Autodesk® Inventor® 2010 API Object Model

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    - HighlightSet
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      - PropertySet
        - Property
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      - ReferencedOLEFileDescriptor
    - ReferenceKeyManager
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PartDocument *(a)*

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      - DraftAnalysis
  - ClientGraphicsCollection *
  - DataIO
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    - iMateDefinition **[o]**
    - AngleiMateDefinition *(o)*
    - CompositeiMateDefinition *(o)*
    - FlushiMateDefinition *(o)*
    - InsertiMateDefinition *(o)*
    - MateiMateDefinition *(o)*
    - RotateRotateiMateDefinition *(o)*
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  - iPartFactory
    - FactoryOptions
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  - Parameters *
  - PartEvents
  - PlanarSketches
    - PlanarSketch *(p)* **[ff]** *
      - ProjectedCuts
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      - DerivedPartDefinition **[cc]**
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    - Sketch3D *
  - SurfaceBodies *
  - UserCoordinateSystems
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    - WorkAxis
      - AnalyticEdgeWorkAxisDef
      - FixedWorkAxisDef
      - LineAndPlaneWorkAxisDef
      - LineAndPointWorkAxisDef
      - LineWorkAxisDef
      - NormalToSurfaceWorkAxisDef
      - RevolvedFaceWorkAxisDef
      - TwoPlanesWorkAxisDef
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  - WorkPlanes
    - WorkPlane
      - FixedWorkPlaneDef
      - LineAndTangentWorkPlaneDef
      - LinePlaneAndAngleWorkPlaneDef
      - NormalToCurveWorkPlaneDef
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      - PointAndTangentWorkPlaneDef
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  - WorkPoints
    - WorkPoint
      - CentroidWorkPointDef
      - CurveAndEntityWorkPointDef
      - FixedWorkPointDef
      - MidPointWorkPointDef
      - NonLinearEdgeWorkPointDef
      - PointWorkPointDef
      - ThreePlanesWorkPointDef
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      - TwoLinesWorkPointDef
- PartFeatures **[bb]**
  - PartFeature **[c]**
    - FeatureDimensions
      - FeatureDimension
  - BendPartFeatures
    - BendPartFeature *(c)*
  - BossFeatures
    - BossFeature
  - BoundaryPatchFeatures
    - BoundaryPatchFeature *(c)*
      - BoundaryPatchDefinition
        - BoundaryPatchLoops
          - BoundaryPatchLoop
  - ChamferFeatures
    - ChamferFeature *(c)*
      - ChamferDefinition **[d]**
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      - TwoDistancesChamferDef *(d)*
  - CircularPatternFeatures
    - CircularPatternFeature *(c)*
      - FeaturePatternElementIs
        - FeaturePatternElement
  - ClientFeatures
    - ClientFeature *(c)*
      - ClientFeatureDefinition
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  - CoilFeatures
    - CoilFeature *(c)*
      - PartFeatureExtent **[e]**
      - PitchAndHeightCoilExtent *(e)*
      - PitchAndRevolutionCoilExtent *(e)*
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  - CombineFeatures
    - CombineFeature
  - DecalFeatures
    - DecalFeature *(c)*
  - DeleteFaceFeatures
    - DeleteFaceFeature *(c)*
  - EmbossFeatures
    - EmbossFeature *(c)*
  - ExtendFeatures
    - ExtendFeature *(c)*
  - ExtrudeFeatures
    - ExtrudeFeature *(c)*
      - PartFeatureExtent **[e]**
      - DistanceExtent *(e)*
      - FromToExtent *(e)*
      - ThroughAllExtent *(e)*
      - ToExtent *(e)*
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  - FaceDraftFeatures
    - FaceDraftFeature *(c)*
  - FilletFeatures
    - FilletFeature *(c)*
      - FilletDefinition
        - FilletRadiusEdgeSet **[x]**
        - FilletConstantRadiusEdgeSet *(x)*
        - FilletConstantRadiusFaceSet
        - FilletFullRoundSet
        - FilletSetback
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        - FilletVariableRadiusEdgeSet *(x)*
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  - GrillFeatures
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      - HolePlacementDefinition **[f]**
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      - LinearHolePlacementDefinition *(f)*
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      - SketchHolePlacementDefinition *(f)*
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      - iFeatureDefinition
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      - iFeatureTable
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          - iFeatureTableRow
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      - iFeatureTemplateDescriptor
  - KnitFeatures
    - KnitFeature *(c)*
  - LipFeatures
    - LipFeature
  - LoftFeatures
    - LoftFeature *(c)*
      - LoftDefinition
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          - LoftSectionDimension
      - LoftRails
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  - MirrorFeatures
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    - MoveFaceFeature *(c)*
  - MoveFeatures
    - MoveFeature *(c)*
  - NonParametricBaseFeatures
    - NonParametricBaseFeature *(c)*
  - RectangularPatternFeatures
    - RectangularPatternFeature *(c)*
      - FeaturePatternElements
        - FeaturePatternElement
  - ReferenceFeatures
    - ReferenceFeature *(c)*
  - ReplaceFaceFeatures
    - ReplaceFaceFeature *(c)*
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    - RestFeature
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      - PartFeatureExtent **[e]**
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  - RibFeatures
    - RibFeature *(c)*
  - RuleFilletFeatures
    - RuleFilletFeature
  - SculptFeatures
    - SculptFeature *(c)*
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  - ShellFeatures
    - ShellFeature *(c)*
      - ShellDefinition
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  - SnapFitFeatures
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  - SplitFeatures
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    - SweepFeature *(c)*
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      - SweepDefinition **[w]**
      - PathAndGuideRailSweepDef *(w)*
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  - ThickenFeatures
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      - ThreadInfo **[g]**
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    - TrimFeature *(c)*
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- FlatPattern *(n)*
  - CosmeticBendFeatures
    - CosmeticBendFeature
  - FlatBendResults
    - FlatBendResult
  - FlatPatternFeatures
  - FlatPunchResults
    - FlatPunchResult
  - SurfaceBodies *
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  - SheetMetalStyle *(z)*
    - BendOptions
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- UnfoldMethods
  - UnfoldMethod *(z)*
- SheetMetalFeatures *(bb)*
  - BendFeatures
    - BendFeature *(c)*
      - BendDefinition
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  - ContourFlangeFeatures
    - ContourFlangeFeature *(c)*
      - ContourFlangeDefinition
        - PartFeatureExtent **[e]**
        - BendOptions
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        - EdgeWidthExtent *(e)*
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  - ContourRollFeatures
    - ContourRollFeature
  - CornerChamferFeatures
    - CornerChamferFeature *(c)*
      - CornerChamferDefinition
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  - CornerFeatures
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      - CutDefinition
        - PartFeatureExtent **[e]**
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  - PartFeature **[c]**
  - FaceFeatures
    - FaceFeature *(c)*
      - FaceFeatureDefinition
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      - BendFeature *(c)*
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      - FlangeDefinition
        - PartFeatureExtent **[e]**
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        - EdgeWidthExtent *(e)*
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        - RolledHemDefinition
        - SingleHemDefinition
        - TeardropHemDefinition
        - WidthOffsetWidthExtent *(e)*
  - LoftedFlangeFeatures
    - LoftedFlangeFeature
  - PunchToolFeatures
    - PunchToolFeature *(c)*
  - RefoldFeatures
    - RefoldFeature
  - RipFeatures
    - RipFeature
  - UnfoldFeatures
    - UnfoldFeature

