



# LINX 105 - Technology

Part 1

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28/05/19



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# Agenda

1 Network Investment

2 Portal & APIs

3 Products

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# Network Investment

## LON1 - Deploying MX10Ks

- It is a newer technology from Juniper, at a far better cost base than the existing MX960 based.
- It will mean we can move 100GE members at core sites to new MX10008 chassis which will release MX960 hardware for other sites.
- Plus it allows an augmentation of the core connectivity to reduce the complexity and hop count.
- It will also facilitate migration to 400GE when demand comes

## LON2 – IP Infusion OcNOS

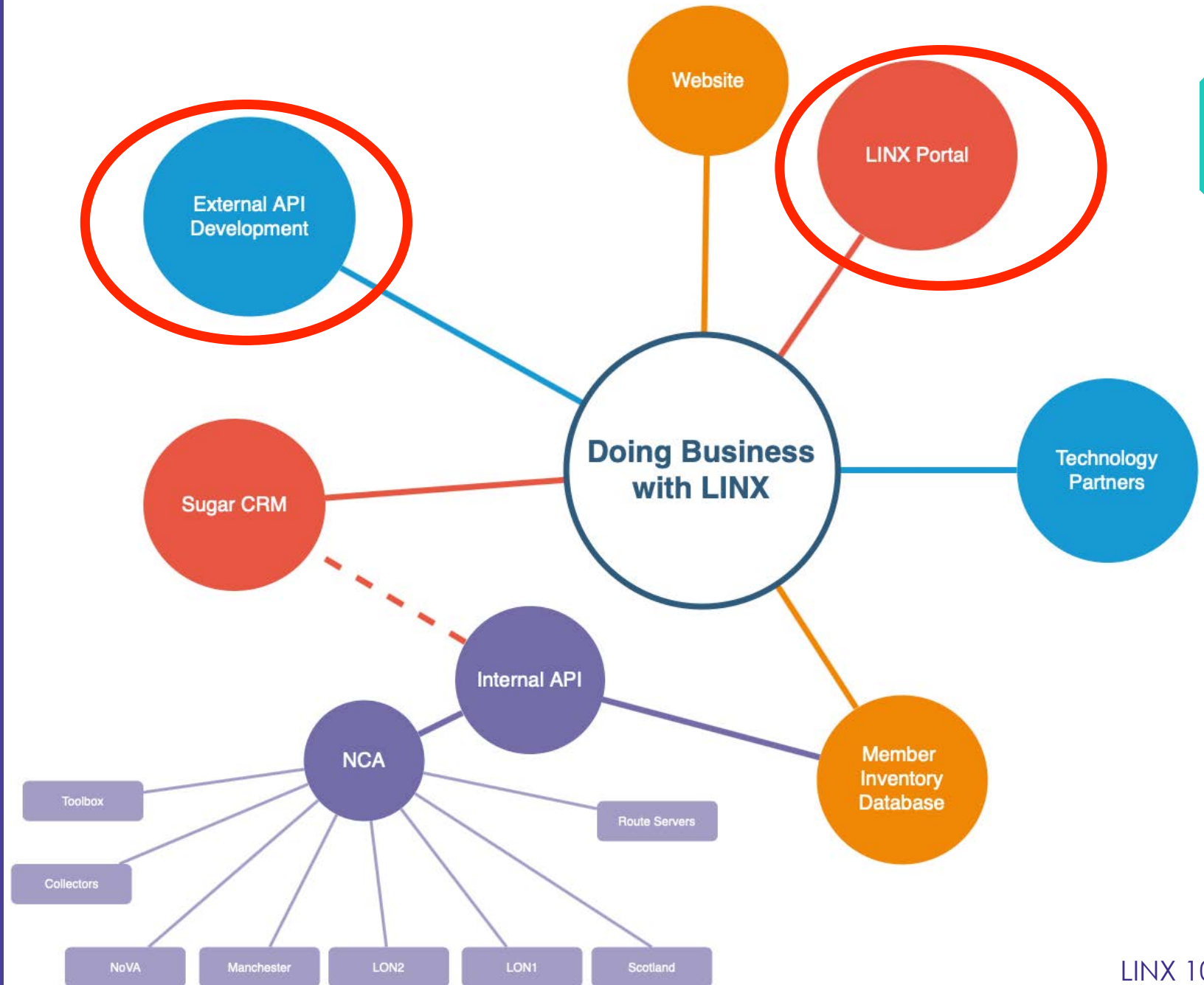
- This is mainly in terms of time and effort, LINX engineers working side by side with IP Infusion's software teams
- Working towards the merged code base (1.3.6), leading to more robust QA outcomes
- Added features for new product offerings
- Automation stability

