

---

# Network and Open Source



**Vipin M**

*Wireless Communication Research Group*

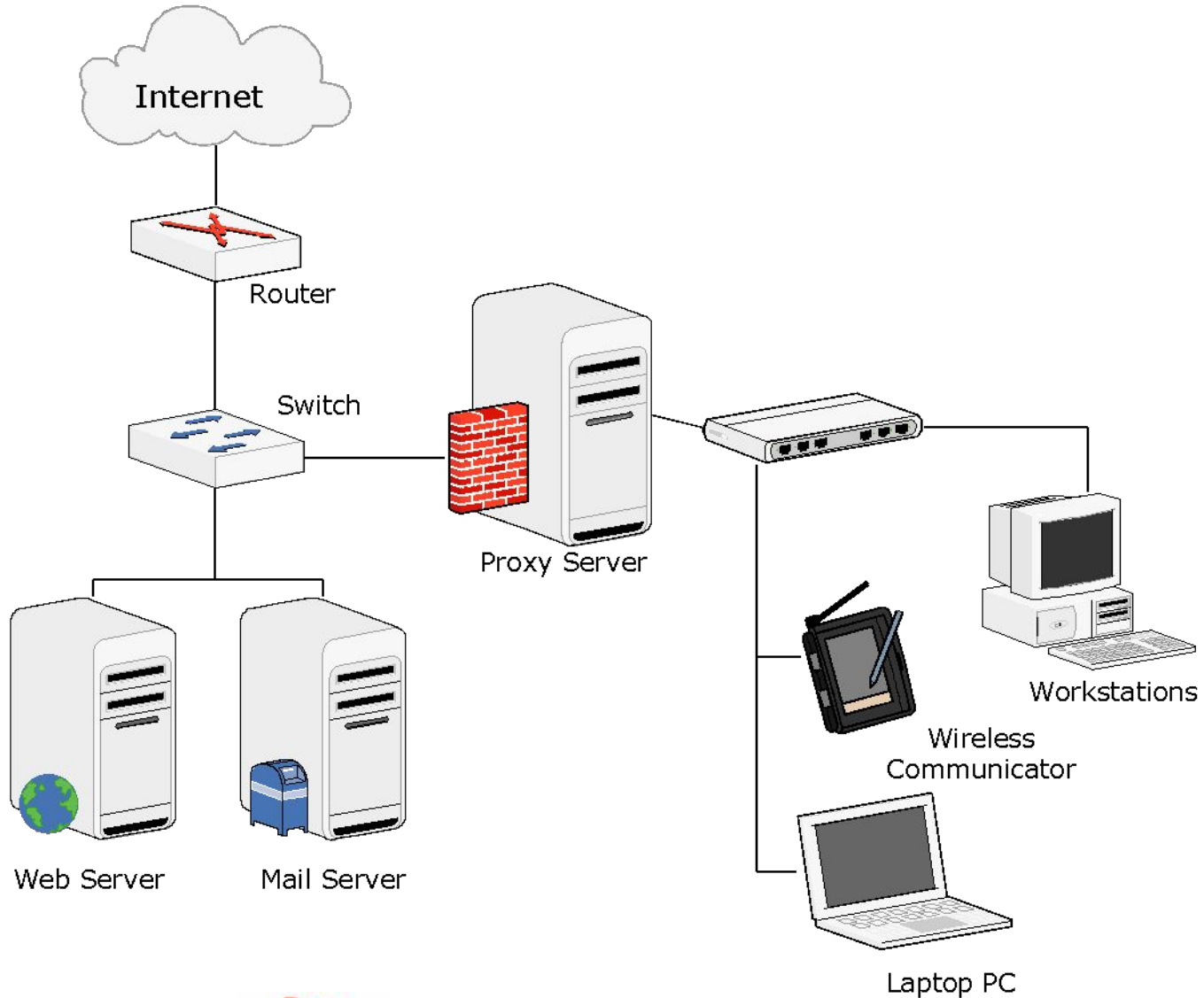
AU – KBC Research Centre

<http://www.au-kbc.org/comm/>

# Overview

- General Network
  - Structure
  - Components
- Work Station
  - Network Stack
  - End to End
  - Tools and utility
- Servers
  - Firewall / Gateway
  - Messaging
  - Development

