OARtech meeting
December 11, 2002

Minutes by Teresa Beamer

Meeting started at approximately 10:00 in 3rd floor conference room of OARnet building, North Star Road, Upper Arlington. Tim Gruenhagen, chairperson.

Attendees:
Antioch College - Bruce Friend
Bowling Green State University - Chris Toth
Cedarville University - Gabe Custor
Cleveland State University - Mohammed Azizuddin
Columbus State Community College - Chris Scanlon, James Stafford, Jim Webb
Cuyahoga Community College - Anjan Ghose CWRU - Eric Chan
Denison University - Terri Beamer
DeVry University - David Leitch
Hiram College - Martin Flagg
Kent State University - Ransel Yoho
Miami University - Tim Gruenhagen
Mount Union College - Alex Zumber
NASA Glenn - Dean Harter, Dave Pleva
NEOUCOM - Bill Mayhew
OARnet - Prasad Calyam, Christopher Cook, Ruth Crites, Mark Fullmer, Paul Schopis, Pankaj Shah, Al Stutz, Gene Wallis
Oberlin College - Art Ripley
Ohio Northern University - Bob Beer
Ohio State University - Mowgli Assor
Ohio University - Brandon Saunders
OSC - Al Stutz
Otterbein College - Greg Hemsoth, Jeff Kasson Schottenstein,
Zox - Dunne - Greg Dunne
Sinclair Community College - Scott McCollum
University of Rio Grande - Chrissy Booth, Kingsley Meyer
University of Toledo - John Heiden
Wright State University - Shane DaWalt, Patty Vendt
Xavier University - Michael Bowling

Introductions
Question to answer: What firewall does your site use and do you split out your dorm traffic? Miami University - PIX firewall; administrative is under a different firewall. Do not split out residence halls. Ohio Northern - They have a border firewall, which is an OARnet firewall, and a legacy A-M firewall. Residence halls are not separated out. Wright State - They have 3 firewalls: campus perimeter, residence halls, and laboratories. They use Checkpoint Firewall 1 and will go to feature pack 3 in December. These are managed from a single management station. Sun 280 maxed out processors. They don't use the secure server that Checkpoint provides. Their resnet is policy routed to the firewall to get the rest of campus. Rio Grande - They use Packeteer for bandwidth management and subnet out dorms, and administrative. They use 2 Compaq rack mounts on foundry running Checkpoint. Denison University - 1 Checkpoint firewall with multiple interfaces to academic/dorm networks and administrative. NEOUCOM - They are using a legacy firewall, Texas A-M. They don't have a resnet. They are looking at firewall products now to get some of the accounting. Looking for something to work with a VPN Solution. They also use Packeteer. Kent State - They have departmental firewalls not a campus firewall. They use F5 BigIP load balancer that does some of the firewall tasks as well as Packeteer. Their resnet is not separated. Columbus State Community College - They use a PIX firewall with Packeteer. They do not have a resnet, but do subnet separately the administrative and labs. Oberlin - They do not have a campus firewall. They do security at the server and use a Packeteer on a class b flat network. Students are split out via DHCP. They

are looking at splitting I1 and I2 to 2 Packeteers and putting in a VPN solution that will be used for all. Lorain County Community College - They use Checkpoint and are looking at the NG version. Ohio University - They push the firewall to the departmental level. Dorms are connected same as academic, but use a separate IP range. They use queuing on routers to hold down the traffic. Hiram - They have PIX firewall at border and NAT the dorms. They also run a Packeteer and a Cisco VPN concentrator. University of Toledo - They use a pair of PIX firewalls for their border gateway. They are currently redesigning the gateway. Until last summer they did not have a resnet, but will have one by next summer. They use packeteer, but had some problem configuring it. Case Western - They migrated to PIX from Checkpoint, which solved some of their throughput problems. They also use Packetshaper, but they capture by folder for the user. They are trying to control Kazaa by identifying the hosts. They block all traffic to those hosts (inbound). Resnet is not split out. They sweep resnet with telnet to port 80 to find the port that Kazaa is using with that system. DeVry - They do not have a resnet. Their firewall is a Checkpoint Firewall on a Nokia box with 4 interfaces. They don't have any control over their firewall setup. The corporate office controls it. Cuyahoga Community College - They use Checkpoint Firewall. Otterbein - They use a Sonic Firewall with Packeteer. The resnet is not split out. Mount Union - They use Packeteer and Checkpoint Firewall. NEOUCOM found that users were logging into an Internet radio station and the site was installing an advertisement server on the user's system. Cleveland State University - They started a gigabit Ethernet upgrade and are looking at NAT for the new network with a PIX firewall. Comment from the floor: If you are doing NAT you have to have a box that does the address translation that would be a bottleneck and it can cause some problems if you are using VoIP or Video Conferencing.

