Keeping Legal Over Data Retention

LINX is helping to map the landscape regarding proposals to alter existing rules about the retention of data records, where Internet Service Providers (ISPs) have to plot a careful course between Human Rights legislation and the demands of law enforcement agencies.

Under legislation protecting individual privacy, ISPs are expected to keep records of communications traffic for only as long as they need it for businesses purposes, such as billing customers, checking the performance of the network and preventing fraudulent use of the service. For most practical purposes, that indicates a time limit of up to three months, or perhaps a year if billing is quarterly.

However, under the UK Regulation of Investigatory Powers Act (RIPA) law enforcement agencies may ask for the communications data to be collected and handed over for much longer if they believe the records constitute evidence in an alleged crime. Although notices have to be renewed monthly, there is no limit to the number of renewals permitted as long as the data is still applicable to a specific enquiry.

In these circumstances, the data will be handed over at regular intervals and the ISP will have no requirement to archive it. However, not all cases are investigated, or re-investigated immediately and some institutions such as the Criminal Cases Review Board would like records routinely kept for several years.

International law agencies would also like ISPs to accept a ‘data preservation’ system under which specific records would not be deleted while the foreign investigators complete the necessary paperwork to authorise a lawful disclosure of those records. This could take some time, especially if legal formalities have to be completed in several countries.

“Unfortunately, there is no consistent practice of record keeping across the industry because individual ISPs retain different types of information for different lengths of time,” said LINX director of public policy Roland Perry. “Moreover, as ISPs become exposed to the debate surrounding data retention it’s quite likely they will delete more data sooner, rather than keep it longer.

Demands

“One proposal currently being debated within Europe could result in a system of ‘data conservation’ that would be based on current industry activity being allowed to continue on a voluntary basis. It would bridge the gap between being prosecuted under data protection regulations for keeping data too long and not keeping it long enough resulting in demands for mandatory data retention from law enforcement agencies.

“Many issues still remain to be thrashed out but LINX will continue to put forward workable and practical arguments on behalf of its members.”
Infrastructure ‘Roadmap’ Shows Route to the Future

LINX has produced an infrastructure ‘roadmap’ to help guide its future development and deployment of technology.

Drawn up by the directors and engineering management team it looks ahead 24 months to try to forecast members’ needs and how LINX should meet them. It will be updated every three months to provide a rolling forward plan for infrastructure development.

The roadmap is divided into four key sections — the core peering LAN, other peering (such as multicast, IPv6 and private peering), LINX’s own AS5459 network and ‘special projects’, which is primarily aimed at development and evaluation work.

Among the key features on the roadmap for the core peering LAN is its division into two ‘clouds’, each using hardware from only one vendor. The separation of Foundry and Extreme equipment in this way will improve vendor support by reducing the opportunity for inter-operability problems, will enable new features to be deployed more quickly and will improve traffic and failure management. In order to maximise the benefits, each member will need to have at least two connections to LINX — one in each ‘cloud’.

In addition, plans for the core peering LAN include evaluating, and hopefully deploying, the pre-standard 10 gigabit Ethernet (10 GigE) equipment from Foundry, upgrading Telehouse North to the new Extreme Black Diamond 6816 switch, and starting evaluation of ‘next generation’ 10 GigE switches.

The transit and peering infrastructure of LINX’s AS5459 network is to be upgraded to provide improved services to Kroot and Nominet and to give extra redundancy in LINX internal networks. Better security and other improvements arising from the work being done by Bernd Marienfeldt (see below) will also be implemented.

In the ‘special projects’ category, LINX is to establish its own test facility at a new London location where hardware can be worked on without connection to the core network.

Infrastructure developments completed in the past few months have included going ‘live’ at TeleCity Harbour Exchange — initially with Extreme Black Diamond hardware but soon to be complemented by Foundry Bigiron 8000 — and upgraded connectivity between Telehouse East and Telehouse North.

Bernd Tackles Network Security Project

Bernd Marienfeldt, a final year computer-networking student from the University of Applied Science at Furtwangen, is undertaking a six-month work experience placement with LINX while preparing a thesis that will lead to a degree in computer science and information.

His thesis on network security includes proposals for a virtual private network and multi-media applications between different office locations, plus options for secure connections for people working from home or while travelling.

Bernd’s mentor is training officer Hugh Spencer, who is responsible for coordinating efforts designed to attract more graduates into internet engineering roles. This includes setting up a structure to help LINX members offer work experience placements to undergraduates.

