



EQUINIX

A Tale of Two Exchanges

AND ABOUT 37 CITIES

Remco van Mook
Beirut, October 28 2009

Agenda Slide

- 1 Brief overview of Equinix
- 2 Equinix Exchange
- 3 NDIX – the Dutch-German Exchange
- 4 Question Time

Brief overview of Equinix

JUST TWO SLIDES!



Equinix at a Glance

- Supports over 2,200 customers in 45 International Business Exchange™ (IBX®) data centers in 18 markets in the U.S., Europe, and Asia.
- Provides mission-critical infrastructure for leading content providers, networks and enterprises.
- Access to over 300 networks; manages world's largest peering points.
- Announced our intention to acquire Switch and Data, adding 34 data centers in 16 new markets and access to 50+ new networks

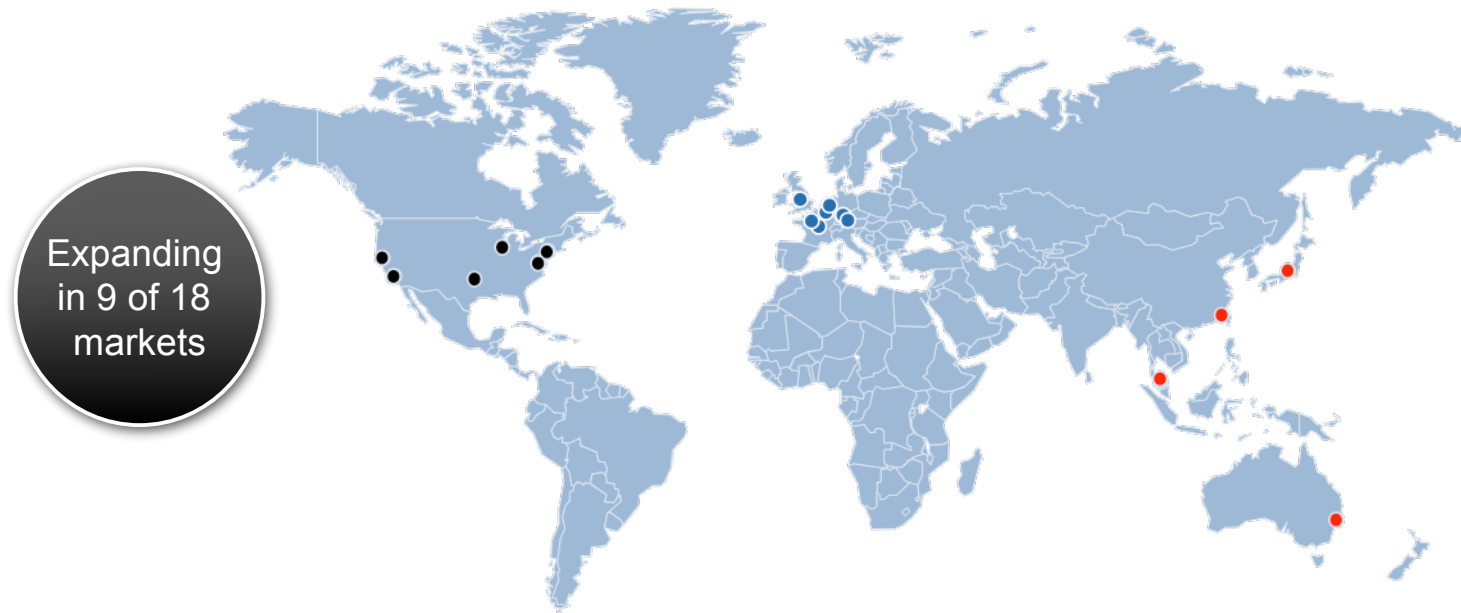
Nasdaq	Founded	Employees
EQIX	1998	Over 1,000

Financial Outlook

	Revenue (in millions)	EBITDA (in millions)
2008 Results	\$704.7	\$292.5
2009 Guidance	\$855 - 875	\$365 - 385

