

The problem of oversaturation of computer systems with applications and its supposed solution

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Abstract— In the given paper, an idea about integration licensed computer programs into one address space to use their shapes in workstations is considered. The key moment of this idea is work with interface of software without its installing into a workstation. As a result, not only users are free from problems on setting up applications into their PCs, notebooks, pads and mobile phones but also resources of their devices can be loaded more rationally. The conception is a very topical because nowadays the tendency of oversaturation of computer systems with software is observed. Meanwhile, majority of used programs are either copies of licensed software or their counterfeits. Besides, we ourselves experience constantly a problem related supersaturation of workstations with tremendous amount of installed applications which automatically integrated to a client side of a distributed system by us. Therefore, we firmly believe, that results of our research could be improved essentially if we realized this idea.

Index Terms— oversaturation, integration, distributed systems, e-learning, WinSock

I. INTRODUCTION

The aforementioned problem is considerable obstacle at increasing of functionality of workstations due to growing the number of applications in their software. Therefore, there is a heightened interest to this problem among well-known developers which offer their solutions. For example, Mathcad Application Server by Mathsoft Engineering and Education, Inc. or MATLAB Web Server by MathWorks, Inc. are very powerful intellectual systems which allow to explore complicated computer models both distantly and actively. As a result, one the one hand, users need not install the local prototypes of the servers into their workstations and thereby they are free from license agreements with aforesaid companies. On the other hand, documents built in these systems can be used as simulators where users are able to make active computer experiments improving their skills and knowledge in a chosen field. However, the capabilities of these application servers are restricted with class of tasks, which can be solved in them. Hence, users can be in a difficult situation when they have to use other applications simultaneously with these servers, especially if these

applications are set into neither the server side nor client side. [1-5]

II. METHODS AND EXPECTED RESULTS

To begin with, a distributed system with a self – adapted client side has been developed by us. The server side of the system consisting of a database management system, an application server and the socket server by Borland is able to serve client applications installed into workstations which can be in enormous number. As to its client side, it is divided to two groups: “fat” and “thin” clients, which have appropriate right of access to data. According to the business logic of the project, “fat” clients, possessing an automatically updated instrumental module, can create content to a chosen subject and to this content develop e-documents any formats and also save relations among them into the infobase of the system. Furthermore, these relations can be realized either as links to documents or as the content of the files because of using OLE technology by Microsoft. Besides, this technology is very effective in the plan of development applications with self-updated interface which includes tools, attached automatically depending on a studying object. The “thin” clients, likely “fat” ones, have own self-adapted instrumental module for active computer experiments on the data, but these tools do not allow to save variations into the infobase.

In the present time, the object for application of the given system is e-learning of mathematics and English. The analysis of results shows, the advantages of the system are scalability (because of automatically accretion of the client side of the system with components of external applications), reliability (through distribution of loading in the server side and optimization the client kernel with using Datasnap technology by Borland), flexibility (due to easiness in tuning of the server side for connect a chosen database management system with using ADO technology by Microsoft). However, the above mentioned problem of the oversaturation of workstations remains open for this system and this fact is motivating us in exploration of new ways for its solution. We think, one of effective methods is based on WinSock technology which provides data exchange between processes started in different computers. Using this technology, we can improve the system where users work with applications of the InfoBase not only distantly but also jointly. [6,7]

CONCLUSION

In this work, the problem of oversaturation of workstations with installed applications has been considered and as its solution the integration these computer programs into one address space is offered. Furthermore, work with the software does not require their installation into workstations and

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instead of users operate with their shapes. To achieve set up goal, the authors suggest using WinSock technology which is based on the concept on organizing of socket connections between client applications and servers.

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