

X3Dv4 Players and Tools Coverage

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| X3D Players and Tools Coverage | | | | | | | |
|--|--------------------------------|--------------------------------|---------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------|
| X3D version 4.0 | | | | | | | |
| Node and Statement Support | | | | | | | |
| updated 20 October 2019 | | | | | | | |
| https://www.web3d.org/specifications/X3dNodeInventoryComparison.xlsx https://www.web3d.org/specifications/X3dNodeInventoryComparison.pdf | | | | | | | |
| X3D Abstract Specification Node Index | X_ITE Player v4.5.16 | FreeWRL Player v4.0 | view3dscene (Castle Game Engine) v6.4 | X3DOM Player v1.8.1 | InstantPlayer | Xj3D Player | X3D-Edit Authoring Tool v3.3 |
| | Supported Nodes | Conformance | Standard X3D Nodes | Nodes Index | Node types | X3D viewer: NPS source | X3D-Edit home |
| 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 | 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 | | |
| 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 | |
| LayerSet | LayerSet | LayerSet | | LayerSet | LayerSet | LayerSet | |
| Layout | Layout | Layout | | Layout | Layout | | |
| LayoutGroup | LayoutGroup | LayoutGroup | | LayoutGroup | LayoutGroup | | |
| LayoutLayer | LayoutLayer | LayoutLayer | | LayoutLayer | LayoutLayer | | |
| 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 |
| 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 |
| NurbsSurfaceInterpolator | NurbsSurfaceInterpolator | NurbsSurfaceInterpolator | NurbsSurfaceInterpolator | NurbsSurfaceInterpolator | NurbsSurfaceInterpolator | | NurbsSurfaceInterpolator |
| NurbsSweptSurface | NurbsSweptSurface | NurbsSweptSurface | | NurbsSweptSurface | NurbsSweptSurface | | NurbsSweptSurface |
| NurbsSwungSurface | NurbsSwungSurface | NurbsSwungSurface | | NurbsSwungSurface | NurbsSwungSurface | | NurbsSwungSurface |
| NurbsTextureCoordinate | NurbsTextureCoordinate | NurbsTextureCoordinate | | | NurbsTextureCoordinate | | NurbsTextureCoordinate |

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| NurbsTrimmedSurface | | NurbsTrimmedSurface | NurbsTrimmedSurface | NurbsTrimmedSurface | NurbsTrimmedSurface | NurbsTrimmedSurface | NurbsTrimmedSurface | | |
| 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 | 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 | PixelTexture3D | | |
| PlaneSensor | PlaneSensor | PlaneSensor | PlaneSensor | PlaneSensor | PlaneSensor | PlaneSensor | PlaneSensor | | |
| PointEmitter | PointEmitter | PointEmitter | | | | PointEmitter | | | |
| PointLight | PointLight | PointLight | PointLight | PointLight | PointLight | PointLight | PointLight | | |
| PointPickSensor | PointPickSensor | PointPickSensor | | | | | | | |
| 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 | | | 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 | | 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 | Scene | | |
| ScreenFontStyle | ScreenFontStyle | ScreenFontStyle | | | | | | | |
| ScreenGroup | ScreenGroup | ScreenGroup | | | ScreenGroup | | | | |
| Script | Script | Script | Script | * required for X3D Immersive Profile | Script | Script | Script | | |
| SegmentedVolumeData | SegmentedVolumeData | SegmentedVolumeData | | SegmentedVolumeData | | | SegmentedVolumeData | | |
| ShadedVolumeStyle | 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 | | | SilhouetteEnhancementVolumeStyle | | |
| SingleAxisHingeJoint | SingleAxisHingeJoint | SingleAxisHingeJoint | | SingleAxisHingeJoint | | SingleAxisHingeJoint | SingleAxisHingeJoint | | |
| SliderJoint | SliderJoint | SliderJoint | | SliderJoint | | SliderJoint | SliderJoint | | |
| Sound | Sound | | 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 | | |
| 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 | | |

