

#### 11.4 Entire Structure of POI Information Frame

POI information may indicate longitude/latitude used for search or text data for a facility indicated by the cursor or pointer. There are various types of data configurations required according to the purpose of the user or information provider.

POI information is basically classified into frames by definition for data. For example, POI information for most parks do not require telephone numbers, POI information for amusement parks require telephone numbers, or most telephone number indexes do not require any name of place but some of them may require the name of the place to be searched for. In such a case, it is efficient to use a variable length for telephone numbers and names of places, but it is more efficient to pre-define them separately (so that the data size is reduced). Thus, definitions of POI information shall be allowed irrespective of index data.

Naturally, they can be classified by purpose.

To the contrary, it is allowed to prepare information required for all types of indexes as fields, then use some of the fields required for a index.

When there is a large amount of information and it is classified into various types, separate it into a number of volumes by type then define fields so that less data capacity is required and the display format can be identified by volume to be accessed. However, access to multiple volumes is required.

When there is not so much information, it is effective to put all the information into one volume and access only to the volume. However, the applications need to determine information required to display the data and information that cannot be displayed.

name [Entire Structure of the POI Information Frame]

POI Information Frame Management Frame
POI Information Definition Frame (#1 to #G) [Locatable in any place]
POI Information Data Frame (#1 to #G) [Locatable in any place]

#### 11.4.1 Management Frame of POI Information Frame

name [Management Frame of POI Information Frame]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	16		Management Frame Header of POI Information Frame		a
2	16	X		A Sequence of Detailed POI Information Record(s) - #1 to #G		a

The management frame of POI information frame consists of 'Management Frame Header of POI information Frame' (the size is 16 byte) and 'A Sequence of Detailed POI information Records'. The sequence of detailed information records has a fixed length in a POI information frame in which the number of records described in the management frame header is G and the size is X.

##### 11.4.1.1 Management Frame Header of POI Information Frame

name [Management Frame Header of POI Information Frame]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	C	Data Declaration	'PINR' etc.	a
2	4	4	N	Number of Detailed POI Information Records –G	= 1 (1)	a
3	8	4	SWS	Detailed POI Information Record Size	= X (2)	a
4	12	4	D	Offset to the Top of Detailed POI Information Record	(3)	a

- 1) In general, G indicates 1. However, this field must be described in consideration of future expansion.
- 2) This field describes the size of the Detailed POI information record.
- 3) This field describes the offset to its beginning enables future expansion or description of creator-specific data.

Detailed POI information records are used to define records or location where their entities are placed. Their lengths and formats are fixed. (In distinction from detailed index information, the records do not contain any character data, thus their lengths are fixed.)

#### 11.4.1.2 Detailed POI Information Record

name [Detailed POI Information Record]

No.	offset	Data length	Data type	Item name	Remarks	Classification
1	0	4	C	Data Declaration	'DPOI' (1)	a
2	8	4	SWS	Expansion Field Size	= Lu (2)	a
3	12	4	D	Offset to Expansion Field	(2)	a
4	16	4	SWS	Definition Frame Size		a
5	20	4	D	Definition Frame Address	(3)	a
6	24	4	SWS	Data Frame Size		a
7	28	4	D	Data Frame Address	(3)	a
8	32	4	SWS	Data Frame Record Size		a
9	36	4	N	Total Number of the Records of the Data Frame	(4)	a
10	40	B1		A Sequence of Additional Frame Address(es) (#1 to #2)	(3)	c
11	O1	B2		Expansion Field	(5)	c
12	O2	B3		Padding Field		c

Note: For items 10 and 11, their storage areas can be specified with items 3, 5, and 7. Thus, their locations in the detailed POI information record are arbitrary.

However, their sizes must be within the detailed POI information record size specified for the upper hierarchy POI information frame management frame using items 10 to 12.

- 1) This field describes the data declaration by using a signature.

For example:

- a) (Normal) POI information, (signature) 'DPOI information' = 'Define of Point of Interest'

- 2) Expansion Field Size and Offset

The offset to expansion field stores the displacement from the beginning of the matching detailed POI information record to the beginning of the expansion field.

When no expansion field is set, set 0 (disabled) to its size and offset.

- 3) Address Representation

These fields describe the address for storing the data frame to be handed according to the principle specified in the "address declaration" for the target POI information management record in Subsection 11.2.2, 9).

- 4) Total Number of the Records of the Data Frame

This field describes the total number of POI information records.

When the number of records is 1, it is allowed to omit descriptions for POI information group numbers in index frames.

## 5) Expansion Field

This field stores the expanded data for the target detailed POI information record according to the expansion method in Section 1.4.

The expansion field is space user can use for any purpose. (It is intended for future expansion.)

In this field, it is allowed to record specific data for determining the locations of dedicated information (such as data extracted at intervals of the specified number of records when there is a lot of matching data.)

This format assumes that information recorded is stored into user areas. The details (types of data to be recorded) have not been fixed.

### 11.4.2 POI Information Types

POI information can be classified into patterns (POI information definitions) by purpose or usage.

The following shows the example (" " indicates POI information fields.):

- 1) Calls only a point (No symbols on map are indicated.)

Only "Longitude/latitude" are used.

- 2) Calls only a point, then display symbols on map (Peripheral facilities can be displayed, and the names of peripheral facilities corresponding to the specified type can be displayed.)

"Longitude/latitude" and "type code" are used.

- 3) Calls a point, then displays the name of the point.

"Longitude/latitude" and "name" are used. (To display symbols, "type code" is also needed.)

- 4) Calls a point, then displays the name, telephone number, and address of the point.

"Longitude/latitude," "name," "telephone number," and "address" are used. ("type code")

- 5) Calls a point, then memorizes the contents displayed.

"Longitude/latitude" and "memo" are used. ("type code")

The contents of a memo are determined arbitrarily. Thus, the memo can contain the address or telephone number used in 4).

The "memo" indicates what is displayed on the map when the point is called. The data in the memo is handled in distinction from service information displayed in the entire screen (that needs operations to be defined).

- 6) Calls a point, then allows services to be selected.

"Service Information Address" is described in addition to the items used in 1) to 5).

To have the name of the point called read out, add "Voice Composite Data" or "Voice File (such as WAVE files) Address (or Size)."

To associate roads, add "road information." The "road information" consists of a link (string) number and node (string) number. (To have the program determining the right and left of a road, the start point and end point are required, thus links and nodes need be handled by string.)

For example:

Telephone number index (private house):	Specify an operation for "obtaining the name of the (current) place" to display around the place for case 1) or 2).
Telephone number index (by occupation):	Use case 4). However, "address" is not used. When service information is included, use case 6).
Neighboring facility index:	Use case 2). However, when a telephone number index is made, use case 4) so that the same data is obtained double.
Address index or related index:	Use case 1). Address has not additional information. Only a map is called.
Airport index or related index:	Use case 3). However, there are indications on the map, thus, case 1) is applied. Normally, names displayed on a map are for well-known or huge facilities. Thus, no names are displayed on a map called, but names have to be displayed for confirmation.
Information about accommodation and so on:	Use case 4), 5), or 6).  When there are photographs or voice guides, use case 6). Use HTML for the service information format to handle various types of data and display multiple pages or other types of information using links, and images and voice files that can support HTML.  Use case 5) to display a telephone number for contact. To clearly indicate that the telephone number is for contact, use "memo" to display "Contact telephone number."