



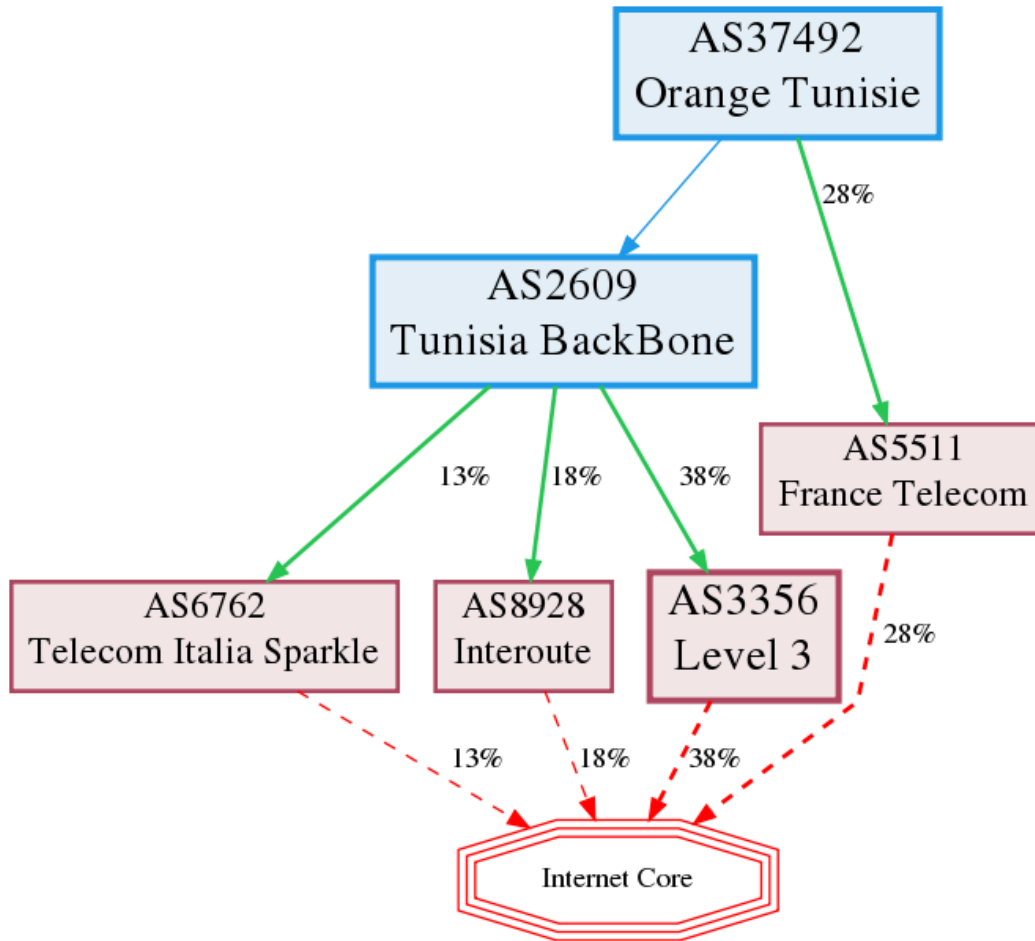
Outline of the Maghrebi Internet

Tunis IXP Workshop
29 April 2013

The Maghreb's Internet is Interesting

- A very large number of global carriers are available through submarine cables
- Domestic competitive providers generally appear immediately downstream of international providers in BGP
- Very different from the Mashriq, where incumbents have historically mediated international transit relationships
- Domestic-domestic transit arises secondarily

