INTERNATIONAL STANDARD

ISO/IEC 9592-3

First edition
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AMENDMENT 1
1992-09-01

Information processing systems — Computer graphics — Programmer's Hierarchical Interactive Graphics System (PHIGS) —

Part 3 :
Clear-text encoding of archive file

AMENDMENT 1

Systèmes de traitement de l'information — Infographie — Interface de programmation du système graphique hiérarchisé (PHIGS) —

Partie 3 : Codage mode texte en clair du fichier d'archive

AMENDEMENT 1

Reference number
ISO/IEC 9592-3 : 1989/Amd.1 : 1992 (E)

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

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Amendment 1 to International Standard ISO/IEC 9592-3 : 1989 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

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Introduction

This amendment specifies the additions and changes to ISO/IEC 9592-3 to support the structure elements specified in ISO/IEC 9592-4. A clear text encoding is specified for each of the structure element types specified in ISO/IEC 9592-4.

Unless otherwise specified, all references in this amendment refer to ISO/IEC 9592-3.

Information processing systems—Computer graphics—Programmer's Hierarchical Interactive Graphics System (PHIGS)—Part 3: Clear-text encoding of archive file Amendment 1

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4.2.4.5 Derived types

Add the following:

```
COLRCURVE          ::= <LEFT PAREN><OPTSEP>
                       <I:ORDER> <SEP>
                       <RLIST:KNOTS> <SEP>
                       <RATIONAL | NONRATIONAL> <SEP>
                       <I:COLOUR TYPE> <SEP>
                       <COLRVLIST:CONTROL_POINTS>
                       <OPTSEP> <RIGHT PAREN>

COLRSURF           ::= <LEFT PAREN><OPTSEP>
                       <I:U_ORDER> <SEP>
                       <I:V_ORDER> <SEP>
                       <RLIST:U_KNOTS> <SEP>
                       <RLIST:V_KNOTS> <SEP>
                       <RATIONAL | NONRATIONAL> <SEP>
                       <I:COLOUR_TYPE> <SEP>
                       <COLRVLISTS:CONTROL_POINTS>
                       <OPTSEP> <RIGHT PAREN>
```

NOTE: Each COLRVLIST contains control points along the *u* dimension.

```
COLRV              ::= < <I:COLOUR_INDEX>
                       | <COORDLIST:COLOUR_COORDINATES>
                       >

COLRVLIST          ::= <LEFT PAREN> <OPTSEP>
                       < <COLRV> <<SEP> <COLRV>>* >0
                       <OPTSEP> <RIGHT PAREN>

COLRVLISTS         ::= <LEFT PAREN> <OPTSEP>
                       < <COLRVLIST> <<SEP> <COLRVLIST>>* >0
                       <OPTSEP> <RIGHT PAREN>
```

COLRVROWS ::= COLRVLISTS

COORDLIST ::= <LEFT PAREN> <OPTSEP>
<COORD> << SEP> <COORD>>*
<OPTSEP> <RIGHT PAREN>

CURVEAPPROXDATAREC ::= <LEFT PAREN> <OPTSEP>
<<I:COUNT>
| <R:APPROXIMATION_VALUE>
| <S:TYPE_DEPENDENT_DATA>>o
<OPTSEP> <RIGHT PAREN>>

DATAMAPPINGDATAREC ::= <LEFT PAREN> <OPTSEP>
<
<DATAMAPPINGDATAREC1>
| <DATAMAPPINGDATAREC2>
| <DATAMAPPINGDATAREC3>
| <DATAMAPPINGDATAREC4>
| <DATAMAPPINGDATAREC5>
| <S:METHOD_DEPENDENT_DATA>
>o
<OPTSEP><RIGHT PAREN>

DATAMAPPINGDATAREC1 ::= <SOURCESELECTORLIST:SELECTOR>

DATAMAPPINGDATAREC2 ::= <SOURCESELECTORLIST:SELECTOR> <SEP>
<I:INDEX> <SEP>
<R:LOWER_LIMIT> <SEP>
<R:UPPER_LIMIT> <SEP>
<I:COLOUR_TYPE> <SEP>
<CORLVLIST:COLOUR_LIST>

DATAMAPPINGDATAREC3 ::= <SOURCESELECTORLIST:SELECTOR> <SEP>
<I:INDEX> <SEP>
<RLIST:RANGE_BOUNDARIES> <SEP>
<I:COLOUR_TYPE> <SEP>
<CORLVLIST:COLOUR_LIST>

