

LINX Proposed Budget for 2019

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Introduction

I will be presenting the budget for approval at LINX103, and this is the opportunity to review what the Board is proposing.

Background

2018 has been another year of steady growth for LINX. Once again, we delivered price cuts at the beginning of the year, demonstrating the strong membership ethos of our organisation. The continued reduction in prices, whilst we continue to grow in most characteristics, is a challenging environment to manage. As I have been saying for some time, we relish this challenge, and we continue to modify and adapt our strategy accordingly.

Returning to the general background, this time last year, we had 110 live 100G member ports, and the number stands at 146 today (a 33% increase) – with some more ports already in provisioning. Members are talking to us about a significant number of additional 100G ports, and we appreciate the confidence that this expresses. The number of 10G ports at the exchange has grown by around 50, which is remarkable given the 100G upgrades that have taken place. With these underlying port numbers, connected capacity to LINX peering LANs has increased from 20.8 Tb to 24.8 Tb in a year, and we also manage considerably more capacity with our intra-site and inter-site private interconnect services.

As I have been reporting at quarterly member meetings, our financial performance for 2018 has been ahead of our expectations. Income has been more or less as forecast, but we have been able to be more frugal than the expenditure budget provided for. We have done this in a number of ways. Most importantly, we have been able to defer significant capital expenditure from when it was planned – by careful optimisation of the primary network (LON1). In addition, we have saved significantly on staff and other operational budgets.

We started 2018 with significant cuts in prices having already been made, reflecting the relatively good financial position inherited from 2017. We made a small surplus in 2017, and we now forecast to be close to break-even in 2018, with a cash position correspondingly stronger than plan.

The Board is committed to providing continued increasing value to members, with the proposed new pricing being sustainable into 2020 and beyond.

We continue to be proud of the network stability resulting from the improvement of our architectures, automation and supporting systems – and are especially proud to be demonstrating that with the network stability metrics that can be viewed by all members.

As ever, we are confident that we can continue these trends.



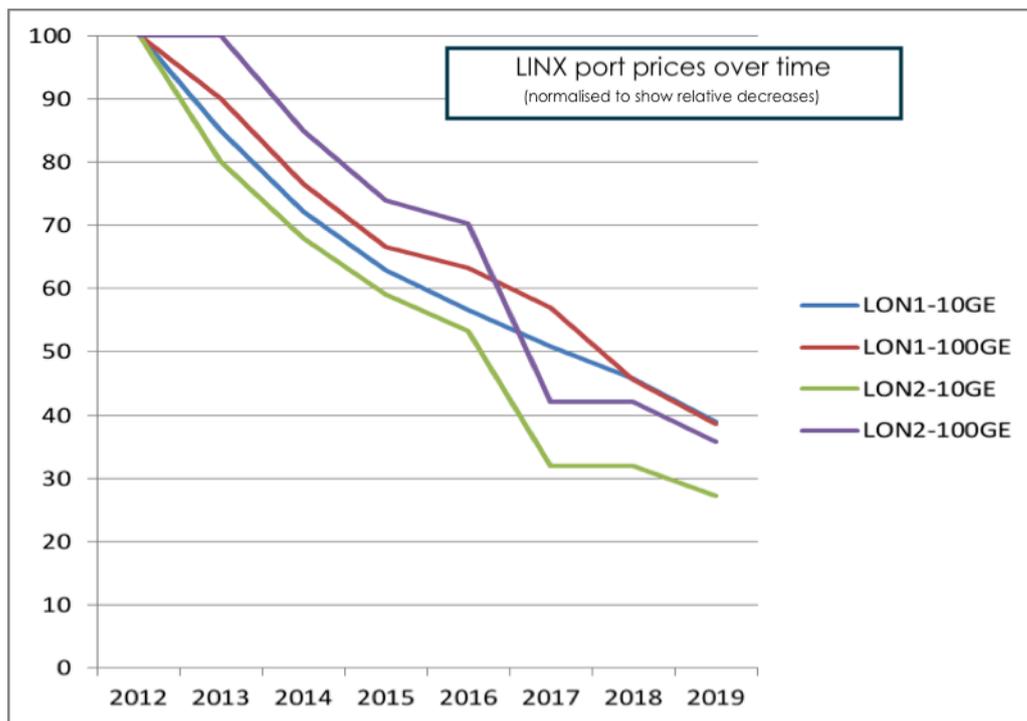


Prices for 2019

The proposed price cuts for 2019

The following prices and price changes are proposed:

1. Prices for 10GE and 100GE ports on LON1 and LON2 are to be cut by 15%.
2. LINX Manchester port prices will remain unchanged.
3. LINX Scotland port prices will be as for LINX Manchester (2019 will be the first year that we have charged for ports there)
4. LINX Cardiff will remain with no charges for 1GE and 10GE ports for 2019 (charging for 10GE ports will be reviewed again during the coming year).
5. LINX NoVA prices for 10G and 100G are to be cut by 15% and previous promotional charging ends.
6. Residual prices for low speed ports (1GE and below) will remain unchanged – remember that the first one on each LINX peering LAN is already available at no charge.



