Cloud Services Connectivity

SPARKLE | IP&DATA PLATFORM

SPARKLE | CLOUD & DATA CENTER PLATFORM

SPARKLE | CORPORATE PLATFORM

SPARKLE | MOBILE PLATFORM

SPARKLE | VOICE PLATFORM

SPARKLE

Sparkle Overview

- **A LEADING GLOBAL OPERATOR** with an unparalleled experience and know-how in a multiplicity of diverse markets, Sparkle, with its IP&Data, Cloud & Data Center, Corporate, Mobile and Voice Platforms, actively takes part in the development of worldwide communications, providing the best global connectivity solution to Fixed and Mobile Carriers, ISPs, OTTs, Media & Content Players, Application Service Providers and Multinational Corporations, before they know they need it

- **Wholly owned subsidiary of TIM Group** created in 2003 with the objective of developing the international wholesale and the retail multinational corporate businesses, as well as of **supporting TIM Group business units for the provisioning of International Service**

Company Data

Headcount
753
Countries of presence
37
Network coverage
#PoPs 122
PoPs via partners
> 1,000

Key figures

Voice Traffic
14.5 Bn minutes

Revenues
1.4 Bn €

Sparkle Service Proposition

Complete set of IP, Data, Cloud & Data Center, Mobile and Voice solutions for Fixed and Mobile Operators, ISPs, OTTs, Media & Content Players, Application Service Providers and Multinational Corporations (MNCs)

SPARKLE | IP&DATA PLATFORM

Complete range of solutions designed to access any content on the Internet with secure global international IP connectivity, high-performance international bandwidth and IP MPLS services

SPARKLE | CLOUD & DATA CENTER PLATFORM

Suite of highly flexible and scalable top class integrated IaaS, PaaS and SaaS that meet the ever growing need of cost efficient and top security IT solutions, available in several Data Centers worldwide, with key assets presence in Italy, Greece and Turkey

SPARKLE | CORPORATE PLATFORM

Complete portfolio of services ranging from entry-level solutions for small and medium enterprises, to business continuity solutions, with the highest level of service performance