| X3D Players and Tools Coverage | | X3D version 4.0 | | updated 20 October 2019 | | https://www.web3d.org/specifications/X3DNodeInventoryComparison.xlsx https://www.web3d.org/specifications/X3DNodeInventoryComparison.pdf | |
|--|---|---|--|---|--------------------------------|---|--|
| Node and Statement Support | | | | | | | |
| X3D Abstract Specification Node Index | X_ITE Player v4.5.16 | FreeWRL Player v4.0 | view3dscene (Castle Game Engine) v6.4 | X3DOM Player v1.8.1 | InstantPlayer | Xj3D Player | X3D-Edit Authoring Tool v3.3 |
| | Supported Nodes | Conformance | Standard X3D Nodes | Nodes Index | Node types | Xj3D viewer: NPS source | X3D-Edit home |
| 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 |
| TouchSensor | TouchSensor | TouchSensor | TouchSensor | TouchSensor | TouchSensor | TouchSensor | TouchSensor |
| Transform | Transform | Transform | Transform | Transform | Transform | Transform | Transform |
| TransformSensor | TransformSensor | TransformSensor | | | TransformSensor | | |
| TransmitterPdu | | | | | | | TransmitterPdu |
| TriangleFanSet | TriangleFanSet | TriangleFanSet | TriangleFanSet | | TriangleFanSet | TriangleFanSet | TriangleFanSet |
| TriangleSet | TriangleSet | TriangleSet | TriangleSet | TriangleSet | TriangleSet | TriangleSet | TriangleSet |
| TriangleSet2D | TriangleSet2D | TriangleSet2D | | TriangleSet2D | TriangleSet2D | TriangleSet2D | TriangleSet2D |
| TriangleStripSet | TriangleStripSet | TriangleStripSet | TriangleStripSet | | TriangleStripSet | TriangleStripSet | TriangleStripSet |
| 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 |
| 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 | | |
| VisibilitySensor | VisibilitySensor | VisibilitySensor | VisibilitySensor | | VisibilitySensor | VisibilitySensor | VisibilitySensor |
| VolumeData | VolumeData | VolumeData | | VolumeData | | | VolumeData |
| VolumeEmitter | VolumeEmitter | VolumeEmitter | | | | | |
| VolumePickSensor | VolumePickSensor | VolumePickSensor | | | | | |
| WindPhysicsModel | WindPhysicsModel | WindPhysicsModel | | | | WindPhysicsModel | |
| WorldInfo | WorldInfo | WorldInfo | WorldInfo | WorldInfo | WorldInfo | WorldInfo | WorldInfo |
| X3D | X3D | X3D | X3D | X3D | X3D | X3D | X3D |
| Supported nodes and statements: | | | | | | | |
| 253 | 238 | 245 | 144 | 171 | 197 | 172 | 219 |
| Unimplemented nodes and statements: | | | | | | | |
| 0 | 15 | 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 | 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 Codebases for Scene Access Interface (SAI) | | X3D version 4.0 Node and Statement Support | | updated 20 October 2019 | https://www.web3d.org/specifications/X3dNodeInventoryComparison.xlsx https://www.web3d.org/specifications/X3dNodeInventoryComparison.pdf | | |
|---|---|---|------------------------------------|---|--|--------------------|--|
| X3D Nodes and Statements | JavaScript X3DJSONLD | Java X3DSAIL | Python Package | C implementation | C++ implementation | C# implementation | |
| X3D Unified Object Model (X3DUOM) | X3D to JSON Converter | X3DJSAIL | Python X3D Package | (work in progress) | (work in progress) | (work in progress) | |
| Anchor | | Anchor | Anchor | | | | |
| Appearance | Can John Carlson's open-source X3DJSONLD be regularized to match JavaScript SAI standard? | Appearance | Appearance | Example codebase templates provided by Myeong Won Lee. | | | |
| Arc2D | | Arc2D | Arc2D | | | | |
| ArcClose2D | | ArcClose2D | ArcClose2D | | | | |
| AudioClip | | AudioClip | AudioClip | TODO apply X3DUOM code-autogeneration patterns, similar to Java and Python. | | | |
| Background | | Background | Background | | | | |
| BallJoint | | BallJoint | BallJoint | https://sourceforge.net/p/x3d/code/HEAD/tree/www.web3d.org/x3d/languages | | | |
| 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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| | | (includes X3DUOM integration) | | | | |
| Anchor | Anchor | Anchor | TODO upgrade json schema to draft 2019 09 once application and command-line validation tools are finally available | Anchor | Anchor | (Grey background = forward compatibility for .wrl VRML97) |