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  - LightingStyle *(z)*
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      - Light
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  - Material *(z)*
- ModelingSettings
  - RenderStyles
    - RenderStyle *(z)*
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  - Preparations
  - WeldsComponentDefinition
  - Welds
    - CosmeticWelds
      - CosmeticWeld
    - Weld
      - WeldBeads
        - WeldBead
- zAssemblyComponentDefinition **[m]**
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    - AssemblyConstraint **[l]**
      - LayoutConstraint
    - AngleConstraint *(l)*
    - FlushConstraint *(l)*
    - InsertConstraint *(l)*
    - MateConstraint *(l)*
    - RotateRotateConstraint *(l)*
    - RotateTranslateConstraint *(l)*
    - TangentConstraint *(l)*
    - TransitionalConstraint *(l)*
    - TranslateTranslateConstraint *(l)*
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  - BOM
    - BOMViews
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          - BOMRow
            - ComponentDefinitionsEnumerator
  - BOMQuantity
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    - ComponentOccurrence
      - AssemblyConstraintsEnumerator
      - ComponentOccurrencesEnumerator
      - SurfaceBodies
      - VirtualComponentDefinition
  - DataIO
  - Features
  - iAssemblyFactory
    - FactoryOptions
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      - iAssemblyTableColumn
        - iAssemblyTableCell
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      - iAssemblyTableRow
        - iAssemblyTableCell
  - iAssemblyMember
  - iMateDefinitions
    - iMateDefinition **[o]**
    - AngleiMateDefinition *(o)*
    - CompositeiMateDefinition *(o)*
    - FlushiMateDefinition *(o)*
    - InsertiMateDefinition *(o)*
    - MateiMateDefinition *(o)*
    - RotateRotateiMateDefinition *(o)*
    - RotateTranslateiMateDefinition *(o)*
    - TangentiMateDefinition *(o)*
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    - InterferenceResult
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    - OccurrencePattern **[k]**
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        - OccurrencePatternElement
    - CircularOccurrencePattern *(k)*
    - FeatureBasedOccurrencePattern *(k)*
    - RectangularOccurrencePattern *(k)*
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  - RepresentationsManager
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      - DesignViewRepresentation
    - LevelOfDetailRepresentations
      - LevelOfDetailRepresentation
    - PositionalRepresentations
      - PositionalRepresentation
  - UserCoordinateSystems
    - UserCoordinateSystem
  - WorkAxes
    - WorkAxis
      - AssemblyWorkAxisDef
  - WorkPlanes
    - WorkPlane
      - AssemblyWorkPlaneDef
  - WorkPoints
    - WorkPoint
      - AssemblyWorkPointDef

