

Regional expansion in Spain, success or failure?

ESNOG GORE 19 - Marty Strong

Agenda

- Why do we need to expand in Spain?
- Where is the population?
- What is the market like?
- Where is the interconnection?
- Success or failure?
- How does Spain compare to elsewhere?
- How can we improve?

What is Cloudflare?

PERFORMANCE

Cloudflare dramatically improves website performance through our global CDN and web optimization features.

[Learn more >](#)

SECURITY

Cloudflare's WAF, DDoS protection, and SSL defend website owners and their visitors from all types of online threats. [Learn more >](#)

RELIABILITY

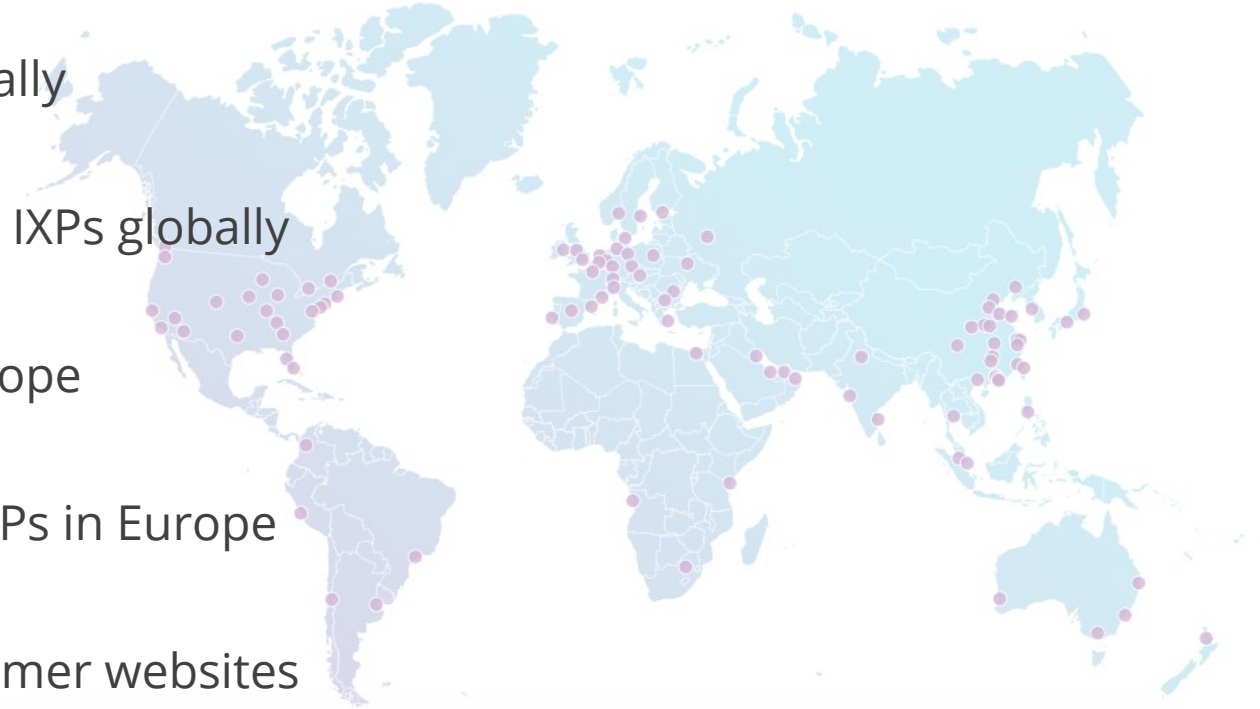
With over 35% market share, Cloudflare runs the largest, fastest, and most reliable managed DNS service in the world. [Learn more >](#)

INSIGHT

Cloudflare's network helps identify visitor and bot behavior that isn't accessible to conventional analytics technologies. [Learn more >](#)

What is Cloudflare?

- >100 PoPs globally
- Present at >150 IXPs globally
- >30 PoPs in Europe
- Present at 60 IXPs in Europe
- 5 Million+ customer websites