Hugh said: “Bernd’s skills set in network engineering and programming made him an ideal candidate for a placement with LINX.”

Bernd, 31, studied physics and mathematics at Friedrich Schiller Gymnasium, Pfullingen, and then studied export sales administration at Eningen for three years before embarking on his computer-networking degree in September 1996. He is the fifth German student to be offered a work experience placement with LINX in the past two years.
Opt Out Confusion Puts a ‘Spammer’ in the Works

The debate over whether people should make definite ‘opt-in’ decisions to receive wanted commercial e-mail, or should have to ‘opt-out’ to reject unsolicited communications continues to provoke conflict. One increasing problem is a potentially confusing use of the expression ‘opt-out’ to mean one thing to legislators and another to the Internet industry.

"The evidence demonstrates that most people are irritated by unsolicited e-mail and often complain to their ISP in an effort to block the perpetrators," said LINX director of public policy Roland Perry.

"Combined with the efforts required to clean up mail servers after particular incidents, this ‘collateral damage’ harms the Internet industry, wastes resources, and can significantly reduce the impact of e-mail as a killer application of the Internet.

"One line of reasoning is that if all unsolicited messages were marked with a UCE identification, then no damage is done because the threat is readily identifiable. But that's a bit like saying you don't mind burglars in your house as long as they are wearing a stripy jumper and face-mask and you have a legal right to ask them to leave.

"Some e-mail marketing companies want to assume that individuals have opted-in simply by providing their e-mail address as part of a transaction — even if it is provided only to receive confirmation that an online order has been received — or it has been sold to another organisation without their informed consent.

"Confusion arises because of the recent trend to use the expression ‘opt out’ to describe the action taken when people subsequently ask for their address to be removed from that particular company's list.

"In reality, this is an attempt to appease people by offering to reverse an ‘opt-in’ that may have been actived without their specific permission in the first place. As such, it's equivalent to an ‘opt-in’ scheme with a concept of implied rather than explicit opt-in to get the ball rolling.

"Note that it is proposed that users perform this ‘cancellation of opt-in’ activity with every organisation into whose hands their e-mail address has fallen — and after the damage of the original unsolicited e-mail has been done.

"The classical definition of ‘opt out’ is that your name is held on a central register that prevents the delivery of all direct marketing material from all potential sources. However, we don't believe opt-out registers of that kind work for the Internet and have always campaigned against them.

"Neither do we believe it is feasible for companies to be allowed to send unsolicited commercial e-mail provided they offer to take the recipient off their lists.

"Operating within an ‘opt-in’ regime gives consumers control over what they receive, increases the likelihood of them opening commercial e-mails and allows marketers to target their messages to people who wish to receive them."
**Linx Backs Industry Events — Members to Have Reduced Price Entry**

The programme of industry events endorsed by LINX includes two more major conferences and an associated exhibition in the final months of this year and one in March 2002.

Our involvement will help to raise LINX's profile with non-members and will help the event organisers to promote their activities. It will also offer members the benefit of reduced-price entry to all the events.

ASP WORLD 2001 and STORAGE AREA NETWORKS WORLD — 7 to 9 November 2001.

London ASP World Europe 2001, now in its second year, is the largest European conference and exhibition for the ASP industry and user communities. The organisers intend that enterprises of all sizes and the ASP community should come together to strengthen their relationships by exploring the successful way forward for software as a service.

Storage Area Networks World Europe brings together the storage industry, communications service providers and major corporations. Both events feature free educational seminars and a conference built around case studies and presentations on key business issues.

**Details from:**

**Multicast — Further Developments**

The BBC is building a large content delivery network and making available content-rich streams via multicast, James Rice of the BBC told members at LINX 34.

In a debate on the future of this technology, James pressed for more ISPs to join the LINX multicast exchange and configure multicast to the end user, including IGMPv3 on the last hop to facilitate SSM (Source Specific Multicast), a technology ideal for one-to-many content delivery via multicast.

LINX itself continues to expand its multicast capabilities. It will be testing PIM snooping on its Foundry hardware and rolling out multicast to all its sites, generally using ports on the main switches but keeping separate hardware where there are lots of multicast ports in use (such as at Telehouse North).

**New MoU Structure Adopted**

A new Memorandum of Understanding (MoU) setting out revised criteria for LINX membership and a new membership fee structure were adopted by delegates to LINX 34 on 21 August.

