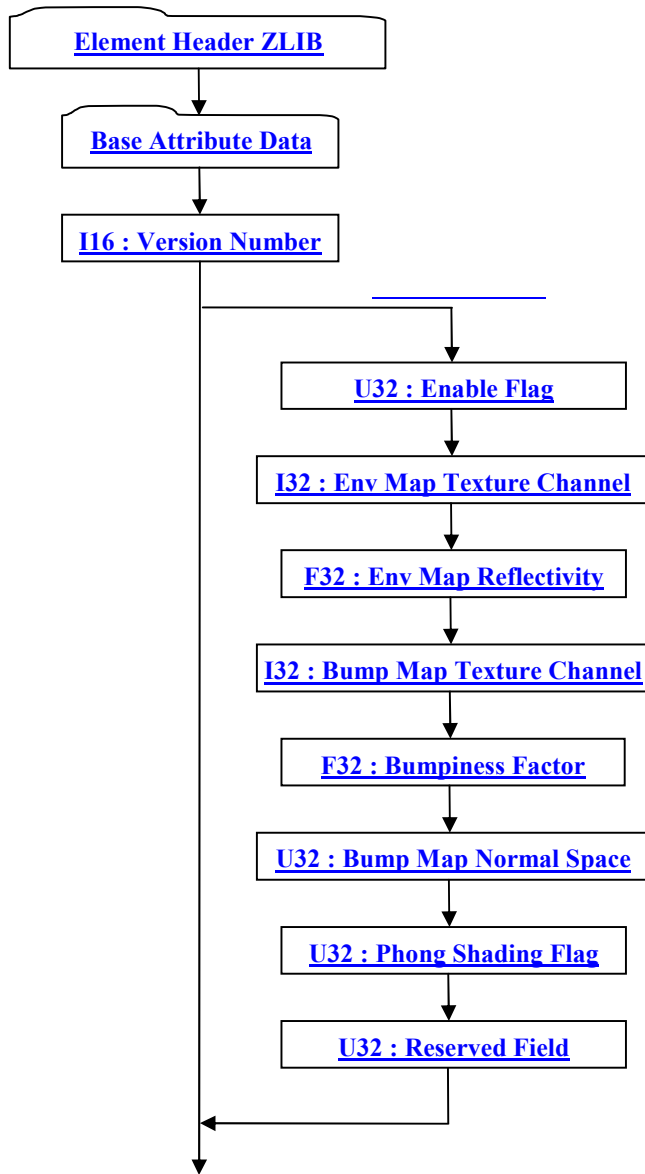


Figure 61: Shader Effects Attribute Element data collection



GA 8

	-
	-

GA 4 : 7C

GA 4 , 4

GA: : 7C

GA:

GA: E

	-
	-

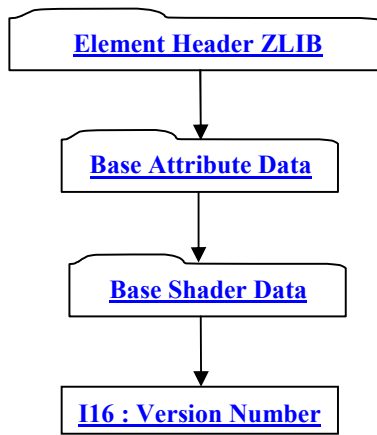
GA C CH

	-
	-

GA 4 H H

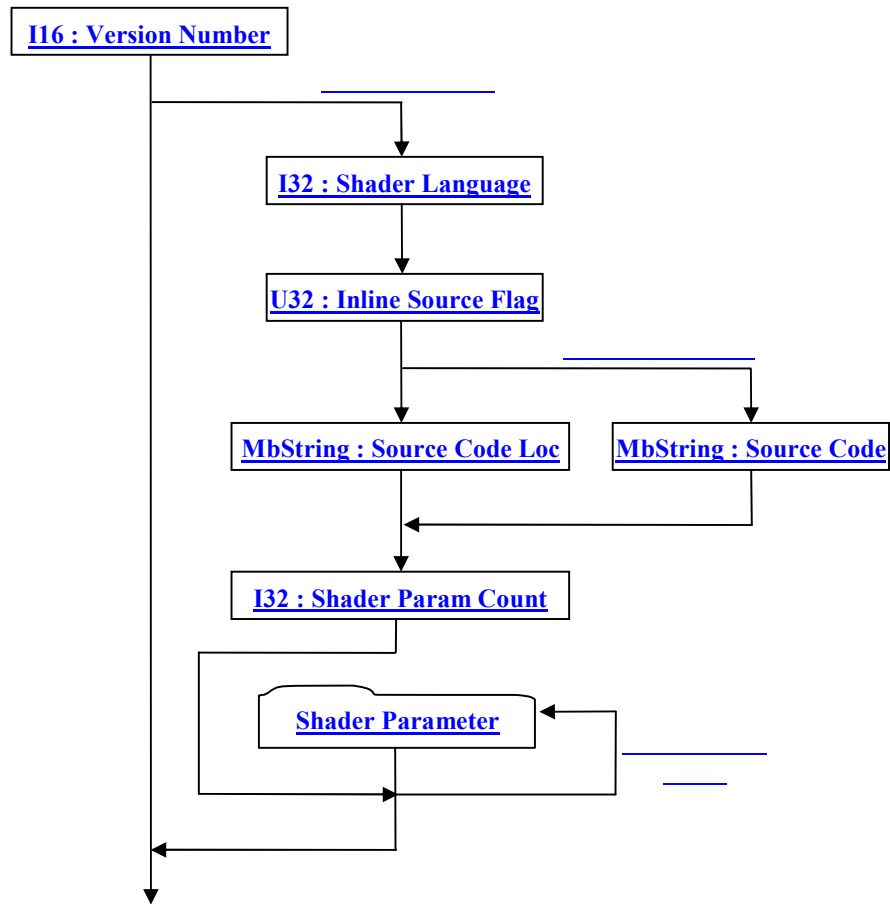
Object Type ID:

Figure 62: Vertex Shader Attribute Element data collection



3L. E 8

Figure 63: Base Shader Data data collection



3L. E 8

GA CH :

	-
	-
	-

GA :

	-
	-

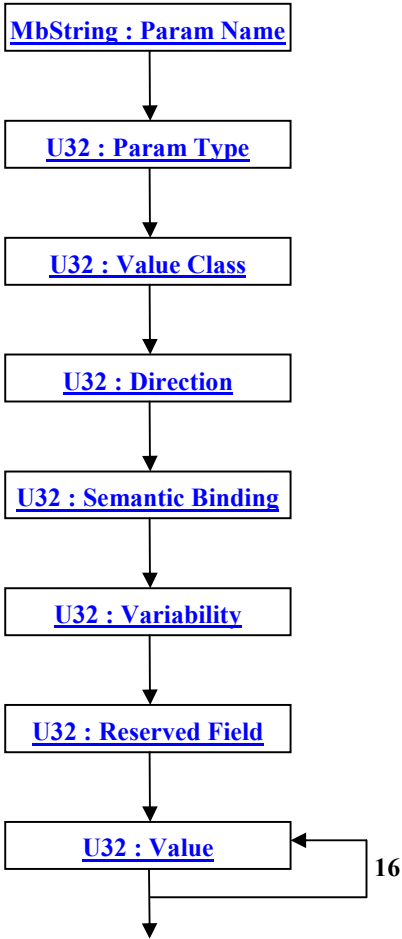
8 : 7 H

8 : 7 H

GA CH 7:

CH

Figure 64: Shader Parameter data collection



8 E
GA

	-
	-
	-
	-
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	-
	-
	-

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	-
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	-
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	-
	-
	-
	-
	-
	-
	-

GA : 7

	-
	-
	-

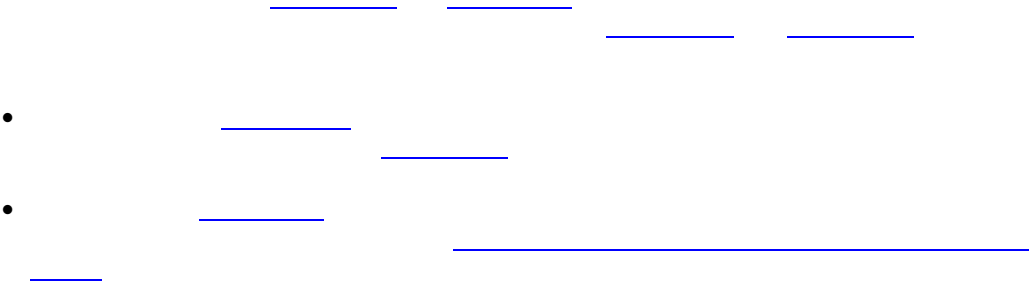
Value	Binding Description	Vertex Shader Applicability	Fragment Shader Applicability

GA 8

	-
	-
	-
	-

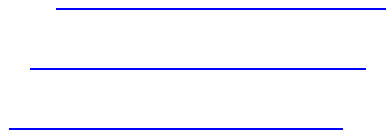
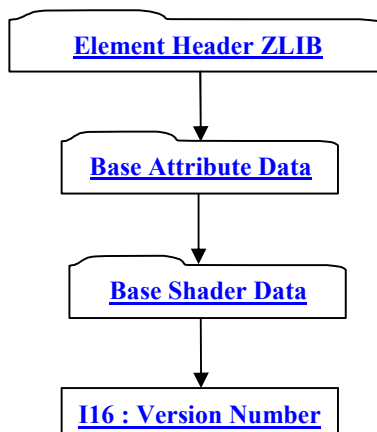
GA 4 H H

GA :



Object Type ID:

Figure 65: Fragment Shader Attribute Element data collection



3L. E 8

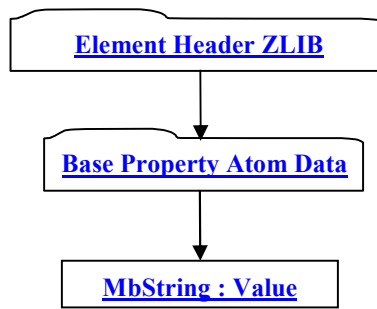
GA

~~2B2BA~~

Object Type ID:

I

Figure 68: String Property Atom Element data collection



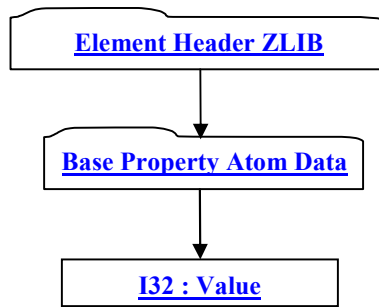
8 . :

~~2B2AG~~

Object Type ID:

I

Figure 69: Integer Property Atom Element data collection



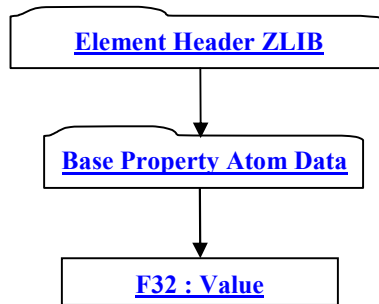
GA :

~~2A2A~~

Object Type ID:

|

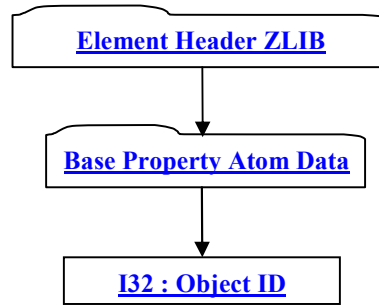
Figure 70: Floating Point Property Atom Element data collection



GA :

~~2A2A~~ 8 , |
Object Type ID:

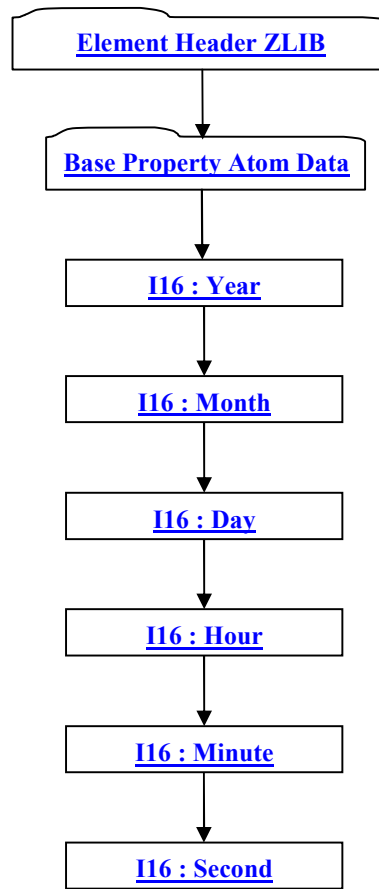
Figure 71: JT Object Reference Property Atom Element data collection



GA 8 6

~~2A2A~~ 6 |
Object Type ID:

Figure 72: Date Property Atom Element data collection



3L

3L C

3L 6

3L :

3L :

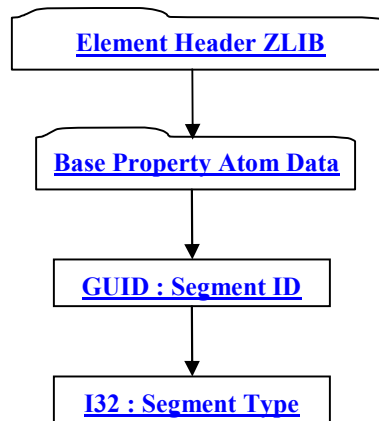
3L H

~~2A2A~~

HH I

Object Type ID:

Figure 73: Late Loaded Property Atom Element data collection



6

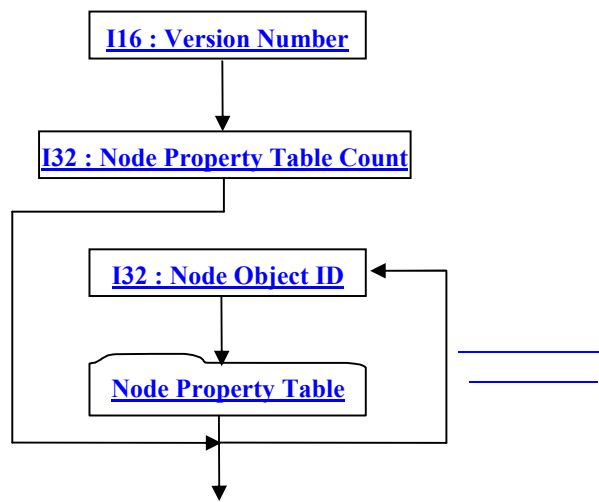
6

GA

2/2G

8

Figure 74: Property Table data collection



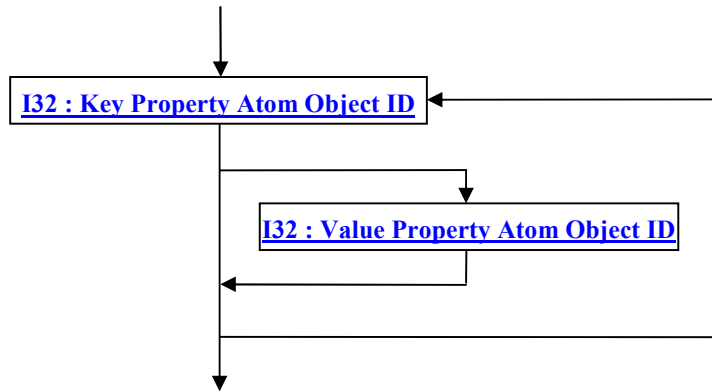
3. E 8

GAEH

8 7:

