3.97 Target Altitude

Target Altitude	
Definition	The Mode C target altitude, corrected for barometric pressure. Can be marked as invalid.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Altitude
Range of Values	Altitude or INVALID
Business Rules	
Notes	• [ATM IPOP ICD] Transmitted in TH message as CMS 172ab.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.98 Target Position

Target Position	
Definition	Aircraft target position, as reported by one raw radar return.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Location
Range of Values	
Business Rules	
Notes	• [ATM IPOP ICD] Transmitted in TH message as CMS 171a Target Position. • Target Position is expressed as a latitude/longitude.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.99 Target Position Time

Target Position Time	
Definition	The time associated with the raw radar return.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	• [ATM IPOP ICD] Transmitted in TH message as CMS 173a Time of Target Data.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.100 Track Speed Components

Track Speed Components	
Definition	Speed of the radar surveillance track along the X and Y components.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Record
Range of Values	
Business Rules	
Notes	• Consists of speed along the X-axis (of type Speed) and speed along the Y-axis (of type Speed). • [ATM IPOP ICD] Transmitted in TH message as CMS 23e Track Velocity.
Reference	• National Airspace System (NAS)-IR-82422412-01, En Route Automation Modernization (ERAM)/Air Traffic Management (ATM) Intermediate Point of Presence (IPOP) Interface Control Document, Rev A, September 30, 2008

3.101 Traffic Flow Management Advisory Number

Traffic Flow Management Advisory Number	
Definition	Advisory number issued by traffic flow management.
Alternate Names	
Has Parts	
Is Part Of	NAS Advisory Information
Data Type(s)	Numeric String
Range of Values	
Business Rules	
Notes	Format: ddd (three digits from 001 to 999)
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.102 Traffic Flow Management Advisory Type

Traffic Flow Management Advisory Type	
Definition	The type for the advisory issued by traffic flow management.
Alternate Names	
Has Parts	
Is Part Of	NAS Advisory Information
Data Type(s)	Enumeration
Range of Values	afpAdvisory, afpCancel, gdpAdvisory, gdpCancel, gsAdvisory, gsCancel, reroute, ctopDefinition, ctopCancel
Business Rules	
Notes	- afpAdvisory - Airspace Flow Program Advisory - gdpAdvisory - Ground Delay Program Advisory - gdpCancel - Ground Delay Program cancellation Advisory - gsAdvisory - Ground Stop Program Advisory - gsCancel - Ground Stop Program cancellation Advisory - reroute - Reroute Advisory - ctopDefinition - Collaborative Trajectory Options Program Advisory - ctopCancel - Collaborative Trajectory Options Program cancellation Advisory
Reference	CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.103 Traffic Flow Management Advisory Update Time

Traffic Flow Management Advisory Update Time	
Definition	The date and time when the advisory was last updated.
Alternate Names	
Has Parts	
Is Part Of	NAS Advisory Information
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.104 Traffic Flow Management Collaborative Trajectory Options Program Information

Traffic Flow Management Collaborative Trajectory Options Program Information	
Definition	A container for a Traffic Flow Management Collaborative Trajectory Options Program pertinent information for a flight.
Alternate Names	
Has Parts	Collaborative Trajectory Options Program Name, Collaborative Trajectory Options Program Identifier, Trajectory Option Set
Is Part Of	
Data Type(s)	Record
Range of Values	
Business Rules	
Notes	TFMData ctopDefinition/ctopCancel FI Messages
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.105 Traffic Flow Management Reroute Information

Traffic Flow Management Reroute Information	
Definition	A container for information pertinent to a single NAS reroute issued for a flight by traffic flow management.
Alternate Names	
Has Parts	Traffic Flow Management System Reroute Identifier, Traffic Flow Management System Reroute Name, Traffic Flow Management System Reroute Type, Traffic Flow Management System Reroute Protected Segment, Traffic Flow Management System Reroute Inclusion Indicator,
Is Part Of	
Data Type(s)	Route
Range of Values	
Business Rules	
Notes	TFMData reroute FI Message
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.106 Traffic Flow Management System Flight Plan Remarks

