

X3D Players and Tools Coverage		X3D version 4.0		updated 20 July 2019		https://www.web3d.org/specifications/X3dNodeInventoryComparison.xlsx https://www.web3d.org/specifications/X3dNodeInventoryComparison.pdf	
X3D Abstract Specification Node Index	X_ITE Player v4.5.9 (formerly Cobweb)	FreeWRL Player v4.0	view3dscene (Castle Game Engine)	X3DOM Player v1.8.0	InstantPlayer	Xj3D Player	X3D-Edit Authoring Tool
Anchor	Anchor	Anchor	Anchor	Anchor	Anchor	Anchor	Anchor
Appearance	Appearance	Appearance	Appearance	Appearance	Appearance	Appearance	Appearance
Arc2D	Arc2D	Arc2D	Arc2D	Arc2D	Arc2D	Arc2D	Arc2D
ArcClose2D	ArcClose2D	ArcClose2D	ArcClose2D	ArcClose2D	ArcClose2D	ArcClose2D	ArcClose2D
AudioClip	AudioClip	AudioClip	AudioClip	AudioClip	AudioClip	AudioClip	AudioClip
Background	Background	Background	Background	Background	Background	Background	Background
BallJoint	BallJoint	BallJoint	BallJoint	BallJoint	BallJoint	BallJoint	BallJoint
Billboard	Billboard	Billboard	Billboard	Billboard	Billboard	Billboard	Billboard
BlendedVolumeStyle	BlendedVolumeStyle	BlendedVolumeStyle	BlendedVolumeStyle	BlendedVolumeStyle	BlendedVolumeStyle	BlendedVolumeStyle	BlendedVolumeStyle
BooleanFilter	BooleanFilter	BooleanFilter	BooleanFilter	BooleanFilter	BooleanFilter	BooleanFilter	BooleanFilter
BooleanSequencer	BooleanSequencer	BooleanSequencer	BooleanSequencer	BooleanSequencer	BooleanSequencer	BooleanSequencer	BooleanSequencer
BooleanToggle	BooleanToggle	BooleanToggle	BooleanToggle	BooleanToggle	BooleanToggle	BooleanToggle	BooleanToggle
BooleanTrigger	BooleanTrigger	BooleanTrigger	BooleanTrigger	BooleanTrigger	BooleanTrigger	BooleanTrigger	BooleanTrigger
BoundaryEnhancementVolumeStyle	BoundaryEnhancementVolumeStyle	BoundaryEnhancementVolumeStyle	BoundaryEnhancementVolumeStyle	BoundaryEnhancementVolumeStyle	BoundaryEnhancementVolumeStyle	BoundaryEnhancementVolumeStyle	BoundaryEnhancementVolumeStyle
BoundedPhysicsModel	BoundedPhysicsModel	BoundedPhysicsModel	BoundedPhysicsModel	BoundedPhysicsModel	BoundedPhysicsModel	BoundedPhysicsModel	BoundedPhysicsModel
Box	Box	Box	Box	Box	Box	Box	Box
CADAssembly	CADAssembly	CADAssembly	CADAssembly	CADAssembly	CADAssembly	CADAssembly	CADAssembly
CADFace	CADFace	CADFace	CADFace	CADFace	CADFace	CADFace	CADFace
CADLayer	CADLayer	CADLayer	CADLayer	CADLayer	CADLayer	CADLayer	CADLayer
CADPart	CADPart	CADPart	CADPart	CADPart	CADPart	CADPart	CADPart
CartoonVolumeStyle	CartoonVolumeStyle	CartoonVolumeStyle	CartoonVolumeStyle	CartoonVolumeStyle	CartoonVolumeStyle	CartoonVolumeStyle	CartoonVolumeStyle
Circle2D	Circle2D	Circle2D	Circle2D	Circle2D	Circle2D	Circle2D	Circle2D
ClipPlane	ClipPlane	ClipPlane	ClipPlane	ClipPlane	ClipPlane	ClipPlane	ClipPlane
CollidableOffset	CollidableOffset	CollidableOffset	CollidableOffset	CollidableOffset	CollidableOffset	CollidableOffset	CollidableOffset
CollidableShape	CollidableShape	CollidableShape	CollidableShape	CollidableShape	CollidableShape	CollidableShape	CollidableShape
Collision	Collision	Collision	Collision	Collision	Collision	Collision	Collision
CollisionCollection	CollisionCollection	CollisionCollection	CollisionCollection	CollisionCollection	CollisionCollection	CollisionCollection	CollisionCollection
CollisionSensor	CollisionSensor	CollisionSensor	CollisionSensor	CollisionSensor	CollisionSensor	CollisionSensor	CollisionSensor
CollisionSpace	CollisionSpace	CollisionSpace	CollisionSpace	CollisionSpace	CollisionSpace	CollisionSpace	CollisionSpace
Color	Color	Color	Color	Color	Color	Color	Color
ColorChaser	ColorChaser	ColorChaser	ColorChaser	ColorChaser	ColorChaser	ColorChaser	ColorChaser
ColorDamper	ColorDamper	ColorDamper	ColorDamper	ColorDamper	ColorDamper	ColorDamper	ColorDamper
ColorInterpolator	ColorInterpolator	ColorInterpolator	ColorInterpolator	ColorInterpolator	ColorInterpolator	ColorInterpolator	ColorInterpolator
ColorRGBA	ColorRGBA	ColorRGBA	ColorRGBA	ColorRGBA	ColorRGBA	ColorRGBA	ColorRGBA
component	component	component	component	component	component	component	component
ComposedCubeMapTexture	ComposedCubeMapTexture	ComposedCubeMapTexture	ComposedCubeMapTexture	ComposedCubeMapTexture	ComposedCubeMapTexture	ComposedCubeMapTexture	ComposedCubeMapTexture
ComposedShader	ComposedShader	ComposedShader	ComposedShader	ComposedShader	ComposedShader	ComposedShader	ComposedShader
ComposedTexture3D	ComposedTexture3D	ComposedTexture3D	ComposedTexture3D	ComposedTexture3D	ComposedTexture3D	ComposedTexture3D	ComposedTexture3D
ComposedVolumeStyle	ComposedVolumeStyle	ComposedVolumeStyle	ComposedVolumeStyle	ComposedVolumeStyle	ComposedVolumeStyle	ComposedVolumeStyle	ComposedVolumeStyle
Cone	Cone	Cone	Cone	Cone	Cone	Cone	Cone
ConeEmitter	ConeEmitter	ConeEmitter	ConeEmitter	ConeEmitter	ConeEmitter	ConeEmitter	ConeEmitter
connect	connect	connect	connect	* required for X3D Immersive Profile	connect	connect	connect
Contact	Contact	Contact	Contact	Contact	Contact	Contact	Contact
Contour2D	Contour2D	Contour2D	Contour2D	Contour2D	Contour2D	Contour2D	Contour2D
ContourPolyline2D	ContourPolyline2D	ContourPolyline2D	ContourPolyline2D	ContourPolyline2D	ContourPolyline2D	ContourPolyline2D	ContourPolyline2D
Coordinate	Coordinate	Coordinate	Coordinate	Coordinate	Coordinate	Coordinate	Coordinate
CoordinateChaser	CoordinateChaser	CoordinateChaser	CoordinateChaser	CoordinateChaser	CoordinateChaser	CoordinateChaser	CoordinateChaser
CoordinateDamper	CoordinateDamper	CoordinateDamper	CoordinateDamper	CoordinateDamper	CoordinateDamper	CoordinateDamper	CoordinateDamper
CoordinateDouble	CoordinateDouble	CoordinateDouble	* missing, suggested for HTML5	CoordinateDouble	CoordinateDouble	* missing, suggested for HTML5	CoordinateDouble
CoordinateInterpolator	CoordinateInterpolator	CoordinateInterpolator	CoordinateInterpolator	CoordinateInterpolator	CoordinateInterpolator	CoordinateInterpolator	CoordinateInterpolator
CoordinateInterpolator2D	CoordinateInterpolator2D	CoordinateInterpolator2D	CoordinateInterpolator2D	* missing, suggested for HTML5	CoordinateInterpolator2D	CoordinateInterpolator2D	CoordinateInterpolator2D
Cylinder	Cylinder	Cylinder	Cylinder	Cylinder	Cylinder	Cylinder	Cylinder
CylinderSensor	CylinderSensor	CylinderSensor	CylinderSensor	CylinderSensor	CylinderSensor	CylinderSensor	CylinderSensor
DirectionalLight	DirectionalLight	DirectionalLight	DirectionalLight	DirectionalLight	DirectionalLight	DirectionalLight	DirectionalLight
DISEntityManager	DISEntityManager	DISEntityManager	DISEntityManager	DISEntityManager	DISEntityManager	DISEntityManager	DISEntityManager
DISEntityTypeMapping	DISEntityTypeMapping	DISEntityTypeMapping	DISEntityTypeMapping	DISEntityTypeMapping	DISEntityTypeMapping	DISEntityTypeMapping	DISEntityTypeMapping
Disk2D	Disk2D	Disk2D	Disk2D	Disk2D	Disk2D	Disk2D	Disk2D
DoubleAxisHingeJoint	DoubleAxisHingeJoint	DoubleAxisHingeJoint	DoubleAxisHingeJoint	DoubleAxisHingeJoint	DoubleAxisHingeJoint	DoubleAxisHingeJoint	DoubleAxisHingeJoint
EaseInEaseOut	EaseInEaseOut	EaseInEaseOut	EaseInEaseOut	EaseInEaseOut	EaseInEaseOut	EaseInEaseOut	EaseInEaseOut
EdgeEnhancementVolumeStyle	EdgeEnhancementVolumeStyle	EdgeEnhancementVolumeStyle	EdgeEnhancementVolumeStyle	EdgeEnhancementVolumeStyle	EdgeEnhancementVolumeStyle	EdgeEnhancementVolumeStyle	EdgeEnhancementVolumeStyle
ElevationGrid	ElevationGrid	ElevationGrid	ElevationGrid	ElevationGrid	ElevationGrid	ElevationGrid	ElevationGrid
EspduTransform	EspduTransform	EspduTransform	EspduTransform	EspduTransform	EspduTransform	EspduTransform	EspduTransform
ExplosionEmitter	ExplosionEmitter	ExplosionEmitter	ExplosionEmitter	ExplosionEmitter	ExplosionEmitter	ExplosionEmitter	ExplosionEmitter
EXPORT	EXPORT	EXPORT	EXPORT	* required for X3D Immersive Profile	* required for X3D Immersive Profile	* required for X3D Immersive Profile	EXPORT
ExternProtoDeclare	ExternProtoDeclare	ExternProtoDeclare	ExternProtoDeclare	* required for X3D Immersive Profile	ExternProtoDeclare	ExternProtoDeclare	ExternProtoDeclare
Extrusion	Extrusion	Extrusion	Extrusion	Extrusion	Extrusion	Extrusion	Extrusion
field	field	field	field	field	field	field	field
fieldValue	fieldValue	fieldValue	fieldValue	* required for X3D Immersive Profile	fieldValue	fieldValue	fieldValue
FillProperties	FillProperties	FillProperties	* missing, suggested for HTML5	* missing, suggested for HTML5	FillProperties	* missing, suggested for HTML5	FillProperties
FloatVertexAttribute	FloatVertexAttribute	FloatVertexAttribute	FloatVertexAttribute	FloatVertexAttribute	FloatVertexAttribute	FloatVertexAttribute	FloatVertexAttribute
Fog	Fog	Fog	Fog	Fog	Fog	Fog	Fog
FogCoordinate	FogCoordinate	FogCoordinate	FogCoordinate	FogCoordinate	FogCoordinate	FogCoordinate	FogCoordinate
FontStyle	FontStyle	FontStyle	FontStyle	FontStyle	FontStyle	FontStyle	FontStyle
ForcePhysicsModel	ForcePhysicsModel	ForcePhysicsModel	ForcePhysicsModel	ForcePhysicsModel	ForcePhysicsModel	ForcePhysicsModel	ForcePhysicsModel
GeneratedCubeMapTexture	GeneratedCubeMapTexture	GeneratedCubeMapTexture	GeneratedCubeMapTexture	GeneratedCubeMapTexture	GeneratedCubeMapTexture	GeneratedCubeMapTexture	GeneratedCubeMapTexture