DATAMAPPINGDATAREC4 ::= <SOURCESELECTORLIST:SELECTOR> <SEP>
<I:INDEX_1> <SEP>
<I:INDEX_2> <SEP>
<R:Ra_LOWER_LIMIT> <SEP>
<R:Ra_UPPER_LIMIT> <SEP>
<R:Rb_LOWER_LIMIT> <SEP>
<R:Rb_UPPER_LIMIT> <SEP>
<I:COLOUR_TYPE> <SEP>
<CORLVLISTS:COLOUR_LISTS>

DATAMAPPINGDATAREC5 ::= <SOURCESELECTORLIST:SELECTOR> <SEP>
<I:INDEX_1> <SEP> <I:INDEX_2> <SEP>
<RLISTS:Ra_RANGE_BOUNDARIES> <SEP>
<RLISTS:Rb_RANGE_BOUNDARIES> <SEP>
<I:COLOUR_TYPE> <SEP>
<CORLVLISTS:COLOUR_LISTS>

DATASURF ::= <LEFT PAREN> <OPTSEP>
<I:U_ORDER> <SEP>
<I:V_ORDER> <SEP>
<RLIST:U_KNOTS> <SEP>
<RLIST:V_KNOTS> <SEP>
<RATIONAL | NONRATIONAL> <SEP>
<RLISTSLIST:CONTROL_POINTS>
<OPTSEP> <RIGHT PAREN>

NOTE: Each RLIST is a single control point. Each RLISTS contains control points along the *u* dimension.

