

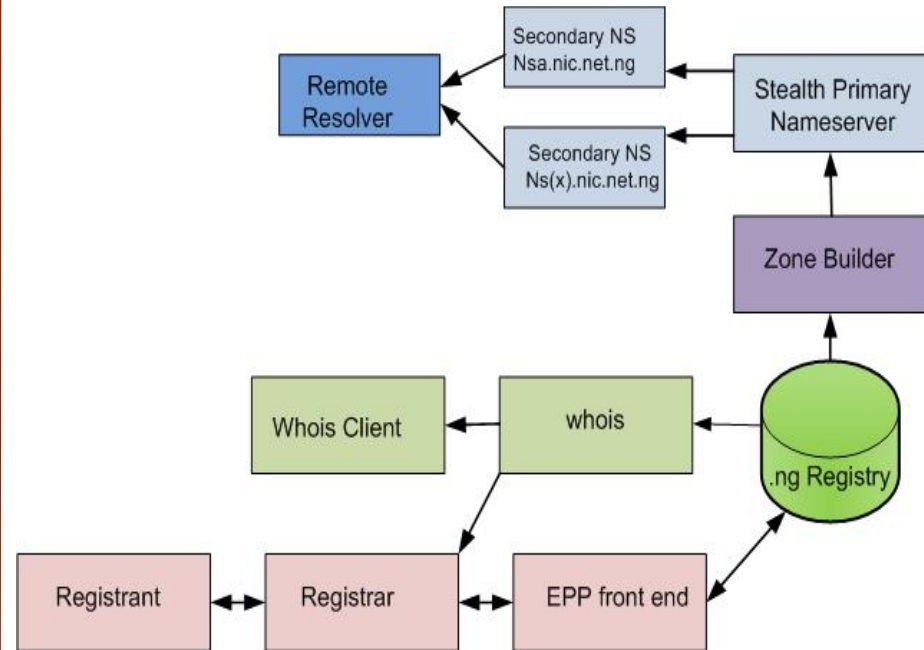


# .NG CCTLD REGISTRY TECHNICAL OVERVIEW

Muhammed Rudman  
m.rudman@ixp.net.ng  
www.nira.org.ng  
24-10-2011  
ccNSO Dakar

# || The .ng Registry Design

- 3R Registry Model
- Public WHOIS server on port 43
- Public WHOIS web interface  
whois.nic.net.ng
- EPP interface for the registrars
- Escrow backup with Cocca
- Stealth Primary Server
- SSH with user & IP restrictions



# The .ng ccTLD network Architecture

## ➤ The registry

- CentOS
- Cocca registry software (web & EPP)
- PostgreSQL Data Base software
- Primary Stealth DNS-Bind