Traffic Flow Management System Flight Plan Remarks	
Definition	NAS Flight Plan Field 11 remarks processed by the Traffic Flow Management System (TFMS) and used for TFM purposes.
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Character String
Range of Values	
Business Rules	
Notes	- This data element is in addition to the Core element "Remarks". - Description of indicators used are: - NRP: National Route Program flight - Flight plan has been processed with the keyword 'NRP' or its aliases in field 11. This indicates the flight is participating in the National Route Program. - LIFEGUARD: Lifeguard or MEDEVAC flight - Flight plan has been processed with the keyword 'LIFEGUARD' or its aliases in field 11. - CATIII: Flight is capable of utilizing CAT3 landing minimums - Flight plan has been processed with the keyword 'CATIII' or its aliases in field 11. - ALTRV: Altitude Reservation - Flight plan has been processed with the keyword 'ALTRV' or its aliases in field 11. - SWAP: Swapping - Flight plan has been processed with the keyword 'SWAP' or its aliases in field 11. - DVRSN: Diversion Recovery flight - Flight plan has been processed with the keyword 'DVRSN' or its aliases in field 11. - ADCUS: Advise Customs - Flight plan has been processed with the keyword 'ADCUS' or its aliases in field 11. - FCA: Flow Constrained Area - Flight plan has been processed with the keyword 'FCA' or its aliases in field 11. - WXRTE: Severe weather reroute - Flight plan has been processed with the keyword 'WXRTE' or its aliases in field 11. - HAR: High Altitude Redesign Fixes - Flight plan has been processed with the keyword 'HAR' or its aliases in field 11. - PTP: RNAV Point to Point - Flight plan has been processed with the

	keyword 'PTP' or its aliases in field 11.
	○ Other keywords which may be present based on TFMS processing:
	▪ LFG (see LIFEGUARD)
	▪ III (see CATIII)
	▪ ATV (see ALTRV)
	▪ SWP (see SWAP)
	▪ DVT (see DVRSN)
	▪ ADC (see ADCUS)
	▪ WXR (see WXRTE)
Reference	• CSC, Traffic Flow Management System-to-Airline Operation Center Network (TFMS-to-AOCNET) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, Release 9, November 19, 2012 • CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008 • Amendment No. 1 to the Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

3.107 Traffic Flow Management System Flight Status

Traffic Flow Management System Flight Status	
Definition	Indicates the current status of the flight, as determined by Traffic Flow Management System (TFMS).
Alternate Names	
Has Parts	
Is Part Of	
Data Type(s)	Enumeration
Range of Values	{Scheduled, Controlled, Filed, Active, Ascending, Cruising, Descending, Completed, Cancelled, Decontrolled, Unknown, None, Error, Other}
Business Rules	• TFMS generates the flight status based on all available data sources and uses it to determine how to model a flight and how to treat a flight in a Traffic Management Initiative.
Notes	
Reference	• CSC 'Traffic Flow Management Modernization FDB to FTM Data Message Definitions', Feb 12, 2008 • CSC 'Aircraft Situation Display to Industry: Functional Description and Interface Control Document for the XML Version', Ver. 1.8, April 15, 2011

3.108 Traffic Flow Management System Reroute Identifier

Traffic Flow Management System Reroute Identifier	
Definition	Traffic Flow Management System generated unique identifier for the reroute.
Alternate Names	
Has Parts	
Is Part Of	Traffic Flow Management Reroute Information
Data Type(s)	Character String
Range of Values	
Business Rules	
Notes	Format is rr.{sitename}.{hostname}.{yyyyMMddhhmmss}
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.109 Traffic Flow Management System Reroute Inclusion Indicator