DATASURFLIST ::= <LEFT PAREN> <OPTSEP>
<DATASURF> <<SEP> <DATASURF>>*
<OPTSEP> <RIGHT PAREN>

EDGEDATAFLAG ::= <
NONE
| EDGE_VISIBILITY_FLAGS
>

EDGEFLAG ::= < OFF | ON >

EDGEFLAG2 ::= <LEFT PAREN> <OPTSEP>
<EDGEFLAG> <SEP> <EDGEFLAG>
<OPTSEP> <RIGHT PAREN>

EDGEFLAG2ROW ::= <LEFT PAREN> <OPTSEP>
< <EDGEFLAG2> <<SEP> <EDGEFLAG2>>* >o
<OPTSEP> <RIGHT PAREN>

EDGEFLAG3 ::= <LEFT PAREN> <OPTSEP>
<EDGEFLAG> <SEP> <EDGEFLAG> <SEP> <EDGEFLAG>
<OPTSEP> <RIGHT PAREN>

EDGEFLAG3LIST ::= <LEFT PAREN> <OPTSEP>
< <EDGEFLAG3> <<SEP> <EDGEFLAG3>>* >o
<OPTSEP> <RIGHT PAREN>

EDGEFLAGLIST ::= <LEFT PAREN> <OPTSEP>
< <EDGEFLAG> <<SEP> <EDGEFLAG>>* >o
<OPTSEP> <RIGHT PAREN>

EDGEFLAGLISTS ::= <LEFT PAREN> <OPTSEP>
< <EDGEFLAGLIST> <<SEP> <EDGEFLAGLIST>>* >o
<OPTSEP> <RIGHT PAREN>

```
EDGEFLAGLISTSLIST       ::= <LEFT PAREN> <OPTSEP>
                            < <EDGEFLAGLISTS> <<SEP> <EDGEFLAGLISTS>>* >o
                            <OPTSEP> <RIGHT PAREN>

EDGEFLAGROW             ::= <EDGEFLAGLIST>

FACETDATA               ::= <LEFT PAREN> <OPTSEP>
                            <COLRV>o
                             <<SEP> <V3:UNIT_NORMAL>>o
                             <<SEP> <RLIST:DATA_MAPPING_DATA>>o
                            <OPTSEP> <RIGHT PAREN>

FACETDATAFLAG           ::= <
                            NONE
                            | FACET_COLR
                            | FACET_NORMAL
                            | FACET_DATA
                            | FACET_COLR_NORMAL
                            | FACET_COLR_DATA
                            | FACET_NORMAL_DATA
                            | FACET_COLR_NORMAL_DATA
                            >

FACETDATALIST           ::= <LEFT PAREN> <OPTSEP>
                            < <FACETDATA> <<SEP> <FACETDATA>>* >o
                            <OPTSEP> <RIGHT PAREN>

FACETDATALISTS          ::= <LEFT PAREN> <OPTSEP>
                            < <FACETDATALIST> <<SEP> <FACETDATALIST>>* >o
                            <OPTSEP> <RIGHT PAREN>

FACETDATAROW            ::= <FACETDATALIST>

GCOLR                   ::= <I:COLOUR_TYPE> <SEP> <COLRV>

INT3                    ::= <LEFT PAREN> <OPTSEP>
                            <I> <SEP> <I> <SEP> <I>
                            <OPTSEP> <RIGHT PAREN>

INT3LIST                ::= <LEFT PAREN> <OPTSEP>
                            < <INT3> <<SEP> <INT3>>* >o
                            <OPTSEP> <RIGHT PAREN>>

INT3LISTS               ::= <LEFT PAREN> <OPTSEP>
                            < <INT3LIST> <<SEP> <INT3LIST>>* >o
                            <OPTSEP> <RIGHT PAREN>>

INTLIST                 ::= <LEFT PAREN> <OPTSEP>
                            < <I> <<SEP> <I>>* >o
                            <OPTSEP> <RIGHT PAREN>>
```

```
INTLISTS                    ::= <LEFT PAREN> <OPTSEP>
                                < <INTLIST> <<SEP> <INTLIST>>* >o
                                <OPTSEP> <RIGHT PAREN>>

INTLISTSLIST                ::= <LEFT PAREN> <OPTSEP>
                                < <INTLISTS> <<SEP> <INTLISTS>>* >o
                                <OPTSEP> <RIGHT PAREN>>

P4                          ::= <
                                <POINT4>
                                | <LEFT PAREN> <OPTSEP> <POINT4> <OPTSEP><RIGHT PAREN>
                                >

POINT4                      ::= <COORD:wX> <SEP>
                                <COORD:wY> <SEP>
                                <COORD:wZ> <SEP>
                                <COORD:w>

POINTLIST4                  ::= < <P4:POINT> <<SEP> <P4:POINT>>* >o

PARAMSURFCHARACDATAREC      ::= <LEFT PAREN> <OPTSEP>
                                <
                                <PARAMSURFCHARACDATAREC3>
                                | <PARAMSURFCHARACDATAREC4>
                                | <S:TYPE_DEPENDENT_DATA>
                                >o
                                <OPTSEP><RIGHT PAREN>

PARAMSURFCHARACDATAREC3     ::= <UNIFORM | NONUNIFORM> <SEP>
                                <I:U_COUNT> <SEP> <I:V_COUNT>
                                <OPTSEP> <RIGHT PAREN>

PARAMSURFCHARACDATAREC4     ::= <P3:ORIGIN_POINT> <SEP>
                                <V3:DIRECTION_VECTOR> <SEP>
                                <RLIST:PARAMETERS>

REFLPROPSDATAREC            :== <LEFT PAREN> <OPTSEP>
                                <
                                <REFLDATAREC1>
