In this issue of HotLINX...

New Sites
The new PoPs at Intenxion and Equinix London-4 are now live. LINX Board member, Raza Rizvi, gives an update from all the new locations including TelcityGroup Powergate.

Hot Topics
LINX is pleased to announce it has connected its 300th member. We look at why LINX is such an attractive place to peer. We also focus on the upcoming ‘Leap Second’ and the LINX NTP time server.

LINX Members
Sales & Marketing manager, Richard Yule, gives us all the latest membership news and stats. We also focus on recent new members Alentus, E4A and Giganews and the recent price cuts.

Industry Events
In our events section we look back at EPF3 and LINX62, and preview LINX63. Also included is a future events calendar and profiles of LINX meeting sponsors F5 and euNetworks.

Public Affairs
LINX Head of Public Affairs, Malcolm Hutty, welcomes Christos Kaitatzis as our new Membership Relations Officer. This issue also rounds up all the latest news affecting Internet regulation.

Inside Story
In the first of a new series we speak with leading figures in the Internet industry. First up is LINX Chairman, Grahame Davies who talks about his background and the challenges ahead for LINX.

European Peering Forum
Internet Community Goes Green
Peering Co-ordinators head to Dublin, Ireland for the third European Peering Forum
Since HOTLINX 15 (August 2008) the engineering team at LINX have been driven hard by “yours truly” to get the planned new PoPs at Equinix Slough, Interxion and Telecity Powergate open and ready for member connections. To remind you, each PoP is considered to be a full LINX site, with a Foundry and Extreme LAN capable of multiple 10G connections and providing connectivity for IPv4 and IPv6 unicast, and multicast traffic.

In planning it was decided to bring the Interxion PoP up first, as it was already connected to an existing LINX ring which had been retired from service some five years ago. Re-lighting the slightly altered ring should have been an easy task but the opening of the PoP was significantly delayed as our existing supplier struggled to provide the resources necessary for the minor changes to bring the ring back into service. Once their work was completed (two months late), we opened the PoP on the 7th October.

Because of advance member communication, we increased the capacity of this site to 40G from the original planned 20G to accommodate member demand, and we have our first member connections ready to go live at the site.

We had agreed a phased delivery of the Geo fibre ring joining the new PoPs and they beat their own ambitious delivery timetable to let us test the Intenxion to Equinix Slough segment in the early part of October. Having solved a few issues with our optical budgets and after a period of confidence testing, we then opened the Equinix PoP for connections (as a stub site) on the 24th October.

At the time of writing, we have had the full Geo fibre ring handed over (ahead of schedule) and have completed the technical build-out for the opening of the Telecity Powergate site. We are now in the testing phase with a Go Live date by the 3rd week of November. Subsequently there will be some EAPS and MRP work (the protocols used to ensure loop free operation on LINX switches) as we bring the new PoPs up in a ring formation rather than as extended stubs.

As project manager, I would like to thank the great team effort from the entire LINX engineering staff, who have also been assisted by members of the LINX IT staff. Thanks is also due to those staff in the all the PoP sites that have worked in a spirit of partnership for the betterment of the LINX membership.

Please contact Raza at raza@linx.net with general technical questions and sales@linx.net if you are planning on taking connectivity.

Raza Rizvi
LINX Council and New PoPs Project Manager
## Making History

**It all began with the Famous Five**

Back in November 1994, using a donated piece of equipment no bigger than a video recorder and without any legal contracts, five UK-based ISPs (PIPEX, UKNet, Demon Internet, UKERNA and BT) linked their networks in order to exchange data and avoid paying costly transatlantic bandwidth charges. At that moment, LINX as we know it was born.

From those humble beginnings LINX has seen and implemented meteoric changes in the Internet industry. With the exchange of the LINX platform has always had a global reach, with networks from more than 45 countries represented. This is up from just 16 countries in the year 2000 when there were fewer than 100 members at the exchange.

The development of LINX can be traced back to when two of the original five ISPs, PIPEX and UKNet, linked their networks with a 64-kilobit serial link. This saved cost and the time delay involved in routing data across the Atlantic to US Internet exchanges.

When Demon Internet, UKERNA - the UK academic network - and other ISPs showed interest in establishing similar serial links, Keith Mitchell, then chief technical officer of PIPEX, initiated a meeting with BT to discuss the creation of a London-based Internet exchange.

