Magma Overview

Leonardo Stange
Connectivity Partnerships LatAm – Facebook Inc.

Table of Contents

1. What is Magma?

2. Magma Use Cases

3. Fixed Wireless Opportunity

4. Magma Benefits

5. Magma TCO

6. Success Story

7. How We Can Partner

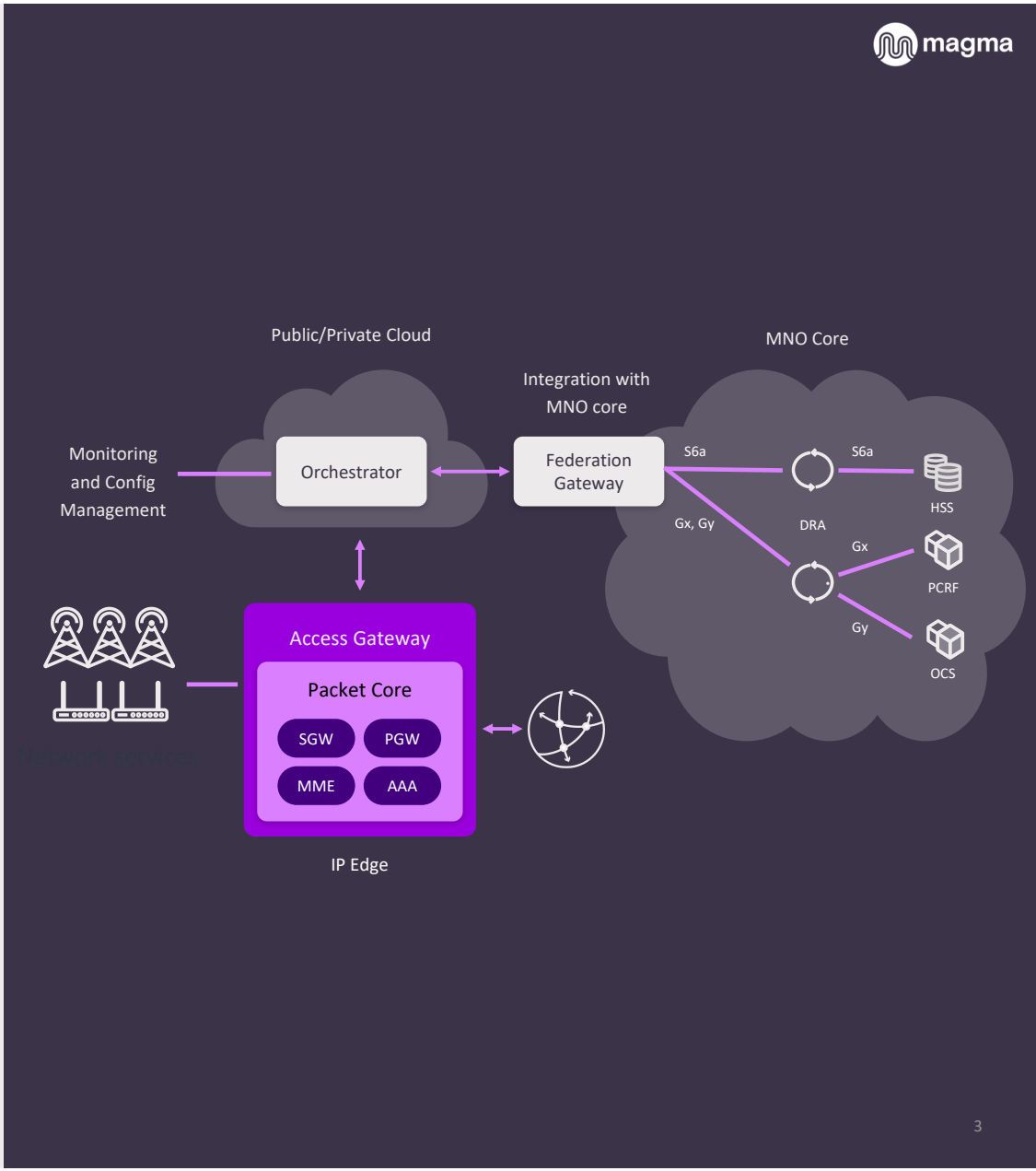
What is Magma?