                                | <S:METHOD_DEPENDENT_DATA>
                                >o
                                <OPTSEP><RIGHT PAREN>

REFLPROPSDATAREC1           ::= <R:AMBIENT_REFLECTION_COEFFICIENT> <SEP>
                                <R:DIFFUSE_REFLECTION_COEFFICIENT> <SEP>
                                <R:SPECULAR_REFLECTION_COEFFICIENT> <SEP>
                                <GCOLR:SPECULAR_COLOUR><SEP>
                                <R:SPECULAR_EXPONENT>
```

```
RLIST           ::= <LEFT PAREN> <OPTSEP>
                    < <R> <<SEP> <R>>* >0
                    <OPTSEP> <RIGHT PAREN>

RLISTS          ::= <LEFT PAREN> <OPTSEP>
                    < <RLIST> <<SEP> <RLIST>>* >0
                    <OPTSEP> <RIGHT PAREN>

RLISTSLIST      ::= <LEFT PAREN> <OPTSEP>
                    < <RLISTS> <<SEP> <RLISTS>>* >0
                    <OPTSEP> <RIGHT PAREN>

SOURCESELECTOR  ::= <
                     COLOUR_ASPECT
                    | VERTEX_COLOUR
                    | VERTEX_DATA
                    | FACET_COLOUR
                    | FACET_DATA
                    >

SOURCESELECTORLIST ::= <LEFT PAREN> <OPTSEP>
                    < <SOURCESELECTOR><<SEP><SOURCESELECTOR>>* >0
                    <OPTSEP><RIGHT PAREN>

SURFAPPROXDATAREC ::= <LEFT PAREN> <OPTSEP>
                    <<I:U_COUNT> <SEP> <I:V_COUNT>
                    | <R:APPROXIMATION_VALUE>
                    | <R:U_APPROXIMATION_VALUE> <SEP>
                        <R:V_APPROXIMATION_VALUE>
                    | <S:TYPE_DEPENDENT_DATA>>0
                    <OPTSEP> <RIGHT PAREN>>

TRIMCURVE       ::= <LEFT PAREN> <OPTSEP>
                    <I:APPROXIMATION_TYPE> <SEP>
                    <CURVEAPPROXDATAREC:DATA_RECORD>
                    <OFF | ON:EDGE_FLAG> <SEP>
                    <I:ORDER> <SEP>
                    <RLIST:KNOTS> <SEP>
                    <R:TMIN> <SEP> <R:TMAX> <SEP>
                    <
                    <RATIONAL <SEP>
                        <POINTLIST3:CONTROL_POINTS>>
                    | <NONRATIONAL <SEP>
                        <POINTLIST2:CONTROL_POINTS>>
                    >
                    <OPTSEP> <RIGHT PAREN>

TRIMLOOP        ::= <LEFT PAREN> <OPTSEP>
                    <TRIMCURVE> <<SEP> <TRIMCURVE>>*
                    <OPTSEP> <RIGHT PAREN>
```

```
TRIMLOOPLIST            ::= <LEFT PAREN> <OPTSEP>
                            <TRIMLOOP> <<SEP> <TRIMLOOP>>*
                            <OPTSEP> <RIGHT PAREN>

VERTEXDATA2             ::= <LEFT PAREN> <OPTSEP>
                            <P2:POINT>
                            <<SEP> <COLRV>>o
                            <<SEP> <V3:UNIT_NORMAL>>o
                            <<SEP> <RLIST:DATA_MAPPING_DATA>>o
                            <OPTSEP> <RIGHT PAREN>

VERTEXDATA2LIST         ::= <LEFT PAREN> <OPTSEP>
                            < <VERTEXDATA2> <<SEP> <VERTEXDATA2>>* >o
                            <OPTSEP> <RIGHT PAREN>

VERTEXDATA2LISTS        ::= <LEFT PAREN> <OPTSEP>
                            < <VERTEXDATA2LIST> <<SEP> <VERTEXDATA2LIST>>* >o
                            <OPTSEP> <RIGHT PAREN>

VERTEXDATA3             ::= <LEFT PAREN> <OPTSEP>
                            <P3:POINT>
                            <<SEP> <COLRV>>o
                            <<SEP> <V3:UNIT_NORMAL>>o
                            <<SEP> <RLIST:DATA_MAPPING DATA>>o
                            <OPTSEP> <RIGHT PAREN>

VERTEXDATA3LIST         ::= <LEFT PAREN> <OPTSEP>
                            < <VERTEXDATA3> <<SEP> <VERTEXDATA3>>* >o
                            <OPTSEP> <RIGHT PAREN>

VERTEXDATA3LISTS        ::= <LEFT PAREN> <OPTSEP>
                            < <VERTEXDATA3LIST> <<SEP> <VERTEXDATA3LIST>>* >o
                            <OPTSEP> <RIGHT PAREN>

VERTEXDATAFLAG          ::= <
                            COORD
                            | COORD_COLR
                            | COORD_NORMAL
                            | COORD_DATA
                            | COORD_COLR_NORMAL
                            | COORD_COLR_DATA
                            | COORD_NORMAL_DATA
                            | COORD_COLR_NORMAL_DATA
                            >

VERTEXDATAPL3           ::= <LEFT PAREN> <OPTSEP>
                            <P3:POINT>
                            <<SEP> <COLRV>>o
                            <OPTSEP> <RIGHT PAREN>
```