LINX chief executive John Souter explained that the new MoU had been drawn up in consultation with the LINX Ad Hoc Committee (LAHC) and board of directors because the previous structure had undergone so many incremental changes that it had become difficult to read and use.

"Furthermore, the existing document did not always 'say what it meant' or 'mean what it says', so extensive work has been done to clarify the essence of what the LINX is all about — as a mutual exchange point," said John.

The new document presents a rational two-stage membership application process consisting of approval followed by network build-out, he said. There is also a more clearly defined sanctions and appeals process to protect the technical integrity of the exchange.

The new MoU sees the unbundling of port fees from the membership fee, resulting in a totally new fee structure and removing the differentiation between the basic and additional service. A new Services Definition document now contains the pricing structure, bringing further consolidation to the recently introduced 'a-la-carte' menu system.

For the coming year the joining fee for members will remain at £10,000. However, other elements of the fee structure have been revised as follows:

- The membership fee (currently £16,000, including two free ports) will become £8,500.
- The fee for a 100 megabit port will increase from £4,000 to £5,500.
- The fee for a one gigabit port will decrease from £15,000 to £14,500.

John said the review team had drawn up the new structure with consideration for both costs and volumes of traffic in relation to market conditions and he estimated that it would produce an income of around £4 million. He anticipated there would be substantial expenditure in the early part of the year on new engineering equipment as older switches were replaced and to upgrade the core network to 10 gigabit Ethernet capability.
**News in Brief...**

- LINX is to investigate the possibility of negotiating a standard insurance package which can be offered to members putting their own equipment into LINX racks.

- LINX 35 – the next meeting of LINX members – will consider the possibility of setting up a computer emergency response team (CERT). The options to be reviewed will include a ‘stand-alone’ CERT and various degrees of co-ordination and co-operation with other CERTs. Members will be asked to decide whether any of these ideas should be pursued in order to provide better information about, and protection from, a variety of attacks on Internet service integrity.

- Peak traffic being handled by LINX has now passed 10 gigabits per second. Traffic continues to grow month-on-month but the rate of growth has slowed since earlier this year.

- LINX is consulting members about the desirability of providing GPRS exchange facilities. Members with a view on this topic should contact LINX chief executive John Souter (john@linx.net).

- The EGM re-approved authorisation for LINX staff to continue work on the existing five non-core activities – Content Regulation; Telecoms Regulation; Regulation of Unsolicited Bulk Messaging; Law Enforcement; and Training.

- The possibility of holding special or regular member meetings to consider non-technical aspects of LINX operations of interest to chief executives, financial directors and marketing directors is to be considered following a suggestion made at LINX 34.

**Tragic Loss in New York Disaster**

This issue of HotLINX was being written shortly after the terrorist attacks on The World Trade Center in New York. The full extent of the tragedy – and more particularly the impact on the Internet community – was only just becoming apparent as we went to press.

John Souter, chief executive of LINX, said: "We were all horrified by what happened on 11 September. Many of our members are American companies and we have friends and colleagues who were working in the area at the time of the attack."

“We know we have suffered one sad loss with the death of Daniel Lewin, co-founder and chief technical officer of LINX member Akamai Technologies. Daniel was one of the passengers on American Airlines flight 11 from Boston to Los Angeles which hit the World Trade Center. It is not yet clear whether other colleagues have been lost in this appalling tragedy. Our hearts go out to Daniel’s family and the families of all those killed or injured.”

Many trans-Atlantic cables carrying Internet traffic between Europe and the USA come ashore in Manhattan and a number of exchange points and other Internet facilities were damaged or destroyed by the terrorist activity. In the aftermath of the tragedy LINX helped to co-ordinate activity by its members to offer spare transit capacity and other technical assistance to US firms – whether they were LINX members or not.

**Private Peering at LINX**

Before the end of this year LINX is to offer members facilities for private peering at Telehouse North, Telehouse East and Redbox. Members with a presence in any of these buildings will be able to connect their networks directly to any other members present in the same building, without going through the LINX routers.

It will be a passive optical service, allowing the members involved to deploy whatever technology they wish for exchanging traffic without LINX needing to make any changes to the connections. These will be based on 16 core bundles of single mode fibre between members’ racks and the private interconnect racks in each building. Details of prices and availability can be obtained from Vanessa Evans or Martin Overend at LINX (sales@linx.net).
Internet Skills Initiative Achieves Results

The LINX initiative to attract more network engineers into the industry is already producing positive results from both universities and commercial training organisations.

