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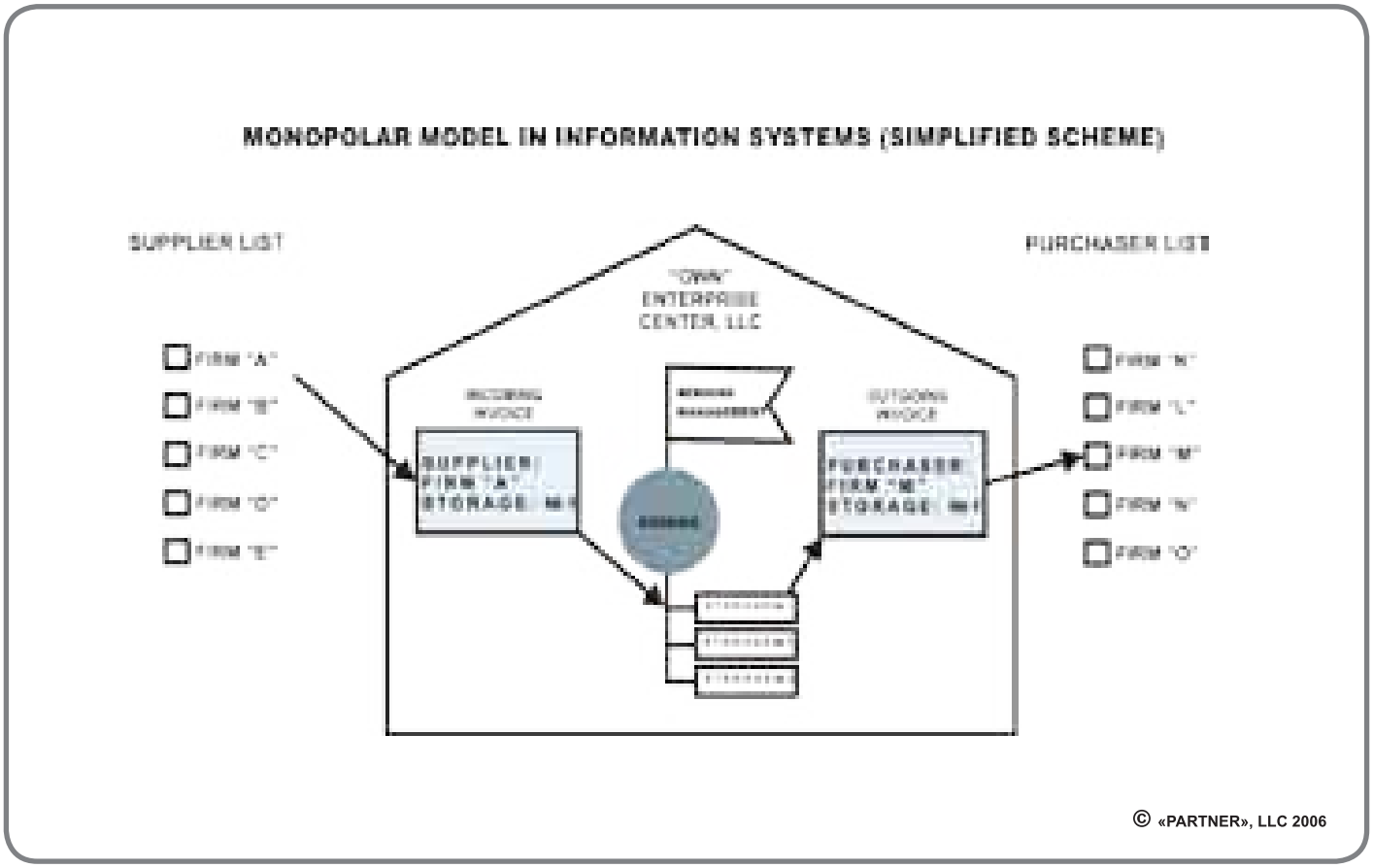
Operative accounting organization in information system «Corsair»

General approach to information accounting systems organization

Monopolar model of the world in information systems

Enterprises integration, businesses mutual penetration, economic community forming of de jure independent enterprises dictate a new level of requirements for information accounting systems. And it requires an overview of some deep-rooted approaches to their development.

All information systems that are well known to us, are based on monopolar model of reality perception. According to this model the whole world around us is artificially divided into two unequal parts– «my» enterprise and all other enterprises. At that time, only facts of economical activity corresponded to «my» enterprise were regarded as substantial; all the other data is either ignored or kept in a very reductive and one-sided form. Thus, for example, transactions within a specific storage traditionally used to be traced for «my» enterprise only, as if counteragent companies do not have any storage at all.



pic.1

At first sight the monopolar model seems to be quite logic and fits the spirit and the letter of accounting. Its overall spreading is obviously a result of the fact, that operative accounting subsystems were generated by accounting systems in the process of their evolutional development. However, principles successfully used in some areas are not necessarily applicable to others without their critic comprehension. A contemporary operative accounting makes new demands, contemporary engineering environment offers new opportunities, and there is no longer a necessity to accept some serious flaws of common approaches.

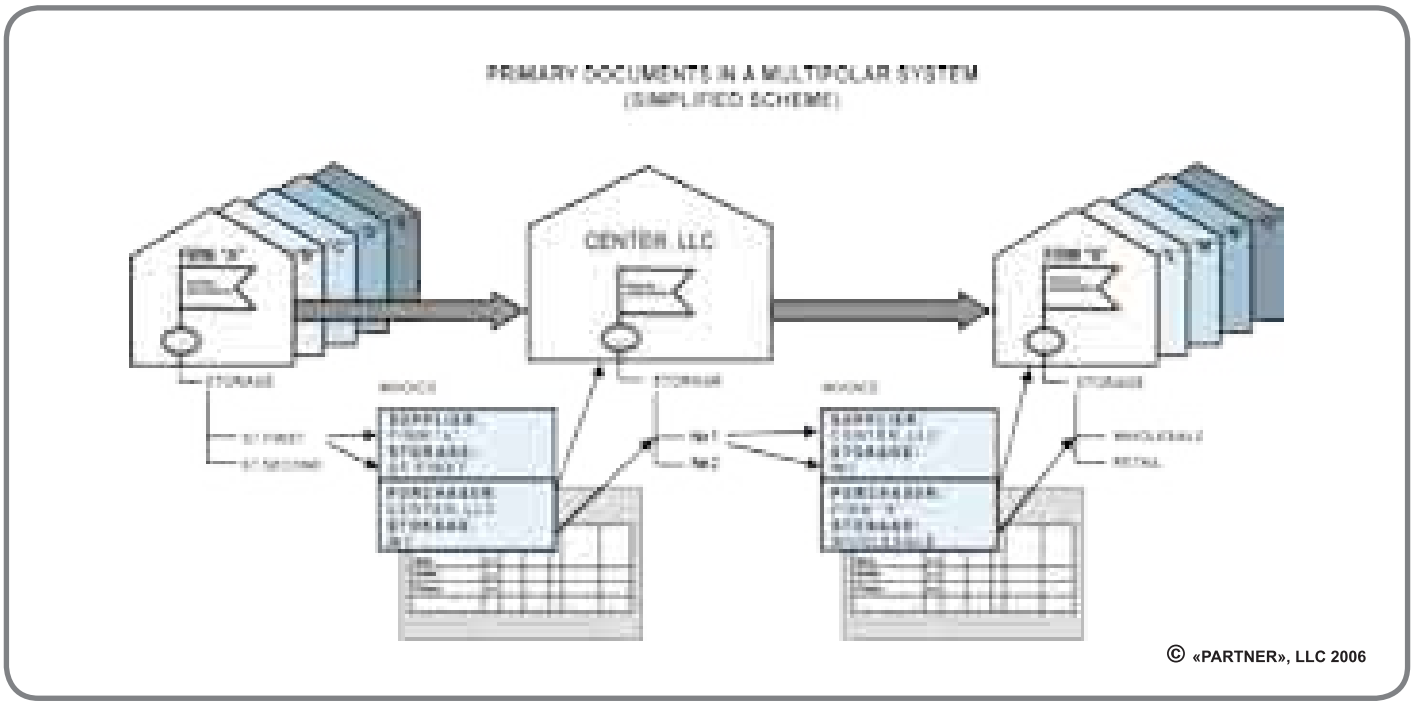
Monopolar information model and modern market requirements

It should be mentioned that only one fact of business activity is recorded with initial document (e.g. waybill) in the monopolar system, while in miltipolar two of them are recorded. One of these facts relates to supplier's activities, and the other – to buyer's activity. The only exception is internal document (for example certificate of unserviceability, certificate of stock-taking and so on). Such difference in insufficient only for hypothetical enterprise, which function in isolation from the surrounding economic community, does not make any efforts for business integration and does not aim at optimizing its activity by means of economic-organization structure improvement.

In practice everything is totally different. To achieve success in competition struggle companies organize household-economic communities, one can observe reciprocal integration processes, management of supply chains becomes the key optimization factor of inventory streams and cost saving. Nowadays there is an increase of interconnected communities spreading, instead of «monolithic» companies. Having being in such conditions a traditional «monopolar» system's appliance causes a lot of difficulties. When one needs to constantly observe an operational picture of inventory and financial floods distribution in several companies within a whole economic complex, such systems turn out to be inapplicable. One has to introduce primary documents, recording economic operations between different companies of the complex, to information system twice, that doubles connected with it man-hours. To take stock one often has to implement lots of separated bases, that causes a severance of information floods. It raises difficulties with consolidated accountancy formation.

Monopolar information model – revolutionary approach

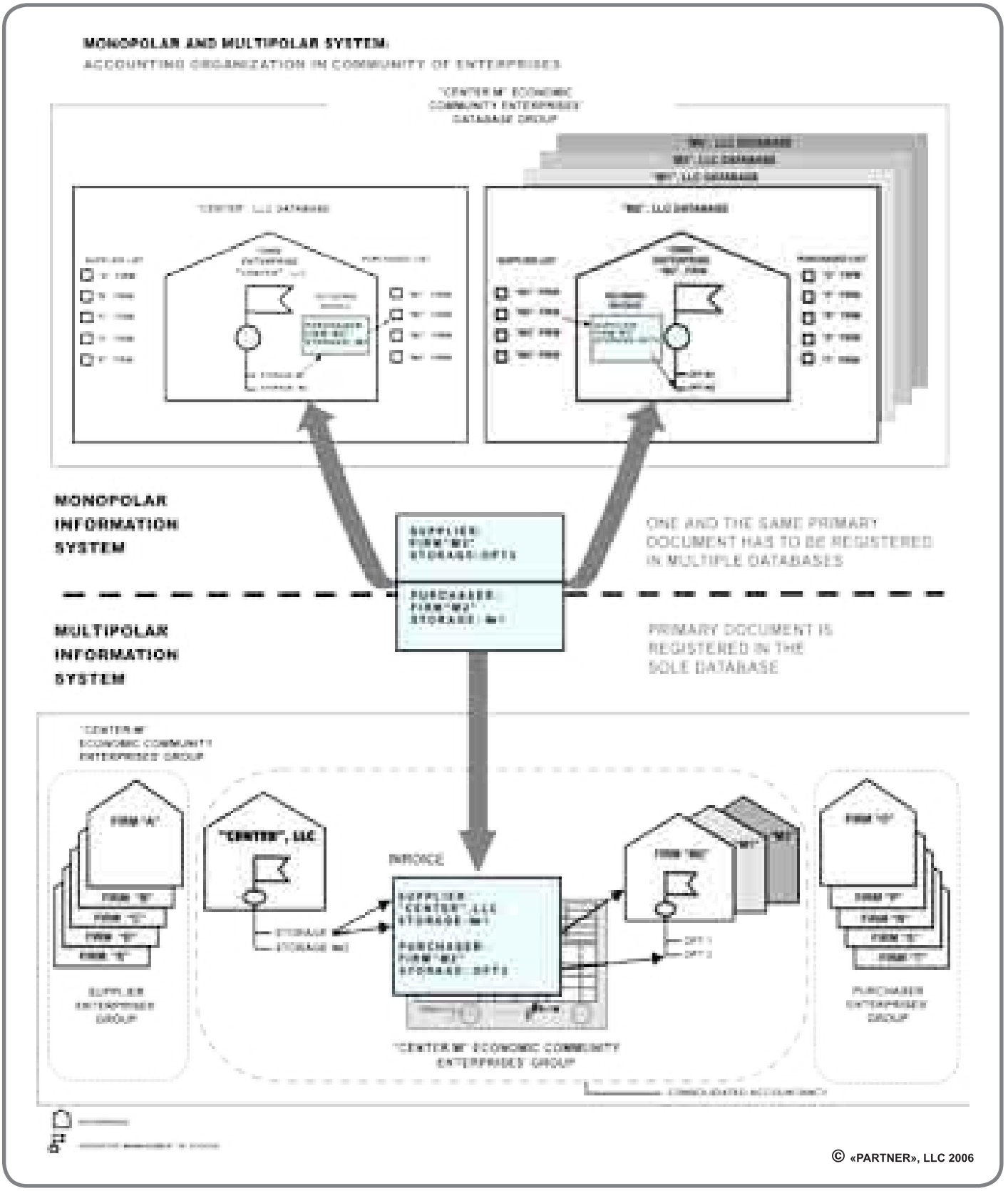
Operative accounting in our system is based on a fundamentally different model. In contrast to «monopolar» model, we named it «multipolar». According to this concept, the whole aggregate which includes known to the firm enterprises of legal and natural persons is perceived as a net of peers. Every economic operation (for example purchase and sale deal) is perceived by the system as transference of inventory holdings and financial resources from one peer to another. Initial documents connect two enterprises between each other. As a result a net of household-economic connections if formed on the bases of a single peer.



pic.2

Financial and commodity-material flows presented as a net «fastened» by initial documents give a lot of advantages and moreover does not require any special affords to learn from the user accustomed to the traditional formation of the systems. User's interface change is insufficient: there appear only extra opportunities

in work with lists of documents and an opportunity to choose both covenanters during initial documents formation. Substantial differences of accounting system remain in the depth. They become apparent in a full extent when user having finished the data input, starts to form accounts and analyses of the existing situation to make management decisions.



pic.3

Advantages of monopolar model operative accounting

The key advantage of monopolar model is an opportunity to conduct the management of day-to-day sales, stock, overhead expenses, prices and financial flows on several enterprises simultaneously. All information flows turn to be interconnected, it excludes an adjustment operation. Operational accounting and data monitoring form include not only separate parts the household-economic sphere but the whole system at once. In real time scale the user has an access not only to accounting on separate enterprises, but also to a consolidated statement, which in an afford to make management decisions gives an opportunity to observe the way the overall financial result is formed.

It is of no small account that all these results may be achieved without exceeding man-hours, necessary in taking stock of the only enterprise with assistance of traditional «monopolar» system. Man-hours are insufficiently exceeded in keeping data on a system of several enterprises. The exclusion of the necessity to input one and the same initial documents twice and the absence of the adjustment operation necessity sufficiently lower the role of human element and decrease temporary delays, connected with the information about events passing through the whole system: «household complex– information system – decision making manager».

Area of monopolar systems application

Information systems based on the conception of multipolar model operative accounting, which we have worked out, like traditional systems can be successfully applied for single enterprises. But they have sufficient advantages in automation of accounting within several enterprises of a whole household-economic community and also simple in cases when it is necessary to solve difficult «iterated» logistic task. It is defined by the fact that our conception is based on a more exact approach to processing and interpretation of economic activity facts.

Picture 3 illustrates the advantages of the information system based on our conception.

On this picture one can see that a single information area is used in multipolar system in comparison with the use of monopolar systems when it is necessary to open and conduct a lot of infobases. There is also an illustration of the way the primary documents doubling takes place in two different infobases (data base for LLC «Center» and for LLC «M2»). It is shown that the presentation of the same situation in the system based on multipolar conception looks much more natural and rational.

The information system based on multipolar model of records management gives an opportunity to create individual store structure organizational-establishment structure, taxation regime for each enterprise known to it, if necessary. Actually, such system conducts its own independent operative accounting for each enterprise-peer. In the meantime due to the fact, that every primary document changes accounting data of both enterprises simultaneously, a lot of problems with «parallel» accounting are naturally solved.

Multipolar model of records management and accounting

Information system, operative accounting of which is built according to multipolar model has no difficulties in formation of accounting. In particular the demand on accounting isolation for separated enterprises is always met. Even if the operative accounting was kept for economic community that included ten enterprises, all the facts of economic activity will be recorded according to the suggested by us ideology. It allows to get the information kept in the accounting registers of each economic community enterprise at any moment. In the meantime there remains an opportunity to get the information for a consolidated accounting statement at any time.

Multipolar accounting model in practice

It is better to demonstrate the advantages of our information system based on multipolar operative accounting model over systems with traditional records management organization on the examples of accomplishing tasks in several typical situations.

All the examined precedents deal with interaction or integration of several enterprises in the same case when it is not demanded, multipolar system can function as a system with traditional organization

Trading network.

One of typical situations when the application of multipolar system is necessary – is trading network management (see pic. 4). Let's suppose that there is a head trading company, which conducts a centralized goods purchase from suppliers (in the example it is LLC «Center»), and then distributes it to shops (LLC «M1» – «M4»), sticking to a definite price and assortment policy. All shops can belong to one owner, but in the meantime they are independent legal entities.