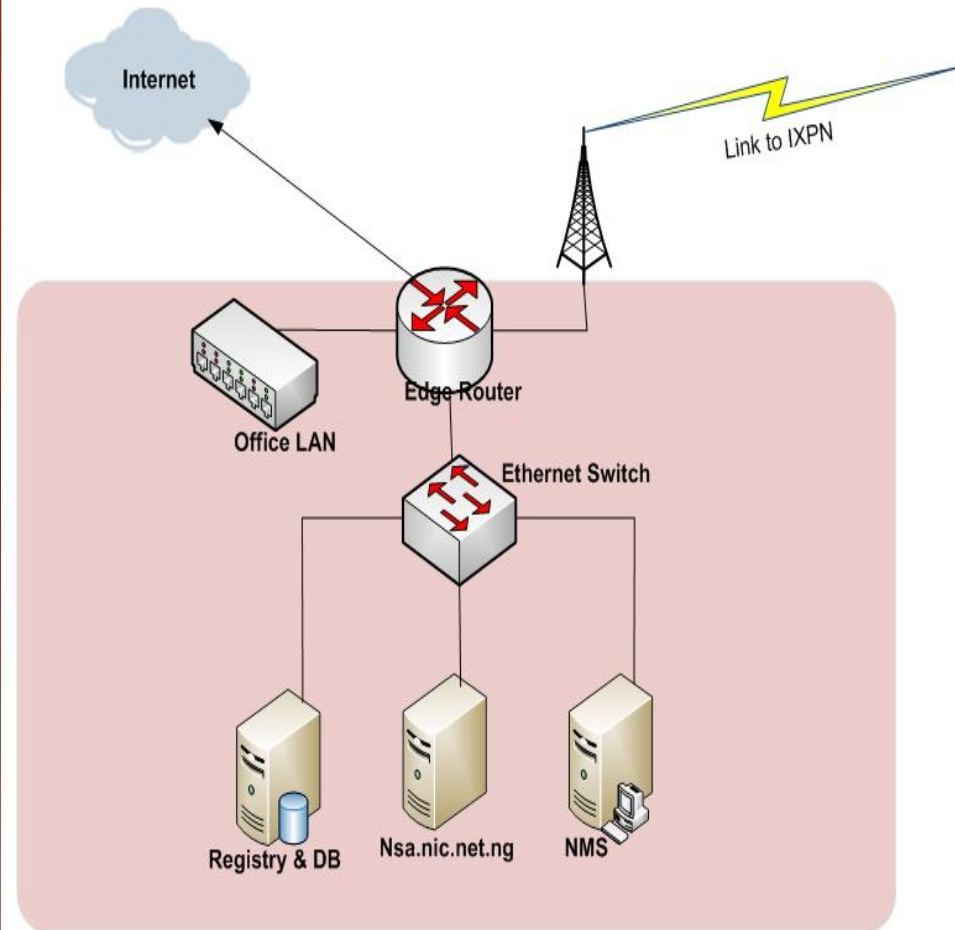
## ➤ Nsa.nic.net.ng

- Open BSD
- Bind DNS Software

## ➤ NMS

- Tembria Server Monitor
- Paessler PRTG
- Kayoka helpdesk

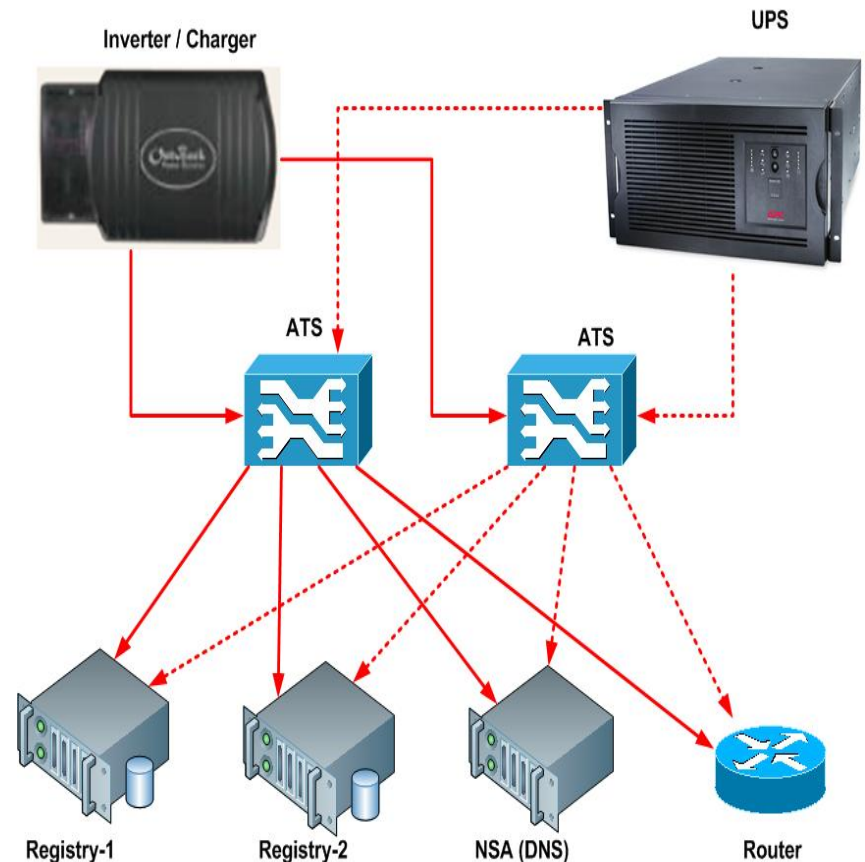
## ➤ Warm standby Router & Switch



# New Power Design

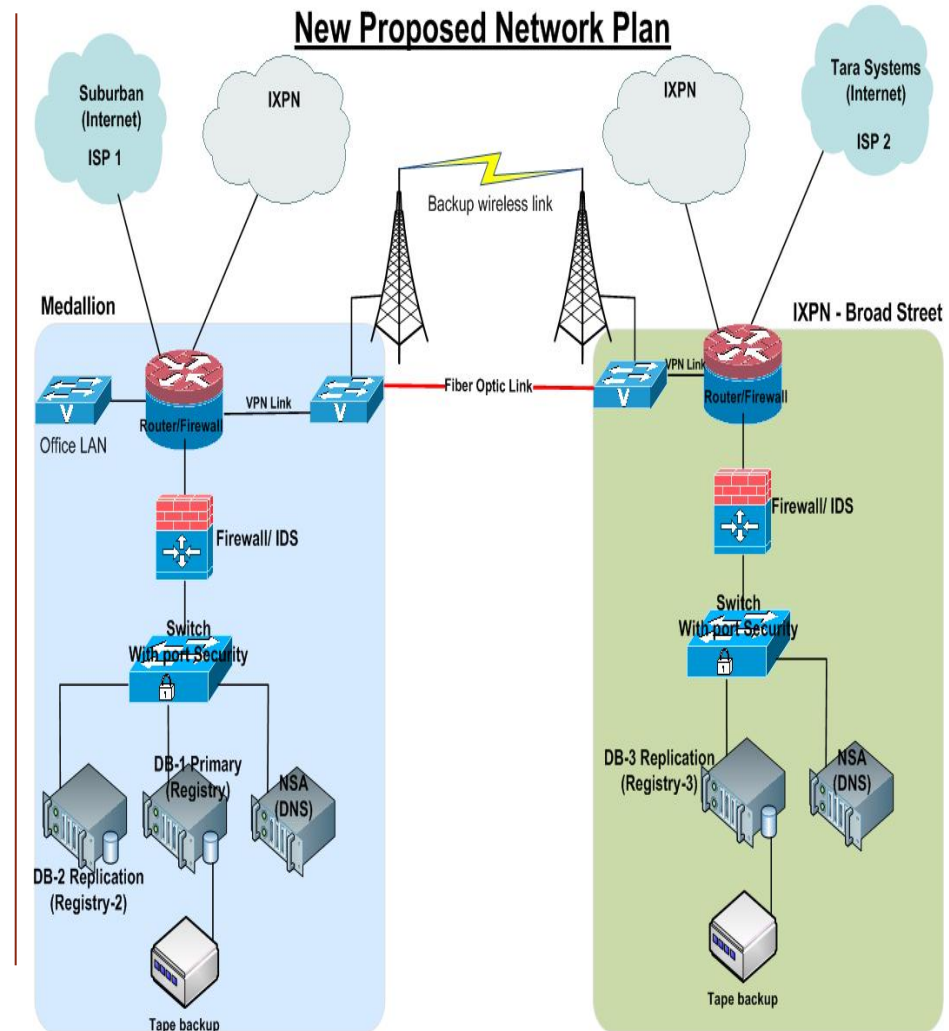
- Motorized Automatic Voltage Regulators (AVR) for each power source .
- Double Power source
- Dual Automatic Transfer Switch (ATS).
- Multiple Power packs in each equipment.
- Remote monitoring of power, with ability shutdown devices remotely.