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## Portal & APIs

# Doing Business with LINX



## API - Joint Working Group

- We started out in 2018 working with AMS-IX and DEC-IX on collaboration initiatives to improve the way IXPs operate
- This has led to a small number of joint working activities
- The main initiative is that of the external API project, originally the 'JEA' project and now the 'ix-api'
- Our **network team, software engineers** and more recently **product and marketing** have all been working with staff at the other two IXs



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## API - Joint Working Group

- What we hope to achieve?
  - By September, a standard working API model and a beta implementation, tested with two or three partners
  - Promotion to the IXP community for wider adoption

# API - Joint Working Group

- What we hope to achieve?
- Expected time frames
  - May – Shared sandbox implementation of the API schema covering phase 1 features. Internal systems and software work effort.
  - June through July - partner implementation and testing phase. LINX workflow implementation for delivery automation
  - August – The publication of the API documentation
  - September – Joint demo at EPF
  - October EURO-IX workshop on phase 2 features

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## API - Joint Working Group

- What we hope to achieve?
- Expected time frames
- Opportunity for you all to engage
  - When we reach the publication point for phase 1 features, we will open up to the LINX members for engagement in adoption

## LINX Portal

- In parallel we have much work to do on our portal and the usability of it.
- We have lots of member feedback already but please keep talking to us.
- What are we working on just now?
  - Speed, caching and navigation
  - Order forms, tools and insight
  - Look and feel

## LINX Portal – Order Forms

- The old static forms are being phased out and new dynamic forms added to the portal area
  - Supports peering services and the new products we are now delivering
  - Login in to the portal and go to the '**order services**' option

# Portal

Ordering a new service ...

## New Peering Services

Use this form to order new peering services. Please refer to the [Service Fees](#) on our website.

For any enquiries, or if your contact details are incorrect, please email [Member Relations](#).

**Your Organization \***

LINX Limited

(LINX Membership Name & ASN)

**ASN \***

Select an ASN

**Your Full Name \***

Richard Petrie

**Your Email Address \***

richard@linx.net

**Your Telephone Number \***

Telephone Number

**Purchase Order Number**

Purchase Order Number

(Your internal reference, if required)

**Additional CC**

Additional CC

(Additional emails to be CC'd on this order form)

## Services

LINX will need your demarcation details at sites where LINX orders the cross connect cabling on your behalf.

Add Service

Please add at least one new service



# Portal

Ordering a Private VLAN ...

### Private vLAN Service

Use this form to order new private vLAN services between members.

#### Private vLAN Service Details

<b>LAN *</b>	<input type="text" value="Select a LAN"/>	⌵
<b>Service Type *</b>	<input type="text" value="Select a Service Type"/>	⌵
<b>Service Name *</b>	<input type="text" value="Service Name"/>	Choose your own name/identifier for this Private VLAN.
<b>Bandwidth *</b>	<input type="text" value="Bandwidth"/>	<input type="text" value="Select Type"/> ⌵



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## Products



# Products

- IXP Reseller
  - We have been busy working on the technical solution
    - Private VLAN service & Multi-service ports
  - The product offering is now ready and we have started to sign up partner IXs
- NAMEX, the Roma IX, being one of our first
  - <https://www.linx.net/products-services/ixp-reseller/>

## IXP Reseller

**We are now offering our LINX members the ability to peer at other Internet exchanges. Members connected to the LON1 platform will be able to connect to other partner exchanges using the LINX infrastructure.**

**The first partner IX is NaMeX.**

**Members have the option to provision a dedicated LINX port to NaMeX or use a pVLAN connection on an existing LINX port.**

Established in 1995, is a neutral, not-for-profit, member based, Internet Exchange Point (IXP) located in Rome, Italy. In its carrier neutral colocation site in the heart of the city, NaMeX is a convenient location for interconnection among domestic and international Internet Service Providers (ISP') and network operators and it's best located in the Central and Southern regions in Italy.

NAMEX

ROMA IXP



Members can place their order to connect to NaMeX by finding IXP Reseller under the Order Services tab of the [Member Portal](#).

## Products

- IXP Reseller
  - Other Internet Exchanges will be partnering with us soon
- Private VLAN
  - Utilises the multi-service port function
  - Again we have a product offering, see the LINX page:  
<https://www.linx.net/products-services/private-vlan/>

# Private VLAN

LINX private VLAN services (pVLAN) are available to members on LON 1. Ports can be configured into pVLANs, for peering, and also to allow direct connection between members.

Both members have to have ports capable of supporting pVLAN, these are known as multi-service ports. Multi-service ports are charged at the same rate as regular ports, and there is a small charge to convert an existing regular port into a multi-service port. There is also a small charge for every pVLAN configuration.

