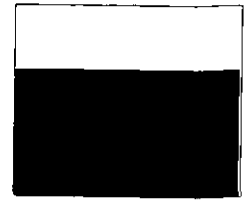


The Information Telecommunication System of the Accounts Chamber of the Russian Federation.



Khachim Karmokov



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Development and Perspectives

The purpose of introduction of the Accounts Chamber's Information Telecommunication System (ACITS) is provide effectiveness of the activity of the Accounts Chamber while executing tasks, envisaged by the Federal Law "On the Accounts Chamber of the Russian Federation".

The elaboration of this system under conditional title "Control" is stipulated by the Decree of the President of the Russian Federation "On information and telecommunication securing of the Accounts Chamber of the Russian Federation", signed on December 19, 1995.

This Decree also states the main purpose of its designing, which is introduction in the departments of the Chamber of modern information technologies, software and hardware to provide telecommunication information exchange between the Chamber and its subordinates as well as control, audit, information and other spheres of the Chamber's activities.

On the basis of the Federal Law "On the Accounts Chamber of the Russian Federation" and today's needs in the field of automatization of activities of managerial staff on the level of the Chamber and its departments we can single out a number of complex tasks, the automatizational solution of which require application of Information Telecommunication System.

1. Current control, based upon telecommunication information collection, over fulfillment of the federal budget:

- full and timely financial revenues during the process of the federal budget execution;

- actual expenditure of budget appropriation as compared with the federal budget indices, fixed in annual budget law;
- legality and timely movement of the federal budget resources and federal extra-budget funds in the Central Bank of the Russian Federation, authorized agent banks and other financial and credit organizations of the Russian Federation.

2. Analytical information back-up, based on Decision Support System such problems as:

- exposure of deviations and breaches as compared with the indices of the federal budget and federal extra-budget funds and their analysis;
- correctness and validity of revenue-expenditure items of drafts of the federal budget and federal extra-budget funds;
- financial expertise of drafts of federal laws and normative acts of the federal government institutions, envisaging expenditures, to be covered from the federal budget or influencing formation and execution of the federal budget and budgets of the federal extra-budget funds.

3. Planning and registration of control follow-up measures, based on automatised elaboration of these follow-up measures after proposals of the leadership and departments of the Accounts Chamber of the Russian Federation, at the request of the Federation Council and the State Duma as well as at the request of their members and the President of the Russian Federation, committees and commissions

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of the two chambers of the Federal Assembly of the Russian Federation, institutions of the subjects of state power of the Russian Federation and periodical supply of information on the results of execution of these plans.

4. Working out drafts of the account reports of the Chamber, based on automatized selection and supply of standardized accumulated and systematized information on the process of the federal budget execution to the Federal Assembly of the Russian Federation and at the request of state power bodies of the Russian Federation.
5. Informational, legal, material and technical provisions and back-up of control follow-up measures, based on automatization of activities of departments, responsible for organizational aspects of the functions of the Collegium of the Accounts Chamber, clerical work, personnel department, supply infrastructure.

To provide realization of these tasks within the framework of creation of its Information Telecommunication System the Account Chamber has carried out information inspection of its departments and, as a result, determined the stages of creation, perspective architecture of software and hardware means as well as the list of basic information technologies of the ACITS.

The process of development and realization of the ACITS includes two stages.

The first stage is the development and introduction of complex information technologies for automatization information collection to solve the first complex task on direct recipients of budget allotments (up to 500 information sources). These technologies are based on the transmission of the Chairman's request to direct recipients of these allotments and feed back, confirmed by responsible officers, through telecommunication systems of the communication network, created in the interests of the federal institutions and the bodies of state power of the subjects of the Russian Federation.

This technology includes accounting analysis of legal entities on the basis of information, received from the data base of the State Committee of the Russian Federation on Statistics, as well as analysis on trustworthiness and compliance.

The information technologies of this complex should contain automatized processes of gathering, systematization and accumulation of data as well as its supply in the requested form.

Introduction of the first ACITS stage is resulted into information flow about fulfillment of the federal budget on the level of ministries and other state bodies.

Figure 1 presents an example of information technology, which allows to automatize the current control over expenditure items on direct recipients of the federal budget. The telecommunication block of the technology provides for gathering of necessary structured data in compliance with the formal formats, approved by the Collegium of the Accounts Chamber. The collected data is accumulated into a preliminary data base and systematization so as to check its compliance with the requested structure, budget classifier, non-discrepancy with the allocated amount of money and trustworthiness, the last to be confirmed by the official, who has provided the data.

