RETELIT
BROADBAND & ICT

the Italian difference

AAE1

New cable system bridging Asia, Africa, Middle East & Europe

Summary

Retelit Overview

AAE-1 Cable System Introduction

Market Perspective

An opportunity for a new Italian ecosystem

Retelit Overview

Listed on the Milan Stock Exchange since 2.000, Retelit is a leading Italian Infrastructure Service Provider focused on ultra broadband fiber based data transmission and data center services.

01 Carriers and xSP

02 ICT, New Media and OTT

03 International Defense & Aerospace

04 Selected Corporate and Public Sector

Key Values

Quality

Key high performance and quality services directed to a selected market base, avoiding competition on end users.

Customized services

Dedicated account team and tailor made solutions design where standard market services do not fit Customer requirements.

Responsiveness and Flexibility

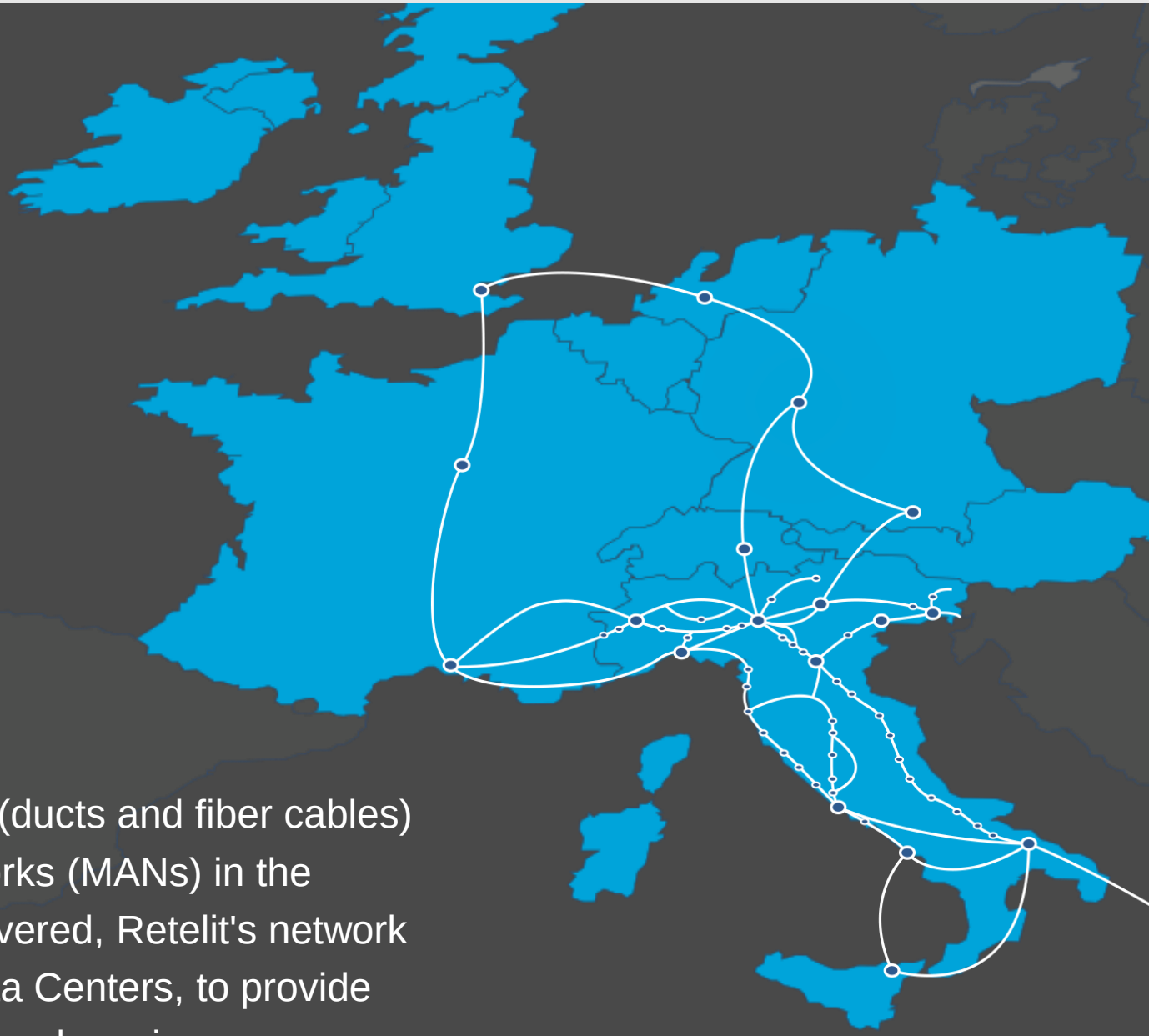
Presales support and speed in service delivery. Innovation and quality reach: continual technological evolution and expansion of next generation network.