Traffic Flow Management System Reroute Inclusion Indicator	
Definition	Indicates whether the flight is included or proposed to be included in the traffic management reroute initiative.
Alternate Names	
Has Parts	
Is Part Of	Traffic Flow Management Reroute Information
Data Type(s)	Boolean
Range of Values	
Business Rules	
Notes	A flight captured in a reroute Traffic Management Initiative (TMI) may be manually excluded by traffic managers for various reasons.
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.110 Traffic Flow Management System Reroute Name

Traffic Flow Management System Reroute Name	
Definition	Traffic Flow Management System assigned name for the reroute.
Alternate Names	
Has Parts	
Is Part Of	Traffic Flow Management Reroute Information
Data Type(s)	Character String
Range of Values	
Business Rules	
Notes	Format - up to 64 characters
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.111 Traffic Flow Management System Reroute Protected Segment

Traffic Flow Management System Reroute Protected Segment	
Definition	All or a portion of the route string that is designated as the protected portion.
Alternate Names	
Has Parts	
Is Part Of	Traffic Flow Management Reroute Information
Data Type(s)	Character String
Range of Values	
Business Rules	- Up to 1000 characters - Route elements are separated by spaces - The protected segment must begin and end with a named fix or airport that falls on the route segment
Notes	
Reference	CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.112 Traffic Flow Management System Reroute Type

Traffic Flow Management System Reroute Type	
Definition	Route type of the assigned reroute.
Alternate Names	
Has Parts	
Is Part Of	Traffic Flow Management Reroute Information
Data Type(s)	Enumeration
Range of Values	<blank>, CDR RTE, RERTE, UPT RTE, UNKN RTE
Business Rules	
Notes	Range of values (values based on selection made on the Traffic Situation Display (TSD): • <blank> - blank entry (for EXPLICIT selection) • CDR RTE - Coded Departure Route (retrieved from the CDR db) • RERTE - Reroute (manually updated reroute) • UPT RTE - User Preferred Trajectory Route (user submitted early intent route) • UNKN RTE - Unknown Route
Reference	• CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.113 Trajectory Airspace Impact

Trajectory Airspace Impact	
Definition	Container for the list of constrained airspace areas to be traversed by the trajectory option.
Alternate Names	FCA
Has Parts	Airspace Identifier
Is Part Of	Trajectory Option Set
Data Type(s)	Array
Range of Values	
Business Rules	
Notes	• This Array is composed of multiple Record data types o Record data type is composed of Airspace Identifier (Constrained Airspace data type) and Airspace Entry Time - Earliest (Date Time).
Reference	• CSC, Traffic Flow Management System (TFMS) Collaborative Trajectory Options Program (CTOP) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, version 3.2, July 2, 2013 • CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.114 Trajectory Manual Override Status

Trajectory Manual Override Status	
Definition	An indication whether a trajectory was either selected manually by a traffic manager from the available trajectory options or was entered manually by a traffic manager.
Alternate Names	
Has Parts	
Is Part Of	Trajectory Option Set
Data Type(s)	Boolean
Range of Values	TRUE/FALSE
Business Rules	When not present, the assumed value is false
Notes	
Reference	• CSC, Traffic Flow Management System (TFMS) Collaborative Trajectory Options Program (CTOP) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, version 3.2, July 2, 2013 • CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.115 Trajectory Minimum Notification Time

Trajectory Minimum Notification Time	
Definition	The minimum notification time, relative to off block departure time, the airspace user needs for a trajectory option to be assigned.
Alternate Names	Route Minimum Notification Time
Has Parts	
Is Part Of	Trajectory Option Set
Data Type(s)	Integer
Range of Values	
Business Rules	
Notes	• Expressed in minutes
Reference	• CSC, Traffic Flow Management System (TFMS) Collaborative Trajectory Options Program (CTOP) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, version 3.2, July 2, 2013 • CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.116 Trajectory Option Set