Global Data Center Footprint

Global portfolio of 45 data centers in 18 markets and 10 countries in the U.S., Europe and Asia



	US	EU	AP	Global
NET Colocation (sq. ft.)	1.2M	0.4M	0.2M	= 1.8M
Revenue Contribution⁽¹⁾	67%	22%	11%	



Equinix Exchange



Equinix – a global **Interconnection** provider



Operating 12.5 Internet Exchanges Worldwide

Equinix Exchange – a global platform

Fully featured platform

- Single consistent look and feel
- 24x7x365 Technical Support and Help Desk
- Aggregate traffic reporting by peer with S-Flow Statistics
- Metro Performance information including Uptime Statistics with Jitter and latency information
- Multi-Lateral Peering Exchange (MLPE)
- Support for private VLANs
- Innovative ‘find a peer’ functionality
- Invitations to the Global Peering Forum



Equinix Exchange - Global traffic volumes

[Home](#) >> Port Statistics

Inbound

Current: 364.60 Gbps
Average: 297.11 Gbps
Max: 367.77 Gbps

Outbound

Current: 364.49 Gbps
Average: 297.40 Gbps
Max: 368.30 Gbps

IX (ALL)



NDIX

THE DUTCH GERMAN EXCHANGE



Overview

History

How did it evolve

Infrastructure & Challenges

Future

Questions



Overview

History

How did it evolve

Infrastructure & Challenges

Future



History

Back in 1998, late at night, in a pub
near the university...

“Wouldn’t it be nice if..”

Unlike most other ideas, this one got written down



Background

In the late 90s, the academic network was quite advanced

The commercial networks hadn't reached us yet

This put the university in an awkward position

The “digital desert” started at the edge of the Campus



Background

So make the area more attractive for commercial networks

- Providing something unique
- Bundling customer demand



Providing something unique

NDIX, the first cross-border Internet Exchange

- Amazing how a border influences pricing of connectivity
- Give parties at both sides the possibility to interconnect



Bundling customer demand

The TRENT Foundation

- Not-for-profit
- Providing local dark-fiber infrastructure in a NEW pricing structure



Early headaches

1. Getting everyone to cooperate
2. Actually get hold of a piece of fiber between NL and DE
3. Dot com bust



Overview

History

How did it evolve

Infrastructure & Challenges

Future



Evolution

The number of service providers was limited
(about 5)

The number of customers wasn't
(about 50)

The customers started exchanging traffic among themselves
...



Evolution (ct'd)

Customers:

- city councils
- high schools, libraries
- law firms, accountants,
- local ISPs
- housing societies, hospitals, SMEs

Exchanging networked services

Not necessarily settlement-free!



Evolution (ct'd)

Germany/Munster connected

Several other cities in NL connected

Bringing more diversity in services all the time



Overview

History

How did it evolve

Infrastructure & Challenges

Future



Infrastructure

So, how big is it now ?

- ~800km of dark fiber, 400km of managed capacity
- 24 locations, 30 switches

But seriously, how big?