Retelit

Capabilities

- Pan European Network
- 9 Metropolitan Networks
- 18 Data Centers
- AAE-1 Italy Landing Party

Extending 8,000+ km of proprietary infrastructure (ducts and fiber cables) along the main Italian roads, 9 metropolitan networks (MANs) in the largest Italian cities and over 200 town centers covered, Retelit's network is integrated with a pan-European ring and 18 Data Centers, to provide new generation cloud and ultrabroadband fiber based services.



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Introduction to AAE-1

- Approximately 25,000 km of subsea cable with a design capacity of at least 32 to 40 Tbps, interconnecting Asia, the Middle East, Africa and Europe; providing additional capacity and diversity to the existing subsea systems.

- An open access network connecting carrier neutral PoPs in Hong Kong, Singapore, and France where owners can choose their preferred backhaul providers in the PoPs or at the AAE-1 Cable Stations.

- Employs state-of-the-art 100Gbps technology, expected to improve the Round-Trip-Delay on the HK-Europe route by 10ms compared to other subsea cable routes.

- Provides future proof connectivity to gateways in Gulf Countries (Oman, Qatar, Saudi Arabia and UAE), to Africa (Djibouti) and critically diverse subsea connectivity to emerging markets in Myanmar, Pakistan, Thailand, Vietnam and Yemen.

25.000 Km.
Submarine cable

4/5
Number of Fiber Pair

100Gbps
Wavelength Technology

80
Initial Design WL per FP

40 Tbps
Initial System Design Capacity

Retelit is extending coverage and offering to its Italian and International Customers

