This paper traces the expansion of the Internet into Russian and Commonwealth of Independent States (CIS) libraries from basic access to the development of World Wide Web (WWW) servers. An analysis of the most representative groups of library WWW-servers arranged by projects, by corporate library network, or by geographical characteristics is offered. Projects include: (1) federal, regional, and local projects by the Ministry of Culture of the Russian Federation, including the LIBNET program; (2) the collaborative project LIBWEB, oriented toward the integration over the Web of the electronic resources of leading Russian libraries and information centers; (3) the RUSLANet Project, a library network operating in the northwest Russia; (4) the network of Internet access centers in Russian universities; and (5) corporate library systems. (MES)
Russian and CIS Library Internet Service: An Analysis of WWW-Server Development

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Abstract:

During the last decade there was great expansion of the Internet into Russian and CIS (Commonwealth of Independent States) libraries. This paper traces the growth of Internet from basic access to the development of WWW-servers. WWW-servers are analyzed by project, corporate library network, or geographical characteristics.

Russian and CIS Library Internet Service

The intensive expansion of the Internet into Russian and CIS (Commonwealth of Independent States) librarianship began before the end of the last century, from the middle of 1990s; and towards the end of the decade the Internet solidly entered into the daily routine of our libraries' operations. If in the initial stages provision of access to external Internet resources for users was the main task of libraries, today libraries primarily think about the establishment of their own Internet-servers (particularly WWW-servers) and putting their own products and services onto the Internet. Many libraries today create their own Web-servers, available to external users 24 hours a day, 7 days a week. In most cases this is possible thanks to support by Federal Ministries of Culture and for Industry, Science and Technology; and through the activities of charitable organizations, the Open Society Institute (Soros Foundation), and several other foundations. The Internet is becoming an essential part of library daily routine. At present several projects and programs are being implemented which aim to connect to the World Wide Web libraries located in regional centers with no Internet access, and in small towns and rural areas. This process has just started and a certain period of time is needed before we can talk about concrete results.

As of today no one has yet counted the exact number of library servers in Russia and CIS countries. Various national Internet search engines give different numbers of Russian libraries present on the Web; sometimes...
the difference is as many as 100 links. It is known for sure that the major federal libraries located in Moscow and St Petersburg, libraries of major state universities in Moscow, St Petersburg and regional centers, and the majority of regional central libraries in the Federation Subjects (these are administrative divisions in Russia; there are 89 Federation Subjects in all), all maintain their own Web-servers. Corporate library networks (CLN) with Internet access are formed in several regions. The number of members in a CLN can reach several dozen at present and networks of several hundreds are in prospect.

The present report offers an analysis of the most representative groups of library WWW-servers, arranged by projects, by CLN or by geographical characteristics. Russia is listed first as it has many more WWW-servers in libraries than other CIS countries. The main groups of libraries are as follows:

1. Federal, regional and local projects by the Ministry of Culture of the Russian Federation (RF), including the LIBNET program. All federal libraries (9 libraries) and several others participating in Ministry of Culture projects run Internet technologies. The following libraries should be mentioned here: national libraries of RF republics; regional general research libraries; regional and municipal children’s and juvenile libraries; municipal public libraries; university libraries, museum libraries; libraries of the Russian Academy of Sciences; special libraries (for the blind, etc.); libraries of governmental bodies; libraries of trade-unions and other special bodies; sci-tech libraries; branch (medical and other) libraries. In all, over 280 libraries having Internet access and their own WWW-servers participate in Ministry of Culture projects as of today. The WWW-servers of the following libraries are the most advanced:

1.1 Russian State Library
WWW-server is available at: http://www.rsl.ru/
The server contains following information:
1. Information about the Library
a) Its history
b) Reading rooms
c) Collections
d) Services
2. Information resources accessible via the Internet
a) OPAC searching
b) Specialized database searching
c) Catalog of new acquisitions in the Library collections
3. ILL orders (fee-based service)
4. Electronic document delivery (Russian Courier service)

1.2 All-Russian Library for Foreign Literature
WWW-server is available at: http://www.libfl.ru/
The server contains following information:
1. Information about the Library
a) List of departments
b) Collections
2. Information resources accessible via the Internet
a) OPAC searching
b) Specialized database searching
c) Union Catalog searching
d) Full-text documents (electronic publications)
e) Catalog of new acquisitions in the Library collections
3. ILL orders (fee-based service)
4. Other information (lists of libraries, journals, etc.)