Example: Tunisia, 2013

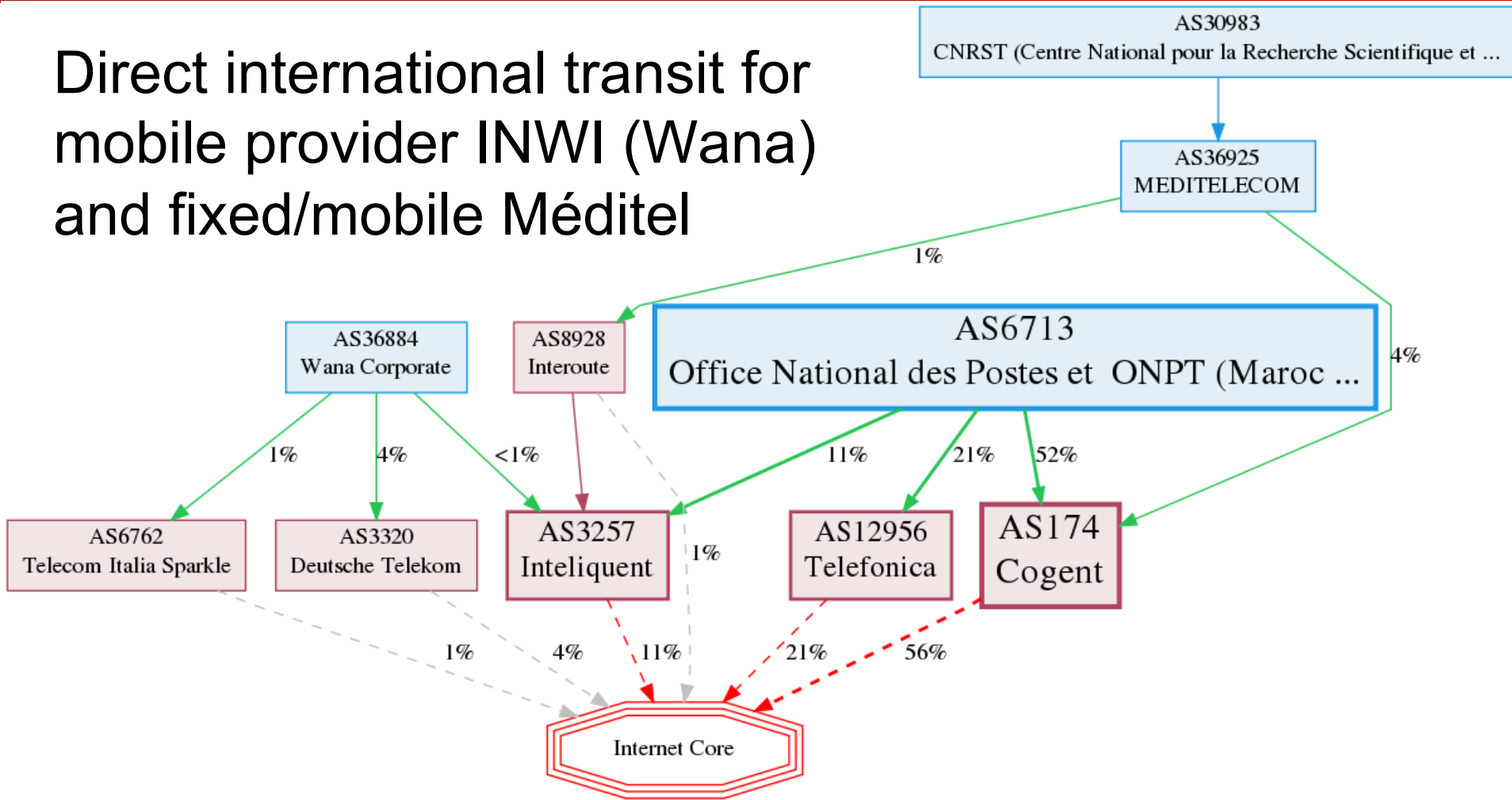


Mobile provider
Orange Tunisie gets
some direct transit
from its parent,
Orange...

...And also some
from fixed-line
incumbent provider
Tunisie Telecom

Example: Morocco, 2013

Direct international transit for mobile provider INWI (Wana) and fixed/mobile Méditel



Principal Domestic and International Providers

COUNTRY	ASN	PROVIDER	PCT%	Reliance	Inteliquent	Orange	Sparkle	Telefonica	Cogent
Morocco	AS6713	Itissalat Al-Maghrib	89%		✓	✗	✓	✓	✓✓
	AS36925	Meditelcom	7%					✗	✓
	AS36884	Wana	<5%		✓		✓		
	AS30983	CNRST	<5%						
Algeria	AS36947	Telecom Algeria	86%		✓✓	✓	✓	✓	✓
	AS57023	Oran Link	55%			✓✓			✓✓
	AS30781	Jaguar Network	55%						
	AS33774	Telecom Algeria	11%			✓	✓	✓	
	AS21391	TDA	<5%						
	AS16214	CERIST	<5%		✓				
	AS3208	Algerian Academic RN	<5%		✓		✓✓		
	AS36918	Orascom/TA	<5%						
	AS36879	Smart Link	<5%			✓			
	AS36981	Divona Algerie	<5%						
	AS36989	Anwarnet	<5%						
	AS36891	Icosnet	<5%			✓			
	AS33779	Wataniya	<5%		✓				✓✓
AS41576	Orascom/TA	<5%							
Tunisia	AS2609	Tunisia Backbone	99%				✓		
	AS37492	Orange Tunisie	29%			✓✓			
	AS31245	AT+							
Libya	AS21003	LTT	92%	✗		✓	✓		

International Providers Serving the Maghreb

- Inteliquent
- Orange
- TI Sparkle
- Telefonica
- Cogent
- Deutsche Telekom
- Interoute
- Level3
- DANTE
- GEANT
- WIS Telecom
- Cable and Wireless
- Telia
- NTT
- BT
- *...More every year!*

Top 10 Wholesale Provider Ranking

		regional rank	in Libya	in Algeria	in Tunisia	in Morocco
AS12956	Telefonica	1	-	4	-	1
AS6762	Sparkle	2	1	1	3	6
AS57023	Oran Link	3	-	2	-	-
AS3356	Level3	4	-	3	2	8
AS174	Cogent	5	-	6	-	2
AS8928	Interoute	6	-	-	3	3
AS36947	Telecom Algerie	7	-	5	-	-
AS3320	Deutsche Telekom	8	-	-	-	4
AS3257	Inteliquent	9	-	8	-	5
AS5511	Orange	10	1	7	-	-

- Combined ranking for the four countries based on total IPv4 address space downstream of wholesale transit providers

-- *Renesisys Market Intelligence, April 2013*

Internet Exchange Points

- In an environment where nearly all domestic providers can have direct international transit to Europe, IXP formation is important
- Don't pay foreign carriers to carry domestic traffic to Europe and exchange it there
- Save ~50ms of round-trip latency and keep purely domestic traffic in-country
- Renesys would be glad to assist, if we have data that would be useful for planning or strategy



Jim Cowie, CTO

Twitter: @jimcowie

<http://www.renesys.com>