LINX has been honoured for its frontline role in efforts to eradicate child abuse images from the UK Internet.

The Internet Watch Foundation (IWF) presented LINX chairman Graham Davies with a special Achievements and Champions award during a House of Commons lunch event in February. The award recognised LINX’s efforts in the frontline of the online battle against child abuse.

IWF chairman Roger Darlington praised LINX for its valuable financial support for the IWF since it was founded in 1998 and for the prompt action of its members in de-listing and removing sources of Internet child abuse images on UK servers when notified.

Graham Davies said: “As a founding member of the IWF, LINX is pleased to support its vital work in combating images of children being abused and congratulates it on achieving such a marked reduction in the incidence of such images hosted in the UK. Although many LINX members are actually based overseas we are united in supporting the IWF’s efforts in eradicating illegal and abusive material originating from the UK.”

LINX Chairman, Graham Davies, accepts the Achievements and Champions award from IWF Chairman, Roger Darlington

IWF chief executive Peter Robbins said: “We feel it is important to acknowledge the people and organisations that have been so crucial in effectively dealing with potentially illegal content online in the UK. These achievements just wouldn’t have been possible without such partnerships.”

Less than 1% of the potentially illegal content found by the IWF is hosted in the UK and reports to the IWF hotline have dropped for the first time in its history as a result of the successful partnership with the Internet industry.

Home Office Minister Paul Goggins gave an opening address at the IWF lunch reception and Liberal Democrat Cabinet Office spokesman Richard Allan hosted the event, which was sponsored by Wanadoo UK.

Home Office Minister Paul Goggins, Home Office Minister

If you would like to know more about the work of the Internet Watch Foundation, visit their website at: http://www.iwf.org.uk
LINX warns that data retention plans will add costs for users

The London Internet Exchange (LINX) - the UK’s largest membership organisation for Internet service providers - has issued a warning that European plans to force ISPs to collect traffic data will add to costs for Internet users.

“It would be nothing less than a hidden tax on Internet users who will be obliged to pay for the costs of government snooping,” said Malcolm Hutty, regulation officer with LINX.

The European Council of Ministers is currently considering legislation which would force ISPs to collect and retain a wide variety of data about the traffic which they handle. It is intended that this data would be made available to law enforcement and intelligence agencies.

Malcolm Hutty said: “At present, ISPs in the UK are required only to store information that they already collect for their own administration and billing purposes - not to collect data specifically for the government.

“The proposals from the European Council of Ministers, as we understand them, mean that the EU will tell ISPs what data to collect and store as well as defining how long it must be kept.”

The council’s own statement says that the draft Framework Decision on data retention “implies in principle that providers of publicly available electronic communications services or networks must retain specified data allowing for establishing the source, routing, destination, time, date and duration of communications and the location of the telecommunications devices used.”

Mr Hutty said: “The EU is investigating ways of enforcing this level of data retention even where ISPs have no use for the information. For example, an ISP providing a ‘permanently on’ broadband connection generally has no interest in knowing specifically when the line was in use and for what purpose. The EU is seemingly going to make ISPs collect and store that data.

“The cost implications are huge. As we do not know what data we might be collecting, it is impossible to estimate what the costs will actually be. The sky is the limit.

“At the end of the day, the only source of money to finance this will be Internet users. ISPs will have to put up charges in order to finance data collection and retention for the government.”

The European Council of Ministers does say that, in considering new rules, “particular consideration should be given to the proportionality of the measure in relation to costs, privacy (data protection) and efficiency.” However, LINX is concerned that since the cost will fall on ISPs - and ultimately on Internet users - the council will not give much weight to this issue.

Mr Hutty said: “The EU is still consulting on these proposals and we will be strongly putting forward the industry’s viewpoint that they could represent a huge financial burden to be carried by Internet users.”

LINX issues statement on distribution of spamming tools

On Friday 11 February 2005 the London Internet Exchange issued the following statement:

“Software designed to assist spamming makes a major and harmful contribution to the prevalence of spam.

“LINX’s Best Current Practice document calls on ISPs to prohibit their customers from distributing spamming tools and to take effective action to enforce this, up to and including terminating the customer’s contract.

“The ISP community, embodied in LINX’s 170-strong membership, has collectively decided that condoning this kind of customer abuse is to make yourself part of the problem.”

Malcolm Hutty, LINX Regulation Officer, said:

“ISPs depend on voluntary mutual co-operation for the effective functioning of their core business.

