

# ***WDSOFT-WIN***

## **Das PPS-System für Leiterplatten-Hersteller**

- **network-compatible**
- **complete order management and product planing**
- **quick applicable**
- **SQL-database**
- **no constraint of user**
- **report designer**
- **CIM - orientated system with interface to other systems**
- **realtime system for production and sales management**
- **factory system for production of printed circuit boards**



**Our solution:**

- product planing system for the pcb branch
- CIM - computer integrated management orientated database system

**customer request:**

- solved problems or will be solved by your request
- if you not sure, please ask our user (customer / references)

**costs analysis:**

- a system with low price and high solution
- please compare with other systems

**our forces:**

- high flexibility
- quick reaktion
- customizing

**our target:**

- to engineer an enterprice resource planing (ERP) system for printed circuit board (PCB) producer, which has the possibilities by the actual technic.

**main benefits:**

- know-how over more than 25 years in pcb production. First version in DOS in praxis for more than 10 years with high property.
- build-up system in all directions like acquisition of machine data, internet, mailing of documents and export of finance data
- system for all languages by language table

**next steps:**

- ask for information material
- ask for a software demonstration
- ask for a detailed offer with your special wishes and customizing

**Definitions**

English	German (WDSOFT)
• ERP = Enterprice resource planning	• Ressourcenplanung im Unternehmen
• IES = Integrated engineering system	• Arbeitsplangenerator
• Shop Floor Status Monitor	• Laufkarten-Monitor
• Work in Process (WIP)	• Warteschlange
• Projected Delinquent	• offene Aufträge, Terminlisten
• Production Statistik	• Produktions-Statistik

All this points will be fulfilled in WDSOFT.

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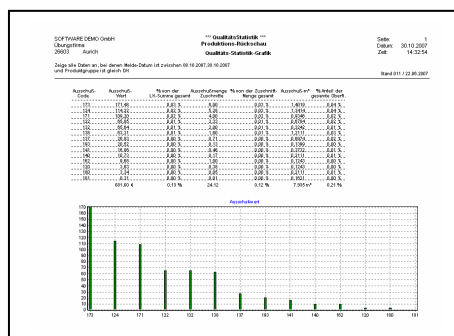


**Quality**

The character of quality is the collection and managing of scrap data and reclamations

- In the root data it is possible to fix **the scrap codes** and the **error codes** to identify the quality
- For the planning of the material there are **part lists** and **automatically material booking** with scanner and barcode. For manual booking there are mask inklusive data for charges.
- The modul **changing service** in the article mask prevent to forget the customers changing of cam data
- The **service modul** enable the monitoring of the service operations
- The **modul internal audits** enable to insert and edit scrap informations for the **scrap statistics**
- The **quality statistic** view the complete produced products in relation to the scrap.
- The finish control formula can be different designed like **check report for VDA** or other

Kontrolleintrag	in Ordnung / Fehler	in Ordnung / Fehler	Prüfung
Audit requirement	Pass / Fail	Accepted / Rejected	OK/NG
1 Sichtkontrolle 100% / Visual inspection 100%	pass	OK	
2 Oberflächentechnologie / Surface technology	pass		
3 Dimensional / Edge material	pass		
4 Verformung / Verformung	pass		
5 Grenzschicht / Grenzschicht	pass		
6 Materialdicke / Board thickness	pass		
7 Konturabweichung / Board dimension	pass		
8 Bohrungstiefe / Hole size	pass		
9 Bohrungstiefe / Loch- und Schlitze / Hole and slot position	pass		
10 Haftung / Haftung	pass		
11 Haftungsstärke / Haftungsstärke	pass		
12 Oberflächengüte / Surface quality	pass		
13 Oberflächenqualität / Oberflächenqualität	pass		
14 Metall-Lötstellen / Solder mask adhesion	pass		
15 Lötstellenstärke / Solder mask thickness < 30 µm	pass		
16 Lötstellen / Lötstellen	pass		
17 Lötstellen / Lötstellen	pass		
18 Elektrische Prüfung / Composite testing	pass	Keine Forderung	
19 Oberflächenmaterial / Cleanliness of surface ( < 1.5µm/cm² of dust)	pass		
20 Metallische Verschmutzung / Metal contamination	pass		
21 Verunreinigungen / Piece of package	pass		
22 Packungszustand / Condition of packaging	pass	Keine Forderung	
23 Lötstellen / Lötstellen	pass		



**Order monitoring**

The management modul allows different analysis with many reports as lists and graphics.

- The **quickfinder** is the comprehensive modul for all orders to find an special order with any information and to jump in the work order
- All work order can be quick replied by the modul **accumulativ reply**. The replies are directly online.
- **Overview** of piece on stock (ready stock) by generate an order.
- **Reclamation modul** with generate a reclamation with link to an order inclusive an 8D-report

8D REPORT form for reclamation management. It includes fields for customer and supplier information, problem description, and a table for 8D steps (1-8).

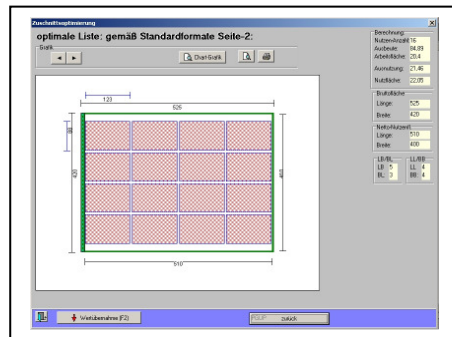
- Orders and work orders will be shown in **real-time**
- Jump (Links) from order to work order

Detailed order monitoring form with various fields and a table. It includes order details, customer information, and a table for order status and dates.

### Offers

The system allows to generate an offer, with different technical specifications.

- In the offer management can be specified and calculate a pcb. A simple **panel optimization** allows to calculate the pcb by material usage.
- The pcb will be **calculate by panel** or board in dm<sup>2</sup> special for the productgroup and finish.
- The calculation is based by a **parameter table**
- A special procedure can calculate the **surcharge**
- The panel optimization allows to put the pcb in the panel or in the **customer panel**.



- The offer specifications can **be transform to an article** when the order will be generate

### Order material

With the order management it is possible to get many analysis like

- **Order proposal list.** This list is every time actual with consideration of material booking.
- There can be ordered material and also resell products, which must be ordered in far east.
- For resell products there are orders **with different currency** like EUR and US\$
- For resell products there are **links to customer orders**, so that it is possible to jump between both masks
- With assistance of the list **open orders** you can monitoring the deadlines of orders

### Article management

The article specify the printed circuit board.

- The article data contain the data of
  - general data (like size, panell, surface, etc.)
  - drilling
  - layer assembly
  - mechanic
  - electroplating
  - material list
  - stock
  - work order
  - change order
  - customer and technical information (text)

### Documents and other modules

The system allows to generate different work orders

- Articles (root) with **proceses (work order pcb), product specification material lists, sale history**
- Material demand list
- Customer value, article turnover
- Representative bill
- Invoice journal, billing list, customer clearance
- **Interface** for billing data to financial management
- **eMail-Versand** of offers and orders directly with PDF-data.