## NIRA: Proposed Power Schematics



# The New Network Design- Under review

- Redundant Site
- Fiber as the primary link and microwave the backup link between the two sites using VPN channel.
- Multiple ISPs with diversity in uplink transit provider.
- Multiple replication of registry Database with all nodes available.
- Onsite and offsite backup system.
- Multiple firewalls (stateful & stateless ) with Intrusion Detection System.
- Dual authentication to all registrars into the registry: login details with either IP restrictions or Token.



# Network Monitoring

NIRA monitoring - 41.222.79.10 - Remote Desktop

PRTG Traffic Grapher - default.prtg

File Edit View Tags Extras Help New Version available!

Views Sensors View: Data of Selected Sensor(s)

Graph Table: 24 Hours Table: 30 Days Table: 365 Days

Sensors\_Farm\_4

Live Graph - 60 Minutes - 30 sec Interval

5 min Averages - 24 Hours

Hourly Averages - 30 Days

Daily Averages - 365 Days

■ Bandwidth Traffic IN ■ Bandwidth Traffic OUT

Update is available: Get the new version 7.2 now!

A new version of PRTG (V6.2.1) is available from [www.paessler.com/what\\_is\\_new/](http://www.paessler.com/what_is_new/)

Version 7.2 of PRTG offers web-based and Windows based user interfaces, more than 50 sensor types (including SNMP, WMI, NetFlow, Sniffing), network auto discovery and can now

V6.1.1.855 Enterprise Unlimited Edition 974 refreshes 2% CPU load

tembria server monitor™

13 days left in your evaluation of Tembria Server Monitor.

Tembria Server Monitor

Dashboards

Network Devices

Event Monitors

Default Group

NSA

RB192

Registry

Views

Event History

Reports

Summary Reports

Overall Summary Report

Summary by Network Device

Summary by Event Monitor

Summary by Notification Type

Service Level Reports

Configuration Reports

Tools

Settings and Preferences

Help and Documentation

Event Monitor Report for the Week of 2010-09-13

Report Span: Weekly

Report Period: 2010/09/13

Print Friendly Version

Event Monitoring



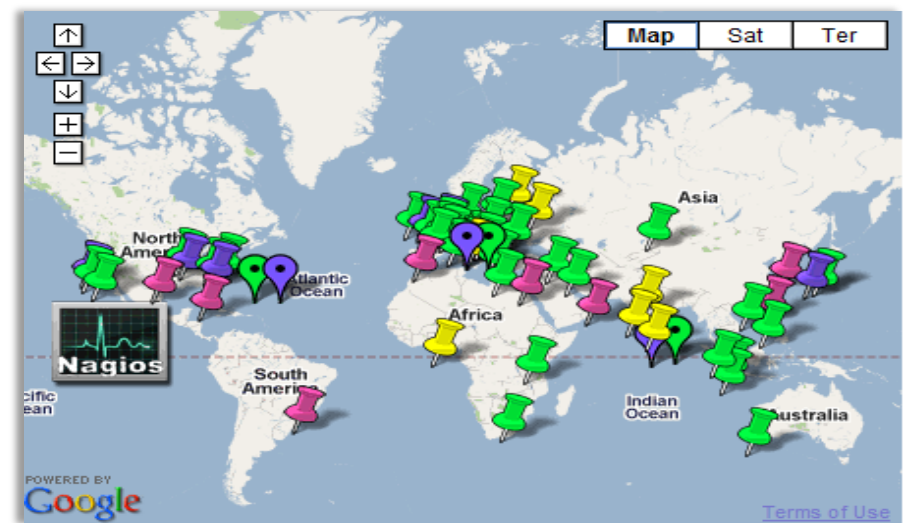
3 event monitor(s) configured  
4 network device(s) configured

