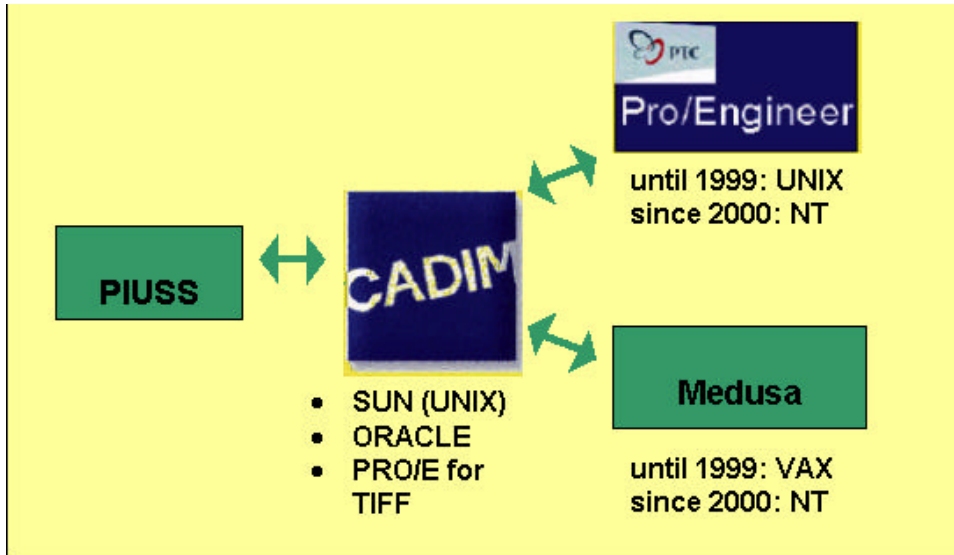


PDM system manages Medusa and Pro/Engineer on an integrative basis

CAD, PPS and PDM Integration



Telecommunication booms: products and solutions for data and telecommunication networks become more complex, and need to be customized to customer request. On time delivery is a decisive factor opting for a provider. Consistent and fast resourcing of product describing documents in engineering and sales premises a seamless integration of CAD and PDM systems on the one hand, and of PDM and ERP systems on the other.

Krone, provider of solutions and products for communication networks employs CAD systems Medusa and Pro/Engineer. The in-house document management system EDCS manages the company's drawings and models. A system reaching its limits with Pro/Engineer files. Thus, in 1996 the PDM system CADIM/EDB of DSC Software was implemented to integrate management of both CAD systems. Moreover, the company installed and customized an interface with Pro/Engineer provided by the Karlsruhe-based company Eigner + Partner.

Drawing Management with Medusa and Pro/Engineer

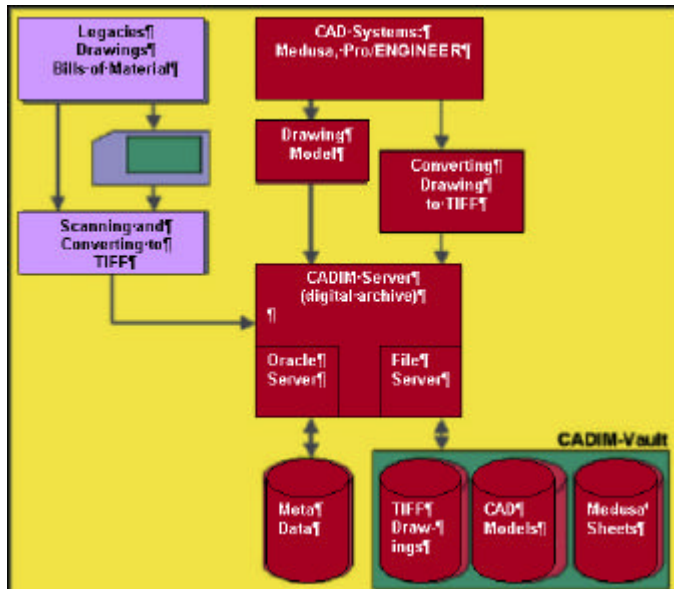
With CADIM/EDB Krone manages more than 9,000 bills of material, 30,000 items, and 50,000 documents. About a third of all documents are CAD models and drawings. Another third are related drawings in viewable Tiff format. The residual are mainly drawings available so far as reproducible copies. In CADIM/EDB, Krone dispenses maintenance of an object parameter system. The key code has 22 digits. The first ten mirror the ERP code number, the following ten describe the document, and the final two specify output status. This status is omitted in Pro/Engineer. This bears, for example, advantages in revising assemblies. Re-