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**Main Charakter**

- **Network-System**  
*WDSOFT-WIN* is a network system. The Clients normaly computer with operating system by MICROSOFT (95,98,ME,NT2000,XP,Vista,WIN7) verwendet.
- **SQL-database**  
The whole date will be stored in 2 databases. The database is a INTERBASE database with SQL-language which fulfill the german industry standard SQL92.
- **main prinzip / client-server-architektur**  
The system has a special multi-tier-middleware-architektur, which meas client - applikation server – databaseserver – database. The applikation server managed all statements of the clients as sql-statements and remote-procedure-calls (RPC) over TCP/IP and has a direct connection to the sql-database.
- **modul construction**  
The client is modular constructed (base data, material, sales, production,...), and the modules are independend each other and can work allone. Each modul can activated by a shortcut. With this construction it is possible, only to work with all bought modules. The user has the possibility, to by more modules and to activate (like material management with purchase, or capacity planing.).
- **complete order management**
  - order management from record data of order to writing delivery note and invoice
  - record data of production order, confirmation of production steps
  - management of production with department queue, working list and deadline list
  - order history, several kind of research
  - analysis als management instruments with or without grafic view of data such as value, space, pieces, panells
  - record data of scrap and analysis of quality
- **advantage of the system**
  - well available for the user with clearly arranged menus
  - shortcuts for activate special programms
  - short job training and the whole system can be used for administration like order management
  - import data from other systems is possibility
  - one price for **WDSOFT-WIN** (independent of the count of user)
  - network under Microsoft WINDOWS Server 2003 and 2008 (WIN 7)
  - It is possible to use a virtuell Server under vlm-ware
- **Remote maintenance and updates**  
A remote session over IP with internet is condition precedent for our software to guaranty a good service. The Dieken GmbH must have in accordance by the user to have the possibily to check the system. New updates are checked by an other user and can be installed online.

- **Comparison with other systems**
  - other systems are mostly build up by material lists and work groups with material usage and material tickets
  - the material usage of our system is orientated by squaremeter and panells which is normaly by pcb producer. The material usage of copper in electroplating is not allocate to one order.
  - business competitor systems start with the price where our system ended. **WDSOFT-WIN-WIN** is not confusing like other ERP systems and introduction and instruction of other system need many money.
  - low costs systems as short netware solutions are good, but they have not possibilities to make a production order and no reply from the departments and have no capacity shedule
  - merchandise management systems as third solution have a good order management but no production modules and no material lists
- **User management**

The user management allows for every user or user group to generate a special profile which manage the access to use the modules or not. The user, all reports and all menus are defined in the system tables.
- **High flexibility with report designer**

For to get a high flexibility, the administrator has two tools to construct or design reports and sql-selects, which can used by the clients if they have the rights. They send with the reports a select to the application server and format the data after receipt. With the report designer is it possible to create and design the own analysis werden. With sql it is possible to link different tables and to filter the data. The user can group the data and generate a sum, subtotal sum and compare data.

### Target

We have made **WDSOFT-WIN** as ERP (enterprise resource planing) and PPS (product planing system) by own order to construct a system for pcb producer, which is as system by the actual possibilities with the computer and their operating systems. We have many know-how in pcb industry and have it integrated in our software.

The first installation with a DOS version was implement in november 1992 after one year program deployment by the company Kubatronik Leiterplatten GmbH. In january 1993 was the programm integrated in the whole scale. In the next 8 years we sale 17 systems. It was the most selling system in this branch.

With every installation grow up the request in this system. After the first install we integrated many new innovations which come from the wishes from our customers. In 1997 we make the first step to construct the system under DBASE 7- version. With our experiences in different netware software, we decide to contstruct a whole new system with a SQL database. We integrate all know-how of the first system an our vision of a full open system with all management data in one system. After 2 years have have had a well perfect system which grow up since today in new dimensions. The system is absolutely competitive with all great systems like SAP etc.

The new system is now in consens with the pcp industry developed to the common solution for this branch. All terms of conditions are fulfilled to integrate the system in all companies in all dimensions. The greatest system is now with 60 Clients and a virtuell Server on a high performance maschine. The programm is manageable an constructed by a very good concept. The system is also able to integrate by a small company and need a very short introduction by 3 days to one week. We sell a complex system which integrate all departments.



## Introduction

The introduction in our system will be arranged by the agreement of sale. The software has the concept, that all users will orient themselves very quickly. All Clients need only a short introduction and they are able to use the system in few days. We are able to convert all data from other systems. We cannot calculate the exact time or days for the conversion, but normally we need between 3 and 5 days for a special program to convert the data.

For all new **WDSOFT-WIN** users we have an instruction manual and an action schedule:

### Schedule

- **collect root data for distribution**
  - firm data, root parameter
  - terms of dispatch, terms delivery, terms of payment
  - representative, languages and countries
  - customer, dispatch address
  
- **collect data for production**
  - work process
  - standard processes
  - articles
    - a) name of article
    - b) technical parameter
    - c) material list
    - d) processes or work schedule (bzw. read standard processes)
  - material
  
- **collect data for distribution**
  - collect orders
    - a) order head, customer address
    - b) order positions (order quantity, price)
    - c) subcosts (plott cost, film costs)
    - d) order text, date of delivery
  - generate work order
    - a) customer order (kfm. = Auftragsnummer)
    - b) production quantity
    - c) dispose panel quantity
    - d) dispose production start date and end date
    - e) priority (quick order, standard order)
  - write a bill of delivery
  - generate an invoice

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**Hardware – requirements**

Minimum (in dependency of the use)

- clients
  1. pentium / minimum 1.60 GHz
  2. min.2 GB RAM
  3. min.240 GB fixed disc
  4. operating system: MS-WINDOWS 2000 /NT 4/NT 5/ XP/ VISTA/ WIN7
  
- server (virtuell server possible)

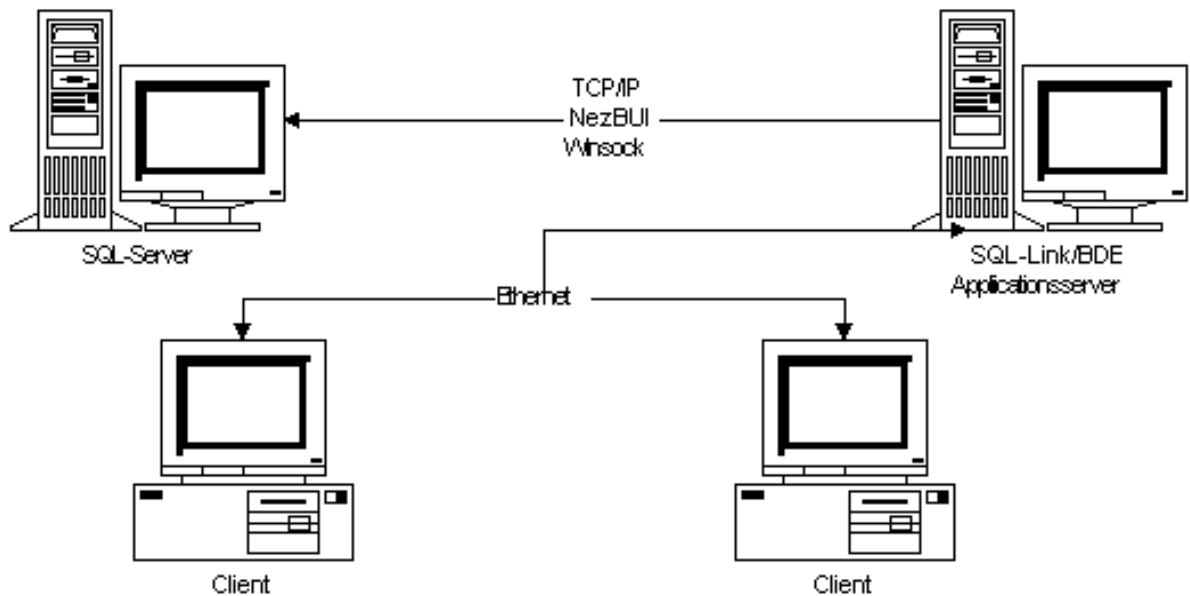
Pentium-Prozessor / Minimum 1.60 GHz  
4 GB RAM  
2 x 240 GB disk, mirrored  
WINDOWS-2003-Server-Version / WINDOWS-Server 2008  
USV / UPS (uninterruptable power supply)
  