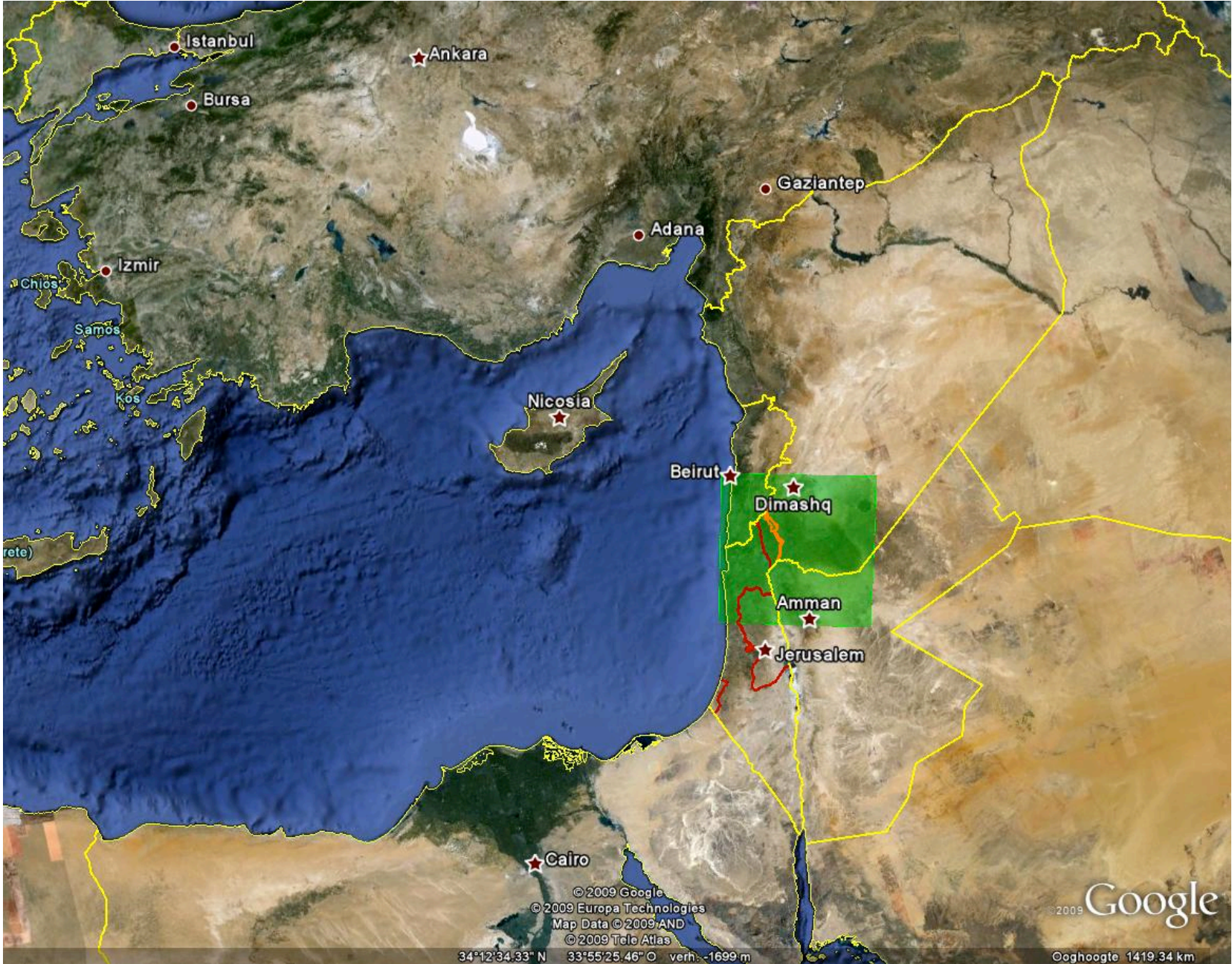




© 2009 Google
© 2009 Europa Technologies
US Dept of State Geographer
© 2009 Tele Atlas