| Appearance | Appearance | Appearance | | Appearance | Appearance | Anchor |
| Arc2D | Arc2D | Arc2D | | | | Appearance |
| ArcClose2D | ArcClose2D | ArcClose2D | | | | (Prototype available) Arc2D |
| AudioClip | AudioClip | AudioClip | | AudioClip | AudioClip | (Prototype available) ArcClose2D |
| Background | Background | Background | | Background | Background | AudioClip |
| BallJoint | BallJoint | BallJoint | | BallJoint | BallJoint | Background |
| Billboard | Billboard | Billboard | | Billboard | Billboard | |
| BlendedVolumeStyle | BlendedVolumeStyle | BlendedVolumeStyle | | BlendedVolumeStyle | BlendedVolumeStyle | Billboard |
| BooleanFilter | BooleanFilter | BooleanFilter | | BooleanFilter | BooleanFilter | |
| BooleanSequencer | BooleanSequencer | BooleanSequencer | | BooleanSequencer | BooleanSequencer | (Prototype available) BooleanFilter |
| BooleanToggle | BooleanToggle | BooleanToggle | | BooleanToggle | BooleanToggle | (Prototype available) BooleanSequencer |
| BooleanTrigger | BooleanTrigger | BooleanTrigger | | BooleanTrigger | BooleanTrigger | (Prototype available) BooleanToggle |
| BoundaryEnhancementVolumeStyle | BoundaryEnhancementVolumeStyle | BoundaryEnhancementVolumeStyle | | BoundaryEnhancementVolumeStyle | BoundaryEnhancementVolumeStyle | (Prototype available) BooleanTrigger |
| BoundedPhysicsModel | BoundedPhysicsModel | BoundedPhysicsModel | | BoundedPhysicsModel | | |
| Box | Box | Box | | Box | Box | Box |
| CADAssembly | CADAssembly | CADAssembly | | CADAssembly | CADAssembly | Box |
| CADFace | CADFace | CADFace | | CADFace | CADFace | (Prototype available) CADAssembly |
| CADLayer | CADLayer | CADLayer | | CADLayer | CADLayer | (Prototype available) CADFace |
| CADPart | CADPart | CADPart | | CADPart | CADPart | (Prototype available) CADLayer |
| CartoonVolumeStyle | CartoonVolumeStyle | CartoonVolumeStyle | | CartoonVolumeStyle | CartoonVolumeStyle | (Prototype available) CADPart |
| Circle2D | Circle2D | Circle2D | | Circle2D | | |
| ClipPlane | ClipPlane | ClipPlane | | ClipPlane | ClipPlane | (Prototype available) Circle2D |
| CollidableOffset | CollidableOffset | CollidableOffset | | CollidableOffset | | |
| CollidableShape | CollidableShape | CollidableShape | | CollidableShape | | |
| Collision | Collision | Collision | | Collision | Collision | Collision |
| CollisionCollection | CollisionCollection | CollisionCollection | | CollisionCollection | | Collision |
| CollisionSensor | CollisionSensor | CollisionSensor | | CollisionSensor | | |
| CollisionSpace | CollisionSpace | CollisionSpace | | CollisionSpace | | |
| Color | Color | Color | | Color | Color | Color |
| ColorChaser | ColorChaser | ColorChaser | | ColorChaser | ColorChaser | |
| ColorDamper | ColorDamper | ColorDamper | | ColorDamper | ColorDamper | |
| ColorInterpolator | ColorInterpolator | ColorInterpolator | | ColorInterpolator | ColorInterpolator | ColorInterpolator |
| ColorRGBA | ColorRGBA | ColorRGBA | | ColorRGBA | ColorRGBA | ColorInterpolator |
| component | component | component | | component | component | (Prototype available) ColorRGBA |
| ComposedCubeMapTexture | ComposedCubeMapTexture | ComposedCubeMapTexture | | ComposedCubeMapTexture | | |
| ComposedShader | ComposedShader | ComposedShader | | ComposedShader | ComposedShader | |
| ComposedTexture3D | ComposedTexture3D | ComposedTexture3D | | ComposedTexture3D | | |
| ComposedVolumeStyle | ComposedVolumeStyle | ComposedVolumeStyle | | ComposedVolumeStyle | ComposedVolumeStyle | |
| 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 |
| 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 |
| CylinderSensor | CylinderSensor | CylinderSensor | | CylinderSensor | CylinderSensor | CylinderSensor |
| 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 | | |
| EaselInEaseOut | EaselInEaseOut | EaselInEaseOut | | EaselInEaseOut | | |
| EdgeEnhancementVolumeStyle | EdgeEnhancementVolumeStyle | EdgeEnhancementVolumeStyle | | EdgeEnhancementVolumeStyle | EdgeEnhancementVolumeStyle | |
| 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 |
| field | field | field | | field | field | Extrusion |

