

Internet Infrastructures in Greece

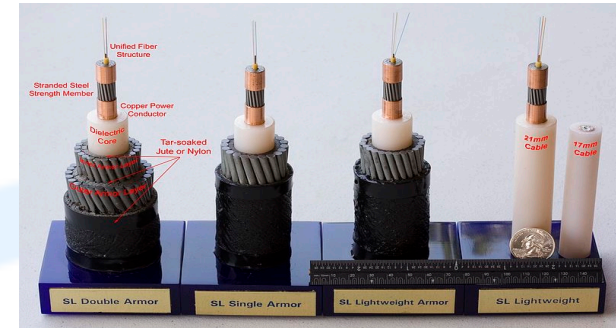
Michalis Oikonomakos
Head of GR-IX

Greece digital transformation



Digital infrastructure

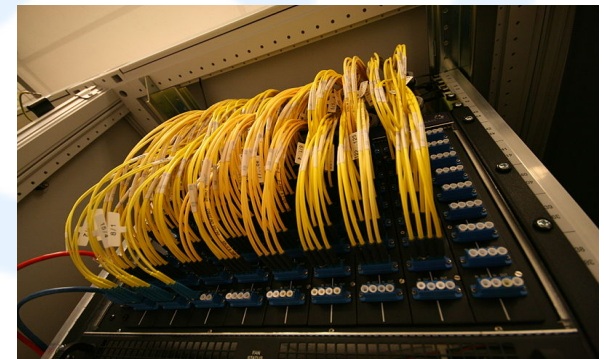
□ Cables



□ Datacenters



□ Internet Exchanges



Infrastructure in Greece

GR-IX, The Greek Internet Exchange

□ Three Internet Exchanges operate in Greece

□ GR-IX

- ▣ Neutral and non for profit
- ▣ Operated by GRNET (Greek NREN)
- ▣ ~100% of Greek eyeballs and content
 - Significant coverage of the Cyprus market
- ▣ International CDNs & networks
- ▣ Two separate infrastructures
 - GR-IX::Athens (3 PoPs)
 - GR-IX::Thessaloniki (1 PoP)

**Accelerate the growth of Greek Internet
& strengthen the internet ecosystem in Greece**



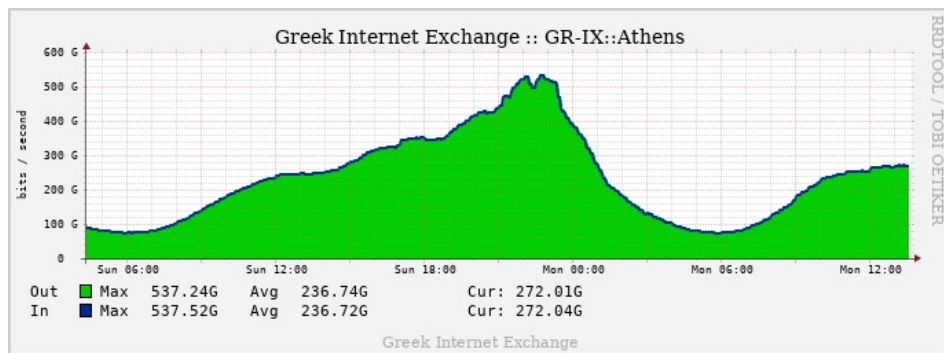
Member of
euro-IX

 **MANRS**

Speed	Price
4x100 Gbps	3000
100 Gbps	1200
4x10 Gbps	1200
10 Gbps	450
1 Gbps	130

GR-IX::Athens

3 PoPs
60 members
99 Ports



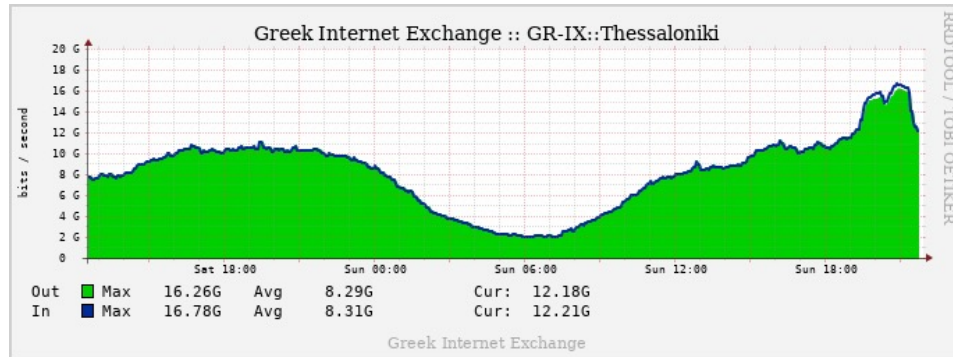
450 – 500 Gbps daily
539 Gbps record
2.9 Tbps capacity

