

Tidbit Header Format (Draft)  
The Directory Exchange Protocol (DXP)  
<https://github.com/naiithink/dxp>

Rev: 2 (2024-02-11)

Tidbit Header Field Description				
Field Width (bits)		Ref.	Name	Semantic
Field	Subfield			
24	8	A	Sender's DXP version	major
	8	B		minor
	8	C		patch
8	1	D	Tidbit type flag	req/res
	1	E	Fragment flag	no/yes
	1	F	Ctrl. flag	presence
	1	G	Crtl. rept. flag	presence
	1	H	Cookie flag	presence
	1	I	Checksum flag	presence
	1	J	Reserved	future
	1	K		future
32		L	UNIX timestamp	
32		M	Reserved	future
8	4	N	DXP method	
	4	O	Node type	
8		P	Ctrl. inst.	
16		Q	Status	
16		R	Digest line ptr.	
16		S	Data line ptr.	
>= 0		T	Data	

Tidbit Format

A tidbit is a finite sequence of binary digits (bits) representing information. Bit sequence in a tidbit is divided into two parts, the tidbit header and the tidbit body. This document illustrates the tidbit header part format.

Bit Sequence Format in Tidbit Header				
	0	8	16	24
0	AAAAAAAA	BBBBBBBB	CCCCCCCC	DEFGHIJK
1	LLLLLLLL	LLLLLLLL	LLLLLLLL	LLLLLLLL
2	MMMMMMMM	MMMMMMMM	MMMMMMMM	MMMMMMMM
3	NNNNOOOO	PPPPPPPP	QQQQQQQQ	QQQQQQQQ
4	RRRRRRRR	RRRRRRRR	SSSSSSSS	SSSSSSSS
5	TTTTTTTT	...		

Header Size	
Min	32 (line width) * 5 (without data) = 160 bits = 20 bytes
Avg	160 (Min) + 16 (cookie) + 16 (padding) = 192 bits = 24 bytes