The membership fee will remain at the current level of £1,200 per annum, noting that this only applies once, no matter how many of the services you use, either in London, the rest of the UK, or in North America.

We will continue to offer reseller colocation services as at present, and hope to extend this for all our IXPs where appropriate arrangements are in place with our colocation partners.

A table of the proposed port fees is attached in the Appendix.





Future prices?

In the normal course of business, LINX reviews and (usually) cuts prices on the 1st January each year. So when might we cut prices again?

We cannot yet say definitively, but our look beyond the end of 2019 indicates that we will have scope to cut prices again in 2020. Whether we do that on 1st January 2020 (and retain the usual cycle), or whether we can do something in mid-2019 (as we have done, when we can, in past years), remains to be seen. We are committed to delivering economies of scale to members, and we will do our best to keep on doing that in the future.

2018 LINX environment

As I usually do, here is a quick review of the 2018 LINX environment that is the background to setting this proposed budget for 2019:

- LINX now has 802 members (up by 24 on last year, but noting a much higher churn rate), and we have already received 76 new applications for membership this year.
- We now have 147 member-facing 100GE ports (up from 110 at this time last year), 981 member-facing 10GE ports, and over 785 lower speed ports; giving a total of over 24.8Tb of connected capacity to the public exchange LANs.
- We continue to expand our inter-switch link (ISL) capacity in line with growth projections.
- We have expanded our physical points of presence (PoPs) for LINX Scotland – where the expansion into the Datavita data centre in Airdrie is complete, and maintained all of our PoPs at other exchanges.
- Traffic continues to rise, although fairly slowly during 2018, with a fairly recent peak of public peering traffic of around 4.3 Tb/sec. Some large members have peeled significant quantities of traffic from the public exchanges to our private interconnect services during 2018, see next point.
- Our managed private interconnect service has seen another huge rise in traffic, with our members telling us that the current peak on that continues to exceed the level of traffic on the public peering LANs. This means there is now at least 9 Tb/sec of peak peering traffic over LINX managed services (and probably much more).
- Our ConneXions partnership scheme is delivering reasonable results, with 37 partnership companies signed up – 34 of whom have live members on the exchanges, and several more in the pipeline. Both of these numbers are up on what I reported last year, and we have new partners within that who are still coming up to speed. Of particular significance is that five of these partners are utilising 100G ports. This partnership scheme is available for connection to all LINX LANs, and we will continue that policy for any future expansion.
- We are operating three out-of-London UK Internet exchanges (all with new names): LINX Manchester, LINX Scotland and LINX Cardiff. Whilst a couple more have now been at the discussion stage for some time (Birmingham and Belfast), we are still gathering feedback from members as we develop appropriate business cases, as well as ensuring that the appropriate infrastructure is in place to support them. Of the two, Belfast seems by far the most likely to proceed. LINX Manchester is going



from strength to strength, acting as a convincing proof-of-concept for our UK regional peering strategy.

- We continue to make progress with our exchange in North Virginia, LINX NoVA.
- We now have 58 members of staff – close to a full complement for 2018. We expect that we will only be looking to replace any leavers during 2019, other than perhaps for a couple of specialist positions relating to our product strategy.

Budget assumptions and projections

For 2019, we have based our budget on the following key assumptions and projections:

- Net growth of around 10 members, balanced across direct growth and those via our channel partner schemes. This takes into account higher consolidation/member loss at somewhere around 50 members. This is a function of the greater size of the LINX membership.
- Further substantial growth of 100GE ports (around 50 or so) with 10GE port numbers staying fairly static (as surrender rates from upgraders match the take-up from new orders). Increasingly, the dominance of our 'economy' is transferring from 10GE to 100GE.
- Only very modest increases in colocation reseller income (dependent on expansion to more locations).
- We have taken a neutral position on the sterling-dollar exchange rate, which is reasonably critical to significant areas of both capital and operational expenditure.

Income projection

From all this, we are projecting an income for 2019 of around £15.9M (up by around £0.25M from this year's projection of around £15.7M) – after taking into account the price cuts already implemented in 2018 and proposed for 2019.

Note that these are LINX group figures (and include LINX subsidiary companies), and have been rounded.

Capital expenditure

The proposed 2019 capital expenditure programme includes:

- Further scaled investment in LON1 core infrastructure, including the usual upgrades to both edge and core routers, to provide increased port capacity in line with growth projections. Depending on the successful outcome of a forthcoming 'proof of concept' testing, these should be next generation routers from Juniper Networks.
- Further modest investment in our disaggregated LON2 network.
- LAN ISL upgrades and further investment in transport layer infrastructure, where necessary.
- Scaling and renewal of our IT infrastructure, although much of this will now be based on cloud-based infrastructure (rather than run in-house, as in the past).