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| fieldValue | fieldValue | fieldValue | | fieldValue | fieldValue | |
| FillProperties | FillProperties | FillProperties | | FillProperties | FillProperties | |
| FloatVertexAttribute | FloatVertexAttribute | FloatVertexAttribute | | FloatVertexAttribute | | |
| Fog | Fog | Fog | | Fog | Fog | Fog Fog |
| FogCoordinate | FogCoordinate | FogCoordinate | | FogCoordinate | FogCoordinate | |
| FontStyle | FontStyle | FontStyle | | FontStyle | FontStyle | FontStyle FontStyle |
| ForcePhysicsModel | ForcePhysicsModel | ForcePhysicsModel | | ForcePhysicsModel | | |
| GeneratedCubeMapTexture | GeneratedCubeMapTexture | GeneratedCubeMapTexture | | GeneratedCubeMapTexture | | |
| GeoCoordinate | GeoCoordinate | GeoCoordinate | | GeoCoordinate | GeoCoordinate | (Prototype available) GeoCoordinate |
| GeoElevationGrid | GeoElevationGrid | GeoElevationGrid | | GeoElevationGrid | GeoElevationGrid | (Prototype available) GeoElevationGrid |
| GeoLocation | GeoLocation | GeoLocation | | GeoLocation | GeoLocation | (Prototype available) GeoLocation |
| GeoLOD | GeoLOD | GeoLOD | | GeoLOD | GeoLOD | (Prototype available) GeoLOD |
| GeoMetadata | GeoMetadata | GeoMetadata | | GeoMetadata | GeoMetadata | (Prototype available) GeoMetadata |
| GeoOrigin | GeoOrigin | GeoOrigin | | GeoOrigin | GeoOrigin | (Prototype available) GeoOrigin |
| GeoPositionInterpolator | GeoPositionInterpolator | GeoPositionInterpolator | | GeoPositionInterpolator | GeoPositionInterpolator | (Prototype available) GeoPositionInterpolator |
| GeoProximitySensor | GeoProximitySensor | GeoProximitySensor | | GeoProximitySensor | GeoProximitySensor | |
| GeoTouchSensor | GeoTouchSensor | GeoTouchSensor | | GeoTouchSensor | GeoTouchSensor | (Prototype available) GeoTouchSensor |
| GeoTransform | GeoTransform | GeoTransform | | GeoTransform | GeoTransform | |
| GeoViewpoint | GeoViewpoint | GeoViewpoint | | GeoViewpoint | GeoViewpoint | (Prototype available) GeoViewpoint |
| Group | Group | Group | | Group | Group | Group Group |
| HAnimDisplacer | HAnimDisplacer | HAnimDisplacer | | HAnimDisplacer | HAnimDisplacer | (Prototype available) HAnimDisplacer |
| HAnimHumanoid | HAnimHumanoid | HAnimHumanoid | | HAnimHumanoid | HAnimHumanoid | (Prototype available) HAnimHumanoid |
| HAnimJoint | HAnimJoint | HAnimJoint | | HAnimJoint | HAnimJoint | (Prototype available) HAnimJoint |
| HAnimMotion | HAnimMotion | HAnimMotion | | HAnimMotion | | (perhaps prototype possible?) |
| HAnimSegment | HAnimSegment | HAnimSegment | | HAnimSegment | HAnimSegment | (Prototype available) HAnimSegment |
| HAnimSite | HAnimSite | HAnimSite | | HAnimSite | HAnimSite | (Prototype available) HAnimSite |
| head | head | head | | head | head | |
| ImageCubeMapTexture | ImageCubeMapTexture | ImageCubeMapTexture | | ImageCubeMapTexture | | |
| ImageTexture | ImageTexture | ImageTexture | | ImageTexture | ImageTexture | ImageTexture ImageTexture |
| ImageTexture3D | ImageTexture3D | ImageTexture3D | | ImageTexture3D | | |
| IMPORT | IMPORT | IMPORT | | IMPORT | | |
| IndexedFaceSet | IndexedFaceSet | IndexedFaceSet | | IndexedFaceSet | IndexedFaceSet | IndexedFaceSet IndexedFaceSet |
| IndexedLineSet | IndexedLineSet | IndexedLineSet | | IndexedLineSet | IndexedLineSet | IndexedLineSet IndexedLineSet |
| IndexedQuadSet | IndexedQuadSet | IndexedQuadSet | | IndexedQuadSet | IndexedQuadSet | (Prototype available) IndexedQuadSet |
| IndexedTriangleFanSet | IndexedTriangleFanSet | IndexedTriangleFanSet | | IndexedTriangleFanSet | IndexedTriangleFanSet | (Prototype available) IndexedTriangleFanSet |
| IndexedTriangleSet | IndexedTriangleSet | IndexedTriangleSet | | IndexedTriangleSet | IndexedTriangleSet | (Prototype available) IndexedTriangleSet |
| IndexedTriangleStripSet | IndexedTriangleStripSet | IndexedTriangleStripSet | | IndexedTriangleStripSet | IndexedTriangleStripSet | (Prototype available) IndexedTriangleStripSet |
| Inline | Inline | Inline | | Inline | Inline | Inline Inline |
| IntegerSequencer | IntegerSequencer | IntegerSequencer | | IntegerSequencer | IntegerSequencer | (Prototype available) IntegerSequencer |
| IntegerTrigger | IntegerTrigger | IntegerTrigger | | IntegerTrigger | IntegerTrigger | (Prototype available) IntegerTrigger |
| IS | IS | IS | | IS | IS | |
| IsoSurfaceVolumeData | IsoSurfaceVolumeData | IsoSurfaceVolumeData | | IsoSurfaceVolumeData | IsoSurfaceVolumeData | |
| KeySensor | KeySensor | KeySensor | | KeySensor | | |
| Layer | Layer | Layer | | Layer | | |
| LayerSet | LayerSet | LayerSet | | LayerSet | | |
| Layout | Layout | Layout | | Layout | | |
| LayoutGroup | LayoutGroup | LayoutGroup | | LayoutGroup | | |
| LayoutLayer | LayoutLayer | LayoutLayer | | LayoutLayer | | |
| LinePickSensor | LinePickSensor | LinePickSensor | | LinePickSensor | | |
| LineProperties | LineProperties | LineProperties | | LineProperties | LineProperties | |
| LineSet | LineSet | LineSet | | LineSet | LineSet | (Prototype available) LineSet |
| LoadSensor | LoadSensor | LoadSensor | | LoadSensor | LoadSensor | (Prototype available) LoadSensor |
| LocalFog | LocalFog | LocalFog | | LocalFog | LocalFog | |
| LOD | LOD | LOD | | LOD | LOD | LOD LOD |
| Material | Material | Material | | Material | Material | Material Material |
| Matrix3VertexAttribute | Matrix3VertexAttribute | Matrix3VertexAttribute | | Matrix3VertexAttribute | Matrix3VertexAttribute | |
| Matrix4VertexAttribute | Matrix4VertexAttribute | Matrix4VertexAttribute | | Matrix4VertexAttribute | Matrix4VertexAttribute | |
| meta | meta | meta | | meta | meta | |
| MetadataBoolean | MetadataBoolean | MetadataBoolean | | MetadataBoolean | MetadataBoolean | (Prototype available) MetadataBoolean |
| MetadataDouble | MetadataDouble | MetadataDouble | | MetadataDouble | MetadataDouble | (Prototype available) MetadataDouble |
| MetadataFloat | MetadataFloat | MetadataFloat | | MetadataFloat | MetadataFloat | (Prototype available) MetadataFloat |
| MetadataInteger | MetadataInteger | MetadataInteger | | MetadataInteger | MetadataInteger | (Prototype available) MetadataInteger |
| MetadataSet | MetadataSet | MetadataSet | | MetadataSet | MetadataSet | (Prototype available) MetadataSet |
| MetadataString | MetadataString | MetadataString | | MetadataString | MetadataString | (Prototype available) MetadataString |
| MotorJoint | MotorJoint | MotorJoint | | MotorJoint | | |
| MovieTexture | MovieTexture | MovieTexture | | MovieTexture | MovieTexture | MovieTexture |
| MultiTexture | MultiTexture | MultiTexture | | MultiTexture | MultiTexture | |