PIPEX provided the LINX founders with a Cisco Catalyst 1200 switch with eight 10-megabit ports and rack space was leased at a virtually empty data centre operated by Telehouse International Corporation of Europe Ltd in London's Docklands.

While PIPEX continued to provide administrative and technical oversight, the need for a formal constitution was eventually recognised. The company was formed in 1995 and a board of five non-executive directors was elected, with Keith Mitchell as the initial chairman.

From the beginning it was agreed that LINX would be a non-profit organisation run for the benefit of its members and governed by them collectively through regular member meetings, a practice which continues to this day.

Over the years the industry has changed beyond all recognition but the ethos of LINX remains the same. It is a mutual, not-for-profit membership association run for the benefit of its members while representing their interests on matters of public policy.

The LINX platform has always had a global reputation for quality, performance and technical excellence, and as a result, is now able to access 175,000 Internet routes reaching in excess of 45 countries from Europe, North America, the Middle East, the Far East, Australasia and Africa.

LINX is delighted to announce that it has connected its 300th member, the first Internet exchange point in the world ever to connect so many networks together.

During 2008 LINX has added 43 new members representing a 17% increase in membership in just ten months. This rise is indicative of the importance networks attach to peering despite the significant drop in transit pricing over the last decade.

The LINX membership has become highly international, with networks from more than 45 countries represented. This is up from just 16 countries in the year 2000 when there were fewer than 100 members at the exchange.

Over the last quarter LINX has also been bolstered by the connection of a number of major content and DNS providers.

## LINX First In The World To Interconnect 300 Members

**Comment**

John Souter, LINX Chief Executive Officer, said: “In addition to the major UK and global ISPs, the LINX membership includes e-commerce and DNS specialists plus content delivery and research and education networks. This makes LINX a compelling place for international peering. Our latest members broaden this still further with VoIP, IPTV and gaming services becoming more popular.”

LINX also boasts an impressive set of technical statistics, with over 600 member Ethernet ports connected, more than 140 of them at the fastest possible rate, 10GigE.

A complete list of members is available on the LINX website: www.linx.net/about/memberlist.html

### ‘Just A Second...’ - LINX NTP Time Servers

As you may know, LINX provides an NTP time service for members. This new year, the time will have an extra second added - a leap second. Leap seconds are occasionally added to UTC in order to account for fluctuations in the speed of the Earth’s rotation.

The last minute of 2008 will have 61 seconds, so those on the GMT time band will have an extra second in their new year countdown before they can pop open the bubbly!

The LINX NTP servers will start to announce the leap second via NTP approximately one hour before the change occurs. The leap second will occur on 31 December 2008 23:59 UTC, with the seconds being transmitted as 59, 60, 00.

After the leap second event, UTC will be behind International Atomic Time (TAI) by 34 seconds. Both GPS and the DCF77 signals automatically announce leap seconds, with the British MSF signal inserting the leap second manually at the time. This is because the MSF signal pre-dates the idea of leap seconds.

As this will be the first leap second event with the new NTP servers, we can assure you that LINX will be watching closely!

**LINX NTP service**

www.linx.net/members/support/ntp-services.html

**International Earth Rotation and Reference Systems Service**

www.iers.org/MainDisp.csl?pid=36-9 (Bulletin C)

**Meinberg**

www.meinberg.de/english/info/leap-second.html
Membership News

Record Growth Allows LINX To Cut Prices For Members

Record-breaking membership growth during 2008 has allowed LINX to make substantial cuts in prices for membership and for the services which they receive.

Annual membership fees have been cut by 10 per cent as have the price of 1 GigE and 10 GigE ports on one of LINX’s two independent local area networks (LANs). Port prices on the second LAN are being set 25 per cent lower than on the first in a bid to encourage members to link to both networks, increasing the resilience of LINX and therefore of the whole Internet.

LINX charges a flat rate membership fee, now set at just £2,250 per annum, to cover the costs of running the organisation. There is an annual charge for each port connected on the two LANs but there is no traffic charge – members are able to put as much or as little traffic through their ports as their network configurations require, without financial penalty.

LINX splits its infrastructure into two separate LANs in 2002. One LAN is based on hardware supplied by Foundry Networks, the other on hardware from Extreme Networks.