GAEH 8 6

Figure 75: Node Property Table data collection

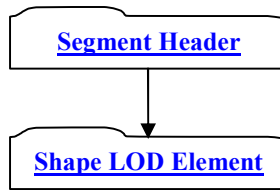


~~GA~~ I 8 6

~~GA~~ : I 8 6

~~2A~~ C 6

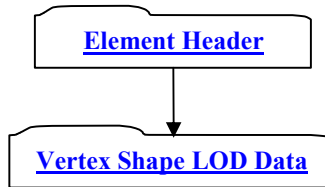
Figure 76: Shape LOD Segment data collection



~~2A/B~~ C 6

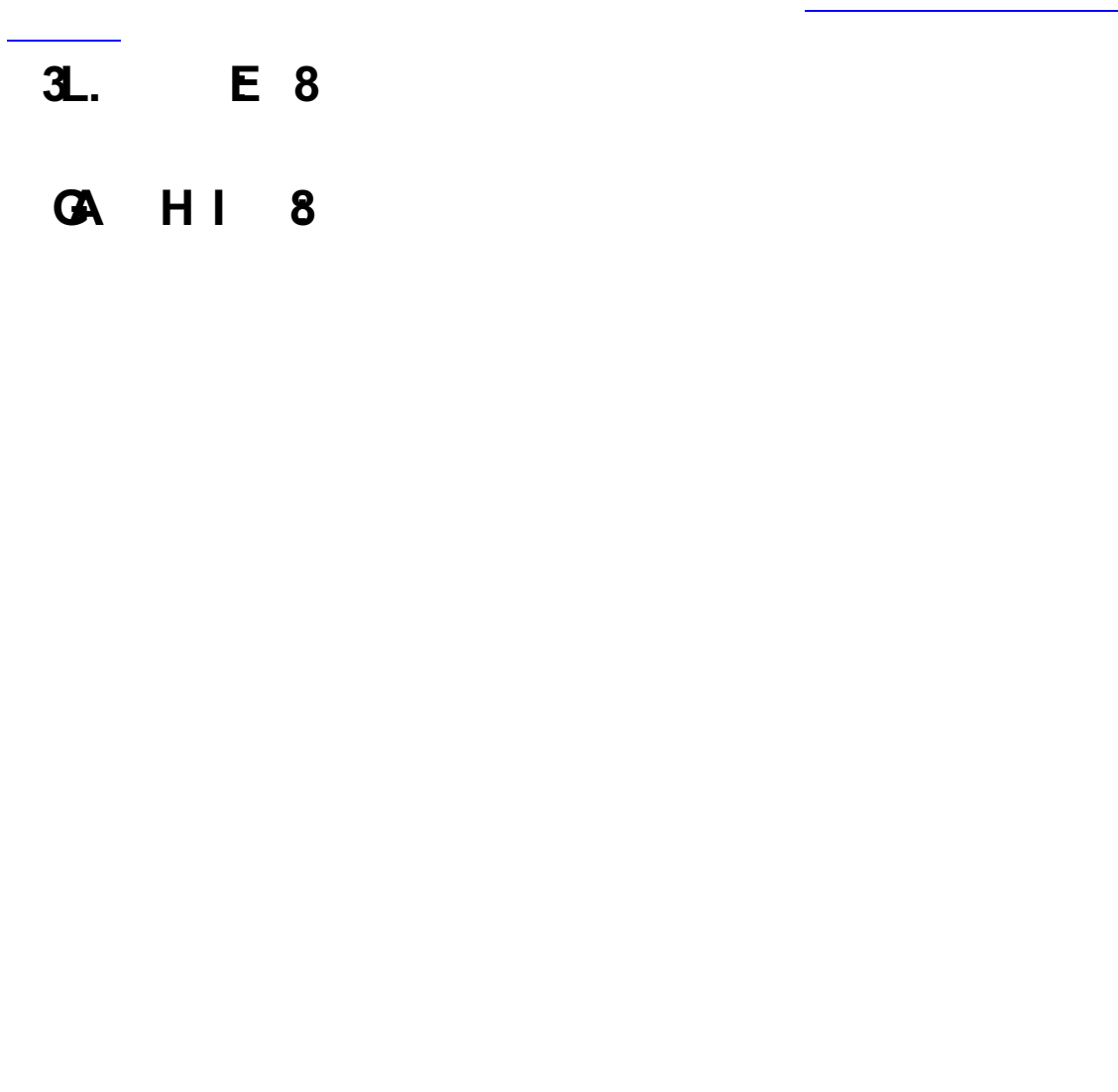
~~2A/B~~ C 6
Object Type ID:

Figure 77: Vertex Shape LOD Element data collection



~~2A/B~~ C 66

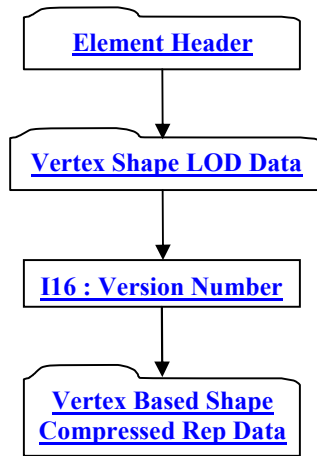
Figure 78: Vertex Shape LOD Data data collection



~~2A2A~~ 5
Object Type ID:

C 6

Figure 79: Tri-Strip Set Shape LOD Element data collection



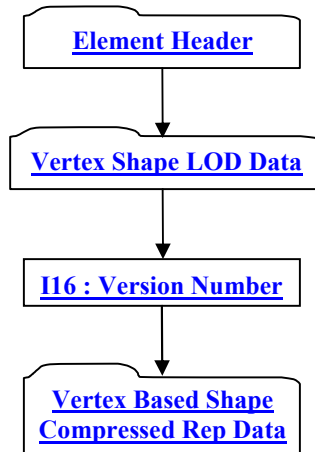
~~3L~~ E 8

~~2A2G~~
Object Type ID:

C 6

Figure 80: Polyline Set Shape LOD Element data collectionm

Figure 81: Point Set Shape LOD Element data collection



3L. E 8

~~2003K~~ C 6
Object Type ID:

Figure 82: Polygon Set Shape LOD Element data collection



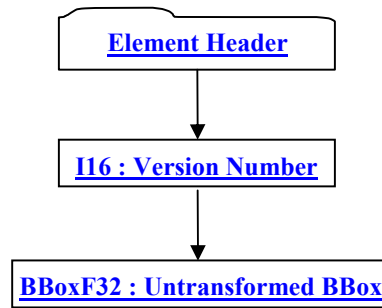
3L. E 8

~~2A1~~ E C 6

Object Type ID:



Figure 83: Null Shape LOD Element data collection



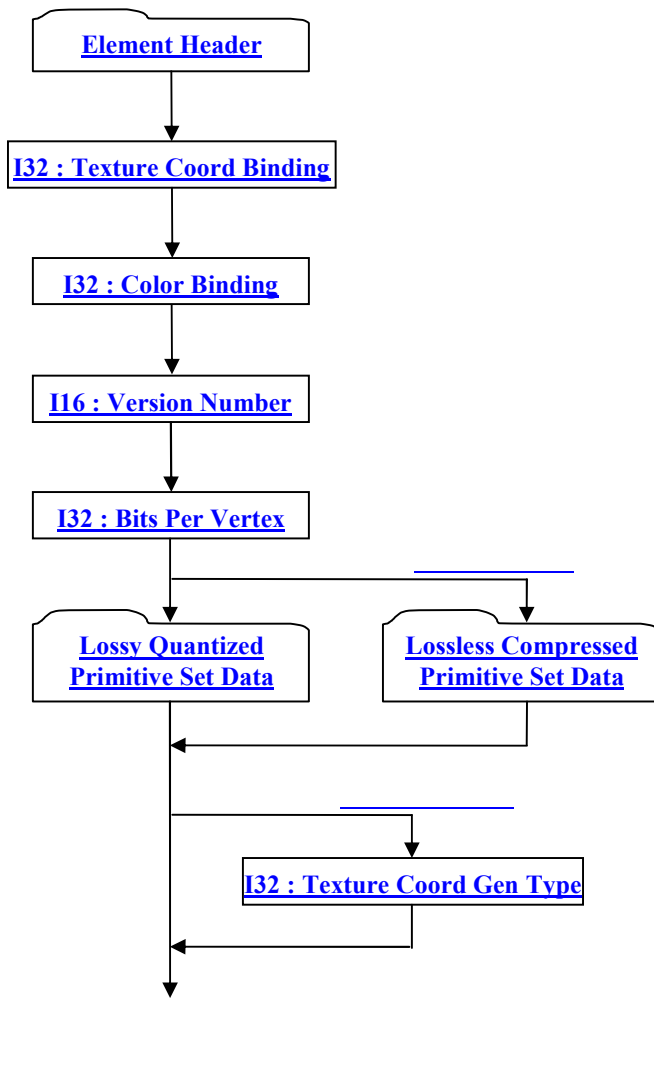
3L. E 8

GA , H

~~2DA~~ 4 C
Object Type ID:



Figure 84: Primitive Set Shape Element data collection



Q : 7 H H

	-
	-

Q7 H

3L. E 8

	-
	-

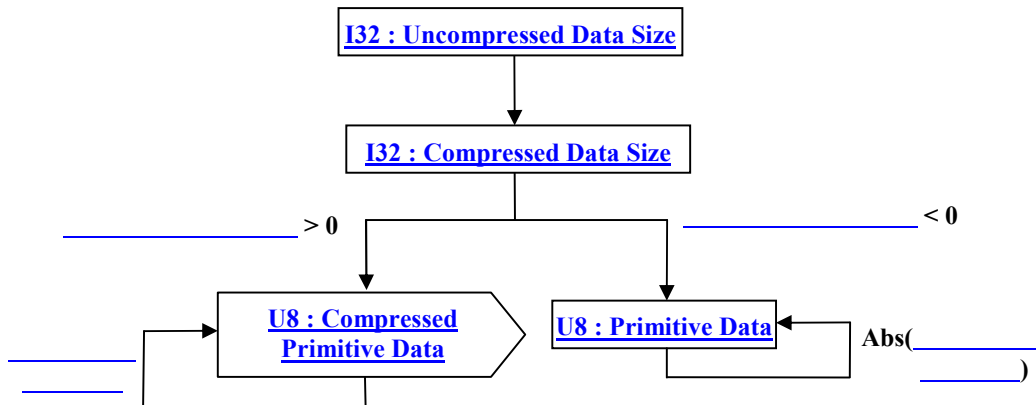
GA .

GA : 7 H

	-
	-

~~2222~~ 7 H 4 6

Figure 85: Lossless Compressed Primitive Set Data data collection



GA H6

GA7 H6

1 4 6

for all primitives

Element	Data Type	Description
		-
		-
		-
		-
		-
		-

Table 5: Primitive Set Primitive Data Elements

Primitive Type	params1			params2			params3		

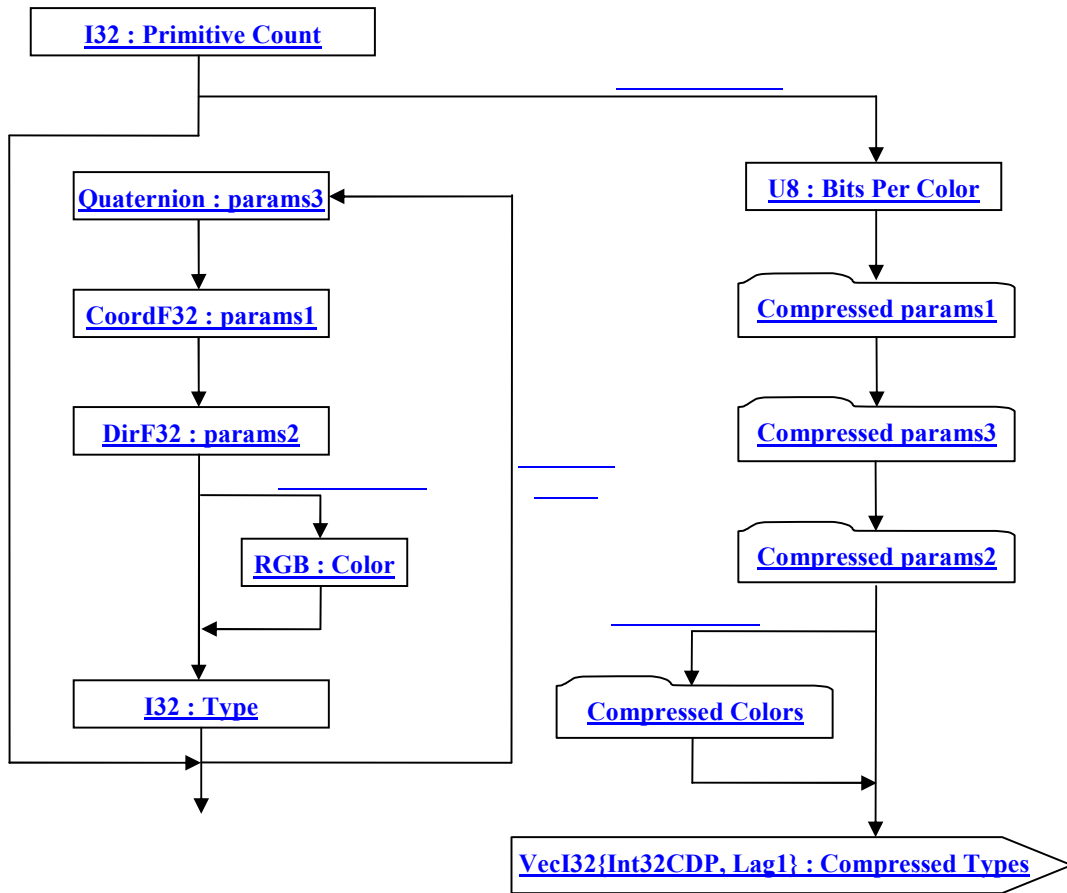
Primitive Type	params1			params2			params3				

