Mass Properties

The global dimensions are shown with use of bounding box, volume, surface area, center of gravity and moments of inertia are automatically calculated even if the model definision is not consistent. If you specify material properties, the total mass will also be calculated.

Dimensioning

Dimensioning of topological and geometrical entities is possible with the click of a mouse giving accurate dimensioning properties of the selected entity. Using Entity Navigator user has access to the entity in formations beyond standard linear or angular dimensions.

Annotation

Text annotation can be added to each model entity. The link between the model entity and the annotation is automatically maintained.

Build Assembly

Combine different models into one 3D scene and build an assembly from individual parts. Both parts and related PMI can be in different CAD formats. With this option you can analyze relations between different parts and correctness of the assigned tolerance.

Collaborate

MBDVidia works with other Capvidia applications through the open Capvidia CAP XML data format. Using CAP XML, you can repurpose and reuse CAD data without the complexity and expense of using your CAD system's application programming interface (API).

Ease of Use

MBDVidia mimics native CAD system data structure and concepts, giving a familiar feeling to experienced CAD users. But, because it's not a CAD system, it's far easier for inexperienced users to learn and to use.

Affordable

CAD system licenses, maintenance, and training are expensive. MBDVidia provides complete access to 3D CAD definition far more economically. If you need to work with CAD data in a number of different formats, MBDVidia is a lifesaver.

About Capvidia

Capvidia offers solutions for CAD data translation, CAD data validation, and CAD quality assessment as standalone applications, multi-user solutions, or corporate systems that can be easily integrated in existing CAD/CAM and PLC environments using Capvidia's OpenXML(*) data format.

* Capvidia OpenXML format CAPXML provides a base for the DMSC QIF data format

Capvidia Headquarters
Research Park Haasrode
Technologielaan 3
B-3001 Leuven
Belgium

Phone: +32 (16) 40 27 47
Fax: +32 (16) 40 32 71
E-mail: info@capvidia.be
www.capvidia.com

Capvidia NA LLC
New Ulm, MN

Phone: 507 794 5447
E-mail: sales@capvidia.com

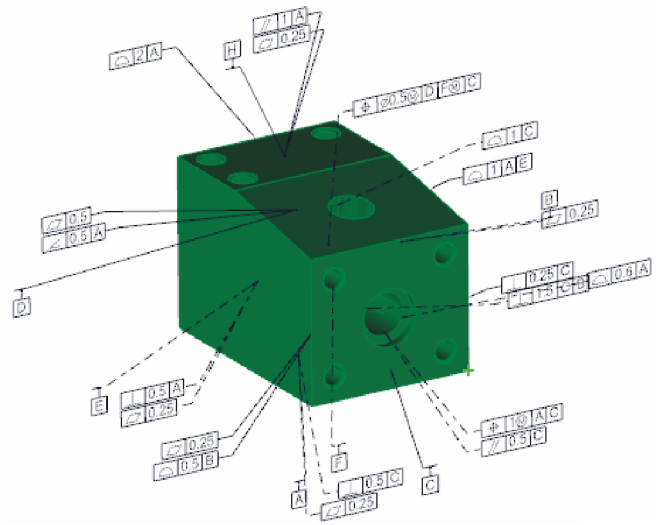
Capvidia NA LLC
Irvine, CA

Phone: 949-910-2916
E-mail: sales@capvidia.com

MBDVidia

View MBD Data without an expensive CAD Seat

- CATIA V4
- CATIA V5/V6 with PMI
- SIEMENS NX with PMI
- Pro/E Creo with PMI
- Inventor
- SolidWorks
- SolidEdge
- Parasolid
- ACIS
- JT
- STEP AP 203, AP 214, AP 242
- IGES
- VDA-FS
- DWG/DXF
- CAPXML
- XCGM
- 3DXML
- VRML
- STL
- CMM (ASCII)



Unlock your valuable CAD data and make it available to everyone in your organization.

