Autodesk® Inventor® 2010 API Object Model

Version 1, January 28, 2009

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      - CompositeIMateDefinition *(o)*
      - FlushIMateDefinition *(o)*
      - InsertIMateDefinition *(o)*
      - MateIMateDefinition *(o)*
      - RotateRotateIMateDefinition *(o)*
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        - FixedWorkAxisDef
        - LineAndPlaneWorkAxisDef
        - LineAndPointWorkAxisDef
        - LineWorkAxisDef
        - NormalToSurfaceWorkAxisDef
        - RevolvedFaceWorkAxisDef
        - TwoPlanesWorkAxisDef
        - TwoPointsWorkAxisDef
    - WorkPlanes
      - WorkPlane
        - FixedWorkPlaneDef
        - LineAndTangentWorkPlaneDef
        - LinePlaneAndAngleWorkPlaneDef
        - NormalToCurveWorkPlaneDef
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        - PlaneAndTangentWorkPlaneDef
        - PointAndTangentWorkPlaneDef
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      - WorkPoint
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        - FixedWorkPointDef
        - MidPointWorkPointDef
        - NonLinearEdgeWorkPointDef
        - PointWorkPointDef
        - ThreePlanesWorkPointDef
        - TorusCenterPointWorkPointDef
        - TwoLinesWorkPointDef
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        - FeatureDimension
      - BendPartFeatures
        - BendPartFeature *(c)*
      - BossFeatures
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      - BoundaryPatchFeatures
        - BoundaryPatchFeature *(c)*
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        - CircularPatternFeature *(c)*
          - FeaturePatternElements
            - FeaturePatternElement
      - ClientFeatures
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              - ClientFeatureElement
            - ClientGraphicsCollection *
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        - CoilFeature *(c)*
          - PartFeatureExtent **[e]**
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      - CombineFeatures
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        - ThroughAllExtent *(e)*
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      - FilletFeature *(c)*
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    - GrillFeatures
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      - iFeature *(c)*
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    - KnitFeatures
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    - LipFeatures
      - LipFeature
    - LoftFeatures
      - LoftFeature *(c)*
        - LoftDefinition
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      - MoveFaceFeature *(c)*
    - MoveFeatures
      - MoveFeature
    - NonParametricBaseFeatures
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    - RectangularPatternFeatures
      - RectangularPatternFeature *(c)*
        - FeaturePatternElements
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    - ReplaceFaceFeatures
      - ReplaceFaceFeature *(c)*
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      - RevolveFeature *(c)*
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      - RibFeature *(c)*
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      - SweepFeature *(c)*
        - Path
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        - SweepDefinition **[w]**
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      - ThreadFeature *(c)*
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  - SheetMetalFeatures *(bb)*
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      - BendFeature *(c)*
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      - ContourFlangeFeature *(c)*
        - ContourFlangeDefinition
          - PartFeatureExtent **[e]**
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          - CenteredWidthExtent *(e)*
          - CornerOptions
          - EdgeWidthExtent *(e)*
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        - BendFeature *(c)*
        - CornerFeature *(c)*
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          - CornerOptions
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          - EdgeWidthExtent *(e)*
          - FromToWidthExtent *(e)*
          - LegacyDistanceHeightExtent *(e)*
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          - ToHeightExtent *(e)*
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          - OffsetWidthExtent *(e)*
          - RolledHemDefinition
          - SingleHemDefinition
          - TeardropHemDefinition
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      - LoftedFlangeFeature
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      - RefoldFeature
    - RipFeatures
      - RipFeature
    - UnfoldFeatures
      - UnfoldFeature
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      - CornerOptions
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        - Light
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    - Material *(z)*
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  - RenderStyles
    - RenderStyle *(z)*
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      - Preparations
        - WeldsComponentDefinition
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      - CosmeticWelds
        - CosmeticWeld
      - Weld
        - WeldBeads
          - WeldBead
  - zAssemblyComponentDefinition **[m]**
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      - AssemblyConstraint **[l]**
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        - AngleConstraint *(l)*
        - FlushConstraint *(l)*
        - InsertConstraint *(l)*
        - MateConstraint *(l)*
        - RotateRotateConstraint *(l)*
        - RotateTranslateConstraint *(l)*
        - TangentConstraint *(l)*
        - TransitionalConstraint *(l)*
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            - BOMRow
              - ComponentDefinitionsEnumerator
    - BOMQuantity
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      - ComponentOccurrence
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        - ComponentOccurrencesEnumerator
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        - iAssemblyTableRow
          - iAssemblyTableCell
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      - iMateDefinition **[o]**
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      - CompositeIMateDefinition *(o)*
      - FlushIMateDefinition *(o)*
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      - MateIMateDefinition *(o)*
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      - InterferenceResult
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      - OccurrencePattern **[k]**
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          - OccurrencePatternElement
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        - FeatureBasedOccurrencePattern *(k)*
        - RectangularOccurrencePattern *(k)*
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        - DesignViewRepresentation
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        - LevelOfDetailRepresentation
      - PositionalRepresentations
        - PositionalRepresentation
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      - UserCoordinateSystem
    - WorkAxes
      - WorkAxis
        - AssemblyWorkAxisDef
    - WorkPlanes
      - WorkPlane
        - AssemblyWorkPlaneDef
    - WorkPoints
      - WorkPoint
        - AssemblyWorkPointDef

