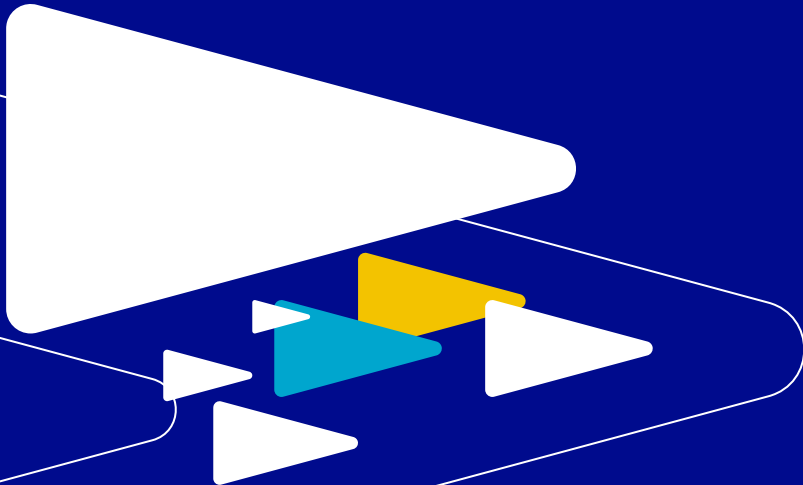


Building a fully automated, software defined internet exchange

Toni Yannick Kalombo



— AFRICA —
INTERNET
— SUMMIT'21 —
ONLINE
31 MAY - 4 JUNE 2021

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AFRINIC
The Internet Numbers Registry for Africa



AfNOG

African Network Operators Group

About Me



- Toni Yannick Kalombo
- DevBoks Founder



- Software Automation for Networking Operators

www.devboks.com

www.devboks.com/podcast

Network Automation

- The use of Software to automatically configure, provision, manage, monitor and test network appliances
- Improves efficiency
- Shortens time to market
- reduces human error
- key to managing hyperscale datacenters

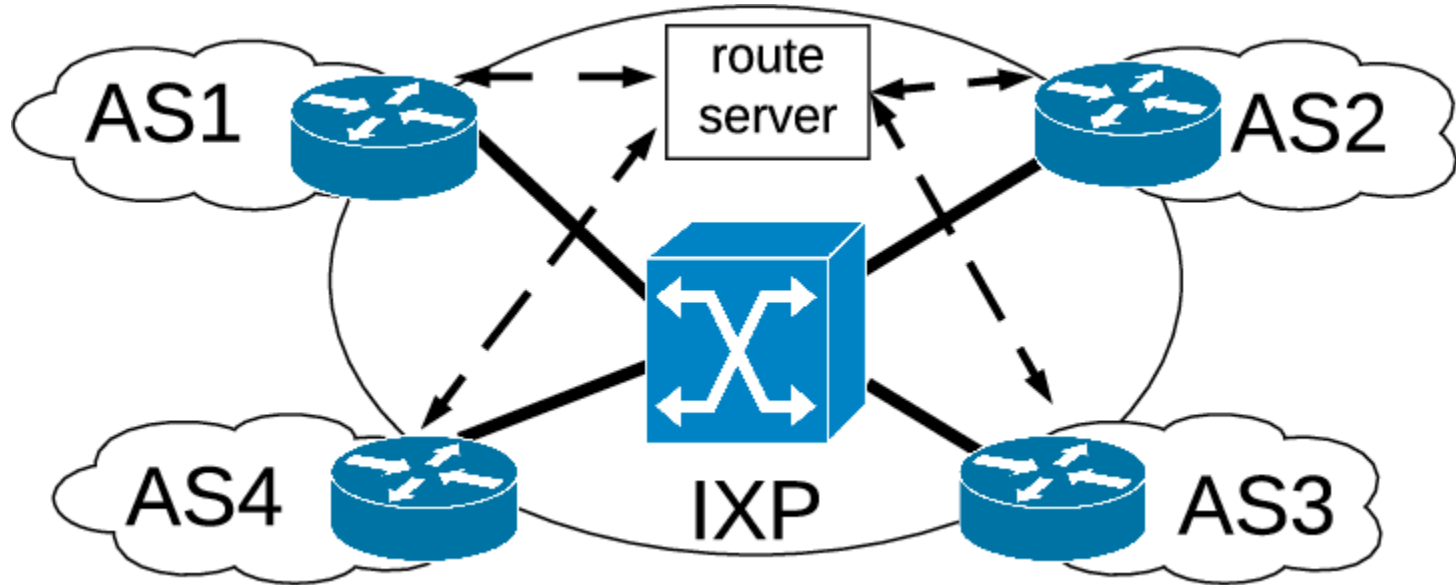


Internet Exchange Point (IXP)

- Physical infrastructure through which **Internet service providers** (ISPs) and **content delivery networks** (CDNs) exchange Internet traffic among their networks (**autonomous systems**) and **peer** together
- Allow networks to interconnect directly, via the exchange, rather than going through one or more third-party networks
- Increased number of paths available through the IXP improves routing efficiency and **fault-tolerance**
- direct physical interconnection between two networks in the same location/region. Data remains local, thus reducing latency



Internet Exchange Point (IXP)



Cloud Interconnection

- Facilitates migration to the cloud
- Private network with public cloud providers
- Direct access to Public cloud infrastructure and services
- Direct interconnect between ISP's and private networks