The systematized information is transferred into integrated data base on expense-revenue parts of the budget for further automatized analysis by specialists of the Accounts Chamber. This activity is supposed to be automatized by means of a special Decision Support System of "Data Analysis", which should become a model component of the ACITS. The results of the analysis are used for working out quarterly reports of the Chamber as well as for drawing proposals for follow-up measures (arrangements).

Elements of information technologies, permitting automatization of resolving the 3d and the 5th complex tasks, are introduced on this stage.

Planning of follow-up measures can include an information technology, which allows to check coordination of work plans of different departments of the Chamber, economic attainability and compliance of these plans with resolutions and decisions of the Chamber's Collegium and commissions of the Federal Assembly of the Russian Federation.

Meanwhile the information on the results of the follow-up measures itself should include the information technology of control over fulfillment of decisions, made by the Chamber's Collegium, and process of information and documentation supply (Figure 2).

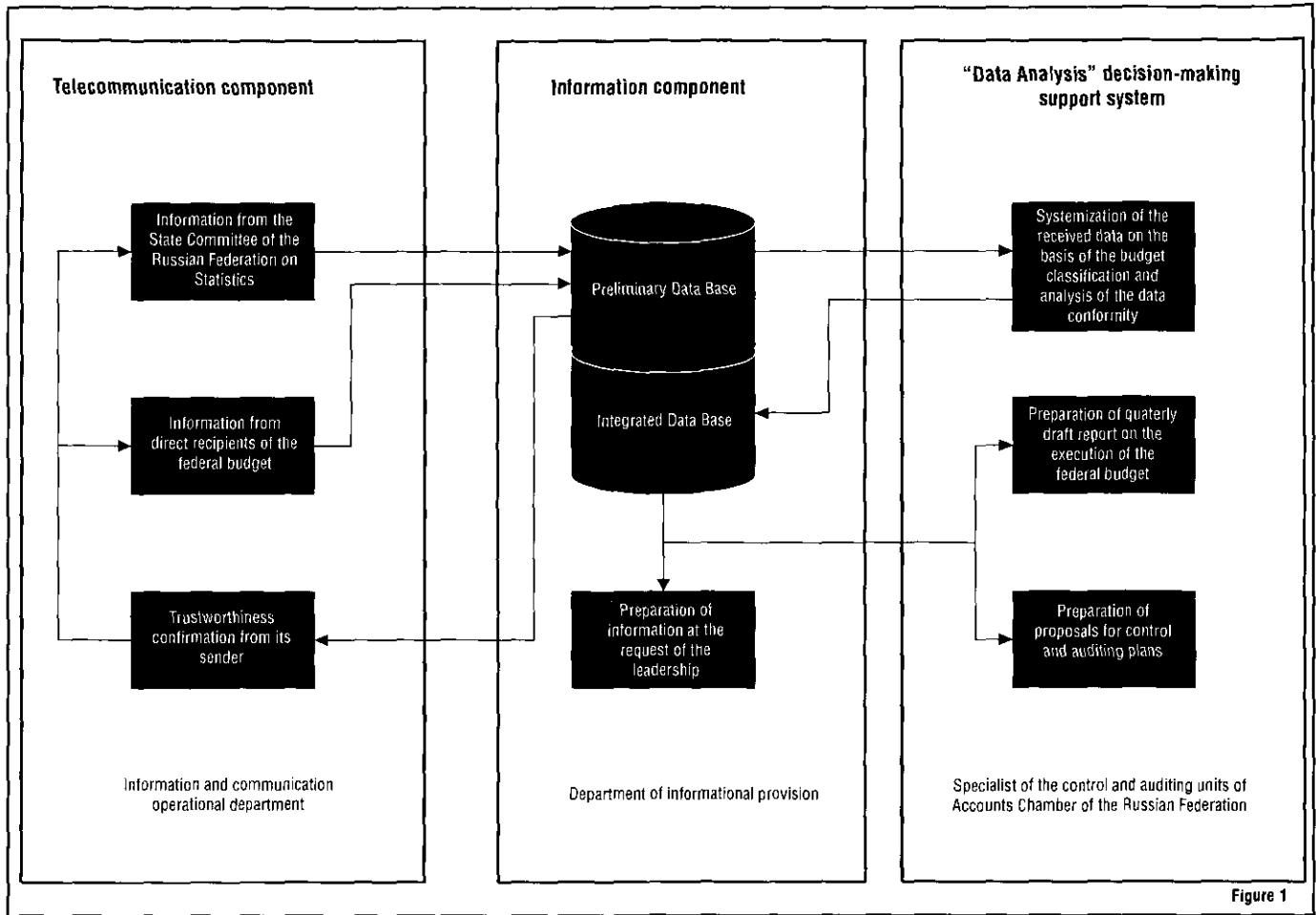


Figure 1

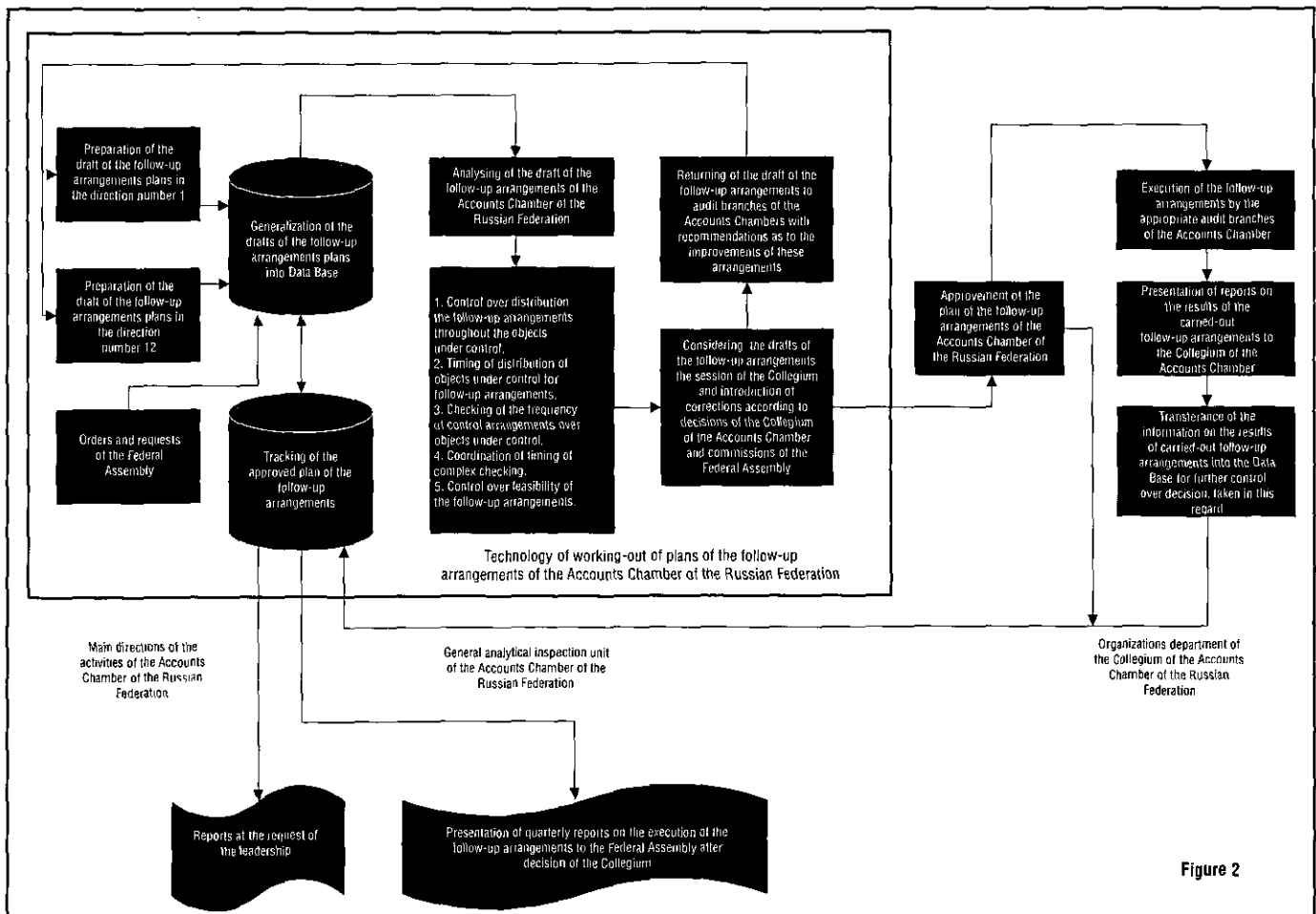


Figure 2

It is envisaged, that the information technology, aimed at automatization of preparation and submission of materials and documentation to sessions of the Chamber's Collegium, should exercise the following functions:

- collection and submission of preliminary electronic information for sessions of the Collegium;
- processing and archiving in the ACITS of resolutions and decisions of the Collegium;
- current search and submission, when requested, of necessary information on decisions of the Collegium and their realization.