Open, Flexible, Extensible Solution for Offering FWA

Magma is an **open-source software platform** that gives network operators an open, flexible and extendable mobile core network

Highlights

- **Open source** packet core and **free** to use
- 3GPP generation (2G, 3G, 4G or 5G) & access **network agnostic** (cellular or Wi-Fi)
- Distributed EPC with a **small footprint**
- **Cloud Managed** - Orchestrator can be on a public/private cloud
- Integrates with MNO core network via standard 3GPP interfaces



Magma Use Cases

1

FIXED WIRELESS ACCESS

- Offer broadband subscriptions by leveraging existing investments in LTE
- Apply network policies at local break-out points

Magma Use Cases

1

FIXED WIRELESS ACCESS

- Offer broadband subscriptions by leveraging existing investments in LTE
- Apply network policies at local break-out points

2

PRIVATE LTE

- Offer cellular connectivity in difficult to reach areas
- Rapidly validate shared spectrum technology
- Reduce integration costs for neutral host networks

3

CARRIER WI-FI

- Alleviate congestion by offloading cellular traffic to nearby Wi-Fi
- Integrate with existing core
- Easily distribute Wi-Fi profiles on user devices

4

NETWORK EXPANSION

- Expand network to rural and remote areas while protecting the existing core
- Enable rapid adoption of new RAN

5

MOBILE BROADBAND

- Offer LTE / 5G based cellular connectivity
- Apply network policies at local break-out points
- Integrate with 3rd party systems (e.g., OSS) via APIs

Connectivity In Brazil

GROWTH OF FIXED BROADBAND (USERS)