In this and the previous issue of HotLINX we have highlighted many of the important industry events that have been taking place around the world.

Back in August we included two in-depth articles on peering forums including EPF3.5 in Los Angeles and the first Italian Peering Forum in Pisa. That edition also featured a detailed calendar which displayed where you could meet LINX representatives around the world.

In HotLINX16 we have a comprehensive review of EPF3 which took place in Dublin Ireland and a round up of previous and upcoming LINX meetings.

The reason we donate such space for these events is because of the importance we attach to them. They are all excellent ways of keeping right up to date with the latest industry news and are obviously great networking opportunities too.

Members can keep track of the latest event news in the member area of the LINX website. Please go to www.linx.net/members/events to find out more. (Member log-in required)

John Souter, LINX chief executive, said: “Under LINX’s mutual membership model, profits are returned to members in the form of price cuts. These deductions are fully offset by the growth in our membership since January. We have already connected 47 new members in 2008 and there is still two months of the year to go.”

LINX chief executive, John Souter, said: “Under LINX’s mutual membership model, profits are returned to members in the form of price cuts. These deductions are fully offset by the growth in our membership since January. We have already connected 47 new members in 2008 and there is still two months of the year to go.”

John Souter continued: “We have decided to make the port prices on our Extreme LAN even more attractive to try to balance the connected capacity, traffic and routes available across the two LANs.

“We develop and maintain two separate LANs with equipment from two different switch vendors as part of our approach to resilience, a vital aspect of good management of an Internet exchange like LINX. These are a safeguard against the unlikely event of both LANs suffering simultaneous problems attributable to our vendors.

“This architecture also promotes healthy vendor competition. Operating two local area networks also means we have resilience in the event of non-vendor-related problems on either LAN permitting us to maintain service if we need to take elements of one of the LANs out of operation for upgrading or service work.

“We encourage our members to take ports on both LANs because it provides them with the same resilience.”

Prices of LINX membership and services are published at www.linx.net/servicefees.

Comment

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For the Period August - November 2008

Below is a list of new members connected since the August issue of HotLINX. It is an ever growing list which includes a number of new territories, thus expanding the global reach of the LINX network ever wider.

AEG
United States
www.aegworldwide.co.uk

Alentus
United States
www.alentus.com

Elite
United Kingdom
www.elite.net.uk

EuroTransit
Germany
www.euro-transit.net

Hostway Corporation
United States
www.hostway.com

Kiiji
The Netherlands
www.kiiji.com

Lastminute.com
United Kingdom
www.lastmute.com

Libous
United Kingdom
www.libous.org

Netdirekt
Germany
www.netdirekt.de

013 Netvision
Israel
www.013.netvision.net.il

OTEnet Telecom
Cyprus
www.otenet-telecom.com

Panther Express
Germany
www.pantherexpress.net

Rostelecom
Russia
www.rt.ru
E4A

‘Pleased to be at LINX’
By Riccardo Losselli

E4A is an Italian Wireless Internet Service Provider operating in North-Eastern Italy, delivering wireless broadband and VoIP services, and FTTH.

Even if our services are typically available where no broadband access at all exists (and sometimes even phone lines), our customers demand a high performance, no traffic volume limits or filters, low latency connection, all combined with a low monthly cost - usually half the price of a comparable xDSL-based service.

This can be quite hard to reach, and direct peering was our choice, so we first joined major Italian Internet Exchanges, with wonderful results, but it was not enough.

We decided to join LINX after meeting John Souter in Pisa during the Italian Peering Forum and following evaluation of the joining process, costs and services compared to other European IXs.

We chose a carrier from the "LINX from anywhere" section, and started the joining process with the help of Jennifer and Richard (sales@linx.net).

The whole process took just two to three weeks, and was very easy, thanks to the support we received from LINX. By using the route server we started peering immediately with most operators from the very first day.

Results were impressive: 70/80% of all our traffic is now through direct peering - 20/30% of which is through LINX only - much more than we expected, mainly due to the great performance increase on content streaming and latency.

Our customers are definitely happy ... and of course we are too!

LINX Welcomes Giganews

Giganews, Inc., a leading Usenet access provider, have established an open peering connection at LINX. Thanks to this move, Giganews customers in the UK can expect consistently improved latency and bandwidth availability.