Trajectory Option Set	
Definition	A container for information pertinent to a single trajectory option for a flight.
Alternate Names	Trajectory Option Data
Has Parts	Trajectory Total Cost, Trajectory Relative Cost, Trajectory Manual Override Status, Trajectory Minimum Notification Time, Trajectory Valid Start Time, Trajectory Valid End Time, Trajectory Airspace Impact
Is Part Of	Traffic Flow Management Collaborative Trajectory Options Program Information
Data Type(s)	Record
Range of Values	
Business Rules	
Notes	- This element is associated with the NAS Route data element which provides the route associated with a single trajectory option for a flight. - The core data elements Ranked 4D Trajectory Assignment Status, and Ranked 4D Trajectory Identifier provide the trajectory option assigned status and the trajectory option index.
Reference	- CSC, Traffic Flow Management System (TFMS) Collaborative Trajectory Options Program (CTOP) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, version 3.2, July 2, 2013 - CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.117 Trajectory Relative Cost

Trajectory Relative Cost	
Definition	The relative cost of the trajectory option as compared to another trajectory option.
Alternate Names	Relative Trajectory Cost, RTC
Has Parts	
Is Part Of	Trajectory Option Set
Data Type(s)	Integer
Range of Values	
Business Rules	
Notes	Expressed in minutes of delay
Reference	• CSC, Traffic Flow Management System (TFMS) Collaborative Trajectory Options Program (CTOP) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, version 3.2, July 2, 2013 • CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.118 Trajectory Total Cost

Trajectory Total Cost	
Definition	The total cost the flight would incur if this were the assigned trajectory option. It includes the Trajectory Relative Cost and the Traffic Flow Management assigned delay for this trajectory option.
Alternate Names	Adjusted Cost
Has Parts	
Is Part Of	Trajectory Option Set
Data Type(s)	Integer
Range of Values	
Business Rules	
Notes	- Expressed in minutes of delay - Calculated as the RTC (Ranked 4D Trajectory Relative Cost) plus the additional issued Traffic Flow Management delay for this trajectory option.
Reference	- CSC, Traffic Flow Management System (TFMS) Collaborative Trajectory Options Program (CTOP) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, version 3.2, July 2, 2013 - CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.119 Trajectory Valid End Time

Trajectory Valid End Time	
Definition	The latest runway departure time for which this trajectory can be used by this flight.
Alternate Names	Trajectory Valid End Time
Has Parts	
Is Part Of	Trajectory Option Set
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	
Reference	• CSC, Traffic Flow Management System (TFMS) Collaborative Trajectory Options Program (CTOP) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, version 3.2, July 2, 2013 • CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.120 Trajectory Valid Start Time

Trajectory Valid Start Time	
Definition	The earliest runway departure time for which this trajectory can be used by this flight.
Alternate Names	Trajectory Valid Start Time
Has Parts	
Is Part Of	Trajectory Option Set
Data Type(s)	Date Time
Range of Values	
Business Rules	
Notes	
Reference	• CSC, Traffic Flow Management System (TFMS) Collaborative Trajectory Options Program (CTOP) Interface Control Document (ICD) for the Traffic Flow Management-Modernization (TFM-M) Program, Final, version 3.2, July 2, 2013 • CSC, System Wide Information Management (SWIM) Traffic Flow Management Data Service Web Service Description Document (WSDD) for Traffic Flow Management-Modernization (TFM-M), Revised Draft, Revision 1.3, Release 10, December 6, 2013