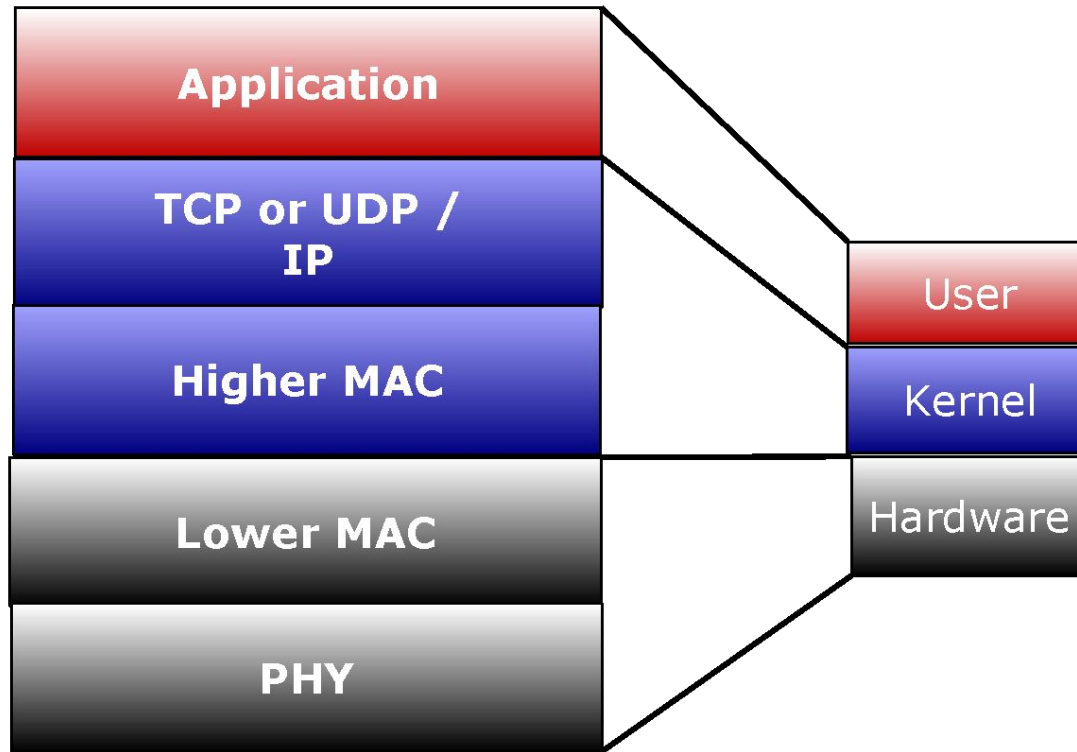
# Structure



# Components

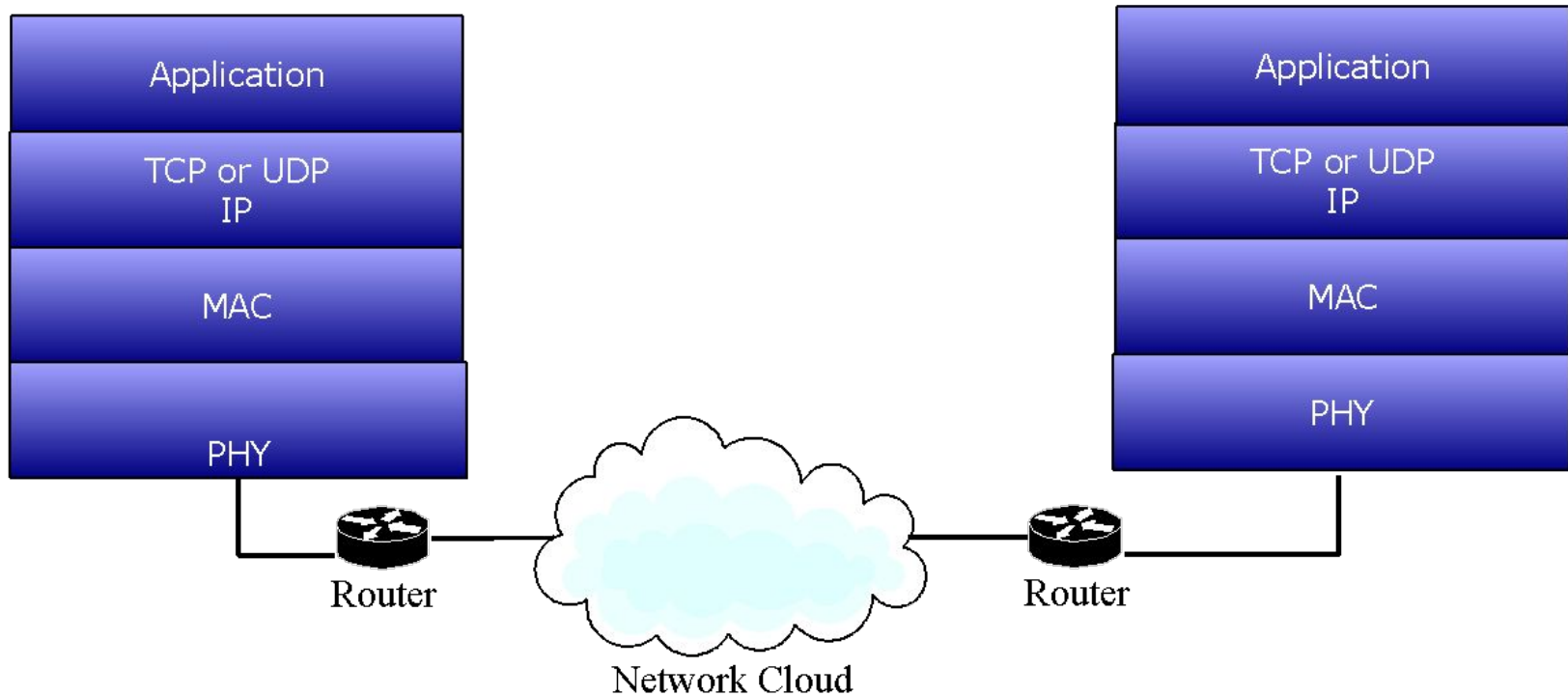
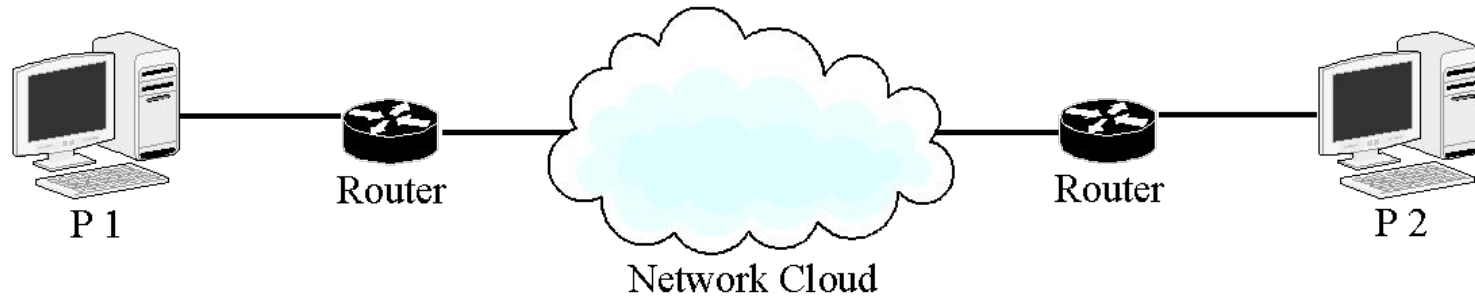
- Work Stations ( PC )
  - OS ( Linux / GNU – Debian, Ubuntu, Fedora etc. )
- Servers
  - OS ( Linux / GNU – Debian, Ubuntu, Fedora etc. )
- Embedded devices
  - Linux kernel + busybox etc.
  
- OS Components
  - Kernel
  - Applications
  - System Utilities

# Network Stack



- Lower MAC will be firmware sometime

# End to End



---

## – Linux kernel

- Driver of network device
  - Ethernet
  - Wireless
  - Etc ..
- IP / TCP stack
  - Iptables
  - Ip / route

## – Applications

- Browser
- FTP
- Samba (an alternative for windows file sharing)
- Etc ..