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| | (includes X3DUOM integration) | | | | | (Grey background = forward compatibility for .wrl VRML97) | |
| MultiTextureCoordinate | MultiTextureCoordinate | MultiTextureCoordinate | | MultiTextureCoordinate | | | |
| MultiTextureTransform | MultiTextureTransform | MultiTextureTransform | | MultiTextureTransform | | | |
| NavigationInfo | NavigationInfo | NavigationInfo | | NavigationInfo | NavigationInfo | NavigationInfo | NavigationInfo |
| Normal | Normal | Normal | | Normal | Normal | Normal | Normal |
| NormalInterpolator | NormalInterpolator | NormalInterpolator | | NormalInterpolator | NormalInterpolator | NormalInterpolator | NormalInterpolator |
| NurbsCurve | NurbsCurve | NurbsCurve | | NurbsCurve | NurbsCurve | (Java Prototype available) | NurbsCurve |
| NurbsCurve2D | NurbsCurve2D | NurbsCurve2D | | NurbsCurve2D | | (Java Prototype available) | NurbsCurve2D |
| NurbsOrientationInterpolator | NurbsOrientationInterpolator | NurbsOrientationInterpolator | | NurbsOrientationInterpolator | | (Java Prototype available) | NurbsOrientationInterpolator |
| NurbsPatchSurface | NurbsPatchSurface | NurbsPatchSurface | | NurbsPatchSurface | NurbsPatchSurface | (Java Prototype available) | NurbsPatchSurface |
| NurbsPositionInterpolator | NurbsPositionInterpolator | NurbsPositionInterpolator | | NurbsPositionInterpolator | | (Java Prototype available) | NurbsPositionInterpolator |
| NurbsSet | NurbsSet | NurbsSet | | NurbsSet | | (Java Prototype available) | NurbsSet |
| NurbsSurfaceInterpolator | NurbsSurfaceInterpolator | NurbsSurfaceInterpolator | | NurbsSurfaceInterpolator | | (Java Prototype available) | NurbsSurfaceInterpolator |
| NurbsSweptSurface | NurbsSweptSurface | NurbsSweptSurface | | NurbsSweptSurface | | (Java Prototype available) | NurbsSweptSurface |
| NurbsSwungSurface | NurbsSwungSurface | NurbsSwungSurface | | NurbsSwungSurface | | (Java Prototype available) | NurbsSwungSurface |
| NurbsTextureCoordinate | NurbsTextureCoordinate | NurbsTextureCoordinate | | NurbsTextureCoordinate | | (Java Prototype available) | NurbsTextureCoordinate |
| NurbsTrimmedSurface | NurbsTrimmedSurface | NurbsTrimmedSurface | | NurbsTrimmedSurface | NurbsTrimmedSurface | (Java Prototype available) | NurbsTrimmedSurface |
| OpacityMapVolumeStyle | OpacityMapVolumeStyle | OpacityMapVolumeStyle | | OpacityMapVolumeStyle | OpacityMapVolumeStyle | | |
| OrientationChaser | OrientationChaser | OrientationChaser | | OrientationChaser | | | |
| OrientationDamper | OrientationDamper | OrientationDamper | | OrientationDamper | OrientationDamper | | |
| OrientationInterpolator | OrientationInterpolator | OrientationInterpolator | | OrientationInterpolator | | OrientationInterpolator | OrientationInterpolator |
| OrthoViewpoint | OrthoViewpoint | OrthoViewpoint | | OrthoViewpoint | OrthoViewpoint | | |
| PackagedShader | PackagedShader | PackagedShader | | PackagedShader | | | |
| ParticleSystem | ParticleSystem | ParticleSystem | | ParticleSystem | ParticleSystem | | |
| PickableGroup | PickableGroup | PickableGroup | | PickableGroup | | | |
| PixelTexture | PixelTexture | PixelTexture | | PixelTexture | PixelTexture | PixelTexture | PixelTexture |
| PixelTexture3D | PixelTexture3D | PixelTexture3D | | PixelTexture3D | | | |
| PlaneSensor | PlaneSensor | PlaneSensor | | PlaneSensor | PlaneSensor | PlaneSensor | PlaneSensor |
| PointEmitter | PointEmitter | PointEmitter | | PointEmitter | | | |
