World First as LINX Launches Peering Review Software

LINX and solutions partner Renesys Corporation have launched LINX Peering Professional, a revolutionary peering review software tool that enables a prospective new member of LINX to evaluate the benefits of membership.

Comprising two elements, 'Peer Finder' and 'What if Routes', LINX Peering Professional is a world first in the Internet peering arena. Developed by Renesys specifically for LINX, the solution integrates seamlessly with LINX's existing website and will be made available to prospective Members via a secure web portal requiring authentication.

Prospective members of LINX can use 'Peer Finder' to generate a list of current LINX members who would be ideal peering partners, based on routing information provided by Renesys Corporation. This information takes into account prefixes in each direction on a potential peering edge. It also provides an estimate of the number ratio that takes downstream prefix size and multihoming into account, as well as a balance qualifier (excellent, good, fair, poor) based on it.

'What if Routes' takes the proposed new peering generated through 'Peer Finder' and categorizes the likely changes to inbound and outbound routings. In particular, 'What if Routes' will highlight the new paths (inbound and outbound) and the rough percentage of routes that will move to those new paths. This will provide prospective new members with an estimate of the overall impact of the proposed peerings on traffic.

"The LINX Peering Professional solution will provide future LINX members with a new level of intelligence as they look to maximize their peering relationships on a global scale." - Todd Underwood, Renesys

Vanessa Evans, Sales and Marketing Manager for LINX, comments, "Once again we are at the forefront in connecting the Internet world. We pride ourselves on providing our members with one of the largest and well-respected IXP peering networks globally. Thanks to our partnership with Renesys, LINX Peering Professional can only further highlight the advantages of LINX's rapidly expanding list of global members."

LINX Peering Professional is based on Renesys' award-winning Internet Intelligence Services suite, which enables service providers to view Internet routes uniquely in real-time from multiple vantage points, each offering different levels of intelligence that can impact business decisions.

"As one of the largest Internet exchanges in the world, LINX has taken careful steps to ensure its current and prospective members have access to the most up-to-date peering information that will impact their businesses," said Todd Underwood, Chief Operating Officer for Renesys.
LINX welcomes Kenyan Exchange to LINX52

At the LINX52 meeting held at London's Goodenough College in February, LINX were privileged to welcome guest presenter Michuki Mwangi of the Kenya Internet Exchange Point (KIXP).

As well as making a very informative presentation about the exchange, Michuki took time out to learn more about how an IXP operates in the UK and to make many valuable new contacts with LINX Members.

Michuki said: "It was an absolute eye opening experience in both technical and administrative operations. The exposure gained from LINX's best practice implementations and the unique style of relations to its members will go a long way in shorting our learning curve experiences at the KIXP."

"I wish to encourage upcoming IXPs to take the opportunity to learn and benefit from LINX being one of the largest IXPs in Europe. It is my hope that the relationship established will contribute to the further development and growth of IXPs in Africa. My sincere appreciation to the LINX staff for the wonderful experience and keep up the great work!"

Launched in November 2000, KIXP was the first neutral, non-profit IXP on the African continent outside South Africa. This development had immediate cost and latency implications for the four founder member ISPs who were able to exchange the majority of their traffic locally for the first time.

Currently there are 18 providers and network operators at the KIXP exchanging over 6 Megabits per second of Internet traffic. Members benefit from unlimited access to .KE Root Servers, the KRA System (the government’s revenue authority network), the F-Root Server and an GPS based network time source server.

KIXP operates on a multilateral peering agreement allowing members to automatically peer with each other upon connection.

LINX Engineer Rob Lister ‘Gets On His Bike’ For The Stroke Association

The event, which crosses 14 London bridges, began in 1993 by Andrew Allum to raise funds for the Stroke Association after his father suffered a massive stroke in 1991. Now organised by the Stroke Association itself, the Thames Bridges Bike Ride has gone on to raise over £1 million for the cause with 2,200 taking part by cycling last year alone.

LINX senior network engineer, Rob Lister, will be getting in the saddle on May 14 in the 32 mile Thames Bridges Bike Ride to raise money for the 250,000 UK citizens currently living with stroke.