As for information and legal support of follow-up measures, it would be expedient to automatize it through compiling blocks of normative and legal information on the entities under control and information on the results of measures, which have been accomplished. Information technology of material and technical back-up of follow-up measures embraces preparation of drafts of directions on business trips of officers of the Chamber, payment documentation, orders for transport and transportation tickets, grounds for the execution of the follow-up measures.

The mentioned-above technologies will be structured into functional components of telecommunication exchange and information collection, informational back-up of data under analysis, the system of decision-making support, called "Data Analysis" and, at last, planning and registration of the follow-up measures.

These functional components determine the architectural structure of the first stage of the ACITS, the creation of which is planned to be finished by the end of 1997.

On the second stage of its development the system should integrate information technologies, providing for automatization of all five complex tasks, mentioned above in this paper. The main purpose of this stage is to secure information supply for the analysis of the expenditure-revenue balance sheet of the federal budget, using means of telecommunication information exchange and data base of the bodies of state power and subjects of the Russian Federation and all legal entities (around 3 million sources of information).

The second stage of the ACITS includes the main model component that includes information on balance sheets of ministries, state bodies and other economic entities of the country.

As a result of introduction of the second phase of the program, all terminals of the Chamber's network, spread over to its users, should be integrated into a joint telecommunication network through realization of the following requirements to the system:

- realization of the concept of open system architecture;
- functioning on the basis of Intranet ideology, in other words, on the basis of unified network, comprised of local network, switched to internal telecommunication blocks, which are interconnected by multichannel data transmission system;
- insuring information exchange with regional data collection and processing centers of federal organs and bodies of state power of the subjects of the Russian Federation;
- introduction of unified distribution information environment for control over formation and execution of the federal budget;
- processing of information flows, coming through telecommunication lines from no less than 3000 terminals;
- simultaneous usage of the system by no less than 500 users in the local net, consisting of subnets, and 100 users from distant terminals;
- viability of the whole complex for no less than 30 minutes in cases of unforeseen power supply breaks in order to have time to correctly close file systems;
- flexibility and adaptability of the structure and information technologies of the system to changes in forms and methods of the activity of the Chamber and to varying density of information flows.

The integrated architecture of the second stage of the ACITS must include fifteen functional subsystems to back up the activity of the Chairman, Deputy Chairman and 12 auditors (12 subsystems) of the Accounts Chamber of the Russian Federation and its organizational structures (Figure 3). As shown in this figure, the functional subsystems of organizational management includes information technologies for automation of the organizational structures of the Chamber, oriented onto solving the 3rd, the 4th and the 5th complex tasks. The Chairman (as shown in Figure 3), his Deputy and auditor's subsystems (designing architecture and principles are analogical to functional subsystem of Chairman) include information technologies, which are to solve