VERTEXDATAPL3LIST ::= <LEFT PAREN> <OPTSEP>
< <VERTEXDATAPL3> <<SEP> <VERTEXDATAPL3>>* >o
<OPTSEP> <RIGHT PAREN>

VERTEXDATAPL3LISTS ::= <LEFT PAREN> <OPTSEP>
< <VERTEXDATAPL3LIST> <<SEP> <VERTEXDATAPL3LIST>>* >o
<OPTSEP> <RIGHT PAREN>

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4.2.5.1 Terms deleted

Add the following:

OF, WITH

4.2.5.3 Words used unabbreviated

Add the following:

BACK, CURVE, DATA, FRONT, LIGHT, MAPPING, MODE

4.2.5.4 Abbreviations

Add the following:

APPROXIMATION	→	APPROX
CHARACTERISTICS	→	CHARAC
CRITERIA	→	CRIT
CULLING	→	CULL
DEPTH CUE	→	DEPTHCUE
DISTINGUISHING	→	DIST
METHOD	→	METH
NON_UNIFORM_B_SPLINE	→	NUNIBSP
PARAMETRIC	→	PARAM
PROPERTIES	→	PROPS
QUADRILATERAL	→	QUAD
REFLECTANCE	→	REFL
RENDERING	→	REND
SHADING	→	SHAD
SOURCE	→	SRC
SURFACE	→	SURF
TRIANGLE	→	TRI
TRIMMING CURVE	→	TRIMCURV

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4.2.5.7 The derived archive file element names

Add the following:

POLYLINE SET 3 WITH COLOUR	→	ARF_LINESET3COLR
FILL AREA SET 3 WITH DATA	→	ARF_FILLAREASET3DATA
FILL AREA SET WITH DATA	→	ARF_FILLAREASETDATA
CELL ARRAY 3 PLUS	→	ARF_CELLARRAY3PLUS
SET OF FILL AREA SETS 3 WITH DATA	→	ARF_SETFILLAREASETS3DATA
SET OF FILL AREA SETS WITH DATA	→	ARF_SETFILLAREASETSDATA
TRIANGLE SET 3 WITH DATA	→	ARF_TRISET3DATA
TRIANGLE SET WITH DATA	→	ARF_TRISETDATA
TRIANGLE STRIP 3 WITH DATA	→	ARF_TRISTRIP3DATA
TRIANGLE STRIP WITH DATA	→	ARF_TRISTRIPDATA
QUADRILATERAL MESH 3 WITH DATA	→	ARF_QUADMESH3DATA
QUADRILATERAL MESH WITH DATA	→	ARF_QUADMESHDATA
NON-UNIFORM B-SPLINE CURVE	→	ARF_NUNIBSPCURVE
NON-UNIFORM B-SPLINE CURVE WITH COLOUR	→	ARF_NUNIBSPCURVECOLR
NON-UNIFORM B-SPLINE SURFACE	→	ARF_NUNIBSPSURF
NON-UNIFORM B-SPLINE SURFACE WITH DATA	→	ARF_NUNIBSPSURFDATA
SET DATA MAPPING INDEX	→	ARF_DATAMAPPINGINDEX
SET REFLECTANCE INDEX	→	ARF_REFLINDEX
SET BACK INTERIOR INDEX	→	ARF_BACKINTINDEX
SET BACK DATA MAPPING INDEX	→	ARF_BACKDATAMAPPINGINDEX
SET BACK REFLECTANCE INDEX	→	ARF_BACKREFLINDEX
SET PARAMETRIC SURFACE INDEX	→	ARF_PARAMSURFINDEX
SET POLYLINE COLOUR	→	ARF_LINECOLR
SET POLYLINE SHADING METHOD	→	ARF_LINESHADMETH
SET POLYMARKER COLOUR	→	ARF_MARKERCOLR
SET TEXT COLOUR	→	ARF_TEXTCOLR
SET FACET DISTINGUISHING MODE	→	ARF_FACETDISTMODE
SET FACET CULLING MODE	→	ARF_FACETCULLMODE
SET INTERIOR COLOUR	→	ARF_INTCOLR
SET INTERIOR SHADING METHOD	→	ARF_INTSHADMETH
SET DATA MAPPING METHOD	→	ARF_DATAMAPPINGMETH
SET REFLECTANCE PROPERTIES	→	ARF_REFLPROPS
SET REFLECTANCE MODEL	→	ARF_REFLMODEL