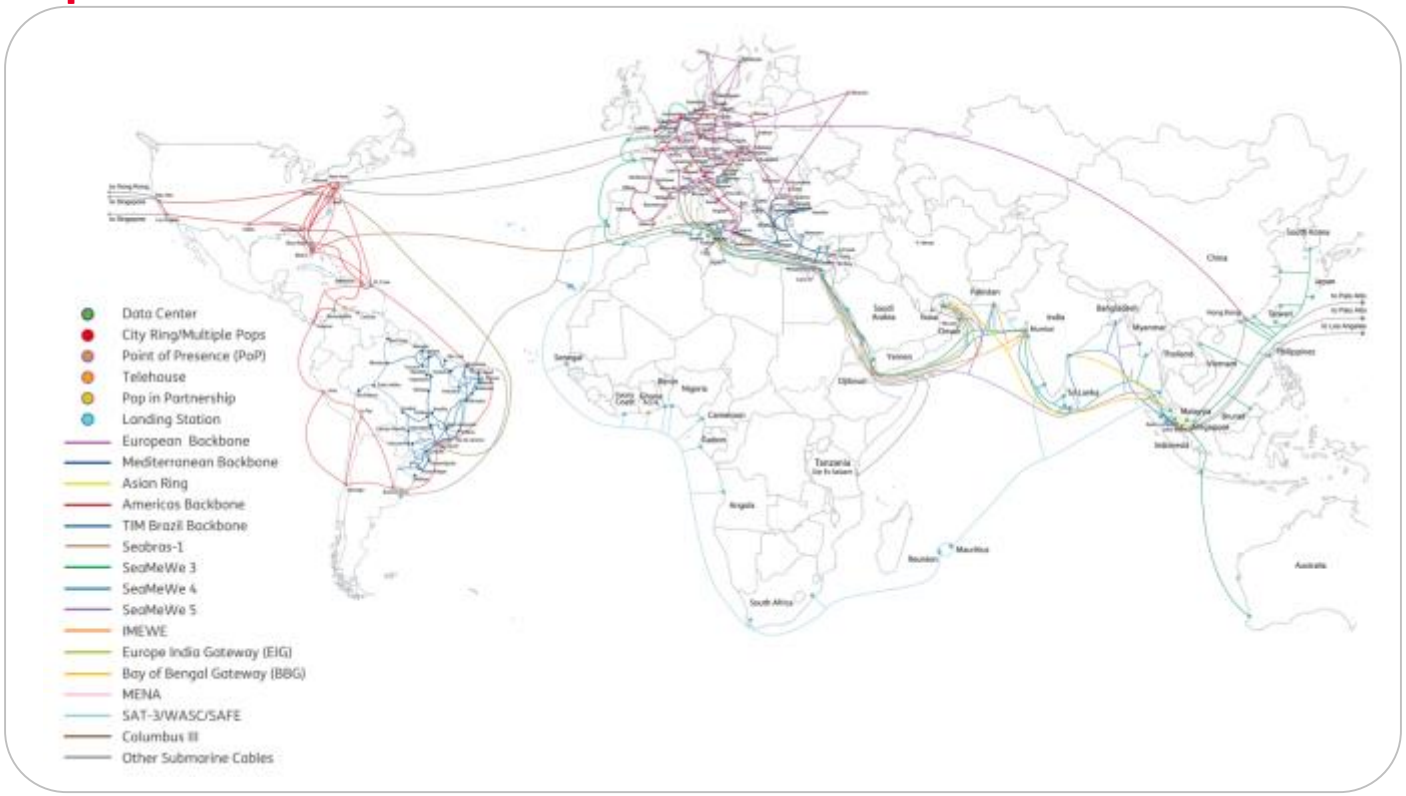
SPARKLE | MOBILE PLATFORM

Distinctive portfolio of services to support the operations of new entrants and established mobile operators. The services aim to quickly increase international mobile service coverage and usage, thus generating new revenue streams for mobile operators while minimizing costs for service set up and management

SPARKLE | VOICE PLATFORM

Voice Solutions offer worldwide voice capabilities to Carriers, Service Providers, and Mobile Operators combining network reliability, competitive pricing and excellent routing solutions