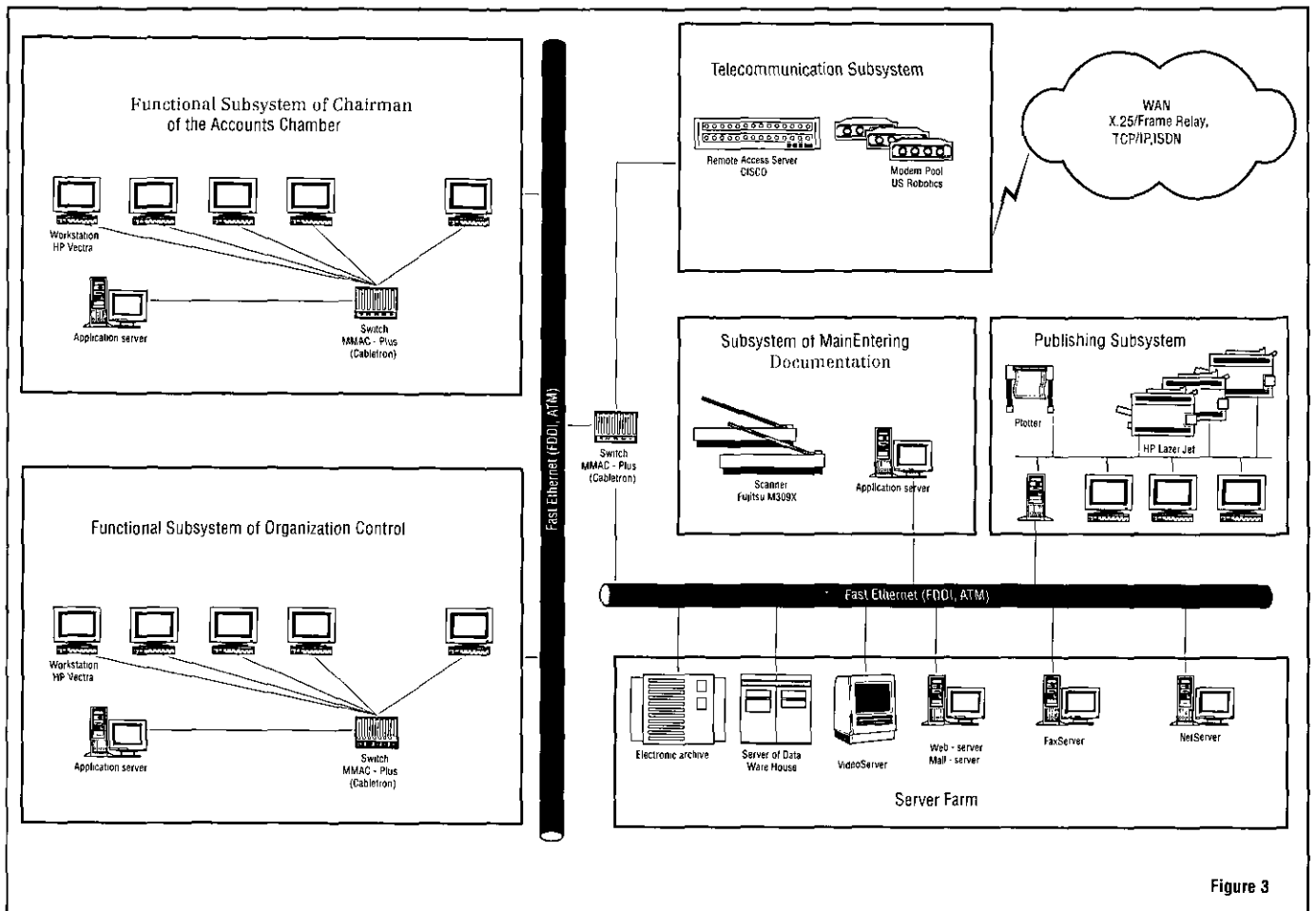


Figure 3

the 2nd and the 3rd complex tasks. These subsystems are functioning on the principles of utilization of the integrated data base information, provided by the organizational management subsystem.

The information-telecommunication exchange subsystem is designed for current collecting and presentation of information on the federal budget execution (the first complex task). The subsystem of main entering documentation into the ACITS is designed for realization of information technologies, providing for solving the 5th complex task and process of electronic archiving of documentation.

The task of the editorial and publishing complex is to draft the reports on the basis of decisions and resolutions on appropriate questions, passed by the Collegium of the Accounts Chamber.

The server platform makes it possible to generally realize the functions of the network management and electronic archiving, data base, distributed among the departments of the Chamber, centralized fax transmission-reception technology and, at last, the procedure of approach to information telecommunication networks.

Actual separation of the Chamber's network from Web-server due to protection reasons of the information, used by Chamber's specialists, is a characteristic feature of approach of users of the ACITS to the information-telecommunication network.

Realization of the architecture, presented in figure 3, envisages integration of different soft- and hardware components into a joint system on the basis of modern information technologies and instrumental program means.

Modern information technologies, including such technologies as "client-server", relational data base management system (RDBMS), CASE-modeling and designing of information systems, workflow, decision support systems (DSS), information security technology and Intranet technologies will be used for the creation of the ACITS.

The basic program components of the ACITS will include:

- MS/DOS 6.X, Windows 95 (Windows 3.11) operational systems for the users, Windows NT for the Network within the framework of every server for auditors, UNIX System to realize the ACITS integrated environment;

- instrumental means for CASE designing (options - Vantage Team Builder, or ER-Win, or S-Designer, or Designer-2000 packages), for the creation and conversion transformation of programs (programming language C and Pascal), sped-up development of client-server enclosures (INFORMIX-NewEra, or SuperNOVA, or Delphi, or Power Builder), intellectual program products of Gensyn Company (for example - G2 product);
- data base management systems Oracle 7.X (or INFORMIX-OnLine Dynamic Server, Sybase);
- Microsoft Office programs;
- service and testing infrastructure programs;
- local and network antivirus programs.