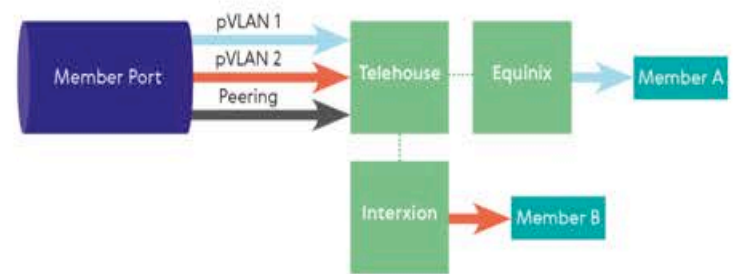
- The service is semi – automated and members can configure pVLANs from the member portal.
- Using pVLAN allows members to access services directly from each other using the existing LINX infrastructure. This reduces the amount of infrastructure and cross connects needed by members.

## Order your multi-service port

If you are an existing member interested in ordering a pVLAN then you can either order a new port from LINX for the purpose (state on the order that you wish to use the pVLAN service) or you can convert your existing port to



Members can use the LINX network



### LINX Private VLAN Service

Private VLAN, also known as port isolation, is a technique in computer networking where a VLAN contains switch ports that are restricted such that they can only communicate with a given "uplink"

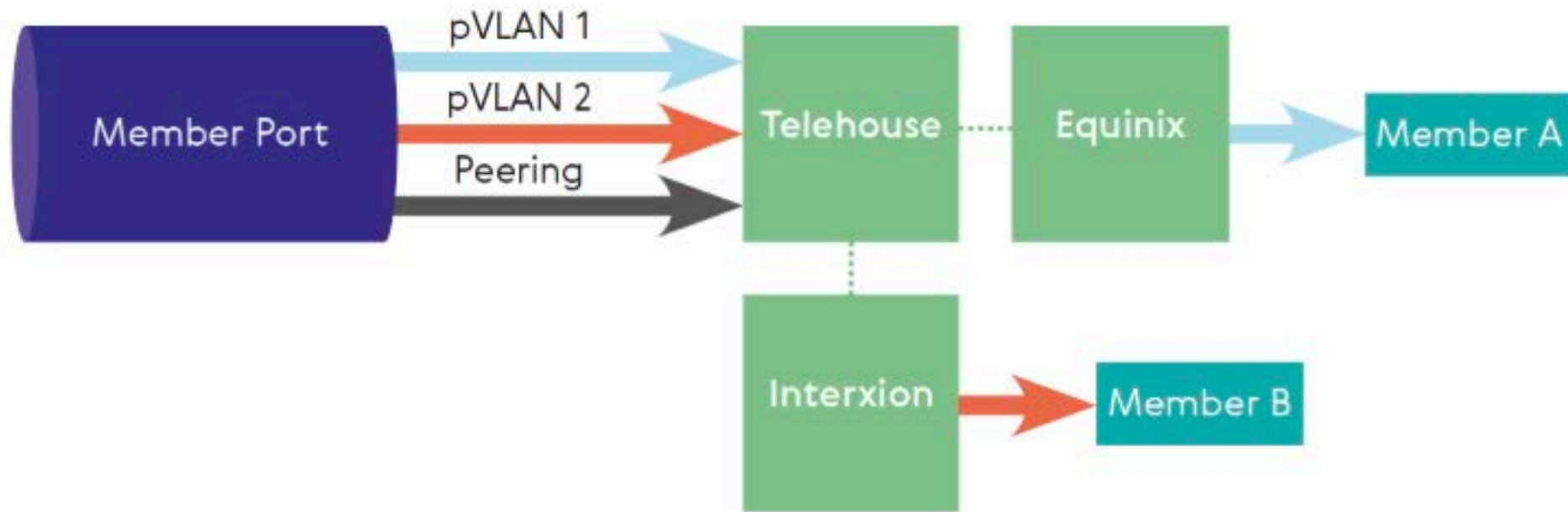
**Uniting Networks. Igniting the Internet.**

By creating a private VLAN over the LINX port the member can connect to the service providing member, using the same port as their peering port. They can connect to several different services providing members using the same port. This reduces the number of cross connects needed and hence costs. Connecting to multiple services over the same port also frees up ports on line cards thus providing improved ROI on infrastructure costs.

LINX is able to offer members the ability to connect to the LON1 exchange using a private VLAN (pVLAN). Using a pVLAN service allows the member port to be split into different sub interfaces. Members may choose to use pVLAN so they can access services directly from other

LINX 105

## Members can use the LINX network





# Thank you



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