



ExpNews

VOLUME 3, NUMBER 9, September 1996

From Russia with love!

Calendar of Events:

October 26	Terror in the Trees
October 29	Halloween Party
November 5	Election Reporting
November 18	EOA Meeting
December 17	Christmas Party
December 24	No Meeting
December 31	No Meeting
January 3-12, 97	10MegaVenture
January 18,19	Ski Trip
February	Award Nominations Deadline
March 17	EOA Elections
April 5	Scout Show
May 1	Recognition Dinner
May 19	EOA Meeting
July 28-Aug5 1997	BSA Jamboree

NeXTisms for the end user

Karl N. Matthias

Last month's article covered some basic NeXTstep concepts for the system administrator. This month's attempts to do a similar rundown for the new end user. NeXTstep's interface is extremely easy to use, but there are some new concepts which are foreign to most other operating systems, which I thought might be helpful to discuss.

One of the first things that people say when they use NeXTstep is, "Wow, it looks like Windows 95!" Actually, this

is a fallacy. Windows 95 looks like NeXTstep, because Microsoft took ideas from many other operating systems when creating the look of Windows 95. The next really noticeable thing about the user interface is that menus all appear in the upper left corner of the screen, instead of along the top of the screen or in the current window. When you highlight the selection you wish to see, the next set of choices appears directly to the right of the main menu, and they continue to move farther to the right as you pull up submenus. Two important features of the NeXTstep menu are that it can be moved anywhere on the screen just by dragging it, and that any submenu can be "torn off" the main menu so that its features can be more easily accessed.

A nice feature of the NeXTstep user interface is the File Browser window that is part of the Workspace Manager. It allows you to select several methods of viewing file listings, and then to manipulate the files. Most users choose the Browser method of viewing files, because it is the simplest. The "shelf" located at the top of the Browser window allows you to drop the icon of a file onto it for later use. It is extremely useful when copying files, or when you need to access a few files very often.

The other very central feature of the NeXTstep interface is the "Dock" along the right side of the screen. This is the

bar of icons that run from top to bottom. Here is where you drop the icons of the applications you use most often. All the icons here represent an application, including the NeXT icon, which represented the Workspace Manager. By default, several others applications are shown here, including Preferences, Mail, and Edit.

Most applications work the same way as the basic NeXTstep interface, so this little info should help you ease your way into the NeXTstep interface.



The Explorer Code

As an Explorer-

I believe that American's Strength lies in her trust in God and in the courage and strength of her people

I will, therefore, be faithful in my religious duties and will maintain a personal sense of honor in my own life.

I will treasure my American heritage and will do all I can to preserve and enrich it.

I will recognize the dignity and worth of my fellowmen and will use fair play and goodwill in dealing with them.

I will acquire the exploring attitude that seeks the truth in all things and adventure on the frontiers of our changing world.

**Thoughts from the East: A Journey
back to Russia** 1 of 5

Andy Drake

It had been a long time. Quite frankly, I didn't really know what to expect -- what would change? What would stay the same? Would the people really reflect a different attitude? It had been a little over three years since my first trip to Russia, then it had been because of an educational reason, now it was more for personal time than anything else. Still, my initial foray had left me with a distinctly larger impression of most things, perhaps a really good idea for a kid from Columbus, Ohio.

Three years ago, I went to Russia on an educational exchange for 10 days, a long enough time to give me an idea of what the culture and the people might be like. At the time, I could only feel, probably as many outsiders did, that the country was optimistic, looking forward, and beginning a difficult transition to market-style economics and politics that few other countries had done with mixed results. It was simply an incredible time to be there, basking in the afterglow of the Soviet Union, when no-one really knew what to expect, and for the first time, people were really exploring what a free society was like.

I will admit that I was probably the gawky tourist then, taking way too many

pictures and bringing back far too many examples of bad souvenirs. But for my high school teacher accompanying me, I probably would have stayed a great deal with the tour. Instead, he made us (another student who was in my Russian Language class was traveling as well) excited to get out and explore, take a look at Moscow from different angles, ride the Metro subway system, and generally get off the beaten path. For the most part, it worked well -- my language skills improved a lot as I had to put into use what had only been classroom theory for four years. Sure, along the way we got lost, did some really stupid things (hey, hindsight is always 20/20), and really abandoned the rest of the tourists in the group. But then again, I have to say that it wasn't often that I had been to Russia and there was the unknown of when I could even hope to come back.