SET BACK INTERIOR STYLE	→	ARF_BACKINTSTYLE
SET BACK INTERIOR STYLE INDEX	→	ARF_BACKINTSTYLEINDEX
SET BACK INTERIOR COLOUR	→	ARF_BACKINTCOLR
SET BACK INTERIOR SHADING METHOD	→	ARF_BACKINTSHADMETH
SET BACK DATA MAPPING METHOD	→	ARF_BACKDATAMAPPINGMETH
SET BACK REFLECTANCE PROPERTIES	→	ARF_BACKREFLPROPS
SET BACK REFLECTANCE MODEL	→	ARF_BACKREFLMODEL
SET LIGHT SOURCE STATE	→	ARF_LIGHTSRCSTATE
SET EDGE COLOUR	→	ARF_EDGECOLR
SET CURVE APPROXIMATION CRITERIA	→	ARF_CURVEAPPROXCRIT
SET SURFACE APPROXIMATION CRITERIA	→	ARF_SURFAPPROXCRIT
SET PARAMETRIC SURFACE CHARACTERISTICS	→	ARF_PARAMSURFCHARAC
SET RENDERING COLOUR MODEL	→	ARF_RENDCOLRMODEL
SET DEPTH CUE INDEX	→	ARF_DEPTHCUEINDEX
SET COLOUR MAPPING INDEX	→	ARF_COLRMAPPINGINDEX

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4.3.3 The structure element production

Add the following:

```
|
<POLYLINE SET 3 WITH COLOUR> |
<FILL AREA SET 3 WITH DATA> |
<FILL AREA SET WITH DATA> |
<CELL ARRAY 3 PLUS> |
<SET OF FILL AREA SETS 3 WITH DATA> |
<SET OF FILL AREA SETS WITH DATA> |
<TRIANGLE SET 3 WITH DATA> |
<TRIANGLE SET WITH DATA> |
<TRIANGLE STRIP 3 WITH DATA> |
<TRIANGLE STRIP WITH DATA> |
<QUADRILATERAL MESH 3 WITH DATA> |
<QUADRILATERAL MESH WITH DATA> |
<NON-UNIFORM B-SPLINE CURVE> |
<NON-UNIFORM B-SPLINE CURVE WITH COLOUR> |
<NON-UNIFORM B-SPLINE SURFACE> |
<NON-UNIFORM B-SPLINE SURFACE WITH DATA> |
```

<SET DATA MAPPING INDEX> |
<SET REFLECTANCE INDEX> |
<SET BACK INTERIOR INDEX> |
<SET BACK DATA MAPPING INDEX> |
<SET BACK REFLECTANCE INDEX> |
<SET PARAMETRIC SURFACE INDEX> |
<SET POLYLINE COLOUR> |
<SET POLYLINE SHADING METHOD> |
<SET POLYMARKER COLOUR> |
<SET TEXT COLOUR> |
<SET FACET DISTINGUISHING MODE> |
<SET FACET CULLING MODE> |
<SET INTERIOR COLOUR> |
<SET INTERIOR SHADING METHOD> |
<SET DATA MAPPING METHOD> |
<SET REFLECTANCE PROPERTIES> |
<SET REFLECTANCE MODEL> |
<SET BACK INTERIOR STYLE> |
<SET BACK INTERIOR STYLE INDEX> |
<SET BACK INTERIOR COLOUR> |
<SET BACK INTERIOR SHADING METHOD> |
<SET BACK DATA MAPPING METHOD> |
<SET BACK REFLECTANCE PROPERTIES> |
<SET BACK REFLECTANCE MODEL> |
<SET LIGHT SOURCE STATE> |
<SET EDGE COLOUR> |
<SET CURVE APPROXIMATION CRITERIA> |
<SET SURFACE APPROXIMATION CRITERIA> |
<SET PARAMETRIC SURFACE CHARACTERISTICS> |
<SET RENDERING COLOUR MODEL> |
<SET DEPTH CUE INDEX> |
<SET COLOUR MAPPING INDEX>

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4.3.4 Encoding output primitive elements

Add the following:

POLYLINE SET 3 WITH COLOUR ::= ARF_LINESET3DATA
<SOFTSEP>
<VERTEXDATAFLAG> <SEP>
<I:COLOUR_TYPE> <SEP>
<VERTEXDATAPL3LISTS>
<TERM>