64M TO 80M+

by 2022

WISPs WITH LTE LICENSE

110+ WISPs

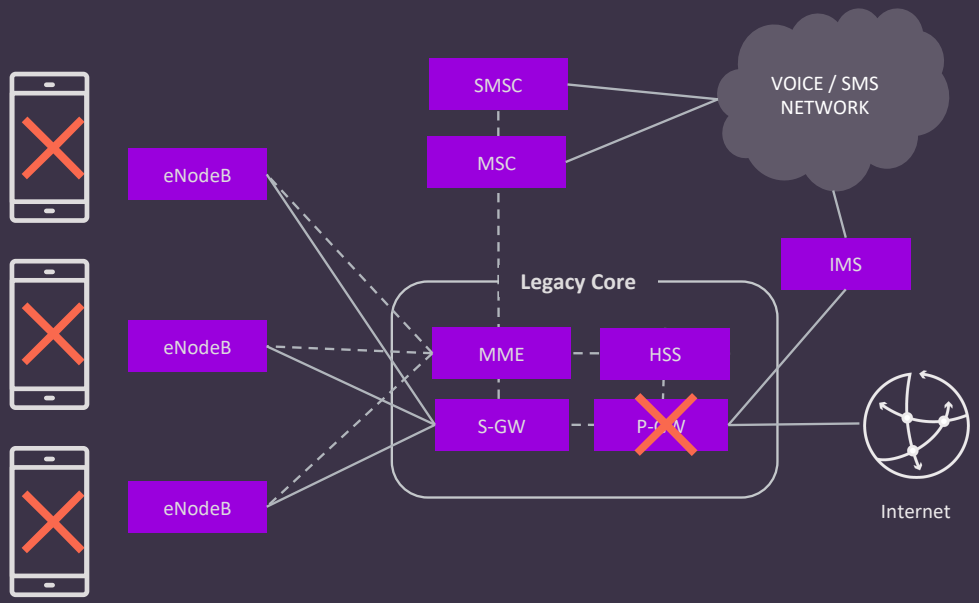
Covering 1,370+ municipalities

Source: ITU, Internet Inclusivity Index 2019, Economist Intelligence Unit

Legacy Cores Have High Cost and Complexity for FWA Deployments

Legacy Core Disadvantages

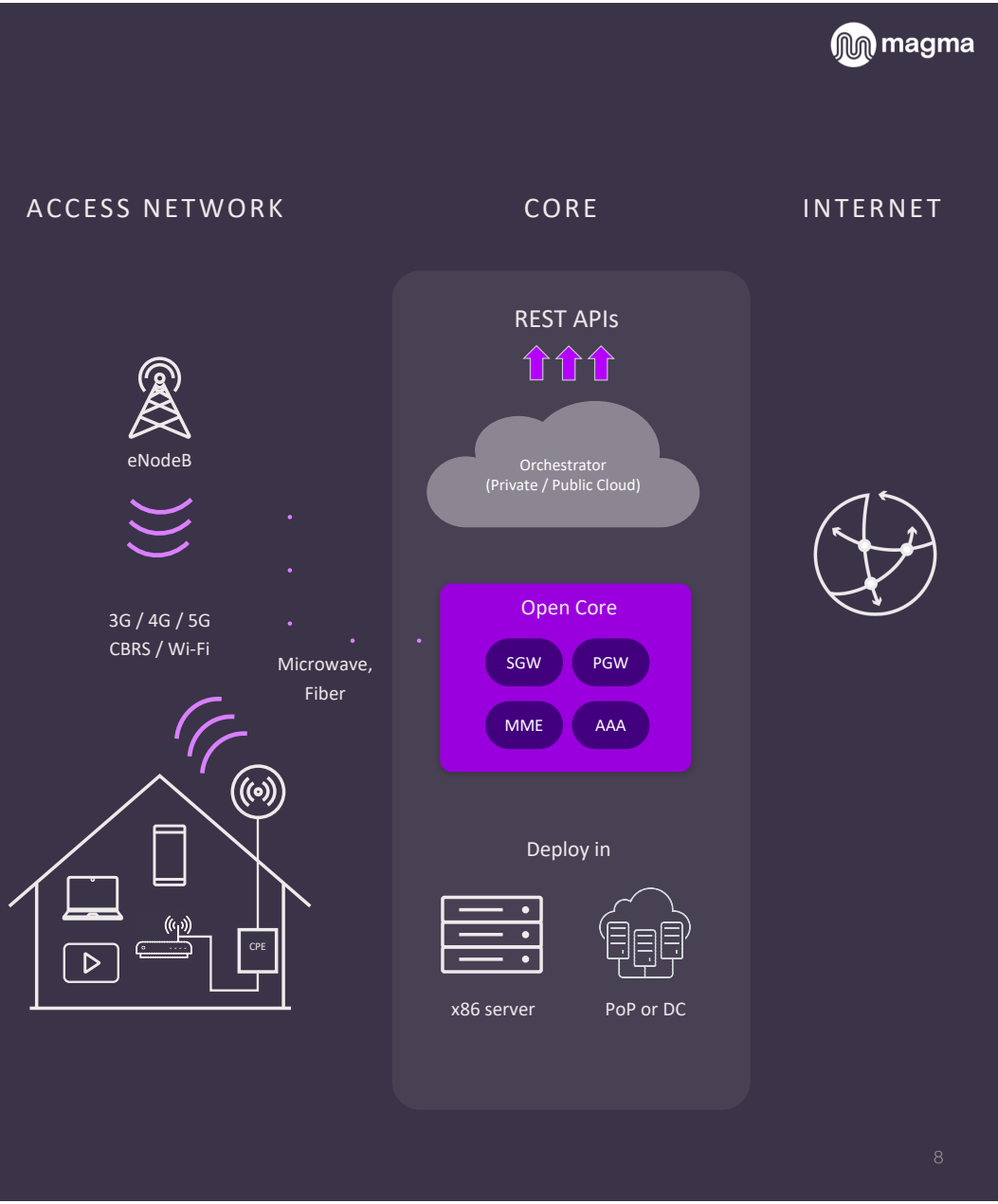
- **High up-front cost and complexity,** even for deploying small networks.
- **Single point of failure** – Requires all elements to be highly available; downtime of one element affects all users
- **Does not scale easily** – Each element must scale-up to handle more load
- **Expensive to scale up** – EPC priced per user or based on total user plane traffic
- **Inflexible** - Adding new types of equipment is slow and expensive



