









# LTE Activity

## Overview

- Cellular jargon
- Register your trial SIM with Twilio
- Nerves Livebook demo
  - samples/networking/cellular\_demo\_qmi.livemd

# Cellular Jargon (incomplete)

- ICCID the ID that the SIM presents to the cellular network
- APN the name of the network (cellular provider) that you want the cellular modem to request
- Super SIM Twilio's brand of multi-network operator SIM cards
- LTE CAT LTE user equipment "category"
  - CAT 1 is 10Mbps down/5 Mbps up (higher faster)
  - CAT M1 is 1-ish Mbps down/1-ish Mbps up for IoT devices
- AT and QMI protocols for using cellular modems

## AT

- Send text commands that start with "AT" over a serial port
- Use PPP to transfer data
- Supported by almost every LTE module, but each one is slightly different
- vintage\_net\_mobile

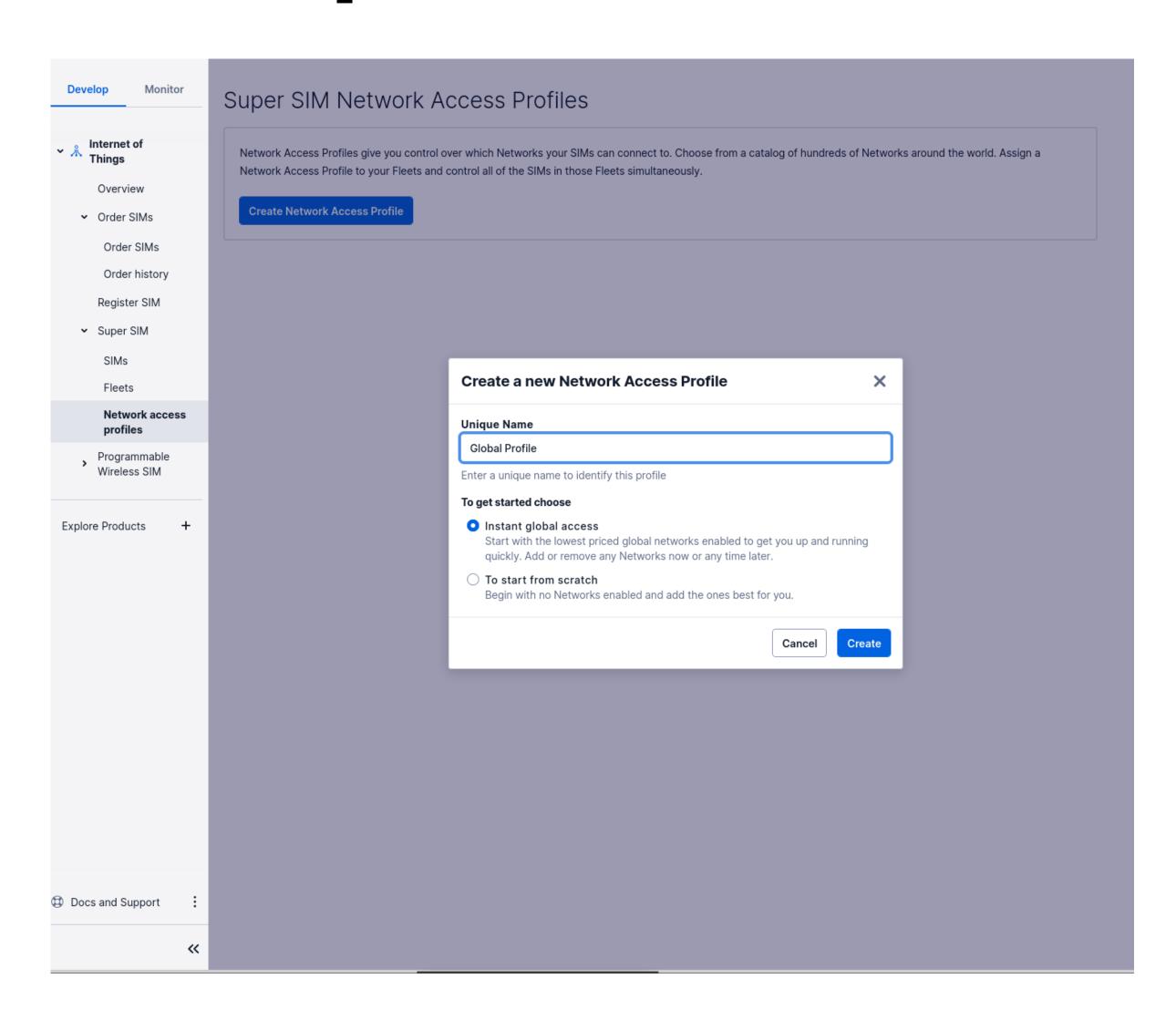
## QM

- Qualcomm proprietary protocol
- Abstracts most differences between modems
- Only supports USB
- vintage\_net\_qmi