DrawingDocument *(a)*

- BorderDefinitions
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    - DrawingBOMRows
      - DrawingBOMRow
        - DrawingBOMCell
- DrawingEvents
- DrawingPrintManager
- DrawingSettings
  - AutomatedCenterlineSettings
- SheetFormats
  - SheetFormat
- SheetSettings
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  - SketchedSymbolDefinition
- TitleBlockDefinitions
  - TitleBlockDefinition
- DrawingStylesManager
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  - BalloonStylesEnumerator
    - BalloonStyle *(z)*
  - CentermarkStylesEnumerator
    - CentermarkStyle
  - DimensionStylesEnumerator
    - DimensionStyle *(z)*
  - DrawingStandardStylesEnumerator
    - DrawingStandardStyle *(z)*
  - FeatureControlFrameStylesEnumerator
    - FeatureControlFrameStyle *(z)*
  - HoleTableStylesEnumerator
    - HoleTableStyle *(z)*
  - LayersEnumerator
    - Layer *(z)*
  - LeaderStylesEnumerator
    - LeaderStyle *(z)*
  - ObjectDefaultsStylesEnumerator
    - ObjectDefaultsStyle *(z)*
  - SurfaceTextureStylesEnumerator
    - SurfaceTextureStyle *(z)*
  - TextStylesEnumerator
    - TextStyle *(z)*
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  - Sheet
    - Balloons
      - Balloon
        - BalloonValueSets
          - BalloonValueSet
        - Leader *
    - Border
    - Centerlines
      - Centerline
    - Centermarks
      - Centermark
    - CustomTables
      - CustomTable
        - Columns
          - Column
        - Rows
          - Row
            - Cell
        - TableFormat
    - DataIO
    - DrawingDimensions
      - DrawingDimension **[ff]**
        - DimensionText
      - BaselineDimensionSets
        - BaselineDimensionSet
      - GeneralDimensions
        - GeneralDimension *(ff)* **[u]**
          - DimensionText
        - AngularGeneralDimension *(u)*
        - DiameterGeneralDimension *(u)*
        - LinearGeneralDimension *(u)*
        - RadiusGeneralDimension *(u)*
      - OrdinateDimensions
        - OrdinateDimension *(ff)*
      - OrdinateDimensionSets
        - OrdinateDimensionSet
          - OrdinateDimensionsEnumerator
    - DrawingNotes
      - DrawingNote **[aa]**
      - BendNotes
        - BendNote
      - ChamferNotes
        - ChamferNote
      - GeneralNotes
        - GeneralNote *(aa)*
      - HoleThreadNotes
        - HoleThreadNote
      - LeaderNotes
        - LeaderNote *(aa)*
          - Leader *
      - PunchNotes
        - PunchNote
    - DrawingSketches
      - DrawingSketch *(p)* *
        - SketchFillRegions
          - SketchFillRegion
    - DrawingViews
      - DrawingView **[v]**
        - AutomatedCenterlineSettings
        - BreakOperations
          - BreakOperation
        - BreakOutOperations
          - BreakOutOperation
        - ClientGraphicsCollection *
        - DataIO
        - DrawingCurvesEnumerator
          - DrawingCurve
            - DrawingCurveSegments
              - DrawingCurveSegment
        - DrawingSketches
        - DrawingViewEvents
        - DrawingViewLabel
        - GraphicsDataSetsCollection
        - OriginIndicator
      - DetailDrawingView *(v)*
      - SectionDrawingView *(v)*
    - FeatureControlFrames
      - FeatureControlFrame
        - FeatureControlFrameRows
          - FeatureControlFrameRow
        - Leader *
    - GeometryIntent
    - HoleTables
      - HoleTable
        - HoleTableColumns
          - HoleTableColumn
        - HoleTableRows
          - HoleTableRow
            - HoleTableCell
        - HoleTag
    - PartsLists
      - PartsList
        - PartsListColumns
          - PartsListColumn
        - PartsListRows
          - PartsListRow
            - PartsListCell
    - RevisionTables
      - RevisionTable
        - RevisionTableColumns
          - RevisionTableColumn
        - RevisionTableRows
          - RevisionTableRow
            - RevisionTableCell
    - SketchedSymbols
      - SketchedSymbol
        - Leader *
    - SurfaceTextureSymbols
      - SurfaceTextureSymbol
        - Leader *
    - TitleBlock