“By joining the LINX exchange, Giganews is able to pass traffic - and receive traffic from - the many UK ISPs who are LINX members in a fast and direct manner with no costs incurred. This also benefits smaller service providers whose customers can now enjoy Giganews at full speed, with little cost burden on the provider.

Giganews has already seen much benefit from their initial connection, and plans to double their network capacity at LINX in the near future. Giganews' membership of LINX is the most recent of many service improvements Giganews has undertaken this year. Since January, Giganews has unveiled support for custom usernames, added PayPal™ payment methods, increased binary article retention to 240 days, and internally resolved and alerted the Usenet community to the issue of 64-bit article numbering.

For more information on Giganews and its services please go to: www.giganews.com
Industry Events - EPF3

Third European Peering Forum Attracts Over 200 Delegates

The third European Peering Forum (EPF3) was hosted by LINX, AMS-IX and DE-CIX on 15th & 16th September 2008 in Dublin, Ireland.

The opening address was made by LINX CEO, John Souter, who welcomed everyone to the forum and thanked INEX for their splendid cooperation in hosting the event. It was announced that Netnod would be joining the group of IXPs who are to host the European Peering Forum in future. Details for EPF4 including venues and dates are are yet to be finalised.

IPv6 Peering Experience - Martin Levy, Hurricane Electric

This presentation indicated that IPv6 is growing within the IP peering world and yet backbones still have a long way to go.

While IPv6 at the backbone level may not need to encompass every feature listed in the numerous IPv6 RFCs, it was said to require operational plans and thorough testing. This is because with the dual-stack world, enabling IPv6 is certain to affect every core-router.

PeeringDB - Patrick Gilmore

Patrick provided an excellent overview of what PeeringDB is, how it is run and how it can be used. He also provided a variety of interesting metrics data.

Briefly, the PeeringDB website is an open repository for 1300 networks to post and view peering related information. This allows a network to register peering locations, speed, IP addresses, policies, traffic ratio and contact information. More info at: www.peeringdb.com

Host IXP Panel

AMS-IX, DE-CIX, LINX

On the IXP panel were Richard Yule and Mike Hughes of LINX, Frank Orlowski of DE-CIX and Job Wittleman and Cara Mascini of AMS-IX.

Among the questions from the audience were queries on the lack of standardisation in the way that the host IXPs present their traffic statistics and what are IXPs doing to cope with the spread of extra traffic as their memberships expand. There was also a discussion on whether ISLs are a limiting factor in the lifespan of IXPs, given that 10G is the current practical limit.

Submarine Cabling - Sylvie LaPerrière, Tata Communications

Sylvie LaPerrière presented a fascinating session on the development of under sea cable systems around the world.

Sylvie stated that as North America and Europe are now saturated markets, future growth will occur in the Asian, the Middle East and African regions which will steer sea cable build-out to these areas.

...and there was more!

Other topics covered on the opening day included a presentation on route servers at INEX fronted by Nick Hilliard, Internet security regulation by LINX Head of Public Affairs, Malcolm Hutty and an overview of the French Peering Scene by Didier Soucheyre of Neo Telecoms.

DAY TWO

Tuesday 16th September 2008

New IXP PoPs - LINX, AMS-IX, DE-CIX
Raza Rizvi, Cara Mascini, Frank Orlowski

The opening session on day two highlighted recent PoP developments amongst the three host IXPs.

It is clearly an exciting time in the industry as each exchange is making far reaching plans to match and exceed future growth and development of their members.

Postcard from 2015 - Michael Winterson, Equinix

A light-hearted look into the future was presented by Michael Winterson of Equinix with special guest, Remco van Moos. It was an amusing session that looked at the facilities and features of a fictitious new location called the ‘Cube’.

DDoS Weather Report

Jay Coley, Prolexic

This session focussed on the trends seen in DDoS attacks recently. This covered the motivation for attacking, extortion headline grabbing, censorship based (e.g. newspapers) as well as competition and industrial espionage. Attack types are more commonly SYN/ICMP/UDP while Layer 7 HTTP are lower in volume. The overall average size of attack is increasing.