- network (ethernet / TCPIP)

twisted pair, 100 MBit  
switches

## Technical Information of *WDSOFT-WIN*

### I. Root prinzip of WDSOFT-Client-Server-Architecture

#### Three-Tier (Multi-Tier) Client/Server-Modell



In opposition to other known client server architecture, is here a three-tier client-server-model a application server switched between database and client. This model has the advantage, that not the whole logic of the database organisation will not execute only by the clients. Some parts will execute by the application server. The client know nothing about place, type and configuration of the database. So it is possible to change the database server very quick which fulfil the SQL-92 standard. The client program has not to be changed.

In *WDSOFT-WIN-ERP* is the *WDSOFT-WIN* server an application server and manage the connections between database and clients with TCP/IP protocol. In order to connect with TCP/IP the system need the name of the client, the rights and the IP-adress of the server or his name (192.168.10.8 or hostname 'PEGASUS') and a distinct port number. A TCP/IP connection under Windows 95/98/NT software is able by the file "Wsock32.dll", wich will installed in the system directory. In new systems is this protocol default.

Between the applikation server and the SQL-database-server are different databases Interbase, Oracle, MS-SQL, a.o.) protocol like TCP/IP, NETBUI, IPX/SPX possible.

*WDSOFT-WIN ERP* based on an Interbase database. The local Interbase server (LIBS) is a software server in the background. He manage the selections between client and database. The database is one file for example "IBWDSOFT.GDB" and the *WDSOFT-WIN* server switched between the client and interbase. Local means, that the data base "IBWDSOFT.GDB", the local Interbase server and the application server normaly installed at the same powerful maschine.

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## II. Program construction

### 1. The InterBase-SQL-Datenbank

#### What is InterBase?

A InterBase-Server is a relational database management system (RDBMS). The server use the client server model and supplies in that reason a strong flexible level for databae application systems, which run at following operating systems like MS-Windows 95/98/NT, Unix, Linux, Windows 2000, XP, Vista, WIN7.

#### What means relational?

InterBase is constructed as relational database model, which build up in 1969 from Dr. Edgar Codd. In the last years this system dominated the market for relational database systems. Relational means, that InterBase use the structured query language (SQL) for all database selections. So InterBase use the worldwide standard for compareabel databases, which are known by SQL'92.

InterBase implement the entry Level for SQL-92. In addition InterBase has more enlargements, which are not defined in SQL standard, which means generators, trigger and stored procedures.

#### Database management systems

InterBase managed databases. One database has different tables, which includes definitely data. The database is also a pool for all modules, which enable this database. InterBase has tools which allow the following functions:

- **create and edit databases:** InterBase storage the database basicly in one file on the disk, although it ist possible to store the data to different disks.
- **create, edit and delete objects in the database:** This objects can be: tables for the storage, indexes for high performance to data, views to one ore more tables. Rules for control, which decide what have to store in the fields or tables. They manage with constraints and automatic processes in trigger, that the connections do not lost, when a new data will create, edit or delete. Stored procedures are applications which fulfil short or complex functions.
- **execute of operations** in the database with interactive intstruments. For this we have the applications under Windows with diffent tools in a command level
- **management and control defintion** for the acces there are different objects in the database
- **backup and restore** of database
- **documentation** of the database structure and all objects with an extract all metadata in a SQL-script
- **Database management** . This meas the integrety check with automaticly correction of found problems
- **compromise** of the database with data sweeping, which delete the old transactions of the database
- **shut down** and new **start** of the database  
The access with different program languages enable to read and write with applications like C, C++, Delphi, Paradox, Visual dBASE, Visual Basic etc. This applications can do their actions in the client or on the server.

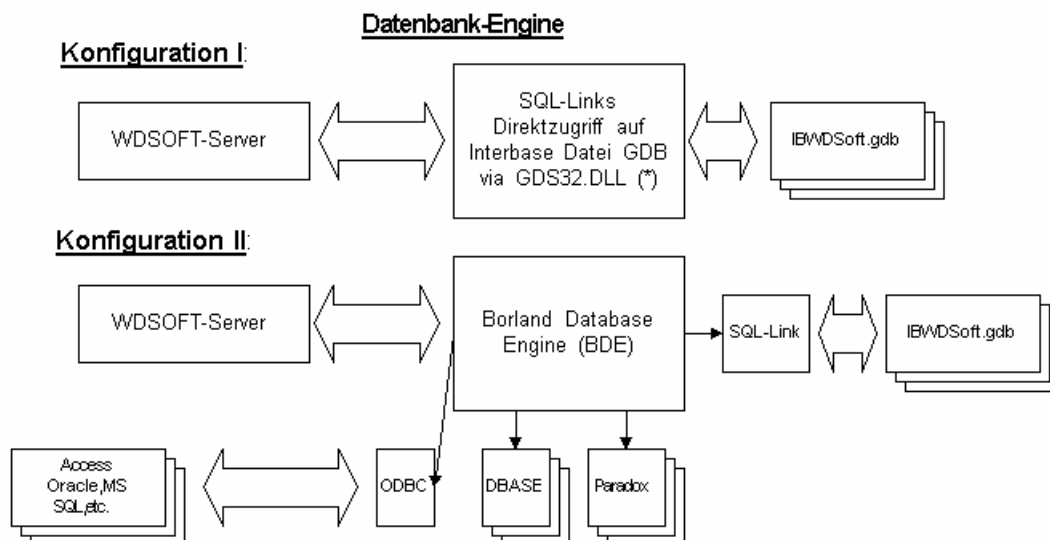
- concurrently access from different user to the database is possible. Each user gets **consistent view of data**, as well as other user manipulate the same data at the same time. InterBase administrate different versions of each column from the tables, which are changed by one transaction. This ability make it possible, that reading applikations will not affected by writing applications. The management of InterBase-Server is full automaticly.
- **database events**, which are defined in the database, inform the event directly to the client. If the client is interested in this event he can refresh this update. This information will by activate asynchronous. In competition to the polling model, which are supported by other database server, is in this model the traffic minimized because only the realy events are published in the network.
- build up full **identical** and **activ copies** of the actuell database with maximal availability of the database by problems (shadows) .
- configurations and parameter, which determine the performance of InterBase.

### The Interbase-Server (IBS):

Like above mentioned, we decide between local application and the Interbase server. The local Interbase version (LIBS) is a "small" version of the Interbase server, because it is not possible to connect directly from a far client to the server.

### Interbase-Link:

If a application try to access to a Interbase-data, than is a Interbase-Link in a Dynamic-Library-Datei (DLL) nessesary.