| PointLight | PointLight | PointLight | | PointLight | PointLight | PointLight | PointLight |
| PointPickSensor | PointPickSensor | PointPickSensor | | PointPickSensor | | | |
| PointProperties | PointProperties | PointProperties | | PointProperties | | | |
| PointSet | PointSet | PointSet | | PointSet | PointSet | PointSet | PointSet |
| Polyline2D | Polyline2D | Polyline2D | | Polyline2D | | (Prototype available) | Polyline2D |
| PolylineEmitter | PolylineEmitter | PolylineEmitter | | PolylineEmitter | | | |
| Polypoint2D | Polypoint2D | Polypoint2D | | Polypoint2D | | (Prototype available) | Polypoint2D |
| PositionChaser | PositionChaser | PositionChaser | | PositionChaser | | | |
| PositionChaser2D | PositionChaser2D | PositionChaser2D | | PositionChaser2D | | | |
| PositionDamper | PositionDamper | PositionDamper | | PositionDamper | | | |
| PositionDamper2D | PositionDamper2D | PositionDamper2D | | PositionDamper2D | | | |
| PositionInterpolator | PositionInterpolator | PositionInterpolator | | PositionInterpolator | PositionInterpolator | PositionInterpolator | PositionInterpolator |
| PositionInterpolator2D | PositionInterpolator2D | PositionInterpolator2D | | PositionInterpolator2D | | (Prototype available) | PositionInterpolator2D |
| PrimitivePickSensor | PrimitivePicker | PrimitivePickSensor | | PrimitivePickSensor | | | |
| ProgramShader | ProgramShader | ProgramShader | | ProgramShader | ProgramShader | | |
| ProjectionVolumeStyle | ProjectionVolumeStyle | ProjectionVolumeStyle | | ProjectionVolumeStyle | ProjectionVolumeStyle | | |
| - | ProtoBody | ProtoBody | | ProtoBody | ProtoBody | | |
| ProtoDeclare | ProtoDeclare | ProtoDeclare | | ProtoDeclare | ProtoDeclare | | |
| ProtoInstance | ProtoInstance | ProtoInstance | | ProtoInstance | ProtoInstance | | |
| - | ProtoInterface | ProtoInterface | | ProtoInterface | ProtoInterface | | |
| ProximitySensor | ProximitySensor | ProximitySensor | | ProximitySensor | ProximitySensor | ProximitySensor | ProximitySensor |
| QuadSet | QuadSet | QuadSet | | QuadSet | QuadSet | (Prototype available) | QuadSet |
| ReceiverPdu | ReceiverPdu | ReceiverPdu | | ReceiverPdu | ReceiverPdu | (Java Prototype available) | ReceiverPdu |
| Rectangle2D | Rectangle2D | Rectangle2D | | Rectangle2D | | (Prototype available) | Rectangle2D |
| RigidBody | RigidBody | RigidBody | | RigidBody | RigidBody | | |
| RigidBodyCollection | RigidBodyCollection | RigidBodyCollection | | RigidBodyCollection | | | |
| ROUTE | ROUTE | ROUTE | | ROUTE | ROUTE | | |
| ScalarChaser | ScalarChaser | ScalarChaser | | ScalarChaser | | | |
| ScalarDamper | ScalarDamper | ScalarDamper | | ScalarDamper | | | |
| ScalarInterpolator | ScalarInterpolator | ScalarInterpolator | | ScalarInterpolator | ScalarInterpolator | ScalarInterpolator | ScalarInterpolator |
| - | Scene | Scene | | Scene | Scene | | |
| ScreenFontStyle | ScreenFontStyle | ScreenFontStyle | | ScreenFontStyle | | | |
| ScreenGroup | ScreenGroup | ScreenGroup | | ScreenGroup | | | |
| Script | Script | Script | | Script | Script | Script | Script |
| SegmentedVolumeData | SegmentedVolumeData | SegmentedVolumeData | | SegmentedVolumeData | SegmentedVolumeData | | |
| ShadedVolumeStyle | ShadedVolumeStyle | ShadedVolumeStyle | | ShadedVolumeStyle | | | |
| ShaderPart | ShaderPart | ShaderPart | | ShaderPart | ShaderPart | | |
| ShaderProgram | ShaderProgram | ShaderProgram | | ShaderProgram | ShaderProgram | | |
| Shape | Shape | Shape | | Shape | Shape | Shape | Shape |