# Tools and utility

## – Network

- Network management
- Firewall / SELinux management
- Command line configuration tools
  - Ifconfig
  - Iwconfig
  - Ip / iptables
  - Smbclient

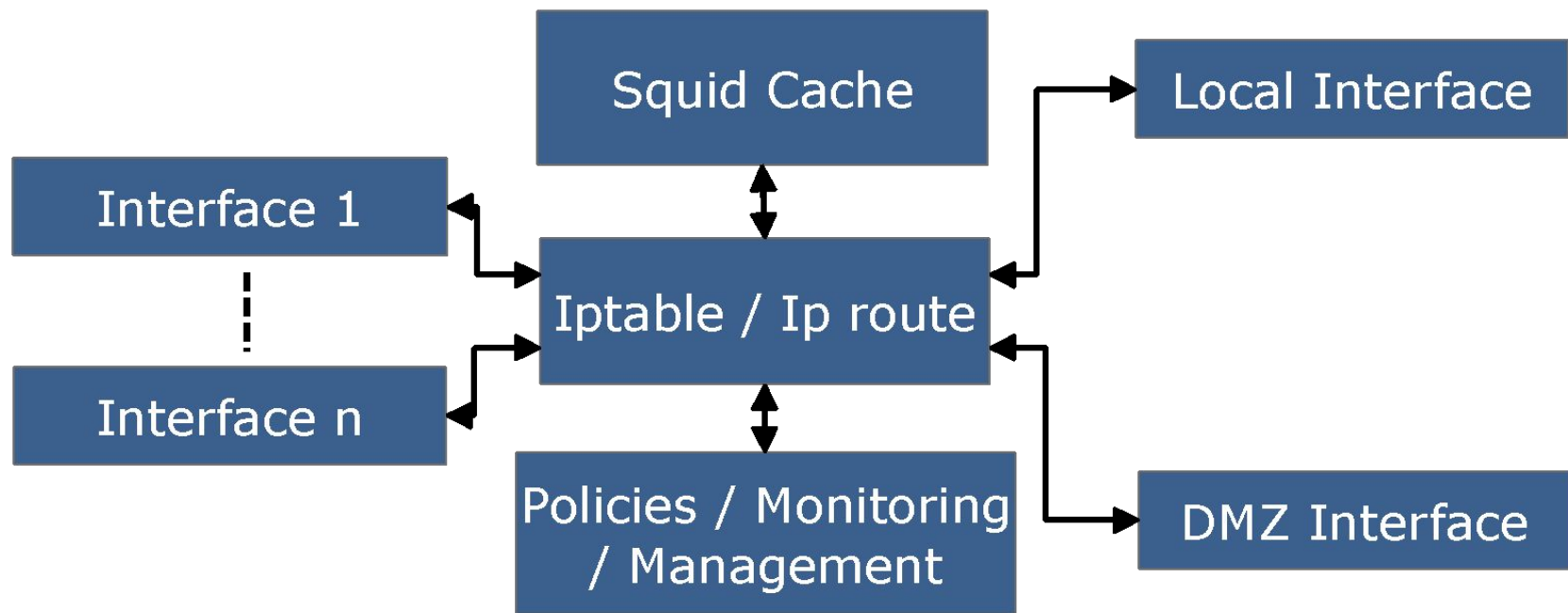


# Servers

- Firewall / Cache
- Messaging
- Development / Build
- DHCP / DNS / NTP
- Authentication
- Data storage
- Web / Application
- Remote login
- Management and monitoring

# Firewall / Gateway

- Routing and firewall
  - Iptables
  - Ip
- Caching
  - Squid
- Management and monitoring
  - Mrtg
  - Bigbrother
  - Tripwire
  - Snort
  - Shorwall



# Messaging servers

- Mail
  - e-Mail
    - MTA
      - Sendmail / Qmail
    - POP / IMAP / SMTP
  - Mailing list
    - Mailman
- Chat
  - Jabber

# Development Server

---

- Source code management
  - SVN / CVS
- Project management
  - Track, Gforge

# Other Servers

- Web / Application
  - Apache httpd
  - Apache Tomcat
- Database
  - MySQL
- Streaming media
  - Shoutcast
- Authentication
  - LDAP
  - Open Radius
- Share
  - samba

# References

---

- TLDP – The Linux Documentation Project
- Google :)

---

# Thank You

## Questions ?





---

**<http://www.au-kbc.org/comm/>**  
E-mail : **[vipintm@gmail.com](mailto:vipintm@gmail.com)**