Sparkle Global Network



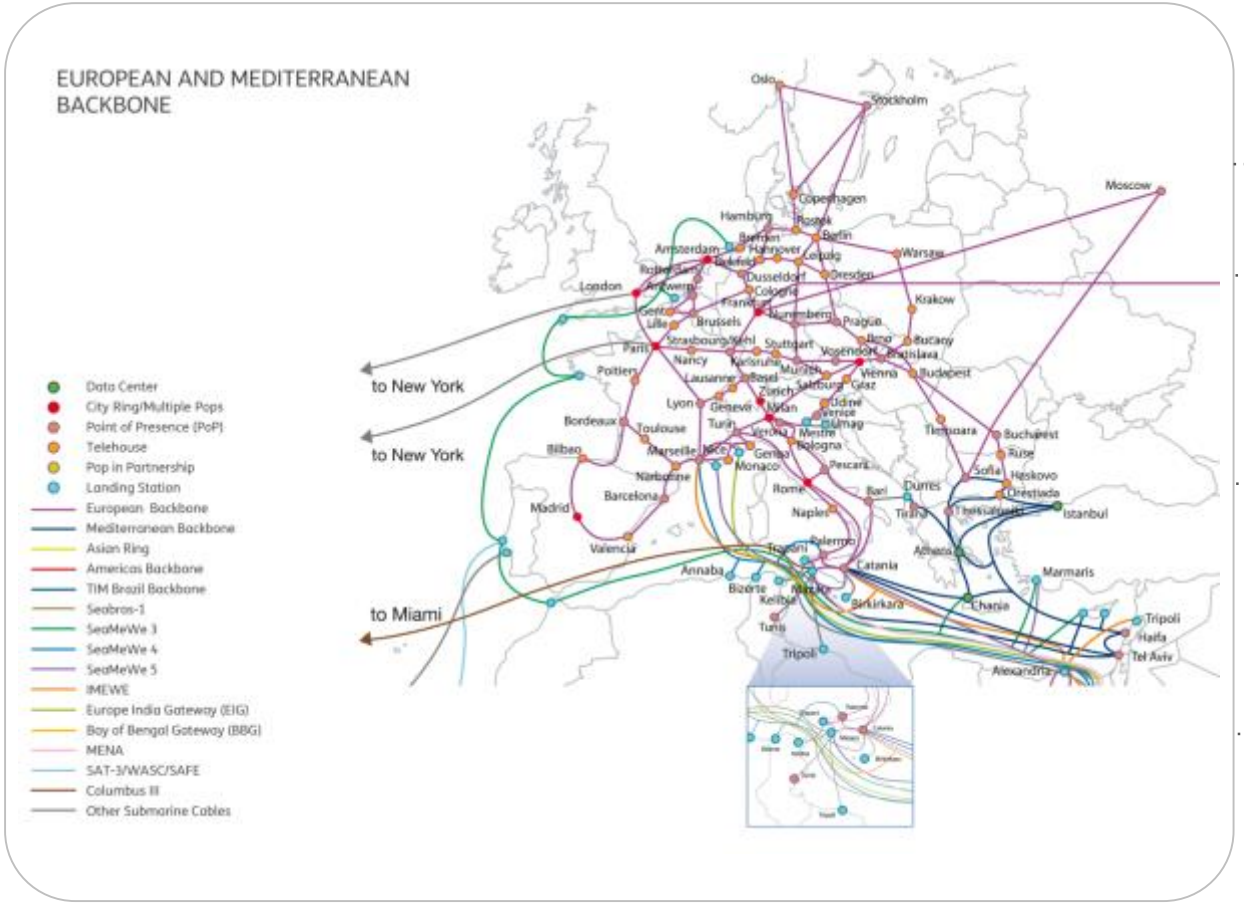
GLOBAL CAPABILITIES

- 74 cities in 37 countries
- 122 PoPs
- >1,000 PoPs through partners
- 45,000 km/fibre PEB
- 36,000 km LAN
- 10,800 km MED
- 14,000 km/fibre Italian network
- over 450,000 km submarine cables

Data as of December 2016

- Full IP Global Network
- Unique protected fiber path in Europe and global meshed architecture providing full resilience
- Unique footprint in Middle East and South East Asia through a state-of-the-art regional proprietary fiber optic backbone in the Mediterranean Basin, SeaMeWe-3, SeaMeWe-4, SeaMeWe-5, IMEWE and bilateral cable Systems
- New POPs in Kuala Lumpur, Tehran, Moscow, Puerto Rico
- Increased network capillarity in Europe
- New proprietary redundant backbone links from North to South America and investment in the new cable Seabras-1 connecting New York and Sao Paulo
- Capacity across the Atlantic and the Pacific

Focus on Key Regional Backbones: Europe & Mediterranean



- Increased network capillarity in Europe
- Unique protection from Istanbul to Europe through terrestrial and submarine networks
- New diversified and protected backbone links in the Balkans that represent an alternative route to connect Europe to Africa, Middle and Far East
- New POP in Moscow for the offering of Corporate services

Cooperation & Partnership

PARTNER

- *Full customer management*
- *Meet Customer needs*
- *Revenue increase, Lower time-to-market*

SPARKLE

- *In-house development & customization capabilities, leading to cost effectiveness*
- *Solid business processes throughout the value chain, constantly updated with best practices*
- *Wide portfolio covering all customer segments*

Cloud & Data Center Solutions

Data Center

6 DC Hubs Worldwide Located	**Colocation**
Best Technology in the Market	**Power**
Everything you need to be connected	**Cabling**
360° Data Center Support	**Colo Professional Services**