3.121 Wake Turbulence Category - NAS

Wake Turbulence Category - NAS	
Definition	NAS classification of the aircraft wake turbulence, based on wingspan and Maximum Takeoff Weight (MTOW).
Alternate Names	Wake Turbulence
Has Parts	
Is Part Of	
Data Type(s)	Enumeration
Range of Values	{A, B, C, D, E, F}
Business Rules	
Notes	- AIRCRAFT WAKE CATEGORIES. For the purposes of Wake Turbulence Separation Minima, aircraft are categorized as Category A through Category F. Each aircraft is assigned a category based on wingspan and maximum takeoff weight (MTOW). - Category A - Aircraft capable of MTOW of 300,000 pounds or more and a wingspan greater than 245 feet. - Category B - Aircraft capable of MTOW of 300,000 pounds or more and a wingspan greater than 175 feet and less than or equal to 245 feet. - Category C – Aircraft capable of a MTOW of 300,000 pounds or more and a wingspan greater than 125 feet and less than or equal to 175 feet. - Category D – Aircraft capable of a MTOW of less than 300,000 pounds and a wingspan greater than 125 feet and less than or equal to 175 feet, or aircraft with a wingspan greater than 90 feet and less than or equal to 125 feet. - Category E – Aircraft capable of a MTOW greater than 41,000 pounds with a wingspan greater than 65 feet and less than or equal to 90 feet. - Category F – Aircraft capable of a MTOW of less than 41,000 pounds and a wingspan less than or equal to 125 feet, or aircraft capable of a MTOW less than 15,500 pounds regardless of wingspan, or a powered sailplane.
Reference	FAA Notice N JO 7110.608, November 1, 2012

3.122 Yielded Slot Indicator

Yielded Slot Indicator	
Definition	Indicates the slot currently specified in "Runway Arrival Time - Controlled" to be given up by the Airspace User in return for a later slot.
Alternate Names	Yielded Slot
Has Parts	
Is Part Of	
Data Type(s)	Boolean
Range of Values	
Business Rules	
Notes	- In a NAS Traffic Management Initiative [Ground Delay Program (GDP)/Airspace Flow Program (AFP)], when an arrival delay at an airport is implemented, the Traffic Flow Management System (TFMS) allocates the airport capacity into arrival slots spaced out to achieve the desired acceptance rate to handle the traffic demand. - An Airspace User can ask to give up a slot in return for a later slot.
Reference	K. Howard, CDM Message Formats, Version 2.2, Volpe NTSC (USDOT RITA) Memorandum, 3 November 2005.

4 Acronym List

Acronym	Definitions
AAR	Adapted Arrival Route
ADAR	Adapted Departure Arrival Route
ADC	Advise Customs
ADR	Adapted Departure Route
AFP	Airspace Flow Program
ALTRV	Altitude Reservation
ANSP	Air Navigation Service Provider
AOCNET	Airline Operations Center Network
ASLOT	Arrival Slot
ATC	Air Traffic Control
ATM	Air Traffic Management
ATV	Altitude Reservation
CDM	Collaborative Decision Making
CID	Computer Identification
CMS	Common Message Set
CTA	Controlled Time of Arrival
CTD	Control Time of Departure
DOT	Department of Transportation
DVFR	Defense Visual Flight Rules
DVT	Diversion Recovery Flight
ECID	En Route Automation Modernization Computer Identification
EDCT	Estimated Departure Clearance Time
ERAM	En Route Automation Modernization
ERAM CID	En Route Automation Modernization Computer Identification
ERTA	Earliest Runway Time of Arrival
ERTD	Earliest Runway Time of Departure
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure

FAV	Fixed Airspace Volume
FCA	Flow Constrained Area
FDB	Flight Plan Data Bank
FIXM	Flight Information Exchange Model
FTM	Flight Training Manual
GDP	Ground Delay Program
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
GUFI	Globally Unique Flight Identifier
IAS	Indicated Airspeed
ICD	Interface Control Document
ID	Identification
IFR	Instrument Flight Rules
IPOP	Intermediate Point of Presence
LFG	Lifeguard
LRTA	Latest Runway Time of Arrival
LRTD	Latest Runway Time of Departure
MTOW	Maximum Take Off Weight
NAS	National Airspace System
NRP	National Route Program
NTSC	National Transportation Systems Center
OAG	Official Airline Guide
PANS	Procedures for Air Navigation Services
RITA	Research and Innovation Technology Administration
RNAV	Area Navigation
RNP	Required Navigation Performance
SAI	Special Aircraft Indicator
SGTA	Scheduled Gate Time of Arrival
SGTD	Scheduled Gate Time of Departure
SWP	Swap
TFMS	Traffic Flow Management System
TMI	Traffic Management Initiative

U.S.	United States