ABot

A Network Test Tool

Rebaca

ABot - a Network Test Tool

ABot is a **test automation tool** for **4G & 5G** telecom networks. It **emulates mobility interfaces and nodes** for wrap-around testing of **4G/5G network function** as per the **3GPP** specification. ABot comes with a plethora of **canned test cases** which validates **system level** (end-to-end) **4G/5G call flows**. This tool can simulate both data plane and control plane traffic at **carrier grade scale,** ideal for **performance benchmarking** of network functions. It can validate **protocol compliance** and **stress test** a 4G/5G node prior to deployment in production network. ABot is a **cloud-native test tool** and it seamlessly integrates with any cloud orchestrator like Juju, Cloudify, MANO, etc. ABot can be used in validating both virtual and cloud based network functions. It can integrate with any CI/CD pipeline to provide **continuous testing**.

Key Features

- ✓ **Emulation** of any **4G Network Components** like **eNodeB, gNodeB, 4G EPC** (MME, SGW, PGW, HSS, PCRF, OCS, OFCS), **CIoT nodes** (SCEF,SCS) and **IMS**

- ✓ **Emulation** of **5G SA Core Network Functions** like AMF, AUSF, UDM, SMF, NSSF, UPF, NEF, NRF, PCF, and AF

- ✓ **Testing** of **partially implemented 4G/5G nodes** by emulating the incomplete interfaces and protocols

- ✓ Provides **reusable use case specific Test Templates** which are mapped to **3GPP defined features and call flows**

- ✓ **Test cases** of ABot are based on **natural language** and follow **DSL Syntax**, hence they are intuitive, easy to learn and make modifications

- ✓ Test Cases scale horizontally to simulate **carrier grade heavy duty load** for **performance benchmarking** of **(V/C)NFs**

- ✓ **Cloud-native** architecture of **ABot** makes it flexible enough to be **deployed** using any **cloud orchestrator** like MANO, Juju, Clodify, etc.

- ✓ **Integrates seamlessly** with any existing **CI/CD tool** like Jenkins and can harness any **3rd party test system**, as well

Mobility function support

Protocols	Nodes	Interfaces
S1-AP	UE, eNB, MME	S1-MME, S1-U
NAS	UE, MME	S1-MME
GTPv2C	MME, SGW	S11, S10, S5/S8c
GTPv1U	eNB, SGW, PGW	S1-U, S5/S8u, N3
Diameter	SGW, PCRF, MME, HSS, PGW, OCS	Gxc, S6a, Gy, Gx, Rx
X2-AP	eNB, gNB	X2
PFCP	SGW - CP/ SGW - UP , PGW –CP/ PGW – UP, UPF, SMF	Sxa, Sxb , N4
NGAP	UE, gNB, AMF	N1, N2
HTTPv2	AMF, AUSF, UDM, SMF, NSSF, PCF, UDR, NRF	N5, N7, N8, N10, N11, N12, N13, N15, N22

Sample Screens