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GeoCoordinate	GeoCoordinate	GeoCoordinate	* missing, suggested for HTML5	GeoCoordinate	GeoCoordinate	GeoCoordinate	GeoCoordinate
GeoElevationGrid	GeoElevationGrid	GeoElevationGrid	* missing, suggested for HTML5	GeoElevationGrid	GeoElevationGrid	GeoElevationGrid	GeoElevationGrid
GeoLocation	GeoLocation	GeoLocation	* missing, suggested for HTML5	GeoLocation	GeoLocation	GeoLocation	GeoLocation
GeoLOD	GeoLOD	GeoLOD	* missing, suggested for HTML5	GeoLOD	GeoLOD	GeoLOD	GeoLOD
GeoMetadata	GeoMetadata	GeoMetadata	* missing, suggested for HTML5	GeoMetadata	GeoMetadata	GeoMetadata	GeoMetadata
GeoOrigin	GeoOrigin	GeoOrigin	* missing, suggested for HTML5	GeoOrigin	GeoOrigin	GeoOrigin	GeoOrigin
GeoPositionInterpolator	GeoPositionInterpolator	GeoPositionInterpolator	* missing, suggested for HTML5	GeoPositionInterpolator	GeoPositionInterpolator	GeoPositionInterpolator	GeoPositionInterpolator
GeoProximitySensor	GeoProximitySensor	GeoProximitySensor	* missing, suggested for HTML5	* missing, suggested for HTML5	GeoProximitySensor	* missing, suggested for HTML5	GeoProximitySensor
GeoTouchSensor	GeoTouchSensor	GeoTouchSensor	* missing, suggested for HTML5	* missing, suggested for HTML5	GeoTouchSensor	GeoTouchSensor	GeoTouchSensor
GeoTransform	GeoTransform	GeoTransform	* missing, suggested for HTML5	GeoTransform	GeoTransform	GeoTransform	GeoTransform
GeoViewpoint	GeoViewpoint	GeoViewpoint	* missing, suggested for HTML5	GeoViewpoint	GeoViewpoint	GeoViewpoint	GeoViewpoint
Group	Group	Group		Group	Group	Group	Group
HAnimDisplacer	HAnimDisplacer	HAnimDisplacer	HAnimDisplacer	HAnimDisplacer	HAnimDisplacer	HAnimDisplacer	HAnimDisplacer
HAnimHumanoid	HAnimHumanoid	HAnimHumanoid	HAnimHumanoid	HAnimHumanoid	HAnimHumanoid	HAnimHumanoid	HAnimHumanoid
HAnimJoint	HAnimJoint	HAnimJoint	HAnimJoint	HAnimJoint	HAnimJoint	HAnimJoint	HAnimJoint
HAnimMotion							
HAnimSegment	HAnimSegment	HAnimSegment	HAnimSegment	HAnimSegment	HAnimSegment	HAnimSegment	HAnimSegment
HAnimSite	HAnimSite	HAnimSite	HAnimSite	HAnimSite	HAnimSite	HAnimSite	HAnimSite
head	head	head	head	head	head	head	head
ImageCubeMapTexture	ImageCubeMapTexture	ImageCubeMapTexture	ImageCubeMapTexture	ImageCubeMapTexture	ImageCubeMapTexture	ImageCubeMapTexture	ImageCubeMapTexture
ImageTexture	ImageTexture	ImageTexture	ImageTexture	ImageTexture	ImageTexture	ImageTexture	ImageTexture
ImageTexture3D	ImageTexture3D	ImageTexture3D	ImageTexture3D	ImageTexture3D	ImageTexture3D	ImageTexture3D	ImageTexture3D
IMPORT	IMPORT	IMPORT	IMPORT	* required for X3D Immersive Profile	* required for X3D Immersive Profile	* required for X3D Immersive Profile	IMPORT
IndexedFaceSet	IndexedFaceSet	IndexedFaceSet	IndexedFaceSet	IndexedFaceSet	IndexedFaceSet	IndexedFaceSet	IndexedFaceSet
IndexedLineSet	IndexedLineSet	IndexedLineSet	IndexedLineSet	IndexedLineSet	IndexedLineSet	IndexedLineSet	IndexedLineSet
IndexedQuadSet	IndexedQuadSet	IndexedQuadSet	IndexedQuadSet	IndexedQuadSet	IndexedQuadSet	IndexedQuadSet	IndexedQuadSet
IndexedTriangleFanSet	IndexedTriangleFanSet	IndexedTriangleFanSet	IndexedTriangleFanSet	* missing, suggested for HTML5	IndexedTriangleFanSet	IndexedTriangleFanSet	IndexedTriangleFanSet
IndexedTriangleSet	IndexedTriangleSet	IndexedTriangleSet	IndexedTriangleSet	IndexedTriangleSet	IndexedTriangleSet	IndexedTriangleSet	IndexedTriangleSet
IndexedTriangleStripSet	IndexedTriangleStripSet	IndexedTriangleStripSet	IndexedTriangleStripSet	IndexedTriangleStripSet	IndexedTriangleStripSet	IndexedTriangleStripSet	IndexedTriangleStripSet
Inline	inline	inline	inline	inline	inline	inline	inline
IntegerSequencer	IntegerSequencer	IntegerSequencer	IntegerSequencer	IntegerSequencer	IntegerSequencer	IntegerSequencer	IntegerSequencer
IntegerTrigger	IntegerTrigger	IntegerTrigger	IntegerTrigger	IntegerTrigger	IntegerTrigger	IntegerTrigger	IntegerTrigger
IS	IS	IS	IS	* required for X3D Immersive Profile	IS	IS	IS
IsoSurfaceVolumeData	IsoSurfaceVolumeData	IsoSurfaceVolumeData	IsoSurfaceVolumeData	IsoSurfaceVolumeData	IsoSurfaceVolumeData	IsoSurfaceVolumeData	IsoSurfaceVolumeData
KeySensor	KeySensor	KeySensor	KeySensor	* missing, suggested for HTML5	KeySensor	KeySensor	KeySensor
Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer
LayerSet	LayerSet	LayerSet	LayerSet	LayerSet	LayerSet	LayerSet	LayerSet
Layout	Layout	Layout	Layout	Layout	Layout	Layout	Layout
LayoutGroup	LayoutGroup	LayoutGroup	LayoutGroup	LayoutGroup	LayoutGroup	LayoutGroup	LayoutGroup
LayoutLayer	LayoutLayer	LayoutLayer	LayoutLayer	LayoutLayer	LayoutLayer	LayoutLayer	LayoutLayer
LinePickSensor	LinePickSensor	LinePickSensor	LinePickSensor	LinePickSensor	LinePickSensor	LinePickSensor	LinePickSensor
LineProperties	LineProperties	LineProperties	LineProperties	LineProperties	LineProperties	LineProperties	LineProperties
LineSet	LineSet	LineSet	LineSet	LineSet	LineSet	LineSet	LineSet
LoadSensor	LoadSensor	LoadSensor	* missing, suggested for HTML5	* missing, suggested for HTML5	LoadSensor	LoadSensor	LoadSensor
LocalFog	LocalFog	LocalFog	LocalFog	LocalFog	LocalFog	LocalFog	LocalFog
LOD	LOD	LOD	LOD	LOD	LOD	LOD	LOD
Material	Material	Material	Material	Material	Material	Material	Material
Matrix3VertexAttribute	Matrix3VertexAttribute	Matrix3VertexAttribute	Matrix3VertexAttribute	Matrix3VertexAttribute	Matrix3VertexAttribute	Matrix3VertexAttribute	Matrix3VertexAttribute
Matrix4VertexAttribute	Matrix4VertexAttribute	Matrix4VertexAttribute	Matrix4VertexAttribute	Matrix4VertexAttribute	Matrix4VertexAttribute	Matrix4VertexAttribute	Matrix4VertexAttribute
meta	meta	meta	meta	meta	meta	meta	meta
MetadataBoolean	MetadataBoolean	MetadataBoolean	MetadataBoolean	MetadataBoolean	* missing, suggested for HTML5	MetadataBoolean	MetadataBoolean
MetadataDouble	MetadataDouble	MetadataDouble	MetadataDouble	MetadataDouble	MetadataDouble	MetadataDouble	MetadataDouble
MetadataFloat	MetadataFloat	MetadataFloat	MetadataFloat	MetadataFloat	MetadataFloat	MetadataFloat	MetadataFloat
MetadataInteger	MetadataInteger	MetadataInteger	MetadataInteger	MetadataInteger	MetadataInteger	MetadataInteger	MetadataInteger
MetadataSet	MetadataSet	MetadataSet	MetadataSet	MetadataSet	MetadataSet	MetadataSet	MetadataSet
MetadataString	MetadataString	MetadataString	MetadataString	MetadataString	MetadataString	MetadataString	MetadataString
MotorJoint	MotorJoint	MotorJoint	MotorJoint	MotorJoint	MotorJoint	MotorJoint	MotorJoint
MovieTexture	MovieTexture	MovieTexture	MovieTexture	MovieTexture	MovieTexture	MovieTexture	MovieTexture
MultiTexture	MultiTexture	MultiTexture	MultiTexture	MultiTexture	MultiTexture	MultiTexture	MultiTexture
MultiTextureCoordinate	MultiTextureCoordinate	MultiTextureCoordinate	MultiTextureCoordinate	MultiTextureCoordinate	MultiTextureCoordinate	MultiTextureCoordinate	MultiTextureCoordinate
MultiTextureTransform	MultiTextureTransform	MultiTextureTransform	MultiTextureTransform	MultiTextureTransform	MultiTextureTransform	MultiTextureTransform	MultiTextureTransform
NavigationInfo	NavigationInfo	NavigationInfo	NavigationInfo	NavigationInfo	NavigationInfo	NavigationInfo	NavigationInfo
Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
NormalInterpolator	NormalInterpolator	NormalInterpolator	NormalInterpolator	NormalInterpolator	NormalInterpolator	NormalInterpolator	NormalInterpolator
NurbsCurve	NurbsCurve	NurbsCurve	NurbsCurve	NurbsCurve	NurbsCurve	NurbsCurve	NurbsCurve
NurbsCurve2D	NurbsCurve2D	NurbsCurve2D	NurbsCurve2D	NurbsCurve2D	NurbsCurve2D	NurbsCurve2D	NurbsCurve2D
NurbsOrientationInterpolator	NurbsOrientationInterpolator	NurbsOrientationInterpolator	NurbsOrientationInterpolator	NurbsOrientationInterpolator	NurbsOrientationInterpolator	NurbsOrientationInterpolator	NurbsOrientationInterpolator
NurbsPatchSurface	NurbsPatchSurface	NurbsPatchSurface	NurbsPatchSurface	NurbsPatchSurface	NurbsPatchSurface	NurbsPatchSurface	NurbsPatchSurface
NurbsPositionInterpolator	NurbsPositionInterpolator	NurbsPositionInterpolator	NurbsPositionInterpolator	NurbsPositionInterpolator	NurbsPositionInterpolator	NurbsPositionInterpolator	NurbsPositionInterpolator
NurbsSet	NurbsSet	NurbsSet	NurbsSet	NurbsSet	NurbsSet	NurbsSet	NurbsSet
NurbsSurfaceInterpolator	NurbsSurfaceInterpolator	NurbsSurfaceInterpolator	NurbsSurfaceInterpolator	NurbsSurfaceInterpolator	NurbsSurfaceInterpolator	NurbsSurfaceInterpolator	NurbsSurfaceInterpolator
NurbsSweptSurface	NurbsSweptSurface	NurbsSweptSurface	NurbsSweptSurface	NurbsSweptSurface	NurbsSweptSurface	NurbsSweptSurface	NurbsSweptSurface
NurbsSwungSurface	NurbsSwungSurface	NurbsSwungSurface	NurbsSwungSurface	NurbsSwungSurface	NurbsSwungSurface	NurbsSwungSurface	NurbsSwungSurface
NurbsTextureCoordinate	NurbsTextureCoordinate	NurbsTextureCoordinate	NurbsTextureCoordinate	NurbsTextureCoordinate	NurbsTextureCoordinate	NurbsTextureCoordinate	NurbsTextureCoordinate