If you'd like to sponsor Rob, you can online at: http://www.justgiving.com/rob
To find out more about the event please visit: http://www.stroke.org.uk

LINX Extra

For further information please contact
kxp@kenic.or.ke or visit the KIXP site at http://www.kxp.or.ke

LINX Council Elections are held at each AGM with the next to be staged at LINX53 on May 16th 2006.

Not less than one third of directors retire at an AGM and are eligible to re-stand. There are six non-executive Council members which means that a minimum of two must stand down or put themselves up for re-election. Anyone can stand for election for LINX Council providing they are correctly nominated.

The Notice for the LINX53 AGM was released on April 3rd 2006 (42 days prior to the AGM). Applications can be made up until May 7th which is seven days before the AGM itself.

Current LINX Council
Grahame Davies: Internet consultant
Nigel Tilley: Easynet
Simon Lockhart: Inuk Networks
Neil McRae: COLT Telecom
Raza Rizvi: REDNET
Steve Wilcox: Telecomplete
John Souter: LINX CEO (non-elected)

To stand in the Council elections a Member must write in and nominate an applicant and the applicant must confirm their willingness to stand in writing. This can be done by email.

In addition, the applicant must submit a platform statement which is essentially the reason why the applicant feels they should be elected to the Board. These statements will be published on a 'first come, first served' basis onto the Council election web page.

The election will feature a Q&A session with the candidates, with voting completed by single transferrable vote.
‘Testing’ Times For LINX Engineers Are NOT A Problem!

There is one important part of the LINX operation that receives little publicity and yet is vital in ensuring that the technology and network facilities LINX provides run smoothly and seamlessly. This is the work carried out in the LINX testing lab.

The purpose of the LINX testing lab is two-fold. Firstly, LINX evaluates and tests any new switch hardware and software to check performance and try to identify any potential problems.

Secondly, the lab allows LINX to set up various configurations and to “rehearse” scenarios like software upgrades and maintenance slots before doing it for real. From this, we define the upgrade (and the back-out) process and plan the maintenance slot with as little impact on Members as possible.

Rob Lister, senior network engineer at LINX said: “One upgrade I recall was a complex sequence requiring about five reboots, but through careful planning in the lab, we were able to prepare an upgrade process which allowed the entire upgrade to be completed in just one reboot.”

Despite their own rigorous testing, it is not feasible for LINX equipment vendors to test every possible configuration of their products because it would be simply too time consuming. LINX therefore sees the lab testing process as an essential part of the engineering team’s remit in providing a top-quality network service with any issues reported back to the vendors.

The switch testing process consists of an extensive checklist (currently 61 points) devised to cover every aspect of the equipment and software features that are used by LINX.

Everything is checked from power supplies, hot-swap and fail-over hardware capabilities, different traffic types and frame sizes, trunking, load balancing, LACP, to management features like SNMP and the command line interface itself. We also check if any subtle changes in software will affect our monitoring stats systems.

LINX does not automatically upgrade software when new versions become available but when the decision to upgrade is made, the release notes of the latest and intervening versions need to be studied in some depth to make sure potential problems aren’t missed, and that any changes are understood.

Current testing projects include MRP2 (Metro Ring Protocol) on 4 or 5 Foundry switches including an MGB, and an RX-16 which is scheduled to be deployed in Telehouse East in April.

In addition, LINX are upgrading their existing Ixia 1600T lab testing equipment with the purchase of two Ixia 400Ts with 100 Megabit, Gigabit and 10 Gigabit capabilities. Advanced traffic streams are also to be used to inject a more realistic mix of data. The new units are portable, and useful in both the lab and in field testing for diagnosis of problems on-site.

Paul Vlaar ‘Snaps’ Up LINX Engineering Role

At the end of 2005 LINX was joined by new senior network engineer Paul Vlaar. In this article we look back at his career to date.

Paul’s career began as a part-time helpdesk operator at Euronet Internet in 1997 while studying computer science at the Hogeschool van Amsterdam.

When France Telecom took Euronet over in 1999, Paul left to take on his first Unix sysadmin job at web hosting and design company, Facing Facts. This was followed by a position at a small web hosting & design startup, taking care of technical infrastructure matters.

By 2001, Paul was approaching the end of his studies and took on a role at the RIPE NCC to complete a project and thesis. This involved working on a routing lab within the Operations department which was used for various test and educational purposes within the organisation.

Paul graduated in February 2002 with a bachelor’s degree.

