

FREE Live Webinar

What are the **TOP 10** essential features your cellular connectivity provider should have to enable your IoT business?

Please wait until
guests have joined
the webinar

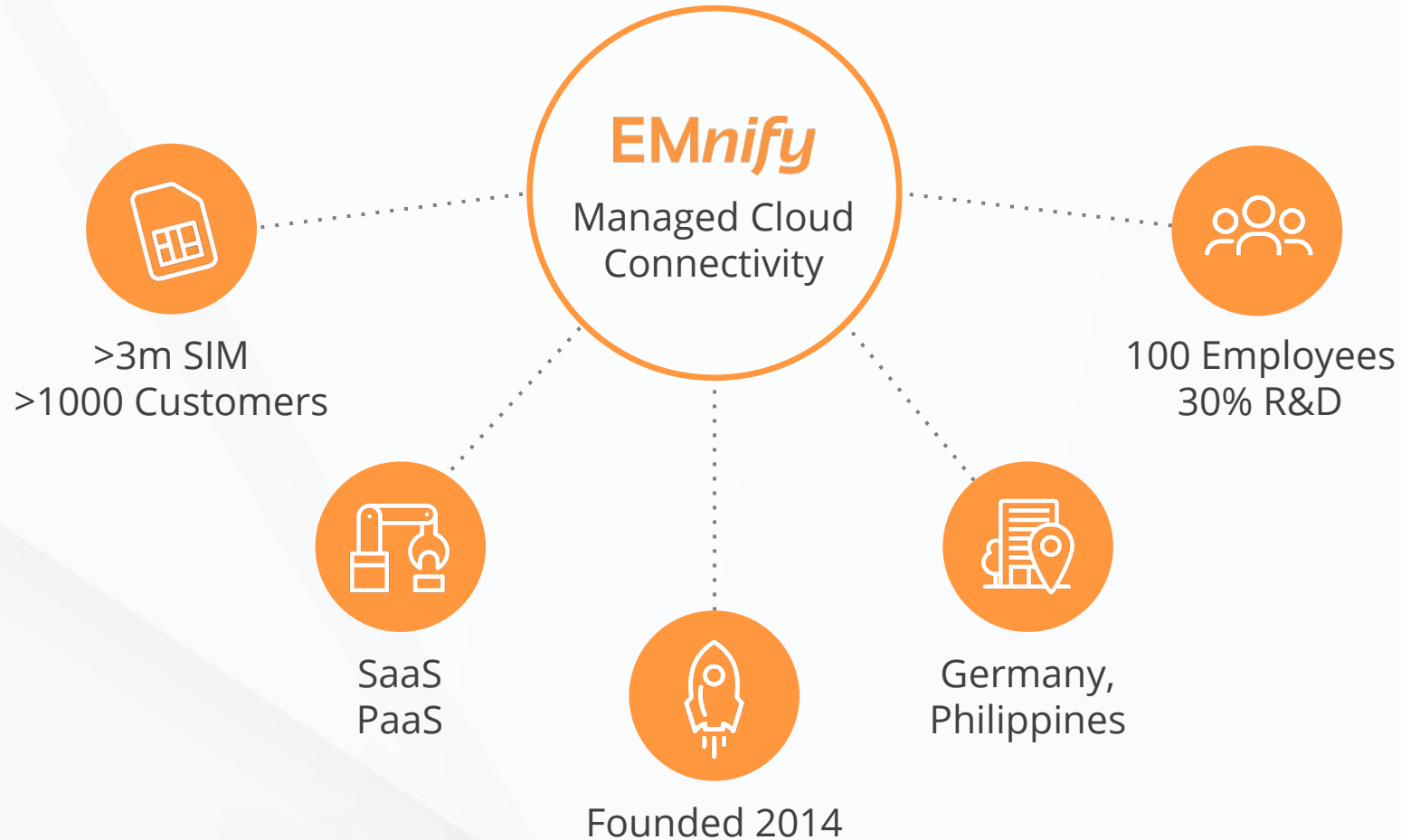
EMnify

Agenda

- EMnify Introduction
- Top 10 Cellular Features
- Q&A

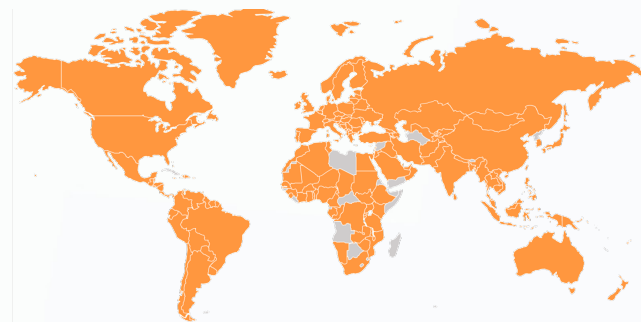
EMnify

EMnify Snapshot







































Cellular Connectivity Anywhere In The World

(2G, 3G, 4G, LTE-M, soon NB-IoT)