PresentationDocument *(a)*

- PresentationExplodedViews
  - PresentationExplodedView
    - TrailsEnumerator
      - Trail
        - TrailSegment

Parameters

- Parameters
  - Parameter **[i]**
    - Tolerance
    - CustomPropertyFormat
  - CustomParameterGroups
    - CustomParameterGroup
  - DerivedParameterTables
    - DerivedParameterTable
      - DerivedParameters
        - DerivedParameter
  - ModelParameters
    - ModelParameter *(i)*
  - ParameterTables
    - ParameterTable
      - TableParameters
        - TableParameter *(i)*
  - ReferenceParameters
    - ReferenceParameter *(i)*
  - UserParameters
    - UserParameter *(i)*

Attributes

- *Inventor Entity*
  - AttributeSets
    - AttributeSet
      - Attribute

2D Sketch

- Sketch **[p]**
  - DataIO
  - DimensionConstraints
    - DimensionConstraint **[s]**
    - DiameterDimConstraint *(s)*
    - EllipseRadiusDimConstraint *(s)*
    - OffsetDimConstraint *(s)*
    - RadiusDimConstraint *(s)*
    - TangentDistanceDimConstraint *(s)*
    - ThreePointAngleDimConstraint *(s)*
    - TwoLineAngleDimConstraint *(s)*
    - TwoPointDistanceDimConstraint *(s)*
  - GeometricConstraints
    - GeometricConstraint **[q]**
    - CoincidentConstraint *(q)*
    - CollinearConstraint *(q)*
    - ConcentricConstraint *(q)*
    - EqualLengthConstraint *(q)*
    - EqualRadiusConstraint *(q)*
    - GroundConstraint *(q)*
    - HorizontalAlignConstraint *(q)*
    - HorizontalConstraint *(q)*
    - MidpointConstraint *(q)*
    - OffsetConstraint *(q)*
    - ParallelConstraint *(q)*
    - PatternConstraint *(q)*
    - PerpendicularConstraint *(q)*
    - SmoothConstraint *(q)*
    - SplineFitPointConstraint *(q)*
    - SymmetryConstraint *(q)*
    - TangentSketchConstraint *(q)*
    - VerticalAlignConstraint *(q)*
    - VerticalConstraint *(q)*
  - Profiles
    - Profile
      - ProfilePath
        - ProfileEntity
      - TextBox
      - RegionProperties
      - Wires
        - Wire
  - SketchEntitiesEnumerator
    - SketchEntity **[r]**
  - SketchArcs
    - SketchArc *(r)*
  - SketchCircles
    - SketchCircle *(r)*
  - SketchEllipses
    - SketchEllipse *(r)*
  - SketchEllipticalArcs
    - SketchEllipticalArc *(r)*
  - SketchFixedSplines
    - SketchFixedSpline *(r)*
  - SketchImages
    - SketchImage
  - SketchLines
    - SketchLine *(r)*
  - SketchOffsetSplines
    - SketchOffsetSpline *(r)*
  - SketchPoints
    - SketchPoint *(r)*
  - SketchSplines
    - SketchSpline *(r)*
      - SketchSplineHandle
  - TextBoxes
    - TextBox