RIPE NCC offered Paul a position as a junior systems/network engineer. It was in that multi-cultural environment that Paul contracted, what he describes as, the “ex-pat bug” when in August 2003 he took a position as a systems administrator at APNIC in Australia.

By spring 2005 Paul had decided to return to Amsterdam. In October of that year he took on a role at a small software company called Viadesk working on Unix projects to support their Java based products, but within a month he discovered that LINX were looking for a new senior network engineer and decided it was a chance he simply had to take.

In approaching Paul for a photograph he replied: “A photo of me? I tend not to take them, but I do like to take plenty of other things and people!” Paul’s website has many examples of his remarkable photography: http://www.neep.net/photo/blog
Public Affairs Update

with Malcolm Hutty

In this issue of HotLINX, Malcolm Hutty, LINX’s Head of public affairs, takes us on a whistlestop tour of the latest industry regulatory news.

Terrorism Act Now In Force
The new Terrorism Act 2006, featuring a number of amendments put forward by LINX, went live in April. Previously, the Minister had provided some important assurances for LINX Members as they can potentially be cited later in interpretation of the law:

‘ISPs who do not monitor their networks would not be guilty of recklessly publishing material glorifying terrorism or of recklessly publishing material of use to terrorists as long as they were not aware of the content of the material published.’

LINX has kept up the pressure on the government to give ISPs the full protection of the Electronic Commerce Directive in respect of this Bill. We now have a written promise from the DTI that there will be new legislation to give ISPs that protection.

Data Retention
The European Data Retention Directive was passed, and EU Member States have up to three years to implement it for Internet data. The final version did not achieve clarity or legal certainty, and we can expect ongoing arguments over interpretation and implementation.

Ofcom Opposes Audiovisual Service Directive
Ofcom has strongly criticised the EU Commission proposal for an Audiovisual Services Directive, which would replace and update the existing Television Without Frontiers Directive by extending broadcast regulation to online content.

Cyber Crime
Changes to the Computer Misuse Act will toughen maximum sentences and aim to clarify the law on denial-of-service attacks. However uncertainty remains over attempts to outlaw hacking tools. LINX is working to ensure legitimate use of IT security tools is not prohibited.

IP Performance
- New services for ISPs

With customer churn and profit margins at the top of many ISP agendas, the recent LINX51 event in London brought with it the opportunity to reflect and plan.

Sponsored by IP Performance, LINX51 took place on 22nd November 2005. A presentation by John Brosnan of NetFort Technologies focused on the use of open source to develop a new network traffic analysis system while a talk by Nick Randall looked at broadband revenues.

Nick Randall of IP Performance is well versed in the issues faced by ISPs. “The current climate is a big challenge for companies that don’t have the right systems in place. Our role supporting some of the largest ISPs in the UK market has revealed a number of common threats as well as some important potential service improvements. LINX51 offered a perfect opportunity to address some of the main ones in detail.”

Nick talked about increasing functionality and cost reduction by unbundling exchanges using Stinger DSLAM’s from Lucent Technologies. This creates a number of new options including bundled voice/video and data, customised services and greater user control. It also reduces BT’s share in an ISP’s revenue. Nick highlighted as well the growing number of opportunities that are opening up - increase in take-up: users who are reliant on bandwidth; HDTV; and enterprise security.

John Brosnan’s presentation examined the risks and benefits arising from open source traffic monitoring – an increasingly important topic as ISPs get to grips with their subscribers’ use of Internet access.

New Revenue Stream, Enhanced User Experience Available From...

LINX50 was sponsored by the market leader in Internet traffic navigation, Golgo. Founded in 2002, its European commercial offices are in London, Paris and Hamburg.

Golgo provide ISPs with a proprietary DNS technology that analyses MURLs (mis-typed URLs) and keywords that are typed directly into the browser, delivering relevant website results for users to choose from. These results are either the website the user intended to visit, or a list of relevant results, based on the original user query within the browser.

A user typing in www.adidasshoes.com uk for example, no longer sees an Error Page or MSN search box. Instead, users are provided with an ISP branded page that offers either the official Adidas UK shoes web page, or several relevant results for users to choose from. Golgo is not only providing an enhanced user experience for all Internet users, but also a new revenue stream for Golgo’s ISP partners since the generated advertising revenue is shared. As a result, Golgo is now successfully partnered with more than 15 ISPs across Europe, with more than half of those being household UK ISP brands. As a result, it analyses and assists millions of requests each month.