Al Stutz - Dark Fiber Update The map is here that shows all the paths, as we know them today. The contract should be signed by the end of the week. The contract is being develop with 3 groups of lawyers (OSU, Williams, AEP) with time taken to build the IRU. In the time it has taken to work out the contracts they have gotten the funding in place. They are trying to work with the committees and also working on the RFP for the lighting equipment for the fiber. When draft is sent out for comments they would really like to see comments. The other item brewing is that the Chancellor is talking to the Governor to feature this project it his state of the state speech. The interconnect contractor, Spectrum, took a look at the local builds, and have found that the builds will be smaller than they expected. Gene Wallis: They would like to use as much existing fiber as possible. They are also talking to colleges or institutions that are located close to the fiber paths about pop locations. Most of the pops will probably be moved to new locations. Change will take 2 to 3 years. Gene is looking at this as a 5-year project. Comment from the floor: Note that everyone will be looking at a need for new circuits in the next 1 to 3 years since they will probably move the pops. Are the institutions responsible for the last mile? They are hoping that the cost will be shared with the institutions and OARnet. They are hoping that the cost will in most cases be less then current connections and thus expecting the institutions to provide maintenance only. Will those that have easy connections connect up sooner? The chances are good that this may happen. Should we start budgeting for our electronics, bandwidth management, etc... now? I would do that in any case. Bandwidth will go up when this project goes in, so schools will need to rethink how you look at your bandwidth and how you connect up your branch campuses. Should we be getting local schools and other organizations involved in the conversations? OARnet is already doing this. Libraries will also be talking to OARnet. We should be thinking in these lines on how they might be usable to these institutions, especially with metro rings. Remember that this is being sold with the Governor's TFN project with the idea of economic development. Expect growth in the local areas to grow out of this project as well. There is some appropriated funding for connecting the medical schools in a network via this dark fiber project. Case is also working a digital Cleveland project for a metro ring. What's the schedule for the small institutions out in the middle of nowhere? The intent is to do all institutions in the state. The larger institutions tend to be in the metro areas that are close to the existing fiber. The funding that is available will be a determinate. They are still working on the solutions and schedule. Ease of connection, funding, fiber build, etc... will all effect when a particular school would be connected. How will the Dark fiber project interact with the National Light Rail Project (NLRP)? The NLRP is still looking for funding. NLRP is only interested in doing research and tera-grid

traffic. Al feels that it is too limited to make it funding feasible. The SURA initiative has a better funding model. OARnet is keeping up with both projects to work with them as they get funding. However, their focus is getting the dark fiber project up. Check the map, promote it in your area, and come back with creative solutions for your area.

Gene Wallis - State of the Network There are issues that are part of the dark fiber project that will affect the existing network. They are looking at the existing connections and seeing how all will migrate. They have already begun some initiatives to move some connections to the outside carriers on the new network. They would like to move into locations that are not carrier dependent. Trying to position the network for ease of moving in to the new network and the transition lines needed. After the beginning of the year some of the existing bandwidth contracts will expire and they are looking at using vendors that are in the Quilt consortium contracts to bring down the costs. They just signed a contract with Cable and Wireless to bring in an OC12. Hope to continue bringing the costs down. What kind of traffic levels are you seeing? It's pretty much as projected at about 30%. The increase of purchases has slowed down as budgets become tight. Sites are using bandwidth management to slow growth. Most likely they will be delivering gigabit Ethernet to the campuses as OARnet implements the new fiber project. They will be able to split out the I2 from the I1 traffic in the fiber project. Initial implementation is looking at lighting 4 Lambdas at OC48. (I1, I2, SC, School net). They may add more at a later time. You can split up the bandwidth, as you need. ITEC - Pankaj Shah introduced his staff. Kelly - Windows of the Future will be combined with OLN this march. See the ITEC web site for more information. Registration will be up later this month. Rooms are available now at the Hotel. Netflow proposal - Patty Vendt At last OARtech meeting we agreed to draft a proposal for Netflow to the I2 committee. It was presented to the I2 committee and Osteer. The proposal was approved and the funding for the pilot project using I2 schools to develop Netflow reporting for I2 institutions. They need to determine the project goals and schedule in January with a working committee. Once it is working in a pilot it can be put out to other schools. Patty is the chair of the working committee. Prasad Calyam - H.323 Beacon project They had a working version in October 2002. It has many of the initial features, but they have added new features. They will have a version 2 by August 2003. Interested group of users would be operators, network engineers, and researchers. It is designed to fit into existing measurement infrastructures. The beacon looks at the H.323 protocol and all it's sub protocols to help in finding out where problems might occur. It is a tool that can be used to measure monitor and qualify the performance of an H.323 videoconference session. It can be use by an ISP or end- user. The version 1 features include a multi-threaded server, with interoperability with commercial clients. It will monitor the call status to tell you the current status and the problems that might exist. It will store the H.323 session statistics to help you know what is happening overtime. It can be downloaded and setup on a local server. It can record at the remote end and allows you to play it back to see what it looks like at the remote end. I2 will have beacons deployed at key places throughout the I2 network to allow testing. You can do client-to-client, client to server, and server-to-server tests. It has a nice client interface. See http://www.itecohio.org/beacon for more information on the project and to download the software. The directory of the beacon servers available on I2 will be published. He would like some help in testing this. Please make your network people look at this and give him feedback. This would be a good research project.