One of the main tasks of management accounts in this situation - is to maintain an optimal shops filling (or small wholesale trade putlet) with goods in accordance with the approved assortment model. For this purpose it is constantly necessary (daily, hourly – depending on the working rhythm of enterprises) to have operative accounting data about real rummages and volume of goods sales (taking into account buyers' returns). In case the shops (trade putlet) are small firms, such accounting should be kept very efficiently, because the volume of their buffer stores will be not large.

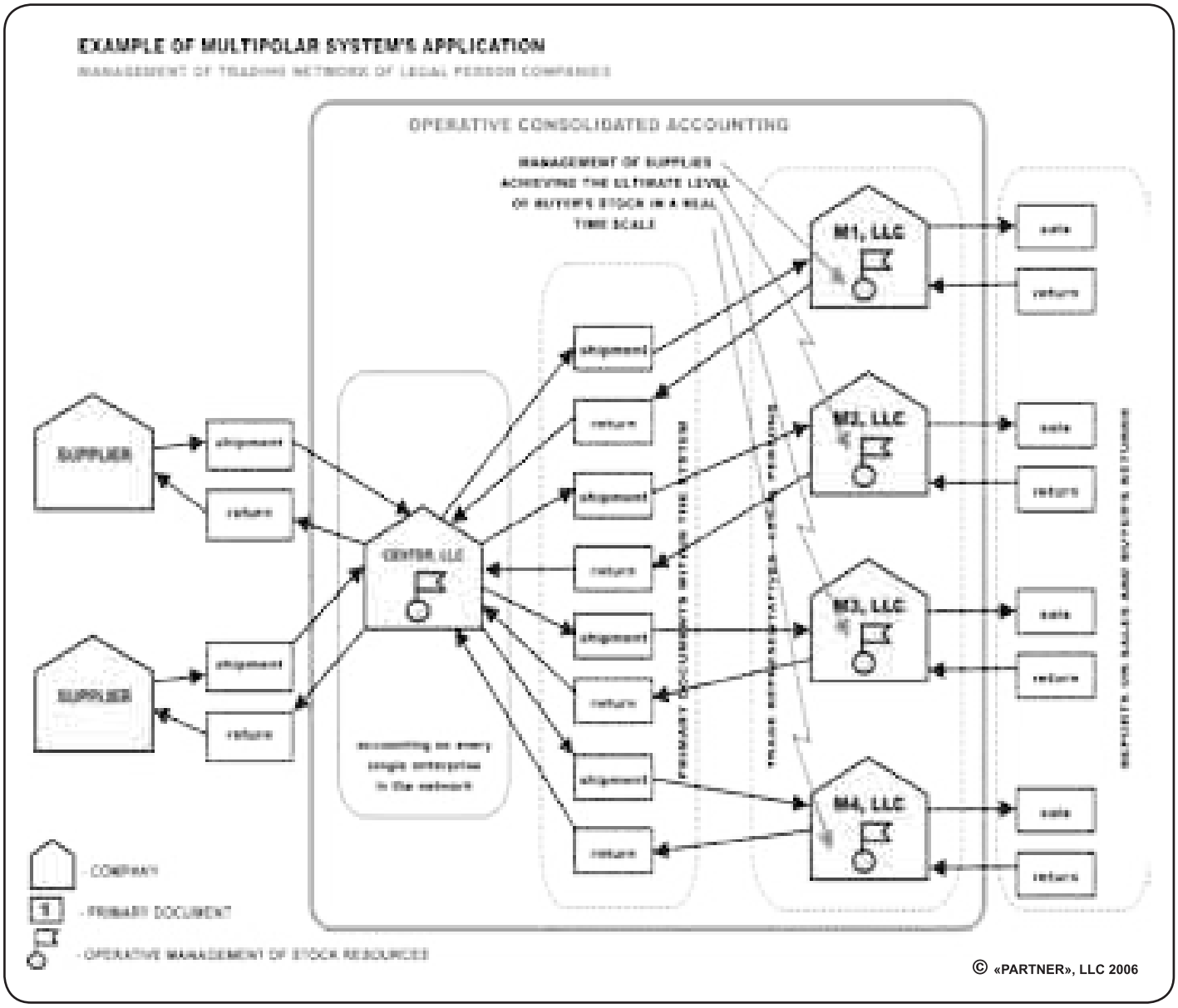
In this case one can observe apparent advantages of our system based on multipolar accounting model. Common information sphere, common centralized database is created for the whole community of enterprises. After the input of all primary documents recording movement and distribution of wholesale parcel (from supplier – through head company – to trade putlet), for each of the enterprises the information about the goods remains will automatically be formed. Then trade putlets send the information about sales course to the head enterprise, and this information is also included into the common database. As a result the system lets control goods remain not only in each shop and in head company stores, but also in all trading net as a whole. There is an opportunity to analyze dynamics of sales in the light of assortment in each trading putlet separately and in all the putlets together, with or without taking into account Head Company – and make well-founded and timely decisions on custom/orders of new goods parcels. In the meantime in real time-limits one can get marginal profit information both for separate enterprises (isolated records management) and for the whole group of enterprises (consolidated statement on «input-output» for the whole system).

It is necessary to point out that the application of information systems based on traditional operative accounting monopolar model (see pic. 1) meets great difficulties in such cases. To solve this kind of task, in particular organization of centralized accounting for a group of enterprises, one often has to keep several separate bases (at the worst –in accordance with the number of enterprises). During the primary document input man-hours are doubled (in accordance with the scheme given on pic. 3). But the main thing is, that according to the results of data input (when man-hours are half as much again or twice) the user gets an absolutely unequal return. As a rule one fails to follow the movement of separate goods` parcels within enterprises net. There is no opportunity to compare purchasing price of the supplier with real sales prices. Accordingly records management of marginal profit becomes more difficult. And sometimes it is nearly impossible to get consolidated statement on the whole community of enterprises. As a result managers do not prove all the necessary information for management decision making. So one can say that in such a situation and in other situations of this kind the system built in accordance with our conception has sufficient advantages due to its progressive mathematic model.

The scheme given on pic. 4 presents only the main structure of the process. In practice there may appear many situations which will make the picture more complicated. Shops (trade putlets) can in some cases buy supplier's goods independently. Besides the movement of goods (materials) from one putlet to another may also take place avoiding the central company. It can be done for example with the purpose of remains repartition. Trade can be conducted both on the purchase and sale conditions and commission conditions. It is also possible, that a situation, when the central company is a broker, and trade putlets are sub brokers, will appear. Enterprises included in the community may have different taxation regimes (for example, some trade putlets may work in terms of reductive taxation system). And so on. The system based on our conception of records management is intended to process all these situations without any alterations and changes, because this conception was based on the analyses of the data on required functional profile for modern information systems. The subject of special research was the role, which the existing information systems play in the life of separate enterprises, and which they can have played from the point of view of accounting and management processes` elementary logic.

The framework of this example can be widened. A similar picture is created for example in case of the distribution management of supply objects within a certain department. So applying our conception of records management organization one can solve a lot of similar tasks, which constantly arise in the practice of modern business and in the activity of state authorities. One can in particular manage the supply of not only commercial establishments but also of military units, maternity hospitals and so on. On-line control of

stocks in stores will provide an objective illustration on the whole supply net, and will allow using available resources more effectively. Besides it will provide an opportunity to control thefts and misappropriations (more effectively. Due to information transparency and timely information spreading the level of management errors will be decreased, and due to the exclusion of double work on data input the influence of human factor will be decreased. Ultimately the appliance of the information systems based on the worked out by us conception allows to achieve resource saving and increase the effectiveness in the activity of communities and not large enterprises to the extent of the government level.



pic.4

Besides one should take into account the appliance of the multipolar model in our information systems organization conception is not limited only to primary documents in the sphere of inventory floods. The function of financial subsystem, and taxation accounting subsystem, overhead charges subsystem and prime cost accounting subsystem and so on takes place on the similar bases.

Client net.

Picture 5 gives a presentation of a situation variant described in the previous example for the case hen shops/trade putlets do not belong to the same owner, and are not members of the same economic community with common centralized accounting system. In this case «individual» enterprise (LLC «Center») is wholesale supplier that aims at keeping sales at high level and increasing its competitiveness due to possible more exact control of its clients needs. For this purpose one applies principles similar to those applied for trading

network. To obtain on-line information about goods remains there is still a necessity to include primary documents to the system within the whole trading network, despite the fact that clients (LLC «S1» – «S4») are «alien»enterprises.

Monopolar systems based on traditional scheme as a rule o not provide such an opportunity. So it is quite possible that a similar solution cannot be applied to a lot of such schemes even for comparison. One often tries to solve the problem by implementing a lot of data bases for isolated records management for «alien» enterprises, but in the meantime man-hours exceed all reasonable limits.

On the contrary the scheme which in accordance with our model is based on multipolar model copes with such task in a natural way. The thing is, that outgoing documents on goods shipment to clients (from LLC «Center» to LLC «S1» – «S4») this way or another have to be included in the system. But due to two-sided nature of primary documents in our system (see picture 2,3), the same documents are simultaneously incoming documents for clients, so accounting «for aliens» does not demand any man-hours. It is necessary only to input data on client's sales to their buyers – if such data will be provided. The architecture of the system foresees decentralized data input and that is why the clients are interested in timely supply and can do it independently. This problem can also be solved by transferring (converting) data from partner companies` information systems. Example given on picture 5 can be also regarded as a variant of widened approach to CRM. Management relations with clients are also regarded as a generalized information systematization and also documentation of relations history (contracts, negotiations). But in the case when the relations with the client take place constantly, stable supply nets are formed формируются, such approach stops working. It happens so that the most important clients, who define the main current sales volume, come out of CRM - system's site.

However when our system of information system organization is applied, stable and mutually beneficial interaction with the most important clients can be organized at the expense of their commodity circulation control (raw material circulation). One may say that in the sphere of CRM- functionality, our system organization conception goes fast ahead without limiting only to common knowledge, but transferring at the necessary moment companies' interaction in the sphere of inventory floods records management in the interests of both enterprises. It is natural that records management is organized on the bases of common agreements and common interest of both participant companies.

On the equal bases with picture 4 picture 5 may be regarded as a variant of the supply management network organization (SCM). One can easily observe the opportunity of purchase organization and raw material (goods, utilities), management and control of stores` filling in distributed network, opportunity of transport floods optimization, opportunity to observe at any moment the state of the whole system in detail and the opportunity to make consolidated statement in real time-limits. The use for such tasks the system based on our conception of records management organization gives the user a simple and available instrument for optimization of the process and expenses decrease of all trading system (supply system) as a whole.

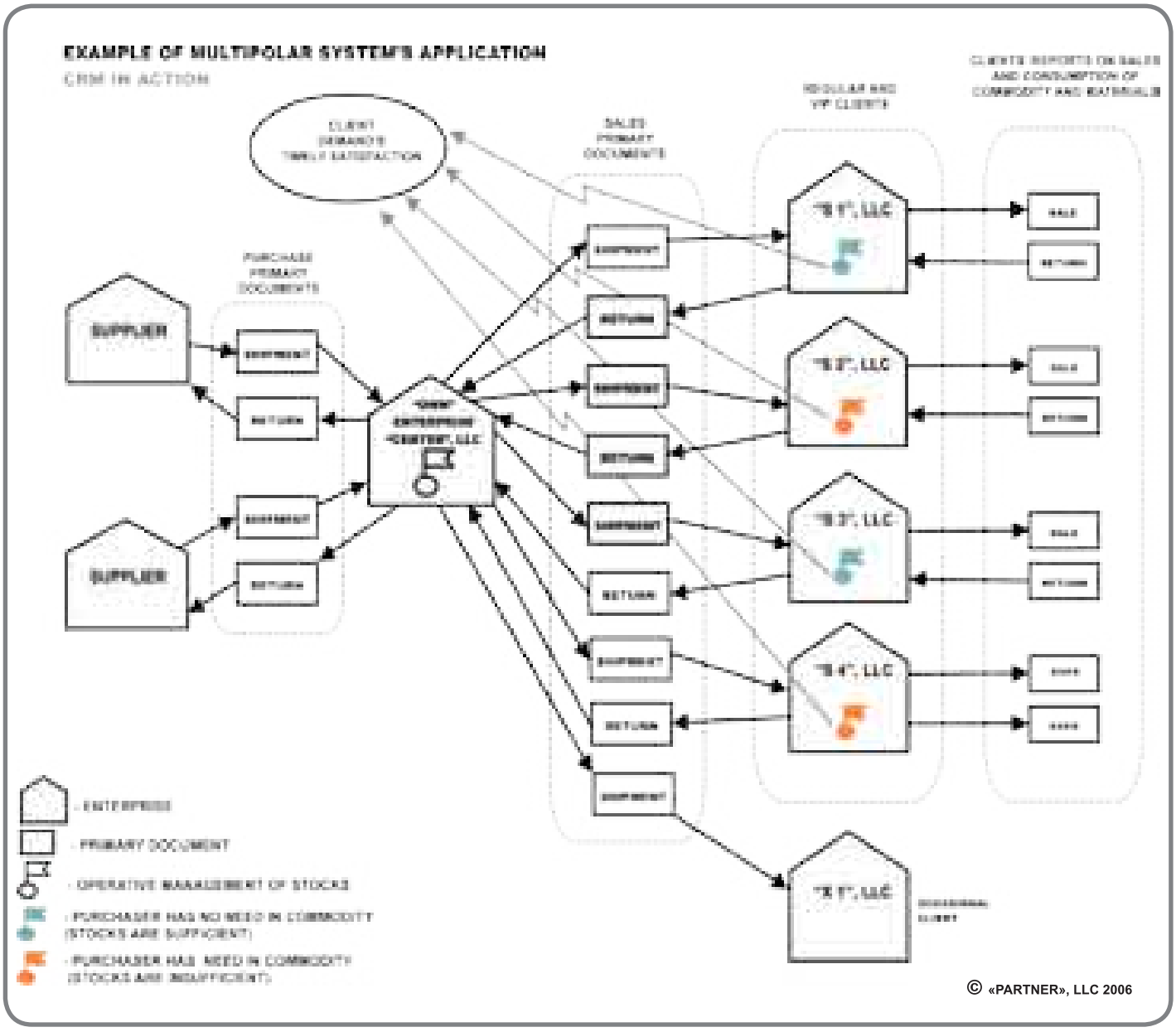
Supply in «just in time» regime.

In this example we consider the task, when some enterprise (in the example – LLC «Krepezh») conducts a centralized supply by standard utilities of a large enterprise (in the example – closed (joint-stock) company «Avtosborochnyi zavod»). To decrease stocks level and reaction on client's needs time the supply is conducted not through blank production shop, but directly to the address of the workshops where goods utilities are used (see picture 6). So supply in «just in time» regime is achieved (in accordance with the well-known JIT conception).

To solve this task the information system used by LLC «Krepezh» must allow maintaining data not about the structure of own stores only, but about the infrastructure of client-enterprise (which can be very complicated) as well. Besides, to estimate the level of remained stores, it is necessary to have an opportunity to include into the system data about the expenses of utilities (or materials) in workshops, stores and assembling departments of alien company. In our system that is based on multipolar model of operative accounting there is an opportunity to monitor rummages on counteragent companies warehouses with infrastructure of any extent of complicity in a real time scale. It is important that it can be done at low man-hours, because if the system of LLC «Krepezh» will be built in accordance with our conception, it's initial outgoing document of (for example an invoice), will be incoming for closed (joint-stock) company «Avtosborochnyi zavod» at the same time. During the input of incoming document the operator has an opportunity to show not only counteragent, but also receiving store and even the store's section (cell), to which shipment is addressed. After the end of inputting document and note of delivery (receiving) goods (materials), the materials stocks change will be calculated not only in its company's stores (LLC «Krepezh»), but also in client's receiving store (closed

(joint-stock) company « Avtosborochnyi zavod»). In future after inputting on-line data (daily, hourly) on utilities expenses in stores/sections of Client Company it will be possible to receive a whole picture of the current needs and to make a decision on new shipments for stocks filling. On can provide coming of this data at the expense of decentralized data inputting organization, which is foreseen by the system architecture or by means of transferring (conversing) the data from the partner company’s information system.

Using such tactics the actions of LLC «Krepezh»in fact save a large client (closed (joint-stock) company «Avtosborochnyi zavod») from the necessity to constantly provide consolidated order. Taking the responsibility for timely supply of Client Company in departments LLC «Krepezh» allows closed (joint-stock) «Avtosborochnyi zavod» to decrease parasitic utility stores, provides it an opportunity to meet the demand flexibly. In its term LLC «Krepezh» can rely on a stable sale and on the appropriate value creating net.