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### **Direct access and ODBC**

In **WDSOFT-WIN** ERP there is a direct access possible with the Interbase console and IBADMIN. We plan a direct access with the Interbase-API, which means, that we use the program functions, view, etc. directly. This means a performance advantage. The disadvantage is, that the **WDSOFT-WIN** application server is bound to Interbase and a change to another database is not possible without an additional programming cost.

### **Tools GBAK, GFIX, GSTAT, GSEC:**

With the local Interbase Server (LIBS) there are supplied additional Interbase tools, which can be used in the command level:

- GSEC is an Interbase command program for database security. For security actions in the database and database objects we use the SQL-statements "grant" and "revoke".
- GBAK is an Interbase command program for backup and restore of the database. We use this function for automatic backup at night with a batch program bound in a daily task. It can also be used with additional functions like compression, garbage collection.
- GFIX is the Interbase command program for service, check, sweeping and repair of a defective database. In addition you can rollback broken transactions, to start and shut down the database.
- GSTAT is the Interbase command program for database statistics. It analyzes data and indexes, page size, header information and index relations.

In **WDSOFT-WIN ERP** you have **WDSOFT-WIN** scheduler which can use all the above mentioned functions in the Windows level.  
(more in II.4).

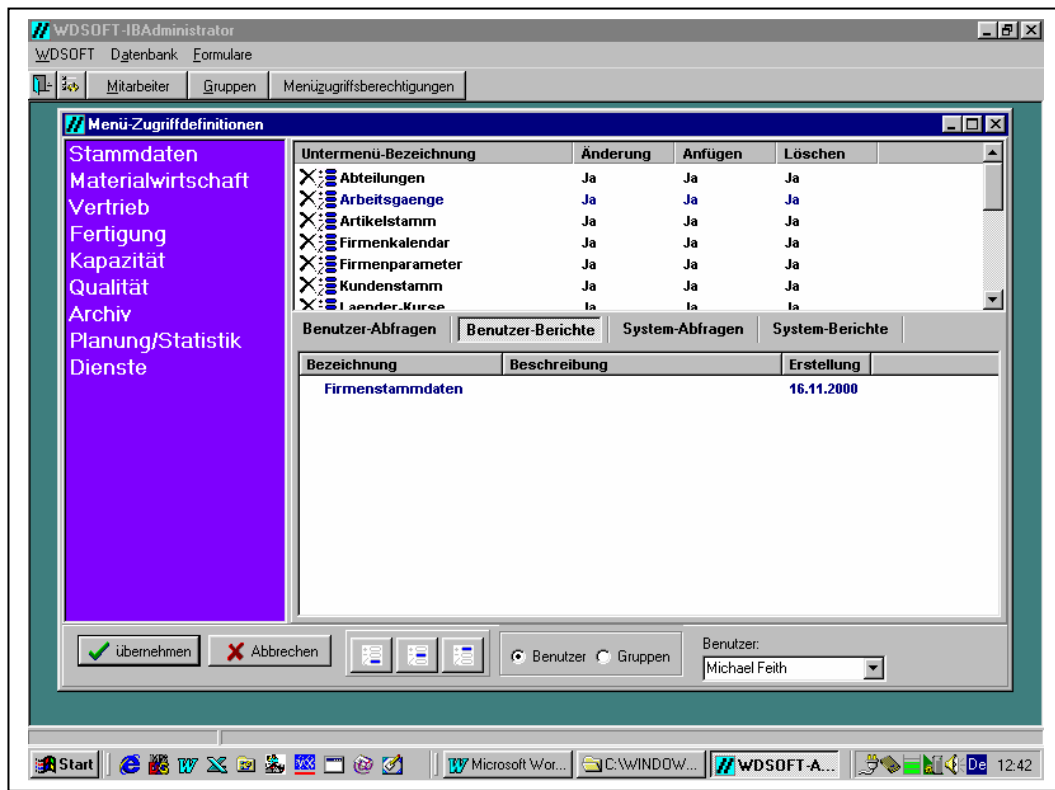
### **II.2. The WDSOFT administrator (WDADMIN)**

The **WDSOFT-WIN** administrator allows the administrator to create and edit clients. The administrator is a mask for defining the user, what the user can do or not. He can decide, what the user (client) can see and what he can use, edit and delete. In addition he can decide between the reports and queries he can see and use.

In addition it is possible to change the search definitions for the tables, to change the allocation of the **WDSOFT-WIN** application server in functionality (like login-, root-, production-, material-, distribution server). Also it is possible to change the structure and definitions of the technical parameter.

### **User management and access management**

It is possible with the access manager to define the user in **WDSOFT-WIN** client, to edit and delete and to decide the actions, reports and modules. The access will be managed by a login and password, which can be defined in this manager. In addition there will be defined the menu system by a navigator window with an overview of the client. Every menu element can be marked in a checkbox and the client can see the point in the menu. So the user (client) sees only the modules with his rights. This selection and logic is integrated in the **WDSOFT-WIN** application server, so that only the visible menu information will be sent to the database.



### **Manage SQL-Query and Reports**

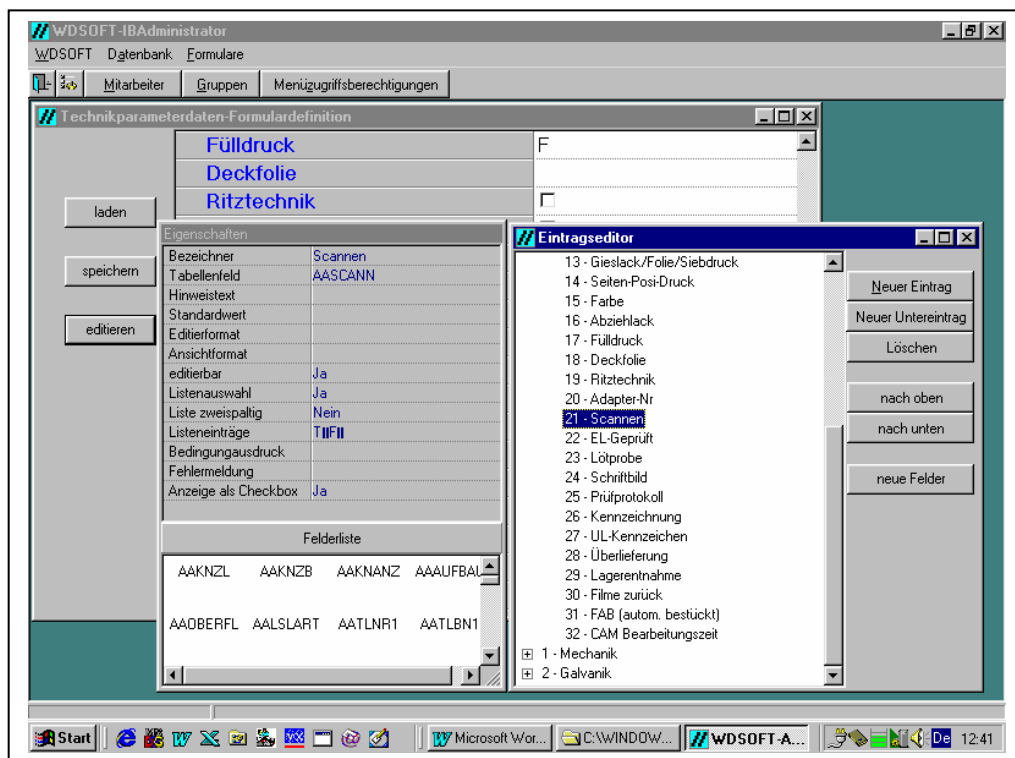
We have integrated a selection generator, which is visual possibility, is based on the existing views and queries which must defined for one time. With joins you can select data with different order, groups and other filter. This SQL-statments will be shown as one table, which can be print and can be generate by the report designer. This reports can be used by all if they have the rights for this report.