A modern DC born to offer Telco and MNC's services

With

Int'l Global Network Inside

Cloud

IaaS	*Scalable and Flexible*
Security	*"Best of Breed" Strong Authentication Service*
Online Marketplace	*Self-Management white label marketplace and Advanced SaaS*
DraaS	*High business agility and continuity*
Cloud Storage	*Secure, Robust and Scalable*

An innovative and wide service portfolio

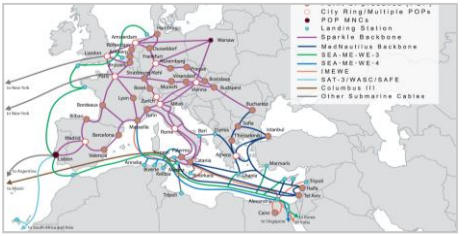
…and a unique Set of Cloud/Data Centers and Network Infrastructure

Colo and Hosting capabilities, completely ***integrated with Sparkle's network services worldwide***

Regional Data Centers in **Italy, Greece and Turkey** that leverage on Sparkle's unique protected terrestrial and submarine network to Europe

TI Sparkle Services in Greece

IP + Capacity Services



Data Center Services

Cloud Services

MedNautilus GR

MedNautilus GR
TELECOM ITALIA SPARKLE GROUP

SPARKLE

TI Sparkle Greece S.A.

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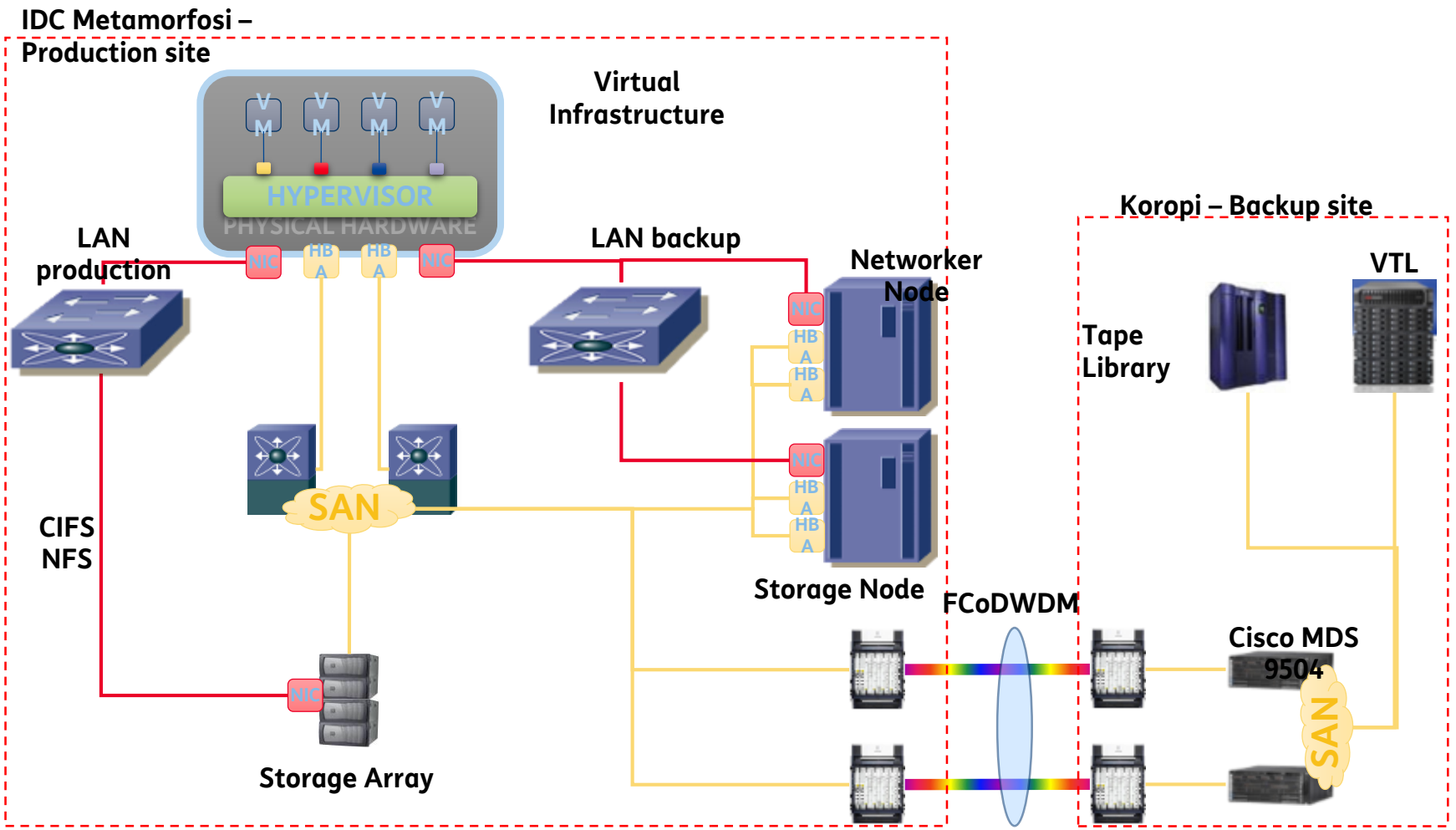
Greece Network and DCs