Magma Offers an Open, Flexible, Extensible Solution for FWA

Magma Advantages

- ✓ Much lower TCO than alternatives (no license fees)
- ✓ Local break-out with support for Auth, Policy, Charging at a subscriber-level
- ✓ Start small and scale as your network grows
- ✓ Faster Time to Market w/ lower cost technology and re-use of existing investments. No vendor lock-in (open source)
- ✓ Flexible deployment options for orchestrator – Public / Private cloud
  Standardized REST APIs to configure and monitor network devices



Magma's TCO is Significantly Better Than Alternatives

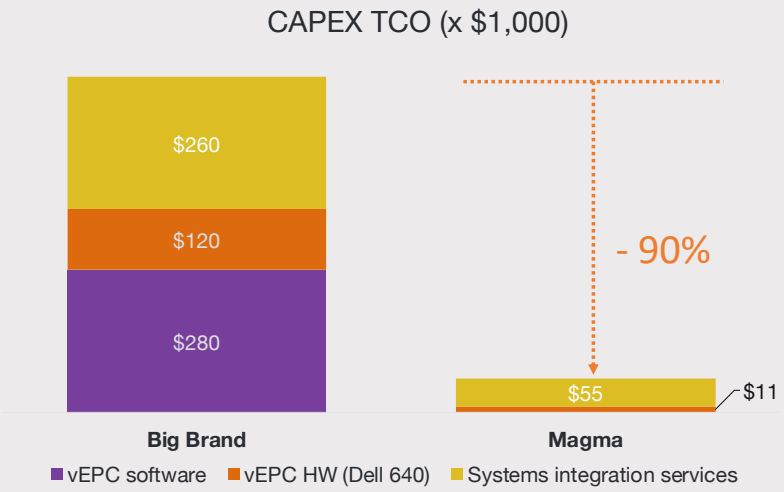
CAPEX Differentiators

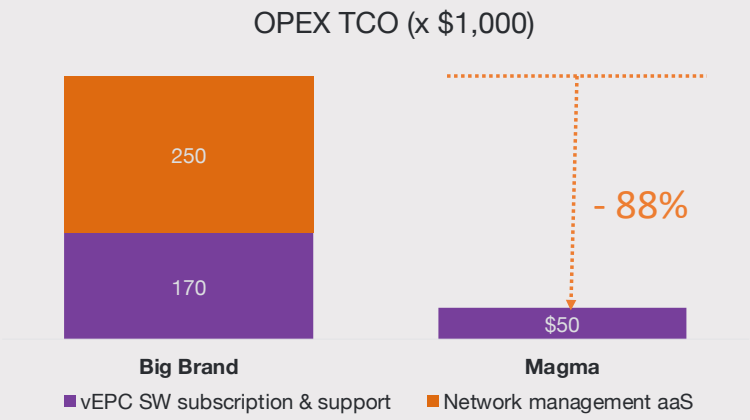
- Off the shelf H/W vs. expensive vendor hardware
- Open source packet core vs. expensive proprietary SW
- Deploy in minutes vs. expensive white-glove service

OPEX Differentiators

- No SW subscription costs
- Ongoing upgrades and patches by Facebook using CI / CD
- Faster rollout of new services (DPI, CG-NAT etc.)