This 2019 programme is projected to cost around £3.6M, slightly higher than what was planned for 2018 (which should turn out to be around £1.2M, and will be way below the original budget of £3.2M). To some extent, the differences between the two years can





be explained by deferred expenditure from 2018 to 2019 – but clearly, we reap the cash flow advantage from the deferment.

As in previous years, I am not giving a detailed breakdown of the planned engineering capital expenditure, so that we do not prejudice our negotiating position with vendors. The Board have subjected the capital expenditure budget to the usual detailed scrutiny, and I am happy to discuss this with members on an individual (non-disclosure) basis, if you would like to know more detail.

Operational expenditure

Our 2019 operational expenditure requirement is £16.7M (up from a forecast of £15.6M this year). A substantial element of this is depreciation (around £3.2M), due to the relatively high capital expenditure of the last few years.

As previously mentioned, we do not plan a significant staff expansion next year; we anticipate that a number of initiatives will be paying off by then. Most important amongst them is our continuing investment in software development and automation, such that we can manage without having to continually scale the engineering staff in line with increased member numbers. We expect to be applying this automation both internally (to automate tasks that would otherwise be done manually by staff) and externally – as self-fulfilment facilities for members.

The changes in operational expenditure are pretty evenly spread across the range, with no single change standing out or dominating. Staff salaries and Board remuneration (subject to a resolution at the LINX103 EGM about this) will be increased in line with the UK retail price index percentage.

Reseller activity

Our reseller activity has grown over the years, and now represents a business in itself, turning over around £1.5M per annum. The activities are many and various, but always with members, and always to facilitate peering in some way. We resell fibre and colocation with and from our colocation operator partners, and they offer us supportive terms to do this. We make almost no margin from this activity, content to provide it as a service to our members. Feedback on this is very good, in that it enables a single contract and bill, enables members to take fractional elements of service where otherwise the price would be prohibitive, and also enables the LINX engineering team to provide a full end-to-end service.

Projected surplus & cashflow

We are projecting a deficit of around £860k for 2019, but note that this is based on quite a conservative income budget.

Our projected 2019 end of year cash position continues to be tighter than in the previous two years, as we find sustainable ways to return funds to members via price cuts. Capital expenditure (and thus cash outflow) will be higher in 2019 than 2018 (as already explained); and as I have noted previously, LINX has become a much more





cashflow-driven economy. We constantly re-evaluate the need to hold significant cash reserves, and adjust accordingly.

The month by month cashflow projection for 2019 is reasonably healthy, so we will therefore have no difficulties financing our proposed capital programme. Indeed, we expect to finish with a healthy cash balance at the end of 2019.

Closing remarks

We continue to be in excellent financial health, benefiting from the economies of scale that a large IXP enjoys. The virtuous cycle, where growth enables price cuts and price cuts stimulate further growth, continues to apply.

There are always challenges in any new year, and LINX has moved into a phase where we have to be much more cashflow conscious than in past times (where we always had substantial cash reserves) and also pay significant attention to foreign currency exchange movements. There are probably greater external financial risks than we have previously been concerned about. In London, we hope that our pricing scheme will continue to encourage all members to take ports on both LANs, where they do not already do so.

Our financial strength is such that we have been able to continue to invest in exchanges in Cardiff, Scotland, Manchester and NoVA. These exchanges create the seeds for new areas of growth in the future while furthering our ability to help “keep local traffic local”. This leaves us in a very good position for the future, confident that we are as strong as we ever have been, both in our fundamental mission and our capability to deliver.

What happens next?

We deliberately give a full explanation of our plans to the membership list to enable you to scrutinise them well in advance of LINX103, and I hope you appreciate our open attitude to this.

If you have any comments or queries, please make them directly to me (not in reply to the membership list), unless of course you wish to start a discussion on a specific point amongst the membership. I will do my best to answer all questions, and will post a summary of any comments and the Q&A to the list before LINX103. We look forward to seeing you in person at the meeting (on 19th and 20th November 2018), but if you cannot make it - please take advantage of the online voting and webcast facilities.



Appendix – MONTHLY port prices for 2019

All port fees listed are monthly recurring fees.

Port Size	London LON1	London LON2
1GE	No charge for first port, see note 1 (£219 for second and subsequent ports)	No charge for first port, see note 1 (£97 for second and subsequent ports)
10GE	£638	£360
100GE	£3,596	£2,277

Port Size	LINX Manchester and LINX Scotland	LINX Cardiff	LINX NoVA
1GE	No charge for first port, see note 1 (£80 for second and subsequent ports)	No Charge	No Charge
10GE	£270	No Charge (see note 2)	\$425
100GE	£1,350	Price on application	\$2,720

Notes:

1. The first port of this size is at no charge; the indicated price is for second and subsequent ports of this size on the same LINX LAN.
2. 10GE port prices at LINX Cardiff will not be charged in 2019, but is expected that they will apply in 2020.