1.3 Russian National Library
WWW-server is available at: http://www.nlr.ru/
The server contains following information:
1. Information about the Library
   a) Its history
   b) List of departments
   c) Collections
   d) Services

2. Information resources accessible via Internet
   a) OPAC searching
   b) Specialized database searching

3. Electronic document delivery

2. The collaborative project LIBWEB (www.libweb.ru) is oriented towards the integration over the Web of the electronic resources of leading Russian libraries and information centers. This project is a part of the Federal collaborative program for the creation of the national computer communications network for science and higher education (1995-2001). The project is financed by the Ministry for Industry, Science and Technology of the Russian Federation, the Russian Foundation for Basic Research (RFBR) and the Russian Foundation for the Humanities (RFH). The Project unifies the Internet resources of about 20 general, scientific and university libraries and allows access to 85 WWW-servers of other Russian libraries. Among them are:
   - 37 university libraries;
   - 7 federal libraries;
   - 30 regional and city public libraries.
OPACs are available in more than 80% of libraries. The number of bibliographic records does not usually exceed 300,000 records in each OPAC (excluding several federal libraries)

Interestingly, although the electronic resources developed in several libraries are sufficient, there are no full OPACs with over 500,000 records available on the Internet. The only exception is the Russian Union Catalog on Sci-Tech Literature maintained by Russian National Public Library for Science and Technology (www.gpntb.ru) with over 540,000 records. This occurs although libraries' electronic resources are developed well enough. For instance, the resources of the National Library of Russia (www.nlr.ru) contain over 2 million records; those of Russian State Library (www.rsl.ru) over 1 million.

Among the most interesting WWW-servers available within the LIBWEB Project are:
   - Kazan State University (www.lsl.ksu.ru);
   - Tomsk Regional Universal Scientific Library;
   - Russian State University for Humanities (http://www.rsuh.ru)

3. RUSLANet Project (www.ruslan.ru). This is the library network operating in the Russian North-West. It was designed within the framework of a project by the Open Library Systems Center (St. Petersburg). The main purpose of RUSLANet project is creation of a single information space for Russian North-West libraries and its integration into the European and World information infrastructure. RUSLANet is a network of university, scientific, school and special libraries unifying 48 libraries of the Russian North-West. All participating libraries are united by use of the Z39.50 protocol.

The RUSLANet project is designed on the basis of the following concepts and technologies:
   - Client-server architecture;
   - Open standards on all software levels;
   - Orientation towards multimedia, CD-ROMs and other modern tools of information representation;
   - Internet networking technologies (FDDI, ATM, others).
Geographically, there are participating libraries in Arkhangelsk (3 libraries), Novgorod (2 libraries), Kaliningrad (1 library), Murmansk (2 libraries), Petrozavodsk (2 libraries), Pskov (1 library), St Petersburg (20 libraries), Syktyvkar (2 libraries), Vologda (1 library) and several others. The following are examples of the most advanced library WWW-servers within RUSLANet project:
   - M. V. Lomonosov Pomor’e State University Library, Arkhangelsk (www.pomorsu.ru);
   - St Petersburg State Technical University Fundamental Library (www.unilib.neva.ru);
4. The network of Internet access centers in Russian universities. The Open Society Institute (Soros Foundation) has set up public Internet access centers at 33 universities in various cities of Russia. These centers were established within the framework of the University Internet Centers Program. Within the Program each participating university received its own WWW-server, on which University libraries were given the opportunity to mount their pages. These servers are accessible 24 hours a day, 7 days a week and consequently university libraries’ home pages are accessible too. I should mention that the majority of university libraries do not maintain their own WWW-servers, but locate their pages on the general university server; this does not reduce information accessibility at all. Some universities also participate in the LIBWEB and RUSLANet projects, but the majority of universities participate only in this project. It’s worth mentioning following WWW-servers in this program:

- Voronezh State University (www.vsu.ru);
- Urals State University (www.usu.ru);
- Novosibirsk State University (www.nsu.ru);

5. Corporate library systems (CLS). CLS have been and are being formed in several regions of Russia. This kind of system maintains one common server (in most cases it is the server of the regional general research library), where participating libraries mount their pages. Since 2000 the program “Library Automation” within the “Pushkin Library” megaproject of the OSI-Soros Foundation has supported 11 CLS (about 80 libraries) in various regions. This support is provided within the overall “Russian Corporate Library Systems” funding opportunity. CLS have been formed and operate in Ekaterinburg, Novgorod, Moscow, Nizhni Novgorod, Novosibirsk, Omsk, Petrozavodsk, St. Petersburg, Tomsk and Yaroslavl'.