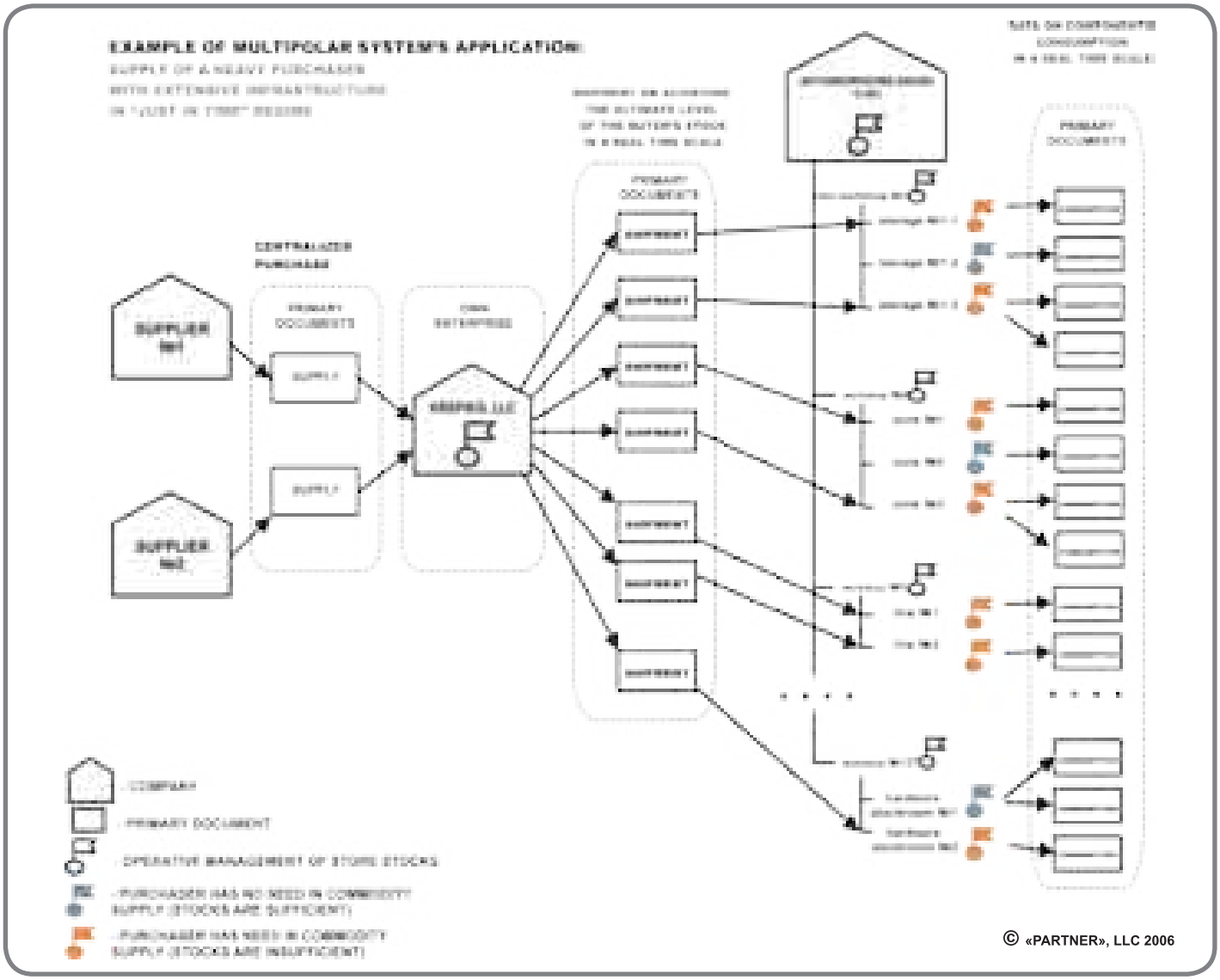


pic.5

It is nearly impossible to solve this task using monopolar information systems with tradition function set. As a rule structure formation for «alien» stores is not even provided in serial versions of the systems. Revisions that could help to correct it as a rule turn out to be very expensive and connected with specific business-processes. Using our operators work system within the described business example can be already organized in half an hour (it is enough to set counteragent company structure in the reference book). In the meantime several clients with branchy infrastructure can be served simultaneously.

In addition it is worth saying that this example – is only a general scheme. In practice it can be applied to

different kinds of business and developed in accordance with practice situation needs. For example the centre of the scheme can be not LLC «Krepezh», supplying with utilities of machine-building company’s store (or companies`), but some closed (joint-stock) company a «Cement», supplying with concrete a large builder, that has tens of building sites distributed on the territory. This hypothetic closed company «Cement» in its tern can have a branchy infrastructure – several cement works, stores, cement peers, and so on. It can also function as a community of several enterprises (see details on scheme 5). Or it can be LLC «Flour and butter», supplying bakeries and restaurants. Besides no matter how complicated the scheme of two companies` interaction can be, and irregardless of shipments` tempo at the end of accounting period our conception of system organization provides the users with an opportunity to prepare the necessary accounting with low man-hours for rating and financial authorities.



pic.6

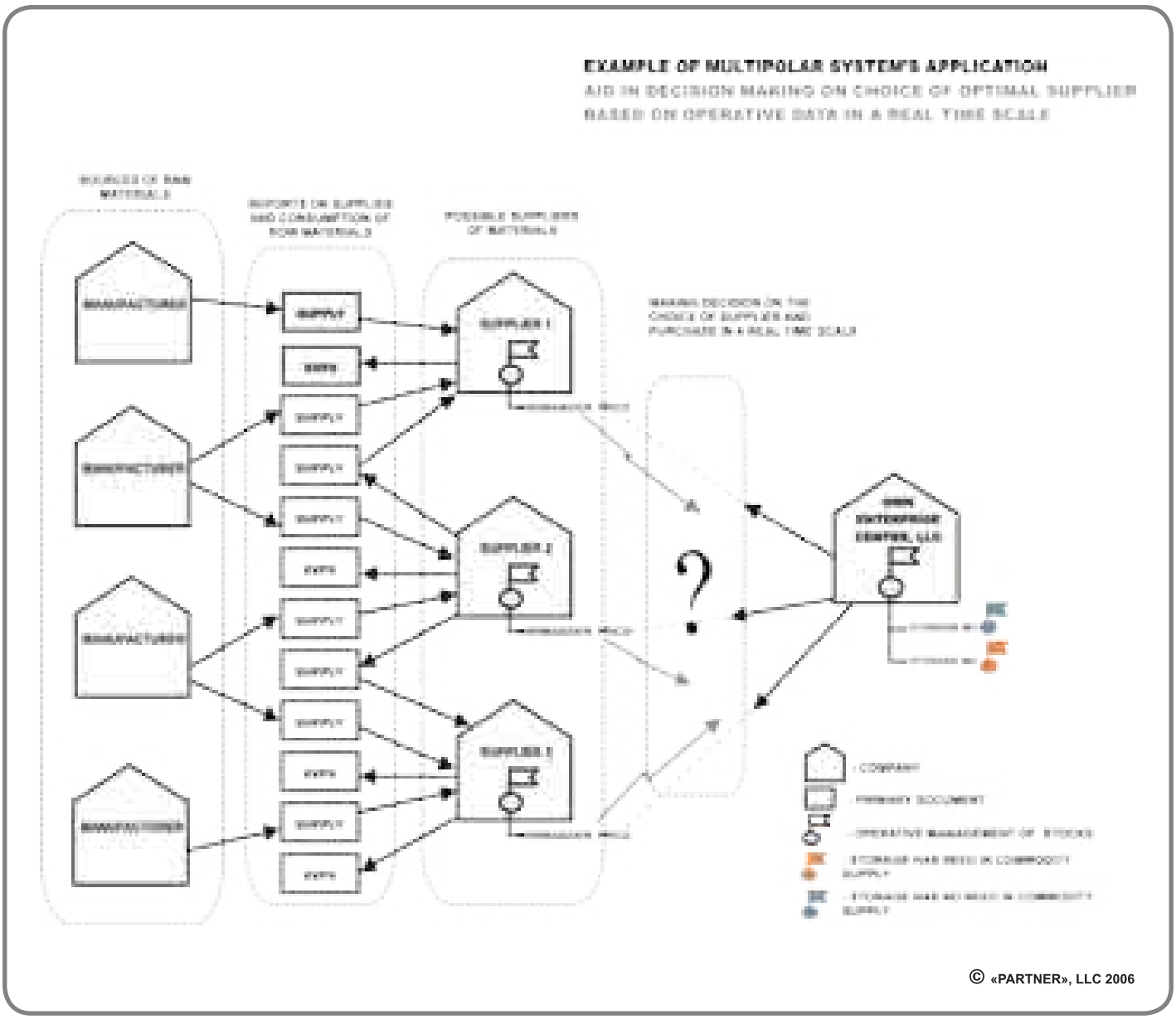
Making decision on the choice of supplier.

Picture 7 provides an illustration of a precedent, when some enterprise (LLC «Center») needs supply of goods (utilities), which it buys from several suppliers due to real needs (in «just in time» regime – JIT).

To provide timely commodity delivery and expenses decrease purchase managers in LLC «Cement» conduct constant monitoring of goods remains in suppliers` stores. At the moment when stores in some department raise to the ultimate level, purchase order is formed. It is directed to the address of the supplier, that at the given moment has the necessary volume of raw materials (utilities) available and offers the best prices (to an extend this example is counter to the situation given in picture 6).

On condition that the business of the company (LLC «Center») depends greatly on these supplies, such tactics may be quite righteous.

As a rule it is also impossible to apply this example in the information systems, based on monopolar model of operative accounting. The reason is that tradition operative accounting of stores rummages and invoice formation is foreseen only for an «own» company (see picture 1). It is also demanded in this case to have control of several «alien» companies within real time scale, and also an opportunity to control raw materials movement (goods, materials) between «alien» companies by keeping several primary documents. It is known from practice that long-time preparation and sufficient expenses on software improvement are necessary to solve such tasks. An alternative is opening of a lot of independent bases with appropriate man-hours increase. Our system allows organizing such accounting at any time in common data base without and alterations and with not high man-hours.



pic.7

Multipolar system – is a new view of the world

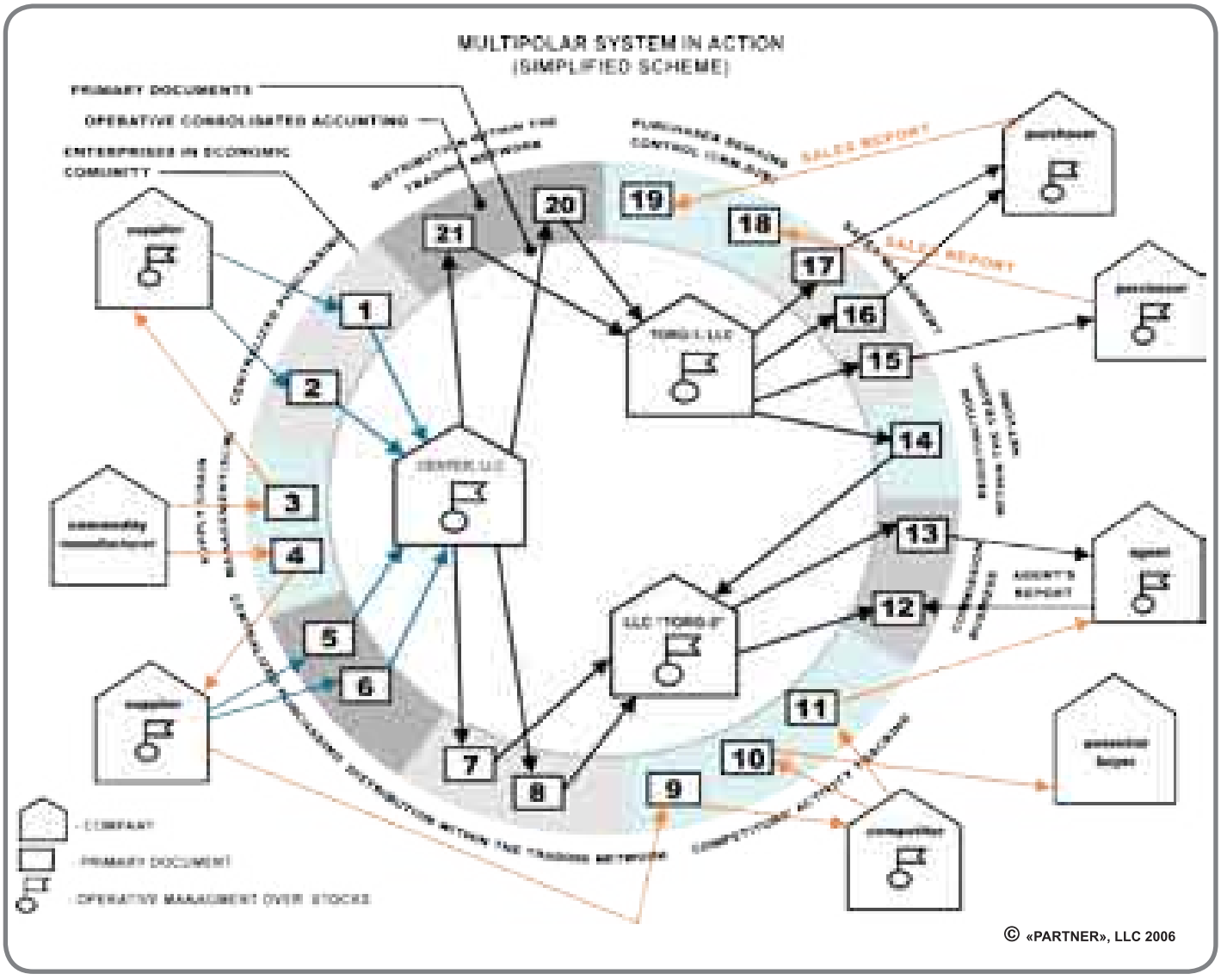
An operative accounting multipolar model, suggested by us, provides a little bit different view on the role and capacities of information system in the company or community of companies running. In fact the difference is obliterated between such popular conceptions as CRM, SCM, JIT, B2B, which are naturally, integrated in the suggested by us conception. Nobody need specialized modules, implementing the required functionality nowadays. The user just includes into the system the information that is necessary to solve

current management tasks.

Picture 8 gives a general scheme illustrating the way this system can be used built in accordance with our conception of records management organization. This scheme in a certain extend combines all the given above business examples.

Enterprises within the circle – are «own» enterprises, building one common household-economic community. In the example it is LLC «Center», LLC «Torg-1» and LLC «Torg2». In the meantime LLC «Center» is the head company conducting centralized purchase, and the other two enterprises (LLC « Torg-1» and LLC «Torg2».), specialize in conducting sales mainly. It is supposed that to achieve better results and better optimization of the process they are interested to conduct centralized operative accounting.

The other companies are symbolically presented around; they get in sight of the system. The roles pf these companies are not strictly defined in the system – for example one and the same company may be both supplier and buyer. The scheme shows that users can control inventory floods and stores stock on the stocks of all the companies of the «own» community and selectively on the stores «alien»companies, when it is necessary. This control can be conducted within real time scale and aims at supporting management decisions. The control of buyers` and agents` stores allows timely to make a decision on new shipment (achieving the ultimate level of the buyer’s stock). It makes possible to make the most rational decision on the purchase (if the purchase is conducted on the fact) with the help of the knowledge of the situation on available production stocks on the regional distributors` stores.



pic.8

Primary documents (for example an invoice) recording goods delivery (raw materials, utilities) from one company to another, are presented on the background of a closed annulus, that symbolizes common data

sphere for accounting making and data monitoring organization within real time-limits. Besides there is an opportunity to constantly observe the results of «own» companies group business obtaining consolidated statement («excluding» information floods on the internal edge of the annulus). All the primary documents are marked with numbers (from 1 to 21). These are conventional numbers of the precedents, which were separately and with more details considered in the previous examples:

№1, 2, 5, 6 – centralized purchases deliveries.