Italy is a key Hub in the Mediterranean basin

AAE-1 Members

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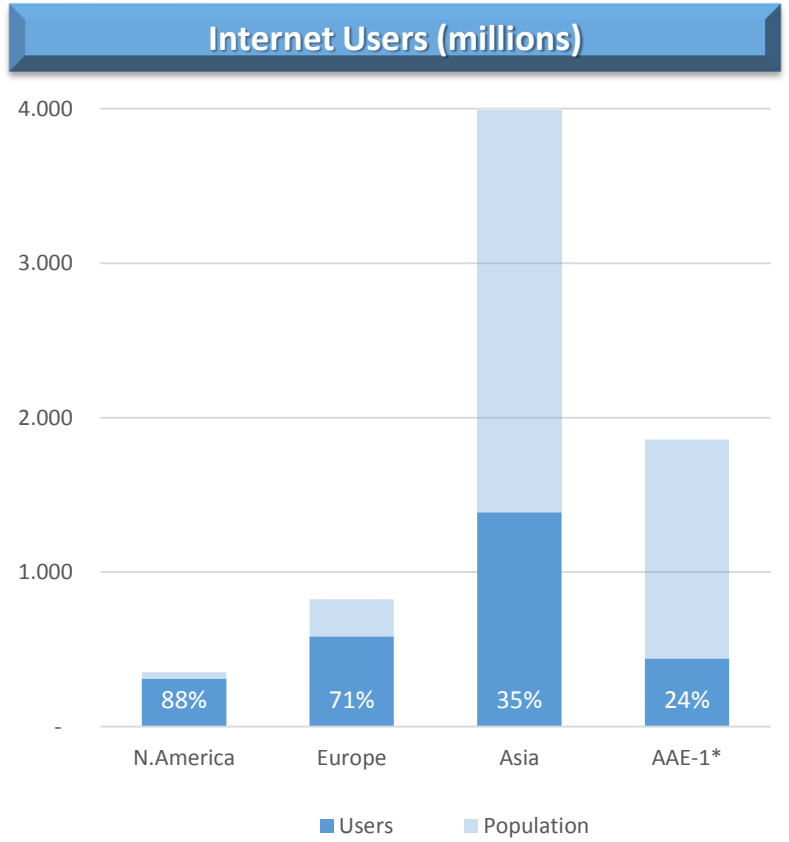
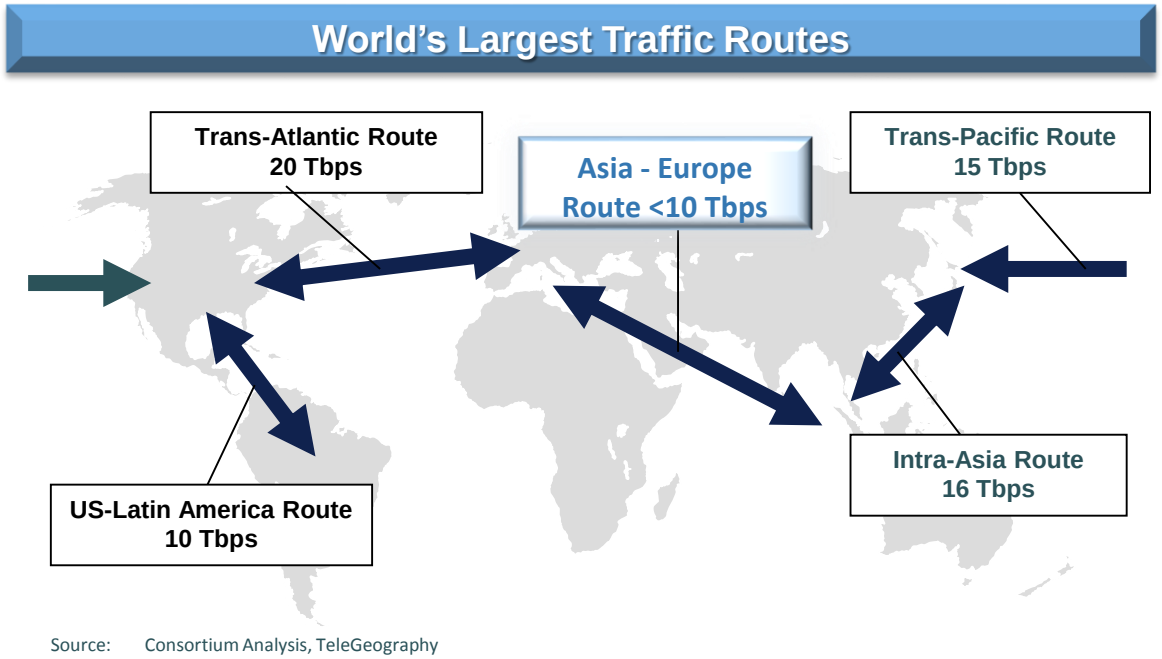
Market Perspective (1/3)

- Demand between Europe and Asia is growing and will continue to grow as the internet becomes more and more accessible.
- Current infrastructure supports 35%** of the population across Asia.
- Asia is seeing significant investment in terrestrial infrastructure.
- AAE-1 will offer the market:
  - Critically-important diversity from existing cables.
  - The broadest coverage from Asia to Europe since SMW4 in 2005.
  - PoP to PoP access; not afforded by many predecessor cables.
- AAE-1 will be important in the market:
  - Offering advanced, affordable access to Europe, Asia and beyond.