Cloud Infrastructure – State of the art architecture



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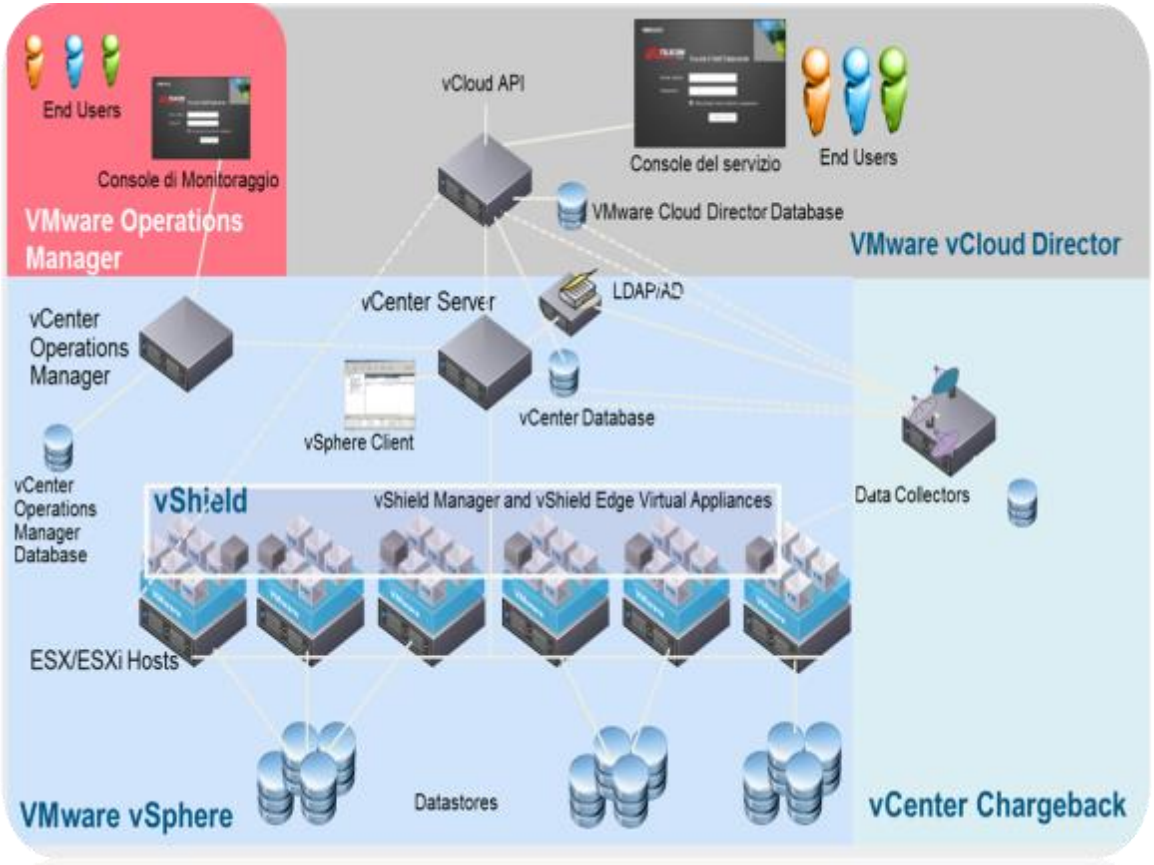
IaaS Solutions - Self Data Center (SDC)

