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**Description**

The invention refers to an arrangement for the use of ERP systems, in particular, by different clients in the form of, preferably, any mobile terminals, an  
5 arrangement that allows a data exchange with internal ERP systems via an extranet and intranet, and in which, depending on default authorizations, a user can make a selection from different applications and access internal ERP systems.

10 It is general practice to access or retrieve information, such as entries in databases, by means of mobile terminals via external and internal networks.

Solutions in which a push-delivery of messages and other information is made to a user's terminal are also well-known. In these solutions, the data on internal databases can be synchronized with that of the terminal or additional mobile  
15 access to, for example, data services, personal organizers, Internet or company data can also be made possible.

WO 01/78342 A2 describes such a system and method for the push-delivery of information from a host system to a mobile data terminal. When the host system  
20 has identified user-defined data changes, the user can store the delivered data in a specific directory of the terminal or the software on the terminal automatically synchronizes the individual contents of the directories with those of the host system.

25 WO 02/25890 A2 discloses another system and method based on this principle in which data is transmitted from a host system to one or more mobile data communication devices via a wireless package-data network by means of specific software. In this solution, each user can decide which data will be transmitted to him/her after being received by the host system, and the mobile  
30 terminal periodically contacts a server and then transfers the data assigned to it, or the network establishes a connection with the mobile terminal which in turn contacts the data network and receives a network address, and the server then sends the re-addressed data to the mobile terminal.

Normally, such solutions require special mobile terminals with software designed for this function. Large storage capacities are necessary for the software of the device and of the application, as well as of the data transferred.

5

Apart from the data transfer and retrieval of information from databases, it is not possible to initiate the generation of data of individual requests on a host system from the mobile terminal via networks and to transfer in essence only their result to the mobile terminal.

10

A system for generating and using individualized, database-supported applications is described in the publication US 2002/194314. In this solution, the user's terminal is connected via a network with a server on which the applications are hosted.

15 The users themselves can individually configure applications by using their terminals.

The terminal transfers the configuration information entered via the network to the server, which generates the individually tailored applications.

The associated configuration information is stored together with the data used  
20 by the applications on a database server for future access.

The configuration information can be transferred in the form of scripts to any terminals which can gain access to the applications via a network.

The applications can only be configured by single users or user groups and are  
25 not pre-configured individually for specific terminals.

The fact that the users access the server with the hosted applications via their terminals first and that subsequently this server loads the individual configuration onto another server by accessing the database with the individual configuration information leads to long access times.

30

The object of the invention is to develop an arrangement for the use of, in particular, ERP systems by different clients in the form of, preferably, any mobile terminals and said arrangement allows the data interchange with internal

ERP systems via an extranet and intranet, and in which – depending on default authorizations – a user can make a selection from different applications that are not stored on his/her terminal and can only be executed by scripts after their individual selection, and allow access to internal ERP systems.

5

This object is achieved by the features of the first claim. Preferred further embodiments result from the sub-claims.

An arrangement for the mobile use of ERP (Enterprise Resource Planning) systems, particularly for CRM (Customer Relationship Management), mainly consists of a mobile ERP server that allows access and communication from any terminals as clients, preferentially mobile terminals via an extranet with an intranet that has an ERP system with a number of modules. Clients can be, in particular, cellular phones, pocket PCs, other suitable mobile terminals as well as terminals with web applications that establish a wireless or wired connection with the mobile ERP server via access points and networks, such as Internet, telephone networks or mobile networks.

A specific embodiment is the arrangement with an external ERP system that is connected with the ERP systems in the intranet via the extranet and the mobile ERP server, whereby the data exchange between the ERP systems is realized via a tunneled VPN (Virtual Private Network), for example via the Internet. This arrangement makes it possible to mirror or adjust, online, different data sets between different systems with diverse program versions, for example between the ERP system at a company's headquarters and the one at its branch some distance away.

The user establishes a connection to a server via his/her (mobile) terminal and logs in to it. After this login to a mobile ERP server, a menu with a number of selectable applications in the form of scripts for the use of ERP logic on a company server is transferred to the user's terminal and shown on a display. The individual modules of the ERP logic are encapsulated.

The user selects a script from the menu and this selection is sent to the mobile ERP server. The script for the selected application is sent by the server to the terminal and executed, and by means of it the user can use the ERP logic on the server.

- 5 In this way, it is for example possible to initiate tasks for the evaluation of debtor and creditor accounts, inventory management of deliveries and services, and transport planning, as well as time schedules, phone management or event management from the user's location.
- 10 Then, in accordance with the user's inquiry to the module or modules of the ERP system, only field contents of the result of the inquiry are transferred and shown on the terminal's display.

- Among other things, specific access authorizations for the individual modules of the ERP system for each user/each terminal and specific, customized menus
- 15 with scripts for the masks to be visualized and the rights of the applications to be used individually are stored as containers on the server.

This design results in n-dimensional representation and expression possibilities of a software program that are adjusted to the user or terminal.

- 20 In every case, the server actively takes the information from the terminal.