DNS	AS
AS112	112
FORTH (.gr)	48053
PCH	42
k-root	25152
j-root	26415

Member	AS	Member	AS
Amazon	16509	Lancom	199081
Athens Exchange Group	13038	Lamda Hellix	56910
C2	207540	Metadosis	206529
City of Athens	209608	Microbase	196945
Cloudflare	13335	Microsoft	8075
Connecticore	197580	Modulus	201494
CYNET	3268	NetIX	57463
Cyta (Cyprus)	6866	NOVA	1241
Dataways	15544	O3bNetworks	60725
Edgoo Networks	47787	OneCom GC	51185
ERT	50148	OTE	6799
Fastpath	56457	PCH Route Collector	3856
FTN	208785	PCCW Global	3491
Fusioned	51392	Pointer	209150
Gloman	50311	Real TV GmbH	207327
Greece telecom	206652	Riot Games Ltd.	6507
GR-IX	199399	Sk routz	202042
GRNET	5408	SKYTelecom	208149
HCN	57794	Sofia Connect	47872
EETT	203348	Subspace	32261
HostMeln	50520	Supervoice	210477
Hurricane Electric	6939	Synapsecom	8280
Inalan	200736	TI Sparkle Greece	198477
Information Society SA	35506	Top.Host	199246
Interconnect	208837	Verizon	702
Inter Telecom	48172	Vodafone	3329
Internet Hellas	209162	WIND	25472
		Yuboto	203796

GR-IX::Thessaloniki

1 PoPs
21 members
25 ports



8-10 Gbps daily
16 Gbps record
108 Gbps capacity

DNS	AS
AS112	112
FORTH (.gr)	48053

Member	AS
Cloudflare	13335
Dataways	15544
Greece telecom	206652
National Infrastructures for Research and Technology (GRNET)	5408
HCN	57794
Inter Telecom	48172
IPACCT	31287
Metadosis	206529
NOVA	1241
OTE	6799
S3 Company	44901
Subspace	32261
Synapsecom	8280
Telehouse	57344
TopHost	199246
Vestitel	39505
Vivacom	8866
Vodafone	3329
WIND	25472

Datacenter facilities

□ Athens

- ▣ Most networks are there, lots of backbone and submarine/terrestrial cables

■ Datacenters

- Lamda Hellix (GRIX PoP)
- Telecom Italia Sparkle (GRIX PoP & reseller)
- Synapsecom (GRIX reseller)
- Lancom (GRIX reseller)
- Athens Exchange (GRIX member)
- Cloudrock
- Privately owned infra by Greek ISPs (eg. EIE - GRIX PoP)

□ Thessaloniki

- ▣ Second biggest city in Greece with many cross border cables (esp. to BG)

■ Datacenters

- Synapsecom (GRIX reseller)
- Lancom (GRIX reseller)
- Interworks

International connectivity (submarine cables)