The University of Hull Centre for Internet Computing whose syllabus already closely matched the needs of the industry has, as part of the course's natural evolution, achieved an even closer match to the LINX criteria. Around 55 undergraduates and up to 50 postgraduates are enrolled in the new BSc and MSc programme in Internet computing.

Meanwhile, two commercial trainers, Systems & Network Training and Perpetual Solutions, has launched an intensive programme for people who want to become LINX Accredited Internet Technicians (LAIT).

Raza Rizvi, who chairs the LINX training NCAP (non-core activity plan), said: "This is great news. While there is still a huge amount of red tape involved in developing a new academic scheme that would produce LINX Accredited Internet Engineers (LAIE), some universities such as Hull and Essex already have a syllabus that closely matches our needs."

"The fact that Hull is progressing towards the LINX framework is very encouraging. Once final modifications are complete, I am sure that we will be able to give the syllabus our wholehearted support."

Angus Marshall, lecturer in Internet Computing at Hull, added: "Around one-third of our three-year degree programme is directly network related with another third covering programming and the remaining software engineering and professionalism. Together with non-technical material up to 50 per cent of our syllabus meets the LAIE criteria so we are obviously moving in the right direction. Undergraduates are very aware of the need to find work after completing their studies, so knowing that the syllabus meets the needs of industry is very important to them."

Delegates at LINX 34 endorsed the remit of the Training NCAP to create a dedicated training website, to endorse commercial training programmes for LINX Accredited Internet Technicians and to continue negotiations with universities to develop a syllabus that fulfills the needs of LINX Accredited Internet Engineers.

New Fibre Installed as Traffic Hits 10 gb/s

As the volume of traffic being handled by LINX approached 10 gigabits per second during the summer an additional dedicated optical fibre connecting its facilities was provided through a five-year interconnect agreement with THUS.

The cable provides a circular loop linking Telehouse North, TeleCity Millharbour, TeleCity Harbour Exchange, Rodbus and Telehouse East.

Head of network architecture Mike Hughes said: "The new fibre provides further resilience to guarantee the reliability of our service to members. THUS responded to our needs speedily and professionally."

Jim Reid, executive director of sales and marketing for THUS, added: "As a member of LINX, we recognise the need to reinforce the reliability of its infrastructure and equip it for future demands. We are delighted to provide this solution that will further benefit the growing UK Internet community."

Resolving Peering Problems

LINX is drawing up a code of best current practice (BCP) for handling a number of common peering problems.

Network architect Mike Hughes told LINX 34 that many problems could be resolved by peers talking to one another - but it often proves difficult for personnel in one organisation to find the appropriate people in the other to initiate those discussions.

The draft BCP which he produced for the meeting therefore sets out some clear channels of communication and stresses the need for members to keep their contact details on the LINX website up to date.

The BCP also deals with related issues such as staff training (to ensure that staff at network operation centres know how to handle peering problems) and protocols for 'escalating' a problem through an ISP's engineering hierarchy.

Mike is now producing a second draft of the document, incorporating the comments received at LINX 34, for presentation at LINX 35.
Aiming to Eliminate Child Sex Pests from Internet

LINX is continuing its work with the Government’s Task Force on Child Protection on the Internet to secure practical, workable ways of protecting young people from sexual exploitation via the Internet.

The Task Force has adopted many of the recommendations contained in the ‘Chat Wise Street Wise’ paper produced by the Internet Crime Forum, whose vice-chairman is LINX director of public policy Roland Perry.

These recommendations include better education about the use of Internet chat rooms for parents and children, exploration of ways to introduce a 'kitemark' safety standard for chat rooms aimed at young users, and specialised training to help police officers combat Internet sex predators.

Roland is a member of five of the seven Task Force working groups, several of which will participate in a further round of meetings in September before reporting back to Task Force chairman Beverley Hughes, Home Office Minister with responsibility for child protection, in October.

A number of issues remain to be resolved, including how the various child protection measures will be funded and establishing clearly defined priorities within the police service for investigating and prosecuting alleged offenders. This could affect relationships between ISPs and the police during investigations under a proposed new offence of 'Meeting a child with intent to engage in sexual activity'.

‘Many people assume that providers of chat room facilities – such as portals, websites and even video game manufacturers – are large organisations that can easily afford such measures as employing full-time, trained moderators to monitor online chat and prevent abusive conversations,’ said Roland.