FILL AREA SET 3 WITH DATA ::= ARF_FILLAREASET3DATA
<SOFTSEP>
<FACETDATAFLAG> <SEP>
<EDGEDATAFLAG> <SEP>
<VERTEXDATAFLAG>
<<SEP> <I:COLOUR_TYPE>>o
<<SEP> <FACETDATA>>o
<<SEP> <EDGEFLAGLISTS>>o
<SEP> <VERTEXDATA3LISTS>
<TERM>

FILL AREA SET WITH DATA ::= ARF_FILLAREASETDATA
<SOFTSEP>
<FACETDATAFLAG> <SEP>
<EDGEDATAFLAG> <SEP>
<VERTEXDATAFLAG>
<<SEP> <I:COLOUR_TYPE>>o
<<SEP> <FACETDATA>>o
<<SEP> <EDGEFLAGLISTS>>o
<SEP> <VERTEXDATA2LISTS>
<TERM>

CELL ARRAY 3 PLUS ::= ARF_CELLARRAY3PLUS
<SOFTSEP>
<P3:P_POINT> <SEP>
<P3:Q_POINT> <SEP>
<P3:R_POINT> <SEP>
<I:COLOUR_TYPE> <SEP>
<I:X_DIM> <SEP>
<I:Y_DIM> <SEP>
<COLRVROWS>
<TERM>

SET OF FILL AREA SETS 3 WITH DATA ::= ARF_SETFILLAREASETS3DATA
<SOFTSEP>
<FACETDATAFLAG> <SEP>
<EDGEDATAFLAG> <SEP>
<VERTEXDATAFLAG>
<<SEP> <I:COLOUR_TYPE>>o
<<SEP> <FACETDATALIST>>o
<<SEP> <EDGEFLAGLISTSLIST>o
<SEP> <VERTEXDATA3LIST> <SEP>
<INTLISTSLIST:VERTEX_INDICES>
<TERM>

SET OF FILL AREA SETS WITH DATA ::= ARF_SETFILLAREASETSDATA
<SOFTSEP>
<FACETDATAFLAG> <SEP>
<EDGEDATAFLAG> <SEP>
<VERTEXDATAFLAG>
<<SEP> <I:COLOUR_TYPE>>o
<<SEP> <FACETDATALIST>>o
<<SEP> <EDGEFLAGLISTSLIST>>o
<SEP> <VERTEXDATA2LIST> <SEP>
<INTLISTSLIST:VERTEX_INDICES>
<TERM>

TRIANGLE SET 3 WITH DATA ::= ARF_TRISET3DATA
<SOFTSEP>
<FACETDATAFLAG> <SEP>
<EDGEDATAFLAG> <SEP>
<VERTEXDATAFLAG>
<<SEP> <I:COLOUR_TYPE>>o
<<SEP> <FACETDATALIST>>o
<<SEP> <EDGEFLAG3LIST>o
<SEP> <VERTEXDATA3LIST> <SEP>
<INT3LISTS:VERTEX_INDICES>
<TERM>

TRIANGLE SET WITH DATA ::= ARF_TRISETDATA
<SOFTSEP>
<FACETDATAFLAG> <SEP>
<EDGEDATAFLAG> <SEP>
<VERTEXDATAFLAG>
<<SEP> <I:COLOUR_TYPE>>o
<<SEP> <FACETDATALIST>>o
<<SEP> <EDGEFLAG3LIST>o
<SEP> <VERTEXDATA2LIST> <SEP>
<INT3LISTS:VERTEX_INDICES>
<TERM>

TRIANGLE STRIP 3 WITH DATA ::= ARF_TRISTRIP3DATA
<SOFTSEP>
<FACETDATAFLAG> <SEP>
<EDGEDATAFLAG> <SEP>
<VERTEXDATAFLAG>
<<SEP> <I:COLOUR_TYPE>>o
<<SEP> <FACETDATALIST>>o
<<SEP> <EDGEFLAGLIST>>o
<SEP> <VERTEXDATA3LIST>
<TERM>

TRIANGLE STRIP WITH DATA ::= ARF_TRISTRIPDATA
<SOFTSEP>
<FACETDATAFLAG> <SEP>
<EDGEDATAFLAG> <SEP>
<VERTEXDATAFLAG>
<<SEP> <I:COLOUR_TYPE>>o
<<SEP><FACETDATALIST>>o
<<SEP><EDGEFLAGLIST>>o
<SEP> <VERTEXDATA2LIST>o
<TERM>