Video Content Distribution Protocol

Jan Paul Dekker, RTL

Due to the high broadband penetration, the Dutch access providers/ISPs and content providers/broadcasters ran into the inconveniences of efficiently distributing video content to end-users early on. Together they started finding ways to efficiently interconnect to one another to enhance the end-user multimedia experience.

Interactive Sessions

In addition to the comprehensive agenda, there were several opportunities to forge new peering agreements over both days. Two interactive sessions caught the imagination with the ‘Live Session Fest’ and the Peering Passport game.

If you would like to find out more information about the European Peering Forum, please visit the dedicated website: www.peering-forum.eu

The agenda for EPF3 is still available and contains a number of useful links such as to PDFs of the presentation material: www.peering-forum.eu/agenda

More detail on the individual sessions is also available in the EPF3 review page: www.peering-forum.eu/epf3/EPF3_meeting_write-up.html
Industry Events

Meet with LINX

Events to be Attended by LINX Representatives

As you would expect of a major player in the global Internet industry, LINX regularly attends important industry events around the world. Please take a look at the list below to see where you can meet with LINX staff and representatives over the coming six months.

**LINX63**
17/18 November 2008
London, United Kingdom

Attended by: LINX staff & Board

[www.linx.net/members/events/meetings/L63/LINX63.html](http://www.linx.net/members/events/meetings/L63/LINX63.html) (member log-in required)

See page 8 of HotLINX for further details

**Internet Governance Forum**
8-12 December 2008
Hyderabad, India

Attended by: Malcolm Hutty

[www.igf2008.in](http://www.igf2008.in)

**NANOG45**
25-28 January 2009
Punta Cana, Dominican Republic

Attended by: John Souter, Mike Hughes, Jennifer Atherton, Patrick Gilmore

[www.nanog.org/meetings/nanog45](http://www.nanog.org/meetings/nanog45)

**GPF4.0**
29-30 January 2009
Punta Cana, Dominican Republic

Attended by: John Souter, Mike Hughes, Jennifer Atherton, Patrick Gilmore

[www.peeringforum.com](http://www.peeringforum.com)

**LINX64**
16/17 February 2009
London, United Kingdom

Attended by: LINX staff & Board

[www.linx.net/members/events/meetings/L64/LINX64.html](http://www.linx.net/members/events/meetings/L64/LINX64.html) (member log-in required)

Web page will be available in January 2009

**MENOG4**
5-9 April 2009
Manama, Bahrain

Attended by: Mike Hughes, Richard Yule

[www.menog.net/meetings/menog4](http://www.menog.net/meetings/menog4)

**LINX65**
18/19 May 2009
London, United Kingdom

Attended by: LINX staff & Board

[www.linx.net/members/events/meetings/L65/LINX65.html](http://www.linx.net/members/events/meetings/L65/LINX65.html) (member log-in required)

Web page will be available in April 2009

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EPF3 was an excellent event with a multi-faceted agenda that kept the 200+ attendees engaged throughout but they still had time to pose for the camera (top). Our other pictures show Eileen Gallagher of INEX (above left) who assisted in the organisation in Dublin with Nurani Nimpuno of Netnod who will be staging the event next year. Also shown is Riccardo Losselli of E4A (above) who presented during one of EPF3’s Lightning Talk slots and delegates deep in conversation as part of one of the interactive peering sessions. The sponsor stands and tables can be seen below.
New PoPs Dominate the Agenda of LINX62 Meeting

The LINX62 meeting was held on 18/19 August at the Goodenough College in London. It was another lively quarterly member meeting with an excellent attendance and a varied set of presentations and discussions for those present.

F5 Networks (www.f5.com) were our gold sponsor, Intenxion (www.intenxion.com) and euNetworks (www.eu-networks.com) were silver sponsors, and Geo (www.geo-uk.net) was the bronze sponsor. We are grateful to them all for their support and their contribution to the success of the event. It was the first time LINX had had four sponsors for a member meeting and it was great to see them all participating in the LINX community.

In John Souter’s CEO presentation he announced the latest price cut arrangements which came into effect from 1 September 2008. You can learn more about how the new prices affect members by turning to page four of this edition of HotLINX. Also covered was the rationale for having a dual LAN policy at LINX.