3D Sketch

- Sketch3D
  - DimensionConstraints3D
    - DimensionConstraint3D **[y]**
    - LineLengthDimConstraint3D *(y)*
    - PointAndPlaneDistanceDimConstraint3D *(y)*
    - RadiusDimConstraint3D *(y)*
    - TwoLineAngleDimConstraint3D *(y)*
    - TwoPointDistanceDimConstraint3D *(y)*
  - GeometricConstraints3D
    - GeometricConstraint3D **[h]**
    - BendConstraint *(h)*
    - CoincidentConstraint3D *(h)*
    - CollinearConstraint3D *(h)*
    - CustomConstraint3D *(h)*
    - GroundConstraint3D *(h)*
    - HelicalConstraint3D *(h)*
    - ParallelConstraint3D *(h)*
    - PerpendicularConstraint3D *(h)*
    - SmoothConstraint3D *(h)*
    - SplineFitPointsConstraint3D *(h)*
    - TangentConstraint3D *(h)*
  - Profiles3D
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        - ProfileEntity3D
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        - Wire
  - SketchEntities3DEnumerator
    - SketchEntity3D **[j]**
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    - SketchArc3D *(j)*
  - SketchCircles3D
    - SketchCircle3D *(j)*
  - SketchEllipses3D
    - SketchEllipse3D *(j)*
  - SketchEllipticalArcs3D
    - SketchEllipticalArc3D *(j)*
  - SketchFixedSplines3D
    - SketchFixedSpline3D *(j)*
  - SketchLines3D
    - SketchLine3D *(j)*
  - SketchPoints3D
    - SketchPoint3D *(j)*
  - SketchSplines3D
    - SketchSpline3D *(j)*
      - SketchSplineHandle3D

Leaders

- Leader
  - LeaderNode
  - LeaderNodesEnumerator
    - LeaderNode

B-Rep

- SurfaceBodies
  - SurfaceBody
    - DataIO
    - FaceShells
      - FaceShell
        - Faces
          - Face
            - EdgeLoops
              - EdgeLoop
                - Edges
                - Edge
                - CurveEvaluator
                - Vertices
                - Vertex
                - Wire
                - EdgeUses
                - Curve2dEvaluator
                - EdgeUse
                - Wire
    - Wires
      - Wire
    - SurfaceEvaluator

Client Graphics

- DrawingView
  - ClientGraphicsCollection
    - InteractionGraphics
- ComponentDefinition
- Sheet
- Document
  - GraphicsDataSetsCollection
    - InteractionGraphics
- DrawingView
- Sheet
- ClientGraphics
  - GraphicsNode
    - CurveGraphics
      - GraphicsPrimitive
      - LineGraphics
      - LineStripGraphics
      - PointGraphics
    - SurfaceGraphics
      - SurfaceGraphicsEdgeList
        - SurfaceGraphicsEdge
      - SurfaceGraphicsFaceList
        - SurfaceGraphicsFace
    - TextGraphics
    - TriangleFanGraphics
      - GraphicsColorMapper
      - GraphicsTextureCoordinateSet
    - TriangleGraphics
      - GraphicsColorMapper
      - GraphicsTextureCoordinateSet
    - TriangleStripGraphics
      - GraphicsColorMapper
      - GraphicsTextureCoordinateSet
    - ViewList
- GraphicsDataSets
  - GraphicsDataSet **[dd]**
  - GraphicsColorMapper
  - GraphicsColorSet *(dd)*
  - GraphicsCoordinateSet *(dd)*
  - GraphicsIndexSet *(dd)*
  - GraphicsNormalSet *(dd)*
  - GraphicsTextureCoordinateSet

Transient Geometry & Objects

- Geometry
  - Arc2d
  - BSplineCurve2d
  - BSplineCurve2dDefinition
  - Circle2d
  - EllipseFull2d
  - EllipticalArc2d
  - Line2d
  - LineSegment2d
  - Point2d
  - Polyline2d
  - Arc3d
  - BSplineCurve
  - BSplineCurveDefinition
  - Circle
  - EllipseFull
  - EllipticalArc
  - Line
  - LineSegment
  - Point
  - Polyline3d
  - BSplineSurface
  - Cone
  - Cylinder
  - EllipticalCone
  - EllipticalCylinder
  - Plane
  - Sphere
  - Torus
- Math Objects
  - Box
  - Box2d
  - Matrix
  - Matrix2d
  - UnitVector
  - UnitVector2d
  - Vector
  - Vector2d
- Utility Objects
  - Color
  - DataMedium
  - EdgeCollection
  - FaceCollection
  - FileMetadata
  - NameValueMap
  - ObjectCollection
  - ObjectCollectionByVariant
  - ObjectsEnumeratorByVariant
  - TranslationContext

Apprentice Objects

- ApprenticeServerComponent
  - ApprenticeServerDocument
    - ApprenticePrintManager
    - ClientViews
      - ClientView
  - ApprenticeServerDrawingDocument
    - ApprenticeDrawingPrintManager
  - FileSaveAs

Legend

- Collection Objects: Objects
- Standard Objects: Object
- New Objects in Inventor 2010: Object
- User Interface Related Objects:
- Part Document Related Objects:
- Assembly Document Related Objects:
- Drawing Document Related Objects:
- Base Class Objects: **[x]**
- Derived Objects: *(x)*

See related object model chart for this object at the bottom of the poster: *