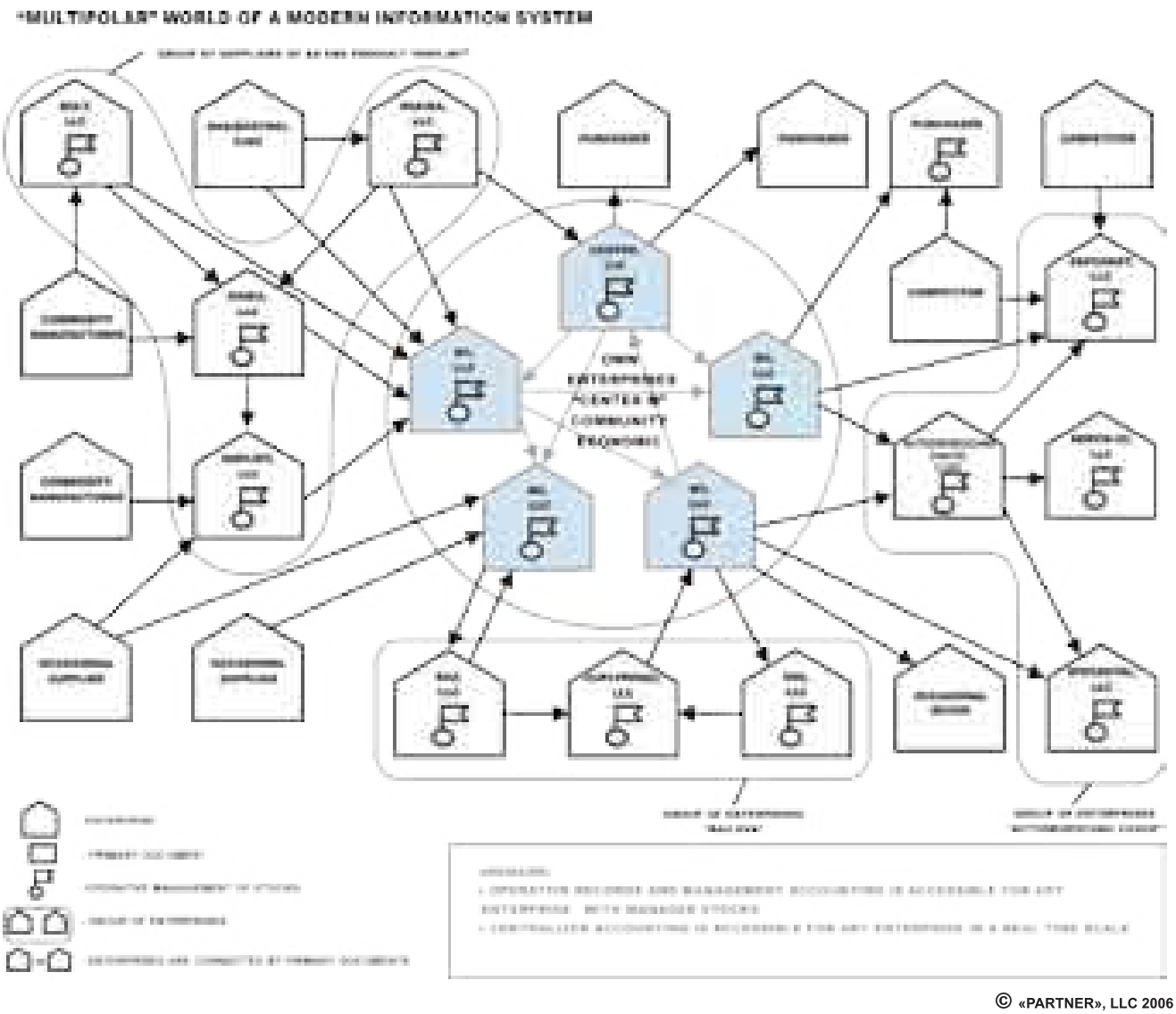
№7, 8, 20, 21 – documentation on goods delivery (raw materials, utilities) in sales net within the community.

№12, 13, 15, 16, 17 – documentation recording sales facts of the companies from «own» companies community with final distributor.

№14 – documentation, recording movement (resale) goods (raw materials, utilities) between community companies avoiding the head company.

№3, 4 – documentation recording the information on inventory floods (raw materials, utilities) from the producer to regional suppliers (distributors).

№9, 10, 11 – documents, recording competitive companies` activity giving an opportunity to account their investment in the supply of the clients, find their constant buyers and take timely measures.



pic.9

The scheme given on picture 9 has even more general nature. It illustrates companies, which got in the sight

of the system. The companies in the centre are conditionally included into the community of «own» companies (in the example it is named «Center M»). On the scheme there is an illustration of both «alien» companies and also whole «alien» communities (groups). Arrows show information floods of primary documents (invoices, payment documents, acts of delivery-acceptance services, and also orders and applications).

Given examples show that system based on our conception, suggests qualitatively larger choice of opportunities than tradition systems built on monopolar model of operative accounting, to solve management tasks. When it is required, one can follow inventory and financial floods at as large «depth» from the border of the «own» companies as necessary. In cases of necessity one can also conduct records management of stores stock.

The presence of a common picture of inventory and financial floods in connection with remains distribution in the stores in real time scale allows obtaining a new view of the ERP conception and suggested algorithm. For the first time during MRP-accounting it is possible to see for yourself the way orders chain for utilities and raw materials is distributed, and to observe the formation of lag – temporary delivery delay, the distribution of the stocks, accounted in net-needs, and the way the finished commodity prime cost is saved step by step by the cooperation of the companies. It is the first time one can built a solid bridge between regulated documents circulation, accounting and dynamic ERP-accounts.

The sufficient thing is that according to our conception all the information floods are initiated not only by separate notes but also by full value primary documents. It allows on the bases of the input data conduct complete analyses, marketing research – taking into account all the factors that could be available by similar actions with «paper» versions of these very documents.

The provision of information integrity and decrease if the reaction time allows to avoid a lot of management arrows in large household complexes, to increase the effectiveness of their work and decrease expenses.

One may summarize that the system based on our records management conception working in the conditions of modern business dynamically developing different kinds of cooperation and companies communities starts finally to do the thing for which accounting information systems are intended – to provide responsible companies managers with timely in-line information on necessary sections, helping them to make the right management decisions.

Operative management of stocks and commodity flows

Keeping data on stores stocks and their management

All information systems of an enterprise management traditionally have stock monitoring mechanisms. Commodity and materials provided in accordance with the waybills are distributed in different warehouses. Together with this, the information concerning the places of keeping the delivered inventory items is fixed in the system. Many systems have an option to reveal the more detailed information – not about the warehouse in general, but about the separate cell, board or shelf.

However, they are not sufficient for the contemporary level of requirements to information systems. Mechanisms of stock monitoring should be equipped with mechanisms of their operative management. User must be provided with the possibility to reserve commodity selectively, distribute stock in accordance with its purposive and functional appointment, adjust access of different categories of employees to this or that group of commodity and so on. Unfortunately, this functionality in its pure state is out of contemporary systems. Only a few specific solutions are suggested. For example, putting commodity into reserve while preparing shipping documents or using the special reserving documents. Such approach does not provide the complex decision of the problem but it also does not have sufficient flexibility. Another suggested way out is splitting physically existing warehouses into several so-called "virtual" warehouses, but this decision also cannot be considered as completely adequate. Practically, there are many "real" problems with "virtual" warehouses. First of all, document control of "virtual" warehouses mixes with the real warehouse documents and embarrasses material-responsible persons while reporting. Moreover, existence of extra big quantity of warehouses makes warehouse analytics more complicated, blurs the operative picture reflecting location of available commodities and materials. It is better to decide the problem of physical transferring of items between warehouses, places of their storage and their logistic retransferring separately, but none of the informative systems known to us, can provide it to us currently.

Typical tasks of operative stock management

Let us discuss the most common typical tasks of operative stock reserve management that can be taken from the experience of business process formation of the most enterprises. The following tasks can be considered as typical: stock reserve distribution by its functional characteristics, stock materials distribution between production orders, commodities distribution between the main consumers, division of areas of responsibility between managers and sub departments, management of material flows along with physical stock.

Stock reserve distribution by its functional characteristics. First, it is necessary to remember the importance of functional distribution between production and trade enterprise stock. Any organizing activity, in any case, presumes the stock division to specific logistic categories according to its functional characteristics. For example, the following stocks can be specified in regard of commodities, raw materials, or materials: transit (designed for transportation to the other warehouses), cyclic (depended on the delivery schedule), reserved (for the case of emergency, to avoid situation of production or trade interruption), seasonal stocks, or stock accumulation to the given dates (holidays, weekends) and so on. Of course, managers try to decrease stock in order to reduce losses. One needs to realize which material valuables accumulated and for what aims, to compare them with norms and find out unproductive part of stock. For these specific requirements, functional stock management is needed.

Stock materials distribution between production orders. This is a usual practice in industrial enterprises to distribute raw materials and materials stock between different production orders. Uncontrolled consumption of raw materials from the «total mass» can lead to the situation when at one moment the most important for the enterprise order will not be provided with raw materials. And other orders that could be performed later have consumed their raw materials entirely. The same situations can occur if raw materials consumption norms of some orders are beyond the limit. To control the situation efficiently line managers need to have instruments to monitor established quotas of raw materials consumption for production orders in real time scale. It is very laborious to solve this task using traditional methods, i.e. to create "virtual" warehouse for every production order, as there can be thousands of such orders. Besides, warehouse's document control will become too much complicated. Commodity distribution between numerous warehouses will blur the picture of stock flow

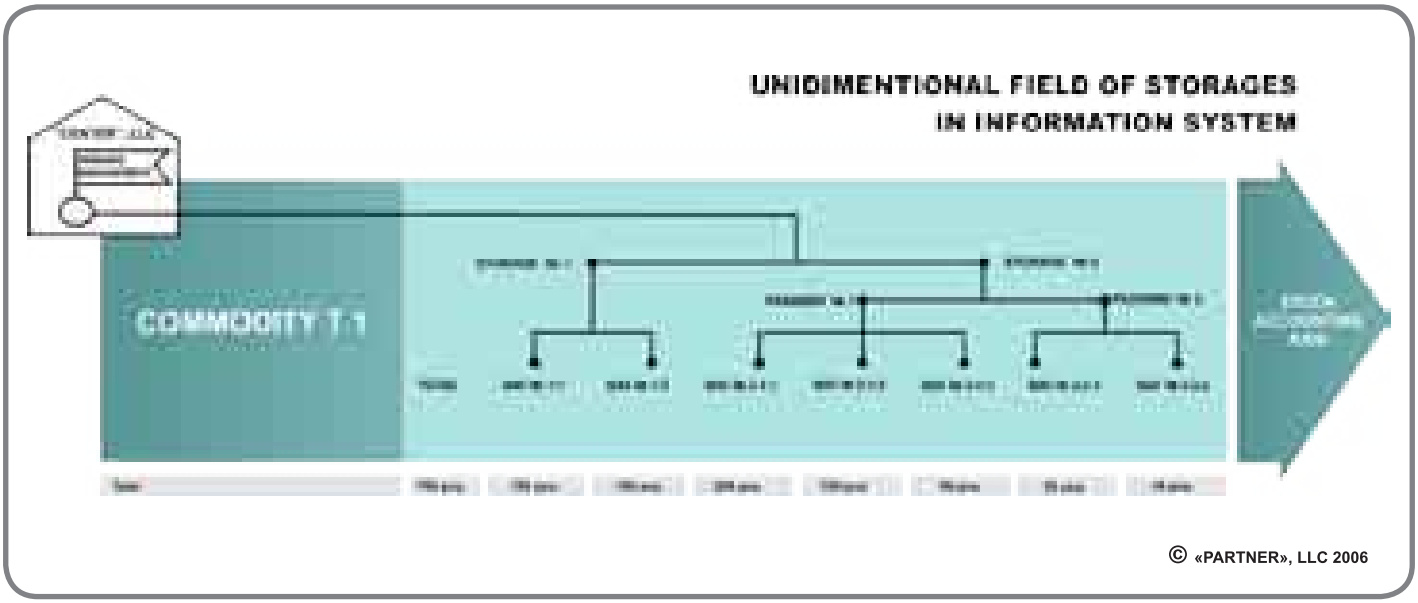
and accumulation. Another approach suggesting reserving commodity for production order with separate documents also does not cover the problem. As a rule, it is not an easy matter to issue reserving documents for production order in time as it will take some time to approve the volume of the order, and besides, raw materials specifications and order components can be changed. Documents issue reserving raw materials and order components with certain excess will definitely lead to irrational growth of stock and, sequentially, to freezing of the current assets of the enterprise.

Commodities distribution between the main consumers. Commodities distribution between consumers (wholesale buyers, shops, store units) is one of the most popular tasks of the operative stock reserve management. It has a lot of common traits with the task of stock materials distribution. For example, an enterprise has a few VIP-clients, who must be provided with materials in the first intense. However, they do not always send theirs orders in time so the manager has no possibility to issue reserving documents with all the necessary parameters. As a result, commodity remains in free access. At this, the regular plan of shipments is functioning and you should form the reserve of top-selling items by holidays. It is difficult to monitor the optimal stock distribution in accordance with the company's aims and tasks in this situation.

The necessity to divide areas of responsibility. It is necessary for sale managers, sale or production departments to have responsibility area regulation means in the sphere of stock management. For example, means of quotas establishment for this or that commodities shipment. Very often, sale or production companies fever because an extreme activity of separate sub departments brakes the general plan of the whole company. Creation of additional warehouses only because medium-level managers fail to cooperation their actions, also is not the best way out.

The necessity of material flows management. In contemporary business, the task of operative management of material flows is wider and goes beyond the limits of stock management only. It is not enough to monitor physical stock in the warehouse only to decide a number of tasks. An operative management of all material flows – generated and completed operations, as well as those that are just started or even put in plan – is needed. For the management of this "future" stock the same requirements are imposed: functional division, division according to order types, according to VIP-Clients, assignment of quotas for sale managers and so on. To imply these functions to information system additional instruments are needed. It seems not possible to add such functionality to existing information systems without developing a new concept and radical redeveloping of some base mechanisms.

Logistic accounts – new mechanism of operative management



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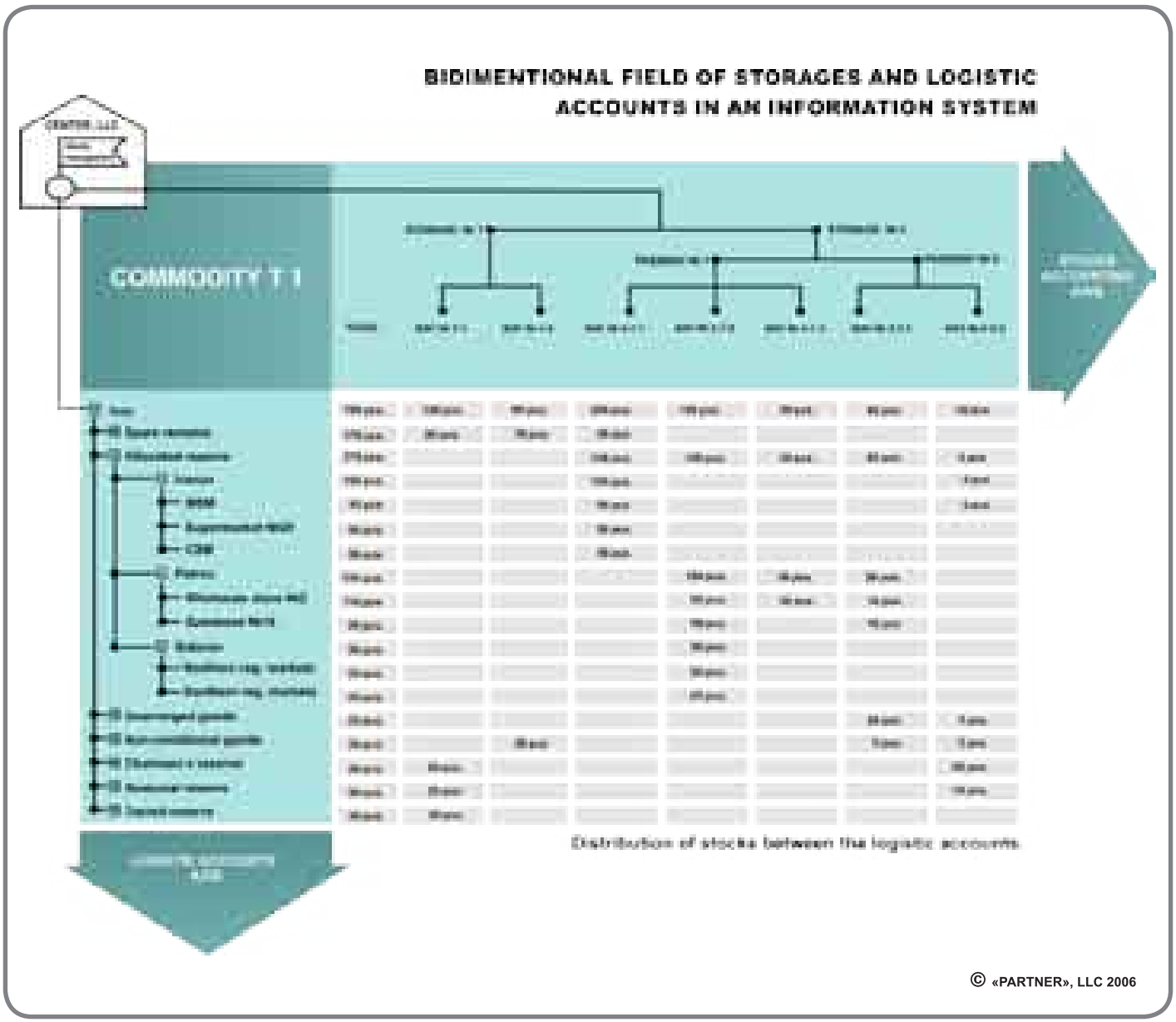
Upon a closer view of warehouse stock operative management tasks in particular and material flow management in general, it becomes evident that in order to cover them successfully, a new special mechanism

must be designed within the limits of information system. At that, it must be separated from stock control mechanisms, as there is nothing like this included into contemporary information systems.



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Putting the business-requirements analysis and a thorough quantity of practical precedents into a base, we designed a concept of such mechanism. We called it logistic accounts’ mechanisms. By its nature, it is analog of management accounting that often does not repeat the structure of bookkeeping accounting and allows seeing the same information from different point of view.

Stock control in information systems is single-dimension set, even if it allows to consider commodity location in aisles, cells, cupboards and shelves. More small elements of the warehouse are just detailed «address» on the same axis of dimension. Let’s say, on axis of abscissas (see picture 10). In the event of accepting this point of view, than mechanism of logistic accounts designed by us is in the opposite angle. In this case – on axis of ordinates. (see picture 11).