MBDVidia is a powerful yet easy to use 3D MBD viewer supporting all major CAD formats. Visualize and analyze native CAD data created in CATIA, UGS/NX or Pro/E with the same level of detail and accuracy as in the native CAD system.

MBDVidia supports both 3D CAD models with attached PMI (Product and Manufacturing Information) including GD&T (Geometric Dimensioning & Tolerances), and FT&A (Functional Tolerance & Annotation) for parts and assemblies in native CAD formats and 3DCAD models in STEP AP 242 format.

www.capvidia.com

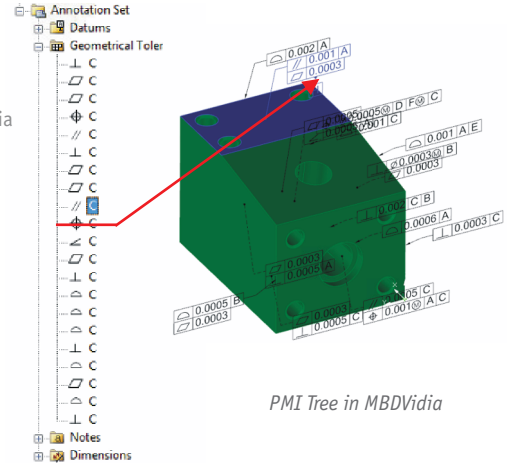
capvidia

How MBDVidia Works

Visualize

3D CAD models with complex PMI can often be challenging to visualize clearly. MBDVidia makes them easy to understand:

- Automatic generation of optimal drafting views resolves “spaghetti” like PMI
- Automatic PMI ballooning with bill of characteristics
- Prioritize PMI using colors to denote critical entities
- Automatic generation of reports (pdf, html, xml)
- Project tree with organized and classified PMI information
- Maintains links between 3D model and PMI entities (simultaneous highlighting)
- Selective display of PMI entities (individual or groups)
- Interactively rotate, zoom and pan 3D models and related PMI
- Define dynamic cross sections and clipping planes.
- Hide unnecessary entities using the show/hide function.
- Expose critical information by highlighting or changing the colors of entities.
- Open multiple models in different windows, projections and views.



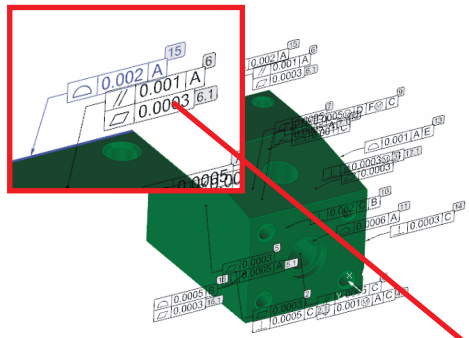
PMI Tree in MBDVidia

Project Tree - CAD Model

MBDVidia’s project tree shows and logically organizes the entire CAD model structure (layers, model entities, views, PMI, GD&T, etc.) and gives you direct access to each separate model entity. The original CAD model definition is preserved with the original names, assemblies and sub-assemblies structure including instances. You can view both single parts as well as complex assemblies. An automatic link between the graphics window and project tree helps to identify and find specific entities in the model. Each entity has its own property page providing access to the entity definition.

Project Tree - PMI

A separate section in the project tree covers the PMI. The PMI information is logically organized under the Annotation Set folder and grouped into Datums, Geometrical Tolerances, Notes and Dimensions. The Project Tree gives access to each separate PMI entity, immediately showing the selected entity on the 3D model and in the bill of characteristic list. There is a full semantic link between 3D model, project tree and bill of characteristics. You can review the complete MBD data by viewing datums, dimensions, tolerances, flag notes, annotations, stored views and layers easily accessible through the project tree.