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| | (includes X3DUOM integration) | | | | | (Grey background = forward compatibility for .wrl VRML97) (Java Prototype available) SignalPdu | |
| SignalPdu | SignalPdu | SignalPdu | | SignalPdu | SignalPdu | | |
| SilhouetteEnhancementVolumeStyle | SilhouetteEnhancementVolumeStyle | SilhouetteEnhancementVolumeStyle | | SilhouetteEnhancementVolumeStyle | SilhouetteEnhancementVolumeStyle | | |
| SingleAxisHingeJoint | SingleAxisHingeJoint | SingleAxisHingeJoint | | SingleAxisHingeJoint | | | |
| SliderJoint | SliderJoint | SliderJoint | | SliderJoint | | | |
| Sound | Sound | Sound | | Sound | Sound | Sound | Sound |
| Sphere | Sphere | Sphere | | Sphere | Sphere | Sphere | Sphere |
| 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 | | |
| 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 | | | |
| 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 |
| HTML5 support goals | | | | | | VRML prototypes total: 55 | |
| * required for X3D Immersive Profile | | | | | | VRML+Java prototypes total: 15 | |
| * suggested for HTML5 support | | | | | | | |
| * priority nodes and statements missing: | | | | | | | |

| X3D v4.0 Node and Statement Profiles, Components and Levels | | | updated 20 October 2019 | | |
|---|---------|-----------------------------|--------------------------------------|-------------------------------------|---|
| X3D Abstract Specification Nodes, Statements | Version | Minimum Profile | Component | Component Level for Full Support | Notes |
| 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 | |