Table 6: Primitive Set “params#” Data Fields Interpretation

1 7 H 4 6

~~2000A~~ : **H 4 6**

Figure 86: Lossy Quantized Primitive Set Data data collection



GA 47:

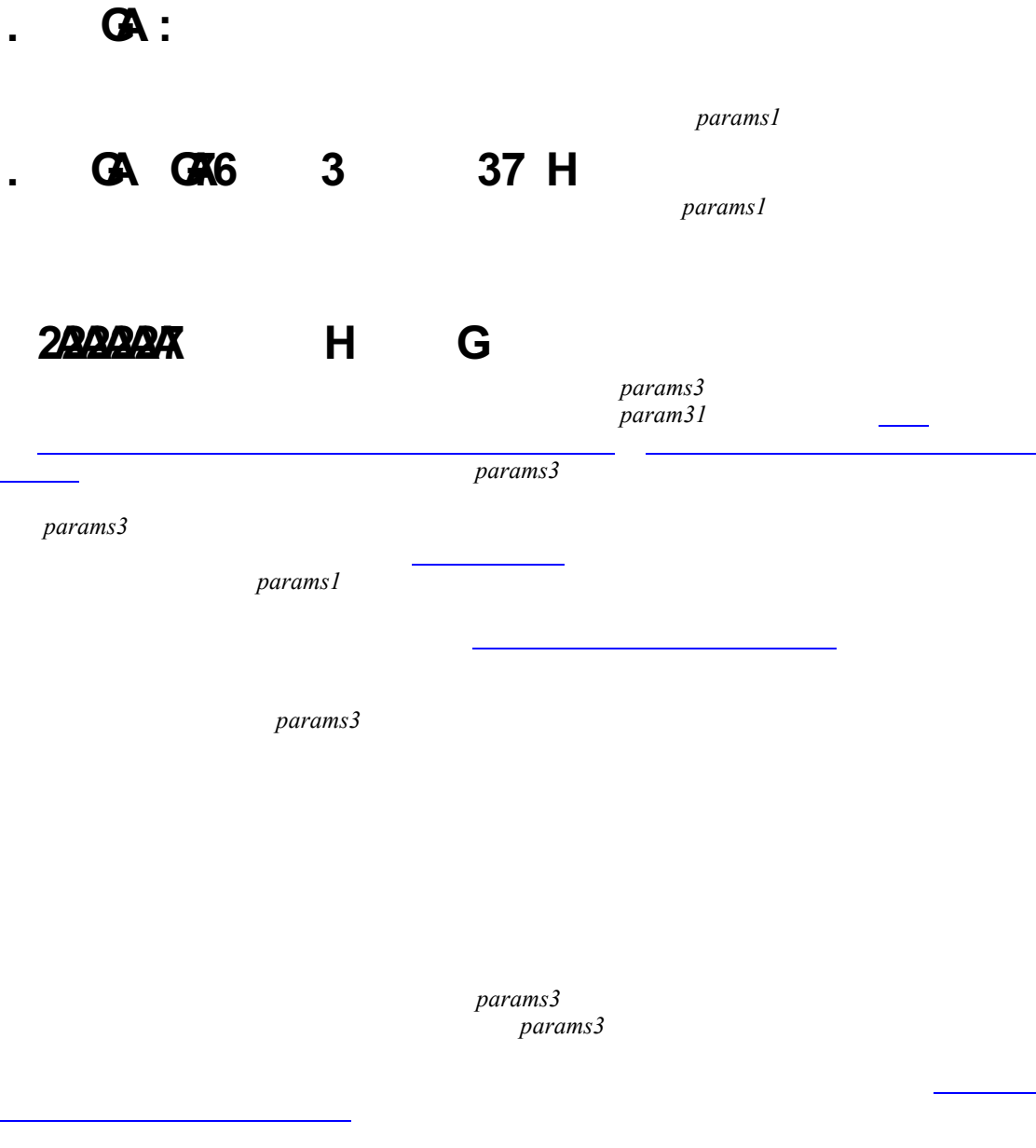
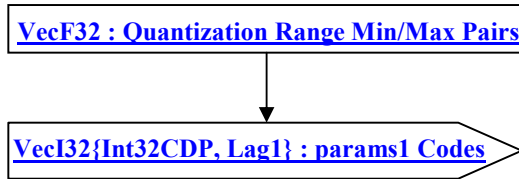
: G

7 HA 3

6 GA A

—

Figure 87: Compressed params1 data collection



200000

H A

params2
params2

params2

params2

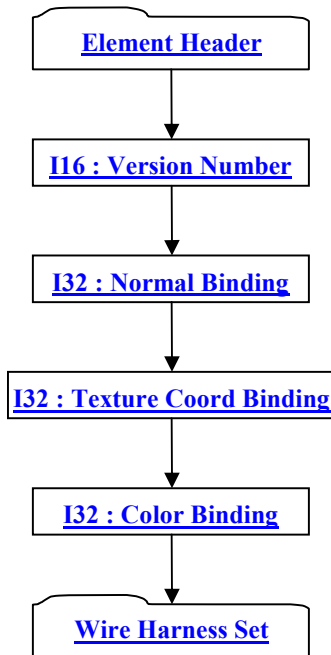
params2

color
color

2AAGB
Object Type ID:

C

Figure 88: Wire Harness Set Shape Element data collection



3L.

E 8

GA E H

	-
	-

GA : 7 H H

GA7 H

~~2003~~ B

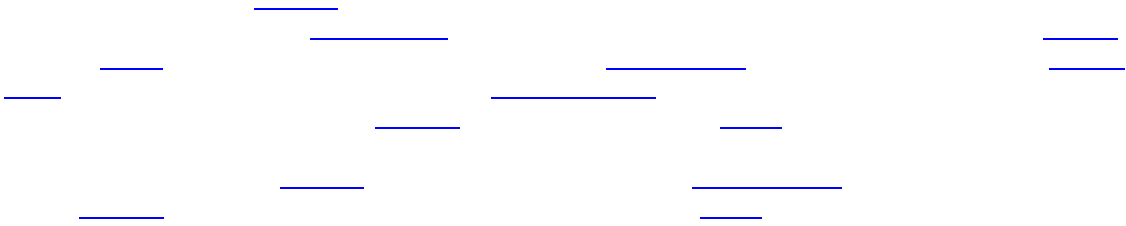
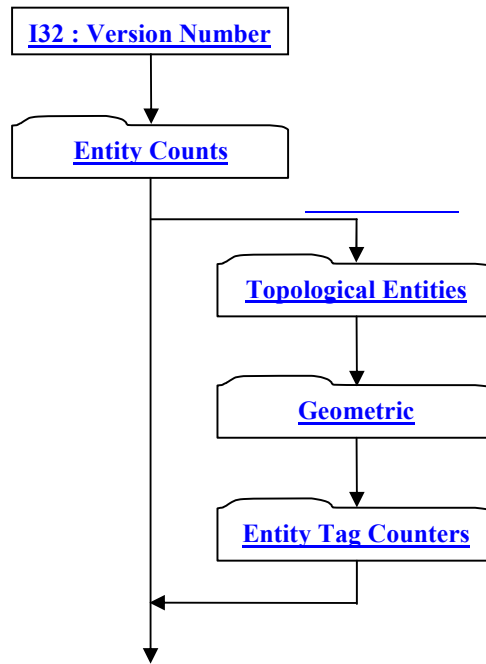


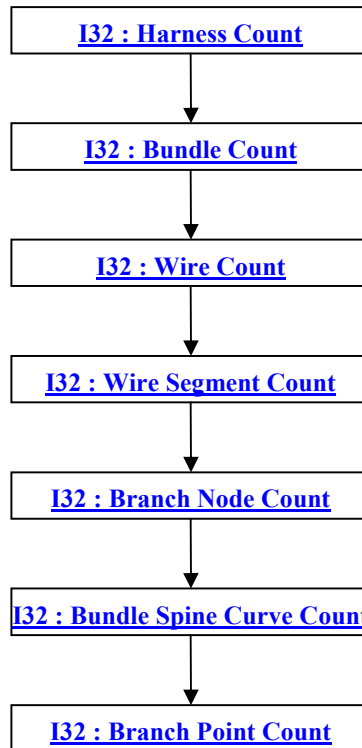
Figure 89: Wire Harness Set data collection



GA E 8

~~2/2/23~~ 7:

Figure 90: Entity Counts data collection



GA 7:

GA: H 7:

GA B 7:

GA B 7:

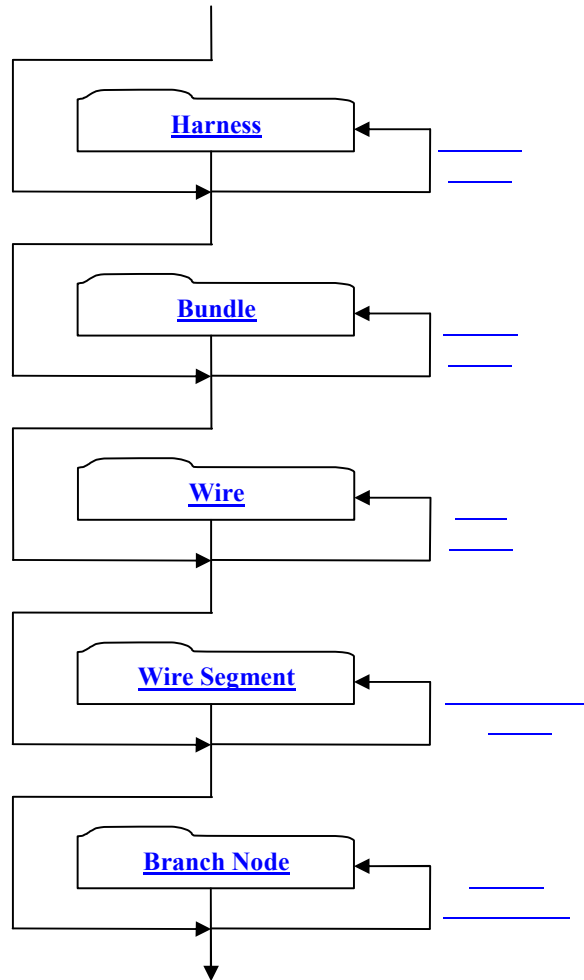
GA OE H 7:

GA: H 7 4 7:

GA C 7:

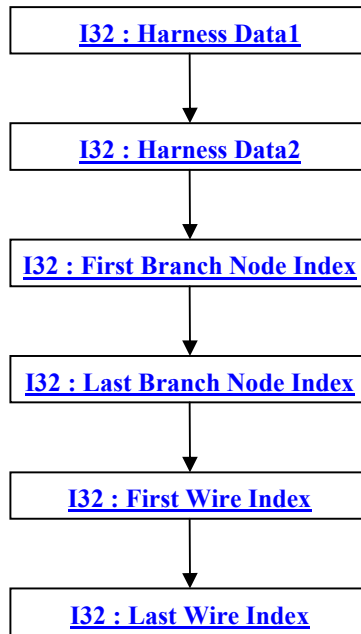
~~2BAC2A~~

Figure 91: Topological Entities data collection



~~2BAC2B~~

Figure 92: Harness data collection



GA 6 3

GA 6 A

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~~GA~~ OE H H

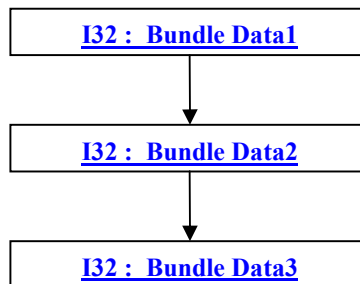
~~GA~~ OE H H

~~GA~~ B H

~~GA~~ B H

~~2A2A2A~~: H

Figure 93: Bundle data collection

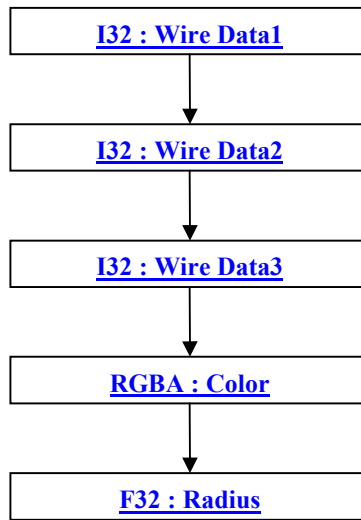


--	-------

2AAG2AGB




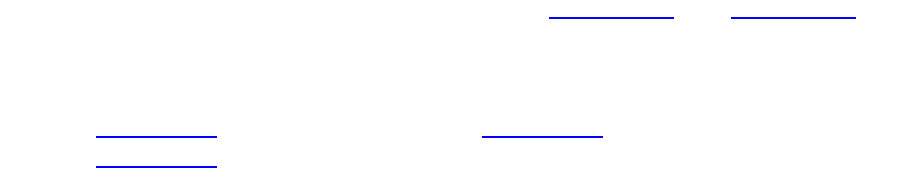
Figure 94: Wire data collection



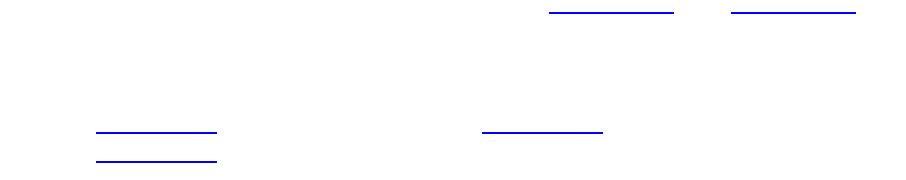
QAB 6 3

--	--

GA B 6 A

GA B 6 G

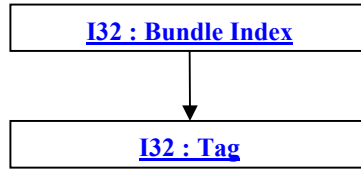
I 7

GA H



~~2A032A~~ B

Figure 95: Wire Segment data collection



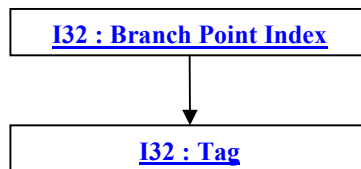
GA: H H

GA

~~2A032A~~

CE H

Figure 96: Branch Node data collection

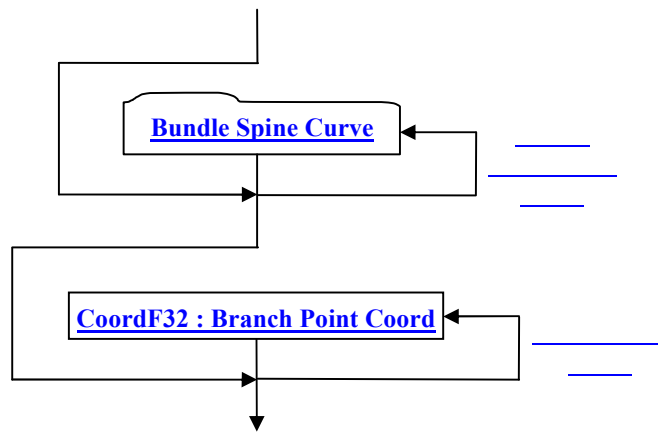


GA C H

GA

~~2A032G~~

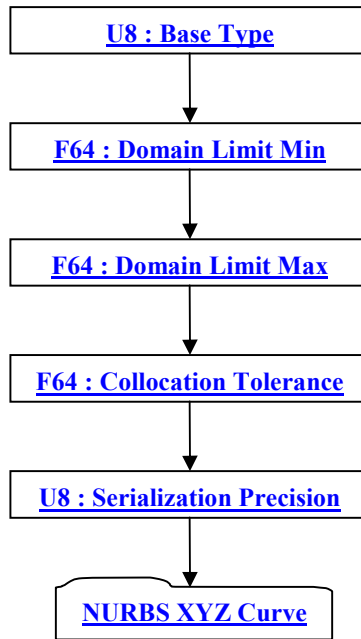
Figure 97: Geometric data collection



7 HGA C 7 H

~~2A323~~ : H 7 4

Figure 98: Bundle Spine Curve data collection



1

	-
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LJ 6

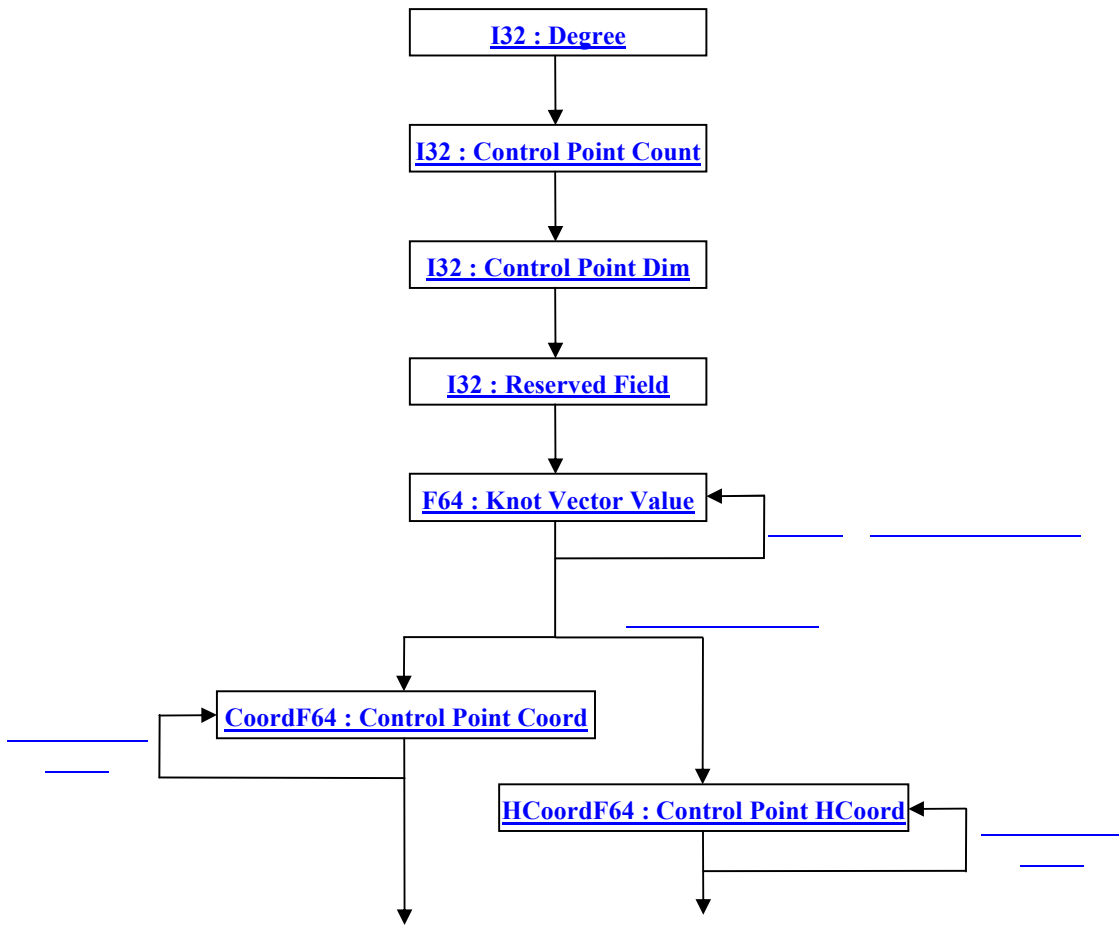
LJ 6

LJ 7

1

E 7 4

Figure 99: NURBS XYZ Curve data collection



GA7 7:

GA7 6

	-
	-

GA 4 H H

LJ . . :

_____ *clamped non-decreasing clamped*

7 HLJ 7 7 H

7 HLJ 7 7 H

~~2A2C2J~~ 7:

Figure 100: Entity Tag Counters data collection

GA 7:

GA: H 7:

GA B 7:

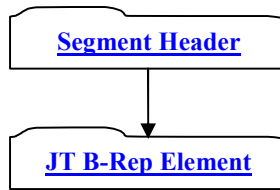
GA B 7:

GA OE H 7:

~~2AG~~ 5

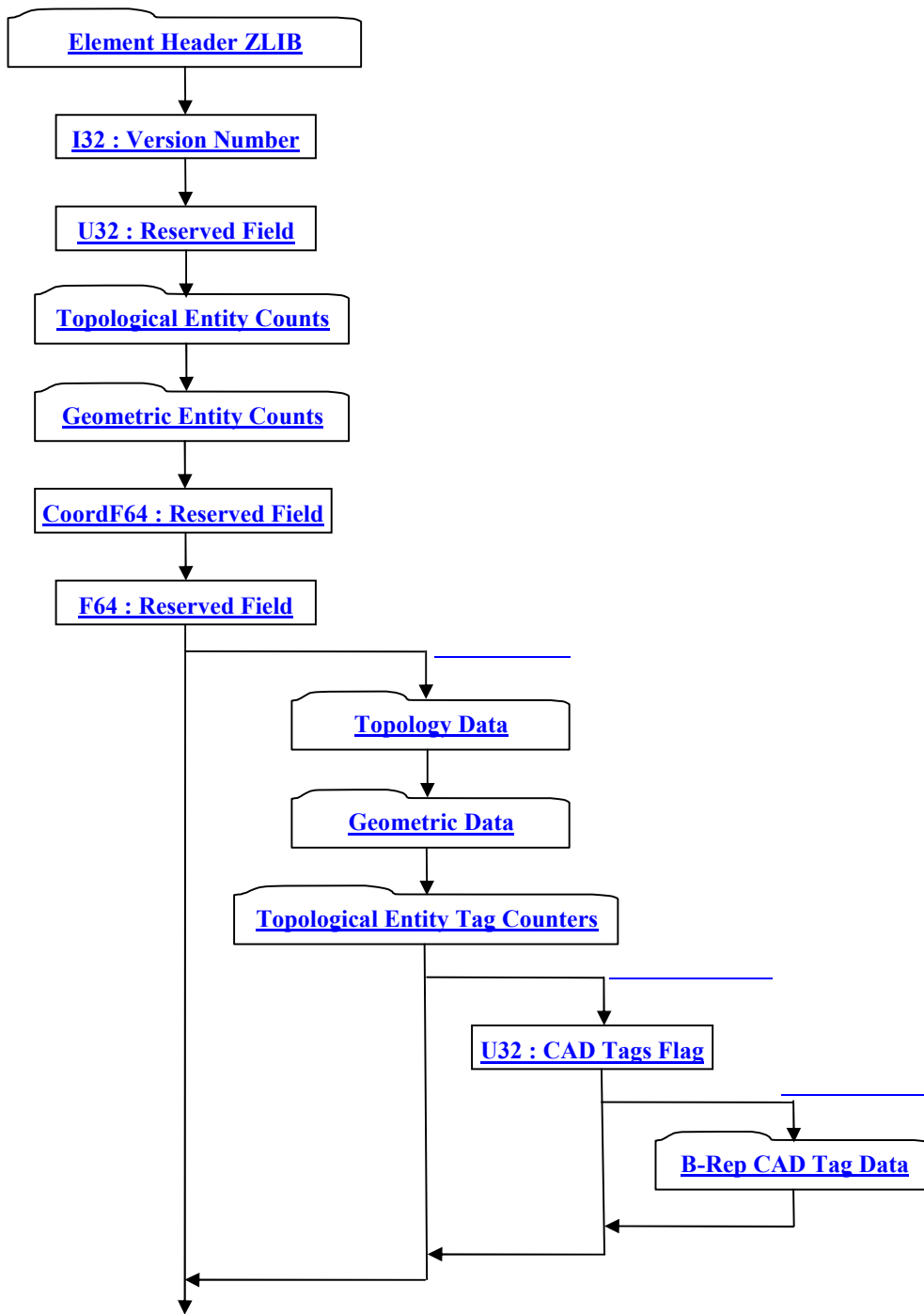


Figure 101: JT B-Rep Segment data collection



2A3 5
Object Type ID:

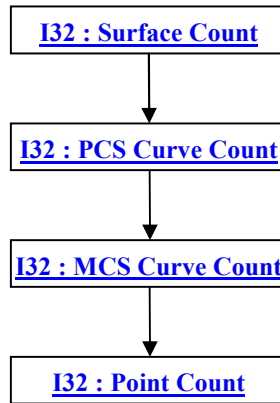
Figure 102: JT B-Rep Element data collection



~~2A2A~~

7:

Figure 104: Geometric Entity Counts data collection



~~GA~~ : , 7:

~~GA~~ 7 7 4 7:

~~GA~~ 7 7 4 7:

~~GA~~ 7:

~~2A2G~~

6

Figure 105: Topology Data data collection

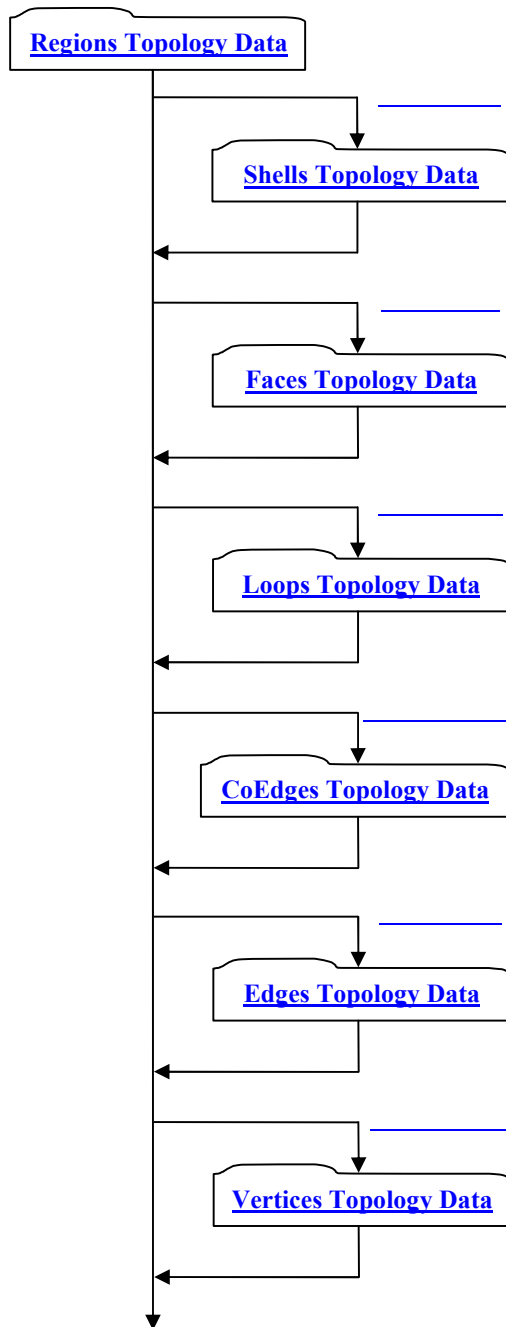
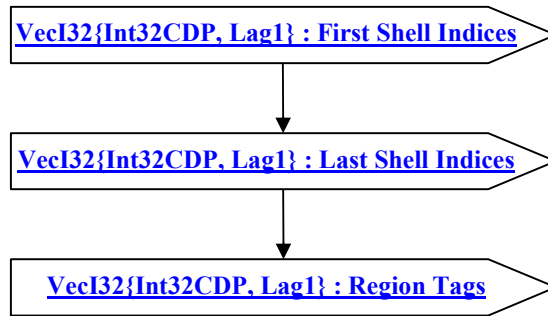