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    - BorderDefinition
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        - DrawingBOMRow
          - DrawingBOMCell
  - DrawingEvents
  - DrawingPrintManager
  - DrawingSettings
    - AutomatedCenterlineSettings
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    - SheetFormat
  - SheetSettings
  - SketchedSymbolDefinitions
    - SketchedSymbolDefinition
  - TitleBlockDefinitions
    - TitleBlockDefinition
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      - CenterMarkStylesEnumerator
        - CenterMarkStyle
      - DimensionStylesEnumerator
        - DimensionStyle *(z)*
    - DrawingStandardStylesEnumerator
      - DrawingStandardStyle *(z)*
    - FeatureControlFrameStylesEnumerator
      - FeatureControlFrameStyle *(z)*
    - HoleTableStylesEnumerator
      - HoleTableStyle *(z)*
    - LayersEnumerator
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    - LeaderStylesEnumerator
      - LeaderStyle *(z)*
    - ObjectDefaultsStylesEnumerator
      - ObjectDefaultsStyle *(z)*
    - SurfaceTextureStylesEnumerator
      - SurfaceTextureStyle *(z)*
    - TextStylesEnumerator
      - TextStyle *(z)*
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    - Sheet
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        - Balloon
          - BalloonValueSets
            - BalloonValueSet
          - Leader *
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      - Centerlines
        - Centerline
      - Centermarks
        - Centermark
      - CustomTables
        - CustomTable
          - Columns
            - Column
          - Rows
            - Row
              - Cell
          - TableFormat
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        - DrawingDimension **[ff]**
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      - 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

Client Graphics

- DrawingView
- ComponentDefinition
- Sheet
- ClientGraphicsCollection
- InteractionGraphics
- ClientGraphics
- GraphicsNode
  - CurveGraphics
    - GraphicsPrimitive
      - LineGraphics
      - LineStripGraphics
      - PointGraphics
  - SurfaceGraphics
    - SurfaceGraphicsEdgeList
      - SurfaceGraphicsEdge
    - SurfaceGraphicsFaceList
      - SurfaceGraphicsFace
  - TextGraphics
  - TriangleFanGraphics
    - GraphicsColorMapper
    - GraphicsTextureCoordinateSet
  - TriangleGraphics
    - GraphicsColorMapper
    - GraphicsTextureCoordinateSet
  - TriangleStripGraphics
    - GraphicsColorMapper
    - GraphicsTextureCoordinateSet
  - ViewList

- Document
- GraphicsDataSetsCollection
- InteractionGraphics
- 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

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

B-Rep

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

Apprentice Objects

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

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]**
    - LineLength3DimConstraint3D *(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
    - Profile3D
      - ProfilePath3D
        - ProfileEntity3D
      - Wires
        - Wire
  - SketchEntities3DEnumerator
    - SketchEntity3D **[j]**
  - SketchArcs3D
    - 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

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: *