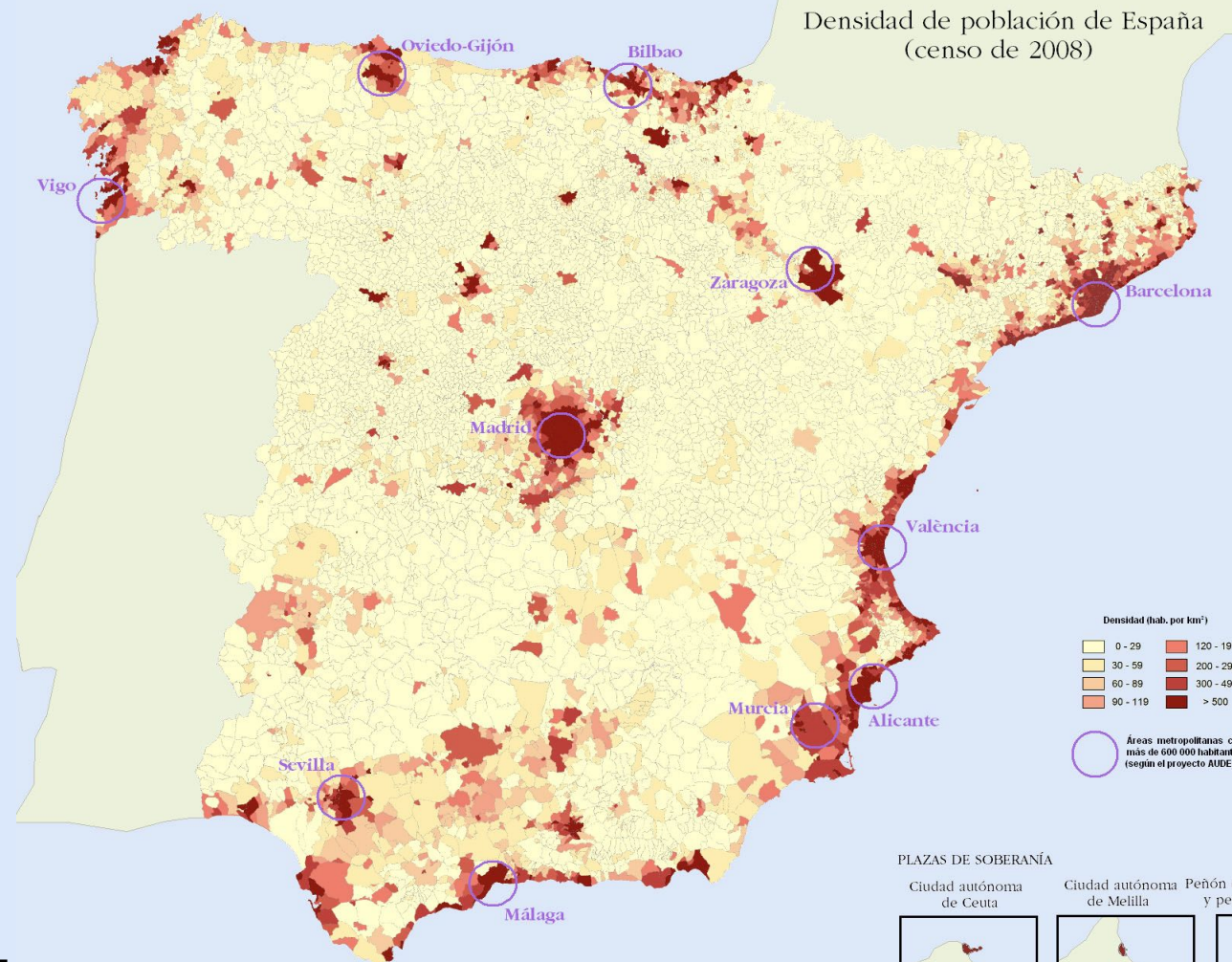


Why do we need to expand in Spain?

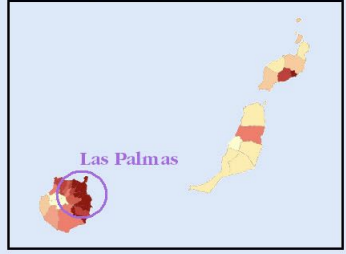
- Population over 45 million
- Relatively large land mass
- Healthy level of traffic
- Customer desire (i.e. because sales keep asking about it)



Densidad de población de España (censo de 2008)

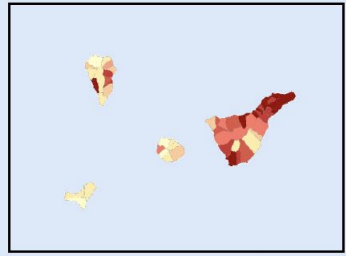


ISLAS CANARIAS Provincia de Las Palmas

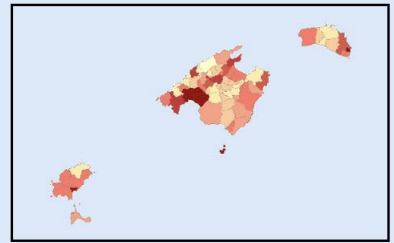


Las Palmas

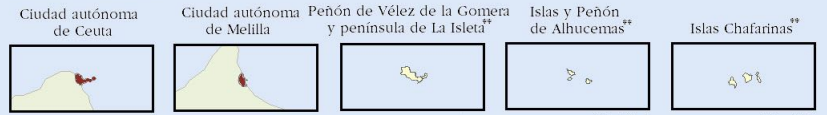
Provincia de Santa Cruz de Tenerife



ILLES BALEARS



PLAZAS DE SOBERANÍA



**Ampliado

**Ampliado

**Ampliado

Where is the population?

