

Lab08- Exploring OpenBTS

OpenBTS is an open-source GSM base station. It allows researchers, end users, and network operators to stand up GSM base stations without having to pay license fees, convince a carrier to deploy in a remote area, etc. Fun fact, OpenBTS is one of the few base stations that actually operate network on all 7 continents!

WARNING

Under NO circumstances should to do anything with emergency numbers (911, 999, 118, 000, 119, 112, etc). You are interacting with real phones that have real radios. Never use an emergency number on the devices or in OpenBTS.

Instructions

Log into the IA Lab's Wireless environment (NOT Learn or Projects). You will have a VM provisioned that should have two phones and an Ettus USRP B200 radio connected. This SDR combination is essential to getting a base station online.

- Bring OpenBTS online and configure it
 - Set a different network name, MNC, MCC, etc
- Connect a phone, send an SMS message to the phone (using the sendsms command)
- Register your second phone, give them both phone numbers
 - It can be any phone number except for an emergency number
- Text each other! From one phone, send a basic SMS to the other
 - This will be tricky to type out, feel free to just send a short message
- Explore OpenBTS, change some settings, see what happens!

What to Submit

Submit a screenshot showing that you've send an SMS message from one phone to the other (and that it was delivered successfully). Write up a brief synopsis of what you explored inside of OpenBTS (settings, values, etc). What happened? Tell about what you did and what you learned.

Help!

Since you're all distance students, you can't come ask for your phone to be rebooted, a cable wiggled, etc. If you're missing a phone, your radio doesn't appear, etc please log a ticket here:

<https://forms.gle/iZqBCksWYe6Q3A9j6>

There's a pair of us that can run to the datacenter and check it out, so if I'm off campus you can still get help from someone else!