As was previewed in HotLINX15, the new LINX PoPs were now very close to launch. John presented an update on the latest situation with regard to the Equinix London-4, Intenxion and Telecity Powergate sites which was eagerly received by those present.

There followed a data centre disasters panel session hosted by Dan Lowe of UKSolutions. Representatives of the four data centres above as well as from Telehouse made for an interesting discussion and this was thought to be a useful addition to the agenda.

There were three external presenters at LINX62. They were Barry Rhodes, the CEO of INEX in Dublin, who shared the experience of operating an IXP in the Republic of Ireland, Sascha Wilms of ECO who talked about their email whitelisting initiative and Becky Hogg of the Open Rights Group. She gave a lightning tour of consumer and civil rights in the digital age, before focussing in on the current pressures on ISPs to curb illicit filesharing. She urged ISPs: “to stand up for their customers - and their business - in the face of disproportionate and ineffective sanctions against “repeat infringers” proposed by the Government.”

The afternoon will see LINX CTO, Mike Hughes, deliver his usual Engineering update. This will be followed by a slot for member lightning talks before moving onto the EGM which will include a presentation on the revised MoU & Budget.
euNetworks

Low-latency Connections to LINX From euNetworks

euNetworks, Europe’s foremost provider of mission-critical, high performance data services, now offers low-latency connections to LINX and Europe’s largest Internet Exchanges, uniquely providing Internet service providers, telecommunication carriers, content providers, hosting providers and the like with highly reliable networking.

Members of LINX and further European Internet Exchanges are now enabled with euNetworks’ massive capacity networking solutions throughout Europe’s largest cities and economies. All services are delivered on euNetworks’ dedicated all-fiber optic networks, either door2door or via over 100 datacenters across Europe that euNetworks connects on-demand, euNetworks service capacities range from 1GE to 10G Wavelengths, with ready for service availability in days from order. To enable these on-demand services, euNetworks has pre-provisioned multiple terabits of Wavelengths and Ethernet capacity throughout their network. Due to their unique network reach and capability, euNetworks can guarantee highest levels of security, scalability and reliability as well as lowest latency for the most demanding applications.

Noel Meaney, CEO of euNetworks, says: “Demand for the Internet has grown strongly over the past years. New applications and services have transformed how the Internet is used and fueled Internet capacity growth. The reliance on telecommunications continues to accelerate, driving the demand for mission-critical, high capacity and high-speed communication solutions. This results in growing exigencies for Internet Exchanges worldwide. We are proud to provide LINX members, with a highly reliable communications platform based on our extensive infrastructure, enabling their members and prospects with massive, cost-efficient and redundant connectivity.”

Cloud Computing

The Four Behaviours That Define Cloud Computing

Cloud computing is a deployment model leveraged by IT in order to reduce infrastructure costs and/or address capacity/scalability concerns. It is the infrastructure and model of deployment that defines whether something is or is not cloud computing.

Cloud computing is about how an application or service is deployed and delivered. But defining how it is deployed and delivered could be problematic because when we talk about how, we often tend to get prescriptive and start taking in absolute checklists. With a fluid concept like cloud computing, that doesn’t work. There’s just not one single model nor is there one single architecture that you can definitively point to and say “We are doing that, ergo we are doing cloud computing.”

It’s really about the behavior of the entire infrastructure: how the cloud delivers an application, that’s important. The good thing is that we can define that behavior, we can determine whether an application infrastructure is behaving in a cloud computing manner in order to categorize it as cloud computing or something else.

F5 Networks recently sponsored the LINX62 event in August. In a special article, F5 Technical Marketing Manager, Lori MacVittie, explains the key aspects of Cloud Computing

Cloud Computing

The Four Behaviours That Define it

Dynamism

Amazon calls this “elasticity”, but it means the same thing: this is the ability of the application delivery infrastructure to expand and contract automatically, based on capacity needs. Note that this does not require virtualization technology, though many providers are using virtualization to build this capability. There are other means of implementing dynamism in an architecture.

Abstraction

Do you need to care about the underlying infrastructure when developing an application for deployment in the cloud. If you have to care about the operating system or any piece of the infrastructure, it’s not abstracted enough to be cloud computing.

Resource Sharing

The architecture must be such that the compute and network resources of the cloud infrastructure are shareable among applications. This ties back to dynamism and the ability to expand and contract as needed. If an application’s method of scaling is to simply add more servers on which it is deployed rather than be able to consume resources on other servers as needed, the infrastructure is not capable of resource sharing.