- The main advantages of the invention are the low storage capacity required for the scripts on the mobile terminals, the fact that no updates of the scripts are necessary because they are always transmitted in the current version and thus
- 25 the latest ERP logic is always used as applications on the server for generating the data for the result of an inquiry and data input into the system.

- The user can enjoy convenient mobile use of the ERP system because she/he does not have to configure the applications herself/himself, but instead receives
- 30 menus with scripts of the applications to be used that are configured and adjusted for her/him and her/his mobile terminal.

The use of standard interfaces between the networks is also advantageous, as any terminal of an authorized user can use the ERP logic and further company-internal applications, and this functions independently from the operating system and includes common security techniques for authentication and data transfer, for example.

Another security effect arises from the fact that applications and result data are not stored on the mobile terminals, so that misuse due to access by third parties to company-internal data is excluded if a device is lost.

10 The invention is explained as an embodiment in detail by means of the schematic drawing of an arrangement for the use of ERP systems by a mobile terminal shown in Fig. 1.

An arrangement for the preferentially mobile use of an ERP system and other applications basically comprises a mobile terminal 1 which is suitable for data exchange, a conventional access point 2, a mobile ERP server 3, an ERP system 4 with ERP logic in the form of modules 5. To use and execute applications from the area of ERP and company-internal management, users establish a connection 6 from their mobile terminal 1 to the mobile ERP server 3 via the access point 2 and log in using their personal ID. After authentication, a script is transmitted from the mobile ERP server 3 to the mobile terminal 1 via the connection 6, a wireless and/or wired extranet, and fulfils the task of visualizing a mask with a menu 7 with a number of applications, which can be specifically used by the user, on a display 8. Said script contains a command line for each application that can be selected in the menu 7 and via this command line the transfer of scripts for starting applications can be initiated, for example modules 5 of the ERP system 4 to the mobile terminal 1 from the mobile ERP server 3.

30 The number and type of applications that can be activated by the user depend on the individually configured authorizations and the technical conditions of the mobile terminal 1.

A special memory area 9 of the mobile ERP server 3 contains for each user and each mobile terminal 1 configured, specific access authorizations to the modules 5 of the ERP system 4 and other applications in connection with the thus individually adjusted menus 7 with the scripts for the masks visualized on the display 8 of the mobile terminal 1, the command lines linked with them for calling up applications and the rights of the individually accessible applications of modules 4 as containers.

When the user has selected an application offered in the menu 7, the associated command line of the script is transmitted from the mobile terminal 1 to the mobile ERP server 3 which then sends a script for the use of the logic of one module or more modules 5 of the ERP system 4 as a response to the mobile terminal 1. The mask required for the use of the selected application is visualized on the display 8. As usual, the user enters the necessary data, for example addresses, articles or conditions, into the mask to generate an evaluation or record orders for a specific customer.

After confirmation of the entries, this data and a command for processing the data are transmitted from the mobile terminal 1 to the mobile ERP server 3, which sends them via an intranet 10, such as a LAN, to the application of the ERP logic of the corresponding module 5 of the ERP system 4. The data generated as a result of the data processing by the ERP logic is transmitted via the mobile ERP server 3 and the connection 6 to the mobile terminal 1, and shown as result lines on the display 8.

Optionally, it is also possible to print out the result as a hard copy, if a printer is connected to the mobile terminal 1.

Once a first script for applications has been processed, further ones can be selected and started.

The script for the selection of the applications in the mask of the menu 7 can be stored on the mobile terminal 1, if required. When the mobile terminal 1 establishes a connection to the mobile ERP server 3, it will always be checked

whether a new script version exists and in this case the new version will be transmitted. The old script is not updated but replaced by the new one.

Thus the users have, de facto, a mobile ERP system 4 on their mobile  
5 terminal 1 which enables the rapid and reliable processing of tasks in the field of the CRM, in particular.

Moreover, if a connection to the mobile ERP server 3 is established, the user can access data of an event or phone management server 11 via the  
10 intranet 10. Such a server manages inter alia messages that have arrived for the user at his/her workplace 14 in his/her company from a public network 12 of a telephone system 13 and/or other networks. These messages can be called up, forwarded and processed from the mobile terminal 1. Call diversions and time scheduling can also be managed from a user's current location by her/his  
15 mobile terminal 1.

The arrangement described and its function are not restricted to mobile terminals 1. The mobile terminal 1 is also to be seen as a mobile client.

A user can use normal Internet access via a computer, in which case an  
20 Internet browser takes over the function of the mobile client with basically the same functions.

In addition to the functions of a mobile ERP system 4, special features of a web shop can be realized. Thus, it is possible to check the stock inventory of an  
25 article, to order the article and to reserve it in the stock online via a command line. No link relating to the order processing of the ERP system is established and the reserved article will no longer be displayed in the inventory to other users.

30 In another embodiment of the arrangement for using ERP systems, an external ERP system 15 is connected with the ERP system 4 via a VPN 16 in a public network, such as the Internet, the mobile ERP server 3 and the Intranet 10. In

this way, the data is exchanged in a secure manner. Data sets of different locations can be mirrored online on different systems.