Figure 106: Regions Topology Data data collection



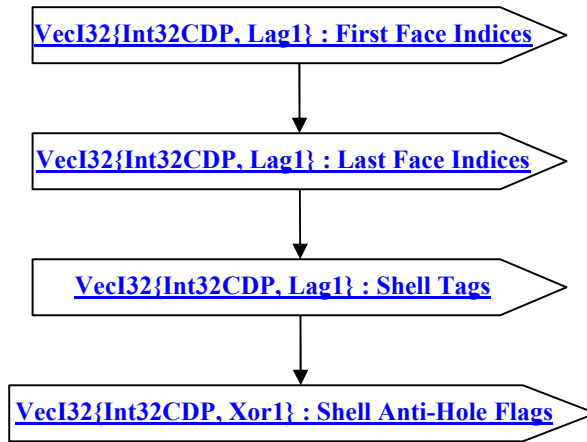
. GA GA6 3 C H

. GA GA6 3 C H

. GA GA6 3

~~2022~~AC 6

Figure 107: Shells Topology Data data collection



- . GA GA6 3 H
- . GA GA6 3 H
- . GA GA6 3 C
- . GA GA6 3 CI 5

	-
	-

Figure 108: Trim Loop example in parameter Space - One Face with 2 Holes

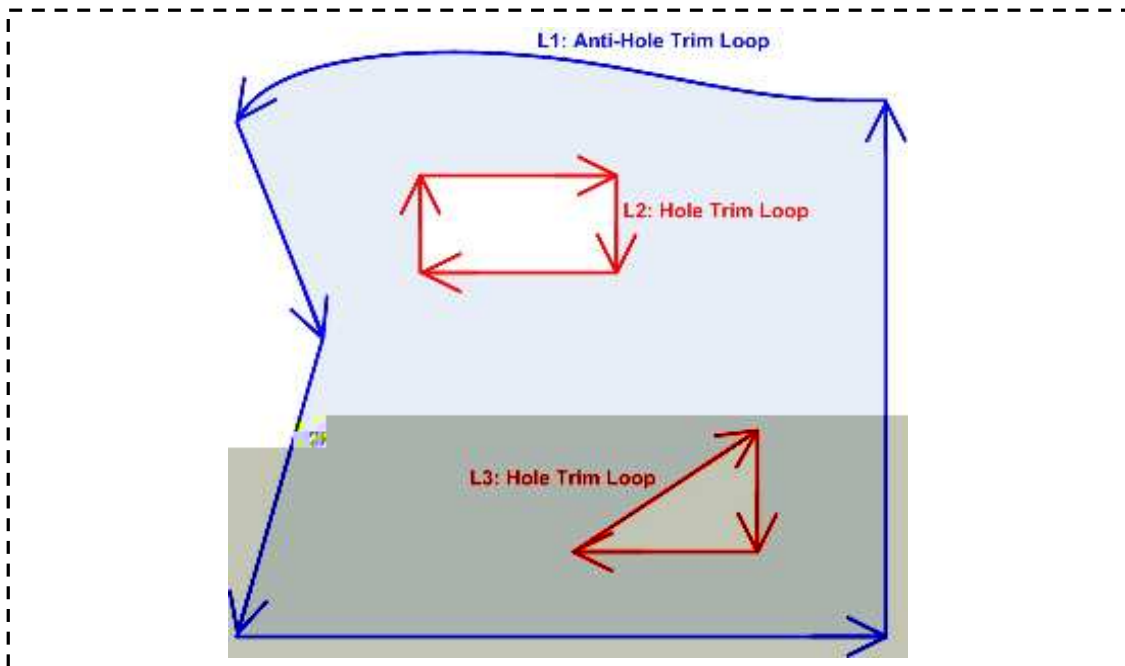
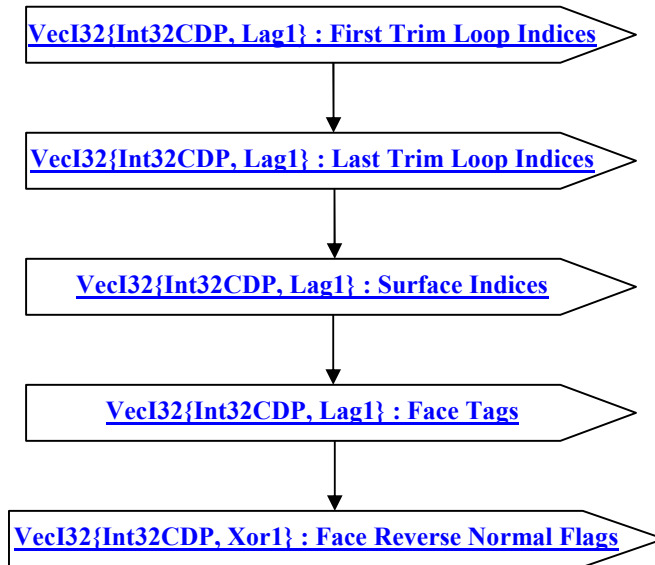
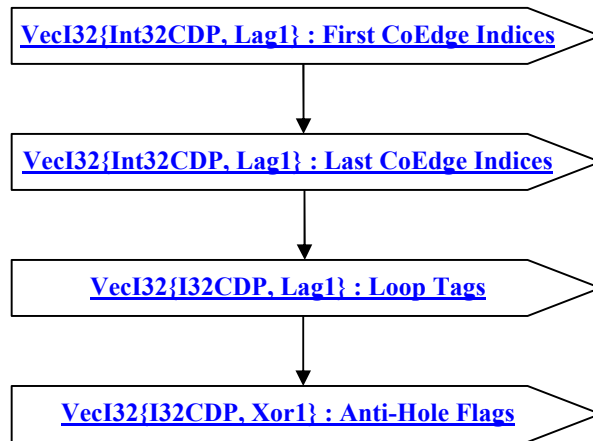


Figure 109: Faces Topology Data data collection



- . GA GA6 3 H
- . GA GA6 3 H
- . GA GA6 3 : , H
- . GA GA6 3
- . GA GA6 3 4 E

Figure 110: Loops Topology Data data collection

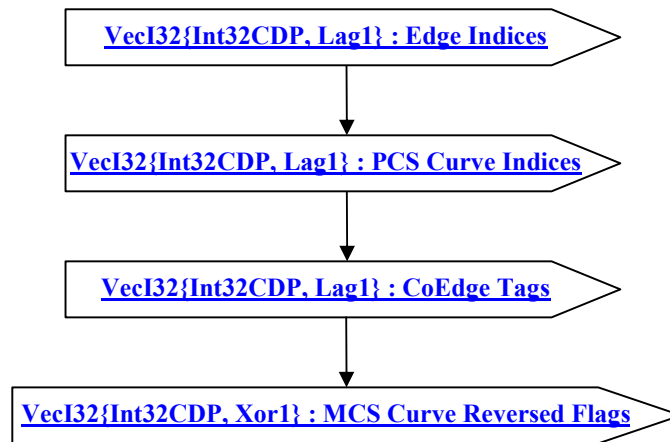


- . GA G6 3 7 H H
 - . GA G6 3 7 H H
 - . GA G6 3
 - . GA G6 3 | 5
-

	-
	-

~~20207~~ H 6

Figure 111: CoEdges Topology Data data collection



. GA G6 3 H H

. GA G6 3 7 7 4 H

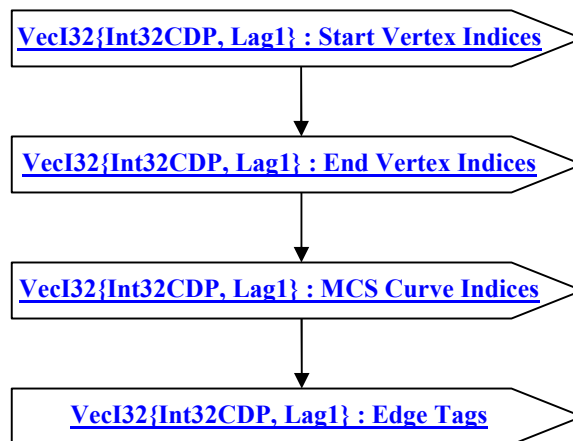
. GA GA6 3 7 H

. GA GA6 3 7 7 4 4 H

	-
	-

~~2A32Q~~ H 6

Figure 112: Edges Topology Data data collection



. GA GA6 3 . H

. GA GA6 3 H H

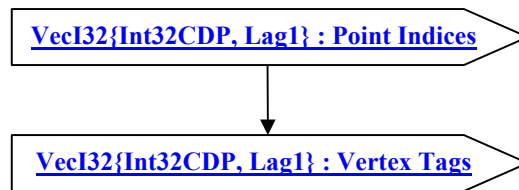
. GA GA6 3 7 7 4 H

. GA GA6 3 H

~~2A322~~

6

Figure 113: Vertices Topology Data data collection



. GA GA6 3 H

. GA GA6 3 .

Figure 114: Geometric Data data collection

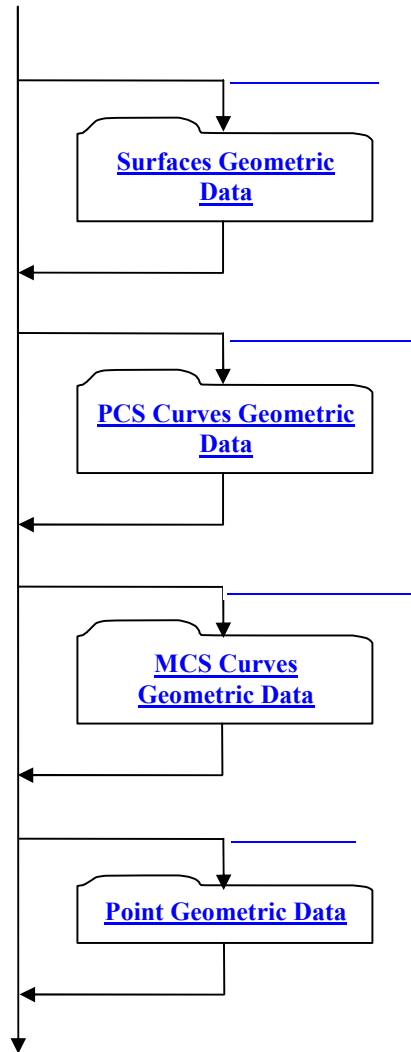
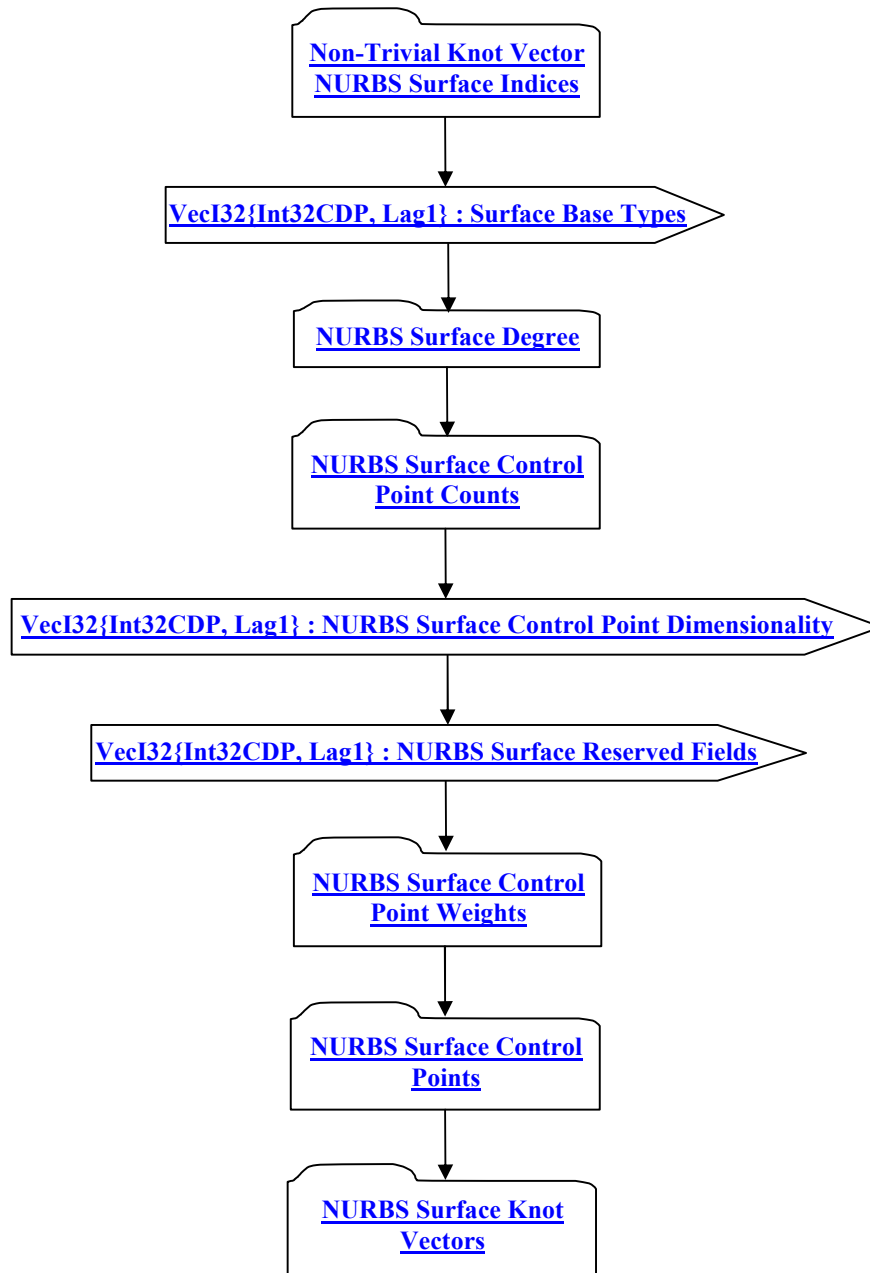


Figure 115: Surfaces Geometric Data data collection



. GA G6 3 : ,

	-
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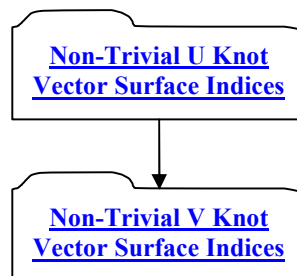
. **GA GA6 3 E : , 7 6**

	-
	-

. **GA GA6 3 E : , 4 H H**

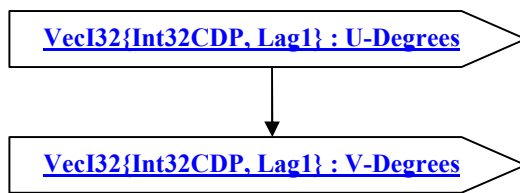
~~2A32133~~ **E 5 4 . E : , H**

Figure 116: Non-Trivial Knot Vector NURBS Surface Indices data collection



~~2A32132AE~~ : , 6

Figure 117: NURBS Surface Degree data collection

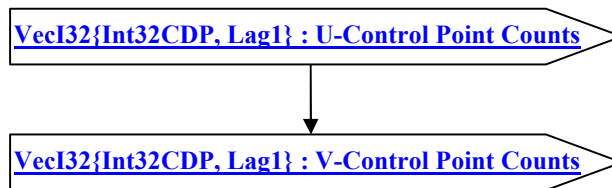


. GA GA6 3 5

. GA GA6 3 . 5

~~2A32132GE~~ : , 7 7:

Figure 118: NURBS Surface Control Point Counts data collection



. GA GA6 3 5 7:

. GA G6 3 . 5 7:
~~2A32B2J~~ E : , 7 B C

Figure 119: NURBS Surface Control Point Weights data collection

[Compressed Control
Point Weights Data](#)

~~2A32B2KE~~ : , 7

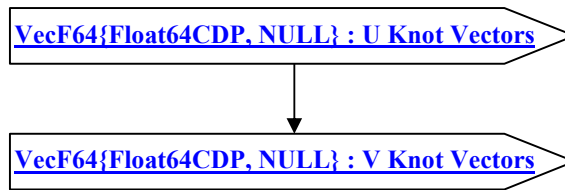
Figure 120: NURBS Surface Control Points data collection

[VecF64{Float64CDP, NULL} : Control Points](#)

. LJ LJ76 E 7

~~2A32131~~ E : , .

Figure 121: NURBS Surface Knot Vectors data collection

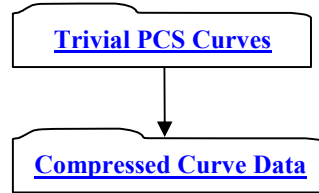


. LJ LJ76 E .

. LJ LJ76 E . .