Provides a Platform

Cloud computing is essentially a deployment model. If it provides a platform on which you can develop and/or deploy an application and meets the other three criteria, it is cloud computing.

Dynamism and resource sharing are the key architectural indicators of cloud computing.

For more information on cloud computing and F5 Networks products and services, please visit: www.f5.com

For more information please visit www.euNetworks.com or contact us via email info@euNetworks.com

LinX Extra

F5 Networks

www.f5.com
LINX Welcomes Christos Kaitatzis As New Member Relations Officer

Christos Kaitatzis, who has joined the Public Affairs team as Membership Relations Officer.

LINX welcomes Christos Kaitatzis as its newest staff member in the Public Affairs Department. Christos joined LINX in October as our new Membership Relations Officer reporting to our Head of Public Affairs, Malcolm Hutty.

Christos takes on a new role at LINX dedicated to enhancing communications with LINX members on Public Affairs issues and public policy for the Internet. This role focuses on helping members access LINX briefings on policy issues and canvassing member opinions on lobbying positions.

He wasted no time before diving into the issues, starting immediately by conducting LINX’s member consultation on the position to take in response to the Department for Business’ legislative proposals for countering illicit Peer-to-Peer file sharing. From his first week he was calling members, speaking to public affairs contacts and explaining the proposed LINX position as well as getting feedback on where our members stand on the policy.

Christos told us: “I am so excited to be part of LINX and our international membership base. Already I have spoken on the phone with many of our members and met some of them in person. I am looking forward to the next few months where I can get to meet more members and develop public affairs contacts within each of our membership organizations. LINX already provides a range of support for its members on policy issues, and I look forward to helping more of them take advantage of this service.”

Malcolm Hutty commented: “LINX briefings on public policy issues are designed to help members understand how government regulation and forthcoming policy affects their business, and our policy positions advance our members’ interest. With Christos on board, we will expand our capacity to help members benefit from these briefings, and help members to make their voice heard in government policy.”

Christos comes to LINX after a year at The London School of Economics studying a Master’s in Politics and Government in the European Union. Prior to that he worked as a producer for two major Internet websites in the U.S. and as a producer and writer in television news.

If you have any questions regarding Public Affairs, contact Christos on: +44 (0)20 7645 3530 Alternatively you can email him at: christos@linx.net

In Brief

The Latest Stories on the LINX Public Affairs Website

This column features the latest news in the world of Public Affairs. Please visit: www.publicaffairs.linx.net/news to read these stories, and others, in full.

Consulting Members on P2P Intellectual Property

After one month of consultation with members, LINX submitted its final proposal regarding illicit use of Peer-to-Peer file sharing issues to the Department for Business (BERR). The BERR review was intended to gather views on a co-regulatory approach between ISPs and rights holders in order to address copyright infringement through Peer-to-Peer file sharing. The government’s preferred option is for ISPs to send warning notices to end users engaging in illicit P2P. LINX’s reply asks the government to reconsider its proposals. We recommend they consider a wider range of approaches, including actions that could be taken by rights holders and government, rather than looking exclusively to ISPs for solutions.

LINX also raised a range of detailed issues, such as questioning how the policy would be applied to business customers.

The proposal was submitted to the Department for Business Enterprise & Regulatory Reform on 30 Oct. 2008. This document is available to read on www.publicaffairs.linx.net.

Court says Italy can’t Web Block Content blocking, Europe, Intellectual Property, Litigation

Back in August a prosecutor in Italy told Italian ISPs they needed to start blocking The Pirate Bay (a Swedish website that indexes and tracks BitTorrent files). ISPs were told to redirect traffic to a site run by the record labels. Questions arose as to why ISPs should be responsible for filtering content and The Pirate Bay asked an Italian Court to reverse the order. That’s exactly what happened. The Appeal Court upheld the finding that The Pirate Bay breached copyright, but held that creating a specific obligation on innocent third parties (ISPs) was not justified.