** Source: www.internetworldstats.com (@ 30 June 2014)
* AAE-1 Landings (excluding Hong Kong, Singapore, France, Italy)

Market Perspective (2/3)



Source: Consortium Analysis, TeleGeography

- **Asia to Europe Route: Growth**
  - One of the largest international communication routes in the world (>10Tb), CAGR 41%*.
- **Asia to Europe: Supply**
  - Recently commissioned cables (2011-2012) between:
    - India & Europe
    - Middle East & Europe
    - East Africa & Europe
  - Complement existing systems (extending from Europe to Singapore & Hong Kong); but no cables to the east of India.
  - Future cables expected (2015 onwards) between:
    - BBG (Oman-India-Singapore): expected 2015.
    - SMW5 (Singapore – Europe): expected 2017.

Last comparable cable to AAE-1 was commissioned in 2005 (SMW4)

* Source: http://www.unescap.org/

Market Perspective (3/3)

- Over 20Tbps of capacity is available; equipped or planned across the Atlantic and Pacific routes.
- Less than 5Tbps of capacity is currently available between Asia and Europe for anticipated growth
- AAE-1 will significantly address this gap; balancing traffic globally.

Submarine Cable Profiles by TeleGeography 2014

Cable System Route	Design Capacity (Gbps)	Lit Capacity (Gbps)
Asia-Europe	7,960	4,440
Intra-Asia	419,950	19,030
Trans-Atlantic	115,380	19,710
Trans-Pacific	84,760	19,510
Others	680,254	54,563
Total	1,308,304	117,253

Source: TeleGeography's Global Bandwidth Research Service data

Conclusion

- Demand for international transport capacity is growing, and growing very rapidly where there is low internet penetration, particularly along the Europe - Asia corridor.
- The market demands secure, open-access cable landings, connected to a resilient European backbone with access to key European PoPs and DCs.
- Seamless access in Hong Kong and Singapore to provide an economical trouble-free intercontinental transmission solution for the market.
- Open facilities ensure competitive diverse solutions to access backbone networks.
- AAE-1 addresses these needs, backed by experienced international operators will mark a watershed in the Europe to Asia market.

AAE-1's PoP access, open backhaul solutions will ensure competitive bandwidth rates.

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Retelit

Italy Role for the AAE-1

- 2,5 Terabit through Italy
- 80% is Internet demand from Middle and Far East (Eyeballs)
- Increase attractiveness for CDN and OTTs (Akamai, Netflix, Google, Amazon, etc..)

Retelit

Country Resilience

Italian Cable Landing Station is fully owned and property of Retelit

- Diversity from Sicily and Marseille
- Owned Fiber (in-country)
- Robust, deep-water route, avoiding the Sicilian Strait
- Physically diverse from other EurAsian cables
- Short backhaul distance to Milan
- Short land route (from beach manhole to CLS)

- Premium Services
- Proven track record of excellent performance/SLAs
- Protected paths available
- Flexibility on Price
- Turnkey Solutions
- 10G and 100G connectivity available

Retelit

Opportunities for Italian Ecosystem – An open Platform

Accelerate international positioning throught Premium Services for International Customers

IaaS European Platform

Provide Cloud Services and Virtualization for AAE-1 Customer

Remote Peering

Connecting Customer directly to the major European Exchange (eg. DE-CIX, AMS-IX, LINX, MIX, NAMEX, TOP-IX)

Cloud Connect

Providing premium transport connectivity directly to the major Cloud Service Provider in Europe (Eg. Amazon, Google)