ISPs that ignore community standards risk losing the co-operation of their peers, which is more valuable than any one customer could ever be.”
10 Gigabit Foundry LAN connections for members

After infrastructure upgrades on the Foundry LAN, LIX can now provide two ways for members to extend their exchange connections beyond 1gb/s; by ‘trunking’ (bonding) multiple gigabit connections, or by using a 10 gigabit ethernet link.

Port trunking is the process by which multiple ethernet links of the same speed can be bonded to form a single logical link whose speed is an aggregate of its component links. The concept is similar to MLPPP (multi-link PPP), used by ISPs to scale dial-up access beyond the 64k/b rate available to a single ISDN link. A trunk is configured between the LINX switch and member router using 2 or more gigabit ethernet links, and traffic is shared between them. This new technology means that only a single IP address is required on the member router, taking the pressure off ISPs to maintain multiple sessions to each peer and implement complex manually defined traffic policing mechanisms using BGP metrics to share between links. With this new service the balancing is taken care of by the hardware itself.

LINX can offer both ‘nailed’ (statically-configured) trunks and LACP trunks, which are negotiated on the fly between member routers and LINX switches. Trunked ports are available at all sites.

To ensure balanced traffic between ports in a trunk, the physical port which a frame is transmitted down, is determined using an algorithm that takes into account the source and destination addresses in both the layer 2 ethernet header (MAC address) and layer 3 IP header. In an Internet exchange environment this gives excellent traffic balance guaranteeing that all packets in a “flow” (ie. between two discrete hosts) use the same physical link. This eliminates the problems associated with packets arriving out of sequence when the component links of a trunk have different latencies, as is often the case when fibre routing varies between gigabit links.

Scaling past multiple gigabit ethernet interfaces, LINX also now offers 10 gigabit ethernet links to the Foundry (224) LAN in its Telehouse North, Telehouse East and Redbus Sovereign House sites. This technology offers a 10 times speed improvement on existing gigabit ethernet equipment, and allows members to connect at speeds greater than 1gb/s without using multiple ports on their routers.

Router and switch vendor architecture advances make 10 gigabit ethernet very attractive to ISPs. Links are provided over single-mode fibre directly into one of LINX’s next generation Foundry MG8 switches at Telehouse North and Redbus Sovereign House. Additional traffic and cross network congestion is covered by the LINX inter-switch backbone being upgraded to 20gb/s by trunking multiple 10 gigabit ethernet links together between sites. With trunking enabled between sites, the backbone can be scaled dynamically, and additional capacity can be brought online at short notice should demand require it.

Future planned upgrades to the rest of the Foundry network and to the Extreme network will spread the availability of 10 gigabit ethernet ports to the whole LINX network, and make trunked 10 gigabit ports available to the membership.

A busy year for Internet registries and router vendors

2005 is set to be a busy period for Internet registries and router vendors alike; since the beginning of the year we’ve seen more IP space allocated than in all of 2004, and this number can only go up.

With so much address space in use internet operators are growing wary of the size of their routing tables, which must hold an entry for each network advertised by the ISP that routes it. There are over 4 billion possible IP addresses in IPv4, and routers would have to be equipped with over 500 gigabytes of memory to hold an entry for each and every one of them. Instead, network operators aggregate their IP space into larger blocks, so the provider that routes 195.66.224.0 - 195.66.255.255 will send an advertisement for that network as a whole (195.66.224.0/19) rather than one for each individual IP. Because of these aggregated allocations (and therefore advertisements), the routing table currently contains approximately 160 thousand prefixes rather than the 1.4 billion addresses it actually spans.

However, for a number of reasons network operators choose to split these network announcements into smaller advertisements, perhaps announcing 195.66.224.0/20 and 195.66.240.0/20 rather than 195.66.224.0/19. This de-aggregation is the reason why the routing table contains 160,000 prefixes rather than the 80,000 aggregate prefixes allocated by the 5 regional IP registries (RIRs). If this de-aggregation continues ISPs routers will become obsolete faster, and upgrades will become necessary faster as CPU and memory limits are stretched costing the industry millions of pounds.
Redbus Interhouse and LINX join forces to offer faster Internet

LINX and European datacentre operator Redbus Interhouse have formed a strategic alliance to help network service providers (NSPs) supply faster Internet connections for users across Europe.

Continental European NSPs (including Internet service providers and content providers) can now connect directly to LINX through any of Redbus Interhouse’s seven datacentres (in London, Milan, Frankfurt, Amsterdam and Paris) as though their equipment was actually present in LINX’s facilities.