QUADRILATERAL MESH 3 WITH DATA ::= ARF_QUADMESH3DATA
<SOFTSEP>
<FACETDATFLAG> <SEP>
<EDGEDATAFLAG> <SEP>
<VERTEXDATAFLAG> <SEP>
<I:NUM_ROWS> <SEP>
<I:NUM_COLUMNS>
<<SEP> <I:COLOUR_TYPE>>o
<<SEP> <FACETDATAROW>>*
<<SEP> <EDGEFLAG2ROW>>*
<SEP> <VERTEXDATA3LISTS>
<TERM>

QUADRILATERAL MESH WITH DATA ::= ARF_QUADMESHDATA
<SOFTSEP>
<FACETDATFLAG> <SEP>
<EDGEDATAFLAG> <SEP>
<VERTEXDATAFLAG> <SEP>
<I:NUM_ROWS> <SEP>
<I:NUM_COLUMNS>
<<SEP> <I:COLOUR_TYPE>>o
<<SEP> <FACETDATAROW>>*
<<SEP> <EDGEFLAG2ROW>>*
<SEP> <VERTEXDATA2LISTS>
<TERM>

NON-UNIFORM B-SPLINE CURVE ::= ARF_NUNIBSPCURVE
<SOFTSEP>
<I:SPLINE_ORDER> <SEP>
<RLIST:KNOTS> <SEP>
<R:TMIN> <SEP> <R:TMAX> <SEP>
< <RATIONAL <SEP>
<POINTLIST4:CONTROL_POINTS>>
| <NONRATIONAL <SEP>
<POINTLIST3:CONTROL_POINTS>>
>
<TERM>

NON-UNIFORM B-SPLINE CURVE WITH COLOUR ::= ARF_NUNIBSPCURVECOLR
<SOFTSEP>
<I:SPLINE_ORDER> <SEP>
<RLIST:KNOTS> <SEP>
<R:TMIN> <SEP> <R:TMAX> <SEP>
< <RATIONAL <SEP>
<POINTLIST4:CONTROL_POINTS>>
| <NONRATIONAL <SEP>
<POINTLIST3:CONTROL_POINTS>>
>
<<SEP> <COLRCURVE>>o
<TERM>

NON-UNIFORM B-SPLINE SURFACE ::= ARF_NUNIBSPSURF
<SOFTSEP>
<I:U_ORDER> <SEP>
<I:V_ORDER> <SEP>
<RLIST:U_KNOTS> <SEP>
<RLIST:V_KNOTS> <SEP>
< <RATIONAL <SEP>
<POINTLIST4:U_DIRECTION_CONTROL_POINTS>
<<SEP> <POINTLIST4:U_DIRECTION_CONTROL_PTS>>*
| <NONRATIONAL <SEP>
<POINTLIST3:U_DIRECTION_CONTROL_PTS>
<<SEP> <POINTLIST3:U_DIRECTION_CONTROL_PTS>>*
>
<<SEP> TRIMLOOPS <SEP> <TRIMLOOPLIST>>o
<TERM>

NOTE: Each POINTLIST3 or POINTLIST4 contains control points along the u dimension.

NON-UNIFORM B-SPLINE SURFACE WITH DATA ::= ARF_NUNIBSPSURFDATA
<SOFTSEP>
<I:U_ORDER> <SEP>
<I:V_ORDER> <SEP>
<RLIST:U_KNOTS> <SEP>
<RLIST:V_KNOTS> <SEP>
< <RATIONAL <SEP>
<POINTLIST4:U_DIRECTION_CONTROL_POINTS>
<<SEP> <POINTLIST4:U_DIRECTION_CONTROL_POINTS>>*
| <NONRATIONAL <SEP>
<POINTLIST3:U_DIRECTION_CONTROL_POINTS>
<<SEP> <POINTLIST3:U_DIRECTION_CONTROL_POINTS>>*
>
<<SEP> TRIMLOOPS <SEP> <TRIMLOOPLIST>>o
<<SEP> COLRSURF <SEP> <COLRSURF>>o
<<SEP> DATASURFS <SEP> <DATASURFLIST>>o
<TERM>

NOTE: Each POINTLIST3 or POINTLIST4 contains control points along the u dimension.