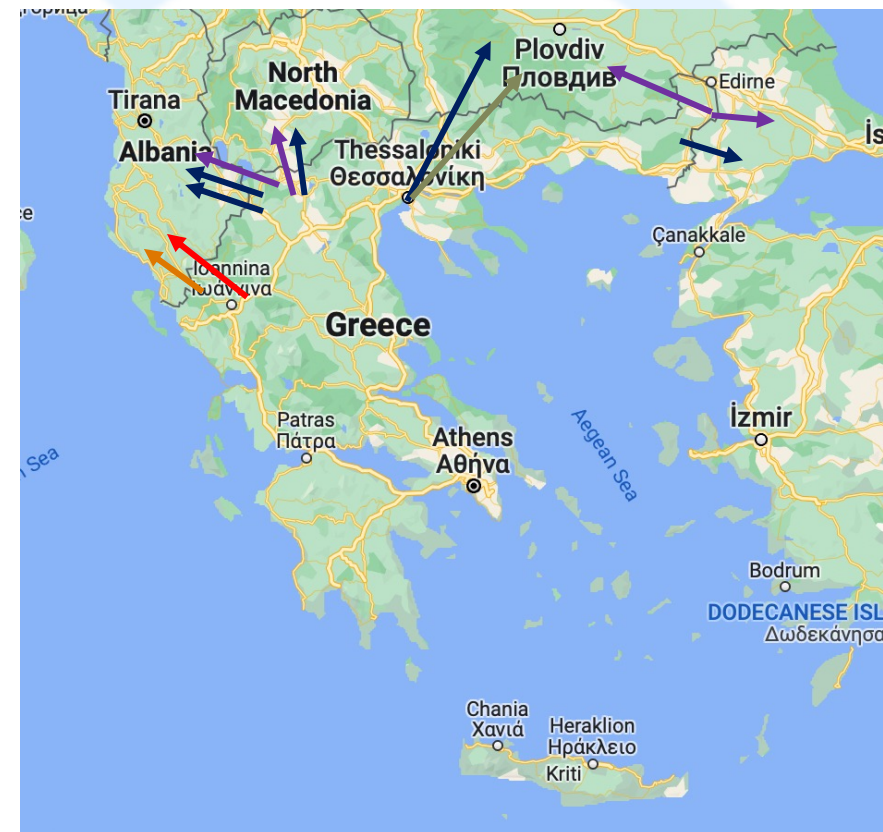


<https://www.submarinecablemap.com/country/greece>

- Adria-1
- Apollo east-west (2024)
- AAE-1
- Blue (2024)
- IEX (2024)
- Ionian (2022)
- Italy-Greece 1
- Med nautilus submarine system
- Medusa (2024)
- Minoas east-west
- Oteglobes Kokkini-Bari
- SeaMeWe-3
- Silphium

International connectivity (terrestrial cables)

- Multiple terrestrial routes to neighboring countries (BG, ALB, TUR, North Macedonia)
- Major owners of cable or leased DF
 - ▣ United (Nova + Wind)
 - ▣ Oteglobes
 - ▣ TI Sparkle
 - ▣ Vestitel
 - ▣ Vodafone
 - ▣ GRID Telecom