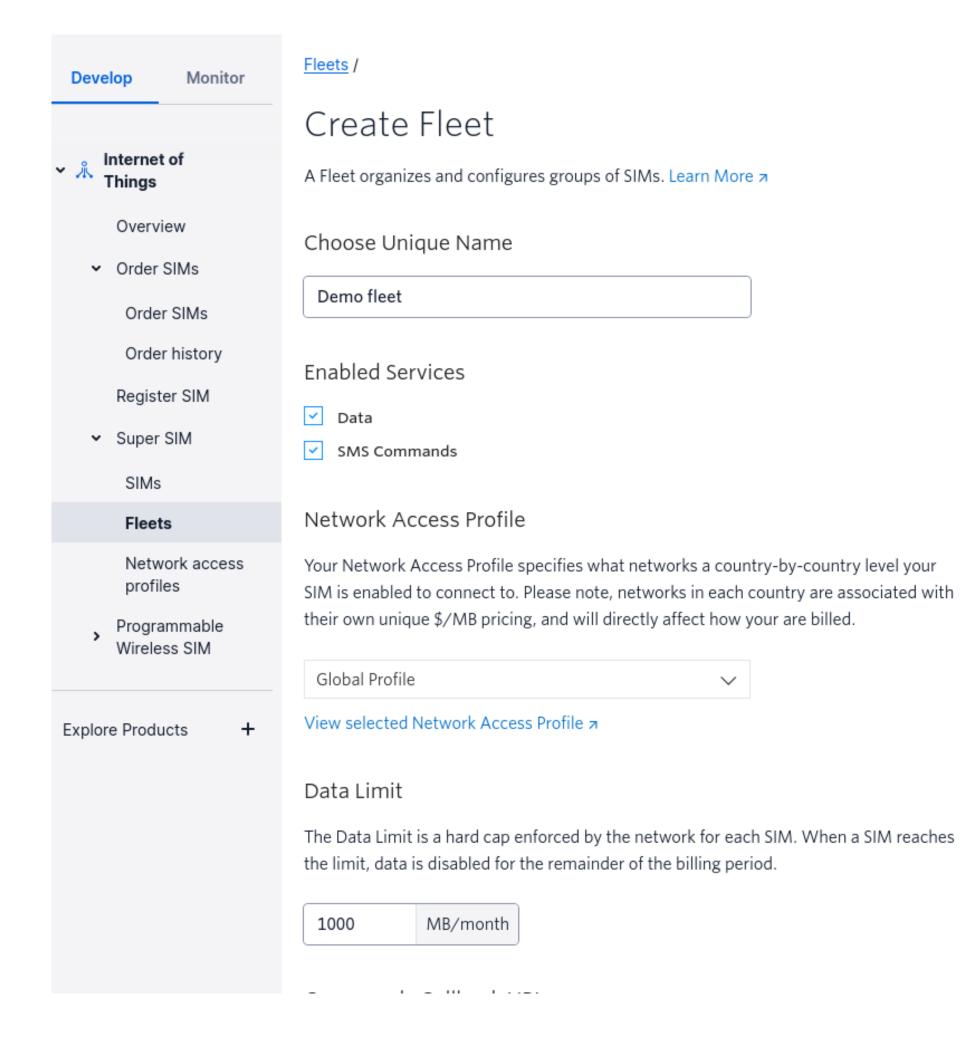
## AT vs QMI

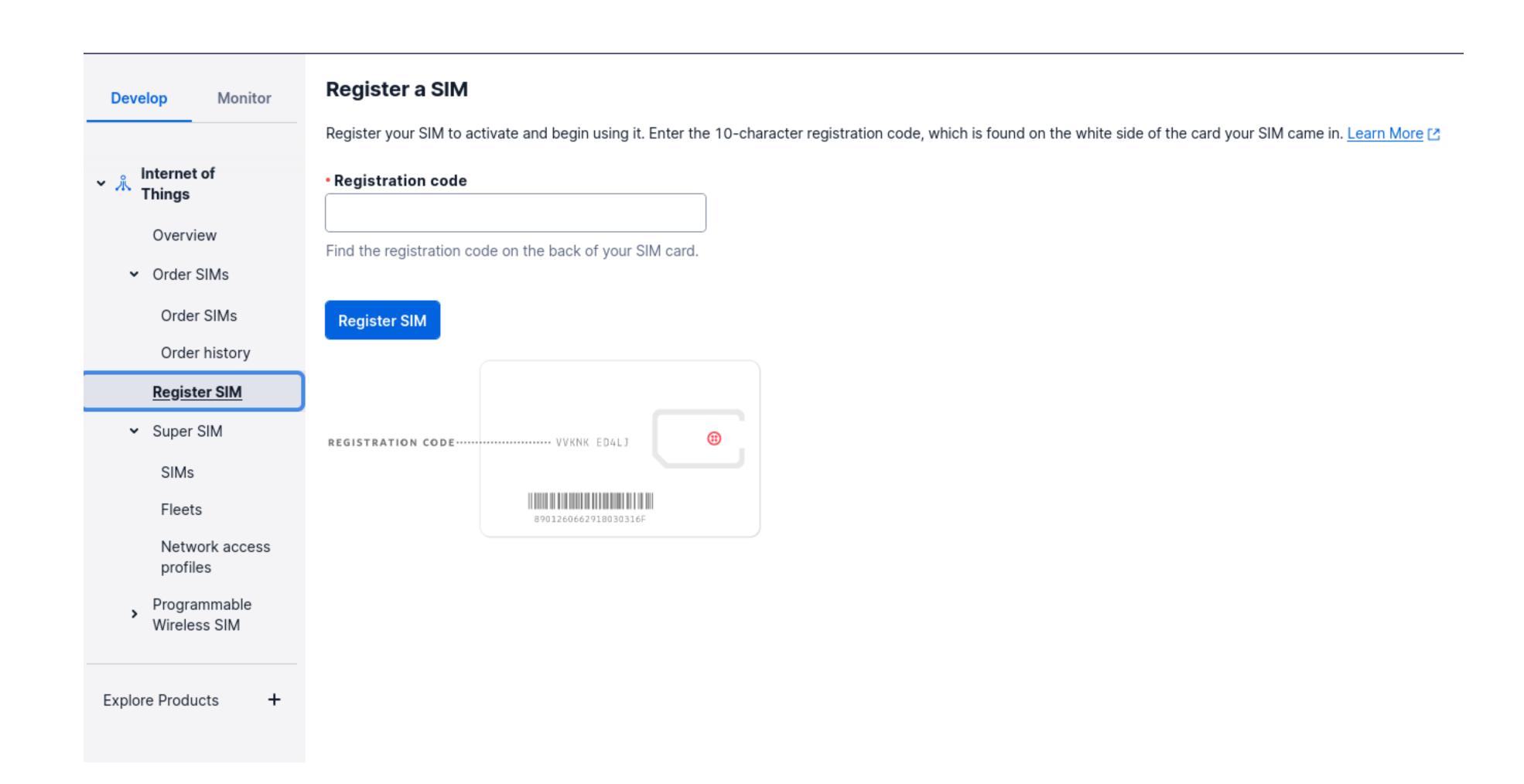
Feature	AT	QMI
Modem support	Every modem	Most USB modems
Documentation	Lots	Read Linux source code, google
Per-modem tweaks	Almost every one	Usually none
Measure signal level and transfer data at same time	Requires 2 serial connections	Nothing special

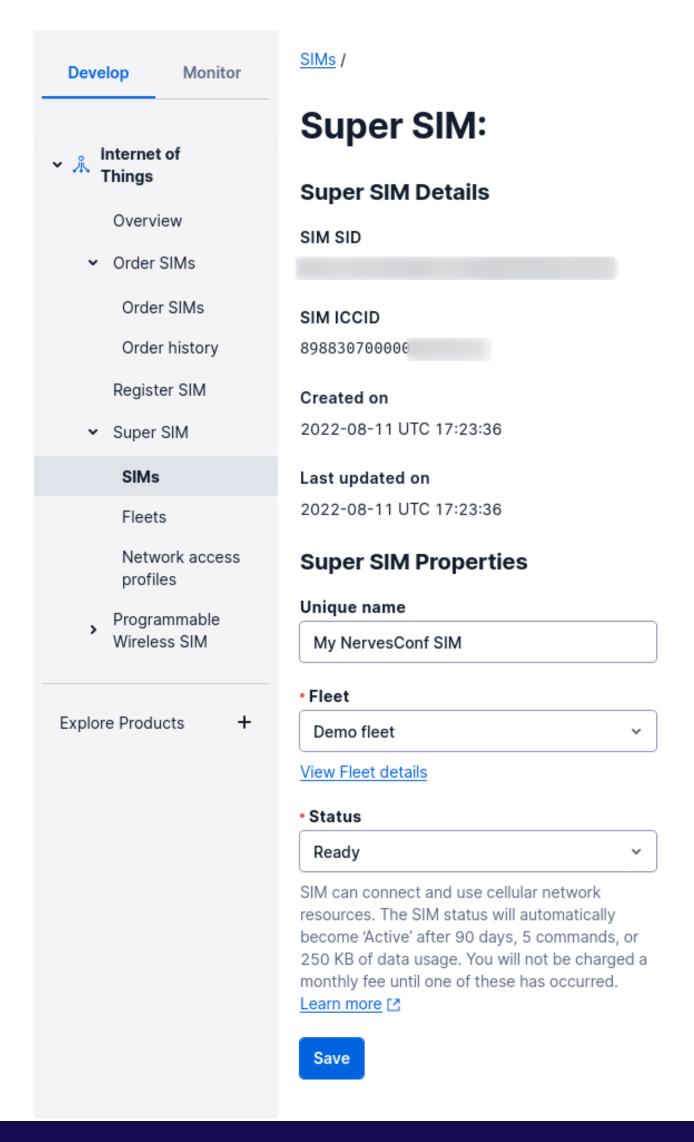
- Look under the Super SIM menu
- Create a network access profile
- Call it anything you want



- Create a fleet
- Enable data and SMS
- Select the profile from the previous step







### Monitor SIM

Monitor your SIM's usage, data uploaded/downloaded and costs over a given timeframe or to view commands log go to Monitor section of the console. Apply filters to limit scope and groupings to pivot around multiple dimensions.

<u>View this SIM's usage</u> → <u>View logs</u> →