Golgo’s solutions enhance user experience, reduce ISP costs, and create new revenue streams for ISP partners. “It’s Capex free, quick and simple to install, and significantly increases our ISP partner’s revenue per user” says James Burrows, Golgo’s Group Director of Strategy.

Visit http://www.golgo.co.uk or email lbf@golgo.co.uk for more information.

Visit LINX’s dedicated public affairs website at http://publicaffairs.linx.net for more on the above stories and all other regulatory news. You can also sign up for updates by mailing publicaffairs-subscribe@linx.net

The Stinger from Lucent Technologies.
Telecomplete - Making the Connection

The quarterly LINX meeting has long been regarded as a vital event for LINX Members wanting to learn more about what is happening in the Internet industry. Covering a wide range of topics such as new technology, engineering, marketing and public and regulatory affairs, these sessions are one of the largest regularly scheduled meetings for ISPs in the UK.

It is, however, not always possible for Members to attend especially with so many being based overseas. In recent years, the meetings have been webcast so those who want to stay in touch with proceedings can do so wherever they are around the globe. They can view camera footage of speakers and view the presentation slides real-time just like those in the session hall. Members can pre-register for webcast access and can have input in important discussions by taking part in online polls or voting on constitutional issues.

LINX meetings have taken place at a number of different venues over the years but are currently operated on a rotational basis between the Goodenough College near Kings Cross and the London Art House in Islington. The wireless connectivity for the events staged at the Art House is sponsored by Telecomplete who have had a long association with LINX having previously provided connectivity at another venue, Congress House, home of the TUC.

Vanessa Evans, sales & marketing manager at LINX said: “First class connectivity at our meetings is vital. If we’re unable to offer that, our Members may be less inclined to take the time to be present in person. Attendees need to be able to access various online services specific to their own needs and businesses while they are out of the office, and the service operated by Telecomplete and others at the London Art House allows them to do that with confidence.”

Telecomplete has a broad product and service portfolio which is designed to suit the individual needs of its customers.

The Telecomplete solution

Established in 2002, Telecomplete Limited is a Manchester based Internet Service Provider, providing a unique range of cost-effective, future proofed solutions covering all aspects of the Internet. These include bespoke products and services covering Internet connectivity, carrier services, hosting, security issues and co-location in purpose-built data centres to businesses in the UK and across Europe.

The Network

The development of Telecomplete's network strategy has been to employ a proprietary fibre optic backbone, and is the focal point of their business strategy. They have always believed that the Internet presents a unique opportunity for constructing a successful business model, based on the concept of managing its own gigabit network. It is for this reason that the company has pursued the project of a giant interconnected IP proprietary network with such determination. This kind of network can generate the economies of scale needed to be competitive in the Internet sector, while ensuring the supply of high quality services at competitive prices.

Telecomplete have gigabit connections running all over the UK in addition to links into a number of European cities. They have recently acquired a fibre ring in central London, which joins together all the major hosting facilities in the city.

Peering is a major feature of the Telecomplete infrastructure and the company now has over 300 peering partners throughout the world. By connecting up to the Telecomplete backbone, customers have immediate access to thousands of potential routes on the global Internet. This means that for Telecomplete customers' dependency on third party networks is reduced drastically and service quality is significantly improved.

To further guarantee services and standards, Telecomplete's Network Operations Centre in Manchester is active 24 hours a day, 7 days a week monitoring proactively the Telecomplete backbone and supplementary services. This means that any problem that occurs on the entire international network is referred directly to the Network Operations Centre. The Centre is kept constantly informed and follows up on any problem immediately with the party best suited to providing the solution.

LINX Extra

For further information on Telecomplete's range of services, visit their website at: http://www.telecomplete.co.uk

Keynote Speakers For LINX53 AGM Announced

LINX53, which will be held at the London Art House in Islington, will feature a number of key industry figures on the agenda.

The guest speakers include Lesley Cowley, Nomine's Chief Executive, who will be discussing the proposed models which may direct Nomine's governance in the future, and Daniel Karmenberg, Chief Scientist at RIPE NCC. Daniel's presentation will be discussing de-bogomisation.

