IoT: IP Space challenges & Security BCP

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IPv4 exhaustion

Approximately 14 million IPv4 addresses left for the African & Indian Ocean.

Less than number of people in our region.

IPv6 in our region

Liquid Telecom has been very aggressive.

Zimbabwe, and other LT-owned ISPs have deployed IPv6 to their customers.

It's not impossible to deploy.

What's your IPv6 plan ?

At AFRINIC, we have a capacity-building department.

IoT

50 billions devices by 2020.

Smart cities & Smart countries in Mauritius.

Tech Hubs in Keyna.

Big opportunity for African countries.

IoT security

A major concern for the Internet Engineering Task Force.

Draft-moore-iot-security-bcp-00 is an attempt at enumerating Best Practices.

IETF Working Groups work by "rough consensus" for moving those documents forward.

You can participate into the discussion by joining the mailing list, and make informed comments.

draft-moore-iot-security-bcp-00

-Mirai botnet incident – IP cameras & home routers.

-Distributed Denial of Service.

-One of the largest ever 620 Gbit/s.

-Disrupted twitter, reddit, netflix, and others.

-Mirai software was not that hard to write.

-This shows how iot security is often poorly thought out.

Draft-moore-iot-security-bcp-00 (part 3)

2.2. Authentication requirements

2.2.1. Resistance to keyspace-searching attacks

2.2.2. Protection of authentication credentials

2.2.3. Resistance to authentication DoS attacks

2.2.4. Unauthenticated device use disabled by default

2.2.5. Per-device unique authentication credentials

Draft-moore-iot-security-bcp-00 (part 4)

2.3.1. Encryption should be supported

2.4. Firmware Updates

2.4.1. Automatic update capability

5. Documentation and Support Practices

5.1. Support Commitment

5.2. Bug Reporting

5.3. Labeling

5.4. Documentation

Conclusion

Draft-moore-iot-security-bcp is a general document.

It does not cover specific use cases.

More work needs to be done at the IETF for those specific cases.

IETF is open to everybody. "Rough consensus and running code". I was able to submit a suggestion which gained support within the working group.

IoT security IS a challenge that needs to be tackled.