~~2A321A7~~ 7 4 6

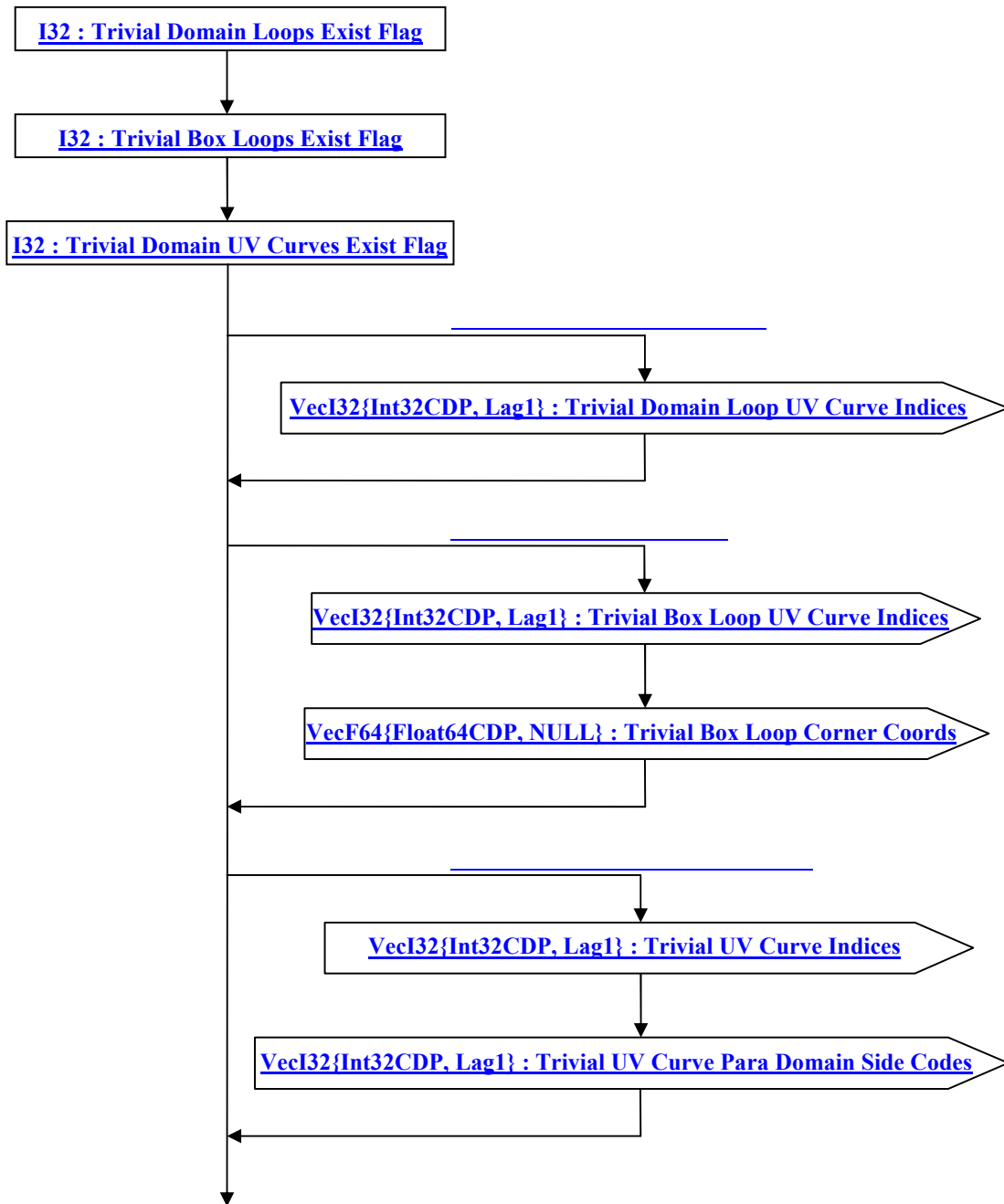
Figure 122: PCS Curves Geometric Data data collection



~~2022/3~~ 4 7 7 4



Figure 123: Trivial PCS Curves data collection



. ~~CA~~ ~~6~~ 63 3 7 4

. 7 4 H

. LJ LJ76 E 4

7 7 H

Figure 124: MCS Curves Geometric Data data collection

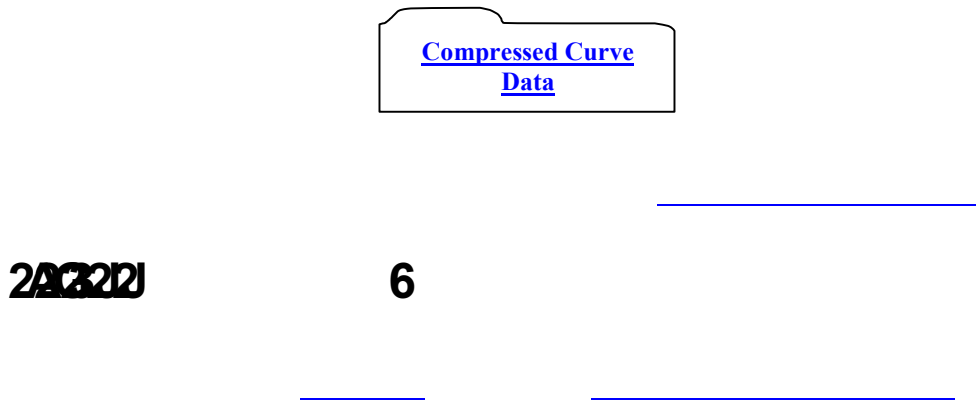


Figure 125: Point Geometric Data data collection

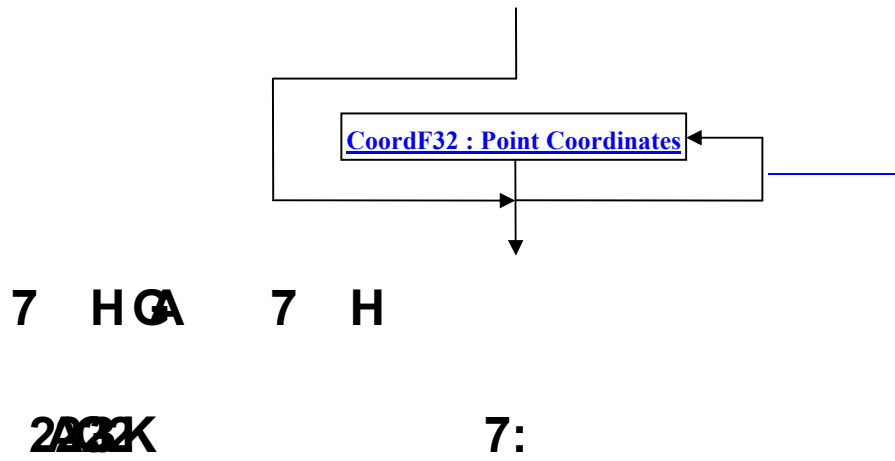
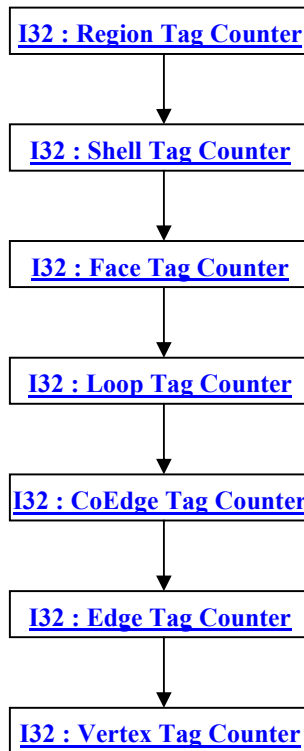


Figure 126: Topological Entity Tag Counters data collection



GA 7:

GA C 7:

GA 7:

GA 7:

GA7 H 7:

GA H 7:

GA 7:

~~2022~~ 5 7 6 6

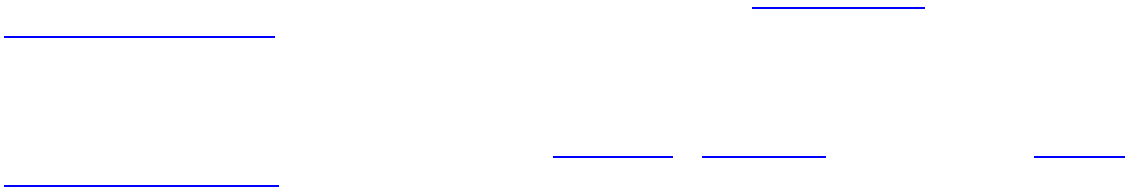
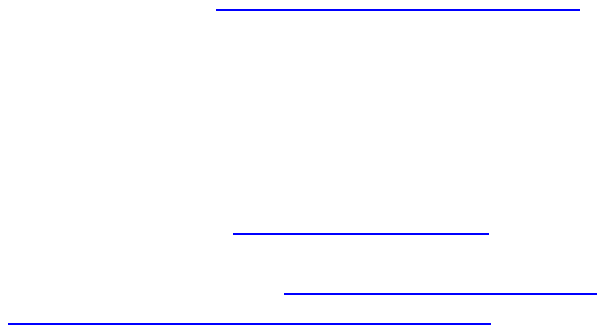


Figure 127: B-Rep CAD Tag Data data collection

Compressed CAD
Tag Data

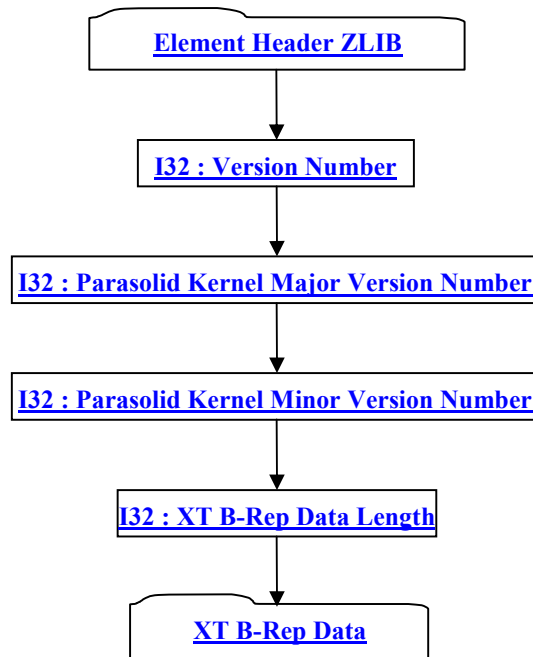
~~2021~~ 5



~~2023~~ 5
Object Type ID:



Figure 128: XT B-Rep Element data collection



GA E 8

GA H . E 8

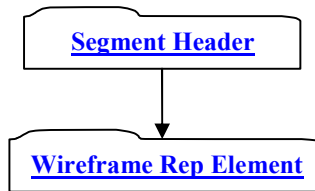
GA H . E 8

GA 5 6 C

~~2/123~~ 5 6

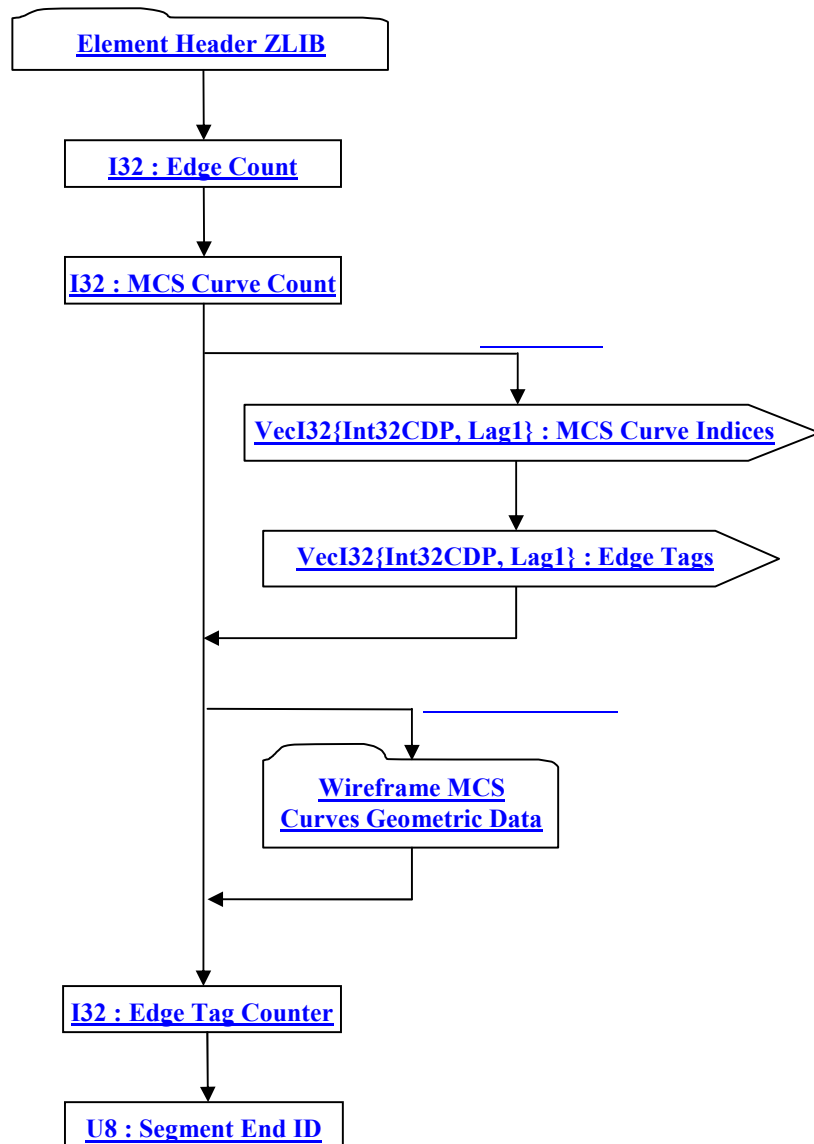
24K B ,

Figure 129: Wireframe Segment data collection



24K B ,
Object Type ID:

Figure 130: Wireframe Rep Element data collection



GA H 7:

GA 7 7 4 7:

. GA G6 3 7 7 4 H

. GA G6 3 H

GA H 7:

1 H6

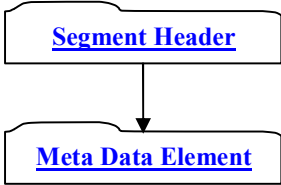
~~2A~~ B, 7 7 4 6

Figure 131: Wireframe MCS Curves Geometric Data data collection

Compressed Curve
Data

~~2A~~ 6

Figure 132: Meta Data Segment data collection



2A3
Object Type ID:

6

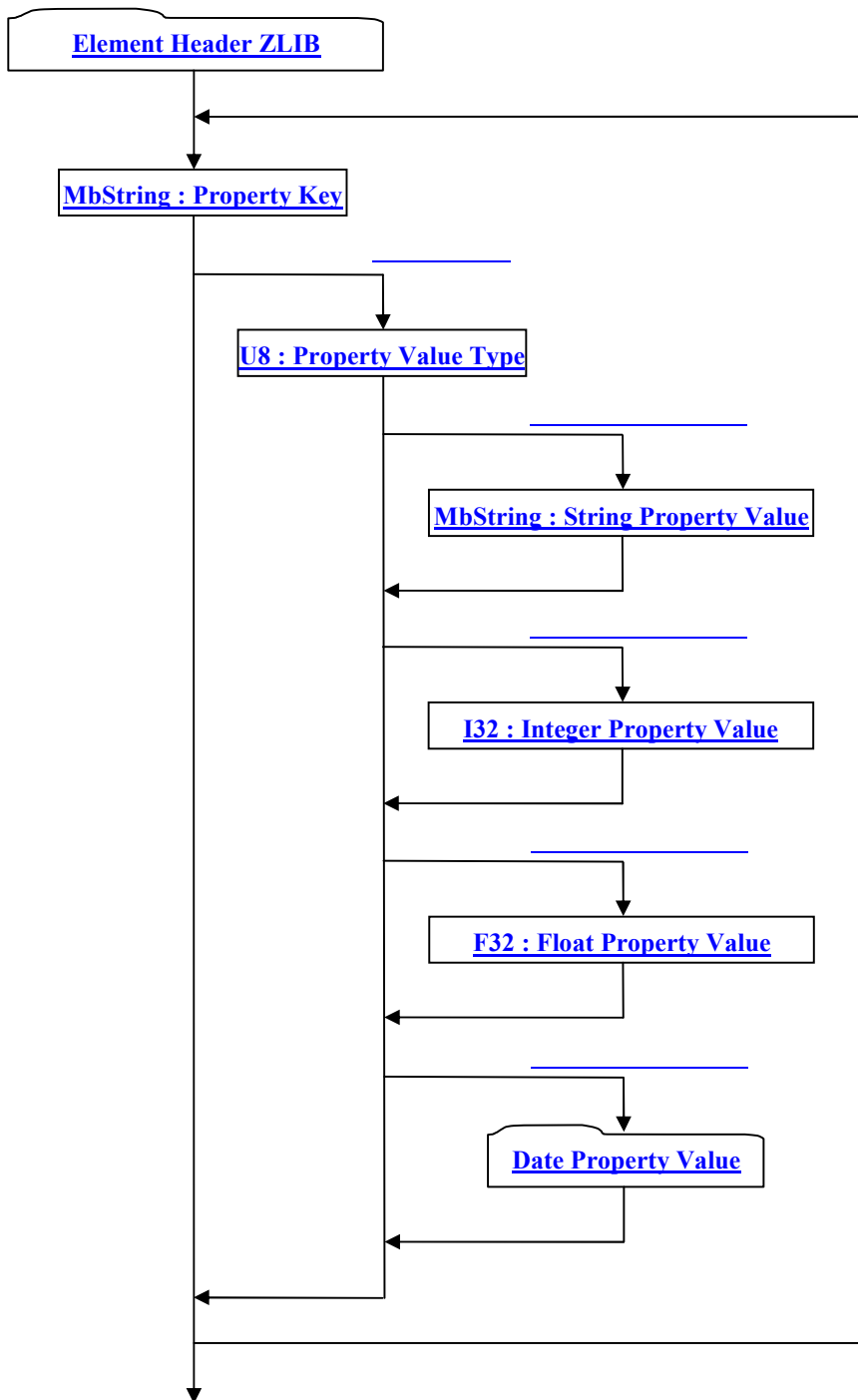
key

key

value

value

Figure 133: Property Proxy Meta Data Element data collection



8

key

1 . :

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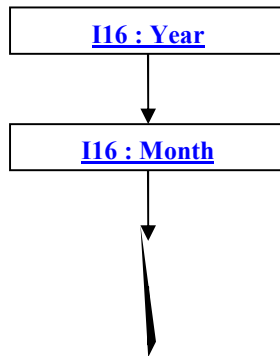
8 . :

GA . :

GA . :

~~2A~~236 . :

Figure 134: Date Property Value data collection



3L

3L C

3L 6

3L :

3L :

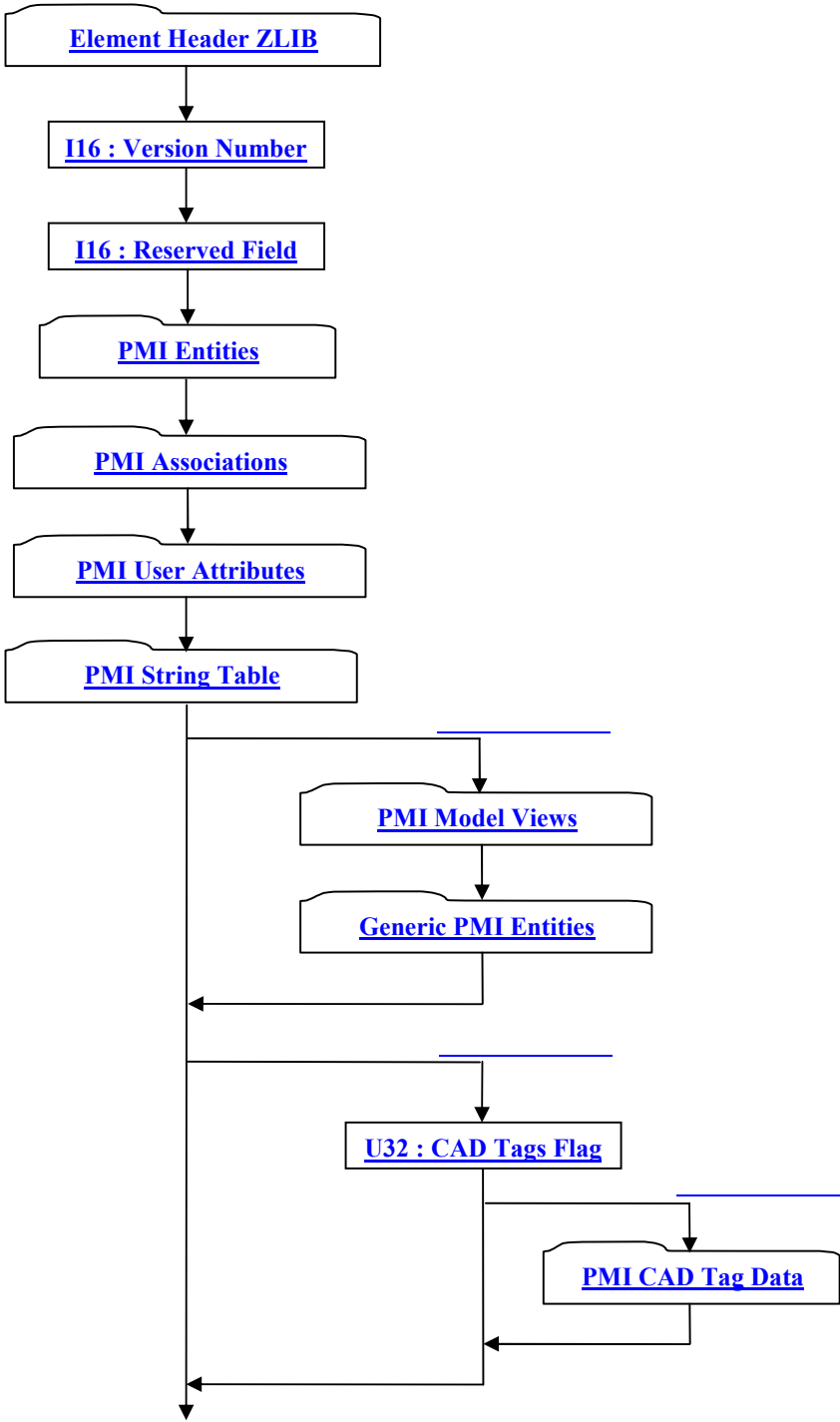
3L H

2R2A

6

Object Type ID:

Figure 135: PMI Manager Meta Data Element data collection



3L. E 8

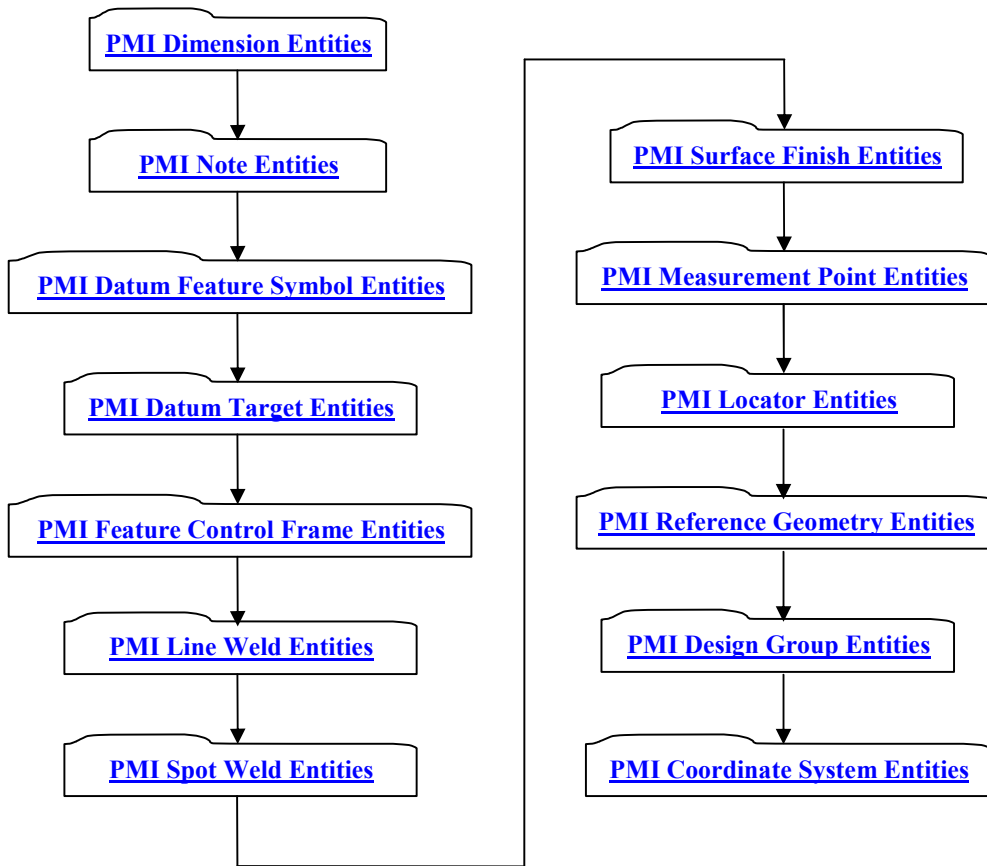
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3L 4H H

GA7 6

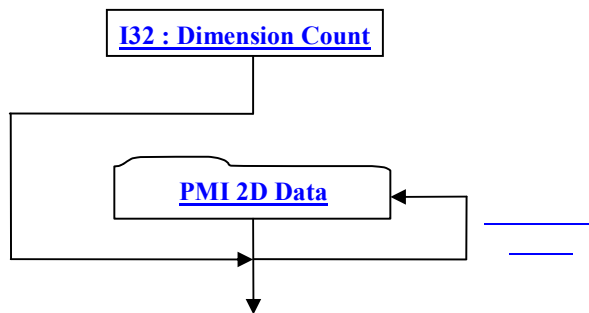
~~2R2B~~

Figure 136: PMI Entities data collection



~~2020~~ 6

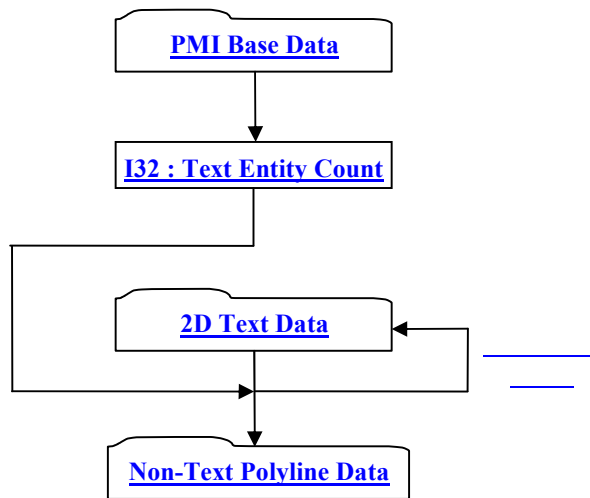
Figure 137: PMI Dimension Entities data collection



GA 7:

~~2A2A33~~ A6

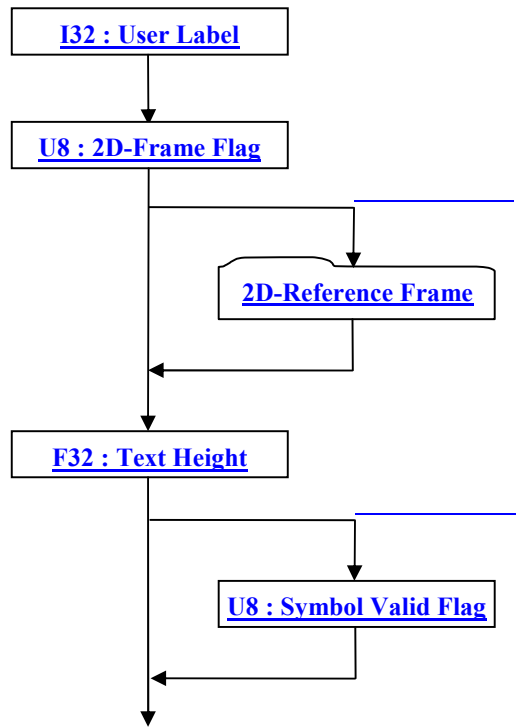
Figure 138: PMI 2D Data data collection



GA 7:

6

Figure 139: PMI Base Data data collection



GA 8

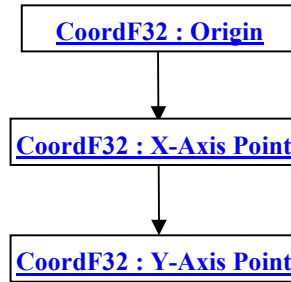
1 A5

GA C

1 8 . H

~~2A2A3333~~ A5 ,

Figure 140: 2D-Reference Frame data collection



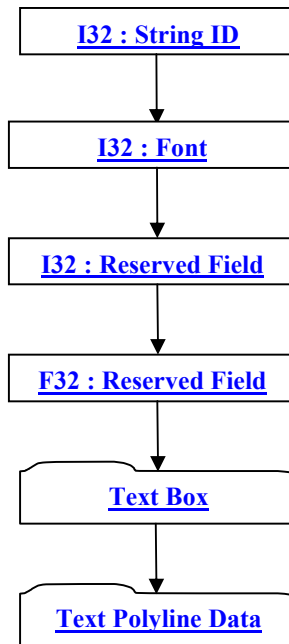
7 HGA

7 HGA B

7 HGA B

A 6

Figure 141: 2D Text Data data collection



GA 6



GA

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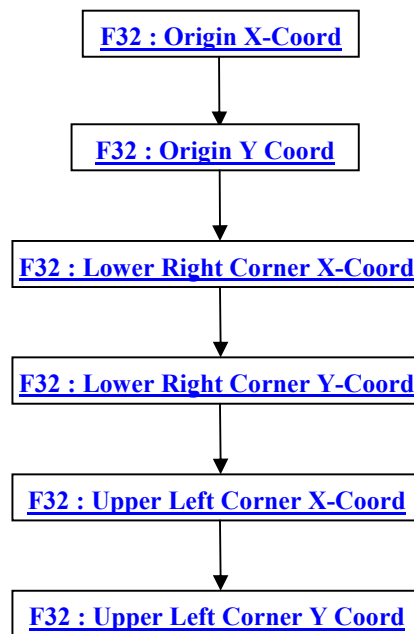