Local scenery

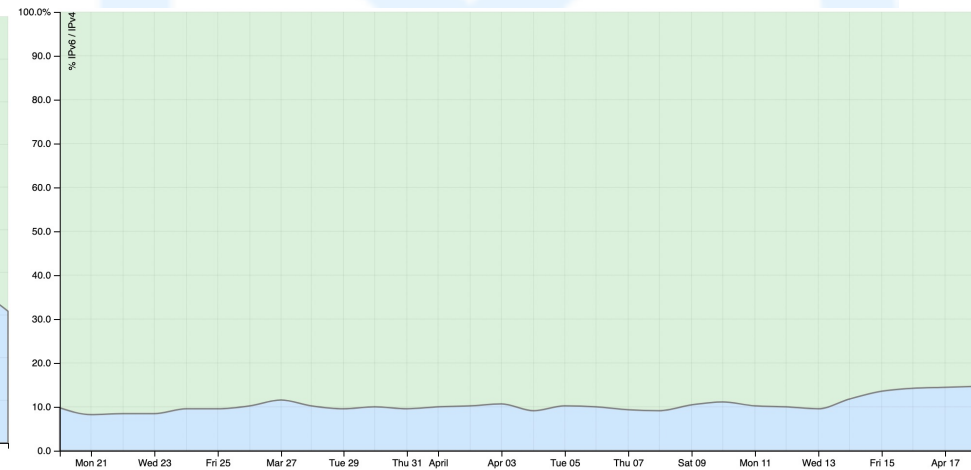
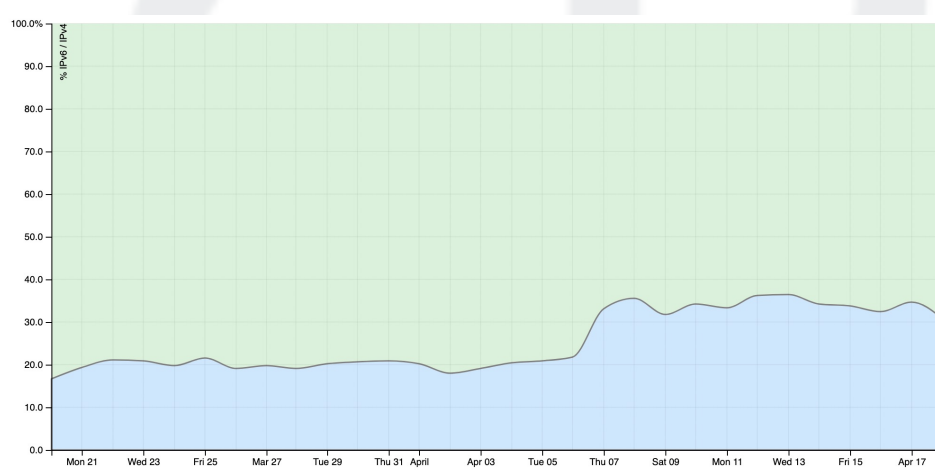
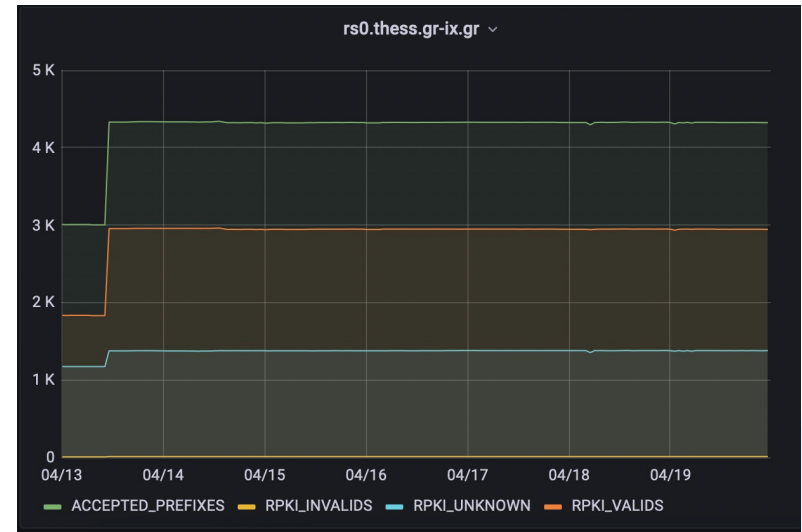
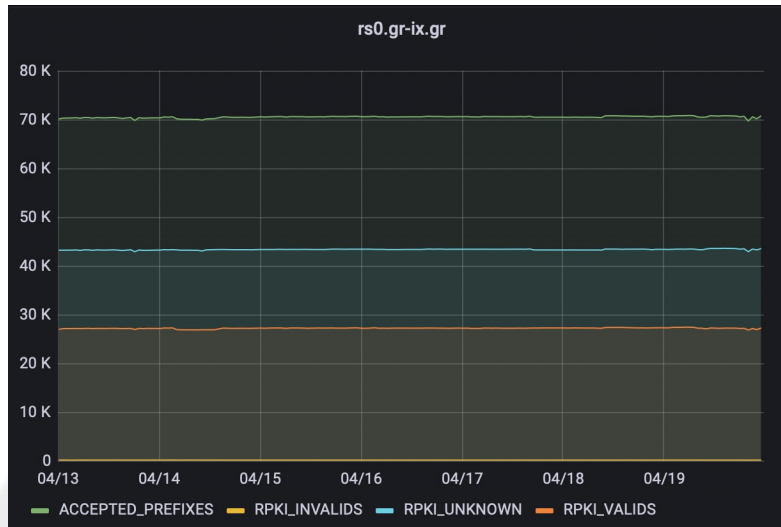
Greece, a good netizen

- IRRDB
 - ▣ Well maintained IRR data (objects, AS-SET)
- ROA/RPKI
 - ▣ Broad ROA coverage (>80% for IPv4) [1]
- PeeringDB / IXPDB
 - ▣ Most networks / datacenters / IXPs are already there
- IPv6 adoption
 - ▣ Currently 11th in the world [2]
- MANRS

[1]:https://labs.ripe.net/documents/166/Mediterranean_country_report_English_final.pdf

[2]:<https://www.akamai.com/visualizations/state-of-the-internet-report/ipv6-adoption-visualization>

and some graphs (GR-IX POV)



Greece, a stable environment

- Politically & legally stable country - Member of EU
- Strong position to the broader Balkan area
- Financial stability – Member of Eurozone
- Highly trained personnel
- Great business opportunities in the coming years (already announced investments from Digital Realty, Microsoft, AWS...)



Thank you!

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