Automatic PMI Ballooning

Bill of Characteristics and Ballooning

Automatically organizes 3D MBD information into an easily readable and printable form. The ballooning function automatically assigns an individual number to feature control frames for all 3D annotations, GD&T and FTA for easy referencing. Feature control frames that share common information are automatically identified and numbered accordingly (sub-ballooning). Assign criticality levels using color coding to identify and communicate important characteristics for quoting, manufacturing, quality measurement or other downstream processes using Excel, HTML, XML, or PDF output formats.

Maintains Semantics in 3D MBD Definition

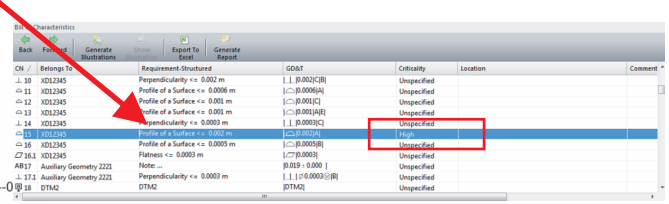
The logical links of native data definition are fully maintained between 3D model definition and the PMI annotation. The logics are checked and verified during the reading process, which can correct some definition inconsistencies. E.g. simple text definition including cylinder diameter information will be automatically converted into useful data.

Automatic Generation of Optimal Drafting Views

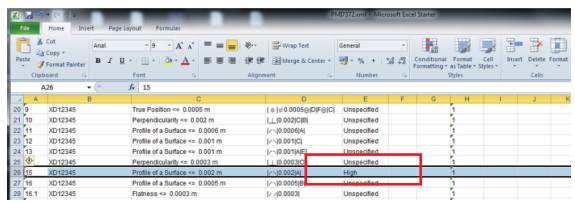
Automatically determines the optimal number of drafting views in order to make the PMI easy to manage and read. All drafting views are stored in the project tree for easy access. Each view can be customized by rearranging the location of PMI, editing fonts, changing colors, adding notes, and using hide/show functionality. All drafting views can be printed directly into PDF format or a hard copy to communicate with others.

Automatic Reports

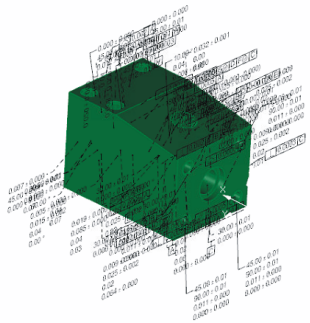
Reports are available in PDF, HTML or XML format. The data associated with the 3D model such as PMI and Bill of Characteristics can be imported into Excel format. Whether you are a non-CAD user or part of an engineering team, you can quickly review full 3D MBD in a way that is easy to understand without a license of native CAD software. The reports are created automatically directly from the native 3D model to ensure completeness and to eliminate tedious manual work.



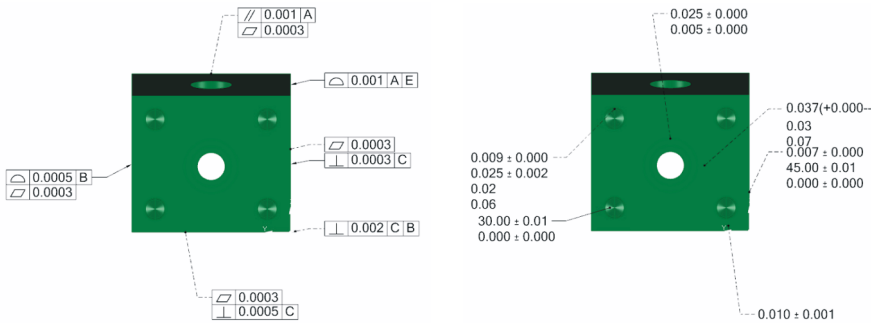
Bill of Characteristics with Critical Criteria



Bill of Characteristics in Excel spreadsheet



CAD PMI - “Furball”



Optimal Drafting Views

“Furball” PMI information can be easily analyzed by transforming it into 3D Standard Views . PMI information is logically organized in the project tree and linked to the 3D model (full semantic).