GA 4 H H

GA 4 H H

2A2B332B

Figure 142: Text Box data collection



GA 5 H

GA 7 H

GA F C7 5 H

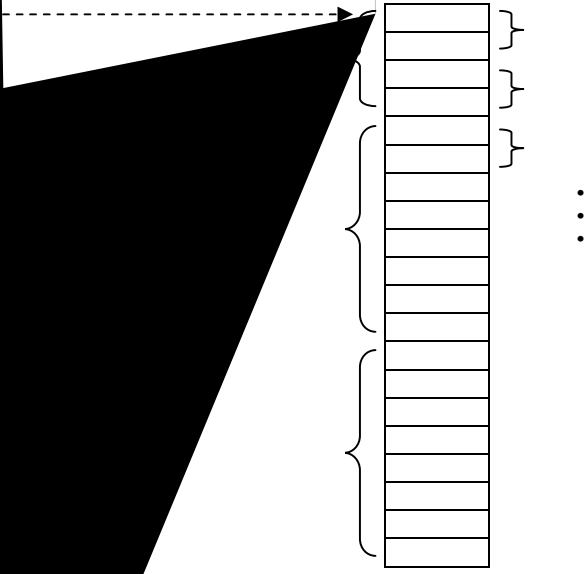
5 H

5 H

7 H

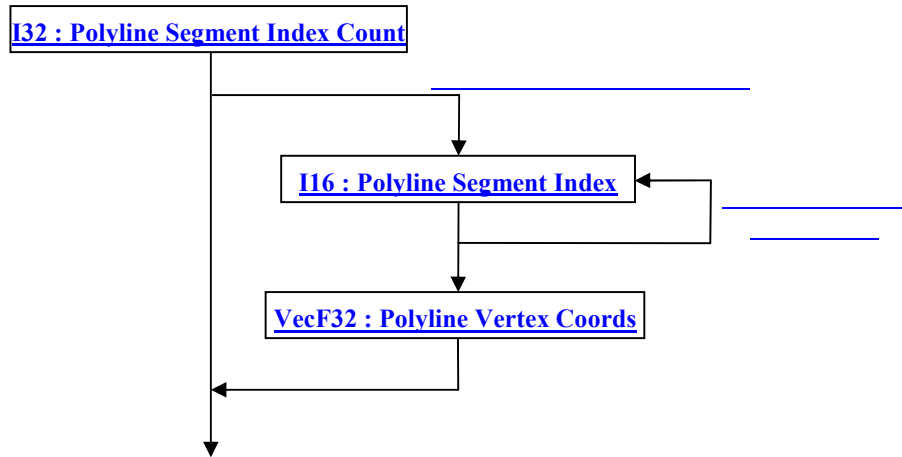
6

Array of Polyline Segments
(packed as 2D coords)



g Text Polyline from data arrays

Figure 144: Text Polyline Data data collection



GA H 7:
 3L H

. GA . 7 H

E 5 6

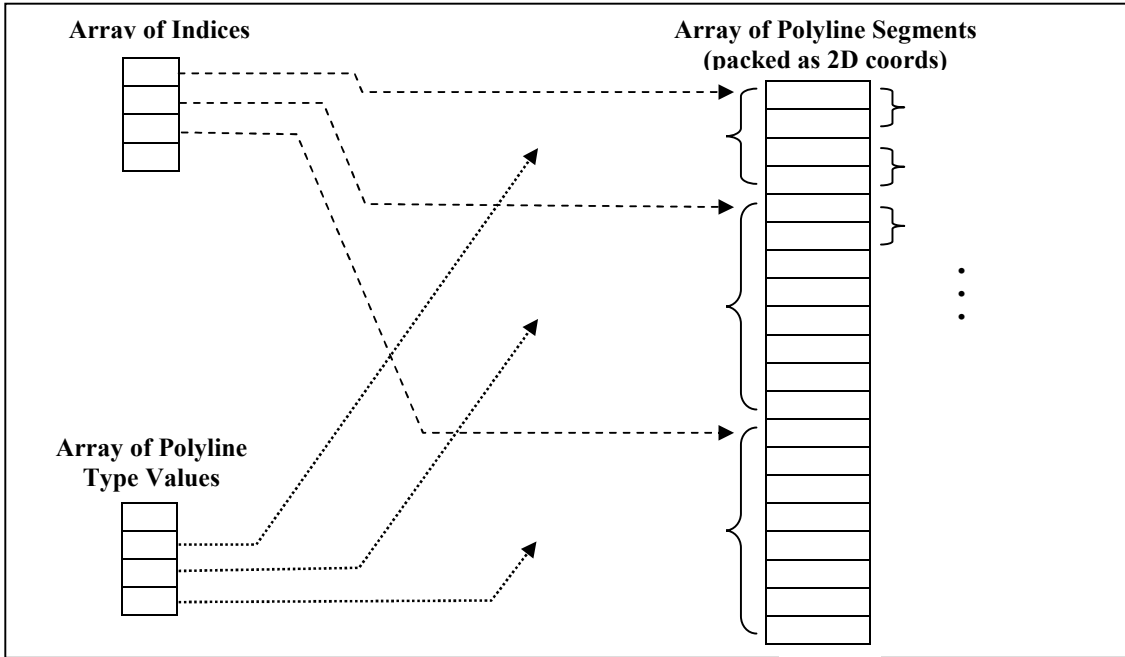
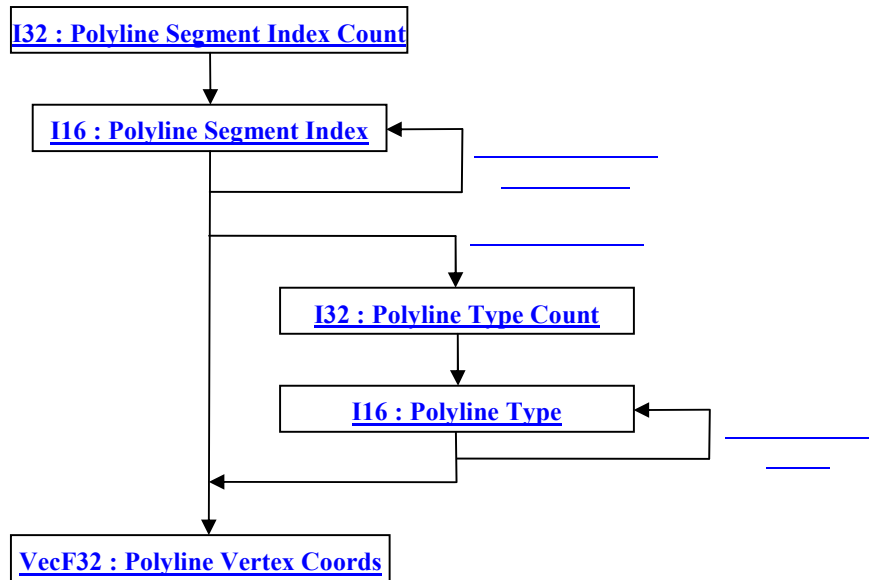


Figure 145: Constructing Non-Text Polylines from packed 2D data arrays

Figure 146: Non-Text Polyline Data data collection



GA **H 7:**

3L **H**

GA **7:**

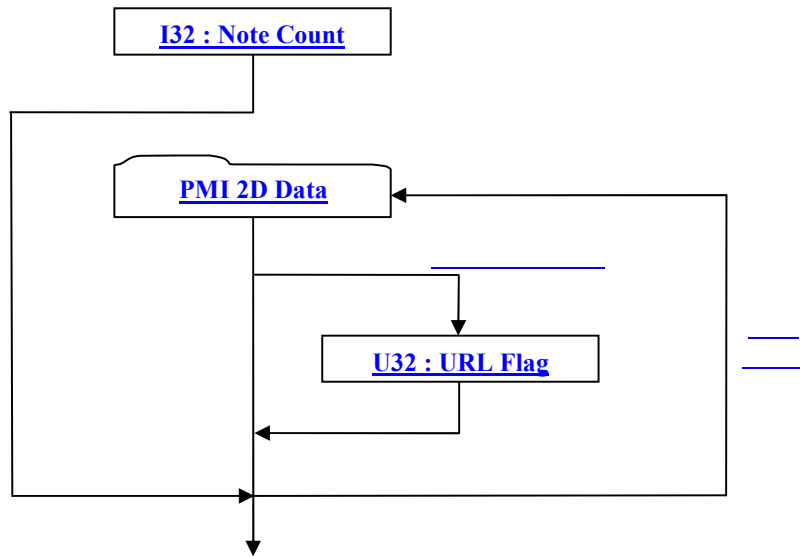
3L

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	-
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	-

. GA . 7 H

~~2A2A~~ E

Figure 147: PMI Note Entities data collection

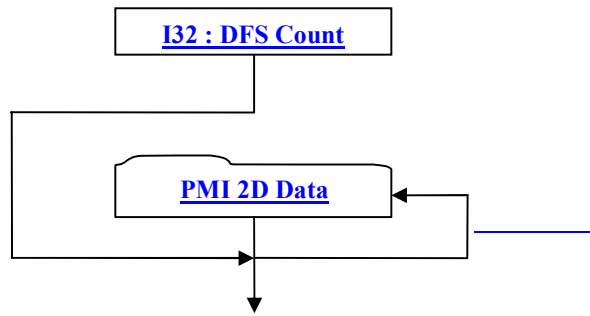


GA E 7:

GA

2020/2021 G 6 : : 8

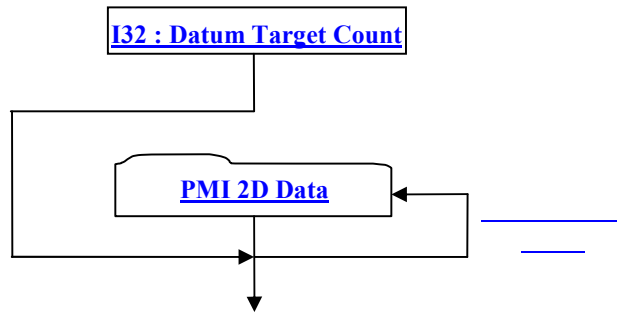
Figure 148: PMI Datum Feature Symbol Entities data collection



~~QA6~~ 7:

~~2A2A2J~~ 6 :

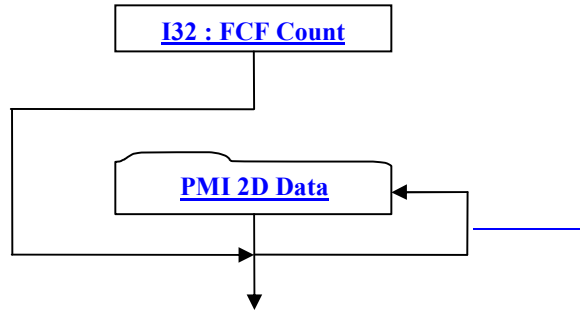
Figure 149: PMI Datum Target Entities data collection



~~QA6~~ : 7:

~~2A2A2K~~ : 7

Figure 150: PMI Feature Control Frame Entities data collection

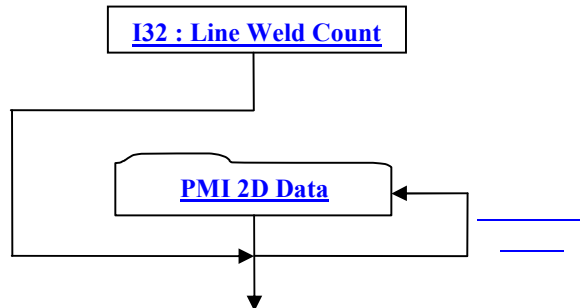


GA 7 7:

~~2A2A2~~

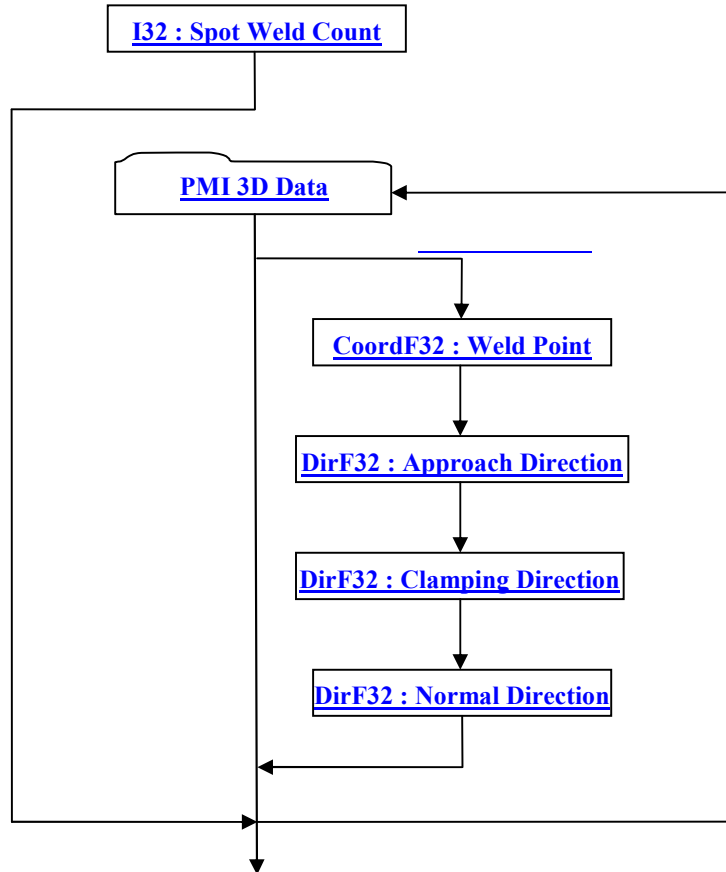
B H

Figure 151: PMI Line Weld Entities data collection



GA B H:

Figure 152: PMI Spot Weld Entities data collection



GA B H:

7 H G A B H

6 G A G