



BIX Annual Status Report - 2018 for BIX AGM



Presented by: Ganga R Dhungyel, BIX Chairman

Presentation Outline

1. Activities Completed in 2018
2. Pending Activities & Deviations
3. BIX Operational Status as of 3rd Dec 2018
4. Financial Report & Accounts as of 3rd Dec 2018
5. Ongoing Activities & Plans
6. Challenges & Way Forward
7. Questions & Clarifications

●●● One Year in the Life of BIX: Activities in 2018 - Part 1

- ▶ IX Location at TTPL (Not the best but a workable solution)
- ▶ IXP Facility License from BICMA Waiver of License Fees
- ▶ Clean Power Supply arrangement for BIX with DCS
- ▶ IXP Infrastructure Installation, Configurations, & Connectivity
- ▶ Segregating ASNs for IX Connectivity (BT & TashiCell)
- ▶ BIX Bank Account Opening & TPN Registration with DRC
- ▶ APNIC Membership Registration & Internet Resources Allocation
- ▶ RPKI/ROA and other Objects for BIX Resources

●●● One Year in the Life of BIX: Activities in 2018 - Part 2

- ▶ PeeringDB IX Registration
- ▶ MoA / AoA drafted, finalized, signed by all founding members.
- ▶ BIX Board Meetings held four times excluding AGM & other informal discussions
- ▶ BIX formally operational & exchanging traffic among peered members since September 2018
- ▶ CDN (Google, FB, Akamai) feed to the IX Members

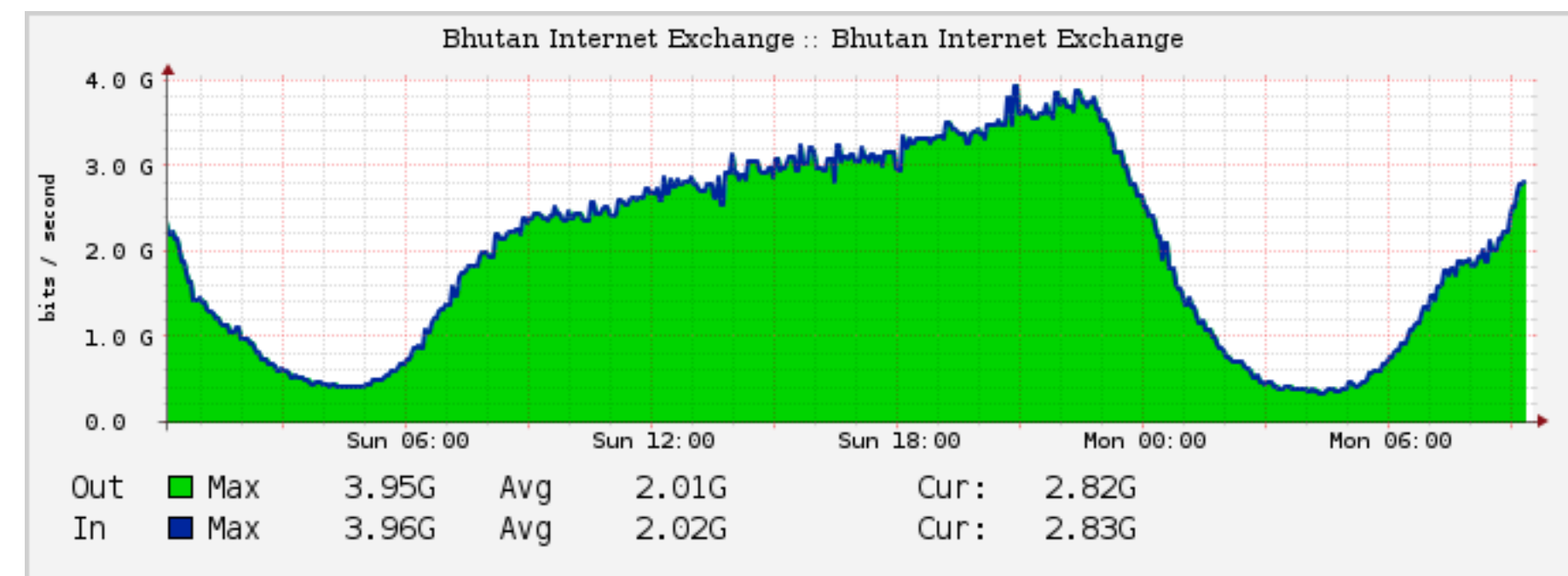
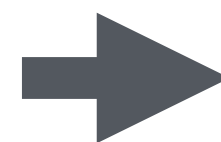
●●● One Year in the Life of BIX....Incomplete Plans

