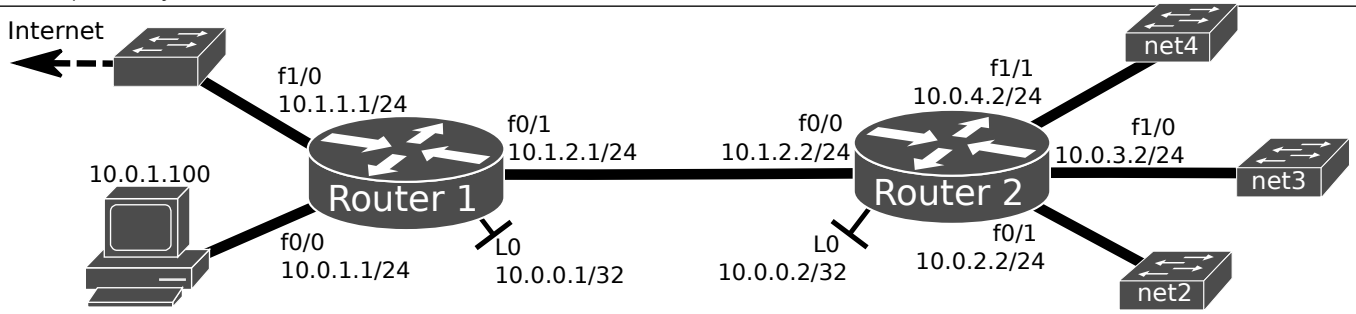
Arquitetura de Redes

Data acquisition with SNMP and Python

Data acquisition with SNMP

1. Configure a network (in GNS3) according to the following figure. The PC can be a VM or the host PC, with Linux (Debian) with Python, SNMP tools, network MIBs and CISCO MIBs.



MIB references: MIBS: IF-MIB, and IP-MIB.

Python references: *Snimpy* – API reference, https://snimpy.readthedocs.org/en/latest/api.html

argparse - Parser for command-line options, https://docs.python.org/3/library/argparse.html

matplotlib.pyplot - http://matplotlib.org/api/pyplot_api.html

2. In both routers, configure a SNMP version 3 community (using the name "private") with Read-Only permissions, and access with authentication (MD5, password authpass) and encryption (AES128, password: privpass), for user uDDR from group gDDR:

```
Router(config)# snmp-server user uDDR gDDR v3 auth md5 authpass priv aes 128 privpass
Router(config)# snmp-server group gDDR v3 priv
Router(config)# snmp-server community private RO
```

3. Download and test the baseSNMP.py script, and understand how different MIB objects can be accessed.

```
python baseSNMP.py -r 10.0.0.2
```

4. Use the following MIB objects to access relevant interface traffic statistics:

- *ifHCOutUcastPkts*, *ifHCInUcastPkts*, *ifHCOutOctets*, *ifHCInOctets* from IF-MIB.