- *SDC service is based on VMware vCloud Director and other components of VMware Cloud Infrastructure Management (vSphere, vCloud Director, vShield , vCenter Chargeback e vCenter Operation, on-going deployment NSX-V).*



Sparkle Self Data Center delivers cloud computing for existing datacenters by pooling virtual infrastructure resources and delivering them to users as catalog-based services.

NEW Solutions!

SAP HANA

- ✓ Infrastructure Services for **SAP HANA** are deployed in TI Sparkle DCs with Collaboration with a **SAP Certified hardware vendor** such as **IBM.**
- ✓ SAP HANA Infrastructure is provided via a **monthly subscription.**
- ✓ Customers bring their on-premise SAP HANA licenses which will be deployed on their SAP HANA Infrastructure Services. It automatically provides the provisioning of SAP HANA software.

GÉANT

- ✓ Sparkle was awarded for provisioning **Infrastructure *as a service for the Research and Education community in 30 countries connected to GÉANT***
- ✓ ***SPARKLE GREECE:*** **Albania, Bulgaria, Cyprus, Greece, FYROM**
  - **Compute: Sparkle GR Self Data Center**
  - **Connectivity: Sparkle's global backbone**
  - **Managed services**
  - **Service Desk**
  - **Brokerage services: Reporting, Billing, Accounting**
  - **SSO proxy (SAML2) and eduGain federation**

NEW Solutions!