This provides a seamless integrated method of connecting to LINX simplifying both technical and commercial arrangements for NSPs seeking to give their customers faster and more secure Internet access through LINX. Although the NSPs will have to meet technical and management standards to become a LINX member, they will gain the benefits of LINX membership without the costs of establishing a presence in London.

To make the process as simple as possible for an NSP peering at LINX through Redbus facilities, Redbus will handle all the paperwork associated with LINX membership so that the NSP will have just a single contract and invoice. Customers of Redbus will be billed in their own currency and country.

LINX sales and marketing manager Vanessa Evans said: “NSPs are reflecting the demands of their customers for fast and reliable Internet connections. By working with Redbus we are able to help deliver this across the continent. This alliance is helping to fulfill industry demand to integrate access to peering connections and colocation facilities and to unify multiple vendors, so that NSPs can benefit from single payment options and contractual terms.”

The agreement extends the LINX from Anywhere service which allows smaller NSPs around the world to have a secure ‘virtual’ presence on the LINX exchange without investing in the hardware and manpower costs of maintaining their own Internet switch in London.

The LINX partnership programme which Redbus has joined permits Internet industry suppliers that do not qualify as LINX members to share in joint industry initiatives. It fosters new business relationships and promotes wider participation in LINX debates on technical and regulatory issues.

Membership hits a new high as LINX move into new territories

LINX membership now stands at an impressive 183 and is rising all the time. In recent years, membership had remained relatively static mainly due to a series of mergers and acquisitions being offset against any new ISPs joining. The past 12 months however, has seen membership increase by upwards of 25% with LINX also moving into a number of new territories.

Hello Austria!
In the last issue of HotLINX published in January, we introduced new members from Greece, Estonia, Russia and South Africa. We can now reveal that we have welcomed our first Austrian members in eTel Austria and Austria Telecom into the fold.

Vive La France!
LINX has also seen a surge in member applications from France with six new members (BSOCOM, OVH, Ikomela, Nerim, Neuf Telecom, Ovanel and Eurowan) joining in 2005 alone.

Arnaud Tayac at Ikomela said: “Our customers businesses, as ours, are growing outside of France. Joining LINX is a mandatory step in our development. It is cost effective but it also improves the quality we deliver.”

Christophe Carel, CEO at Nerim had this to say: “Nerim is a major French DSL provider for SME. To improve our quality of service, we opened a peering point at LINX so we could interconnect with major companies in the UK”.

Michael Ournbah, Directeur General at BSOCOM added: “Being a member of LINX will allow us to reach the main Internet players directly. It also means we can expand and improve the capability and quality of our network while reducing our costs too.”

Thinking globally
Tereso (Germany) and NFSI (Portugal) have also been added to the European contingent while LINX continues to see a steady stream of members joining from the UK (Bulldog, C2 Internet, C4L, Domicilium, HSC Group, Interivo, Manx Telecom and RapidSwitch) and from the USA (Limelight Networks and SBC Network Technologies).
Net gain for members with new LINX website

The new and improved LINX website was exclusively previewed during the LINX48 meeting and AGM at the London Arthouse in February. There was some very positive feedback regarding the format and the new features being made available were enthusiastically received.

Officially launched at the end of April, the new site is already proving to be a useful resource, benefitting a great many LINX members.

Utilising the extensible content management system Plone running on Zope, an open source web application server, the new site will offer a great number of benefits to users.

One aspect of the new design of particular interest to members is a facility that allows users to customise their own personal view of the website. Options available include the ability to display of content such as the members port statistics, billing and invoice details as well as information on their peers.

If you are looking to do business with other members and suppliers, you will be given the opportunity through the new trading portal.

LINX sales & marketing manager Vanessa Evans said: “As one of the world’s leading Internet exchanges, we have to be seen to be offering our members premier on-line services. The new LINX website does just that.”

Want to know more? You can view the new LINX website at http://www.linx.net

The new LINX splash page looks very different to the old site and offers a number of new features for the visitor.

LINX Calendar - Graphical link to an in-depth downloadable calendar of both LINX and important industry events around the world

User Log-in - Users can log-in to access their own customisable view of the LINX website

Traffic Statistics - A continually updated graphic that displays the amount of traffic across the networks

Quick Links - A dropdown that allows rapid access to a some of the most visited pages on the website

Regulatory Affairs RSS Feed - A box displaying headlines to recent regulatory news stories in the Internet industry

LINX News - A regularly updated page of current LINX news stories and press releases

LINX Public Affairs
Constantly updated with news and views on regulatory issues, the LINX Public Affairs website is an important source of information as to what is happening in today’s Internet industry.

Trading Portal
Another new feature is the LINX Trading portal which allows members to buy, sell and generally trade services.