### **Definition of technical parameter tables**

For each article record are additional technical data necessary, which can be flexibly organized. This module is integrated in the formula of the WDIBAdmin. The administrator has parameters for levels. The first level will be shown in the client as an independent formula window, like "drilldata" and "electroplating". This data will be administered by a dynamically defined menu system under the register "Technic", which extends the article window as a submenu. The second group level selects the data by a special parameter window, like "dirlldata" to select this data by yes or no options and/or other values, which are not so important. The program defines and selects every group in a register, which has a different table for defining the values of the table. For each parameter you have the following inputs as:

- description [text] z.B. like pcb-design
- fieldname [text] in the database
- name of table [Text] in the database
- default value [Text]. This value will be set if there is no input from the user. [Bool] yes/no with no, if the parameter is nothing.
- data type [int] here are the following possibilities: Date, text, integer, float, list

- list value: [text] if the type is chosen = list which was selected. The values in the list must be separate by semicolon getrennt like "F"; "S"; "C";" ". This values will be shown as combo box and the user can decide between the defined values or parameters.
- status: [int] here are the values like "important" or default important like as "wichtig" or "only default". This values can only be used by the client and the user can only select by "wichtig" and sort with this value and the data can by shown in red or others.
- helptext: [text] a detailed help information for the parameter
- validate print: [text] here can defined a simple print as " $x > 1.5$  and  $x > 2$ ", which is value of the edit parameter
- validate message: [text] is the message which will be shown after insert of the user





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### **II.3 WDSOFT-Application server**

The application server has to manage and check the login questions and return the menu with all informations for the client to see the modules he can access. The software server manage also all sql-queries of the client and send the selects to the database. After receipt from the server the server send back the result to the client. In addition he send changed data to an other client if he also edit the same record (replication) and send them an information about changing.

#### **Work allocation**

Theoretical it is thinkable for every client management (root data, material, distribution, production, etc.) to have an own application server on an own computer. The single limit is the license of the Interbase database. Every application server access to the Interbase server and the direct concurrently access is limited by interbase. In that reason it is by a local interbase server (LIBS) only one application server allowed. He has to manage all actions and is in addition the login server which is installed normaly with LIBS. In that reason it is good for high performance to have a powerfull maschine as a server only for **WDSOFT-WIN**.

#### **Login- and replication server**

If already wrote in the introduction is the application server responsible for the user access. It is nessesary that only one computer is responsible for the login (login application server). The TCP/IP port is fix defined on port 2105. It is a default value, which can be edit in the wdssoftserver.ini. Every client program has only one variable file, which include this information "login computer, login port". All other data like location of the application server will not write on the client computer.

The **WDSOFT-WIN** replication server is intern a thread in every application server, which send the changed data in a fix time to on other user. This enabled the client to see the refreshed data and to a nearly synchron work with the same data

#### **Sendmessage management**

It is possible to send a message from one client to another client, which is logged in. In addition it is possible to send messages from the admin to all other client or in a file, or to close the other client or the close the client with the administrator.

### **II.4 WDSOFT-WIN Scheduler**

With the schedule can build up a task schedule. The task can execute to a fix time and write the the Interbase database in a defined directory or on a tape. It ist possible to create a plan, when the Interbase database has to be backup and restored. With both actions will also a execute a repair of the data and the scheduler write a statistik of all actions.

#### **Backup/Restore**

Under backup we understand the restore of the databse to a fix date and time. The scheduler use the interbase program GBAK, which is above mentioned under II.1 . An other possibility is to use or batch programm dbrefresh with a backup and restore with gbak. This batch program is able to close both application server, to execute backup and restore and restart the software server. An other possibility is to write a protocol whith the scheduler and th send a email to an extern adress or to send to the client if one client is logged in. With doubleclick on restore the backup data will be restored.

#### **Check database and service**

Look at II.1

#### **Database statistics**

siehe dazu II.1

---

## **II. 5. WDSOFT-Client**

### **Root date management**

customers  
supplier  
terms of delivery, terms of payment, dispatch  
countries, ware groups  
process  
standard work schedule  
departments  
material

### **article management**

- standard values
- technical data
- drill data
- bill of material
- work schedule (incl. processes and change process) incl. duplicate articles, search with different criteria distribution
- manage order and print order confirmation (incl. Suche nach Aufträgen (Auftr.Nr., Bestell-Nr., Artikel-Nummer) order informationt
- bill of delivery
- invoices (incl. business volume in periods, bill journal)
- calculation

### **production**

- work order management (incl. print work order with or without barcode)
- reqly of process
- queue (list next process) incl. lists of departments
- deadline list
- work process queue

### **material management**

- supplier management
- material management (for production and für Artikel-Stückliste)
- Bestellverwaltung

### **capacity planning**

- terminate
- simulation debit

### **quality management**

- audits

### **customer complaint / reclamation diffent / divers**

- tool management
- search articles
- value of not ready products
- increase prices

### **planing / statistic**

- analysis product group
- plan data management
- actual-theoretical comparison
- optomize panell

WDCClient-Stammdatenverwaltung

WDCClient Module Hilfe

Stamm Material Vertrieb Fertigung Kapazität Qualität Archiv Planung Dienste

Bezeichnung			
Firmenparameter	Ja	Ja	Ja
Abteilungen	Ja	Ja	Ja
Firmenkalender	Ja	Ja	Ja
Arbeitsgaenge	Ja	Ja	Ja
Artikelstamm	Ja	Ja	Ja
Materialstamm	Ja	Ja	Ja
Zuschnittsformate	Ja	Ja	Ja
Lieferbedingungen	Ja	Ja	Ja
Zahlungsbedingungen	Ja	Ja	Ja
Versandarten	Ja	Ja	Ja
Laender-Kurse	Ja	Ja	Ja
Standardarbeitsplaene	Ja	Ja	Ja
Vertreterstamm	Ja	Ja	Ja
Warengruppen	Ja	Ja	Ja
Lieferantenstamm	Ja	Ja	Ja
Kundenstamm	Ja	Ja	Ja
Qualität-Schlüssel	Ja	Ja	Ja
Qualitäts-Ursachencode	Ja	Ja	Ja
Standardlayeraufbau	Ja	Ja	Ja
Maschinenstamm	Ja	Ja	Ja

Abteilungen

Meldungen Akt.-Server:192.168.100.120:2106 ModVers Rep.-Server:192.168.100.120 TFCliForm TFCliForm

Start WDSOFT-WIN-Kurzbesch... D:\Eigene Dateien\WDS... WDSOFT-Produktions... 13:49

Artikelsatz für Nr.600240 "LP-Test Neuerstellung"

Auswahl Archivpfad Bohrparameter Objektliste Extra

Allgemein Memo Staffelpreise Sonstiges Lager Änderungsdienst Arbeitsplan Stückliste Technik-Allgemein Technik-Mechanik/Galvanik Layer