Richard Clayton from Thus will also be back to present a further update on SpamHINTS, while Mike Hughes, LINX chief technical officer will be outlining his plans for upgrading the LINX network.

The London Art House in Islington will stage the LINX53 AGM.
LINX Announces Fees Reduction as Membership Soars

The London Internet Exchange is growing so rapidly that it is abolishing its traffic-based charging in favour of flat-rate fees.

LINX members will be able to take advantage of the lower fees from June this year. The new payment model will make billing and budgeting simpler for everyone, and comes at a time when many ISPs are seeking to attract new customers through lower prices for Broadband services. It offers LINX Members the opportunity to cut costs in an increasingly price-competitive market for end users.

There are 210 organisations currently connecting to LINX denoting a 32% increase in Membership in just 12 months. Much of this growth can be linked to a strong economy in the UK and an increased usage of Broadband.

Since its introduction a little over 3 years ago, prices for the service have dropped by more than a third as competition between providers increases. Recent advancements to ADSL have delivered ADSL 2 and ADSL 2+ which have increased maximum downstream speeds to 12Mbps and 24Mbps respectively, while retaining compatibility with the standard ADSL version. This has made it more desirable to consumers and businesses alike and LINX members are quick to support consumer requirements.

With competition so marked it is important to LINX members that they can streamline their costs as they look to invest in the future of their organisations.

Sales and Marketing Manager Vanessa Evans said “The general consensus of LINX Membership is that they would prefer a simple, flat-rate pricing method which we are now delighted to offer. With the recent upsurge in membership we are able to abolish the traffic charge without any increase to our other fees.”

Vanessa added: “As one of the largest IXPs in the world we can deliver incredible economies of scale, and the more membership grows the more our members will benefit.”

The Most Globally Connected Exchange Welcomes Etisalat

With members in Europe, Africa, North America, South East Asia and the Middle East, LINX is clearly a worldwide organisation whose extensive global reach continues to encourage the leading networks to peer at LINX.

MTN Network Solutions, Alta Tecnologia en Comunicaciones, Cube Networks, Tavitek, Catalyst2 Services, Alta Tecnologia en Comunicaciones, Econet Carrier Services, EuroAccess, Init Seven AG, IT Inside Out, Open Hosting and Etisalat have all joined in 2006 alone.

Emirates Telecommunications Corporation, or Etisalat, are LINX’s 210th member and the first from the Middle East. They provide voice, wireless and data telecommunication services to the UAE and are one of the leading service providers in the entire Middle East.

Mr. Saeed Al Bahar, General Manager – International Business, of Etisalat said: “By joining LINX, Etisalat gains access to all the member ISPs from a single location which is very important to us in our drive to maximise our network efficiency.”

Mr. Al Bahar added: “Our commitment to top quality connectivity will be a positive incentive to existing and potential customers, so being part of LINX makes great commercial sense.”

Etisalat also operates EMIX (Emirates Internet Exchange), the first Network Access Point in the Middle East. EMIX offers IP transit connectivity to ISPs in the region with a capacity over 6 Gigabits per second which is the highest bandwidth capacity available from any single provider in the region.

Etisalat takes the number of countries served by LINX members to over 30 but LINX are still aiming to attract additional Members from new territories during the coming year. LINX is also looking to build relationships with other organisations in countries where LINX already have a presence.

Redbus Meridian Gate Goes Live

LINX recently announced that its connection point at Redbus Interhouse’s Meridian Gate has gone live.

With facilities in each of Redbus Interhouse’s London datacentres, LINX is broadening the choice for ISPs as to where they make their London peering connections.

Meridian Gate provides the very latest world-class resilient infrastructure with multiple levels of 24/7 security and stable high-capacity power supplies. In addition, there is an excellent fire protection system, in-house support and environmental controls.

John Souter, Chief Executive Officer, LINX, comments: “The connection point at Meridian Gate provides an increased level of choice and service to both new and existing members. Ultimately, everyone benefits - including individual Internet users.”

Mike Tobin, CEO, Redbus Interhouse added: “With LINX’s presence in all three of our London sites, we see enormous value in strengthening our relationship with them and this reinforces our position as leading colocation providers, enhancing the service we provide our customers.”

LINX Extra

For further information on Etisalat’s business, visit their website at: http://www.etisalat.com