180 countries
540 networks

Our Customers – IoT Solutions

Smart Home	Smart City	Health	Retail	Agriculture
<p>Alarm & Surveillance Pest Control Smart Metering Leak Detection</p> <p>  PRIMAGAZ   CORAL  </p>	<p>Parking Meter Traffic Control Waste Management Public Safety</p> <p>  EcoWaste  VER-MAC  digitalparking  SONAH </p>	<p>Fall Detection Health Monitoring Remote Diagnosis Medication Mgmt</p> <p>  sleepinnov  micrel  PATH MEDICAL  Inspiration </p>	<p>Inventory Mgmt Payment (PoS) Digital store Customer Satisfaction</p> <p>  Eval&GO  Alberici  GPD  Tecnovis </p>	<p>Crop yield & storage Soil/nutrient Fences mon. Livestock surveillance</p> <p>  ARGOTEC  neltume  stellapps  evja </p>
Asset Mgmt	Manufacturing	Transportation	Environment	
<p>Fleet Mgmt Animal tracking Container tracking Good temperature Art & Relic Preservation</p> <p>  Europcar  CargoGuard  2hire  Innovalinks </p>	<p>Stock inventory Mgmt Predictive Maintenance Safety Monitoring Machine monitoring</p> <p>  SKF  BLACKBIRD  EXPLOSION POWER  Syrinix </p>	<p>Vehicle Diagnostics Connected Car Rail monitoring</p> <p>  hoots  SPORT TRAXX  UBICA  Aperia </p>	<p>Air/water quality Noise Radiation Flooding Solar & Air Energy</p> <p>  campion pumps  Solarly  ATMOTRACK  ZES </p>	<ul style="list-style-type: none"> • B2B2B and B2C • Selling Connectivity as part of their services

TOP 10 Cellular Features

Besides Multi-Network coverage

Taking an example of a
payment terminal provider

B2B2B

22.APRIL.2020

Cellular IoT explained -
everything you need to
know about 2G, 3G, 4G,
5G. LTE-M and NB-IoT

06.MAY.2020

Top 5 best practices
for cellular IoT device
security



Feature 1 Web-Portal and API

100%

Web-Portal to manage the SIM cards and their connectivity

API to automate and integrate connectivity management into the application



Example Use case:

Activate SIM contract when payment terminal is sent to customer (e.g. bar owner)

Through API integration in payment terminal app:
When a bar owner terminates or pauses payment terminal contract – also SIM contract is paused

Benefits:



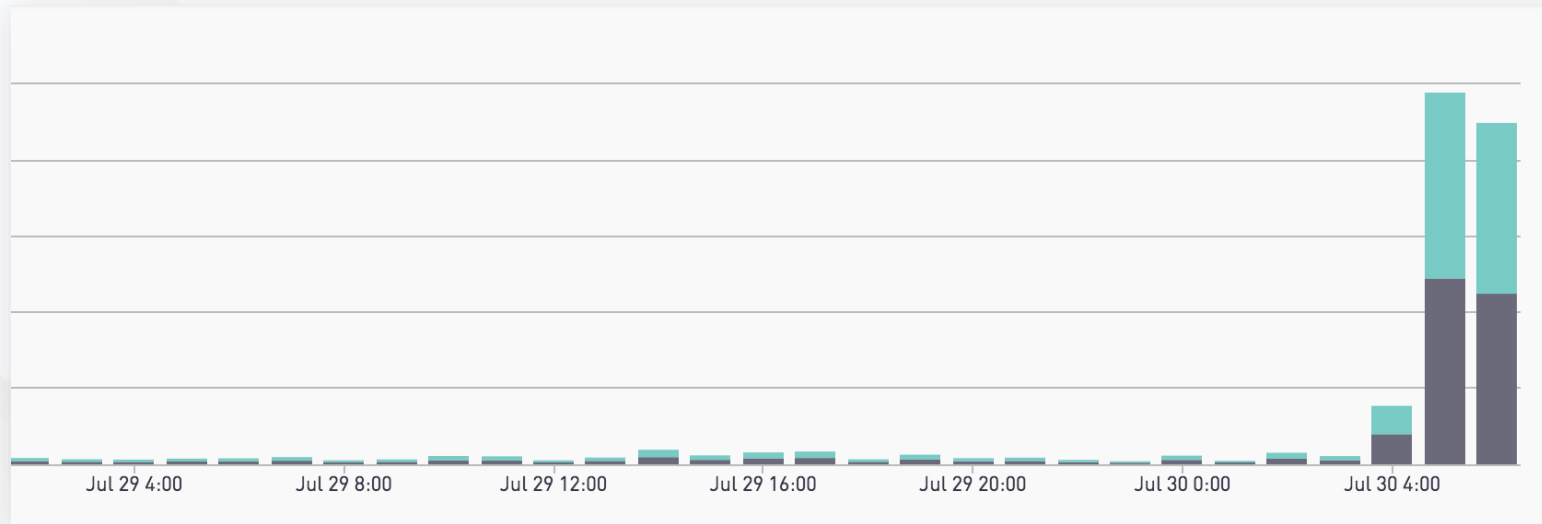
Scale



Pause

What has happened here?

Data Volume per hour for payment terminal provider X



New Application version installed

Feature 2 Service Limits

51%

**Data volume, SMS limits
for each device / SIM**



Example Use case:

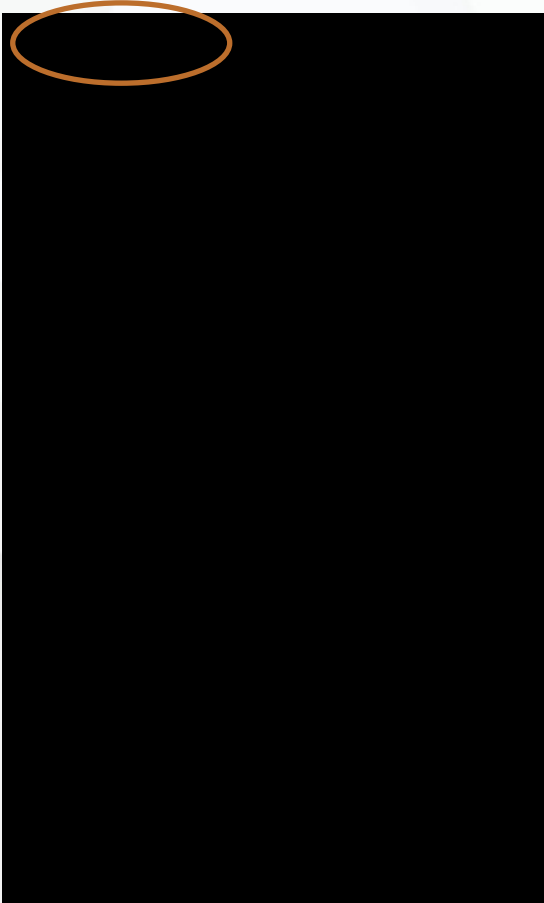
- Payment terminal firmware update leads to increased data consumption
- Application server is down, and all devices are retrying to send data

Benefits:



Stop loss

Do you know the Google T-rex?



From FAQ section - Payment Terminal Communication Error

A communication error can occur for several reasons. GPRS/GSM terminals are reliant on a signal and can be affected by a loss of network within certain areas. Generally the transaction will void and display a Diagnostic code at the bottom of the receipt with either 82828282 or 41414141. These codes are specific for GPRS units and we have a few procedures on how to rectify this.

- Please turn the Ingenico terminal off and leave for 30 seconds (please ensure the screen is blank).
- Remove the Sim Card from the device and wipe the metal chip on the Sim.
- Replace the Sim and turn the terminal back on.
- Leave for a further 2 minutes and see if the Ingenico terminal display GPRS, Network Bars and a Network.
- If this fails please try selecting the network manually.

If none of the above works, please call the WTS helpdesk immediately and we can run a few additional checks on the terminal to resolve the issue.