At present, CLS unite the most advanced libraries operating on the Internet. These libraries do not present just their own resources (OPACs, databases, full text documents) on the Internet, but produce corporate resources (union catalogs, corporate cataloging systems, retrospective conversion systems) as well. Some of the most content-rich CLS are:

- Moscow public libraries CLS (http://corporate.gpntb.ru:8101);
- St. Petersburg universities CLS (www.ruslan.ru:8001/spb/univer);
- Novosibirsk regional distributed CLS (http://rstlib.nsc.ru).

All CLS use the Z39.50 protocol alone to construct and operate resources.

So, taking into account the participants of all the above-mentioned projects we have over 400 library servers. Several libraries and library systems have their own Internet servers under development or already in use. By various measures, the total number of libraries in Russia with their own WWW-servers or mounting their resources with the assistance of various Internet providers already exceeds 1,000. The problem of an authenticated “census” of all libraries presenting their resources on the Internet requires solution and will evidently be solved soon.

In the majority of cases libraries mount the following resources on the Internet:
- Their OPACs;
- Specialized, subject-based and problem-oriented databases;
- Union and corporate catalogs;
- Full text documents;
- Factual and reference information.

The WWW-servers of the following libraries are considered the most developed, content-rich and using advanced technology:
- Russian National Public Library for Science and Technology (http://www.gpntb.ru);
The page “Window to the Library World” is maintained on the Russian National Public Library for Science & Technology (RNPLS&T) Web-site (http://www.gpntbsulwin/window/index). This page contains constantly updated Internet addresses and descriptions of resources of several hundred libraries. Besides the RNPLS&T OPAC (350,000 records), free access to the Russian Union Catalog on Sci-Tech Literature database (540,000 records), to the popular digital reference source “Who’s Who in the Library and Information World of Russia and CIS Countries” (1,800 entries) and other digital resources including full text publications, is allowed from this page.

The trend of quantitative and qualitative growth in library WWW-servers, their demand, usefulness and social significance is clear. Unfortunately, it is not as easy to obtain as detailed a picture of the subject in CIS countries yet. Nevertheless, the most favorable situation can be seen in the Ukraine, Kazakhstan, Uzbekistan, Georgia, Armenia and Azerbaijan at present. Only occasional information on other CIS countries is available and it is not worth analyzing it yet.

WWW-servers of Ukrainian libraries

According to national statistical data, the average Ukrainian accesses 10 times fewer Web pages than does the average Russian. As of May 2001, 36 Ukrainian libraries have a presence on the Internet, the largest single group (30%) being university libraries. The great majority of Ukrainian libraries’ WWW-sites do not contain information resources as such.

It’s worth mentioning the following WWW-sites here:

- V. I. Vernadsky National Library of Ukraine (http://www.nbuv.gov.ua);
- D. I. Chyzhevsky Kirovograd Regional Scholarly Library (http://www.library.online.kr.ua);
- Taras Shevchenko Kiev National University Scientific Library (http://lib-gw.univ.kiev.ua);
- Ivan Pulyui Ternopol State Technical University Scientific Library (http://tu.edu.te.ua/library);
- The Ukrainian Parliament (Rada) Library (http://www.rada.kiev.ua/library).

These libraries mount on the Internet not just their OPACs, but full texts of publications as well. The server of V. I. Vernadsky National Library should be particularly mentioned. It contains a digital library collection of about 10,000 records and the national abstracts database of publications by Ukrainian scholars. The “Ukrainian Legislation” electronic library located on the Ukrainian Parliament (Rada) WWW-server is also of interest. It contains full texts of 80,000 legislative documents adopted in the country since 1991.

WWW-servers of Libraries in Kazakhstan

The servers at the National Library (http://www.nlpub.iatp.kz), Republican Library for Science and Technology and Kyzylorda Regional Universal Scientific Library are worth mentioning. The national server (http://www.kazakhstan.kz) contains a lot of library information. There are totally about 11,000 libraries in the country but very few of them have Internet access.

WWW-servers of Libraries in Uzbekistan

The WWW-servers at the National Library, Fundamental Library of the Uzbek Academy of Sciences, State Scientific Medical Library and several others attract our professional attention. The Uzbekistan Library Association and the Soros Foundation have made a large contribution to the development of Internet technology. The WWW-server at the Fundamental Library of the Uzbek Academy of Sciences (http://www.mfu.uz) is considered the most advanced.

WWW-servers of Libraries in Armenia, Georgia and Azerbaijan

Statistics on these countries are few. The national and university libraries, several information centers and governmental agencies maintain good WWW-servers.

This paper establishes a new direction for research into Internet systems in CIS countries, particularly in libraries and in institutions for science, culture and education. We hope to proceed with this work further, to
collect additional data and present a detailed analytical report at the next IFLA Conference. We think that this would be useful and interesting.
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