Logistic accounts represent a hierarchal structure similar to the structure of warehouses. According to the enterprise’s needs this structure can be the simplest or as much complicated as desired. Like management accounting, logistic accounting structure is formed to meet the specific needs of the exact company.

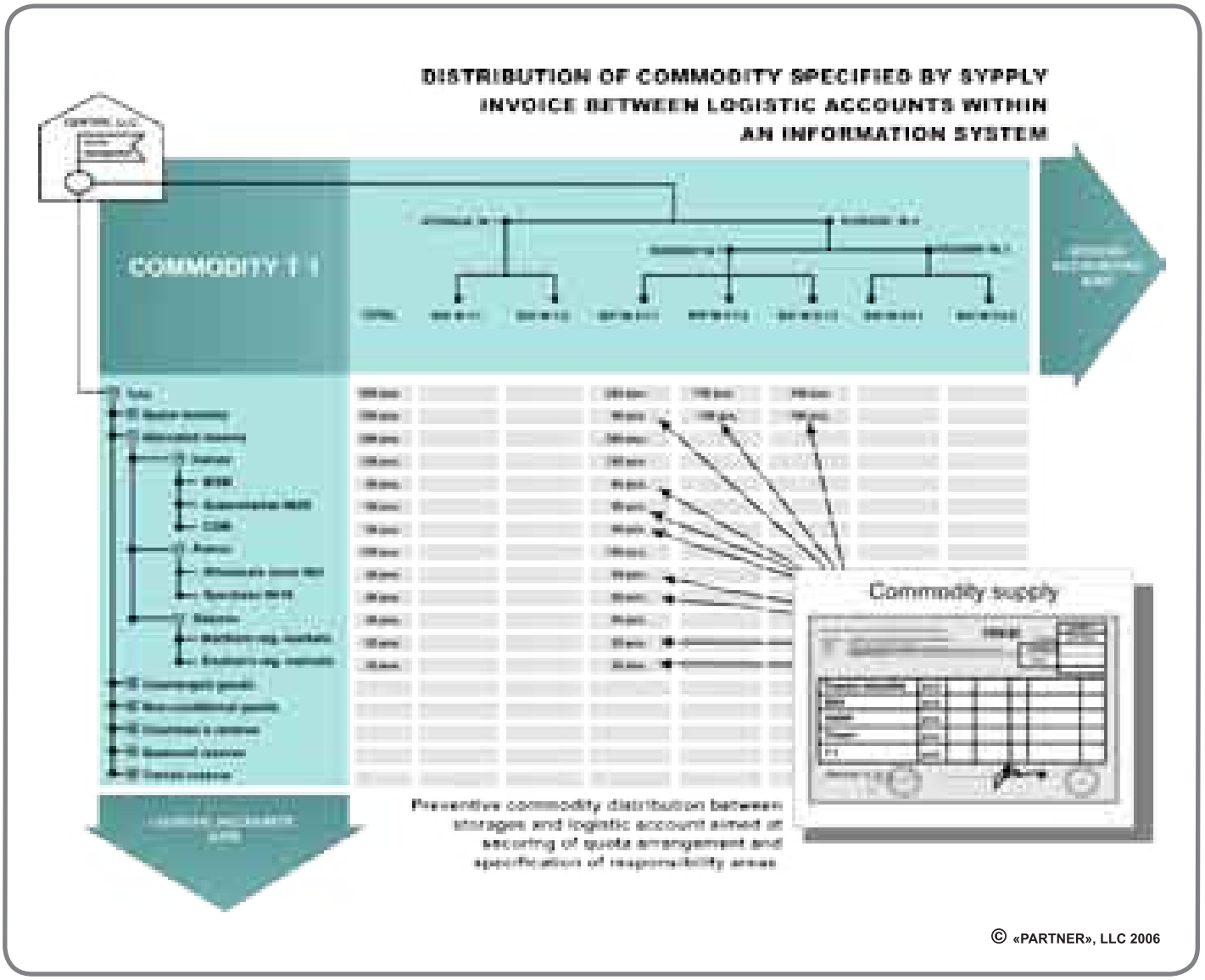
To work with «new dimension» in commodity and materials management user is provided with special instruments. First of all, these are the forms of operative monitoring of data. Like «warehouse» axis all calculations of sums and quantity of logistic accounts are provided into a real time scale. Supply chain, routes

of slots transportation are monitored, operative rummage, material and raw materials are calculated. Methods of report formation also have additional possibilities in logistic accounts.

In our information system, designed in accordance with the concept of multiple model of administrative accounting, an individual structure of logistic accounting can be set up for every enterprise (the same as you can set up an individual structure of warehouses and places of keeping).

Mechanism of warehouse control and logistic accounts are combined into unique complex in our system. They are self-sufficient and can be used simultaneously in one document. From the technical point of view it could be said that according to our concept commodity flow elements move in information field of the company in two-dimensional space – like chess pieces on a chessboard. It gives a brand new level of possibilities to user to decide all arising tasks of administrative accounting with warehouse stock and commodity flows successfully.

Logistic accounts – advantages of a new mechanism of operative management



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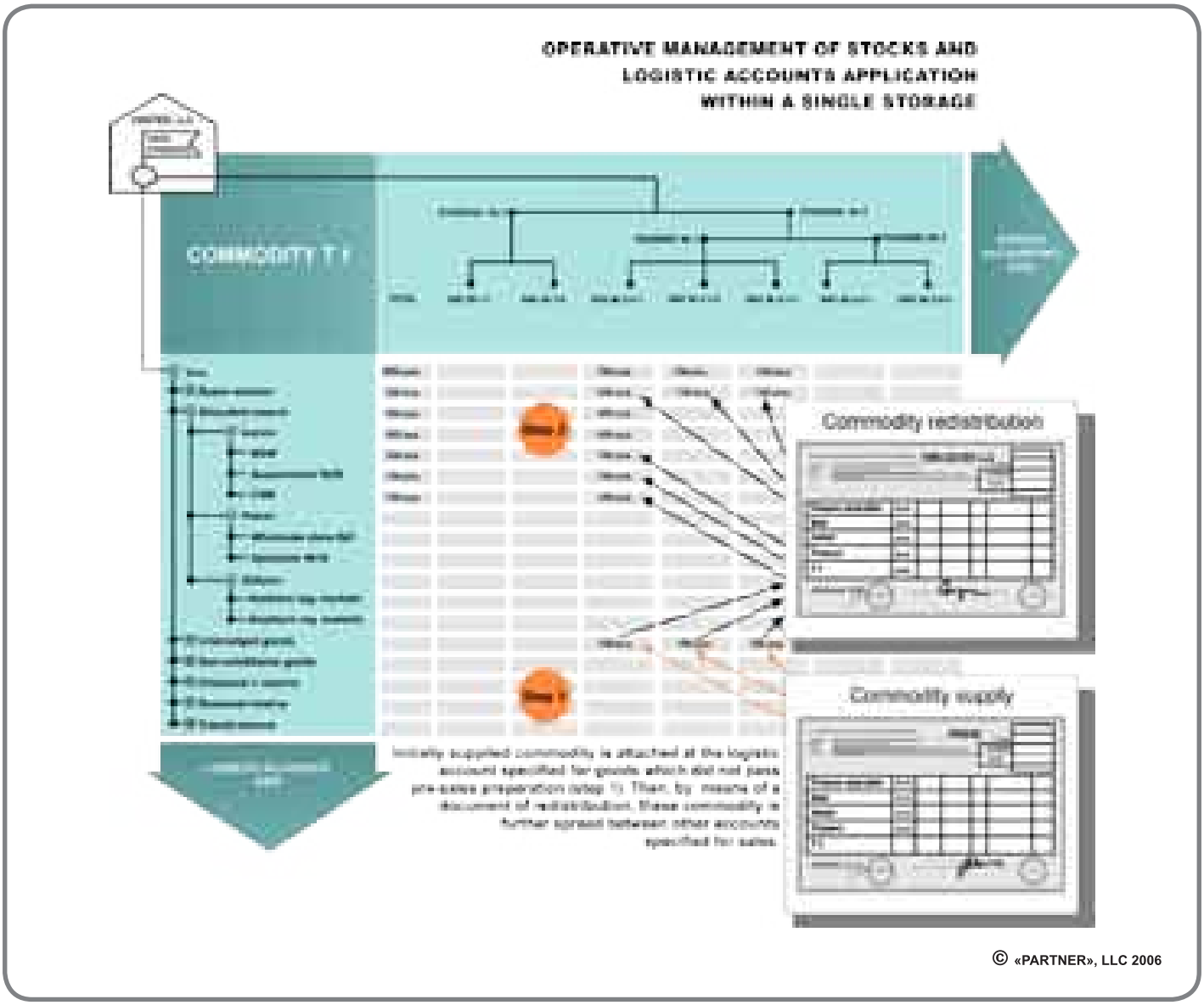
The main advantage of logistic accounts mechanisms concept is a natural approach to administrative accounting tasks decision in the filed of stock management. Putting into use an additional measuring axis of material stock we are getting possibility to precise inevitable stock division by its purposeful and functional components and transfer this procedure into information system frames. As the practice shows, every manager is trying speculatively «divide» material values kept in the warehouse or expected to be delivered, according to its designation. But unfortunately such functionality that could be registered without any interference into

stock and productive accounting procedures is not presented into information systems nowadays.

Other advantages of this subsystem are: simplicity in use, demonstrativeness of data presentation, possibility of areas of responsibility division between users, opportunity of monitoring not only warehouse stock but also material flows, transparency of warehouse accounting system, reconfiguration capabilities.

Simplicity in use. Logistic account subsystem is very simple in its operation. Structure of logistic accounts forms in a separate directory. But logistic accounts management is integrated with warehouse selection via interface. That is why additional commands adjustment actually does not require extra efforts from a user.

Demonstrativeness of data presentation. Logistic account opened in the directory becomes available to all warehouses of enterprise (see picture 11). Warehouses, presenting places of physical storage of commodity, and logistic accounts, presenting logistic (purposeful) parts of the total volume of stock, form a kind of matrix. This matrix is a base instrument for stock administrative accounting. Special form of data administrative monitoring allows us to get a clear picture of commodity or materials division between warehouses and logistic accounts. By using this form, we can visually control the volume of seasonal, reserve and transit commodities in all regional warehouses.



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The division of areas of responsibilities. Putting a logistic accounts subsystem into operation allows us to succeed in the division areas of responsibility for managers using the system and operating in the unique information space. Every logistic report within the limits of enterprise can has specific access rights. That means that commodity and materials deposited to specific personal accounts within the limits of one warehouse can be available to a certain group of people. For example, separate logistic areas can be evolved for commodity

that hasn't passed through the premarket preparation yet; separate area can be formed for every VIP-Client, reserved «emergency stock» and available rummages. Each of these areas can have separate access rights. An important moment in this is that there is no need to establish a «virtual» warehouse in the system, as such step will definitely affect the accounting integrity and complicate warehouse document control which connects with officials and material values rotation.

Do not complicate warehouse document control. Stock distribution between accounts along with identifying warehouses for commodity acceptance can be done right into initial document while entering them into information system. There is a separate class of initial documents for transferring commodity and materials located in a warehouse to defined logistic accounts. Using these documents, you can also correct or change previous distribution. For example, to transfer commodity from seasonal reserve into logistic area determined for one of the VIP-clients. Document control designed for logistic accounts cannot interfere with warehouse document control where signatures of material-responsible people are required.

Warehouse accounting transparency. System of logistic accounts is completely transparent for warehouse accounting. And vice versa, analyzing stock flow and distribution between logistic accounts, warehouse structure can be transparent.

Stock and material values management. Possibility to define accounts of logistic accounting where commodity or material entering by this document will be located, in initial documents beforetime, provides possibility to manage not only stock in the warehouse but material flows as well. It is possible to define purposeful designation of future stock already on the stage of supplier's account or even on the stage of purchase order. We can adjust distribution according to logistic accounts and, correspondently, to provide division of responsibility areas between the systems users in relation to entering values beforehand. User can apply the procedure of division to logistic accounts to plan documents as well. System's reporting allows calculating the volume of material flows and anticipated deliveries with or without division to logistic accounts.

Possibility of applying the structuring of stock and material flows in accordance with the structure of logistic accounts established for this exact company allows the managers of the company to realize targeted and coordinated policy of stock and purchase management. System's interface provides demonstrativeness of data reflection in warehouse and logistic accounts, special forms of data monitoring allow evaluating situation in a real time scale. User has a possibility to compare data with norms for this or that stocks, to record isolated statistics for every logistic account, to have possibility of data back observation, or obtain aggregative data, to view data in back observation, analyze turnover.

Possibility of changing the structure of logistic accounts. In the event of changing business-process of the company, logistic accounts structure – in distinction from warehouse structure – can be easily reconfigured. For this, you need just to define in the directory of the logistic accounts that the given account (or group of accounts) is not valid since specified date and to re-distribute material values between other logistic areas, leaving commodity at the same warehouses.

Logistic accounts and existing work procedures

Logistic accounts add new possibilities to traditional mechanisms of warehouse operative management. At this mechanism of logistic accounts is flexible enough not to break existing stock management procedures initial documents formation order.

First, logistic accounts subsystem appliance is optional. If user does not need this functionality in his work, he can refuse it. Secondly, division of the total volume of commodity and materials to separate logistic areas is notional, and this fact is reflected in the concept of logistic account mechanism. In some situations while issuing an initial document (for example, waybill for urgent commodity shipment), user, having a sufficient access rights, can ignore logistic accounts and use all available warehouse rummages.

Thus, according to the concept designed by us, logistic accounts subsystem can provide user with new possibilities in stock and material flows operative management. At this, in some situations, it can be put into a base for developing business-process with strict limits. And, on the other hand, this system can be fully transparent if necessary and does not restrict activity of the user accustomed to follow a certain procedures of this system.

Logistic accounts and reservation documentation

At first sight it may seem that tasks performed with the help of logistic commercial invoices mechanisms could be executed with the help of documents, managing reserve, as well. It is not quite so. Commodity reservation with special documents and logistic commercial invoices are two mutually amplifying mechanisms, but their functions are not the same.

The main task covered by logistic account mechanism cannot be solved by means of reservation documents. First of all, it is a division of responsibility areas between managers. Access right assignment to logistic account and to a group for logistic commercial invoices designed for certain users or group of users plays an important role in business-process development. Names of commercial invoices, in this case, must be more or less stable; it is quite possible that they will be mentioned in internal regulating document of the company. As base object, logistic commercial invoices can be used in the system during an unlimited time and rather suitable for this purpose. Within the limits of logistic commercial invoices you can form accounting, retrospective analysis, and statistics of orders rotation dates. Quota and standardization mechanisms can also be used with such relatively stable objects as logistic commercial invoices.

In the contrary, reservation documents are temporary objects, established in dependence on the current situation. Created reserve can be deleted, changed and so on almost immediately. Objects of such type are not suitable for business-process establishment. Due to the same reasons they cannot cover the problem of responsibility areas division, as from the management point of view, responsibility area is something that can be included into employment position instruction. Analogically, accounting formation in reference to that objects or subjects for which the reservation was done is complicated. In conclusion it could be said that contra positioning of logistic commercial invoices and reservation documents mechanisms are not correct, because they have different application. One of the mechanisms cannot entirely changed by the other. Our system has both mechanisms. Mechanism of reservation by means of document will be described in details in another section.

Logistic accounts and accounting analytics

The impression that tasks covered with the help of logistic commercial invoices mechanisms are the same as those tasks that must be decided by accountant's analytics can be created. It's not like this. The essence of accountant's analytics is fixation of the company's business activity facts but not interference into active process of daily operations. That is why maintenance of analytic accounts within the limits of accounting records and creation of initial documents with using of control and restricted mechanisms of logistic accounts – are two different stages of one accounting process.

Administrative accounting within the limits of logistic accounts maintains records in a real time scale. It is possible to apply mechanisms of raw materials (commodity, materials) consumption norms control and quota arrangement, division of areas of responsibility between users in accordance with their employment duties. This differs administrative accounting from accountant's analytics, which designed only to submit separate results of different subsections of accounting.

After data are uploaded into a subsystem of cost accounting, that represents the central part of our system, information can be uploaded separately for different logistic accounts and be seen in appropriate sub accounts. Thus, cost accounting and mechanism of logistic accounts are two mutually amplifying mechanisms. They were designed for different aims and perform their functions on different stages of accounting process.

Examples of logistic accounts mechanism's application

Below there are some typical examples of applying mechanisms of logistic accounts. They demonstrate use of a concept of two-dimensional information space for stock operative management, offered by us, provides simple and evident decisions for a number of accounting tasks and allows to contribute orderliness in business-processes' organization.