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NurbsTrimmedSurface		NurbsTrimmedSurface	NurbsTrimmedSurface	NurbsTrimmedSurface	NurbsTrimmedSurface	NurbsTrimmedSurface	NurbsTrimmedSurface
OpacityMapVolumeStyle		OpacityMapVolumeStyle		OpacityMapVolumeStyle			OpacityMapVolumeStyle
OrientationChaser	OrientationChaser	OrientationChaser		OrientationChaser	OrientationChaser		OrientationChaser
OrientationDamper	OrientationDamper	OrientationDamper		OrientationDamper	OrientationDamper		OrientationDamper
OrientationInterpolator	OrientationInterpolator	OrientationInterpolator	OrientationInterpolator	OrientationInterpolator	OrientationInterpolator	OrientationInterpolator	OrientationInterpolator
OrthoViewpoint	OrthoViewpoint	OrthoViewpoint	OrthoViewpoint	OrthoViewpoint	OrthoViewpoint	OrthoViewpoint	OrthoViewpoint
PackagedShader		PackagedShader					PackagedShader
ParticleSystem	ParticleSystem	ParticleSystem				ParticleSystem	
PickableGroup	PickableGroup	PickableGroup				PickableGroup	
PixelTexture	PixelTexture	PixelTexture	PixelTexture	PixelTexture	PixelTexture	PixelTexture	PixelTexture
PixelTexture3D		PixelTexture3D	PixelTexture3D	PixelTexture3D	PixelTexture3D	PixelTexture3D	PixelTexture3D
PlaneSensor	PlaneSensor	PlaneSensor	PlaneSensor			PlaneSensor	PlaneSensor
PointEmitter	PointEmitter	PointEmitter				PointEmitter	
PointLight	PointLight	PointLight	PointLight	PointLight	PointLight	PointLight	PointLight
PointPickSensor	PointPickSensor	PointPickSensor					PointLight
PointProperties						PointProperties	
PointSet	PointSet	PointSet	PointSet	PointSet	PointSet	PointSet	PointSet
Polyline2D	Polyline2D	Polyline2D		Polyline2D	Polyline2D	Polyline2D	Polyline2D
PolylineEmitter	PolylineEmitter	PolylineEmitter				PolylineEmitter	
Polypoint2D	Polypoint2D	Polypoint2D		Polypoint2D	Polypoint2D	Polypoint2D	Polypoint2D
PositionChaser	PositionChaser	PositionChaser		PositionChaser	PositionChaser		PositionChaser
PositionChaser2D	PositionChaser2D	PositionChaser2D		PositionChaser2D	PositionChaser2D		PositionChaser2D
PositionDamper	PositionDamper	PositionDamper		PositionDamper	PositionDamper		PositionDamper
PositionDamper2D	PositionDamper2D	PositionDamper2D		PositionDamper2D	PositionDamper2D		PositionDamper2D
PositionInterpolator	PositionInterpolator	PositionInterpolator	PositionInterpolator	PositionInterpolator	PositionInterpolator	PositionInterpolator	PositionInterpolator
PositionInterpolator2D	PositionInterpolator2D	PositionInterpolator2D	PositionInterpolator2D	PositionInterpolator2D	PositionInterpolator2D	PositionInterpolator2D	PositionInterpolator2D
PrimitivePickSensor	PrimitivePickSensor	PrimitivePickSensor					
ProgramShader		ProgramShader			ProgramShader		ProgramShader
ProjectionVolumeStyle		ProjectionVolumeStyle		ProjectionVolumeStyle			ProjectionVolumeStyle
-	ProtoBody	ProtoBody	ProtoBody	* required for X3D Immersive Profile	ProtoBody	ProtoBody	ProtoBody
ProtoDeclare	ProtoDeclare	ProtoDeclare	ProtoDeclare	* required for X3D Immersive Profile	ProtoDeclare	ProtoDeclare	ProtoDeclare
ProtoInstance	ProtoInstance	ProtoInstance	ProtoInstance	* required for X3D Immersive Profile	ProtoInstance	ProtoInstance	ProtoInstance
-	ProtoInterface	ProtoInterface	ProtoInterface	* required for X3D Immersive Profile	ProtoInterface	ProtoInterface	ProtoInterface
ProximitySensor	ProximitySensor	ProximitySensor	ProximitySensor	* required for X3D Immersive Profile	ProximitySensor	ProximitySensor	ProximitySensor
QuadSet	QuadSet	QuadSet	QuadSet	QuadSet	QuadSet	QuadSet	QuadSet
ReceiverPdu							ReceiverPdu
Rectangle2D	Rectangle2D	Rectangle2D	Rectangle2D	Rectangle2D	Rectangle2D	Rectangle2D	Rectangle2D
RigidBody	RigidBody	RigidBody				RigidBody	
RigidBodyCollection	RigidBodyCollection	RigidBodyCollection		RigidBodyCollection		RigidBodyCollection	RigidBodyCollection
ROUTE	ROUTE	ROUTE	ROUTE	ROUTE	ROUTE	ROUTE	ROUTE
ScalarChaser	ScalarChaser	ScalarChaser		ScalarChaser	ScalarChaser		ScalarChaser
ScalarDamper	ScalarDamper	ScalarDamper		ScalarDamper	ScalarDamper		ScalarDamper
ScalarInterpolator	ScalarInterpolator	ScalarInterpolator	ScalarInterpolator	ScalarInterpolator	ScalarInterpolator	ScalarInterpolator	ScalarInterpolator
-	Scene	Scene	Scene	Scene	Scene		Scene
ScreenFontStyle	ScreenFontStyle	ScreenFontStyle					
ScreenGroup	ScreenGroup	ScreenGroup			ScreenGroup		
Script	Script	Script	Script	* required for X3D Immersive Profile	Script	Script	Script
SegmentedVolumeData		SegmentedVolumeData		SegmentedVolumeData			SegmentedVolumeData
ShadedVolumeStyle		ShadedVolumeStyle		ShadedVolumeStyle			ShadedVolumeStyle
ShaderPart	ShaderPart	ShaderPart	ShaderPart	ShaderPart	ShaderPart		ShaderPart
ShaderProgram		ShaderProgram			ShaderProgram		ShaderProgram
Shape	Shape	Shape	Shape	Shape	Shape	Shape	Shape
SignalPdu							SignalPdu
SilhouetteEnhancementVolumeStyle		SilhouetteEnhancementVolumeStyle		SilhouetteEnhancementVolumeStyle			SilhouetteEnhancementVolumeStyle
SingleAxisHingeJoint	SingleAxisHingeJoint	SingleAxisHingeJoint				SingleAxisHingeJoint	SingleAxisHingeJoint
SliderJoint	SliderJoint	SliderJoint		SliderJoint		SliderJoint	SliderJoint
Sound	Sound		Sound		Sound		Sound
Sphere	Sphere	Sphere	Sphere	Sphere	Sphere	Sphere	Sphere
SphereSensor	SphereSensor	SphereSensor	SphereSensor	SphereSensor	SphereSensor	SphereSensor	SphereSensor
SplinePositionInterpolator	SplinePositionInterpolator	SplinePositionInterpolator		SplinePositionInterpolator			
SplinePositionInterpolator2D	SplinePositionInterpolator2D	SplinePositionInterpolator2D		SplinePositionInterpolator2D			
SplineScalarInterpolator	SplineScalarInterpolator	SplineScalarInterpolator		SplineScalarInterpolator			
SpotLight	SpotLight	SpotLight	SpotLight	SpotLight	SpotLight	SpotLight	SpotLight
SquadOrientationInterpolator	SquadOrientationInterpolator	SquadOrientationInterpolator		SquadOrientationInterpolator			
StaticGroup	StaticGroup	StaticGroup	StaticGroup	StaticGroup	StaticGroup	StaticGroup	StaticGroup
StringSensor	StringSensor	StringSensor	StringSensor	* missing, suggested for HTML5	StringSensor	StringSensor	StringSensor
SurfaceEmitter	SurfaceEmitter	SurfaceEmitter					
Switch	Switch	Switch	Switch	Switch	Switch	Switch	Switch
TexCoordChaser2D	TexCoordChaser2D	TexCoordChaser2D		TexCoordChaser2D	TexCoordChaser2D		TexCoordChaser2D
TexCoordDamper2D	TexCoordDamper2D	TexCoordDamper2D		TexCoordDamper2D	TexCoordDamper2D		TexCoordDamper2D
Text	Text	Text	Text	Text	Text	Text	Text
TextureBackground	TextureBackground	TextureBackground	TextureBackground	* missing, suggested for HTML5	TextureBackground	TextureBackground	TextureBackground
TextureCoordinate	TextureCoordinate	TextureCoordinate	TextureCoordinate	TextureCoordinate	TextureCoordinate	TextureCoordinate	TextureCoordinate
TextureCoordinate3D	TextureCoordinate3D	TextureCoordinate3D	TextureCoordinate3D	TextureCoordinate3D	TextureCoordinate3D	TextureCoordinate3D	TextureCoordinate3D

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TextureCoordinate4D	TextureCoordinate4D	TextureCoordinate4D	TextureCoordinate4D	TextureCoordinate4D	TextureCoordinate4D	TextureCoordinate4D	TextureCoordinate4D
TextureCoordinateGenerator	TextureCoordinateGenerator	TextureCoordinateGenerator	TextureCoordinateGenerator	TextureCoordinateGenerator	TextureCoordinateGenerator	TextureCoordinateGenerator	TextureCoordinateGenerator
TextureProperties	TextureProperties	TextureProperties	TextureProperties	TextureProperties	TextureProperties	TextureProperties	TextureProperties
TextureTransform	TextureTransform	TextureTransform	TextureTransform	TextureTransform	TextureTransform	TextureTransform	TextureTransform
TextureTransform3D	TextureTransform3D	TextureTransform3D	TextureTransform3D	TextureTransform3D	TextureTransform3D	TextureTransform3D	TextureTransform3D
TextureTransformMatrix3D	TextureTransformMatrix3D	TextureTransformMatrix3D	TextureTransformMatrix3D	TextureTransformMatrix3D	TextureTransformMatrix3D	TextureTransformMatrix3D	TextureTransformMatrix3D
TimeSensor	TimeSensor	TimeSensor	TimeSensor	TimeSensor	TimeSensor	TimeSensor	TimeSensor
TimeTrigger	TimeTrigger	TimeTrigger	TimeTrigger	TimeTrigger	TimeTrigger	TimeTrigger	TimeTrigger
ToneMappedVolumeStyle	ToneMappedVolumeStyle	ToneMappedVolumeStyle	ToneMappedVolumeStyle	ToneMappedVolumeStyle	ToneMappedVolumeStyle	ToneMappedVolumeStyle	ToneMappedVolumeStyle
TouchSensor	TouchSensor	TouchSensor	TouchSensor	TouchSensor	TouchSensor	TouchSensor	TouchSensor
Transform	Transform	Transform	Transform	Transform	Transform	Transform	Transform
TransformSensor	TransformSensor	TransformSensor	TransformSensor	TransformSensor	TransformSensor	TransformSensor	TransformSensor
TransmitterPdu	TransmitterPdu	TransmitterPdu	TransmitterPdu	TransmitterPdu	TransmitterPdu	TransmitterPdu	TransmitterPdu
TriangleFanSet	TriangleFanSet	TriangleFanSet	TriangleFanSet	TriangleFanSet	TriangleFanSet	TriangleFanSet	TriangleFanSet
TriangleSet	TriangleSet	TriangleSet	TriangleSet	TriangleSet	TriangleSet	TriangleSet	TriangleSet
TriangleSet2D	TriangleSet2D	TriangleSet2D	TriangleSet2D	TriangleSet2D	TriangleSet2D	TriangleSet2D	TriangleSet2D
TriangleStripSet	TriangleStripSet	TriangleStripSet	TriangleStripSet	TriangleStripSet	TriangleStripSet	TriangleStripSet	TriangleStripSet
TwoSidedMaterial	TwoSidedMaterial	TwoSidedMaterial	TwoSidedMaterial	TwoSidedMaterial	TwoSidedMaterial	TwoSidedMaterial	TwoSidedMaterial
UNIT	UNIT	UNIT	UNIT	* missing, suggested for HTML5	* missing, suggested for HTML5	* missing, suggested for HTML5	unit
UniversalJoint	UniversalJoint	UniversalJoint	UniversalJoint	UniversalJoint	UniversalJoint	UniversalJoint	UniversalJoint
Viewpoint	Viewpoint	Viewpoint	Viewpoint	Viewpoint	Viewpoint	Viewpoint	Viewpoint
ViewpointGroup	ViewpointGroup	ViewpointGroup	ViewpointGroup	* missing, suggested for HTML5	ViewpointGroup	* missing, suggested for HTML5	ViewpointGroup
Viewport	Viewport	Viewport	Viewport	Viewport	Viewport	Viewport	Viewport
VisibilitySensor	VisibilitySensor	VisibilitySensor	VisibilitySensor	VisibilitySensor	VisibilitySensor	VisibilitySensor	VisibilitySensor
VolumeData	VolumeData	VolumeData	VolumeData	VolumeData	VolumeData	VolumeData	VolumeData
VolumeEmitter	VolumeEmitter	VolumeEmitter	VolumeEmitter	VolumeEmitter	VolumeEmitter	VolumeEmitter	VolumeEmitter
VolumePickSensor	VolumePickSensor	VolumePickSensor	VolumePickSensor	VolumePickSensor	VolumePickSensor	VolumePickSensor	VolumePickSensor
WindPhysicsModel	WindPhysicsModel	WindPhysicsModel	WindPhysicsModel	WindPhysicsModel	WindPhysicsModel	WindPhysicsModel	WindPhysicsModel
WorldInfo	WorldInfo	WorldInfo	WorldInfo	WorldInfo	WorldInfo	WorldInfo	WorldInfo
X3D	X3D	X3D	X3D	X3D	X3D	X3D	X3D
Supported nodes and statements:	88%	97%	57%	68%	78%	68%	87%
Z53	222	245	144	171	197	172	219
Unimplemented nodes and statements:							
0	31	8	109	82	56	81	34
References							
X3D v3.3 Specification	X_ITE supported node list	FreeWRL supported node list	Castle Game Engine documentation	X3DOM supported node list X3DOM Node Types list	InstantReality	Xj3D SourceForge	X3D-Edit v3.3 Authoring Tool
HTML5 support goals							
* required for X3D Immersive Profile	includes all Immersive Profile nodes	includes all Immersive Profile nodes	includes all Immersive Profile nodes	12	2	2	includes all Immersive Profile nodes
* suggested for HTML5 support	0	0	14	11	2	5	includes all suggested HTML5 nodes
* priority nodes and statements missing:	0	0	14	23	4	7	0

X3D SAI Codebases for Scene Access Interface		X3D version 4.0 Node and Statement Support		updated 13 July 2019	https://www.web3d.org/specifications/X3dNodeInventoryComparison.xlsx https://www.web3d.org/specifications/X3dNodeInventoryComparison.pdf		
X3D Abstract Specification Node Index	JavaScript X3DJSONLD	Java X3DJAIL (autogenerated from X3DUOM)	Python Package (refinement in progress)	C implementation (work in progress)	C++ implementation (work in progress)	C# implementation (work in progress)	
Anchor		Anchor	Anchor				
Appearance		Appearance	Appearance				
Arc2D		Arc2D	Arc2D				
ArcClose2D		ArcClose2D	ArcClose2D				
AudioClip		AudioClip	AudioClip				
Background		Background	Background				
BallJoint		BallJoint	BallJoint				
Billboard		Billboard	Billboard				
BlendedVolumeStyle		BlendedVolumeStyle	BlendedVolumeStyle				
BooleanFilter		BooleanFilter	BooleanFilter				
BooleanSequencer		BooleanSequencer	BooleanSequencer				
BooleanToggle		BooleanToggle	BooleanToggle				
BooleanTrigger		BooleanTrigger	BooleanTrigger				
BoundaryEnhancementVolumeStyle		BoundaryEnhancementVolumeStyle	BoundaryEnhancementVolumeStyle				
BoundedPhysicsModel		BoundedPhysicsModel	BoundedPhysicsModel				
Box		Box	Box				
CADAssembly		CADAssembly	CADAssembly				
CADFace		CADFace	CADFace				
CADLayer		CADLayer	CADLayer				
CADPart		CADPart	CADPart				
CartoonVolumeStyle		CartoonVolumeStyle	CartoonVolumeStyle				
Circle2D		Circle2D	Circle2D				
ClipPlane		ClipPlane	ClipPlane				
CollidableOffset		CollidableOffset	CollidableOffset				
CollidableShape		CollidableShape	CollidableShape				
Collision		Collision	Collision				
CollisionCollection		CollisionCollection	CollisionCollection				
CollisionSensor		CollisionSensor	CollisionSensor				
CollisionSpace		CollisionSpace	CollisionSpace				
Color		Color	Color				
ColorChaser		ColorChaser	ColorChaser				
ColorDamper		ColorDamper	ColorDamper				
ColorInterpolator		ColorInterpolator	ColorInterpolator				
ColorRGBA		ColorRGBA	ColorRGBA				
component		component	component				
ComposedCubeMapTexture		ComposedCubeMapTexture	ComposedCubeMapTexture				
ComposedShader		ComposedShader	ComposedShader				
ComposedTexture3D		ComposedTexture3D	ComposedTexture3D				
ComposedVolumeStyle		ComposedVolumeStyle	ComposedVolumeStyle				
Cone		Cone	Cone				
ConeEmitter		ConeEmitter	ConeEmitter				
connect		connect	connect				
Contact		Contact	Contact				
Contour2D		Contour2D	Contour2D				
ContourPolyline2D		ContourPolyline2D	ContourPolyline2D				
Coordinate		Coordinate	Coordinate				
CoordinateChaser		CoordinateChaser	CoordinateChaser				
CoordinateDamper		CoordinateDamper	CoordinateDamper				
CoordinateDouble		CoordinateDouble	CoordinateDouble				
CoordinateInterpolator		CoordinateInterpolator	CoordinateInterpolator				
CoordinateInterpolator2D		CoordinateInterpolator2D	CoordinateInterpolator2D				
Cylinder		Cylinder	Cylinder				
CylinderSensor		CylinderSensor	CylinderSensor				
DirectionalLight		DirectionalLight	DirectionalLight				
DISEntityManager		DISEntityManager	DISEntityManager				
DISEntityTypeMapping		DISEntityTypeMapping	DISEntityTypeMapping				
Disk2D		Disk2D	Disk2D				
DoubleAxisHingeJoint		DoubleAxisHingeJoint	DoubleAxisHingeJoint				
EaseInEaseOut		EaseInEaseOut	EaseInEaseOut				
EdgeEnhancementVolumeStyle		EdgeEnhancementVolumeStyle	EdgeEnhancementVolumeStyle				
ElevationGrid		ElevationGrid	ElevationGrid				