Event Monitors

Description	Last Run Time	Successes	Failures	Ratio
NSA	9/19/2010 11:58:13 PM	3354	0	100.00%
Registry	9/19/2010 11:59:38 PM	3354	0	100.00%
RB192	9/19/2010 11:57:30 PM	3353	1	99.97%

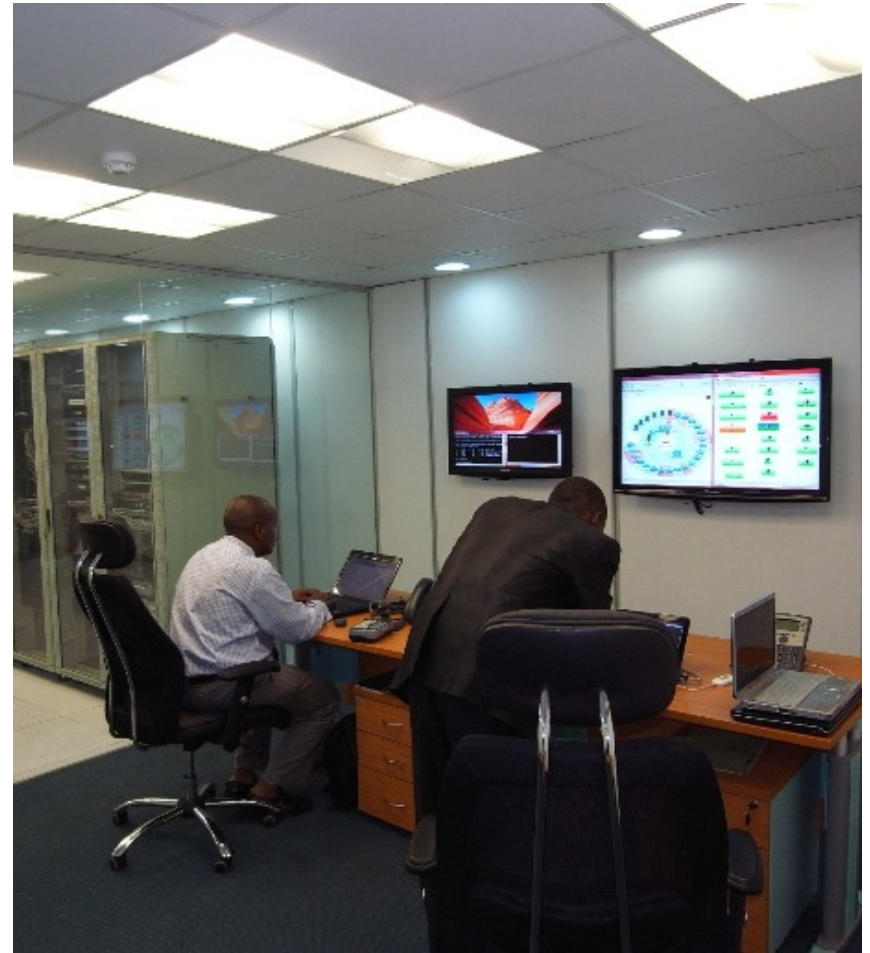
# Secondary Name Servers

- ns1.nic.net.ng 194.0.1.29 |  
Internet Computer Bureau
- ns2.nic.net.ng 204.61.216.40  
WoodyNet (PCH)
- ns3.nic.net.ng 208.78.70.93  
Dynamic Network Services
- ns4.nic.net.ng 204.13.250.93  
Dynamic Network Services
- nsa.nic.net.ng 41.222.79.3  
Nigeria
- nsb.nic.net.ng 72.167.122.8  
GoDaddy.com ( removed 2 years ago)



# MoU with Internet eXchange point of Nigeria (IXPN)

- Strategic partnership with IXPN towards resource sharing.
- The MoU with IXPN will provide dual site for redundancy as well as 24/7 network monitoring and support.
- Working with IXPN towards F-Root deployment in Nigeria.
- Looking forward to working with other Root server operators – Already in discussions with ICANN for L – Root.







**'Thank you**

**Questions ?**