| X3D v4.0 Node and Statement Profiles, Components and Levels | | | updated 20 October 2019 | | |
|---|---------|-----------------------------|--------------------------------------|----------------------------------|---|
| X3D Abstract Specification Nodes, Statements | Version | Minimum Profile | Component | Component Level for Full Support | Notes |
| Anchor | 3.0 | Interactive | Networking | 2 | |
| 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 |
| 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 | |

| X3D v4.0 Node and Statement Profiles, Components and Levels | | | updated 20 October 2019 | | |
|---|---------|-----------------------------|--------------------------------------|-------------------------------------|---|
| X3D Abstract Specification Nodes, Statements | Version | Minimum Profile | Component | Component Level for Full Support | Notes |
| Anchor | 3.0 | Interactive | Networking | 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 | |
| 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 | |

| X3D v4.0 Node and Statement Profiles, Components and Levels | | | updated 20 October 2019 | | |
|---|------------|-----------------------------|--------------------------------------|----------------------------------|---|
| X3D Abstract Specification Nodes, Statements | Version | Minimum Profile | Component | Component Level for Full Support | Notes |
| Anchor | 3.0 | Interactive | Networking | 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 | |
| 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) |

| X3D v4.0 Node and Statement Profiles, Components and Levels | | | updated 20 October 2019 | | |
|---|---------------------|-----------------------------|--------------------------------------|----------------------------------|---|
| X3D Abstract Specification Nodes, Statements | Version | Minimum Profile | Component | Component Level for Full Support | Notes |
| Anchor | 3.0 | Interactive | Networking | 2 | |
| 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 | |
| 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 | |

| X3D v4.0 Node and Statement Profiles, Components and Levels | | | updated 20 October 2019 | | |
|---|---------------------|-----------------------------|-------------------------------------|-------------------------------------|---------------|
| X3D Abstract Specification Nodes, Statements | Version | Minimum Profile | Component | Component Level for Full Support | Notes |
| Anchor | 3.0 | Interactive | Networking | 2 | |
| 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 |

TODO Projective Texture Mapping (PTM)

[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>