EspduTransform		EspduTransform	EspduTransform				
ExplosionEmitter		ExplosionEmitter	ExplosionEmitter				
EXPORT		EXPORT	EXPORT				
ExternProtoDeclare		ExternProtoDeclare	ExternProtoDeclare				
Extrusion		Extrusion	Extrusion				
field		field	field				
fieldValue		fieldValue	fieldValue				
FillProperties		FillProperties	FillProperties				
FloatVertexAttribute		FloatVertexAttribute	FloatVertexAttribute				
Fog		Fog	Fog				
FogCoordinate		FogCoordinate	FogCoordinate				
FontStyle		FontStyle	FontStyle				
ForcePhysicsModel		ForcePhysicsModel	ForcePhysicsModel				
GeneratedCubeMapTexture		GeneratedCubeMapTexture	GeneratedCubeMapTexture				
GeoCoordinate		GeoCoordinate	GeoCoordinate				
GeoElevationGrid		GeoElevationGrid	GeoElevationGrid				
GeoLocation		GeoLocation	GeoLocation				
GeoLOD		GeoLOD	GeoLOD				
GeoMetadata		GeoMetadata	GeoMetadata				
GeoOrigin		GeoOrigin	GeoOrigin				
GeoPositionInterpolator		GeoPositionInterpolator	GeoPositionInterpolator				
GeoProximitySensor		GeoProximitySensor	GeoProximitySensor				
GeoTouchSensor		GeoTouchSensor	GeoTouchSensor				
GeoTransform		GeoTransform	GeoTransform				
GeoViewpoint		GeoViewpoint	GeoViewpoint				
Group		Group	Group				
HAnimDisplacer		HAnimDisplacer	HAnimDisplacer				
HAnimHumanoid		HAnimHumanoid	HAnimHumanoid				
HAnimJoint		HAnimJoint	HAnimJoint				
HAnimMotion		HAnimMotion	HAnimMotion				
HAnimSegment		HAnimSegment	HAnimSegment				
HAnimSite		HAnimSite	HAnimSite				
head		head	head				
ImageCubeMapTexture		ImageCubeMapTexture	ImageCubeMapTexture				
ImageTexture		ImageTexture	ImageTexture				
ImageTexture3D		ImageTexture3D	ImageTexture3D				
IMPORT		IMPORT	IMPORT				
IndexedFaceSet		IndexedFaceSet	IndexedFaceSet				
IndexedLineSet		IndexedLineSet	IndexedLineSet				
IndexedQuadSet		IndexedQuadSet	IndexedQuadSet				
IndexedTriangleFanSet		IndexedTriangleFanSet	IndexedTriangleFanSet				
IndexedTriangleSet		IndexedTriangleSet	IndexedTriangleSet				
IndexedTriangleStripSet		IndexedTriangleStripSet	IndexedTriangleStripSet				
Inline		Inline	Inline				
IntegerSequencer		IntegerSequencer	IntegerSequencer				
IntegerTrigger		IntegerTrigger	IntegerTrigger				
IS		IS	IS				
IsoSurfaceVolumeData		IsoSurfaceVolumeData	IsoSurfaceVolumeData				
KeySensor		KeySensor	KeySensor				
Layer		Layer	Layer				
LayerSet		LayerSet	LayerSet				
Layout		Layout	Layout				
LayoutGroup		LayoutGroup	LayoutGroup				
LayoutLayer		LayoutLayer	LayoutLayer				
LinePickSensor		LinePickSensor	LinePickSensor				
LineProperties		LineProperties	LineProperties				
LineSet		LineSet	LineSet				
LoadSensor		LoadSensor	LoadSensor				
LocalFog		LocalFog	LocalFog				
LOD		LOD	LOD				
Material		Material	Material				
Matrix3VertexAttribute		Matrix3VertexAttribute	Matrix3VertexAttribute				
Matrix4VertexAttribute		Matrix4VertexAttribute	Matrix4VertexAttribute				
meta		meta	meta				
MetadataBoolean		MetadataBoolean	MetadataBoolean				

MetadataDouble		MetadataDouble	MetadataDouble				
MetadataFloat		MetadataFloat	MetadataFloat				
MetadataInteger		MetadataInteger	MetadataInteger				
MetadataSet		MetadataSet	MetadataSet				
MetadataString		MetadataString	MetadataString				
MotorJoint		MotorJoint	MotorJoint				
MovieTexture		MovieTexture	MovieTexture				
MultiTexture		MultiTexture	MultiTexture				
MultiTextureCoordinate		MultiTextureCoordinate	MultiTextureCoordinate				
MultiTextureTransform		MultiTextureTransform	MultiTextureTransform				
NavigationInfo		NavigationInfo	NavigationInfo				
Normal		Normal	Normal				
NormalInterpolator		NormalInterpolator	NormalInterpolator				
NurbsCurve		NurbsCurve	NurbsCurve				
NurbsCurve2D		NurbsCurve2D	NurbsCurve2D				
NurbsOrientationInterpolator		NurbsOrientationInterpolator	NurbsOrientationInterpolator				
NurbsPatchSurface		NurbsPatchSurface	NurbsPatchSurface				
NurbsPositionInterpolator		NurbsPositionInterpolator	NurbsPositionInterpolator				
NurbsSet		NurbsSet	NurbsSet				
NurbsSurfaceInterpolator		NurbsSurfaceInterpolator	NurbsSurfaceInterpolator				
NurbsSweptSurface		NurbsSweptSurface	NurbsSweptSurface				
NurbsSwungSurface		NurbsSwungSurface	NurbsSwungSurface				
NurbsTextureCoordinate		NurbsTextureCoordinate	NurbsTextureCoordinate				
NurbsTrimmedSurface		NurbsTrimmedSurface	NurbsTrimmedSurface				
OpacityMapVolumeStyle		OpacityMapVolumeStyle	OpacityMapVolumeStyle				
OrientationChaser		OrientationChaser	OrientationChaser				
OrientationDamper		OrientationDamper	OrientationDamper				
OrientationInterpolator		OrientationInterpolator	OrientationInterpolator				
OrthoViewpoint		OrthoViewpoint	OrthoViewpoint				
PackagedShader		PackagedShader	PackagedShader				
ParticleSystem		ParticleSystem	ParticleSystem				
PickableGroup		PickableGroup	PickableGroup				
PixelTexture		PixelTexture	PixelTexture				
PixelTexture3D		PixelTexture3D	PixelTexture3D				
PlaneSensor		PlaneSensor	PlaneSensor				
PointEmitter		PointEmitter	PointEmitter				
PointLight		PointLight	PointLight				
PointPickSensor		PointPickSensor	PointPickSensor				
PointProperties		PointProperties	PointProperties				
PointSet		PointSet	PointSet				
Polyline2D		Polyline2D	Polyline2D				
PolylineEmitter		PolylineEmitter	PolylineEmitter				
Polypoint2D		Polypoint2D	Polypoint2D				
PositionChaser		PositionChaser	PositionChaser				
PositionChaser2D		PositionChaser2D	PositionChaser2D				
PositionDamper		PositionDamper	PositionDamper				
PositionDamper2D		PositionDamper2D	PositionDamper2D				
PositionInterpolator		PositionInterpolator	PositionInterpolator				
PositionInterpolator2D		PositionInterpolator2D	PositionInterpolator2D				
PrimitivePickSensor		PrimitivePickSensor	PrimitivePickSensor				
ProgramShader		ProgramShader	ProgramShader				
ProjectionVolumeStyle		ProjectionVolumeStyle	ProjectionVolumeStyle				
-		ProtoBody	ProtoBody				
ProtoDeclare		ProtoDeclare	ProtoDeclare				
ProtoInstance		ProtoInstance	ProtoInstance				
-		ProtoInterface	ProtoInterface				
ProximitySensor		ProximitySensor	ProximitySensor				
QuadSet		QuadSet	QuadSet				
ReceiverPdu		ReceiverPdu	ReceiverPdu				
Rectangle2D		Rectangle2D	Rectangle2D				
RigidBody		RigidBody	RigidBody				
RigidBodyCollection		RigidBodyCollection	RigidBodyCollection				
ROUTE		ROUTE	ROUTE				
ScalarChaser		ScalarChaser	ScalarChaser				
ScalarDamper		ScalarDamper	ScalarDamper				

ScalarInterpolator		ScalarInterpolator	ScalarInterpolator				
-		Scene	Scene				
ScreenFontStyle		ScreenFontStyle	ScreenFontStyle				
ScreenGroup		ScreenGroup	ScreenGroup				
Script		Script	Script				
SegmentedVolumeData		SegmentedVolumeData	SegmentedVolumeData				
ShadedVolumeStyle		ShadedVolumeStyle	ShadedVolumeStyle				
ShaderPart		ShaderPart	ShaderPart				
ShaderProgram		ShaderProgram	ShaderProgram				
Shape		Shape	Shape				
SignalPdu		SignalPdu	SignalPdu				
SilhouetteEnhancementVolumeStyle		SilhouetteEnhancementVolumeStyle	SilhouetteEnhancementVolumeStyle				
SingleAxisHingeJoint		SingleAxisHingeJoint	SingleAxisHingeJoint				
SliderJoint		SliderJoint	SliderJoint				
Sound		Sound	Sound				
Sphere		Sphere	Sphere				
SphereSensor		SphereSensor	SphereSensor				
SplinePositionInterpolator		SplinePositionInterpolator	SplinePositionInterpolator				
SplinePositionInterpolator2D		SplinePositionInterpolator2D	SplinePositionInterpolator2D				
SplineScalarInterpolator		SplineScalarInterpolator	SplineScalarInterpolator				
SpotLight		SpotLight	SpotLight				
SquadOrientationInterpolator		SquadOrientationInterpolator	SquadOrientationInterpolator				
StaticGroup		StaticGroup	StaticGroup				
StringSensor		StringSensor	StringSensor				
SurfaceEmitter		SurfaceEmitter	SurfaceEmitter				
Switch		Switch	Switch				
TexCoordChaser2D		TexCoordChaser2D	TexCoordChaser2D				
TexCoordDamper2D		TexCoordDamper2D	TexCoordDamper2D				
Text		Text	Text				
TextureBackground		TextureBackground	TextureBackground				
TextureCoordinate		TextureCoordinate	TextureCoordinate				
TextureCoordinate3D		TextureCoordinate3D	TextureCoordinate3D				
TextureCoordinate4D		TextureCoordinate4D	TextureCoordinate4D				
TextureCoordinateGenerator		TextureCoordinateGenerator	TextureCoordinateGenerator				
TextureProperties		TextureProperties	TextureProperties				
TextureTransform		TextureTransform	TextureTransform				
TextureTransform3D		TextureTransform3D	TextureTransform3D				
TextureTransformMatrix3D		TextureTransformMatrix3D	TextureTransformMatrix3D				
TimeSensor		TimeSensor	TimeSensor				
TimeTrigger		TimeTrigger	TimeTrigger				
ToneMappedVolumeStyle		ToneMappedVolumeStyle	ToneMappedVolumeStyle				
TouchSensor		TouchSensor	TouchSensor				
Transform		Transform	Transform				
TransformSensor		TransformSensor	TransformSensor				
TransmitterPdu		TransmitterPdu	TransmitterPdu				
TriangleFanSet		TriangleFanSet	TriangleFanSet				
TriangleSet		TriangleSet	TriangleSet				
TriangleSet2D		TriangleSet2D	TriangleSet2D				
TriangleStripSet		TriangleStripSet	TriangleStripSet				
TwoSidedMaterial		TwoSidedMaterial	TwoSidedMaterial				
UNIT		UNIT	UNIT				
UniversalJoint		UniversalJoint	UniversalJoint				
Viewpoint		Viewpoint	Viewpoint				
ViewpointGroup		ViewpointGroup	ViewpointGroup				
Viewport		Viewport	Viewport				
VisibilitySensor		VisibilitySensor	VisibilitySensor				
VolumeData		VolumeData	VolumeData				
VolumeEmitter		VolumeEmitter	VolumeEmitter				
VolumePickSensor		VolumePickSensor	VolumePickSensor				
WindPhysicsModel		WindPhysicsModel	WindPhysicsModel				
WorldInfo		WorldInfo	WorldInfo				
X3D		X3D	X3D				

Supported nodes and statements:	0%	100%	100%	0%	0%	0%	0%
253	0	253	253	0	0	0	0

Unimplemented nodes and statements:

0	253	0	0	253	253	253	253
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References

[X3D v3.3 Specification](#)

[X3DISAIL](#)

HTML5 support goals

<i>* required for X3D Immersive Profile</i>	0	includes all Immersive Profile nodes	0	0	0	0	0
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<i>* suggested for HTML5 support</i>	0	0	0	0	0	0	0
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<i>* priority nodes and statements missing:</i>	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---