Common security routines for averting dangers and for coding purposes are implemented on the mobile ERP serve 3 in addition to the components for the  
5 authentication of the users and devices.

The user can also gain access to the data of the external ERP system 15 by calling it up via the ERP system 4.

## LIST OF REFERENCE NUMERALS

|    |    |                                   |
|----|----|-----------------------------------|
|    | 1  | mobile terminal                   |
|    | 2  | access point                      |
| 5  | 3  | mobile ERP server                 |
|    | 4  | ERP system                        |
|    | 5  | module                            |
|    | 6  | connection                        |
|    | 7  | menu                              |
| 10 | 8  | display                           |
|    | 9  | special memory area               |
|    | 10 | intranet                          |
|    | 11 | event and phone management server |
|    | 12 | public network                    |
| 15 | 13 | telephone installation            |
|    | 14 | work station                      |
|    | 15 | external ERP system               |
|    | 16 | VPN (virtual private network)     |

**Patentkrav**

1. Anordning til mobil udnyttelse af entreprise-ressource-planning-systems, ERP-systemer, og yderligere anvendelser via en bruger, omfattende et til dataudveksling egnet mobilt endeapparat, til hvilket der via et netværk overføres scripter, som lagres herpå, og som kan anvende scripter til anvendelser på en server og udøvelse af disse, et tilgangspunkt, og et ERP-system med ERP-logik som anvendelser i form af moduler, der er forbundne via extranet og intranet, **kendetegnet ved**,
- 10 at der i en forbindelse (6) fra det mobile endeapparat (1) til ERP-systemet (4) via intranettet (10) mellem forbindelsen (6) og intranettet (10) er anordnet en mobil ERP-server (3) med et lagerområde (9), og i hvilket lagerområde (9), der individuelt for såvel hver bruger, som for hvert mobilt endeapparat (1) lagres konfigurerede, specifikke tilgangsretningslinjer til ERP-systemernes (4) moduler
- 15 (5) med deres logik som anvendelser i forbindelse med individuelt tilpassede scripter til visualisering af menuer (7), med scripter til igangsætning af anvendelser og de inputmasker, der skal visualiseres, til de anvendelser, der skal anvendes, på et display (8) på endeapparatet (1).
- 20 2. Anordning fortrinsvis til mobil udnyttelse af et ERP-system og yderligere anvendelser ifølge krav 1, **kendetegnet ved**,  
at der på visningen (8) af det mobile endeapparat (1) er visualiseret en indføringsmaske af en anvendelse af modulene (5) af ERP-systemet (4), hvorefter ved en udvælgelse af en i menuen (7) tilbudt anvendelse den
- 25 tilhørende kommandorække af scriptet er overført til den mobile ERP-server (3) og derfra som svar på scriptet til anvendelsen er indført og lagret.
3. Anordning fortrinsvis til mobil udnyttelse af et ERP-system og yderligere anvendelser ifølge krav 1 og 2, **kendetegnet ved**,
- 30 at de som resultatet af brugerens bearbejdning i anvendelsens inputmaske indførte data vises gennem de af ERP-logikken tilbageholdte, genererede data som resultatrækker på visningen (8).

4. Anordning fortrinsvis til mobil udnyttelse af et ERP-system og yderligere anvendelser ifølge krav 1 til 3, **kendetegnet ved**,  
at scriptet til udvælgelse af anvendelserne er lagret i menuens (7) inputmaske på det mobile endeapparat (1).
- 5
5. Anordning fortrinsvis til mobil udnyttelse af et ERP-system og yderligere anvendelser ifølge krav 1 til 4, **kendetegnet ved**,  
at der efter optagelse af en forbindelse af det mobile endeapparat (1) med den mobile ERP-server (3) ved forelæggelse af en ny version af scriptet til menuen  
10 (7) til udvælgelse af en anvendelse ikke sker nogen opdatering af det lagrede script, men at menuen (7) efter udskiftning af scriptet vises aktualiseret.
6. Anordning fortrinsvis til mobil udnyttelse af et ERP-system og yderligere anvendelser ifølge krav 1 til 5, **kendetegnet ved**,  
15 at data fremkaldt via ERP-systemet (4) og en VPN (16) og den mobile ERP-server (3) af et eksternt ERP-system (15) foreligger på det mobile endeapparat (1) og visualiseres på visningen (8).
7. Anordning fortrinsvis til mobil udnyttelse af et ERP-system og yderligere  
20 anvendelser ifølge krav 1 til 6, **kendetegnet ved**,  
at tilgangen til data af en hændelses- og telefonmanagementsserver (11) på den mobile ERP-server (3) er implementeret via intranettet (10) af det mobile endeapparat (1).
- 25 8. Anordning fortrinsvis til mobil udnyttelse af et ERP-system og yderligere anvendelser ifølge krav 1 til 7, **kendetegnet ved**,  
at det mobile endeapparat (1) er en mobil klient i form af en internetbrowser på en regneenhed med internettilgang.

Fig.1