Artikel-Nr.: 600240 Index: 00

Bezeichnung1: LP-Test Neuerstellung

Bezeichnung2:

Bezeichnung3:

Material:

Text 1:

Text 2:

Text 3:

Aufbau:

Oberfläche:

Kunde-Nr.: 300008 Name: DIEKEN

Klasse: A

Standard-Arbeitsplan:

Produkt-Code: APL-Nr:

Bezeichnung:

Kopieren aus: Std.Arb.Plan aus Artikelsatz

Verkauf:

Technik:

QS-Prüfanw:

Art: Normal Einh: Stk Status: NEU

Prozessfaktor: Scrap:

Produktgruppe: DK Warengruppe: Lager-Anzahl: 2 Material Dicke:

LP-Maß: 160 \* 60 Bohranzahl: 0

Zuschnitts-Maß: 424 \* 193 LP im Zuschnitt: 6 MFZ

Kunden-NZ-Maß: 0 \* 0 LP im Kunden-NZ: 0

Anzahl in X: 0 Y: 0 Anzahl KN im Zuschnitt: 0 Ausbeute %: 70,39

Ränder in [mm]: links: rechts: oben: unten: Kunden-Nutzen Ränder in [mm]: links: rechts: oben: unten: Abstände: X: Y: Z-Dialog

Letzter Verkaufspreis: 0,00 EUR

Letzter AB-Preis: 0,00 EUR

DVK-Preis: 0,00 EUR

Lager-Bestand:

VK-Richtwert: 0,00 EUR

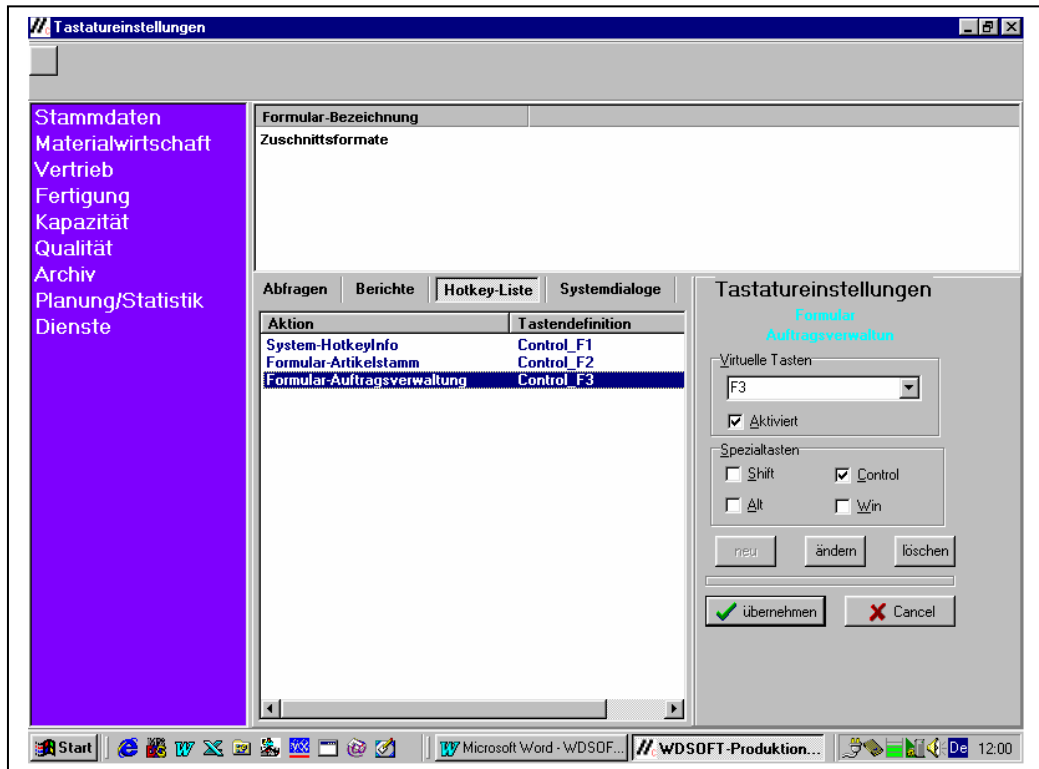
Film:  Diskette:  Zeichnung:  E-Mail:  Modem:  MS-DOS:

Lieferant-Nr: Lf.-Name:

Dachartikel/Artikel einer Gruppe:  Gruppen-ID: 0

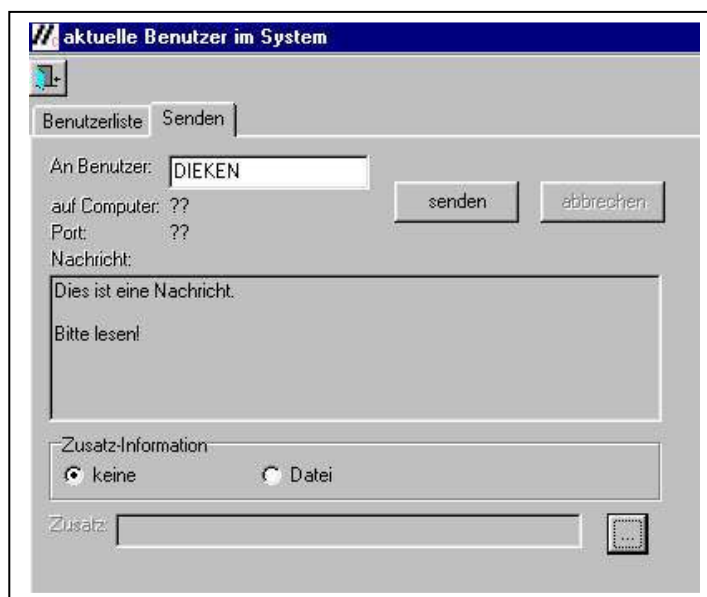
### Shortkeys in the client

The shortkey can be defined for every user in the client. (like, CTRL, ALT, F1-F10). For example: You can define SHIFT-CTRL-F10 for direct use of the Quickfinder. All modules can be defined in shortkey to use the quick use.



### Sendmessage mangement

It is possible to send messages to other clients. You can use the client list. The other user can read the message and can answer.