X3D Model Validation		X3D version 4.0		updated 13 July 2019		https://www.web3d.org/specifications/X3dNodeInventoryComparison.xlsx https://www.web3d.org/specifications/X3dNodeInventoryComparison.pdf	
Node and Statement Support							
X3D Abstract Specification Node Index	X3D Schema validation	X3D DTD validation	X3D JSON Schema	X3D Tooltips	X3D Schematron validation	VRML97 Specification	X3dToVrml97.xslt
	(includes X3DUOM integration)		(upgrading to json schema draft-08)			(Grey background = forward compatibility for .wrl VRML97)	
Anchor	Anchor	Anchor		Anchor	Anchor	Anchor	Anchor
Appearance	Appearance	Appearance		Appearance	Appearance	Appearance	Appearance
Arc2D	Arc2D	Arc2D		Arc2D		(Prototype available) Arc2D	
ArcClose2D	ArcClose2D	ArcClose2D		ArcClose2D		(Prototype available) ArcClose2D	
AudioClip	AudioClip	AudioClip		AudioClip	AudioClip	AudioClip	AudioClip
Background	Background	Background		Background	Background	Background	Background
BallJoint	BallJoint	BallJoint		BallJoint	BallJoint		
Billboard	Billboard	Billboard		Billboard	Billboard	Billboard	Billboard
BlendedVolumeStyle	BlendedVolumeStyle	BlendedVolumeStyle		BlendedVolumeStyle	BlendedVolumeStyle		
BooleanFilter	BooleanFilter	BooleanFilter		BooleanFilter	BooleanFilter	(Prototype available) BooleanFilter	
BooleanSequencer	BooleanSequencer	BooleanSequencer		BooleanSequencer	BooleanSequencer	(Prototype available) BooleanSequencer	
BooleanToggle	BooleanToggle	BooleanToggle		BooleanToggle	BooleanToggle	(Prototype available) BooleanToggle	
BooleanTrigger	BooleanTrigger	BooleanTrigger		BooleanTrigger	BooleanTrigger	(Prototype available) BooleanTrigger	
BoundaryEnhancementVolumeStyle	BoundaryEnhancementVolumeStyle	BoundaryEnhancementVolumeStyle		BoundaryEnhancementVolumeStyle	BoundaryEnhancementVolumeStyle		
BoundedPhysicsModel	BoundedPhysicsModel	BoundedPhysicsModel		BoundedPhysicsModel			
Box	Box	Box		Box	Box	Box	Box
CADAssembly	CADAssembly	CADAssembly		CADAssembly	CADAssembly	(Prototype available) CADAssembly	
CADFace	CADFace	CADFace		CADFace	CADFace	(Prototype available) CADFace	
CADLayer	CADLayer	CADLayer		CADLayer	CADLayer	(Prototype available) CADLayer	
CADPart	CADPart	CADPart		CADPart	CADPart	(Prototype available) CADPart	
CartoonVolumeStyle	CartoonVolumeStyle	CartoonVolumeStyle		CartoonVolumeStyle	CartoonVolumeStyle		
Circle2D	Circle2D	Circle2D		Circle2D		(Prototype available) Circle2D	
ClipPlane	ClipPlane	ClipPlane		ClipPlane	ClipPlane		
CollidableOffset	CollidableOffset	CollidableOffset		CollidableOffset			
CollidableShape	CollidableShape	CollidableShape		CollidableShape			
Collision	Collision	Collision		Collision	Collision	Collision	Collision
CollisionCollection	CollisionCollection	CollisionCollection		CollisionCollection			
CollisionSensor	CollisionSensor	CollisionSensor		CollisionSensor			
CollisionSpace	CollisionSpace	CollisionSpace		CollisionSpace			
Color	Color	Color		Color	Color	Color	Color
ColorChaser	ColorChaser	ColorChaser		ColorChaser	ColorChaser		
ColorDamper	ColorDamper	ColorDamper		ColorDamper	ColorDamper		
ColorInterpolator	ColorInterpolator	ColorInterpolator		ColorInterpolator	ColorInterpolator	ColorInterpolator	ColorInterpolator
ColorRGBA	ColorRGBA	ColorRGBA		ColorRGBA	ColorRGBA	(Prototype available) ColorRGBA	
component	component	component		component	component		
ComposedCubeMapTexture	ComposedCubeMapTexture	ComposedCubeMapTexture		ComposedCubeMapTexture			
ComposedShader	ComposedShader	ComposedShader		ComposedShader	ComposedShader		
ComposedTexture3D	ComposedTexture3D	ComposedTexture3D		ComposedTexture3D			
ComposedVolumeStyle	ComposedVolumeStyle	ComposedVolumeStyle		ComposedVolumeStyle	ComposedVolumeStyle		
Cone	Cone	Cone		Cone	Cone	Cone	Cone
ConeEmitter	ConeEmitter	ConeEmitter		ConeEmitter			
connect	connect	connect		connect	connect		
Contact	Contact	Contact		Contact			
Contour2D	Contour2D	Contour2D		Contour2D		(Prototype available) Contour2D	
ContourPolyline2D	ContourPolyline2D	ContourPolyline2D		ContourPolyline2D	ContourPolyline2D	(Prototype available) ContourPolyline2D	
Coordinate	Coordinate	Coordinate		Coordinate	Coordinate	Coordinate	Coordinate
CoordinateChaser	CoordinateChaser	CoordinateChaser		CoordinateChaser	CoordinateChaser		
CoordinateDamper	CoordinateDamper	CoordinateDamper		CoordinateDamper	CoordinateDamper		
CoordinateDouble	CoordinateDouble	CoordinateDouble		CoordinateDouble	CoordinateDouble	(Prototype available) CoordinateDouble	
CoordinateInterpolator	CoordinateInterpolator	CoordinateInterpolator		CoordinateInterpolator	CoordinateInterpolator	CoordinateInterpolator	
CoordinateInterpolator2D	CoordinateInterpolator2D	CoordinateInterpolator2D		CoordinateInterpolator2D	CoordinateInterpolator2D	(Prototype available) CoordinateInterpolator2D	
Cylinder	Cylinder	Cylinder		Cylinder	Cylinder	Cylinder	Cylinder
CylinderSensor	CylinderSensor	CylinderSensor		CylinderSensor	CylinderSensor	CylinderSensor	CylinderSensor
DirectionalLight	DirectionalLight	DirectionalLight		DirectionalLight	DirectionalLight	DirectionalLight	DirectionalLight
DISEntityManager	DISEntityManager	DISEntityManager		DISEntityManager	DISEntityManager		
DISEntityTypeMapping	DISEntityTypeMapping	DISEntityTypeMapping		DISEntityTypeMapping	DISEntityTypeMapping		
Disk2D	Disk2D	Disk2D		Disk2D		(Prototype available) Disk2D	
DoubleAxisHingeJoint	DoubleAxisHingeJoint	DoubleAxisHingeJoint		DoubleAxisHingeJoint			
EaseInEaseOut	EaseInEaseOut	EaseInEaseOut		EaseInEaseOut			
EdgeEnhancementVolumeStyle	EdgeEnhancementVolumeStyle	EdgeEnhancementVolumeStyle		EdgeEnhancementVolumeStyle	EdgeEnhancementVolumeStyle		
ElevationGrid	ElevationGrid	ElevationGrid		ElevationGrid	ElevationGrid	ElevationGrid	ElevationGrid
EspduTransform	EspduTransform	EspduTransform		EspduTransform	EspduTransform	(Java Prototype available) EspduTransform	
ExplosionEmitter	ExplosionEmitter	ExplosionEmitter		ExplosionEmitter			
EXPORT	EXPORT	EXPORT		EXPORT			
ExternProtoDeclare	ExternProtoDeclare	ExternProtoDeclare		ExternProtoDeclare	ExternProtoDeclare		
Extrusion	Extrusion	Extrusion		Extrusion	Extrusion	Extrusion	Extrusion
field	field	field		field	field		
fieldValue	fieldValue	fieldValue		fieldValue	fieldValue		
FillProperties	FillProperties	FillProperties		FillProperties	FillProperties		

X3D Model Validation		X3D version 4.0		updated 13 July 2019		https://www.web3d.org/specifications/X3dNodeInventoryComparison.xls https://www.web3d.org/specifications/X3dNodeInventoryComparison.pdf	
X3D Abstract Specification Node Index		X3D Schema validation (includes X3DUOM integration)		X3D DTD validation		X3D JSON Schema (upgrading to json schema draft-08)	
		Node and Statement Support					
						VRML97 Specification X3dToVrml97.xslt (Grey background = forward compatibility for .wrl VRML97)	
FloatVertexAttribute	FloatVertexAttribute	FloatVertexAttribute	FloatVertexAttribute	FloatVertexAttribute	FloatVertexAttribute		
Fog	Fog	Fog	Fog	Fog	Fog	Fog	Fog
FogCoordinate	FogCoordinate	FogCoordinate	FogCoordinate	FogCoordinate	FogCoordinate	FogCoordinate	FogCoordinate
FontStyle	FontStyle	FontStyle	FontStyle	FontStyle	FontStyle	FontStyle	FontStyle
ForcePhysicsModel	ForcePhysicsModel	ForcePhysicsModel	ForcePhysicsModel	ForcePhysicsModel	ForcePhysicsModel		
GeneratedCubeMapTexture	GeneratedCubeMapTexture	GeneratedCubeMapTexture	GeneratedCubeMapTexture	GeneratedCubeMapTexture	GeneratedCubeMapTexture		
GeoCoordinate	GeoCoordinate	GeoCoordinate	GeoCoordinate	GeoCoordinate	GeoCoordinate	GeoCoordinate	(Prototype available) GeoCoordinate
GeoElevationGrid	GeoElevationGrid	GeoElevationGrid	GeoElevationGrid	GeoElevationGrid	GeoElevationGrid	GeoElevationGrid	(Prototype available) GeoElevationGrid
GeoLocation	GeoLocation	GeoLocation	GeoLocation	GeoLocation	GeoLocation	GeoLocation	(Prototype available) GeoLocation
GeoLOD	GeoLOD	GeoLOD	GeoLOD	GeoLOD	GeoLOD	GeoLOD	(Prototype available) GeoLOD
GeoMetadata	GeoMetadata	GeoMetadata	GeoMetadata	GeoMetadata	GeoMetadata	GeoMetadata	(Prototype available) GeoMetadata
GeoOrigin	GeoOrigin	GeoOrigin	GeoOrigin	GeoOrigin	GeoOrigin	GeoOrigin	(Prototype available) GeoOrigin
GeoPositionInterpolator	GeoPositionInterpolator	GeoPositionInterpolator	GeoPositionInterpolator	GeoPositionInterpolator	GeoPositionInterpolator	GeoPositionInterpolator	(Prototype available) GeoPositionInterpolator
GeoProximitySensor	GeoProximitySensor	GeoProximitySensor	GeoProximitySensor	GeoProximitySensor	GeoProximitySensor	GeoProximitySensor	
GeoTouchSensor	GeoTouchSensor	GeoTouchSensor	GeoTouchSensor	GeoTouchSensor	GeoTouchSensor	GeoTouchSensor	(Prototype available) GeoTouchSensor
GeoTransform	GeoTransform	GeoTransform	GeoTransform	GeoTransform	GeoTransform	GeoTransform	
GeoViewpoint	GeoViewpoint	GeoViewpoint	GeoViewpoint	GeoViewpoint	GeoViewpoint	GeoViewpoint	(Prototype available) GeoViewpoint
Group	Group	Group	Group	Group	Group	Group	Group
HAnimDisplacer	HAnimDisplacer	HAnimDisplacer	HAnimDisplacer	HAnimDisplacer	HAnimDisplacer	HAnimDisplacer	(Prototype available) HAnimDisplacer
HAnimHumanoid	HAnimHumanoid	HAnimHumanoid	HAnimHumanoid	HAnimHumanoid	HAnimHumanoid	HAnimHumanoid	(Prototype available) HAnimHumanoid
HAnimJoint	HAnimJoint	HAnimJoint	HAnimJoint	HAnimJoint	HAnimJoint	HAnimJoint	(Prototype available) HAnimJoint
HAnimMotion	HAnimMotion	HAnimMotion	HAnimMotion	HAnimMotion	HAnimMotion	(perhaps prototype possible?)	(perhaps prototype possible?)
HAnimSegment	HAnimSegment	HAnimSegment	HAnimSegment	HAnimSegment	HAnimSegment	HAnimSegment	(Prototype available) HAnimSegment
HAnimSite	HAnimSite	HAnimSite	HAnimSite	HAnimSite	HAnimSite	HAnimSite	(Prototype available) HAnimSite
head	head	head	head	head	head	head	
ImageCubeMapTexture	ImageCubeMapTexture	ImageCubeMapTexture	ImageCubeMapTexture	ImageCubeMapTexture	ImageCubeMapTexture		
ImageTexture	ImageTexture	ImageTexture	ImageTexture	ImageTexture	ImageTexture	ImageTexture	ImageTexture
ImageTexture3D	ImageTexture3D	ImageTexture3D	ImageTexture3D	ImageTexture3D	ImageTexture3D		
IMPORT	IMPORT	IMPORT	IMPORT	IMPORT	IMPORT		
IndexedFaceSet	IndexedFaceSet	IndexedFaceSet	IndexedFaceSet	IndexedFaceSet	IndexedFaceSet	IndexedFaceSet	IndexedFaceSet
IndexedLineSet	IndexedLineSet	IndexedLineSet	IndexedLineSet	IndexedLineSet	IndexedLineSet	IndexedLineSet	IndexedLineSet
IndexedQuadSet	IndexedQuadSet	IndexedQuadSet	IndexedQuadSet	IndexedQuadSet	IndexedQuadSet	IndexedQuadSet	(Prototype available) IndexedQuadSet
IndexedTriangleFanSet	IndexedTriangleFanSet	IndexedTriangleFanSet	IndexedTriangleFanSet	IndexedTriangleFanSet	IndexedTriangleFanSet	IndexedTriangleFanSet	(Prototype available) IndexedTriangleFanSet
IndexedTriangleSet	IndexedTriangleSet	IndexedTriangleSet	IndexedTriangleSet	IndexedTriangleSet	IndexedTriangleSet	IndexedTriangleSet	(Prototype available) IndexedTriangleSet
IndexedTriangleStripSet	IndexedTriangleStripSet	IndexedTriangleStripSet	IndexedTriangleStripSet	IndexedTriangleStripSet	IndexedTriangleStripSet	IndexedTriangleStripSet	(Prototype available) IndexedTriangleStripSet
Inline	Inline	Inline	Inline	Inline	Inline	Inline	Inline
IntegerSequencer	IntegerSequencer	IntegerSequencer	IntegerSequencer	IntegerSequencer	IntegerSequencer	IntegerSequencer	(Prototype available) IntegerSequencer
IntegerTrigger	IntegerTrigger	IntegerTrigger	IntegerTrigger	IntegerTrigger	IntegerTrigger	IntegerTrigger	(Prototype available) IntegerTrigger
IS	IS	IS	IS	IS	IS	IS	
IsoSurfaceVolumeData	IsoSurfaceVolumeData	IsoSurfaceVolumeData	IsoSurfaceVolumeData	IsoSurfaceVolumeData	IsoSurfaceVolumeData	IsoSurfaceVolumeData	
KeySensor	KeySensor	KeySensor	KeySensor	KeySensor	KeySensor	KeySensor	
Layer	Layer	Layer	Layer	Layer	Layer	Layer	
LayerSet	LayerSet	LayerSet	LayerSet	LayerSet	LayerSet	LayerSet	
Layout	Layout	Layout	Layout	Layout	Layout	Layout	
LayoutGroup	LayoutGroup	LayoutGroup	LayoutGroup	LayoutGroup	LayoutGroup	LayoutGroup	
LayoutLayer	LayoutLayer	LayoutLayer	LayoutLayer	LayoutLayer	LayoutLayer	LayoutLayer	
LinePickSensor	LinePickSensor	LinePickSensor	LinePickSensor	LinePickSensor	LinePickSensor	LinePickSensor	
LineProperties	LineProperties	LineProperties	LineProperties	LineProperties	LineProperties	LineProperties	
LineSet	LineSet	LineSet	LineSet	LineSet	LineSet	LineSet	(Prototype available) LineSet
LoadSensor	LoadSensor	LoadSensor	LoadSensor	LoadSensor	LoadSensor	LoadSensor	(Prototype available) LoadSensor
LocalFog	LocalFog	LocalFog	LocalFog	LocalFog	LocalFog	LocalFog	
LOD	LOD	LOD	LOD	LOD	LOD	LOD	LOD
Material	Material	Material	Material	Material	Material	Material	Material
Matrix3VertexAttribute	Matrix3VertexAttribute	Matrix3VertexAttribute	Matrix3VertexAttribute	Matrix3VertexAttribute	Matrix3VertexAttribute	Matrix3VertexAttribute	
Matrix4VertexAttribute	Matrix4VertexAttribute	Matrix4VertexAttribute	Matrix4VertexAttribute	Matrix4VertexAttribute	Matrix4VertexAttribute	Matrix4VertexAttribute	
meta	meta	meta	meta	meta	meta	meta	
MetadataBoolean	MetadataBoolean	MetadataBoolean	MetadataBoolean	MetadataBoolean	MetadataBoolean	MetadataBoolean	(Prototype available) MetadataBoolean
MetadataDouble	MetadataDouble	MetadataDouble	MetadataDouble	MetadataDouble	MetadataDouble	MetadataDouble	(Prototype available) MetadataDouble
MetadataFloat	MetadataFloat	MetadataFloat	MetadataFloat	MetadataFloat	MetadataFloat	MetadataFloat	(Prototype available) MetadataFloat
MetadataInteger	MetadataInteger	MetadataInteger	MetadataInteger	MetadataInteger	MetadataInteger	MetadataInteger	(Prototype available) MetadataInteger
MetadataSet	MetadataSet	MetadataSet	MetadataSet	MetadataSet	MetadataSet	MetadataSet	(Prototype available) MetadataSet
MetadataString	MetadataString	MetadataString	MetadataString	MetadataString	MetadataString	MetadataString	(Prototype available) MetadataString
MotorJoint	MotorJoint	MotorJoint	MotorJoint	MotorJoint	MotorJoint	MotorJoint	
MovieTexture	MovieTexture	MovieTexture	MovieTexture	MovieTexture	MovieTexture	MovieTexture	MovieTexture
MultiTexture	MultiTexture	MultiTexture	MultiTexture	MultiTexture	MultiTexture	MultiTexture	
MultiTextureCoordinate	MultiTextureCoordinate	MultiTextureCoordinate	MultiTextureCoordinate	MultiTextureCoordinate	MultiTextureCoordinate	MultiTextureCoordinate	
MultiTextureTransform	MultiTextureTransform	MultiTextureTransform	MultiTextureTransform	MultiTextureTransform	MultiTextureTransform	MultiTextureTransform	
NavigationInfo	NavigationInfo	NavigationInfo	NavigationInfo	NavigationInfo	NavigationInfo	NavigationInfo	NavigationInfo
Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal

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X3D Abstract Specification Node Index		X3D Schema validation (includes X3DUOM integration)		X3D DTD validation		X3D JSON Schema (upgrading to json schema draft-08)	
		Node and Statement Support					
						X3D Tooltips	
						X3D Schematron validation	
						VRML97 Specification	
						X3dToVrml97.xslt	
						(Grey background = forward compatibility for .wrl VRML97)	
NormalInterpolator	NormalInterpolator	NormalInterpolator	NormalInterpolator	NormalInterpolator	NormalInterpolator	NormalInterpolator	NormalInterpolator
NurbsCurve	NurbsCurve	NurbsCurve	NurbsCurve	NurbsCurve	NurbsCurve	(Java Prototype available) NurbsCurve	(Java Prototype available) NurbsCurve
NurbsCurve2D	NurbsCurve2D	NurbsCurve2D	NurbsCurve2D	NurbsCurve2D	NurbsCurve2D	(Java Prototype available) NurbsCurve2D	(Java Prototype available) NurbsCurve2D
NurbsOrientationInterpolator	NurbsOrientationInterpolator	NurbsOrientationInterpolator	NurbsOrientationInterpolator	NurbsOrientationInterpolator	NurbsOrientationInterpolator	(Java Prototype available) NurbsOrientationInterpolator	(Java Prototype available) NurbsOrientationInterpolator
NurbsPatchSurface	NurbsPatchSurface	NurbsPatchSurface	NurbsPatchSurface	NurbsPatchSurface	NurbsPatchSurface	(Java Prototype available) NurbsPatchSurface	(Java Prototype available) NurbsPatchSurface
NurbsPositionInterpolator	NurbsPositionInterpolator	NurbsPositionInterpolator	NurbsPositionInterpolator	NurbsPositionInterpolator	NurbsPositionInterpolator	(Java Prototype available) NurbsPositionInterpolator	(Java Prototype available) NurbsPositionInterpolator
NurbsSet	NurbsSet	NurbsSet	NurbsSet	NurbsSet	NurbsSet	(Java Prototype available) NurbsSet	(Java Prototype available) NurbsSet
NurbsSurfaceInterpolator	NurbsSurfaceInterpolator	NurbsSurfaceInterpolator	NurbsSurfaceInterpolator	NurbsSurfaceInterpolator	NurbsSurfaceInterpolator	(Java Prototype available) NurbsSurfaceInterpolator	(Java Prototype available) NurbsSurfaceInterpolator
NurbsSweptSurface	NurbsSweptSurface	NurbsSweptSurface	NurbsSweptSurface	NurbsSweptSurface	NurbsSweptSurface	(Java Prototype available) NurbsSweptSurface	(Java Prototype available) NurbsSweptSurface
NurbsSwungSurface	NurbsSwungSurface	NurbsSwungSurface	NurbsSwungSurface	NurbsSwungSurface	NurbsSwungSurface	(Java Prototype available) NurbsSwungSurface	(Java Prototype available) NurbsSwungSurface
NurbsTextureCoordinate	NurbsTextureCoordinate	NurbsTextureCoordinate	NurbsTextureCoordinate	NurbsTextureCoordinate	NurbsTextureCoordinate	(Java Prototype available) NurbsTextureCoordinate	(Java Prototype available) NurbsTextureCoordinate
NurbsTrimmedSurface	NurbsTrimmedSurface	NurbsTrimmedSurface	NurbsTrimmedSurface	NurbsTrimmedSurface	NurbsTrimmedSurface	(Java Prototype available) NurbsTrimmedSurface	(Java Prototype available) NurbsTrimmedSurface
OpacityMapVolumeStyle	OpacityMapVolumeStyle	OpacityMapVolumeStyle	OpacityMapVolumeStyle	OpacityMapVolumeStyle	OpacityMapVolumeStyle		
OrientationChaser	OrientationChaser	OrientationChaser	OrientationChaser	OrientationChaser	OrientationChaser		
OrientationDamper	OrientationDamper	OrientationDamper	OrientationDamper	OrientationDamper	OrientationDamper		
OrientationInterpolator	OrientationInterpolator	OrientationInterpolator	OrientationInterpolator	OrientationInterpolator	OrientationInterpolator	OrientationInterpolator	OrientationInterpolator
OrthoViewpoint	OrthoViewpoint	OrthoViewpoint	OrthoViewpoint	OrthoViewpoint	OrthoViewpoint		
PackagedShader	PackagedShader	PackagedShader	PackagedShader	PackagedShader	PackagedShader		
ParticleSystem	ParticleSystem	ParticleSystem	ParticleSystem	ParticleSystem	ParticleSystem		
PickableGroup	PickableGroup	PickableGroup	PickableGroup	PickableGroup	PickableGroup		
PixelTexture	PixelTexture	PixelTexture	PixelTexture	PixelTexture	PixelTexture	PixelTexture	PixelTexture
PixelTexture3D	PixelTexture3D	PixelTexture3D	PixelTexture3D	PixelTexture3D	PixelTexture3D		
PlaneSensor	PlaneSensor	PlaneSensor	PlaneSensor	PlaneSensor	PlaneSensor	PlaneSensor	PlaneSensor
PointEmitter	PointEmitter	PointEmitter	PointEmitter	PointEmitter	PointEmitter		
PointLight	PointLight	PointLight	PointLight	PointLight	PointLight	PointLight	PointLight
PointPickSensor	PointPickSensor	PointPickSensor	PointPickSensor	PointPickSensor	PointPickSensor		
PointProperties	PointProperties	PointProperties	PointProperties	PointProperties	PointProperties	PointProperties	PointProperties
PointSet	PointSet	PointSet	PointSet	PointSet	PointSet	PointSet	PointSet
Polyline2D	Polyline2D	Polyline2D	Polyline2D	Polyline2D	Polyline2D	(Prototype available) Polyline2D	(Prototype available) Polyline2D
PolylineEmitter	PolylineEmitter	PolylineEmitter	PolylineEmitter	PolylineEmitter	PolylineEmitter		
Polypoint2D	Polypoint2D	Polypoint2D	Polypoint2D	Polypoint2D	Polypoint2D	(Prototype available) Polypoint2D	(Prototype available) Polypoint2D
PositionChaser	PositionChaser	PositionChaser	PositionChaser	PositionChaser	PositionChaser		
PositionChaser2D	PositionChaser2D	PositionChaser2D	PositionChaser2D	PositionChaser2D	PositionChaser2D		
PositionDamper	PositionDamper	PositionDamper	PositionDamper	PositionDamper	PositionDamper		
PositionDamper2D	PositionDamper2D	PositionDamper2D	PositionDamper2D	PositionDamper2D	PositionDamper2D		
PositionInterpolator	PositionInterpolator	PositionInterpolator	PositionInterpolator	PositionInterpolator	PositionInterpolator	PositionInterpolator	PositionInterpolator
PositionInterpolator2D	PositionInterpolator2D	PositionInterpolator2D	PositionInterpolator2D	PositionInterpolator2D	PositionInterpolator2D	(Prototype available) PositionInterpolator2D	(Prototype available) PositionInterpolator2D
PrimitivePickSensor	PrimitivePicker	PrimitivePickSensor	PrimitivePickSensor	PrimitivePickSensor	PrimitivePickSensor		
ProgramShader	ProgramShader	ProgramShader	ProgramShader	ProgramShader	ProgramShader	ProgramShader	ProgramShader
ProjectionVolumeStyle	ProjectionVolumeStyle	ProjectionVolumeStyle	ProjectionVolumeStyle	ProjectionVolumeStyle	ProjectionVolumeStyle		
-	ProtoBody	ProtoBody	ProtoBody	ProtoBody	ProtoBody		
ProtoDeclare	ProtoDeclare	ProtoDeclare	ProtoDeclare	ProtoDeclare	ProtoDeclare		
ProtoInstance	ProtoInstance	ProtoInstance	ProtoInstance	ProtoInstance	ProtoInstance		
-	ProtoInterface	ProtoInterface	ProtoInterface	ProtoInterface	ProtoInterface		
ProximitySensor	ProximitySensor	ProximitySensor	ProximitySensor	ProximitySensor	ProximitySensor	ProximitySensor	ProximitySensor
QuadSet	QuadSet	QuadSet	QuadSet	QuadSet	QuadSet	(Prototype available) QuadSet	(Prototype available) QuadSet
ReceiverPdu	ReceiverPdu	ReceiverPdu	ReceiverPdu	ReceiverPdu	ReceiverPdu	(Java Prototype available) ReceiverPdu	(Java Prototype available) ReceiverPdu
Rectangle2D	Rectangle2D	Rectangle2D	Rectangle2D	Rectangle2D	Rectangle2D	(Prototype available) Rectangle2D	(Prototype available) Rectangle2D
RigidBody	RigidBody	RigidBody	RigidBody	RigidBody	RigidBody		
RigidBodyCollection	RigidBodyCollection	RigidBodyCollection	RigidBodyCollection	RigidBodyCollection	RigidBodyCollection		
ROUTE	ROUTE	ROUTE	ROUTE	ROUTE	ROUTE		
ScalarChaser	ScalarChaser	ScalarChaser	ScalarChaser	ScalarChaser	ScalarChaser		
ScalarDamper	ScalarDamper	ScalarDamper	ScalarDamper	ScalarDamper	ScalarDamper		
ScalarInterpolator	ScalarInterpolator	ScalarInterpolator	ScalarInterpolator	ScalarInterpolator	ScalarInterpolator	ScalarInterpolator	ScalarInterpolator
-	Scene	Scene	Scene	Scene	Scene		
ScreenFontStyle	ScreenFontStyle	ScreenFontStyle	ScreenFontStyle	ScreenFontStyle	ScreenFontStyle		
ScreenGroup	ScreenGroup	ScreenGroup	ScreenGroup	ScreenGroup	ScreenGroup		
Script	Script	Script	Script	Script	Script	Script	Script
SegmentedVolumeData	SegmentedVolumeData	SegmentedVolumeData	SegmentedVolumeData	SegmentedVolumeData	SegmentedVolumeData		
ShadedVolumeStyle	ShadedVolumeStyle	ShadedVolumeStyle	ShadedVolumeStyle	ShadedVolumeStyle	ShadedVolumeStyle		
ShaderPart	ShaderPart	ShaderPart	ShaderPart	ShaderPart	ShaderPart		
ShaderProgram	ShaderProgram	ShaderProgram	ShaderProgram	ShaderProgram	ShaderProgram		
Shape	Shape	Shape	Shape	Shape	Shape	Shape	Shape
SignalPdu	SignalPdu	SignalPdu	SignalPdu	SignalPdu	SignalPdu	(Java Prototype available) SignalPdu	(Java Prototype available) SignalPdu
SilhouetteEnhancementVolumeStyle	SilhouetteEnhancementVolumeStyle	SilhouetteEnhancementVolumeStyle	SilhouetteEnhancementVolumeStyle	SilhouetteEnhancementVolumeStyle	SilhouetteEnhancementVolumeStyle		
SingleAxisHingeJoint	SingleAxisHingeJoint	SingleAxisHingeJoint	SingleAxisHingeJoint	SingleAxisHingeJoint	SingleAxisHingeJoint		
SliderJoint	SliderJoint	SliderJoint	SliderJoint	SliderJoint	SliderJoint		
Sound	Sound	Sound	Sound	Sound	Sound	Sound	Sound
Sphere	Sphere	Sphere	Sphere	Sphere	Sphere	Sphere	Sphere