41°03'44.75" N 21°01'41.93" E verh. 944 m

© 2009 Google
Ooghoogte 3166,79 km Jed



Istanbul

Ankara

Bursa

Gaziantep

Adana

Izmir

Chios

Samos

Kos

Nicosia

Beirut

Dimashq

Amman

Jerusalem

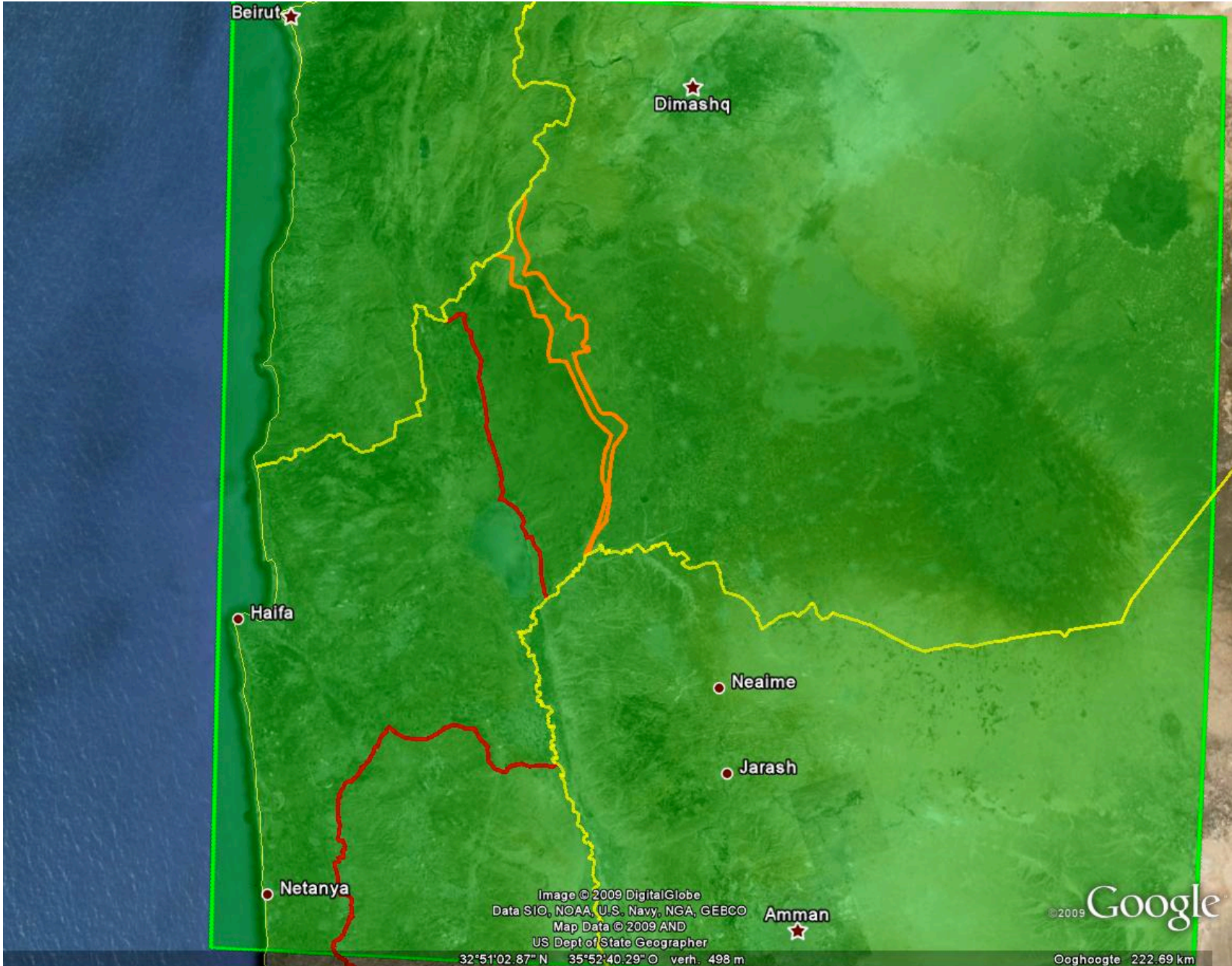
Cairo

© 2009 Google
© 2009 Europa Technologies
Map Data © 2009 AND
© 2009 Tele Atlas

Google

34°12'34.33" N 33°55'25.46" O verh. -1699 m

Ooghoogte 1419.34 km



Infrastructure

New core network

- 10Gbps rings
- WDM to optimize fiber usage
- Moving to MAC-in-MAC
- 'Local' VPLS an initial workaround
- 4 core nodes



Overview

History

How did it evolve

Infrastructure & Challenges

Future



Future

Currently taking it slow

- Replacing the old infrastructure
- Adding redundant paths
- Find a new CTO 😊

But after that..

- Interconnecting with other regional Exchanges
- Interconnecting with Carrier access networks
- 15 more cities currently on the shortlist



And here's why this worked, at all

- A lot of hard work and dedication from a lot of people
- Staying true to the most important guiding principle:

“You are not allowed to use the Exchange as part of your own network”



Thank you.

QUESTIONS?