Credits and Technical Information
For those interested in the finer details, we have a page that has technical information relating to the new LINX website as well as an acknowledgement to people/organisations who have assisted.
The Smart Broadband Network

Redback Networks were sponsors at LINX47 in November. In this article they discuss the future of the Internet and the Smart Broadband Network.

The Internet as it exists today works as a relatively simple connectivity mechanism. It has been a powerful force, fundamentally changing the way people communicate, interact, make purchases, receive information and acquire audio and visual entertainments products. However, things are changing. The Internet is being transformed into an intelligent, personalised delivery system and we are on the verge of witnessing a major shift in the way content is delivered.

All Internet users are different with differing expectations and requirements. As such, the next major transformation in the Internet will be geared towards a more specific focus on what the individual consumer actually demands and receives from their internet experience. In essence the next wave of Internet development revolves around "Consumerism".

The new Internet will empower consumers, putting them in control of cost, quality, reliability, speed of content in addition to when, where and how they receive it.

Broadband will play a major role in this transformation. PTs and other Service Providers must seriously evaluate a next-generation architecture to how they will use broadband to meet these challenges and opportunities. Bits are bits, but there can be significant differences in the way they are delivered. It is this process of delivery that gives the service provider differentiation, revenue from value-added services and the ability to take a bigger slice of the Internet "pie" through creating new revenue streams from content providers and aggregators.

Next-generation broadband requires a fundamental shift in infrastructure. No longer will aggregation and simple subscriber identification suffice. The Broadband Remote Access Server (B-RAS) must make way for a new Service Gateway that infuses the network with intelligence, essentially creating the "Smart Broadband Network."

Smart Broadband Networks transform networking from a simple connectivity matrix to an intelligent service delivery vehicle, putting the user in control to decide the cost, quality, reliability, speed and immediacy of the content they receive. The end result is a personal delivery infrastructure that knows users, understands content, governs bandwidth, guarantees quality and brokers services.

Want to know more...?
Visit www.redback.com for more about Redback or email cat@redback.com

Trends in Email Access for Mobile and Wireless Devices

LINX48 was sponsored by Isode. They chose the meeting to announce their new IMAP Server and introduce LEMONADE functionality, a combo which is believed will address many current email access trends.

The IETF (Internet Engineering Task Force) has set up the LEMONADE working group to "provide a set of enhancements and profiles of Internet email submission, transport, and retrieval protocols to facilitate operation on platforms with constrained resources, or communications links with high latency or limited bandwidth". The core of the LEMONADE work is based on SMTP (Simple Mail Transfer Protocol) and IMAP, and a number of LEMONADE extensions are intended to optimize performance and functionality for wireless devices.

There are a number of email trends which will push IMAP (and LEMONADE) to the fore and which Webmail, POP and proprietary email access mechanisms are unsuitable in addressing, namely:

- Multiple email addresses. The trend is to have at least two email addresses (one for home and one for work).
- The "always connected" culture. Access to home email from work, to work email from home, and to all email when elsewhere is an increasing priority for many people.
- Email, including PCs, Laptops and wireless PDAs. Users need a solution which will work for multiple devices.

The reason that these trends will drive IMAP usage is best understood by considering the problems of the mobile user, who needs to access email from many locations.

A mobile user will often be connected over slow and expensive network links (despite plans for high speed mobile networking, its probably accurate to say that the bandwidth users need today, will always be available 'tomorrow'). Webmail is a poor choice for slow links, and POP simply downloads messages.

There is usually limited storage on the device, which constrains how much email is stored or cached, and a typical mobile user will use more than one device to read email, a situation where POP's download approach can lead to email being held on the 'wrong device'.

With LEMONADE conformant IMAP clients for wireless devices already in development, Isode's IMAP server will be a serious contender with ISPs looking to provide a full range of services to wireless and mobile users.

Want to know more...?
You can find out more about Isode's services including POP servers and server-level Anti-Spam solutions by visiting www.isode.com or emailing enquiries@isode.com
Miami conference and Bahamas cruise for ISP managers to talk peering

Peering managers from Internet service providers (ISPs) around the world took part in a conference held in Miami before embarking on an expenses-paid Bahamas cruise. The event was organised by LINX and technology companies Terremark Worldwide Inc. and Lucent Technologies.

The conference and cruise staged between the 4 to 7 March 2005, provided peering co-ordinators and managers from network service providers across the globe with an opportunity to discuss and negotiate peering - the basis on which ISPs exchange traffic between their networks and which underpins the functioning of the Internet.