French Senate votes for “three strikes” Intellectual property, Litigation

The French Senate has voted in favour of a new online copyright enforcement law. In France called “Hadoopi”, but in the UK known as a “three strikes” law, it creates a mechanism for copyright holders to advance complaints against Internet users for file-sharing in breach of copyright. Sanctions will start with warning e-mails, before progressing to cancellation of the subscribers’ Internet access account. Other ISPs will be obliged to refuse to provide Internet accounts to the banned user for one year. The bill now passes to the Parliament’s Assembly, which has previously criticized the proposal.

If you have any questions regarding Public Affairs, contact Christos on: +44 (0)20 7645 3530 Alternatively you can email him at: christos@linx.net
In a new HotLINX feature we spotlight leading figures in the Internet industry to give us their views on LINX and the Internet today. First up is LINX Chairman, Grahame Davies, who was re-elected to the Board following elections at LINX61 back in May. He has been Chairman for eight years and a member of the LINX Council for more than a decade. During his tenure as Chairman he has overseen the most rapid growth in LINX’s history.

What is your background in the Internet industry?
I’ve been involved in Internet access since its beginnings in the UK back in 1992 which has always involved working at a senior level. I was Co-Founder and a Director of Demon Internet, Group Managing Director at Easynet Group and CEO of Astra. I am also the Chairman or Non-Executive Director of a number of other UK based technology companies including LINX member Lumison.

How do you see your role as LINX Chairman and what does it mean for the organisation?
Throughout my time on the board of LINX I have seen the organisation develop, innovate, delight, frustrate and still meet and beat many of the challenges it has faced. The role has called for leadership and for conviction of beliefs and real commitment in challenging circumstances. I do not see this changing. Indeed, I am pleased that a strong will and spirit is there amongst the staff and members alike to further the interests of LINX.

What challenges do you see ahead for LINX?
LINX faces some key challenges in the months ahead such as the successful geographic expansion into new locations and coping with significant member growth. We must continue to assess the need and value of running two networks and the choice of network hardware we use. This includes addressing homogeneity, support, vendor engagement and stability to ensure we offer the best service possible to our members.

We also have to continue to have an effective board that represents the members, provides appropriate scrutiny, criticism and support for the organisation as a whole.

What’s the first thing you do when you get into the office?
I turn on my lava lamp.

What’s your favourite gadget at the moment?
I have just got a 3G iPhone. The combination of a decent MP3 player with a reasonable IMAP implementation make it a very useful piece of kit as well as using it as a phone.

What’s the best thing about your job?
I am closely involved with a number of ambitious technology companies so I get to meet some interesting and colourful people as well as having the chance to keep abreast of the latest technical and commercial developments.

What’s your favourite book or song (or both)?
Autumn Leaves played by Dudley Moore.

Pet hate?
Bad driving...I’m perfect of course!

Favourite website?
It has to be GreatScores which is my digital sheet music site.
www.greatscores.com

What annoys you?
Unreliable technology.

In a perfect world, what would you be doing?
I’d be a successful Formula 1 driver.

What’s caught your eye recently?
The Aston Martin One-77 www.one-77.com/flash.html

Internet innovation that interests you at the moment?
Google Chrome because of the speed, security and openness of the architecture. I really do think they are raising the bar for browser standards.
LINX continues to see an expansion in staff numbers after unprecedented growth in recent months. In this issue we welcome two new trainee members of staff to the fold who have very different tasks to fulfill.

**Peterborough Welcomes Two New Trainee Appointments**

LINX outreach days are informal gatherings of LINX members and other Internet industry professionals who, for whatever reason, may not be able to attend quarterly membership meetings. After successful events in Onchan on the Isle of Man and Sheffield earlier this year, LINX is now busy preparing for its third member event.

This particular meeting will take place in the south of England and is aimed at our UK members based in and around the Hampshire, Oxfordshire, and Berkshire area. The date is still to be confirmed but is scheduled to take place between noon and 3pm on one afternoon during the first week of December.

If yourself or any of your colleagues would like to attend or find out more about LINX outreach days, please contact Jennifer Atherton at jennifer@linx.net or call +44 (0)20 7645 3522.

Please also let us know of anyone in the area who you believe would benefit from this event or you would like to see as a LINX member. We will be sure to send them an invitation to them.

**Public Affairs**

The Public Affairs department has been strengthened by the appointment Christos Kaitatzis as Membership Relations Officer. See page 10 to find out more.