**Does your device
have a screen?**

Feature 3 Network Blacklisting

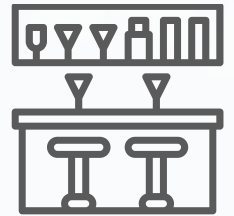
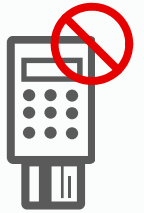
41%

Block access to a specific Mobile network



Example Use case:

- Payment terminals in an underground bar – attaches to network A but cannot transfer data (uplink interference)
- When payment terminal app uses API -
> Bar owner using the payment terminal can select and steer the networks until it works

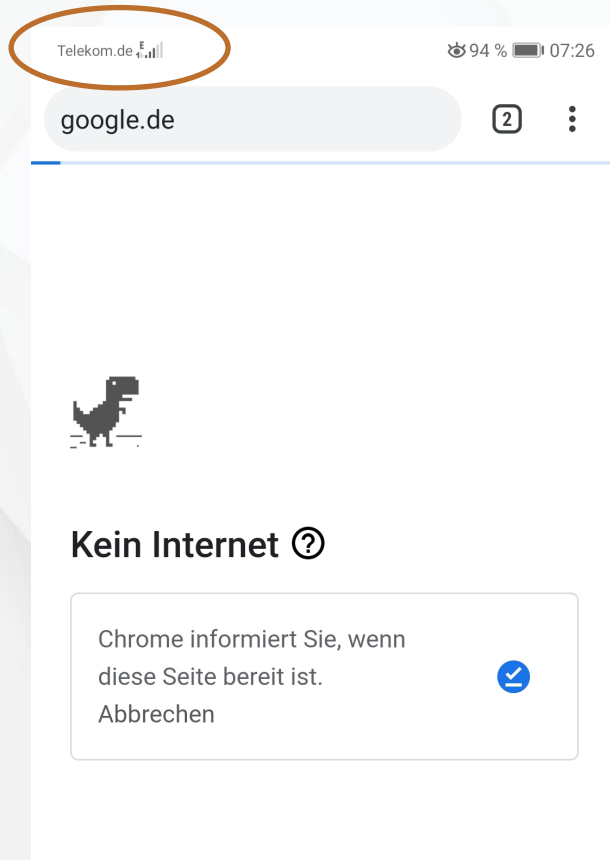


Benefits:



CX Scale

Okay, coming back to T-rex



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Okay, now they call your support
– what can you do to troubleshoot connectivity?

Feature 4 Signaling Events

82%

Real-time view on how the modem communicates with the network and possible errors – attach, location update, data session creation

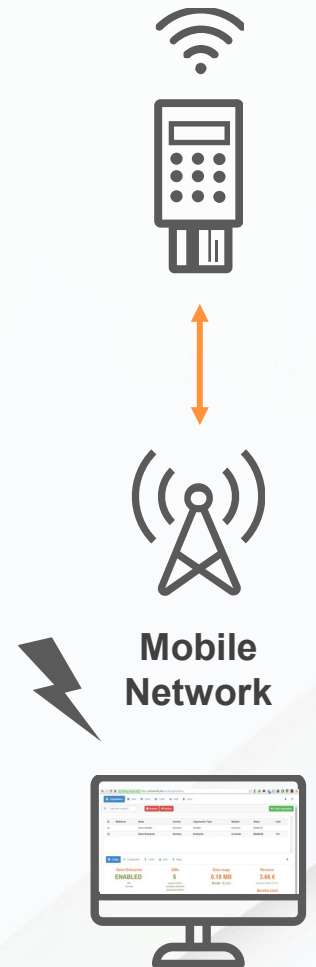
Example Use case:

- Payment terminal communicates with mobile network but not able to send data, because of wrong device implementation, service limit reached or device in country which is not part of tariff

Benefits:



Dev Support



Feature 5 Reset Connectivity

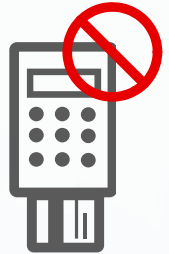
23%

Resetting the Network State with sending a message (Map Cancel) to the visited network.