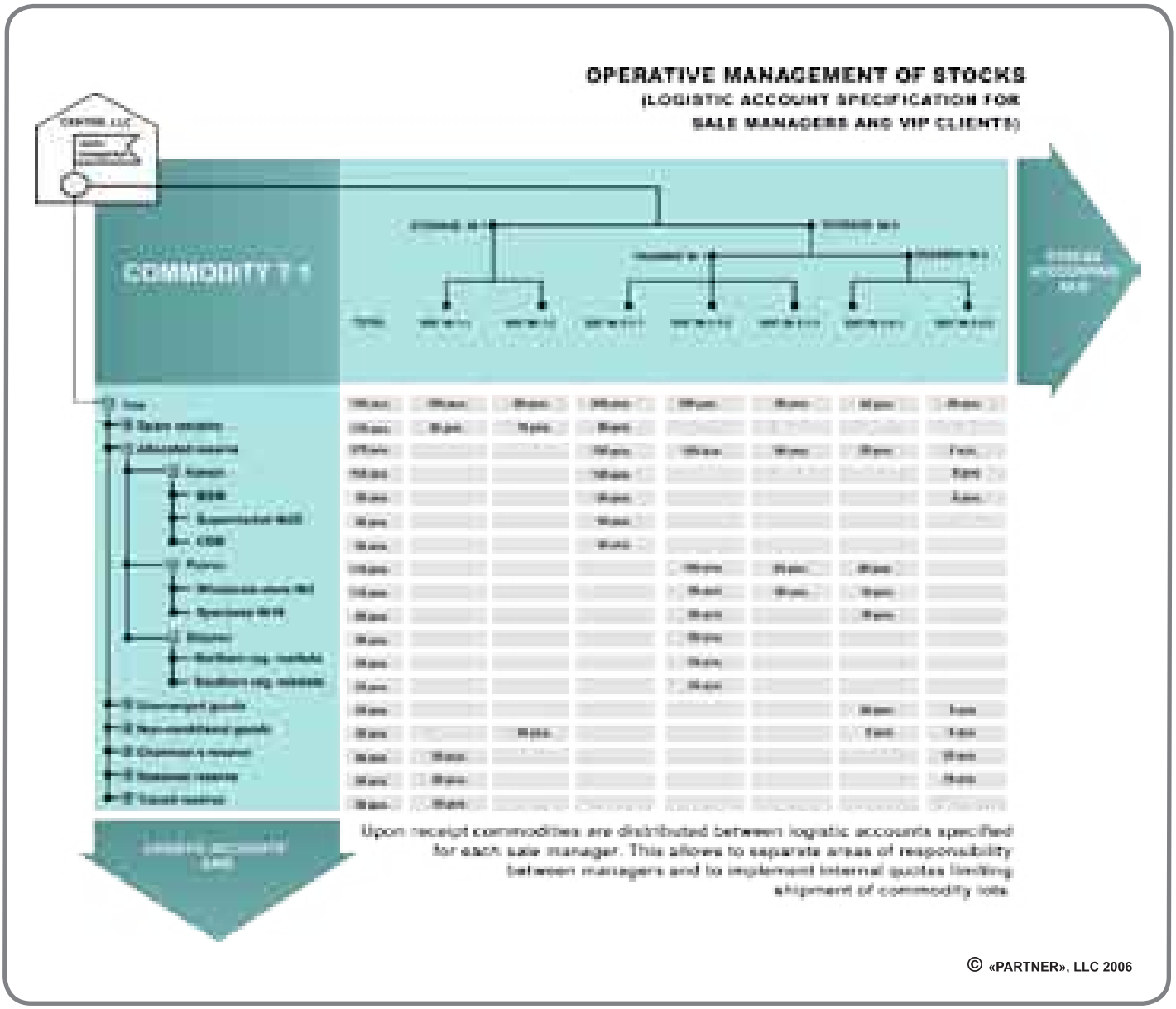
Studied precedents refer to different spheres of business activity and situations. Structure of logistic accounts closely connected with the organization of management accounting in the company, and in actual practice, it can be unique. For example, it can represent a combination of all variants described below.

Commodity stock management.

On picture 14 you can see an example of application of logistic accounts as an instrument for administrative accounting organization in the process of wholesale. Main commodity stocks located in warehouses are

distributed by their purposive appointment within the limits of logistic accounts «Appropriated reserves». Inside this account, first of all, personal logistic accounts for sale manager are marked out. System of access rights differentiation in our system allows to establish different access rights for every of this accounts, restricted by doing so the sphere of sale-managers activity. Commodity distributed in accordance with these logistic accounts (see pictures 12 and 13 to understand how to do it) can be selected for issuing documents for shipment only by specified employers.

Within the limits of personal accounts of sale managers, in their turn, we divided them into logistic accounts of big wholesale buyers (VIP-clients). Separate accounts were also distinguished for commodity that is not prepared for sale, non conditional commodity and commodity that is in a special reserve.



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This example demonstrates the range of possibilities provided by logistic accounts mechanism in regulated business-processes formation and set of instruments for operative regulation of sale processes.

First of all using such structure of logistic accounts there is a possibility to establish sale quotas for some managers. The most important thing is that the system owner has possibility to provide maintenance of these quotas (not applying administrative measures like strict orders and long-lasted meetings). It is enough just to establish limited access to some logistic accounts and nobody will be able to use for shipment commodity designated for the other consumer, or not prepared for sale. The most important thing is that limitation of access rights to logistic accounts do not extend to the access to warehouse in general. This means, for example, that manager Petrov (see picture 14) will have possibility to provide shipment of commodity T1 from

the same warehouse №2 and even from the same warehouse cell, that Sidorov uses, but only within the limits of quota assigned to him (100 units). And user of the system who has no access to appropriated reserve can provide shipment from the same warehouse using available rummage.

Presence of additional sub accounts inside personal logistic accounts of managers allows making sale process more delicate. Now managers can create preliminary reserves for highly important clients that can be presented by constant or highly prioritized wholesale customers. Distinguishing separate logistic accounts for commodity that have not passed premarket preparation and non-conditional commodity also have a great value. Establishment of operative accounting on the base of commodity flow components provides users with possibility to monitor rummages on every of logistic accounts and groups of logistic accounts in a real time scale. Results of dynamic calculations reflect in a special form of data monitoring. Besides, there is a possibility to issue retrospective report and to make analysis of commodity flow for every logistic account, to define not only gross but structural turnover as well. This allows increasing the quality of management decisions and gives possibility to correct current sale policy of a company more precisely and reasonably.

It should also be marked that application of dynamic forms of monitoring and reports preparation within the limits of logistic accounts, allows analyzing commodity flow in separate appropriated reserve, consolidating this flow on several warehouses. Only presence of logistic accounts mechanism that not just divides the whole commodity stock into logistic accounts but also generalizes data according to the same criteria, makes the resolving of the task simple and evident. It is completely impossible to get the same results without significant labor expenses if there is no this mechanism.

Special attention should be paid to the fact that abovementioned structures of logistic accounts do not distort the existing structure of warehouse in the company. Creation of additional «virtual» warehouses and cells is not required. Warehouse personnel can even do not know about the existing structure of logistic accounts, guided in their activity by shipment document of established forms exceptionally. Moreover, in cases of emergency, which are not rear in business, user having sufficient access rights (for example, commercial director of a company), has authority to dispatch the whole volume of commodity stock available in the warehouse just by a waybill, ignoring its distribution between logistic accounts. Thus, for example, commercial director of LLC «Center» (see picture 14) has authority to dispatch from the warehouse №2 not only commodity from available rummage but also commodity registered on personal logistic accounts of sale managers, including at the same time, commodity putting into reserve of the general director.

Raw materials stock management according to their functional characteristics.

Picture 15 demonstrates the way of administrative accounting of raw materials stock organization according to their functional characteristic by using mechanism of logistic account, without breaking the existing structure of warehouse and production document control of the company.

Structure of logistic accounts offered in this example, divide stock into cyclic, transit and autonomous. Some logistic accounts also monitor raw materials appointed for production orders that are already launched, and available rummage. It is important that such division of stock according to its functional categories can be done without breaking existing document control of a company, conditioned by the structure of production areas, sub departments and warehouses. Cyclic stock occurs due to necessity of purchasing raw materials or components by separate lots. Frequency of such purchasing and size of lots define by special methods (examples of such methods can be found in the publication Vollman T.E., Berry W.L., Whybark D.C. Manufacturing Planning and Control Systems. – McGraw-Hill, 1997). However, in the intervals between purchasing it is necessary to have instruments for the current cyclic stock monitoring, because all formulas for re-order calculation relates to this exact value.

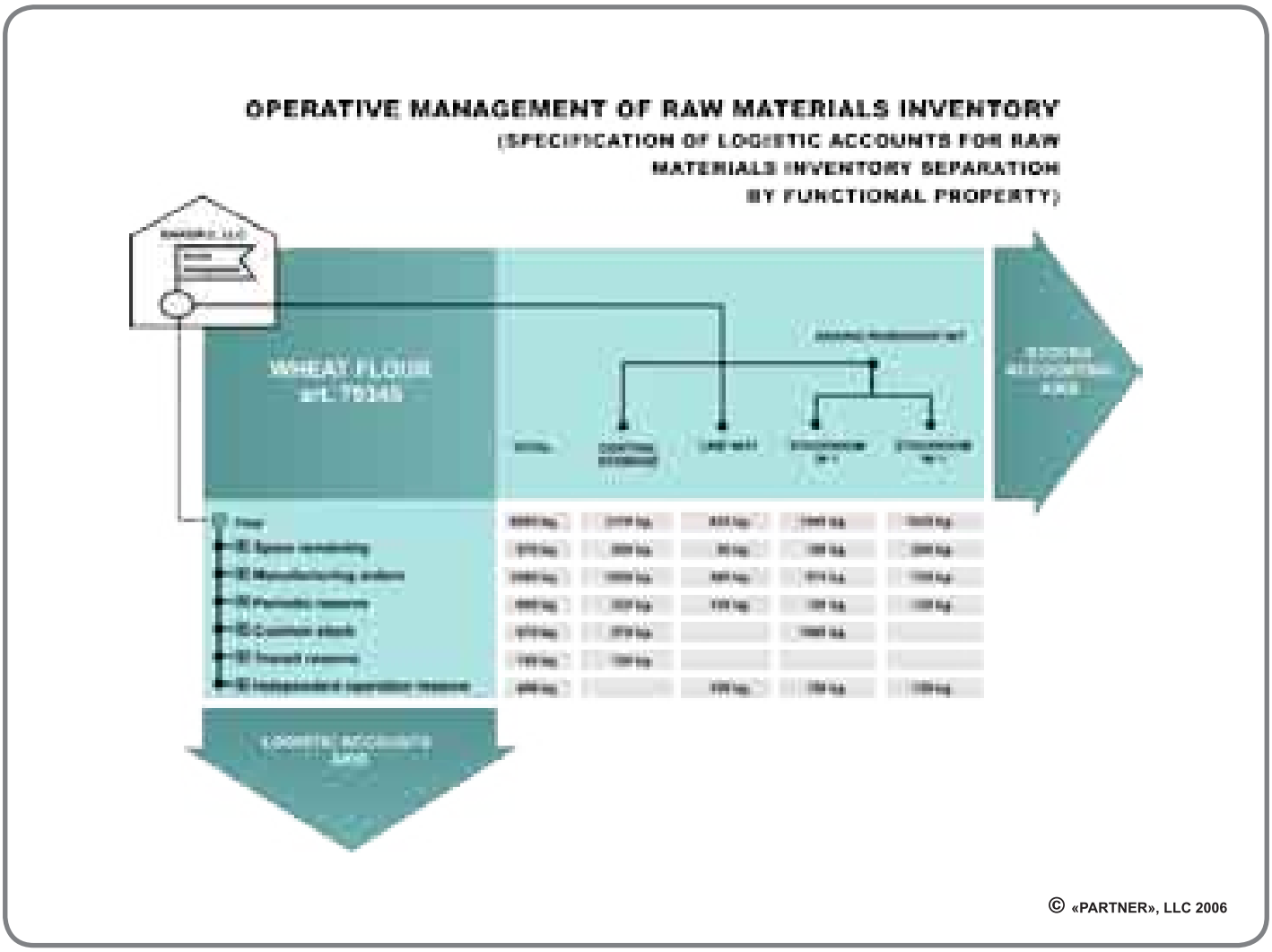
Autonomous stock forms in workshops and intermediate warehouses to provide uninterrupted operation. Peculiarities of company's logistic system and temps of raw-material consumption can define the volume of this stock.

Transit stock also depends on logistic problems. It size depends on raw material and components distribution structure and transport infrastructure tempts.

The aim of reserve stock creation is level production volume fluctuation. For example, flour can be accumulated to the defined data (holidays), when orders to bread production can be increased significantly. Such stock division according to its functional characteristic corresponds to the wide-known methods called CAPS (Center for Strategic Supply Research).

Stock division into separate logistic accounts allows dividing total volume of stock located in the warehouse in a number of logistic parts. It is easier to control each of them in separate. On the basis of norms established in the company, it is possible to monitor extra amount or lack of different categories of

stock. According to our concept of operative management based on the elements of commodity flow, it is possible to provide analysis of commodity flow for every logistic account and gather data concerning the actual consumption of every type of stock. This will allow to correct norms established in the company and decrease stock level increasing, at the same time, rhythm of company’s operation.



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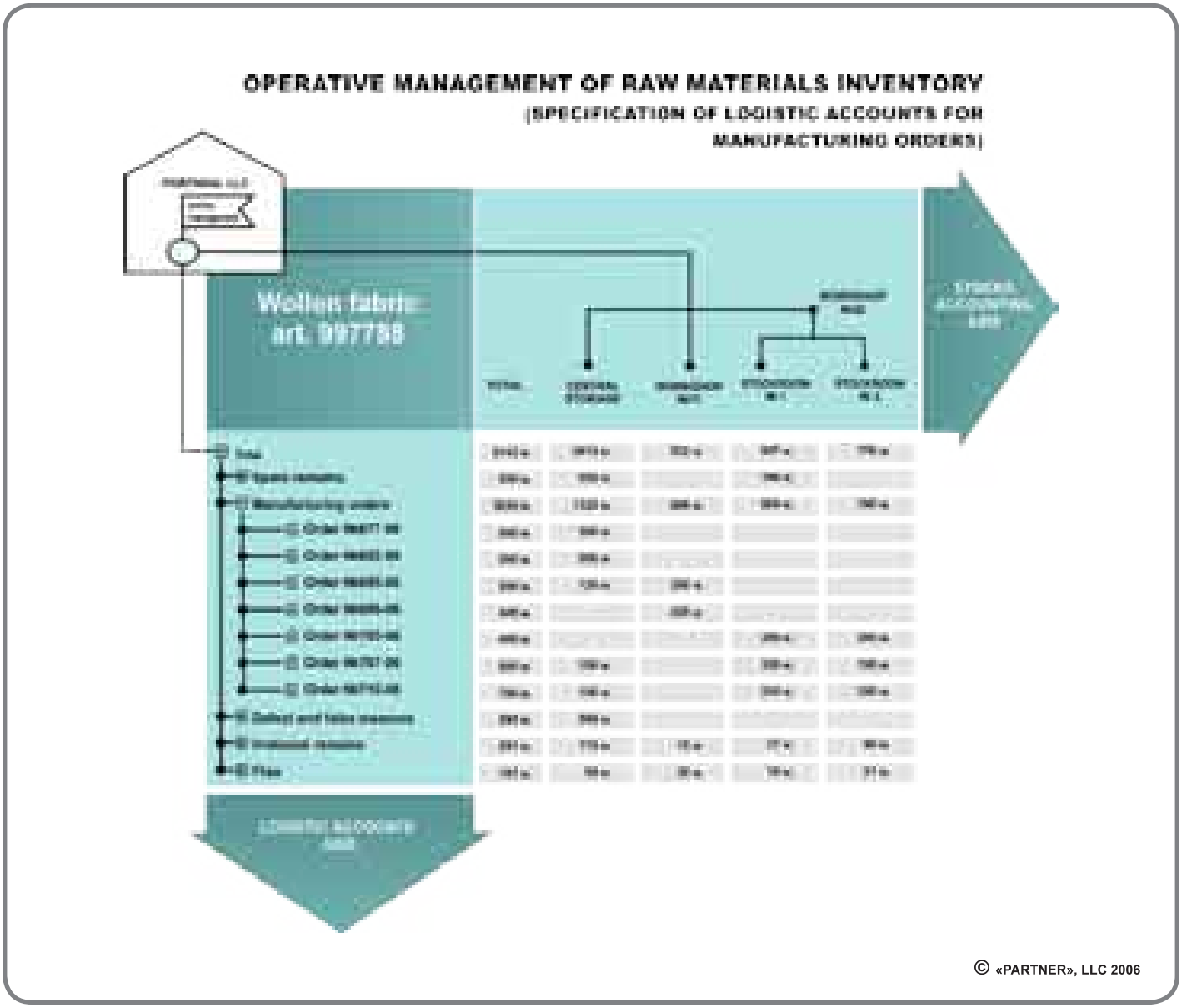
Stock management on production orders.

On picture 16 demonstrates an example of logistic accounts structure for administrative accounting of war materials on production orders. Logistic account issued for every production order, allows to establish raw materials consumption quotas and to monitor their fulfillment even if raw materials for this order are in different warehouse and partially transferred into workshop. It simplifies control over the production norms fulfillment and gives possibility to find out extra consumption timely.