Around 125 senior industry executives were on board the cruise ship Majesty of the Seas for the three-day event.

The forum agenda kicked off with in-depth presentations from industry experts on a variety of subjects, from peering policies, tools and trends to current industry hot topics of interest to the peering community.

LINX and its partners lined up some top-name speakers, including:

- Daniel Golding, Analyst with the Burton Group
- Peter Cohen, Peering Coordinator for TealiaSonera
- Barrett Lyon, CTO of Proxlex
- John Todd, CTO of Telco, Inc.
- Michael Mulhern, US State Dept.
- Todd Underwood, Peering Coordinator for Renesys
- Joe Pucik, MCI MAE Engineering

The peering managers present were understandably keen to take advantage of the opportunity to meet their counterparts from other ISPs.

Vanessa Evans, sales and marketing manager at LINX, said: "Selecting which organisations to peer with is a major strategic management function at an ISP. Getting the decisions right, or getting them wrong, can make a crucial difference to not just the technical but also the financial performance of the organisation."

LINX goes to Hannover for CeBIT2005

CeBIT2005 in Hannover, Germany, was billed as the biggest networking opportunity in the world. The event was attended by nearly half a million visitors.

There were 6,270 exhibitors with over half coming from one of LINX target markets, Asia. This contingent was backed by some 35,500 visitors who made the trip specifically for this event. Taiwan and Korea were well represented as were the relatively new markets of Eastern Europe and China whose 310 exhibitors was an increase of some 70% on last year.

The LINX stand was manned by Richard Yule, Neana Singh and Howard Fisher who are now following up the contacts made.
LINX directors re-elected as membership grows and prices fall

Members of the London Internet Exchange re-elected three of its directors at LINX 48, the company's annual general meeting. Those present also heard that the organisation's growing size and financial strength is leading to lower costs for handling Internet traffic.

Internet service providers (ISPs) which are members of LINX, re-elected chairman Grahame Davies of Mistral Internet to the board along with fellow directors Steve Wilcox of Telecomplete and Neil McRae of COLT. All three had reached the end of their previous term of office and were obliged to stand for re-election.

Members were told that in LINX's financial year which ended in October 2004 the organisation's membership increased by almost 20 per cent to a total of 162 ISPs and content delivery service providers. Membership has continued to grow since the year end and now stands at more than 170.

Despite cuts in LINX's membership fees and prices for its services, and expenditure of more than £700k on new equipment, the organisation was able to increase its reserves to around £2.7 million.

Chief executive John Souter told the meeting: "We finished the year ahead of budget in all respects and our strong financial position is enabling us to consider further cuts in prices. We aim continually to improve the cost-effectiveness of LINX membership while maintaining the reputation for reliability and technical excellence which has made us the world's largest Internet exchange."

LINX Extra

The 50th LINX meeting will take place in August, at Goodenough College, Mecklenburgh Square, London.
http://www.goodenough.ac.uk

LAIT success for LINX's Andy Furnell!

LINX Senior Network Engineer, Andy Furnell, recently embarked on the LAIT training programme (LINX Accredited Internet Technician) where he has achieved some exceptional results. This article looks at his career to date and details the background on his LAIT success.

Andy's first role was as technical support engineer at Claranet UK in 2000 progressing to Systems Administrator just 9 months later. After a spell working for COLT in their UK technical support department as a Customer Diagnostics technician, Andy returned to Claranet as a Network Engineer. During this time he worked on the integration of the Netcallibur UK network into AS8426 and the MPLs/VPN product.

Andy joined LINX as a Senior Network Engineer in the Summer of 2004 and his already extensive knowledge was enhanced by embarking on the LAIT II course in February 2005. The course content mostly covered internal routing protocols (IGPs) and some layer 2 switching. On the second day of training he took the LAIT I exam and scored an incredible 90%. He later went on to complete the LAIT II course with a fantastic mark of 84% on the final examination. At the end of March Andy sat the LAIT III exam which covered mostly BGP and security topics, and passed yet again.

Andy had this to say on his success: "Given my experience working for an ISP I feel that the topics covered in LAIT are representative of the knowledge required by engineers working for an Internet company. I'm also looking forward to the 'LINX Master' exam: a full one day lab examination testing the practical skills covered in the three written exams of LAIT."

Want to know more..?

If you are interested in finding out more about the LINX Accredited Internet Technician course, please take a look at the Systems & Network Training Ltd website at: http://www.s-n-t.co.uk/LINF.
Alternatively, you can also contact LINX's training manager, Hugh Spencer, via email at: hugh@linx.net.