I returned this time, as I mentioned, for more personal reasons. Over the course of a quarter, I had made solid friends with a group of Russian students studying abroad at Ohio State. They shared many of the same interests as I did, in that they were studying political science and could quite obviously speak Russian, my two majors in school. Many times we would have cultural conflicts -- how do you explain to someone the reason or rationale for something that is almost inherent in a culture, like the sandwich, for example? Each time we would run into one of these cultural stone

walls, they would simply shake their heads and say, "Ah, you will come to Russia and see for yourself." I really admired the way they simply and confidently emphasized the "you will", as though it was as simple as getting on an airplane and getting off again. As I think back, I can say Russia and the United States are moving towards that direction really quickly, and eventually going to Moscow will be like flying to California, a matter of course. But for now, it was enough to take their assurances and hope that something could be arranged. I looked forward to a much more personal, non-tourist viewpoint, and they promised me just that.

It almost ended up as a tourist venture after all, as once I began to examine the possibility of going sometime late in the summer, the only way I could afford to spend any decent amount of time there was to either enroll in a study abroad program, or go on a tour excursion. Not seeing any of these options as particularly viable (I hadn't the time for the studying abroad, as I want to graduate sometime soon, and the tourism junket I'd already been through), I was about ready to write things off as too expensive and settle for postcards, when a colleague of my Dad announced suddenly that he was taking a 10 day trip to St. Petersburg and Moscow. I didn't really think much of it at first, as I imagined it as only another confining tour. He forwarded the paperwork to me anyway, and to my surprise, I found the travel group could arrange things to a customer's own particular needs for a minimal cost. I immediately phoned them and asked if I could simply skip the tour in Moscow and be out with my friends, as well as extend my stay by a week to give me a little more breathing room. Again to my surprise, the answer was yes, and for \$25 they moved my airplane ticket departure date to a week later. The ball was rolling and I was guardedly optimistic.



**Информационно
Издательский
Сектор
Informational and
Publishing
Sector**

Quote of the Month

Status is for those without it that want to prove they have it.

To think about:

Microsoft is not the answer:
Microsoft is the question:
And the answer is no!

My first few weeks at college

Joe Harvey

Here I am at Virginia Tech. Four weeks into the year. There is nothing to complain about. Nothing has gone wrong. Even the food is somewhat good. For this semester I have had two math classes, three Computer Science classes, and one english class. Almost everything I am doing relates to my major. Of my three Computer Science classes only one is about programming and that is C++. The others are about machines and CS theory, and system setup/administration. While these are rather basic level so far, they go to a higher level next semester. This is a great school and great friends. There is so much to do and so much fun, I don't think it could get any better than this.

The Interns keep their jobs during the School Year

James D. Corder

Both Andy Drake and Karl Matthias will keep their job during the School year as UNIX System Administrators for Nationwide Insurance division of Investment Product Operations, within the Life Company.

Both Andy & Karl were chosen out of a list of 150 applicants from The Ohio State University for 2 of the 3 UNIX System Administration Intern positions. Nationwide like their services so much that they where asked if they would continue to work for Nationwide during the School year.

Nationwide was kind enough to offer a flexible schedule around their course load.

D.J. Gregor has a job for the School year too.

DJ Gregor

I asked DJ for his job description. Jim.

Currently I am working as a consultant for Great Northern Consulting Services on loan to Nationwide Insurance in Columbus, Ohio. At Nationwide, I work on the Enterprise Internet Technologies Group, which manages most Internet-related servers.

My main job at Nationwide is to plan and improve the Nationwide Enterprise SMTP E-mail system, which handles thousands of E-mail messages each day. I work with other E-mail administrators to solve problems and to develop enterprise-wide plans. I also do some system administration on the servers in my group.

Secure your network with Ssh

D.J. Gregor

How secure is your network? Can you be guaranteed that no one is listening to your data as it passes through the complex maze of hubs, switches, and routers? All of your data that passes over the network can be intercepted at any point between you and your server. If someone can get into your data center, into a wiring closet, or to the back of your workstation, then they can read your passwords and data. So, again, how secure is your network?

A program called Secure Shell, known as "ssh", can provide you with secure authentication and secure data transmission over the most insecure networks, including the Internet. Ssh uses cryptography to provide secure a communications channel, and secure authentication. In addition, it does other neat things like providing automatic X forwarding over the secure channel along with optional forwarding of arbitrary TCP/IP ports (you can do secure database transactions, secure source code control, etc.).