Such additional structuring of information concerning the stock within the limits of established stock activity of the company and temporary places of raw materials keeping in workshops, allows to restrict production and technological discipline, gives possibility to evaluate effectiveness of logistic chains of the company. Found upon the concept of administrative accounting based on the commodity flow elements, user can get from the system current and retrospective information about raw materials changes dynamic, provided for every production order. It allows to evaluate time during which stock was not claimed and correspondently, to precise period of delay (lag) for MRP-calculation. It is also possible to evaluate the volume of raw-materials surpluses that were transferred from production order’s logistic account after its closing and, correspondently, to precise the consumption norms of raw-materials used in BOM specification (BOM – Bill of Materials). If an additional transmission of raw-materials to logistic account of the production order took place in the process of production order execution, we can make a conclusion that raw-materials consumption norms in specification for products

are not sufficient, or there is an extra-consumption of raw-materials during technological process.

There are also logistic accounts for defect raw-materials and irrational rummages (for example, small pieces of tissue that cannot be used into production already) in the example. Separate logistic account «Defect and false measure» is issued for raw-materials delivered from the supplier recently and didn’t expose to all necessary quality and measure control.



pic.16

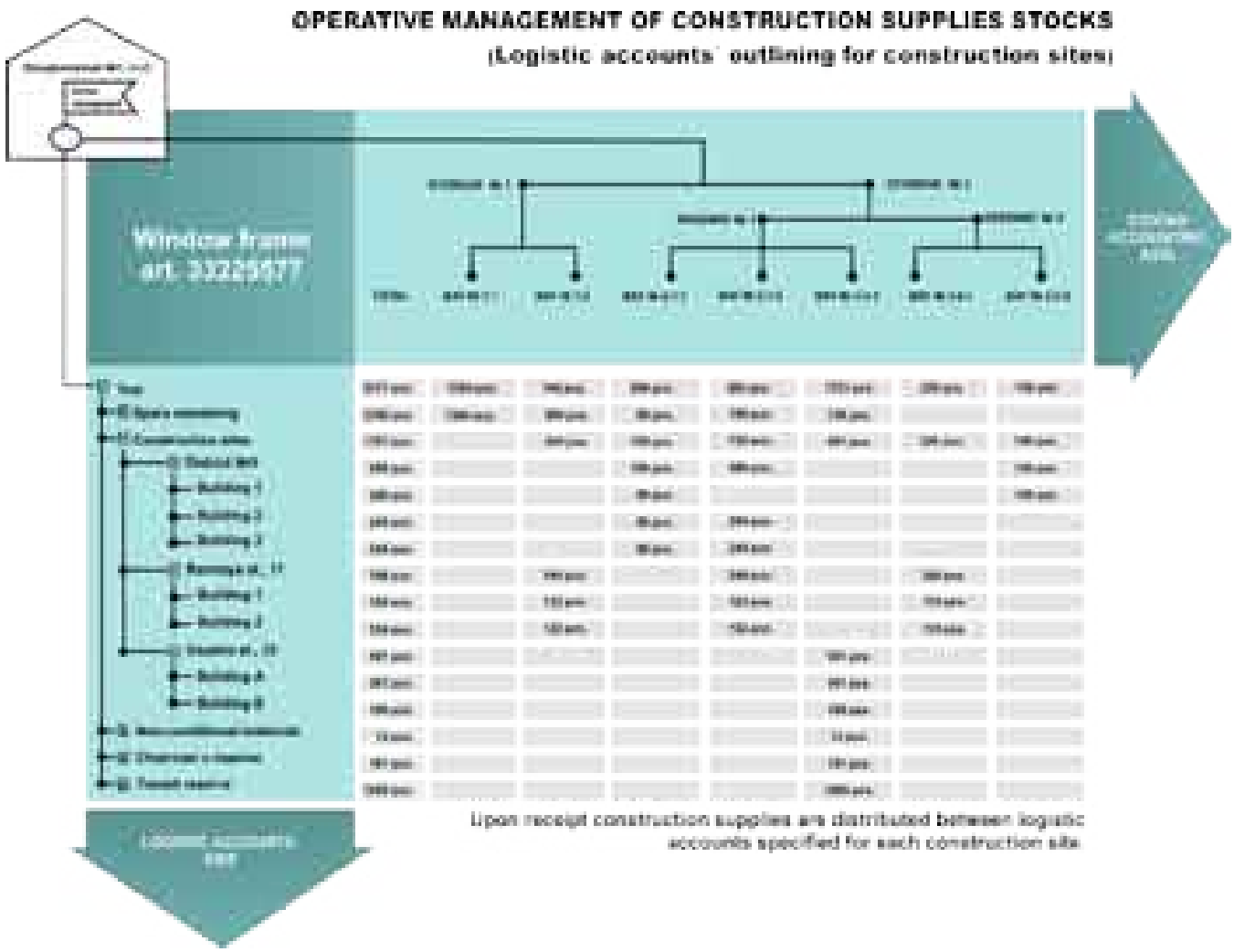
Applying of this structure of logistic accounts allows to get an objective picture of purposeful distribution of available raw-materials in a real time scale and provides production manager with an instrument for well-founded managing decisions.

Stock management on construction projects.

Picture 17 gives us an example of analog approach to logistic accounts formation, but from another sphere. At this case, we are trying to resolve the task of stock distribution and administrative accounting of construction materials consumption on different construction projects. In this example, every big project (construction site) has its own logistic account.

It is possible to put a parallel between production orders and construction projects, but there are some peculiarities. Construction projects, as a rule, located in different areas that and net of construction materials warehouses can has more branches than for production enterprise because of this. Besides, construction process takes a long time and consumption of materials and components goes gradually. All this makes

administrative accounting more complicate. On the contrary, providing logistic accounts makes accounting process simple and natural.



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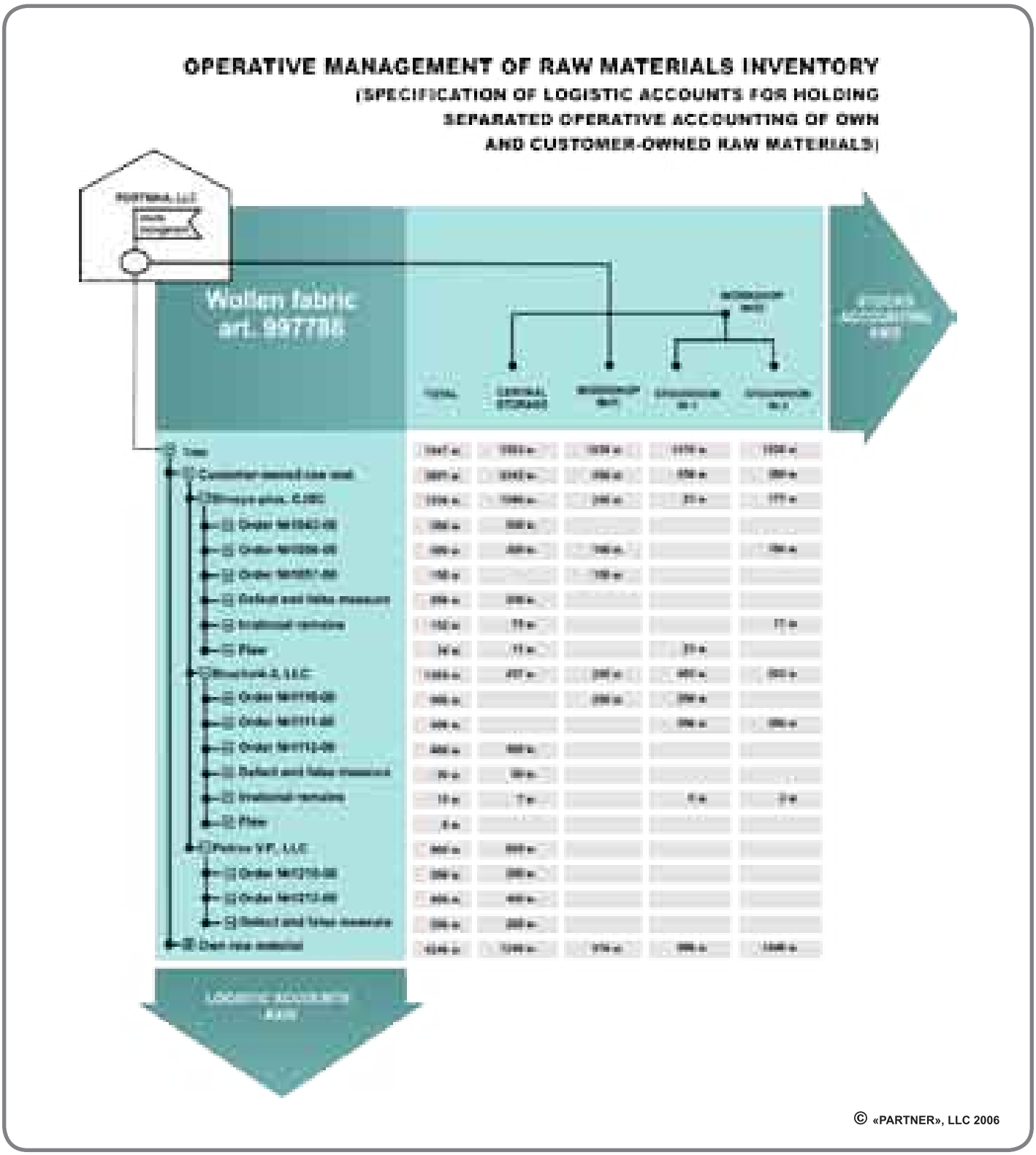
The monitoring of material consumption norms in accordance with the project-estimated documents in regard of construction projects is a difficult task not only due to hugeness of the specification itself, but also because you must keep in mind during several months (or even years) – how much materials have been already used for the given project and how much have left to be used. Mechanism of logistic accounts covers this task easily. It is important that you can not only view the materials rummage from needed point of view but also to analyze their flow for a certain period of time (incoming and consumption).

Beside the abovementioned, construction companies have one more peculiarity related to the stock control. Materials’ keeping often organizes in accordance with their characteristics, size and cost. For example, it is very doubtfully that cement, paint, reinforced concrete slabs, electricity fittings and bathroom and lavatory equipment will be located into one warehouse. That means that materials for one construction project will be distributed among a number of specialized warehouses. And it is quite difficult to get operative information about the quantity and cost of components in the warehouses for every construction project. On the contrary, while applying mechanism of logistic accounts where warehouses’ structure is transparent, this task gets evident decision. This picture could be seen in a real time scale in stock monitoring forms and in reports.

Advantages of appliance of logistic accounts mechanisms in the situation described in above-mentioned

example are evident. New possibilities of production and technologic disciple restrictions are provided. You also can normalize the consumption of materials keeping in the same warehouses for different construction projects. You will be able to find out irrational surpluses of materials or, vice versa, their lack, timely. But the most important fact that, the same as it was in the previous example, appliance of logistic accounts mechanism will let you to draw an objective picture of available materials distribution between project in a real time scale in accordance with norms and quotas established in the company.



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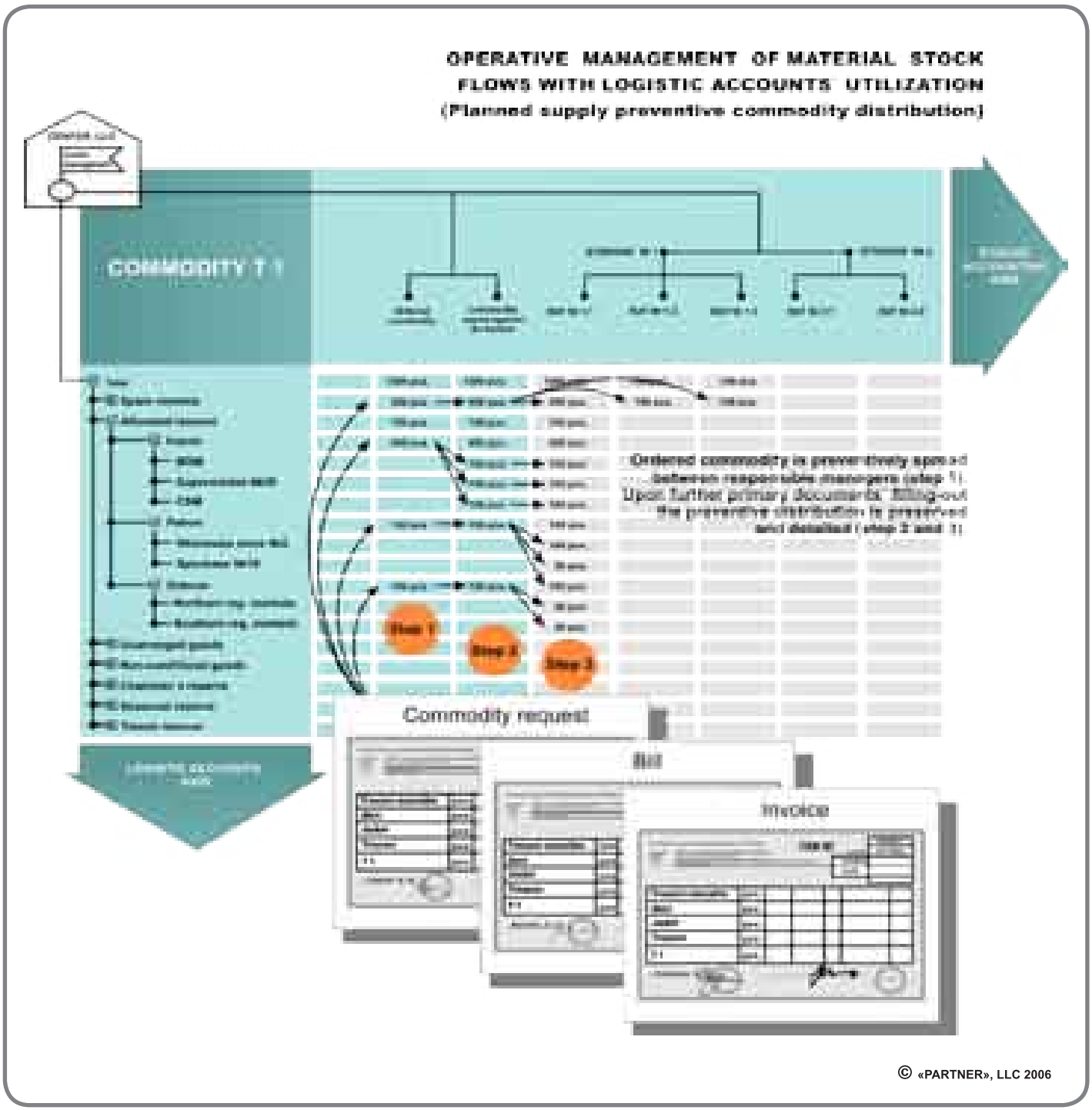
Management of own and customer-owned raw material.

Picture 18 shows us the development of the example, schematically provided on the picture 16. This

time the structure of logistic accounts takes into consideration the necessity of administrative accounting of the customer-owned and own raw materials, which are hold collectively in the company’s warehouses and workshops.

In accordance with cost accounting requirements of the company, it is necessary to provide separate accounting for own and customer-owned raw materials. However, from another point of view, there is an established structure of warehouses and places of raw materials keeping in the workshops within the limits of production complex. Therefore, there is a necessity to take a decision - how we can avoid mistakes during the initial documents processing and not double at doing so, warehouse infrastructure. Logistic accounts mechanism allows to grapple this contradiction. Provision of separate logistic accounts for own and customer-owned raw materials allows to provide separate accounting of the customer-owned and own raw materials at their physical keeping in the same warehouses.



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Provision of separate logistic accounts for the customer-owned raw materials of defined enterprises and even for defined production orders allows providing accounting in accordance with their quantative and costing expression by prices stipulated in contracts for raw materials transmission for production orders execution.

In the context of logistic accounts for the customer-owned and own raw materials, administrative accounting is provided in a real time scale. Mechanisms of norms control for raw materials consumption and quotas establishing, division of areas of responsibility between users in accordance with their employment duties could be applied.

While data uploading in the cost accounting subsystem, which is the central part of our system, information concerning the own and customer-owned raw-materials, can be uploaded separately in accordance with the logistic accounts structure (including separation according to contracts) and be reflected on the correspondent sub accounts.

Material flows management.

On a picture 19 schematically shown the way of material flows organization with the help of logistic accounts, long before the moment of commodity and materials delivery to the warehouse.

In the given example, distribution of business activity objects between persons' accounts takes place on the stage of order formation for the supplier (step 1). This allows deciding the question of user's authority identification in regard to the ordered commodity or material in advance. Initial documents, issuing on the base of this order (invoices, waybills) inherit the distribution made in the parent's document. In example only one invoice and one waybill are given, but in real practice one order can be paid on the bases of several invoices and discharged by several waybills. And all this affiliated documents (there can be dozens of them) will inherit the distribution that was made in the initial document and will follow it strictly. Correspondently, chain of documents, forming material flow, can be started not with the order only, but with a contract, invoice and so on, as well.