Magma offers **~89%** lower TCO than alternatives (~$1 per user)





Note: Cost based on 10K users, 50 Gbps of UP throughput; Magma running on Dell PowerEdge R240

FWA Success Story – iConecta in Brazil

Magma deployment in Brazil

Project Highlights

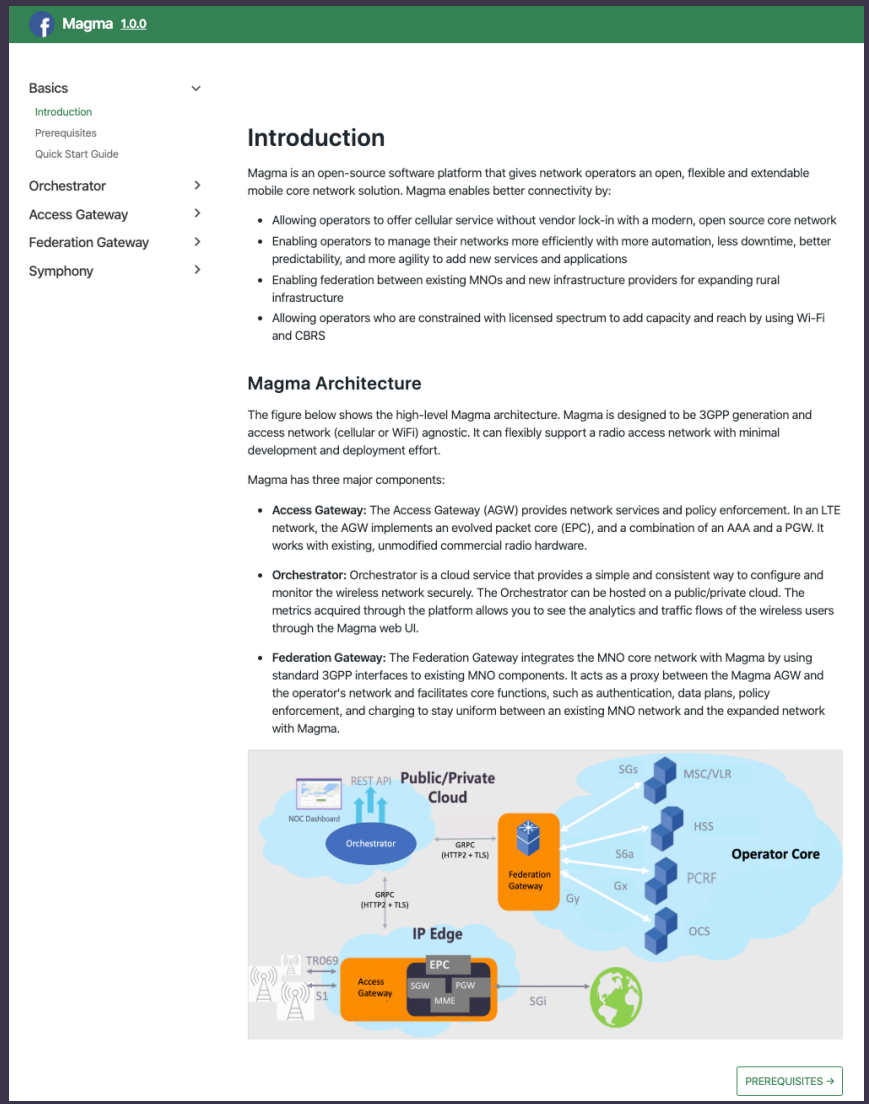
- iConecta (WISP) is rolling out FWA across 6 sites (12 eNBs)
- Arcangelli is the SI responsible for setting up the Magma core (AGW HW, setup and integration + Orc8r)
- **RAN**: Deploying LTE dual-carrier eNBs from Mikrotik (InterCell, bands 38/39);
- **Backhaul**: Microwave (up to 367 Mbps) and Fiber
- **Magma Orc8r** is deployed in AWS
- iConecta will offer Mi-Fi devices to the customers along with a simple data plan with flat pricing for X GB per month

How We Can Partner…

- Contact your Systems Integrator for integrating Magma into your network
- Scan QR code below for link to documentation, pre-requisites and quick start guide

For more details, please reach out to us!
Email - Leonardo Stange <lstange@fb.com>

facebook connectivity



magma
facebook
connectivity