Ssh gains most of its power to provide these secure services with RSA public key encryption. With RSA encryption, a user creates a public key and private key pair. He keeps the private key secret, and gives out the public key. Anyone can encrypt information for this person with the public key, but that information can only be decrypted with the private key. So, to summarize, with a public key encryption algorithm like RSA, anybody can encrypt information with the public key, but only the person with the private key (which is kept secret) can read the encrypted information.

To provide a secure communications channel, Ssh exchanges keys for private key encryption (algorithms such as DES, 3DES, Arcfour, and IDEA) with RSA. When the user connects to the server, it sends to the user its host key and RSA public key. The client checks the host key to make sure that it is in fact connected to the host and not an impersonating host. It then creates a random key for one of the above private key encryption algorithms. Using the server's public key, the client encrypts the random key, and sends it to the server. Once this key exchange is completed, the communication channel is then switched over to being encrypted. Because public key encryption is used to pass the keys for encrypted the communications channel, no one but the client and the server knows what the keys are.

Ssh can also use RSA public key encryption for users to verify that they are who they claim to be (authentication). To do so, a user creates an RSA public/private key pair and places the public key on the server that he wishes to connect to. When he goes to connect to the server, the server creates a random challenge. The challenge is then encrypted with the user's public key and sent to the user. The user's end then decrypts the challenge with his private key (and he is the only one that has the private key to decrypt it) and sends the decrypted challenge back to the server. Lastly, the server compares the random challenge that it created with what the user returned, and if they match, then the user is who he claims to be.

Despite all of the rather complex key exchanging and authentication, Ssh is very easy to use. One just has to download it, compile it (it has a nice "Configure" script, which does all of the hard work for you:-), install it, and use it. A simple program called ssh-keygen will create RSA public/private key pairs, which can then be copied onto servers that the user wants to login to. Ssh also allows a user to login to a remote host using his normal password. The password, however, is passed over the encrypted channel, so only the client and the server can see it, preventing network intruders from gathering this important piece of information.

To get Ssh outside of the USA, go to <http://www.cs.hut.fi/ssh/>, or if you are inside the USA, you can get it via FTP at <ftp.net.ohio-state.edu> in `/pub/security/ssh`. Have fun with your secure network!

Our Principals:

- 1) Honor before all else.
- 2) The difference between a winner and a loser is that the winner tried one more time.
- 3) K.I.S.M.I.F.

Our Creed:

Exploring: Enthusiasm, Energy, & Excellence.

Up-an-Coming Post Expenses

12/01/96 Post Charter	\$30.00
12/01/96 Post Insurance	\$85.00
Monthly ExpNews	\$25.00

Up-an-Coming Member Expenses

Registration 11/01/96	\$15.00
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Post Finances

Explorer Post 369 has	-\$505.00.
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Explorer Post 369:

Explorer Post 369 was chartered on December 31, 1994 to the Reformation Luthern Church.

Explorer Post 369 specializes in UNIX for Programmers while emphasizing a deep theme of Engineering Computer Information & Science

Membership in Explorer Post 369 is open to young men and women between the ages of 14 [and in high school] and not yet 20. Annual Membership fees are \$15.00.

The views in this NewsLetter are strictly those of Explorer Post 369 and they do not necessarily represent the views or opinions of the Reformation Luthern Church or the Boy Scouts of America and/or the Simon Kenton Council.

Our E-Mail Addresses

Committee Member

Herb Docken	Institutional Representative
Ralph Maurer	Committee Chairman
Tom Niedzielski	Committee Member
Steve Weller	Committee Member

Adults Members:

James D. Corder	www.corder.com
Andy Drake	drake.73@osu.edu

Consultants:

David J. Alden

Honorary Members:

Mark Bastian	mpb@icenet.blackice.com.au
Daniel Jackson	daniel@cougar.multiline.com.au
Lucas James	jj@ldjpc.apana.org.au
Alan Jones	alan@sawasdi.apana.org.au
Sara Jones	

Youth Members:

Phil Birnie	bphil@freenet
DJ Gregor	dgregor@gregor.com
Joe Harvey	joharvey@freenet
Karl N. Matthias	matthias.3@osu.edu
Mike Turner	mturner@freenet

Post-Toadies:

Chris Gauger	Toady
Matt Groce	Toady
Allan Hamilton	Toady

Remember to add `[.columbus.oh.us]` to the end of the freenet accounts!!!



BOY SCOUTS OF AMERICA

Explorer Post 369
P.O. Box 307218
Gahanna, Ohio 43230
United States of America