Lunch

Academic Services Update Chris Cook
OARnet has revised the MOU to make it more user friendly. The revision has been sent to OSU legal for approval. The revisions will then go to Osteer and OARtech for their review and be presented at Osteer in February. The problem reporting process is to be posted on the web. This will include the escalation process. SOMAC pricing has changed for new lines. It is now $400/month and the install fee is waived if you keep the line for 1 year. OARnet budget was approved with no increase in fees. Linda Roos OARnet is currently working on a new strategic plan. It will be presented at the February Osteer meeting. Netflow is the first model for how OARtech can work with OARnet on technical issues. Candidates for director for OSC will have interviews in December and January. Once hired the search for a new OARnet director will

start up. OARtech updates White paper - please get the sections for the revised paper to Debbie Kelley. Future meeting topics - Packetshaper sounds like a good topic, as it seems that several sites are using it. Other possible topics include bandwidth management issues, resnet bandwidth control and control of Ads, and spam. There was some discussion on what sites are doing on for spam: Squirrel mail, Quivere 2, and Spam Assassin. Note that some spam in now encoded. Ruth had a real problem with spam. OARnet setup Spam Assassin to check and put the mail into a folder that Ruth then deletes. So far OARnet is very happy with it. It's server based on their mail server. They found the load that it put on the mail server was not as bad as they thought it might. Some basian filters are available that will look at the signature of the messages. Tim will take some of these topics to the list to get ideas for future meetings. Greg Dunne, Schottenstein and Assoc. Right of way, right of entry, and easements laws are what he works with. He will give some background on TFN and the issues that we will encounter. The speaker was working on projects that dealt with technology issues for rural areas in Ohio. The Governor adopted two concepts. 1st was the TFN: the contract is with OSU, Williams, and AEPC. The funding for the electronics is currently being worked on. This is a political matter that once started should be finished as it makes no sense to do just a portion. The other piece is the broadband link: SOMAC multiplied a couple times. What if the state of Ohio did a SOMAC like contract for small businesses of Ohio to get volume leverage with a bid and get someone to administer the contract? Looking to roll this out next year. The TFN as we know is coming in 3 phases. That last 2 phases will have to deal with the last mile problem. As you work on these issues, you have to deal with the municipalities via the road so installers get right of way with the municipalities to get access to the poles. Right of way applies to the pole, and under the ground. The governor has bought into the TFN because it can make a difference on economics of the state. The development department will be interested in working with grants to get industry as well as education connected. Thinks cooperative initiatives is the way to go. Make the connectivity via a cooperative effort. Cities need the connectivity as well. There are projects in Ohio they are starting to have contact with (e.g. Wicka that connects the schools and Youngstown school system). The OARnet model needs to be brought into the local level. There is lots of interest in the Columbus area. Currently this is in the thinking phase. They will be working with the Osteer metro ring subcommittee. How does wireless feed into this? If you have frequencies in the air, you have to get federal approval. The easement issue comes when the towers need to output the signal. There is no bias against the wireless, but they are currently focusing on the fiber. If you are working in your area, you have to meet with municipalities and other groups to get the maps to see where the lines are. How do you determine who those groups would be? Most local information will be with the cable companies and the telcos. One thing they don't want to do is become a competitor to the industry. They used a focus group in Lima to see what might be available. If we are interested, whom do we contact: OARnet, Ruth, and the committees. There will be web pages set up with the information on the dark fiber initiative and they would like to include any regional information available. IRU - Undefeatable Right to Use, provide the right to use the medium anyway you want but the owning company reserves the right to some aspects of the medium. Generally the contracts are long term (20 years) and then all rights revert back to the seller. There was some discussion about a couple of areas dealing with Telcos to use some of their existing fibers. They have dealt with the cable companies, but generally the cable companies are not thinking about other uses for their fiber. They are focused on selling TV channels to more customers. The structure of the cable industry tends to be so fragmented that it makes it difficult to work with them. If we approach these companies, what terms should we use? If there are no technical issues, you want access to the fiber. This can be done with IRU or Lease (20 year is the standard time). What's the difference between Lease and IRU? A lease means that you pay by the month, and IRU you pay all the money up front. Some of the terms of the leases put more rights with the owner of the lines. The main difference is the way it is paid.

Meeting adjourned.