POWERED BY Zerto

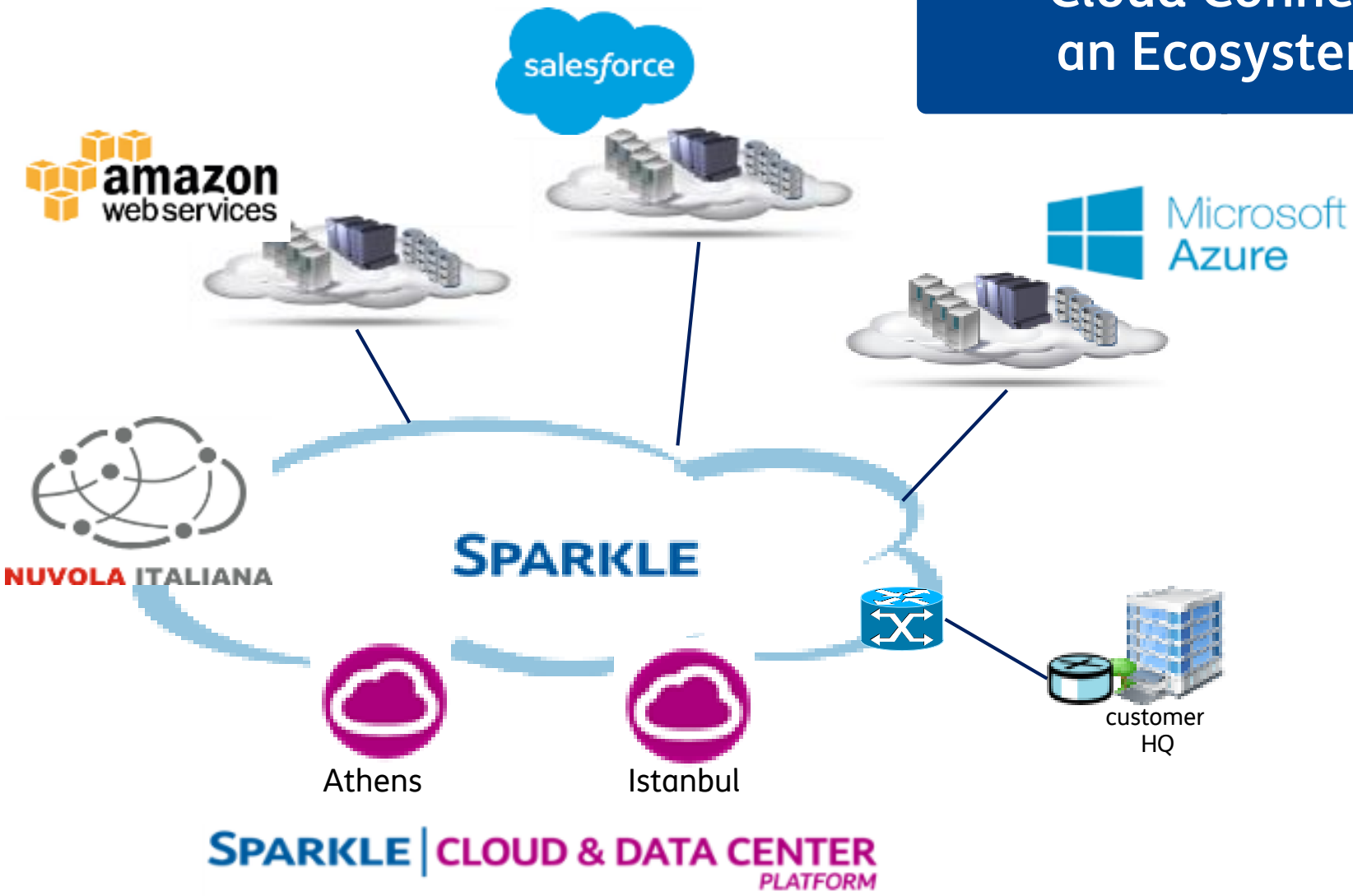
DRaaS

- ✓ Better Odds of Success by eliminating the need of strong DR competencies and focusing on core business
- ✓ Server and Storage Motion
- ✓ Reduced Recovery Time
- ✓ Cost Reduction
- ✓ Ease of Management
- ✓ Remarkably Effective
- ✓ Scalability
- ✓ Application environment Recovery
- ✓ Granularity (VM-level protection)
- ✓ Hardware-agnostic

GRIX

- ✓ **Sparkle reseller of Greek Internet Exchange (GR-IX).** Exchange traffic and interconnect with all internet players in Greece.
- ✓ ***Buy GR-IX ports directly in the three Data Centers (Metamorphosis, Koropi, Chania) .***
- ✓ ***New Option: GRIX port + Connectivity from your premises to Sparkle's DCs***
  - ✓ ***Protected***
  - ✓ ***Guaranteed***
  - ✓ ***One-Stop shop***

Cloud Connect an Ecosystem



Cloud Connect - THE OFFER

WHAT IT IS

- **Cloud Connect** extends Customer's network into the cloud capabilities of the most important Cloud Providers using a dedicated private connection.
- With **Cloud Connect** the Customer can establish private connectivity to multi-player cloud services, such as Microsoft and AWS