Thus, made only once, preventive work on commodity distribution between main logistic accounts (in example – between key managers), allows to normalize the whole further process of a commodity slot processing. Defined managers (steps 2 and 3) can do the more detailed distribution between logistic sub accounts. In result, by the moment of supplier's cargo delivery to the warehouse, the purposeful designation of the accepted commodity or materials should have been already known. It is possible to identify for which counteragent or which production order it is appointed. In this situation it can be guaranteed that commodity will be discharged in accordance with the established plan and materials be used according their designation.

The same procedure is used for preventive management of commodity and materials release. Already at the stage of the order form the buyer, it is possible to identify at the expense of which logistic accounts it will be done and a further chain of initial documents will be established automatically in accordance with the given logistic structure.

Logistic accounts and general stock accounting concept

The concept of two-dimension model of stock control, offered by us, allows to enhance the limits of traditional ideas about the possibilities of administrative accounting module. Appliance of logistic accounts' axis allows to integrate functions of stock analytics and management pf tasks flow with division of areas of responsibility. (WorkFlow). This provides new possibilities for organized development of a company, management of the key employees motivation, and, simultaneously, more strict control over their activity. Now it is possible to provide every trade and production manager his own "piece" of stock and monitor their further activity. Monitoring can be either in a real activity scale or in retrospective, based on the reports – for any chosen period, for any chosen date.

Analysis of commodity or materials transmission between logistic accounts will let to provide analysis of internal logistic chains. This will help you to identify hidden problems pf activity planning and discover methods of expense decreasing.

At this, new mechanism running into information system is simple for understanding, does not make user's interface more complicated and has good connection with established practice of using information systems in stock monitoring field.

Internal accounting mechanisms

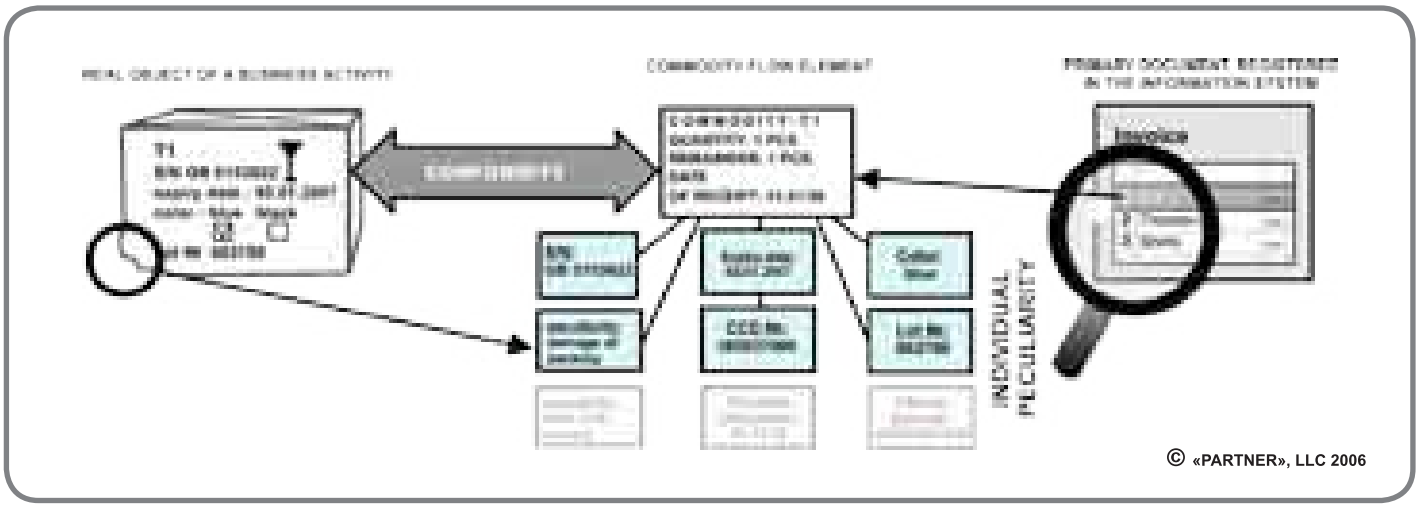
Accounting based on commodity flows elements

Traditional approach – registered organization of accounting

According with a traditional approach administrative accounting of commodity-material values flow is performing by means of putting information about the facts of business activity into special registers. This process executed in accordance with accountants’ traditions - by means of transaction recording. As a rule, these special stocks’ transaction recordings that arise while posting of initial documents or accounting stock register-books. Data of administrative accounting distributed between the appropriate registers are used, first of all, for management accounting. Transition to cost accounting is, as a rule, the next phase, demanding additional actions from users.

Traditional approach drawbacks

First of all, disadvantage of such approach is in its estrangement form real practice, from the physical essence of the process. The direct connection of initial document, main instrument of business activity facts registration, with mechanisms of rummage and milestone financial results calculation that are vitally important for administrative accounting, turns to be isolated from additional functional link. Additional phase in the initial document processing – operation of distribution between registers of stock accounting appears. It creates a certain time break between document registration in the system and initial actions concerning the fixation of the business activity fact. Besides, information about the real object of business activity spreads between several registers that makes data analysis more complicate, as to take operative managing decisions generalized data are needed.



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Other disadvantage of registered approach is its weak flexibility to periodically changing requirements of management accounting. Structure of accounting registers strictly predetermines available accesses for reports formations and limits the depth of analytics. It is possible to change this structure but it is a very laborious process as it requires significant system readjustments.

Thus, direct transmission of mechanisms, based on transaction recordings and accounting register-books, from cost accounting sphere into the field of commodity-material flows administrative accounting, leads to evident difficulties.

New approach – accounting organization based on commodity flows elements

There is an original method of business activity facts reflection, connected with commodity-material flows, in our system. An accounting object, called element of commodity flow, is confronted to every object of business activity (commodity, nomenclature unit) in the information system. This accounting object has a link to the nomenclature reference book and to all other necessary reference books. But, beside this, it can be given with individual characteristics.

In it envisaged into the system that such objects automatically arises or changes during user's work with initial documents. This process is inappreciable for user and does not require any efforts from him. Thereby, an automatic checking of initial documents and information objects of accounting in a real time scale happens.

Strict documentary approach simplifies the work

Commodity flow elements are closely connected with initial documents. It is stipulated that they can be created and changed only by means of initial documents. But it do not cause any inconveniencies. On the contrary, our system processes the whole range of initial documents for accounting commodity-material flows movements, stipulated by the homeland legislation and business practice. Stock register-books and different artificial decisions in the contour of logistic management are not in use - all facts of business activity described by the initial documents of established forms exceptionally. Initial documents entry forms are close to their paper medium consequence of location and parameters. Thus, user can apply his knowledge about the order of paper document control practically without corrections.

For users from other countries strict documentary approach also does not create any problems. Formats of main initial documents - invoices, waybills and acceptance acts are almost the same all around the world. And other documents that are not stipulated by the other countries' legislation are designed for internal use only – and they are much more convenient in use than commonly accepted elements of registered accounting system. Thus, there is no need in stock register-books any more. All internal stock operations also become documentary, all actions perform on the base of documents of established forms. It helps to reach the unity of user actions' order and provide a complete transparency and strict centralization of the most important accounting data's processing algorithms.

Commodity flows elements and new opportunities of logistic accounting

Accounting organization based on the commodity flow elements guarantee the simplicity of assimilation and implementation of a product. It is much easier to start to use information system of accounting if their duplicates document control that was naturally established and approved by legislation. In many cases it is enough just to begin to prepare initial document via the system – and no any adjustments will be required. All system's reactions are clear and evident.

Besides, such accounting object as a commodity flow element, unlike the group of the stock transaction recording, always can be associated with a real commodity-nomenclature unit, or group of such units, keeping in the warehouse. Peculiarities of the given unit can be described individually. At that, it could be not just a standard sets of characteristics (one or several serial numbers, analytical characteristics, period of validity, periods of running), stipulated in the reference-book of a commodity nomenclature, but also peculiarities that were found out during the logistic processing (damages, scratches, description characteristics for unique products – such as, masterpieces or antiques). Defect, grade's changes and some others marks concerning the specific elements of commodity nomenclature's slots or even separate samples of commodity are also provided.

Commodity flow element and opportunities it provides

The essence of commodity flow element

In general, accounting can be characterized as information model of business activity. The more precisely the model will be established the more possibilities for accounting the information system, as an instrument, will provide to user.

Commodity flow element is an object in information system of accounting that directly connected with every group of homogeneous objects of nomenclature stipulated in the waybill while delivery, till separate nomenclature's unit. As the next business activity transactions with this commodity are recorded with initial documents, it differentiates, accumulates additional data, up to comments of personnel operating with it. In the event the commodity is distributed with different waybills of shipment, a commodity flow element will be divided correspondently, keeping at doing so all accumulated data. Due to the possibility of a commodity flow element to support individual and changing information about the business activity object with high accuracy, it can be called natural information equivalent of this object.

Advantages of natural approach

Accounting organization on the commodity flow elements base, being a natural information representatives of business activity objects, is much more transparent and close to the reality than any synthetic methods of a real business situation data renovation, see picture 21. Calculation of generalized data becomes simpler as well. With equally little efforts you can make a selection in any needed context – everything you may need for management accounting. At that, these requirements could even be unknown to designers – range of receiving reports, as in a real life also, is limited with actual presence of information about the business activity object only (from arbitrary general up to arbitrary detailed).

The importance of transfer to accounting mechanisms based on commodity flow elements

Use of accounting mechanisms, based on the commodity flow elements opens new prospects for information systems development. Due to naturalness and transparency of base mechanisms, there is a possibility to decrease the cost of software development significantly while saving its high functionality. This will allow spreading advanced accounting instruments among small and medium enterprises greatly.

Besides, it is either impossible or extremely difficult to realize a lot of information accounting system functions of high importance that is needed on the modern enterprise, without implementation of the abovementioned mechanisms. Especially it concerns questions of dynamic management of stock, production supervision and operative planning. That is why transaction to new mechanisms meets the interests of big companies running such complexes.

We consider that further development of accounting systems is impossible without transaction to accounting mechanisms based on the commodity flow elements.

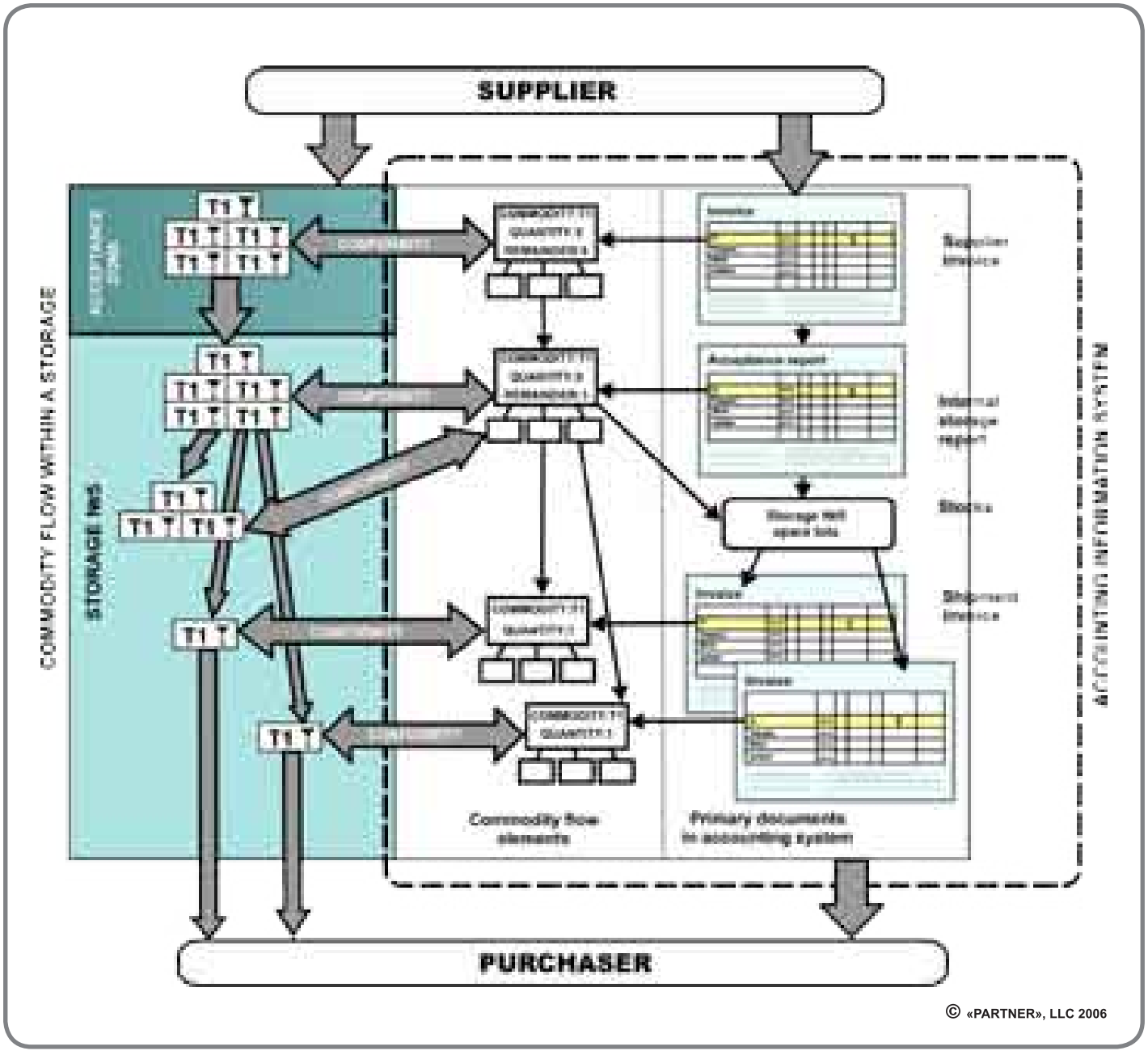
Commodity flow element from the user's point of view

System's interface was specially organized in such a way that a user always sees the lines of initial documents with familiar set of parameters first – approximately the same that he would have seen in a paper version of the document. It gives to user a possibility to apply his knowledge and skills in initial document processing while working with the system.

If data detalization is required, than it is possible to open under each line, a list of commodity flow elements, generated by the given document, containing the as detailed data about the real object of a business activity as it is necessary in this situation.

Adaptive approach to nomenclature data detalization

Accounting creation on the base if commodity flow elements allows to entry a big volume of information about nomenclature units (for example, entering commodity). It is important that applying mechanisms do not require simultaneous setting of all these parameters during the first initial document registration, as it was doing traditionally. It is possible to entry-defined parameters sequentially – not in the first initial document (for example, supplier’s waybill), but while creation the next initial documents. You can also to entry them selectively – only those that are necessary for administrative accounting of this exact slot (or unit) of nomenclature. This allows, from one hand, to describe parameters and peculiarities of specific nomenclature in every detail, and from the other hand, to do it for those slots (units) of the given nomenclature, for which it is really necessary.



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It is possible to say that our system, based on the original method of presenting business activity objects in information system of accounting, provides possibilities for adaptive processing of data – user can flexibly select the level of detail description of commodity and materials in dependence on accounting needs and established situation.

Example of sequential data detalization appliance

In order to decrease working hours, wholesale slot of hard discs (for example, 1000 pieces) can be processed (to accept from the supplier and to ship to the customer) without identifying serial numbers and other peculiarities of separate products. And slot of the same discs designated for retail (50 pieces) to process with identifying serial number for every product, guarantee period and individual peculiarities (scratches on the corpus surface). At this, the unity of nomenclature position will be saved from the administrative stock accounting point of view.

Advanced opportunities of data reflection and reports organization

Accounting organization based on the commodity flow elements, allows spreading accounting possibilities, operative data monitoring and whole analysis of business activity facts possibilities. Presence of a commodity flow element - natural and intuitively understandable representative of a material object in the information system of accounting, allow getting practically unlimited depth of analytics that can be used for selections, organization and reports formation. Actually, its depth is limited with meaning parameters only, which user considered as needed for the given material object in information system. Because objects are presented in the data base apparently and there is no necessity to renovate their characteristics from separated stock transactions recording, system has a possibility to reflect operative information like forms of monitoring where data can be presented in any contexts in time scale close to real. As a result, system's possibilities in operative accounting data reflection become closer to OLAP.

Operative accounting organization based on the commodity flow element accounting is a complex decision, designed to decrease labor intensiveness of operative accounting process, increase transparency and centralization of entry information processing methods and significantly increase demonstrativeness of presented data that are necessary for taking decisions.

Labor intensiveness decrease can be reached by deletion some milestone operations relating with transactions recording (such as distribution, checking and analysis of cross-related register-books of transaction recordings and labor intensiveness connected with it) from counters of operative accounting. At this, an accustomed transaction recording is saved in the cost accounting. Beside, significant efforts economy is reached due to flexibility – providing user with a possibility to choose which data for specified nomenclature in what situations can entered fully and in what situations can be limited with simple information.

Transparency increasing and data processing centralization is reached due to use of the unique type of the object in information system – commodity flow element (as alternative to stock as transaction recording), that represent real object of a business activity more precisely and in natural approach.

Demonstrativeness increasing of data presentation is approach due to the possibility to use monitoring forms, which in different context and actually in a real time scale reflect business activity information.

CORSAIR
corporate
information system

«Corsair» system description

New generation information system for trade and manufacturing enterprise management

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