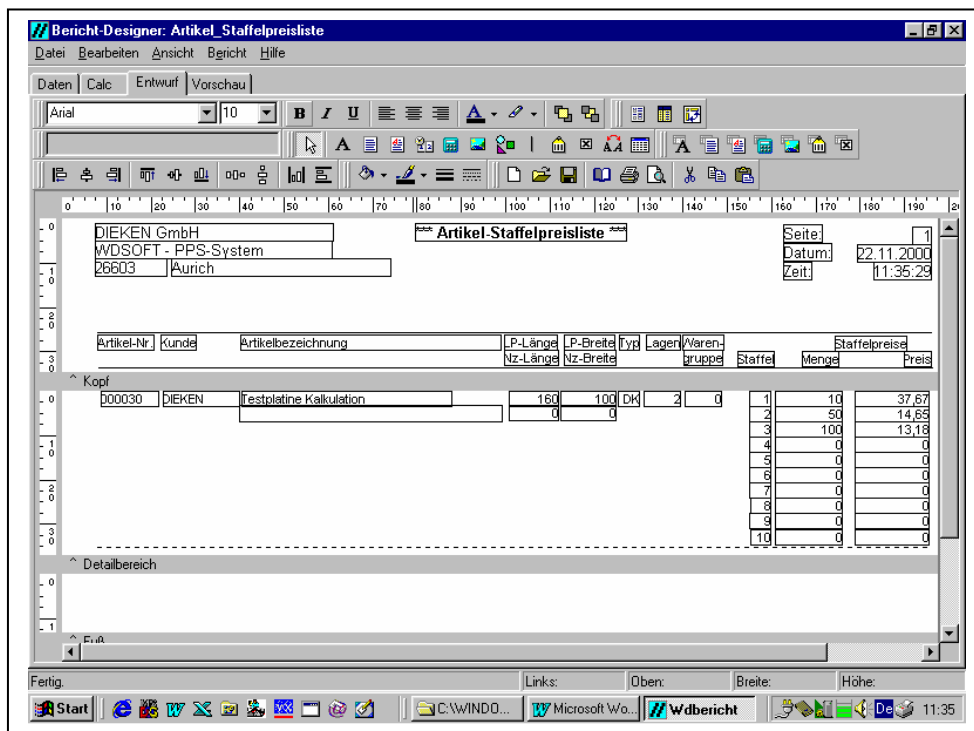


**II.6. WDSOFT-WIN-reportdesigner**

With the report designer the use can define every reports. A report are all prints and views on the screen. With the reportdesigner you can construct all formula like offer, order, bill of dispatch, invoice and work order as soon as all lists.

The reportdesigner is so manifold, that the whole wishes of the clients about design and information out of the system can be fulfil. With WDSOFT-WIN you receive a basic configuration of lists which can be used for the administrator for more list..

With the report designer you can use all tables for an analysis. You can can link or join different tables in one view. You can sort and filter the data and can implement search functions. In the report you have header, foot and details and can group the data. Further you can integrate subreports, own procedures and sums. You can print the data horizontal or vertikal, with barcode or with charts and so the reportdesigner is a very powerful tool.



Druckvorschau

DIEKEN GmbH  
WDSOFT - PPS-System  
26603 Aurich

\*\*\* Artikel-Staffelpreisliste \*\*\*

Seite: 1  
Datum: 22.11.2000  
Zeit: 15:40:21

Artikel-Nr.	Kunde	Artikelbezeichnung	LP-Länge Nz-Länge	LP-Breite Nz-Breite	Typ	Lager/Waren- gruppe	Staffel	Menge	Staffelpreise Preis
000030	DIEKEN	Testplatte Kalkulation	160 0	100 0	DK	2 0	1	10	37,67
							2	50	14,65
							3	100	13,18
							4	0	0
							5	0	0
							6	0	0
							7	0	0
							8	0	0
							9	0	0
							10	0	0
000031	DIEKEN	Testartikel TW	100 0	160 0	ST	1 0	1	0	0
							2	0	0
							3	0	0
							4	0	0
							5	0	0
							6	0	0
							7	0	0
							8	0	0
							9	0	0
							10	0	0
000032	DIEKEN	Testartikel Angebot Windows	160 0	100 0	ST	2 0	1	100	13,18
							2	20	28,83
							3	0	0
							4	0	0
							5	0	0
							6	0	0

Seite 1

## II.7. WDSOFT-WIN -Abfragedesigner, Query

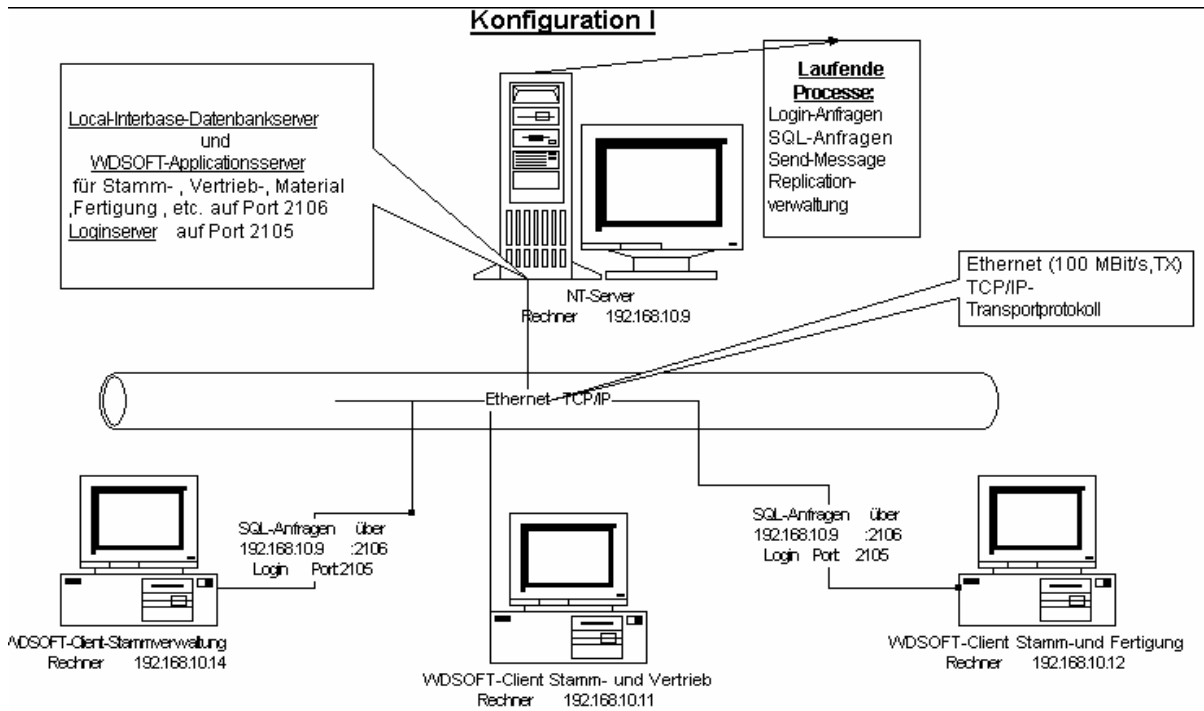
With the querydesigner is possible to construct statements to execute the defined operations like:

- Selections (SQL-Select) = show filtered tables
- Actualise (SQL-Update) = change defined field contents in a table
- Insert- and delete (SQL-Insert, Delete) = Insert of new records (manuell), or defined records to delete (Attention geboten!)

