RDC-IX PROJECT: FROM GROWTH TO IMPACT ON THE NATIONAL PEERING ECOSYSTEM

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RDC-IX PROJECT

RDC-IX is an ISPA-DRC project initiated to endow the DRC in the short and medium term with three community IXPs layer 2.

KINIX
- Launch : Novembre 2012
- Kinshasa pool: operating aera : Kinshasa City and the surrounding agglomerations

LUBIX
- Launch: October 2019
- Lubumbashi Pool : operating aera : Lubumbashi City and the surrounding agglomerations

GOMIX
- Launch: September 2021
- Goma Pool : operating aera : Goma City and the surrounding agglomerations

Peering ecosystem after the RDC-IX launch

- Unbalanced peering ecosystem
  - Very little presence or almost of local content host;
  - Very low coverage or no digital transport infrastructure (metropolitan optical fiber);
  - Weak or almost no presence of local or international CDNs;
  - Absence of CDN cache servers;
  - Low or almost no production of locally hosted content;
  - Almost no presence of content hosting infrastructure (Data center) open to the public;

- The IXP almost does not play its traditional role

KINIX :
- Launch traffic: <1Mbps
- No ISP connected by optical fiber
- No locally hosted content
- No international/local CDN (cache) connected
- Weak experience in negotiation
- Hard to play the traditional role of an IXP
- No interest in connecting to the IXP hence the decrease in our peers (4, then 3 and trend towards 2)

A second more role for the IXP to play its traditional role

Social marketing approach :

Actions	Observation
Raising awareness of local content production and hosting	
Awareness of the computerization of state services	Exercise in progress and hope
Awareness of content local hosting to the local ISPs	First tantalizing with telecom operators was a failure
Awareness of Internet resource acquisition (IP and AS)	More than 5 actors and in progress
Ensure the visibility of the IXP at local and international level (AFPIF, AIS, EURO-IX, etc.) to attract more actor (peers and other major actor)	Visibility assured with several spin-offs (interest to be present in the local peering ecosystem, learning,donations , advice , etc.)
Negotiate the connection of CDNs and other Internet service providers through the local implementation of POPs or caching	Presence of CDNs and other Internet service providers in the local ecosystem peering
Indirect results:	
	Contribute to the development of digital transport infrastructures (metropolitan optical fiber)

KINIX :
- Traffic after 8 years : >18Gbps
- More than 50% of ISPs connected by obptic fiber
- 3 international CDN and other Internet service Provider connected

LUBIX :
- Launch traffic: >4Gbps
- More than 50% of ISPs connected by obptic fiber
- 1 international CDN connected

GOMIX :
- Launch traffic: >5Gbps
- More than 60% ISPs Connected by obptic fiber
- 2 internationnal CDN connected

Growth peculiarity

	At launch	6 months later	18 months later	Currently	Observation
Number of Peers	4	4	3	18	
Number of ISP	4	4	3	13	
Number of CDNs and others	0	0	0	5	Including 2 local and 3 international (attraction)
Traffic peak	<1Mbps	<1Mbps	<1Mbps	≅ 45 Gbps	
Number of connected peers by fiber links	0	0	0	10	
Supported operation	0/10	0/10	0/10	10/10	By ISPA-DRC and then self-financing

Growth peculiarity

LUBIX
Lubumbashi internet eXchange

	At launch	6 months later	18 months later	Currently	
Number of Peers	6	8	8	10	
INumber of ISP	5	5	6	7	
Number of CDNs and others	1	2	2	3	
Traffic peak	>2Gbps	>7Gbps	>10Gbps	≅ 24Gbps	
Number of connected peers by fiber links	3	3	4	5	
Supported operation	0/10	10/10	10/10	10/10	Self support

Growth peculiarity

Comment :

- Realization during the covid-19 period
- More than 60% remotely coordinated tasks

	At launch	6 months later	18 months later	Currently	Observation
Number of Peers	8	9	9	9	
Number of ISP	6	6	7	7	
Number of CDNs and others	1	2	2	2	
Traffic peak	>5Gbps	>8Gbps	>11Gbps	≅ 14Gbps	
NumbeNumber of connected peers by fiber links	3	3	3	3	
Supported operation	0/10	10/10	10/10	10/10	Self support

Catalyst

- Contribution to the visibility of the potential of the Internet ecosystem with the result :
  - Increase in the rate of use of metropolitan optical fiber as digital transport infrastructure
  - Increase in IP address allocation rate
  - Investment attraction :
    - Content hosting infrastructure (Data center construction project)
    - The desire shown by some CDNs and Internet service providers to have local presences
  - Opportunity for the emergence on the local market of other peering actors such as hosts, registrars, digital carriers, …
  - Strong demand for local content to be hosted locally by institutions, companies, local developers (often without financial means in the face of local supply)

- Challenge
  - Sustain the KINIX, LUBIX and GOMIX functioning
  - Contribute to the development of the national ecosystem by allowing local communities to access a quality and robust Internet
  - Contribute to the development of the local content production and hosting industry.

Thank you