Internet Transit & Services

Providing Internet Transit for Europe Location to the AAE-1 Customers

Thank You

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Retelit

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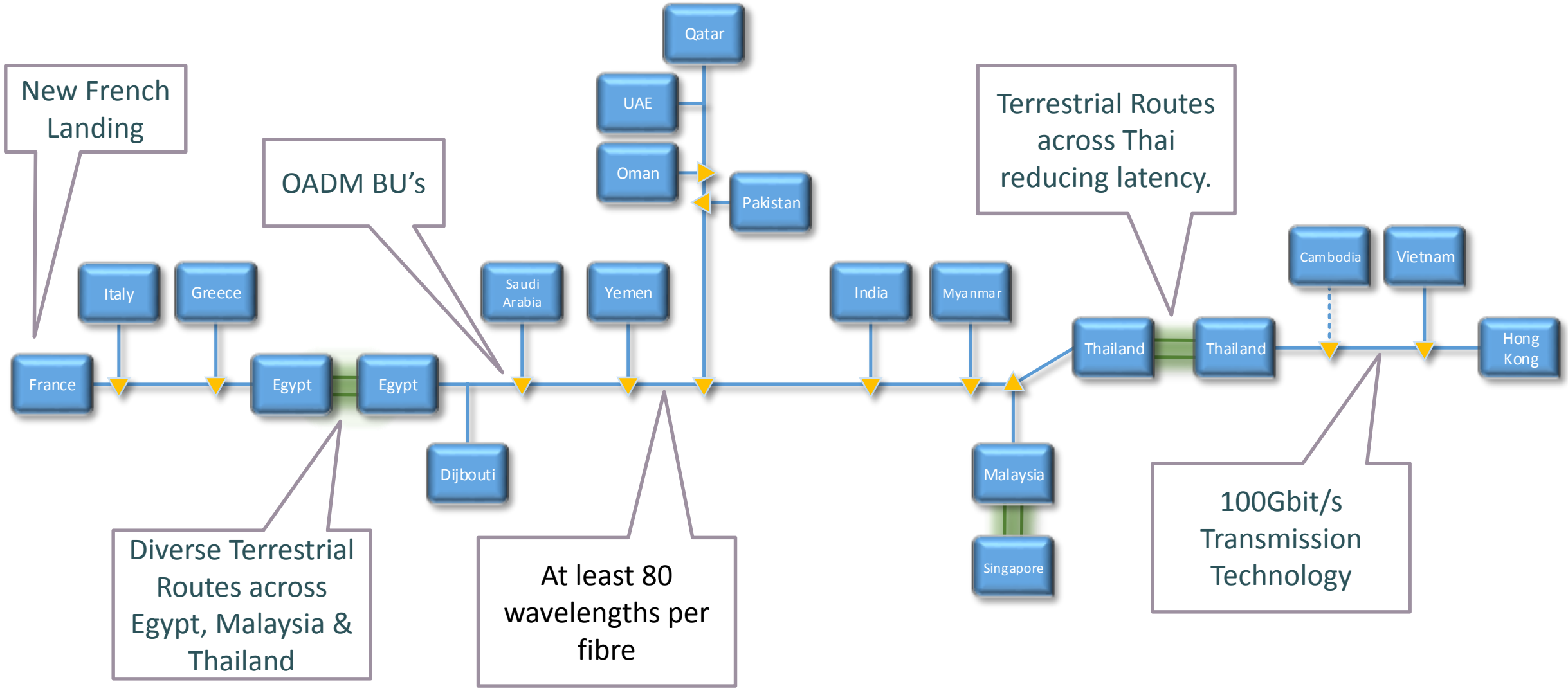
Back Up