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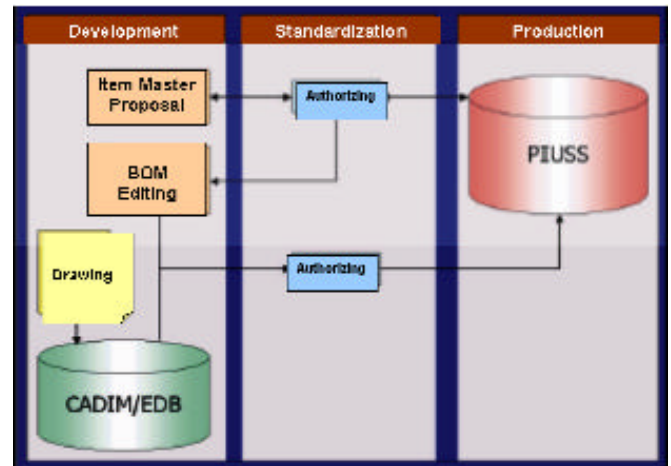
vising stati of single components may be exchanged without an upward change of the complete model. This avoids deleting the old, and inserting the new version.

Resourcing drawing company-wide

A process implemented in CADIM/EDB is responsible for company-wide resourcing of drawings generated in Pro/Engineer and Medusa. CAD drawings are converted from the original to Tiff format. A plot management system starts providing that Tiff files are stored with CADIM/EDB. On authorizing the drawing, the CAD system begins a converting process. Following, the new grid drawing is filed with the central Unix server. In a background process, CADIM/EDB starts and the Tiff file is stored in the protected area, and indexed by using meta data. CADIM/EDB also manages drawings previously available as reproducible copies and microfilm. Legacies have been scanned, converted and filed with CADIM/EDB. Moreover, the plot management systems allows to stamp documents with drawing relevant information. CADIM/EDB directly provides data, manages and controls authorizing. Additionally, CADIM/EDB enables online access to drawings and bills of material generated in Medusa.



Drawing Archiving with CADIM/EDB, Krone



Workflow: Revision Service

For that reason, production is always provided with the correct and proper drawing.

Long-term Archiving

Access to a Tiff drawing is possible 24 hours a day – in a few minutes it is available company-wide. To enable Tiff file output on plot system OCE 9600, DSC Software realized an integration with CADIM/EDB. Another drawing format Krone uses is pdf, for example in case of installation instructions stored with CADIM/EDB. Next to swift document access, this reduces plot volume.

Integration of CADIM/EDB and PIUSS

Until 1999, Krone used several programs to manage bills of material. One was integrated with the ERP system Piuss. Today, CADIM/EDB integrated with the ERP system maintains all master data. While CADIM/EDB manages all documents, items and bills of material. Piuss provides item numbers. The program managing bills of material ran with VMS. With Y2K, a decision was made switching the platform to Unix and WindowsNT. Today, bills of material are maintained exclusively by CADIM/EDB. In the beginning, standard functionalities did not meet Krone's requirements. Thus, DSC Software was mandated to emulate requested functions managing bills of material, and to realize a link with Piuss-O. At first, DSC Software created item and item structures in CADIM/EDB. Then bills of material were build. Primary item transfer from Piuss was provided simultaneously. Did an item exist, it was automatically transfered, if not a new one was created. After data transfer, item data in ERP system and CADIM/EDB was the same. Then, DSC Software developed a tool creating new items, and transferring data to Piuss-O. In case, a new

item is created in CADIM/ED, data is automatically transferred to PiuSS-O. New functions allow:


- management and maintenance of bills of material exclusively by CADIM/EDB
- tracking of single outputs
- viewing, editing, and printing bills of material


Managing and Controlling Revisions

DSC Software developed a workflow for Krone implementing a revision management with CADIM/EDB. Each revision of a document results in a change of status. The sequence is: from "edit status" to "check status", from "check status" back again, or ahead to "norm check" – from there either back, or to "authorized". Moreover, a status "inactive" exists for authorized document, in case a higher version exists. At the same time, an update mark is set providing the user with the latest document. For drawings a different workflow was implemented. A status "editing mode" indicates that the drawing is edited and not yet authorized. After model revision, the model receives a new output status. While editing the predecessor model has status "authorized". Thus, models related to a drawing also have to be authorized.

Continuous Product Data Management

On the agenda at Krone is to enable engineers automatically generating files in tiff format from Medusa drawings, and forwarding files to production and standardization. Moreover, while plotting a stamp function is to include a distribution list. Another common project, Krone and DSC Software plan is to implement a document distribution program included in CADIM/EDB. After a document is authorized it is automatically distributed. Krone expects additional acceleration and automation of workflows.

Company Facts about Krone GmbH	
	<p>Krone GmbH, founded in 1928, is an internationally leading system provider of data and telecommunication networks. From network planning to installation, the company offers solutions and products of connection and distribution technology for copper and fibre-optic networks.</p>

	<p><u>More Information</u> CAD Integration CADIM/EDB KEM-539</p> <p><i>Internet</i> http://www.dscsaq.com</p>
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