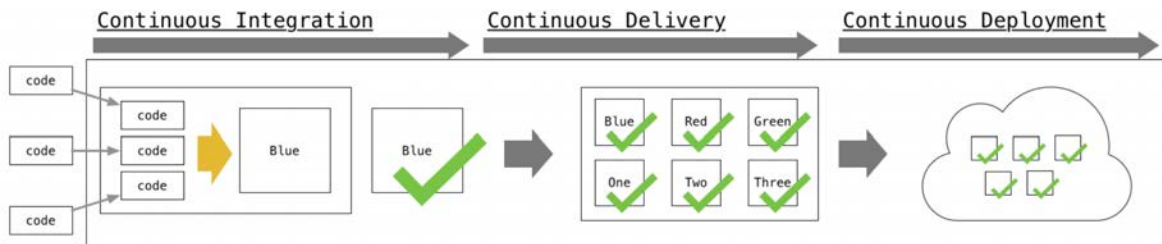
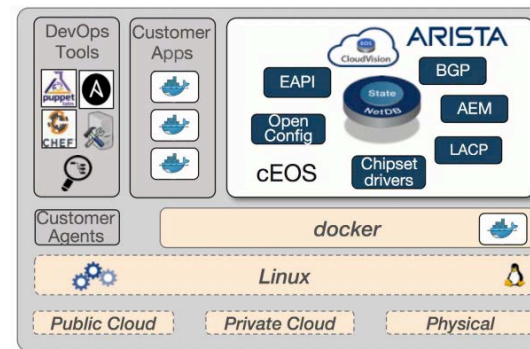
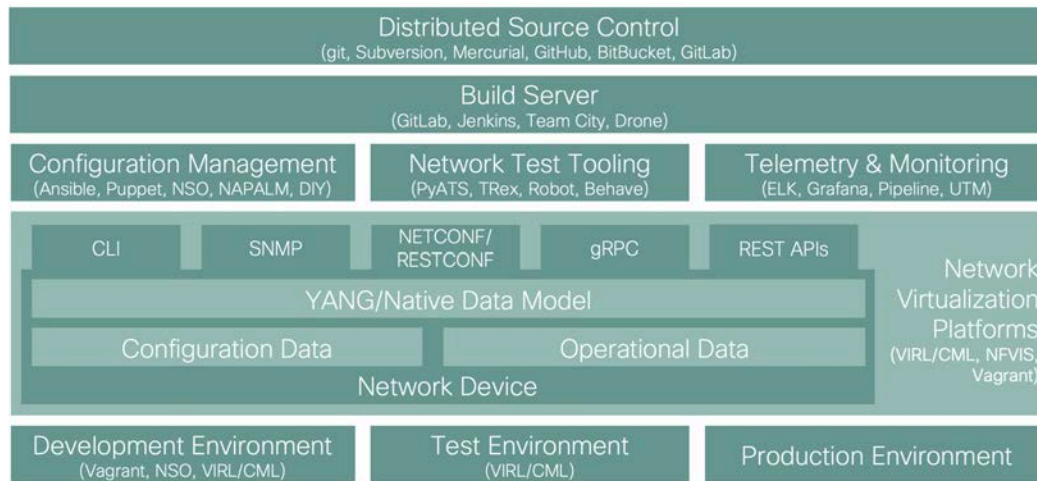


Virtual IX Features

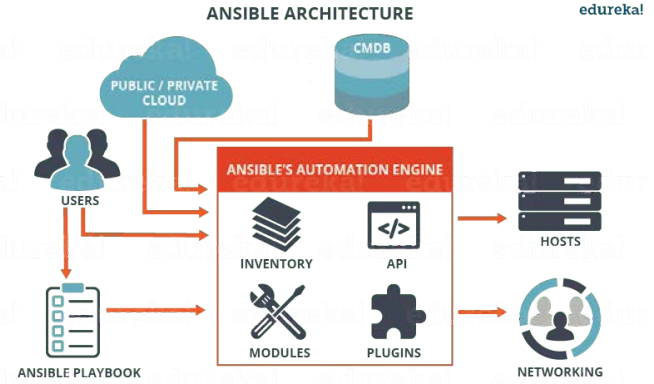
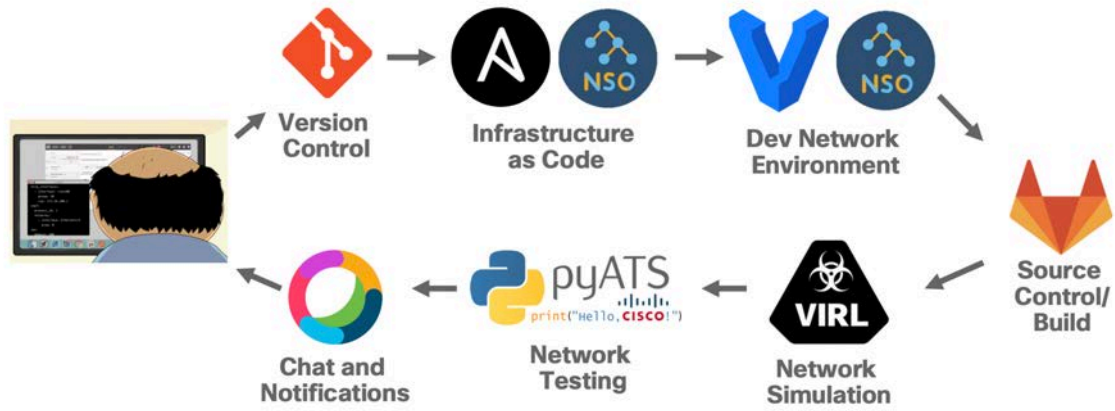
- Automated config management and network modelling
- Real-time virtual representation of physical infrastructure
- Real-time virtual representation of interconnects
- Config templates for cross-connects
- Automated configuration of Virtual Circuits
- Error handling, version control and rollback mechanism
- Audit, security and compliance
- Real-time, automated reporting
- API centricity



Technology concepts



Development Cycle



Technology platforms