By city [2]:

1. Madrid (6.5M)
2. Barcelona (5.4M)
3. Valencia (1.7M)
4. Seville (1.5M)
5. Bilbao (0.9M)

The Spanish Internet

10 destination ASNs cover 85% of all traffic we serve to Spain

AS	CC	Registry	Allocated	AS Name
3352	ES	ripencc		TELEFONICA_DE_ESPANA, ES
12479	ES	ripencc		UNI2-AS, ES
12430	ES	ripencc		VODAFONE_ES, ES
12715	ES	ripencc		JAZZNET Global Spanish ISP, ES
6739	ES	ripencc		ONO-AS Cableuropa - ONO, ES
12357	ES	ripencc		COMUNITEL SPAIN, ES
12338	ES	ripencc		EUSKALTEL, ES
12334	ES	ripencc		Galicia - Spain, ES
766	ES	ripencc		REDIRIS RedIRIS Autonomous System, ES
16299	ES	ripencc	2001-02-20	XFERA, ES

The Spanish Internet

- 30th most populous country [3]
- Our 19th biggest traffic destination
- High internet penetration (>70%)
- 1.5% of the traffic we serve is to Spain
- Major hub in Madrid

Do we need to expand?



What is the market like?

- # of tier 1 providers in Spain: 12, # outside Madrid: 10
- Most popular cities for tier 1s: Barcelona (10), Valencia (5), Bilbao (4)
- # of IXPs in Spain: 4, # outside Madrid: 2 (Barcelona, Valencia)

Where is there interconnection?

- Tier 1s: Mostly Madrid, some outside Spain - especially the incumbent
- Access networks: Heavily Madrid focussed, with some in Barcelona (based on RIPE Atlas probe traces)

Pick a city

Barcelona:

- 1 internet exchange
- 10 tier 1 providers
- 5.4m people
- 9ms from Madrid

Valencia:

- 1 internet exchange
- 5 tier 1 providers
- 1.7m people
- 5ms from Madrid

Where did we pick?



Why did we pick Barcelona over Valencia?

- 6x bigger IXP
- 3x bigger population
- Incumbent has an edge/interconnect presence



OR



Success or failure?

- 83% of traffic to Spain served from our PoP in Madrid
- 4% of traffic to Spain served from our PoP in Barcelona
- Remaining traffic to Spain served from other PoPs
- 3 of top 10 destination ASNs served from Barcelona

Success or failure?

Verdict: Partial success

How does Spain compare to elsewhere?

UK:

- 89% of traffic to the UK served from our PoP in London
- 7% of traffic to the UK served from our PoP in Manchester
- Remaining traffic to the UK served from other PoPs
- 3 of top 10 destination ASNs served from Manchester

How does Spain compare to elsewhere?

France:

- 89% of traffic to France served from our PoP in Paris
- 7% of traffic to France served from our PoP in Marseille
- Remaining traffic to France served from other PoPs
- 3 of top 10 destination ASNs served from Marseille

How does Spain compare to elsewhere?

Germany:

- 71% of traffic to Germany served from our PoP in Frankfurt
- 6% of traffic to Germany served from our PoP in Dusseldorf
- 7% of traffic to Germany served from our PoP in Berlin
- 11% of traffic to Germany served from our PoP in Hamburg
- Remaining traffic to Germany served from other PoPs
- 6 of top 10 destination ASNs served from non Frankfurt PoPs in Germany

How can we improve?

- Take regional interconnection more seriously
- Make sure you have ample capacity in cities other than Madrid
- Join the local IXP in cities you have a presence
- Make it easy to order circuits (yes you incumbent!)

How can we improve?

- Ensure to peer with another ASN in ALL mutual locations
- Do more regional meetings
- Don't wait for Mr. Big to show up

Questions?

AS13335

<https://www.peeringdb.com/asn/13335>

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<https://www.cloudflare.com/>

References

- [1] <https://upload.wikimedia.org/wikipedia/commons/6/6f/EspDens2.jpg>
- [2] https://en.wikipedia.org/wiki/Demographics_of_Spain
- [3] [https://en.wikipedia.org/wiki/List_of_countries_by_population_\(United_Nations\)](https://en.wikipedia.org/wiki/List_of_countries_by_population_(United_Nations))