‘However, chat facilities are often included in small neighbourhood and even school websites that are operated by volunteers who cannot afford to adopt the proposed measures or do not have the skills to adapt the chat software to include extra built-in functions like the recommended ‘alert buttons’. Moreover, some chat, such as Internet Relay Chat, takes place without an obvious intermediary to manage either the content or the user interface.

‘Some people also make incorrect assumptions that Internet Service Providers should in some way be responsible for the content of messages that are transmitted over their infrastructure. That would be equivalent to holding a telephone company responsible for allowing a paedophile to phone to make an appointment to meet a youngster. Indeed, the Electronic Commerce Directive specifically includes a provision that ISPs should not be required to monitor their networks.”

One important proposal that will assist all sectors is for the creation of a central clearing house of police, child protection and Internet experts that would provide co-ordinated and effective responses to concerns about online child protection. It is not intended that this body deals with individual complaints, but rather sets the recommended response to various common scenarios. As part of this initiative, Roland would also like to see clear guidelines published – perhaps on the ukonline.gov.uk site – to explain how members of the public can report suspicions about specific paedophile activity.
IWF to Issue Reports on Illegal Material

As part of its on-going campaign to eradicate illegal material from the UK Internet, the Internet Watch Foundation (IWF) is to issue reports to individual Internet Service Providers (ISPs) about Usenet groups that contain illegal material.

The reports will indicate how many illegal items appeared in each group and track content in the identified groups over a period of time.

In addition, the IWF is asking LINX members to review their policy on carrying Usenet groups that consistently contain illegal material.

The move is a continuation of the co-operation between the IWF and ISPs that, over the past five years, has resulted in the removal of over 30,000 items from the UK Internet. During this time there have been no prosecutions for carrying illegal content made against any UK ISP.

IWF chairman Roger Darlington said: "The IWF continues to identify specific images that are believed to be potentially illegal - usually child pornography in newsgroups - and, if any are found to be hosted on UK servers, we advise UK ISPs to remove those images.

"As a result of the IWF's work we now know that a small number of newsgroups account for a large proportion of the potentially illegal material. This raises the question whether we could collectively do more to combat child pornography on the UK Internet and increase consumer confidence.

"After much consideration and extensive consultation, the IWF believes that it would be appropriate to advise UK ISPs more fully and more regularly where the illegal material is occurring by providing a regular report that identifies Usenet groups containing illegal material.

"The IWF does not think it right that we should instruct or advise ISPs not to host the relevant newsgroups. However, in the light of the new information being made available, the IWF would now request that all LINX members review their policy on carrying groups that consistently contain illegal material. The IWF will be contacting ISPs individually to ask about their policies on this issue."

"The IWF knows that ISPs understand the public concern about child pornography in newsgroups and the need to maintain consumer confidence in the industry. We hope that this new policy and the information we provide will assist ISPs in making informed decisions about their own policies."

The following extracts highlight the sections most relevant to ISPs from the IWF Board's recent resolutions on newsgroups. If you would like to see the original consultative document, the external submissions on this document, the background papers leading up to the Board's decisions, or the full text of the resolutions, they are all available on the IWF website at http://www.iwf.org.uk/about/poli.html.

The key decision for the operation of the IWF itself is I.1: IWF should regularly prepare and provide to ISPs statistical tables of numbers of identified illegal items in newsgroups that they can use to inform their policies on carrying newsgroups.

The key decision for ISPs is P.4: The Board recommends to every ISP involved with newsgroups that it is an appropriate time for them to review their policies in the light of the new information that will be available to them from IWF on a regular basis.

RIPA Code on Data Searches Now in Consultation

A final draft code of practice has now been released for consultation on the issue of how ISPs will be required to handle requests from law enforcement agencies for communications data under section 22 of the Regulation of Investigatory Powers Act (RIPA).

The code will introduce a regime under which ISPs will be expected to establish nominated police liaison units with a designated point of contact to handle requests for subscriber information. Training will be required to ensure designated individuals understand the legal obligations, the extent of RIPA powers and the correct paperwork and procedures that must be used.

Similarly, the Internet Service Providers Association (ISPA) and LINX will continue to educate law enforcement agencies about how the industry operates, how to identify the correct ISP and the type of information that may be available.

"ISPs will want to receive proper and feasible requests for information in a lawful format and the police clearly need to know what information ISPs can provide," said LINX director of public policy Roland Perry, who is monitoring developments closely.