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Node and Statement Support							
X3D Abstract Specification Node Index	X3D Schema validation	X3D DTD validation	X3D JSON Schema	X3D Tooltips	X3D Schematron validation	VRML97 Specification	X3dToVrml97.xslt
	(includes X3DUOM integration)		(upgrading to json schema draft-08)			(Grey background = forward compatibility for .wrl VRML97)	
SphereSensor	SphereSensor	SphereSensor		SphereSensor	SphereSensor	SphereSensor	SphereSensor
SplinePositionInterpolator	SplinePositionInterpolator	SplinePositionInterpolator		SplinePositionInterpolator			
SplinePositionInterpolator2D	SplinePositionInterpolator2D	SplinePositionInterpolator2D		SplinePositionInterpolator2D			
SplineScalarInterpolator	SplineScalarInterpolator	SplineScalarInterpolator		SplineScalarInterpolator			
SpotLight	SpotLight	SpotLight		SpotLight	SpotLight	SpotLight	SpotLight
SquadOrientationInterpolator	SquadOrientationInterpolator	SquadOrientationInterpolator		SquadOrientationInterpolator			
StaticGroup	StaticGroup	StaticGroup		StaticGroup	StaticGroup		
StringSensor	StringSensor	StringSensor		StringSensor			
SurfaceEmitter	SurfaceEmitter	SurfaceEmitter		SurfaceEmitter			
Switch	Switch	Switch		Switch	Switch	Switch	Switch
TexCoordChaser2D	TexCoordChaser2D	TexCoordChaser2D		TexCoordChaser2D	TexCoordChaser2D		
TexCoordDamper2D	TexCoordDamper2D	TexCoordDamper2D		TexCoordDamper2D			
Text	Text	Text		Text	Text	Text	Text
TextureBackground	TextureBackground	TextureBackground		TextureBackground	TextureBackground		
TextureCoordinate	TextureCoordinate	TextureCoordinate		TextureCoordinate		TextureCoordinate	
TextureCoordinate3D	TextureCoordinate3D	TextureCoordinate3D		TextureCoordinate3D	TextureCoordinate3D		
TextureCoordinate4D	TextureCoordinate4D	TextureCoordinate4D		TextureCoordinate4D	TextureCoordinate4D		
TextureCoordinateGenerator	TextureCoordinateGenerator	TextureCoordinateGenerator		TextureCoordinateGenerator	TextureCoordinateGenerator		
TextureProperties	TextureProperties	TextureProperties		TextureProperties	TextureProperties		
TextureTransform	TextureTransform	TextureTransform		TextureTransform	TextureTransform	TextureTransform	
TextureTransform3D	TextureTransform3D	TextureTransform3D		TextureTransform3D	TextureTransform3D		
TextureTransformMatrix3D	TextureTransformMatrix3D	TextureTransformMatrix3D		TextureTransformMatrix3D	TextureTransformMatrix3D		
TimeSensor	TimeSensor	TimeSensor		TimeSensor		TimeSensor	TimeSensor
TimeTrigger	TimeTrigger	TimeTrigger		TimeTrigger	TimeTrigger	(Prototype available) TimeTrigger	
ToneMappedVolumeStyle	ToneMappedVolumeStyle	ToneMappedVolumeStyle		ToneMappedVolumeStyle	ToneMappedVolumeStyle		
TouchSensor	TouchSensor	TouchSensor		TouchSensor	TouchSensor	TouchSensor	TouchSensor
Transform	Transform	Transform		Transform	Transform	Transform	Transform
TransformSensor	TransformSensor	TransformSensor		TransformSensor	TransformSensor		
TransmitterPdu	TransmitterPdu	TransmitterPdu		TransmitterPdu	TransmitterPdu	(Java Prototype available) TransmitterPdu	
TriangleFanSet	TriangleFanSet	TriangleFanSet		TriangleFanSet		(Prototype available) TriangleFanSet	
TriangleSet	TriangleSet	TriangleSet		TriangleSet		(Prototype available) TriangleSet	
TriangleSet2D	TriangleSet2D	TriangleSet2D		TriangleSet2D		(Prototype available) TriangleSet2D	
TriangleStripSet	TriangleStripSet	TriangleStripSet		TriangleStripSet		(Prototype available) TriangleStripSet	
TwoSidedMaterial	TwoSidedMaterial	TwoSidedMaterial		TwoSidedMaterial	TwoSidedMaterial		
UNIT	unit	unit		unit	unit		
UniversalJoint	UniversalJoint	UniversalJoint		UniversalJoint			
Viewpoint	Viewpoint	Viewpoint		Viewpoint	Viewpoint	Viewpoint	Viewpoint
ViewpointGroup	ViewpointGroup	ViewpointGroup		ViewpointGroup	ViewpointGroup		
Viewport	Viewport	Viewport		Viewport			
VisibilitySensor	VisibilitySensor	VisibilitySensor		VisibilitySensor	VisibilitySensor	VisibilitySensor	VisibilitySensor
VolumeData	VolumeData	VolumeData		VolumeData	VolumeData		
VolumeEmitter	VolumeEmitter	VolumeEmitter		VolumeEmitter			
VolumePickSensor	VolumePickSensor	VolumePickSensor		VolumePickSensor	VolumePickSensor		
WindPhysicsModel	WindPhysicsModel	WindPhysicsModel		WindPhysicsModel			
WorldInfo	WorldInfo	WorldInfo		WorldInfo	WorldInfo	WorldInfo	WorldInfo
X3D	X3D	X3D		X3D	X3D	#VRML	#X3D, #VRML
Supported nodes and statements:	100%	100%		100%	66%	33%	48%
253	253	253		253	166	56	121
Unimplemented nodes and statements:							
0	0	0		0	87	-1	76
References							
X3D v3.3 Specification	X3D Schema Validation	X3D DOCTYPE (DTD) Validation		X3D Resources: Tooltips	X3D Schematron validation	55 nodes in VRML97 Specification	83 nodes in VRML97 Amendment 1
						VRML prototypes total: 55	
						VRML+Java prototypes total: 15	
HTML5 support goals							
* required for X3D Immersive Profile							
* suggested for HTML5 support							
* priority nodes and statements missing:							

X3D v3.3 Node and Statement Profiles, Components and Levels

<i>X3D Abstract Specification Nodes, Statements</i>	<i>Version</i>	<i>Minimum Profile</i>	<i>Component</i>	<i>Component Level for Full Support</i>	<i>Notes</i>
Anchor	3.0	Interactive	Networking	2	
Appearance	3.0	Interchange	Shape	1	textureTransform, fillProperties, lineProperties option until level 2
Arc2D	3.0	Full	Geometry2D	2	
ArcClose2D	3.0	Full	Geometry2D	2	
AudioClip	3.0	Immersive	Sound	1	alpha value optionally supported until level 4
Background	3.0	Interchange	EnvironmentalEffects	1	
BallJoint	3.2	Full	RigidBodyPhysics	2	
Billboard	3.0	Immersive	Navigation	2	
BlendedVolumeStyle	3.3	Full	VolumeRendering	3	
BooleanFilter	3.0	Interactive	EventUtilities	1	
BooleanSequencer	3.0	Interactive	EventUtilities	1	
BooleanToggle	3.0	Interactive	EventUtilities	1	
BooleanTrigger	3.0	Interactive	EventUtilities	1	
BoundaryEnhancementVolumeStyle	3.3	Full	VolumeRendering	2	
BoundedPhysicsModel	3.2	Full	ParticleSystems	2	
Box	3.0	Interchange	Geometry3D	1	
CADAssembly	3.1	Full	CADGeometry	2	
CADFace	3.1	Full	CADGeometry	2	
CADLayer	3.1	Full	CADGeometry	2	
CADPart	3.1	Full	CADGeometry	2	
CartoonVolumeStyle	3.3	Full	VolumeRendering	3	
Circle2D	3.0	Full	Geometry2D	2	
ClipPlane	3.2	Full	Rendering	5	
CollidableOffset	3.2	Full	RigidBodyPhysics	1	
CollidableShape	3.2	Full	RigidBodyPhysics	1	
Collision	3.0	Immersive	Navigation	2	
CollisionCollection	3.2	Full	RigidBodyPhysics	1	
CollisionSensor	3.2	Full	RigidBodyPhysics	1	contacts_changed requires level 2
CollisionSpace	3.2	Full	RigidBodyPhysics	1	
Color	3.0	Interchange	Rendering	1	15,000 colors
ColorChaser	3.3	Full	Followers	1	
ColorDamper	3.2	Full	Followers	1	
ColorInterpolator	3.0	Interchange	Interpolation	2	
ColorRGBA	3.0	Interchange	Rendering	1	15,000 colors, alpha optional until level 4
component	3.0	Core	Core	1	X3D statement
ComposedCubeMapTexture	3.1	Full	CubeMapTexturing	1	
ComposedShader	3.1	Full	Shaders	1	
ComposedTexture3D	3.1	Full	Texturing3D	1	
ComposedVolumeStyle	3.3	Full	VolumeRendering	2	ordered field is treated as field unless level 2
Cone	3.0	Interchange	Geometry3D	1	
ConeEmitter	3.2	Full	ParticleSystems	1	
connect	3.0	Immersive	Core	1	in support of ProtoDeclare statement
Contact	3.2	Full	RigidBodyPhysics	2	
Contour2D	3.0	Full	NURBS	4	
ContourPolyline2D	3.0	Full	NURBS	3	
Coordinate	3.0	Interchange	Rendering	1	
CoordinateChaser	3.3	Full	Followers	1	
CoordinateDamper	3.2	Full	Followers	1	
CoordinateDouble	3.0	Full	NURBS	1	
CoordinateInterpolator	3.0	Interchange	Interpolation	1	
CoordinateInterpolator2D	3.0	Full	Interpolation	3	
Cylinder	3.0	Interchange	Geometry3D	1	
CylinderSensor	3.0	Interactive	PointingDeviceSensor	1	
DirectionalLight	3.0	Interchange	Lighting	1	Not scoped by parent Group or Transform

X3D v3.3 Node and Statement Profiles, Components and Levels

<i>X3D Abstract Specification Nodes, Statements</i>	<i>Version</i>	<i>Minimum Profile</i>	<i>Component</i>	<i>Component Level for Full Support</i>	<i>Notes</i>
Anchor	3.0	Interactive	Networking	2	
DISEntityManager	3.2	Full	DIS	2	
DISEntityTypeMapping	3.2	Full	DIS	2	
Disk2D	3.0	Full	Geometry2D	2	
DoubleAxisHingeJoint	3.2	Full	RigidBodyPhysics	2	
EaseInEaseOut	3.2	Full	Interpolation	4	
EdgeEnhancementVolumeStyle	3.3	Full	VolumeRendering	2	
ElevationGrid	3.0	Interactive	Geometry3D	3	
EspduTransform	3.0	Full	DIS	1	
ExplosionEmitter	3.2	Full	ParticleSystems	1	
EXPORT	3.0	Interactive	Networking	3	X3D statement in support of Inline
ExternProtoDeclare	3.0	Core	Core	1	X3D statement in support of ProtoDeclare statement
Extrusion	3.0	Immersive	Geometry3D	4	
field	3.0	Core	Core	1	Prototypes fields are Core, Script fields are Immersive
fieldValue	3.0	Core	Core	1	Optional until Interactive profile or Core component level 2
FillProperties	3.0	Full	Shape	3	
FloatVertexAttribute	3.1	Full	Shaders	1	
Fog	3.0	Immersive	EnvironmentalEffects	2	
FogCoordinate	3.1	Full	EnvironmentalEffects	4	
FontStyle	3.0	Immersive	Text	1	
ForcePhysicsModel	3.2	Full	ParticleSystems	1	
GeneratedCubeMapTexture	3.1	Full	CubeMapTexturing	3	
GeoCoordinate	3.0	Full	Geospatial	1	
GeoElevationGrid	3.0	Full	Geospatial	1	
GeoLocation	3.0	Full	Geospatial	1	
GeoLOD	3.0	Full	Geospatial	1	
GeoMetadata	3.0	Full	Geospatial	1	
GeoOrigin	3.0	Full	Geospatial	1	
GeoPositionInterpolator	3.0	Full	Geospatial	1	
GeoProximitySensor	3.2	Full	Geospatial	2	
GeoTouchSensor	3.0	Full	Geospatial	1	
GeoTransform	3.2	Full	Geospatial	2	
GeoViewpoint	3.0	Full	Geospatial	1	
Group	3.0	Interchange	Grouping	1	addChildren, removeChildren optional until Interactive profile or component level 2
HAnimDisplacer	3.0	Full	H-Anim	1	
HAnimHumanoid	3.0	Full	H-Anim	1	level 2 for addition of skinning
HAnimJoint	3.0	Full	H-Anim	1	
HAnimMotion	4.0	Full	H-Anim	3	higher level than X3D v3.3
HAnimSegment	3.0	Full	H-Anim	1	
HAnimSite	3.0	Full	H-Anim	1	
head	3.0	Core	Core	1	X3D statement
ImageCubeMapTexture	3.1	Full	CubeMapTexturing	2	
ImageTexture	3.0	Interchange	Texturing	1	
ImageTexture3D	3.1	Full	Texturing3D	2	
IMPORT	3.0	Interactive	Networking	3	X3D statement in support of Inline
IndexedFaceSet	3.0	Interchange	Geometry3D	2	
IndexedLineSet	3.0	Interchange	Rendering	1	
IndexedQuadSet	3.1	Full	CADGeometry	1	
IndexedTriangleFanSet	3.0	Interchange	Rendering	3	
IndexedTriangleSet	3.0	Interchange	Rendering	3	
IndexedTriangleStripSet	3.0	Interchange	Rendering	3	
Inline	3.0	Interactive	Networking	2	Inline scene may require higher profile in parent scene. Optional support for load field.
IntegerSequencer	3.0	Interactive	EventUtilities	1	
IntegerTrigger	3.0	Interactive	EventUtilities	1	