Figure 4 presents an example of realization of information technologies of the first and second stage of the ACITS on the basis of modern program and information technology. All of them were selected on the basis of experience of creation of large-scale program-technical systems and on our thorough analysis of licensed program means, used in the Russian Federation. On this figure you can see elements of information technologies, which are designed for solving complex tasks, described here, and integrated into appropriate functional subsystems, and titles of licensed program means, which are supposed to be used for the realization of these technologies.

It is planned to finish the second stage of the ACITS creation by the end of 1999.

Since 1997 the e-mail address of the Accounts Chamber of the Russian Federation in Internet is: sjul@gov.ru.

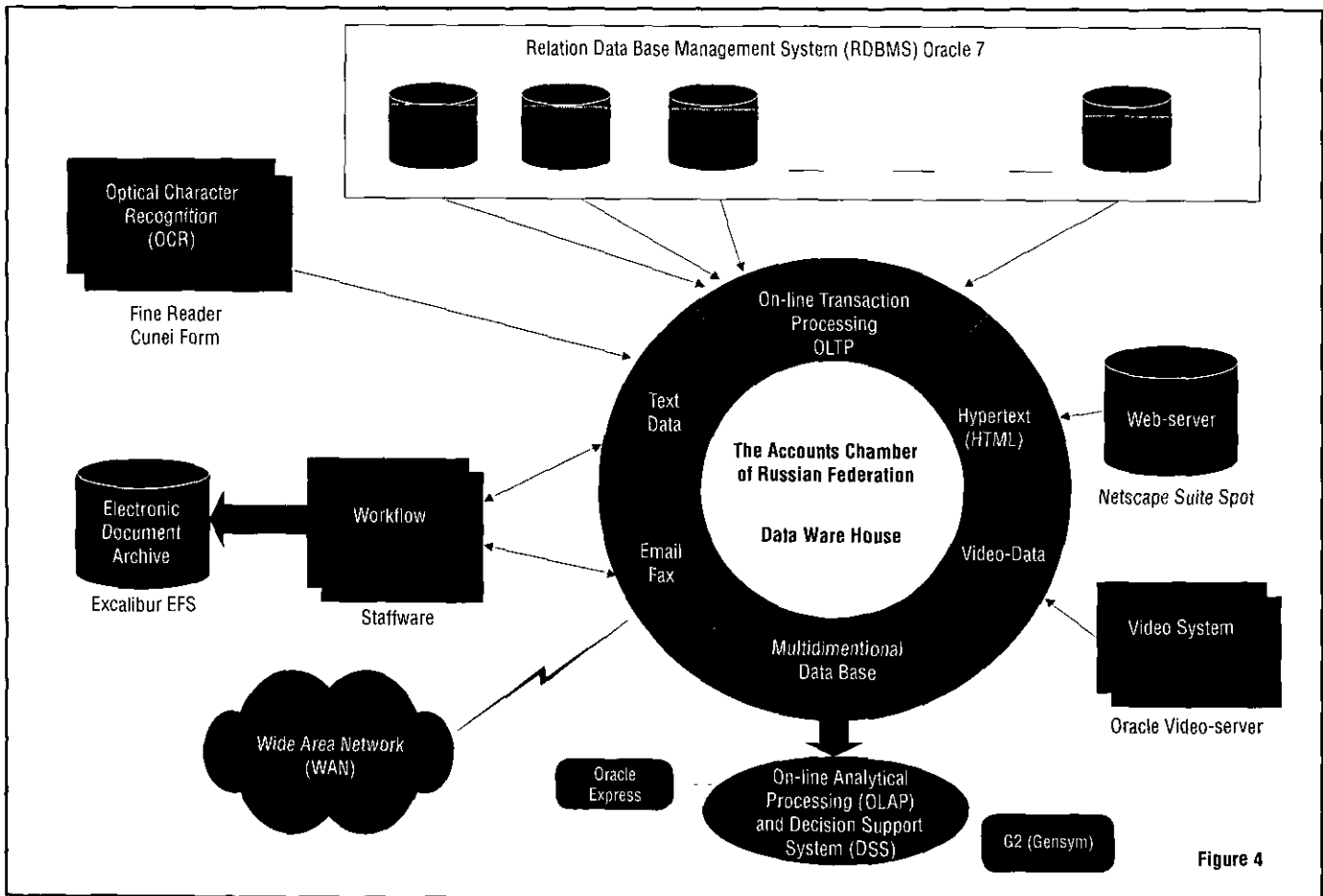


Figure 4