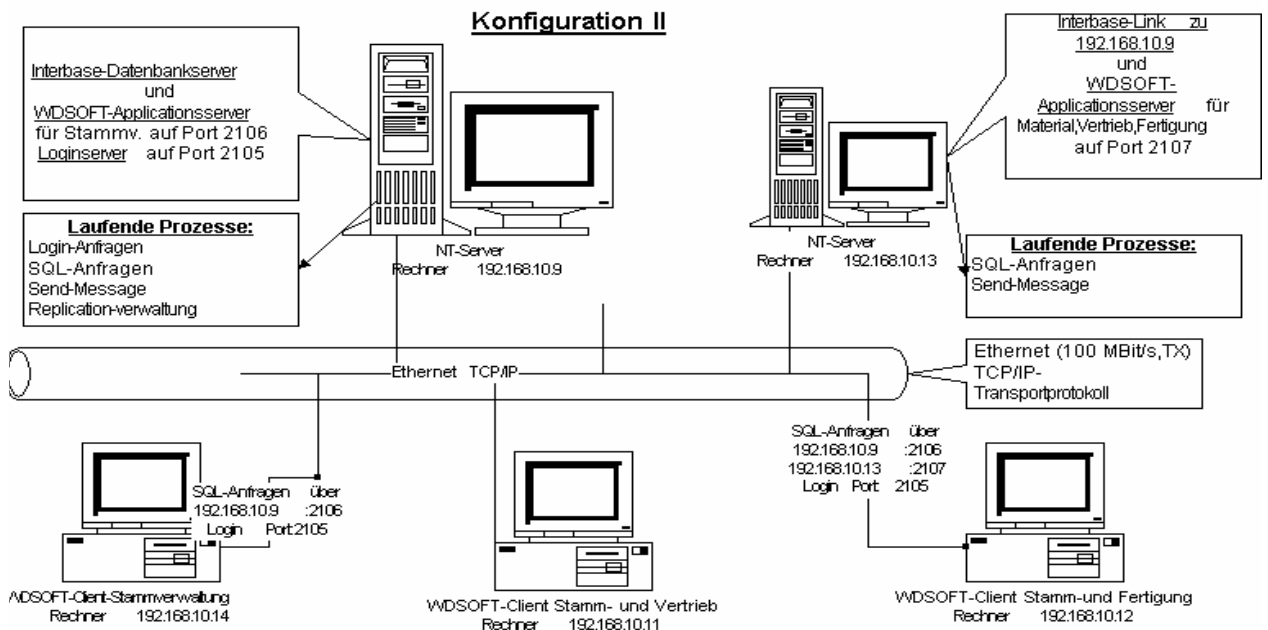
**Examples:** Increase in price in the modul increase prices means that the prices in the table article prices will be changed. It is possible to delete data or records like to adjust the table. The system administrator can define queries and to activate for the client.

**III. Database configuration model**

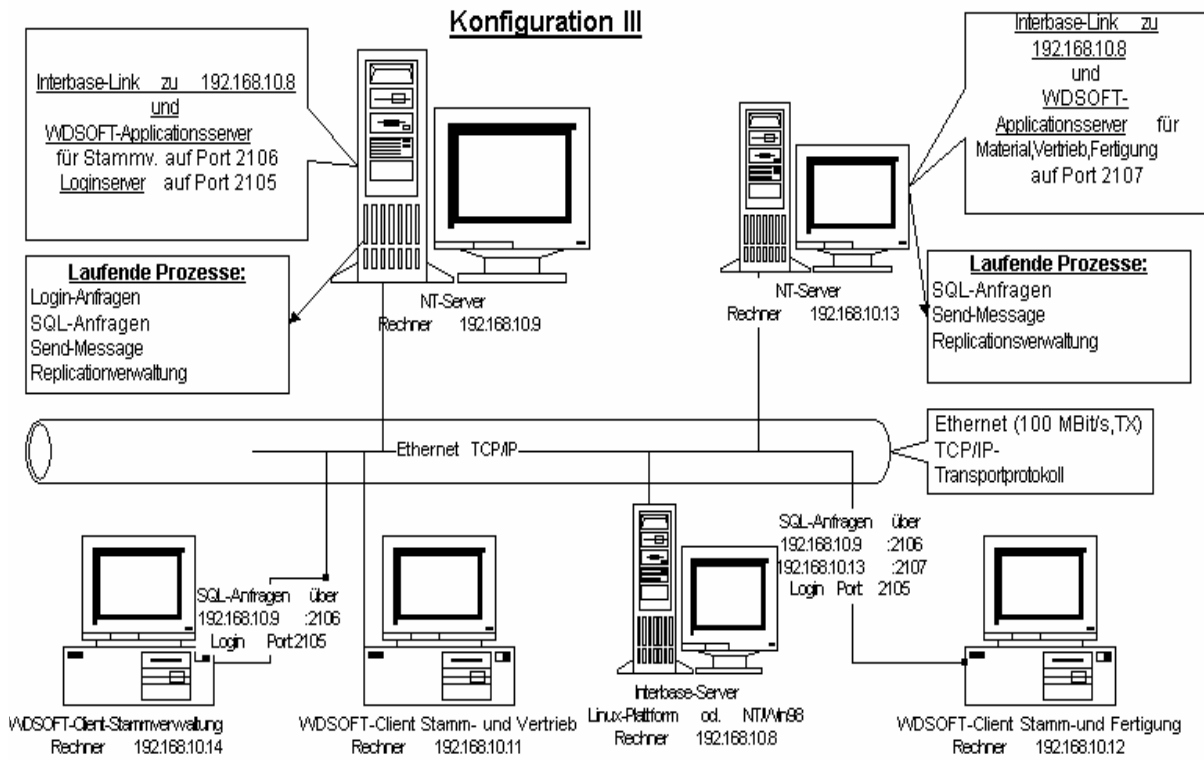
**III.1. A-Server-LIBS-Solution**



**III.2. Multi-Server-LIBS-Solution**



**III.3. Multi-Server-LIB-Solution**





---

**Customer and reference list (WINDOS-Version)**

- **TW elektric Horst Müller GmbH**, Furtwangen (Ansprechpartner: Herr Müller sen.)  
<http://www.tw-elektric.de>
- **VAAS Leiterplattentechnologie GmbH**, Schwäbisch-Gmünd (Ansprechpartner, Herr Wolf) <http://www.vaas-lt.de>  
**EBM Systemelektronik GmbH und Co.KG**, Heselstücken 19, 22453 Groß Borstel, Hamburg
- **Zehnder Leiterplattentechnik GmbH**, Hardt (Ansprechpartner: Herr Siegfried Zehnder),  
<http://www.zlh.de>
- **PW Gedruckte Schaltungen GmbH**, Wildeshausen (Ansprechpartner: Herr Wieting)  
<http://www.pw-pcb.de>
- **JKS Leiterplatten GmbH**, Hildesheim (Ansprechpartner: Herr Klotz)  
<http://www.jks-gmbh.de>  
**JKS Handelsgesellschaft GmbH**, Hildesheim
- **HÜCO Leiterplatten GmbH**, Espelkamp (Ansprechpartner: Herr Wolbers)  
<http://www.hueco-lp.de>
- **Schwanz GmbH**, Hildesheim (Ansprechpartner: Herr Schwanz)  
<http://www.schwanz-gmbh.de>
- **I.V.Schaltungen GmbH**, Allershausen (Ansprechpartner: Herr Lehmann)  
<http://www.iv-schaltungen.de>
- **MOS-Electronic GmbH**, Neuweiler (Ansprechpartner: Herr Bauer)  
<http://www.mos-electronic.de>  
**H+S GmbH, Neuweiler**
- **Drechsel GmbH**, Gedruckte Schaltungen, Kelttern (Anspr. Frau Astrid Drechsel-Brecht)  
<http://www.drechsel.net>
- **Richter Elektronik GmbH**, Schmallenberg (Ansprechpartner: Frau Schüttler)  
<http://www.richter-elektronik.de>
- **Skytech Europe GmbH**, Nagold, (Ansprechpartner: Herr Falko Borkhart)  
<http://www.skytech-europe.de>
- **Deutschlaender Electronic GmbH**; Neckarbischofsheim,  
<http://www.deutschlaender.net>
- **MECO Elektronik GmbH**; Neckarbischofsheim,  
<http://www.deutschlaender.net>

17 companies, 13 pcb producer and 4 pcb reseller or retail companies.