X3D v3.3 Node and Statement Profiles, Components and Levels

<i>X3D Abstract Specification Nodes, Statements</i>	<i>Version</i>	<i>Minimum Profile</i>	<i>Component</i>	<i>Component Level for Full Support</i>	<i>Notes</i>
Anchor	3.0	Interactive	Networking	2	
IS	3.0	Immersive	Core	1	in support of ProtoDeclare statement
IsoSurfaceVolumeData	3.3	Full	VolumeRendering	2	
KeySensor	3.0	Interactive	KeyDeviceSensor	1	
Layer	3.2	Full	Layering	1	
LayerSet	3.2	Full	Layering	1	
Layout	3.2	Full	Layout	1	
LayoutGroup	3.2	Full	Layout	1	
LayoutLayer	3.2	Full	Layout	1	
LinePickSensor	3.2	Full	Picking	1	
LineProperties	3.0	Immersive	Shape	2	
LineSet	3.0	Interchange	Rendering	1	
LoadSensor	3.0	Immersive	Networking	3	
LocalFog	3.1	Full	EnvironmentalEffects	4	
LOD	3.0	Immersive	Navigation	2	
Material	3.0	Interchange	Shape	1	Some restrictions until level 2
Matrix3VertexAttribute	3.1	Full	Shaders	1	
Matrix4VertexAttribute	3.1	Full	Shaders	1	
meta	3.0	Core	Core	1	X3D statement
MetadataBoolean	3.3	Core	Core	1	
MetadataDouble	3.0	Core	Core	1	
MetadataFloat	3.0	Core	Core	1	
MetadataInteger	3.0	Core	Core	1	
MetadataSet	3.0	Core	Core	1	
MetadataString	3.0	Core	Core	1	
MotorJoint	3.2	Full	RigidBodyPhysics	2	
MovieTexture	3.0	Immersive	Texturing	3	
MultiTexture	3.0	Interchange	Texturing	2	
MultiTextureCoordinate	3.0	Interchange	Texturing	2	
MultiTextureTransform	3.0	Interchange	Texturing	2	
NavigationInfo	3.0	Interchange	Navigation	1	
Normal	3.0	Interchange	Rendering	2	
NormalInterpolator	3.0	Interchange	Interpolation	2	
NurbsCurve	3.0	Full	NURBS	1	
NurbsCurve2D	3.0	Full	NURBS	3	
NurbsOrientationInterpolator	3.0	Full	NURBS	1	
NurbsPatchSurface	3.0	Full	NURBS	1	
NurbsPositionInterpolator	3.0	Full	NURBS	1	
NurbsSet	3.0	Full	NURBS	2	
NurbsSurfaceInterpolator	3.0	Full	NURBS	1	
NurbsSweptSurface	3.0	Full	NURBS	3	
NurbsSwungSurface	3.0	Full	NURBS	3	
NurbsTextureCoordinate	3.0	Full	NURBS	1	
NurbsTrimmedSurface	3.0	Full	NURBS	4	
OpacityMapVolumeStyle	3.3	Full	VolumeRendering	2	
OrientationChaser	3.2	Full	Followers	1	
OrientationDamper	3.2	Full	Followers	1	
OrientationInterpolator	3.0	Interchange	Interpolation	1	
OrthoViewpoint	3.2	Full	Navigation	3	
PackagedShader	3.1	Full	Shaders	1	
ParticleSystem	3.2	Full	ParticleSystems	1	Need level 3 for geometry field
PickableGroup	3.2	Full	Picking	1	
PixelTexture	3.0	Interchange	Texturing	1	
PixelTexture3D	3.1	Full	Texturing3D	1	

X3D v3.3 Node and Statement Profiles, Components and Levels

<i>X3D Abstract Specification Nodes, Statements</i>	<i>Version</i>	<i>Minimum Profile</i>	<i>Component</i>	<i>Component Level for Full Support</i>	<i>Notes</i>
Anchor	3.0	Interactive	Networking	2	
PlaneSensor	3.0	Interactive	PointingDeviceSensor	1	
PointEmitter	3.2	Full	ParticleSystems	1	
PointLight	3.0	Interactive	Lighting	2	<i>radius</i> optionally supported, linear attenuation
PointPickSensor	3.2	Full	Picking	1	
PointProperties	4.0	Full	Shape	5	
PointSet	3.0	Interchange	Rendering	1	
Polyline2D	3.0	Immersive	Geometry2D	1	
PolylineEmitter	3.2	Full	ParticleSystems	1	
Polypoint2D	3.0	Immersive	Geometry2D	1	
PositionChaser	3.2	Full	Followers	1	
PositionChaser2D	3.2	Full	Followers	1	
PositionDamper	3.2	Full	Followers	1	
PositionDamper2D	3.2	Full	Followers	1	
PositionInterpolator	3.0	Interchange	Interpolation	1	
PositionInterpolator2D	3.0	Full	Interpolation	3	
PrimitivePickSensor	3.2	Full	Picking	2	Non-uniform scale not supported until level 3
ProgramShader	3.1	Full	Shaders	1	
ProjectionVolumeStyle	3.3	Full	VolumeRendering	2	
ProtoBody	3.0	Core	Core	1	Optional until Interactive profile or Core component level 2
ProtoDeclare	3.0	Core	Core	1	Optional until Interactive profile or Core component level 2
ProtoInstance	3.0	Core	Core	1	Optional until Interactive profile or Core component level 2
ProtoInterface	3.0	Core	Core	1	Optional until Interactive profile or Core component level 2
ProximitySensor	3.0	Interactive	EnvironmentalSensor	1	position_changed, orientation_changed optional until level 2
QuadSet	3.1	Full	CADGeometry	1	
ReceiverPdu	3.0	Full	DIS	1	
Rectangle2D	3.0	Immersive	Geometry2D	1	
RigidBody	3.2	Full	RigidBodyPhysics	2	
RigidBodyCollection	3.2	Full	RigidBodyPhysics	2	
ROUTE	3.0	Core	Core	1	
ScalarChaser	3.2	Full	Followers	1	
ScalarDamper	3.3	Full	Followers	1	
ScalarInterpolator	3.0	Interchange	Interpolation	1	
Scene	3.0	Core	Core	1	X3D statement in XML encoding (implicit in ClassicVRML, VRML97)
ScreenFontStyle	3.2	Full	Layout	2	
ScreenGroup	3.2	Full	Layout	2	
Script	3.0	Immersive	Scripting	1	
SegmentedVolumeData	3.3	Full	VolumeRendering	2	
ShadedVolumeStyle	3.3	Full	VolumeRendering	3	Use level 4 for full capabilities
ShaderPart	3.1	Full	Shaders	1	
ShaderProgram	3.1	Full	Shaders	1	
Shape	3.0	Interchange	Shape	1	
SignalPdu	3.0	Full	DIS	1	
SilhouetteEnhancementVolumeStyle	3.3	Full	VolumeRendering	2	
SingleAxisHingeJoint	3.2	Full	RigidBodyPhysics	2	
SliderJoint	3.2	Full	RigidBodyPhysics	2	
Sound	3.0	Immersive	Sound	1	
Sphere	3.0	Interchange	Geometry3D	1	
SphereSensor	3.0	Interactive	PointingDeviceSensor	1	
SplinePositionInterpolator	3.2	Full	Interpolation	4	
SplinePositionInterpolator2D	3.2	Full	Interpolation	4	
SplineScalarInterpolator	3.2	Full	Interpolation	4	
SpotLight	3.0	Interactive	Lighting	2	beamWidth optionally supported. radius optionally supported, linear attenuation
SquadOrientationInterpolator	3.2	Full	Interpolation	5	

X3D v3.3 Node and Statement Profiles, Components and Levels

<i>X3D Abstract Specification Nodes, Statements</i>	<i>Version</i>	<i>Minimum Profile</i>	<i>Component</i>	<i>Component Level for Full Support</i>	<i>Notes</i>
Anchor	3.0	Interactive	Networking	2	
StaticGroup	3.0	Full	Grouping	3	
StringSensor	3.0	Interactive	KeyDeviceSensor	2	
SurfaceEmitter	3.2	Full	ParticleSystems	2	
Switch	3.0	Interactive	Grouping	2	
TexCoordChaser2D	3.3	Full	Followers	1	
TexCoordDamper2D	3.2	Full	Followers	1	
Text	3.0	Immersive	Text	1	
TextureBackground	3.0	Full	EnvironmentalEffects	3	
TextureCoordinate	3.0	Interchange	Texturing	1	
TextureCoordinate3D	3.1	Full	Texturing3D	1	
TextureCoordinate4D	3.1	Full	Texturing3D	1	
TextureCoordinateGenerator	3.0	Interchange	Texturing	2	
TextureProperties	3.2	Full	Texturing	2	
TextureTransform	3.0	Interchange	Texturing	1	
TextureTransform3D	3.1	Full	Texturing3D	1	
TextureTransformMatrix3D	3.1	Full	Texturing3D	1	
TimeSensor	3.0	Interchange	Time	1	
TimeTrigger	3.0	Interactive	EventUtilities	1	
ToneMappedVolumeStyle	3.3	Full	VolumeRendering	2	
TouchSensor	3.0	Interactive	PointingDeviceSensor	1	
Transform	3.0	Interchange	Grouping	1	addChildren, removeChildren optional until Interactive profile or component level 2
TransformSensor	3.2	Full	EnvironmentalSensor	3	
TransmitterPdu	3.0	Full	DIS	1	
TriangleFanSet	3.0	Interchange	Rendering	3	
TriangleSet	3.0	Interchange	Rendering	3	
TriangleSet2D	3.0	Full	Geometry2D	1	
TriangleStripSet	3.0	Interchange	Rendering	3	
TwoSidedMaterial	3.2	Full	Shape	4	
unit	3.3	Core	Core	1	X3D statement
UniversalJoint	3.2	Full	RigidBodyPhysics	2	
Viewpoint	3.0	Interchange	Navigation	1	
ViewpointGroup	3.2	Full	Navigation	3	
Viewport	3.2	Full	Layering	1	
VisibilitySensor	3.0	Immersive	EnvironmentalSensor	2	
VolumeData	3.3	Full	VolumeRendering	1	
VolumeEmitter	3.2	Full	ParticleSystems	2	
VolumePickSensor	3.2	Full	Picking	3	
WindPhysicsModel	3.2	Full	ParticleSystems	1	
WorldInfo	3.0	Core	Core	1	
X3D	3.0	Core	Core	1	X3D statement

[X3D v3.3 Specification](#)

X3D Interactive, X3D MPEG4 Interactive Profile Comparison

<http://www.web3d.org/specifications/X3dNodeInventoryComparison-X3dInteractiveMpeg4Interactive.pdf>

X3D Interactive Profile	MPEG4 Interactive Profile	To be added
Anchor	Anchor	
Appearance	Appearance	
Background	Background	
BooleanFilter	<i>* not included by MPEG</i>	
BooleanSequencer	<i>* not included by MPEG</i>	
BooleanToggle	<i>* not included by MPEG</i>	
BooleanTrigger	<i>* not included by MPEG</i>	
Box	Box	
Color	Color	
ColorInterpolator	ColorInterpolator	
ColorRGBA	ColorRGBA	
Cone	Cone	
Coordinate	Coordinate	
CoordinateInterpolator	CoordinateInterpolator	
Cylinder	Cylinder	
CylinderSensor	CylinderSensor	
DirectionalLight	DirectionalLight	
ElevationGrid	ElevationGrid	
Group	Group	
ImageTexture	ImageTexture	
IndexedFaceSet	IndexedFaceSet	
IndexedLineSet	IndexedLineSet	
IndexedTriangleFanSet	<i>* not included by MPEG</i>	
IndexedTriangleSet	<i>* not included by MPEG</i>	
IndexedTriangleStripSet	<i>* not included by MPEG</i>	
Inline	Inline	
IntegerSequencer	<i>* not included by MPEG</i>	
IntegerTrigger	<i>* not included by MPEG</i>	
KeySensor	<i>* not included by MPEG</i>	
LineSet	LineSet	
Material	Material	
MetadataBoolean	<i>* not included by MPEG</i>	
MetadataDouble	MetadataDouble	
MetadataFloat	MetadataFloat	
MetadataInteger	MetadataInteger	
MetadataSet	MetadataSet	
MetadataString	MetadataString	
MultiTexture	<i>* not included by MPEG</i>	
MultiTextureCoordinate	<i>* not included by MPEG</i>	
MultiTextureTransform	<i>* not included by MPEG</i>	
NavigationInfo	NavigationInfo	
Normal	<i>* not included by MPEG</i>	
NormalInterpolator	NormalInterpolator	

X3D Interactive, X3D MPEG4 Interactive Profile Comparison

<http://www.web3d.org/specifications/X3dNodeInventoryComparison-X3dInteractiveMpeg4Interactive.pdf>

X3D Interactive Profile	MPEG4 Interactive Profile	To be added
OrientationInterpolator	OrientationInterpolator	
PixelTexture	PixelTexture	
PlaneSensor	PlaneSensor	
PointLight	PointLight	
PointSet	PointSet	
PositionInterpolator	PositionInterpolator	
ProximitySensor	ProximitySensor	
ScalarInterpolator	ScalarInterpolator	
Shape	Shape	
Sphere	Sphere	
SphereSensor	SphereSensor	
SpotLight	SpotLight	
StringSensor	<i>* not included by MPEG</i>	
Switch	Switch	
TextureCoordinate	TextureCoordinate	
TextureCoordinateGenerator	<i>* not included by MPEG</i>	
TextureTransform	TextureTransform	
TimeSensor	TimeSensor	
TimeTrigger	<i>* not included by MPEG</i>	
TouchSensor	TouchSensor	
Transform	Transform	
TriangleFanSet	<i>* not included by MPEG</i>	
TriangleSet	<i>* not included by MPEG</i>	
TriangleStripSet	<i>* not included by MPEG</i>	
Viewpoint	Viewpoint	
VisibilitySensor	<i>* not included by MPEG</i>	
WorldInfo	WorldInfo	
Total nodes:		
70	48	0
Missing nodes:		
0	22	0

References:

<http://www.web3d.org/files/specifications/19775-1/V3.3/Part01/interactive.html>

<http://www.web3d.org/files/specifications/19775-1/V3.3/Part01/MPEG4interactive.html>