* Secondary DNS zone should be created in kumasi.
* Because the Secondary zone Server in kumasi is going to be maily read from the primary in Accra. Tis is going to provide redundancy if the Accra primary DNS server becomes unavaialble. Also its going to reduce WAN traffic and handle local DNS queries in ksi.

On the Kumasi DNS server

Open the DNS manager

Right click on the FLZ, Select new

In the wizard

Select secondary zone

Enter the same name as the primary

Specify the IP address of the Accra DNS server to be the master server

Comeplet the wizard.

The zone will automatically attempt a transfer from the primary.

Check the successflu zone replication in the DNS manager

Adjust through the SOA record settings in the primary server.

On the primary zone in Accra

Right click the zone in the DNS manager

Select properties, choose the zone tarnsfer tab

Select allow zone tarnsfer and choose only to the ff server

Then Add Ips address in kumasi secondary server.

Enable DNSSEC for sigend zone to ensure data integrity

Use TSIG ( transaction signature ) key authentication between servers

Restruct transfer to TCP por 53 and implement firewall to allow only trusted IPS

If the primary zone is being updated, the secondary server checks the soa record refressh interval. After the refresh time elapses, the secondary queries the primary soa record. It then compares the serial number, if the primary is higher, initaites zone transfer.

SOA (Start of Authority)

It serves as the control center of DNS zone management synchronization and adjustment oversight. Its resposible for the:

‘serial number: increment with chnages, triggering updates

Refresh interval: how often the secondary checks for updates

Retry interval: time between retries if a resfresh fail

Expire intercal: when the zone in the secondary stop becomes unreachable.

Mimum TTL: Default ttl record.

Allow inboud and outbound of TCP port 53

Allow UDP port 53 for strategic DNS queries

Directional rules( link between ksi and Accra only

Implemented both edge firewall and host base firewall