Example Use case:

- One of thousands of payment terminals ends up in a network state from which it cannot recover (e.g. uplink interference, not-perfect device implementation)



Benefits:



Support

Feature 6 Private Static IP/VPN

35%

Get secure remote access to a device with utilizing VPN

Without VPN client on IoT device

EMnify - without the need for private APN



Example Use case:

- Payment terminal issue -> Login to shell on embedded device and retrieve logs as well as execute commands to troubleshoot



Benefits:

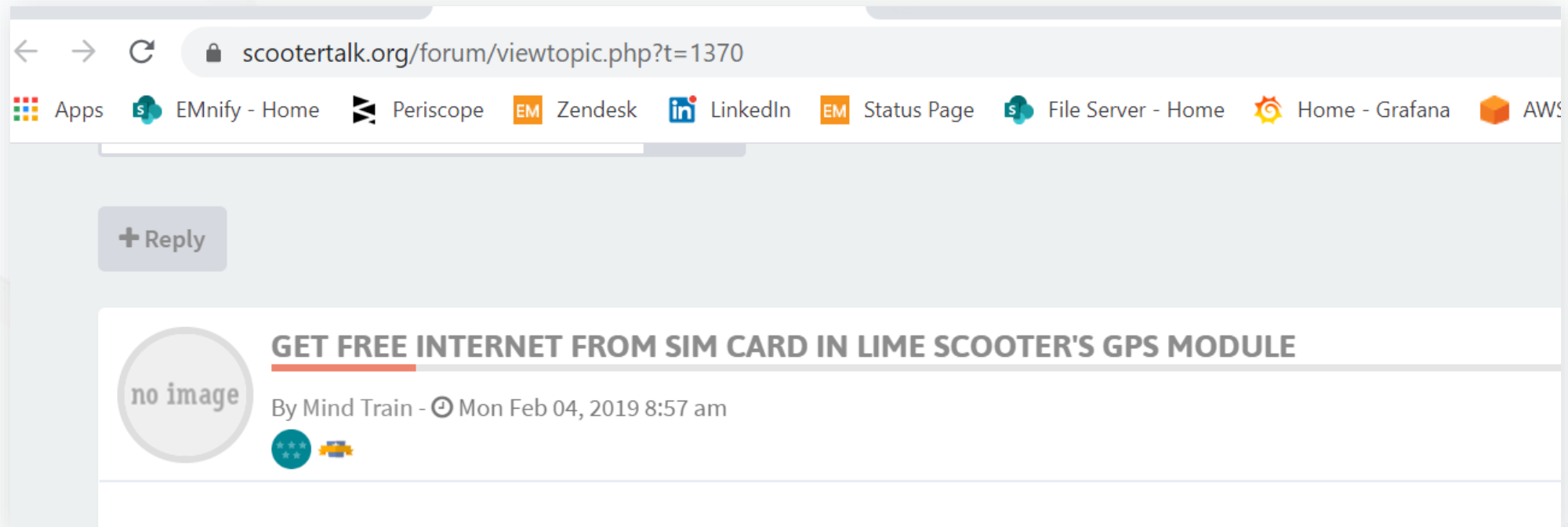


CX
Support

```
Last Login: Sun Mar 6 13:10:35 on ttys003
```

```
[remote-user@elevator42] ls -l  
-rw-r--r-- user group elevator-42-11-03.log
```

From an Internet forum...



Feature 7 IMEI Lock

20%

Allow SIM to only work in one device

IMEI lock automatic configuration: Lock to device that uses the SIM for first time

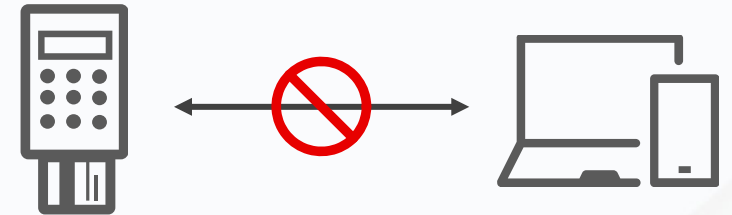
Example Use case:

- Payment terminal provider makes sure that bar owner (or someone stealing the terminal) cannot use the SIM for private use

Benefits:



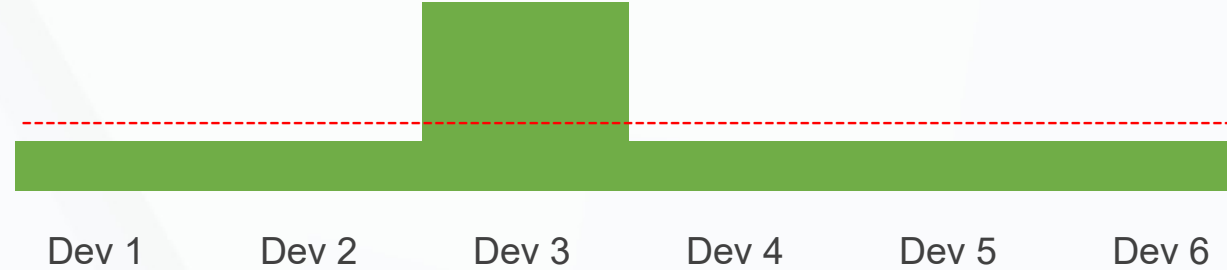
Stop loss security



Do you have some Monday devices?