NEEDS TO SATISFY

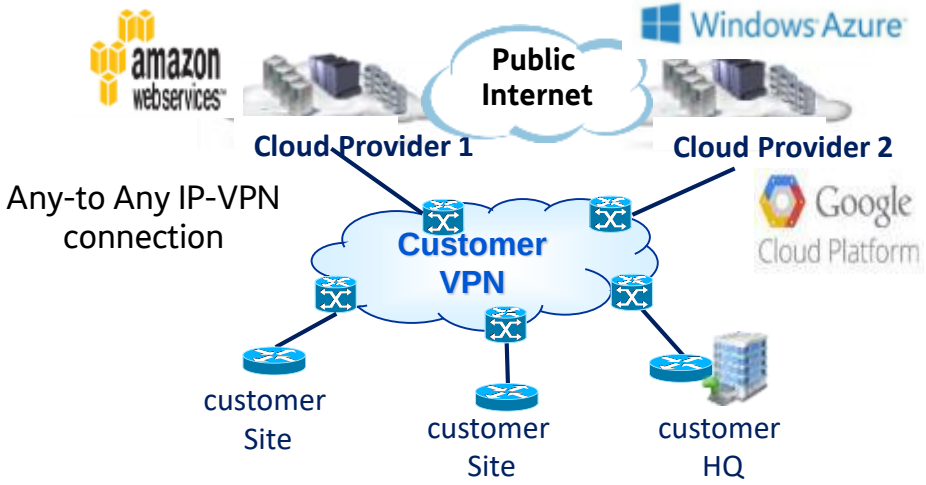
- **Cloud Connect** offers more **reliability**, **higher speed**, **lower latencies**, and **higher security** than typical connections over the Internet, providing a more consistent network experience than Internet-based connections.

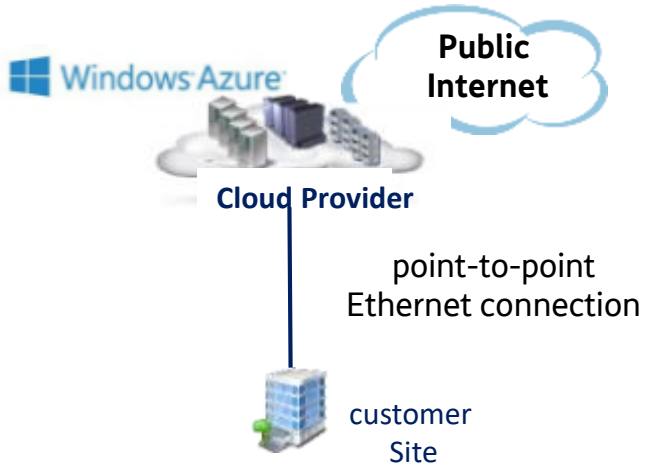
WHO NEEDS CLOUD CONNECT?

- Domestic Carriers who want to extend their reachability/offer to the main Cloud Providers
- Corporates who would like to enjoy a direct connection with their cloud installations

HOW

- Connectivity can be based on IP VPN or a point-to-point Ethernet link
- Connectivity can be managed or unmanaged





Cloud Connect - Cloud providers and destinations

Cloud Connect is based on direct interconnections (50Mb – 1G) with Cloud Providers (CP) in the most important areas throughout the world.

Cloud Providers	Cloud Region	Status
amazon web services	EU West 1 (Ireland)	**Ready**
	EU Central (Frankfurt)	**Ready**
	US East1 (Ashburn)	**Ready**
	AP Southeast (Singapore)	On request
Microsoft Azure	West Europe (Amsterdam)	**Ready**
	East US (Ashburn)	**Ready**
	Southeast Asia (Singapore)	On request
salesforce	Frankfurt	On request
Google Cloud Platform	London, Frankfurt, Amsterdam	On request
IBM SOFTLAYER	Amsterdam, Ashburn, Singapore	On request

Cloud Connect - Benefits

Cloud Connect offers important benefits in terms of performances and geographic reach:

- Opportunity to reach, quickly and easily, the Cloud Providers already interconnected
- Reliability, guaranteed bandwidth, low latencies, and high security
- Customer retains full control of its negotiations with Cloud Provider
- Bandwidth scalability
- Certainty of project economics (flat rate)

Thank You

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