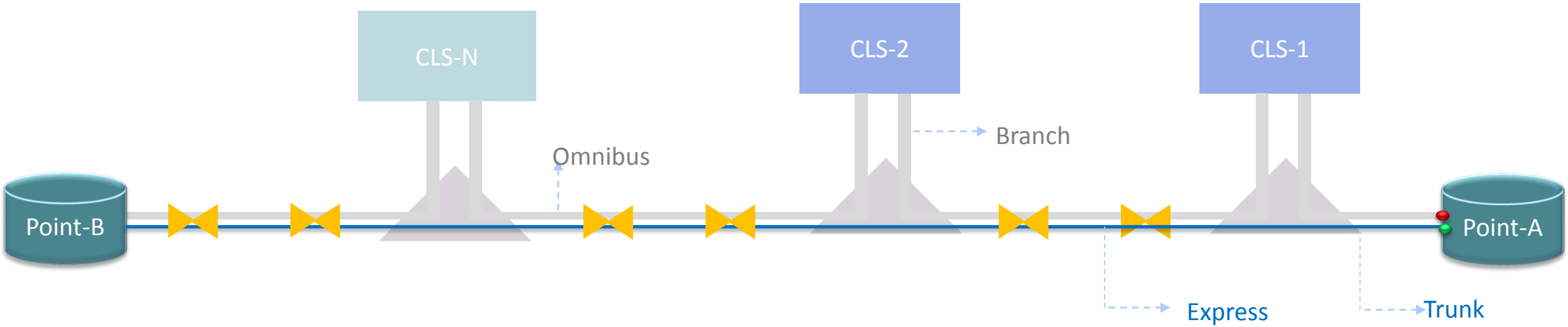
Slides

AAE-1 Design

AAE-1 Design: Overview

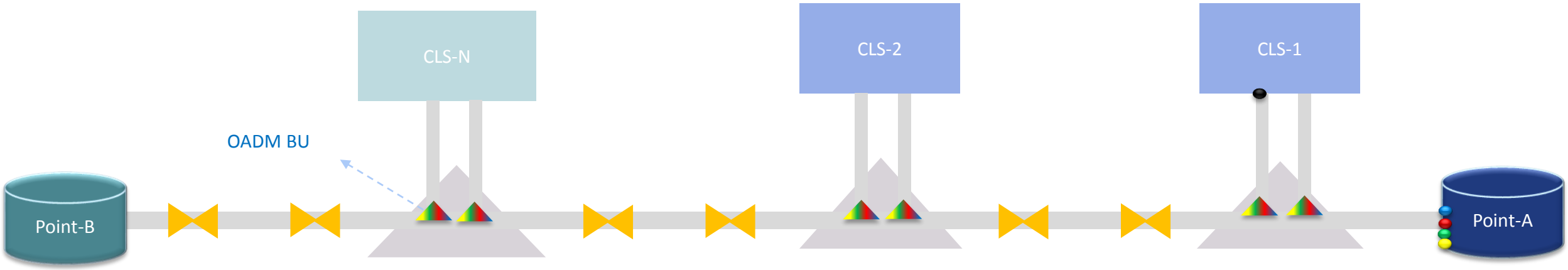


Legacy Cable System Design

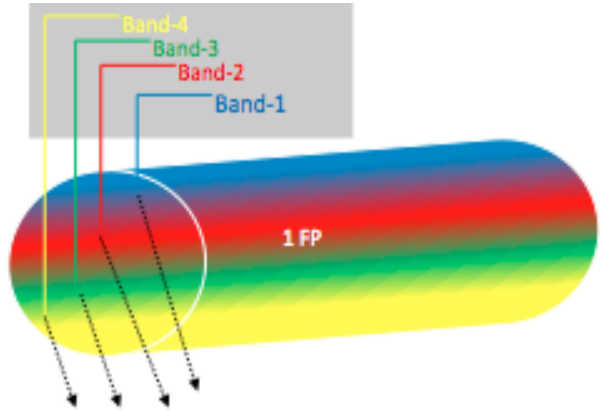


- Higher latency for Omnibus traffic
- Separate express and Omnibus fibers resulting in less efficient utilization
- Higher demand for express paths leading to congestion
- Only end points benefit fully from the express path
- Minimum Investment Units (MIU) methodology is applied:
  - Need to establish congestion reserve; bandwidth overhead;
  - Segment congestion or blocking leads to unused MIU inventory;
  - Compulsory upgrades, unplanned cost;

AAE-1 Cable System Design



- Low Latency with no full drop for a Long DLS > 9,000 KM
- No difference between Trunk or Branch
- Traffic between any two points is express
- Individual capacity entitlement established at contract signature:
  - No congestion reserve requirement.
  - Parties are able to activate their capacity on any segment at anytime.
  - No compulsory upgrades.
  - Parties exchange segment capacity rights, consolidation of demand and supply.



Each Party has its own entitlement in each Band