Data Volume per Device

Included
DataPlan
Volume



Feature 8 Active SIM Data Pooling

83%

Inclusive volume is pooled across all active SIMs so any data coverage is balanced out between SIMs without extra costs.



Example Use case:

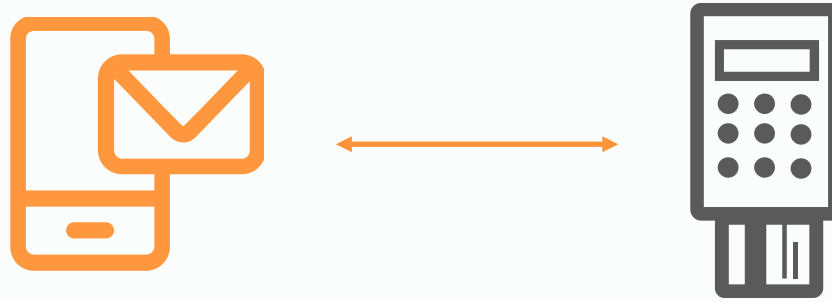
- Although Data package is only 5MB per payment terminal – one out of 100 uses 50 MB due to abnormal device
- No additional charge if total amount less than 500 MB

Benefits:



Stop Cost

Using SMS for configuration changes



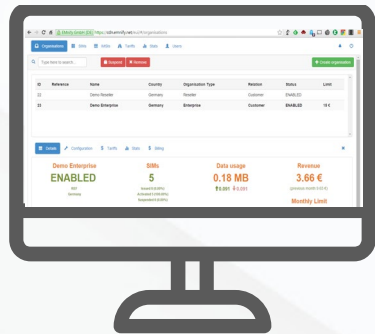
Scaling to thousands of devices?

Phones plan cost?

Feature 9 SMS-API / Portal

27%

Utilize Portal or API to
send SMS to the device.



Send SMS

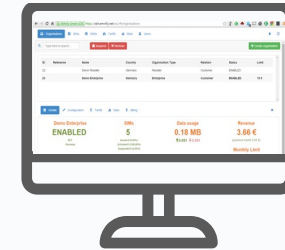
Example Use case:

- At initial setup payment terminal needs to know APN to create data session – but SMS already working
- Configure APN via SMS

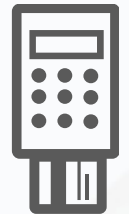
Benefits:



Operation



Send SMS



APN:
“em”

Choosing your next travel destination on Data Roaming ?

speedtest.net/insights/blog/caribbean-mobile-roaming-performance-2020/

Unity - Home Periscope Zendesk LinkedIn Status Page File Server - Home Home - Grafana AWS partner portal Cloud services com... LTE-M

SPEEDTEST

Apps Insights Enterprise About Login

GLOBAL SPEEDS

Mobile Experience in the Caribbean: Where Roaming Doesn't Sink Speeds

ISLA MCKETTA 28 Jan 2020

Roaming's effect on latency

Latency is a major pain point for consumers who are roaming outside of their home country. Roaming signals are routed from the country a consumer is visiting to their country of origin and then back to where they physically are with their phones.

Comparing Inbound Roaming to Local Latency in Caribbean Countries

Speedtest® Data | Q4 2019

Country	Roaming Latency (ms)	Local Latency (ms)	% Increase Latency When Roaming
Cuba	472	100	372.0%
Guadeloupe	289	80	261.3%
Martinique	289	99	191.9%
Dominican Republic	216	35	517.1%
Puerto Rico	174	52	234.6%
Antigua and Barbuda	149	28	432.1%
The Bahamas	149	32	365.6%

Feature 10 Local Breakout

With a distributed mobile network the data stays local and the latency is reduced



Benefits:



Performance

Thank you. Q&A

Don't miss our upcoming Webinars:

22.APRIL.2020

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