- ▶ Leased Agreement with TTPL for Rack Space in Meet-Me-Room
- ▶ Asset Transfer (Switch, Servers, Racks etc) from DITT to BIX (Decision of 3rd Meeting)
- ▶ BIX Assets Register
- ▶ Procurement of Additional Switch, SFPs, Fibre Patch Chords (Deviation due to Fees & Collections)
- ▶ Transit for BIX LAN Services Arrangement (Presently provided by TashiCell)
- ▶ From the technical side: Route Collector / Route server, Looking Glass, Support ticketing system, etc
- ▶ **Formal Launch of BIX**

●●● One Year in the Life of BIX: Operational Status - Part 1

- ▶ IXP Platform Fully Operational Since September 2018
- ▶ 10 Members (7 Full members, 3 Special Members (IX Services LAN, PCH, & WoodyNet)
- ▶ 9 Members Live and Peering. One member (Drukcom) yet to be connected.
- ▶ Full bilateral peering among 6 Members (BT, Tashicell, DCS, DrukRen, GDC, Nano & BIX)
- ▶ About 3.5 Gbps of IXP Traffic between connected members

One Day Traffic Graph
<https://ixp.bix.bt> (more details)



●●● One Year in the Life of BIX: Operational Status - Part 2

- ▶ Ganeti Cluster with 2 Nodes presently running 7 VMs (few more will be added)
- ▶ BIX Website & Traffic Stats (<https://www.bix.bt>)
- ▶ IXP Manager Platform (Member Registration, Infrastructure Management, Statistics, P2P graphs)
- ▶ NMS for Monitoring network devices, servers, & connectivity
- ▶ BIX Email Systems & Mailing Lists (board, members, technical working group, NOC)
- ▶ DNS authoritative servers for bix.bt zone and resolvers for internal clients
- ▶ BIX Router with stratum 3 NTP for time synchronization

●●● One Year in the Life of BIX: Financial Status

- ▶ Collected Membership fees for year 2018: $20090 * 7 = \text{Nu.}140630$ (Based on final discussions)
- ▶ Payments:
 - ▶ APNIC Membership Fees: Nu.35,356.44
 - ▶ DCS Power Payments: $6 * 7500 = \text{Nu.} 45,000$
 - ▶ AGM Expenses: Nu.15,408
 - ▶ SFPs/ Patch Chords Replacement: (Nu. 20,000 Estimated)
 - ▶ Stationaries: 3000
- ▶ Balance Funds (Estimated): Nu.22,000

●●● One Year in the Life of BIX: Ongoing Activities

- ▶ PCH Root Server & LG is Live at BIX. Members should be peering with them
- ▶ DNS K-Root with RIPE (Coordination with K-Root team. May Happen before SANOG)
- ▶ Route Server / Collector & Looking Glass for BIX
- ▶ Sflow & Peering Matrix for IPv6 BGP sessions between peers (troubleshooting works)

●●● One Year in the Life of BIX: Challenges



- ▶ IX Community & Engagement (National / International)
- ▶ Resources (Equipment, People, Office, Location)
- ▶ Registering BIX as a limited non-profit entity
- ▶ IX Sustainability Vs Membership Vs ISPs Business

●●● One Year in the Life of BIX: Summary

We have come a long way.

We have the IX Operational & members exchanging traffic.

We need to build upon what we have achieved so far.



That's All. Thank you.

Questions Welcome
