How to Get Started – Level 0 Drawing Centric

Disconnected Manufacturing - Disconnected Enterprise

The chart below defines the Model Based Enterprise Capability Level 0:

Design Data (CAD)	Technical Data Package	Change and Configuration Management Data	External and internal Manufacturing Data Exchange	Quality Requirements, Planning, and Inspection Code Generation	Enterprise Collaboration and data Exchange

-2D drawing creation & information content.
  - Defines all part annotations. May also define part geometry
  - 3D model creation & information content
  - May or may not exist
  - May define part geometry
Model/drawing associatively
  - 3D model & 2D drawing associatively Does Not Exist
Supplementary Data (Notes, Parameters, non-geometric data)
  - Notes are defined as text on the 2D drawing
Checking & Model Quality
  - 2D drawing contents validated
  - 3D models NOT validated
-BOM
  - eBOM manually defined
  - eBOM not linked to CAD models
	-Collection of elements into TD
	  - Ad-hoc, Manual collection of TDP data (digital and physical data)
	-Management of TDP
	  - Manual physical delivery of TDP data
		-Release and change processes
		  - Drawing Based
		-Element Management (supplementary data, 3Dmodels/Drawing)
		  - 2D model is managed
		  - 3D model is not managed
		  - Authority
		  - 2D drawing
			-Process for providing PMI Data to Mfg and inspection and any other groups that may need PMI
			  - 2d drawing viewable, and eBOM manually sent to mfg supplier
			-Mfg Process Generation (Process Plans & Work instructions)
			  - Remastered 3D model to generate process plans and work instructions
			-Mfg Code Generation
			  - Manufacturing code is generated by using 2D drawing or regenerated using a model as reference only. Code is stored independent from 2D drawings and/or models.
			-Mfg Data Management (Process plans & work instructions)
			  - Managed in separate mfg database
			-Mfg Process Associatively (Process Plans & Work Instructions, tooling)
			  - No associatively to design models
				-Quality/Inspection Code Generation
				  - Remaster 3D model to generate NC/CMM program
				-Quality Requirement Data Management
				  - Managed in separate database outside of PLM
					-Design Data provided to internal enterprise
					  - Internal PLM access to 2D drawing viewable and eBOM
					-Design Data use by the internal enterprise
					  - Product data inputs are remastered
					-Design Data provided to external Design Authority
					  - 2D drawing viewable, eBOM manually sent to external enterprise

This capability level is the foundation upon all of the other levels is built upon. It is characterized by the dependency on the traditional 2D drawing. There is very little use if any of the 3D model. Furthermore, it is charactirized by the fact that most if not all of the downstream customers must re-master the product definition in one way or the other for them to effectively use the data.

Summary:

- Drawings are the master
- 3D models may or may not exist
- Little reuse of the product definition
- The TDP is manually created
- There is little or no connectivity with the extended enterprise
- Little use of Product Lifecycle Management tools