



## GEANT Cloud Framework Agreement

 **SPARKLE | IP&DATA**  
PLATFORM

 **SPARKLE | CORPORATE**  
PLATFORM

 **SPARKLE | CLOUD & DATA CENTER**  
PLATFORM

 **SPARKLE | MOBILE**  
PLATFORM

 **SPARKLE | VOICE**  
PLATFORM

 **SPARKLE**



## TIM Overview



## TIM Overview

**TIM** is the **leading Italian** Telecommunications and ICT provider. In the areas of: fixed and mobile telecommunications, internet and media, office and systems solutions, research and development

**Leading Player** in Latin America

**Among TOP global operators** through Sparkle

**Core markets: Europe, Middle East + Latin America**

## TIM Cloud Overview

**TIM** italian Cloud brand “Nuvola Italiana” the biggest Cloud provider in Italy

**3 Cloud DC with Disaster Recovery and Business Continuity**

**18.723 Virtual Machines**

**3.303 Customers**

# Sparkle Overview



**Company data**

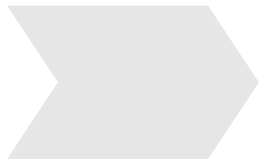
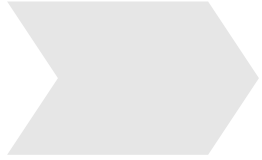
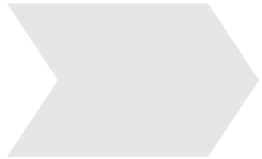
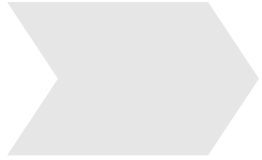
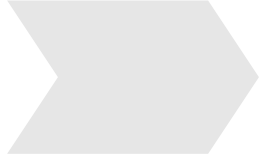
- Headcount (\*)**  
800 +
- Countries of presence**  
37
- Network coverage**  
#PoPs 122
- PoPs via partners**  
> 1,000

**Key figures**

- Voice Traffic**  
15.4 Bn minutes
- IP&DATA**  
Over 12 Tbps
- Revenues**  
1.3 Bn €

*Data as of December 2015*  
*(\*) Data as of August 2016*

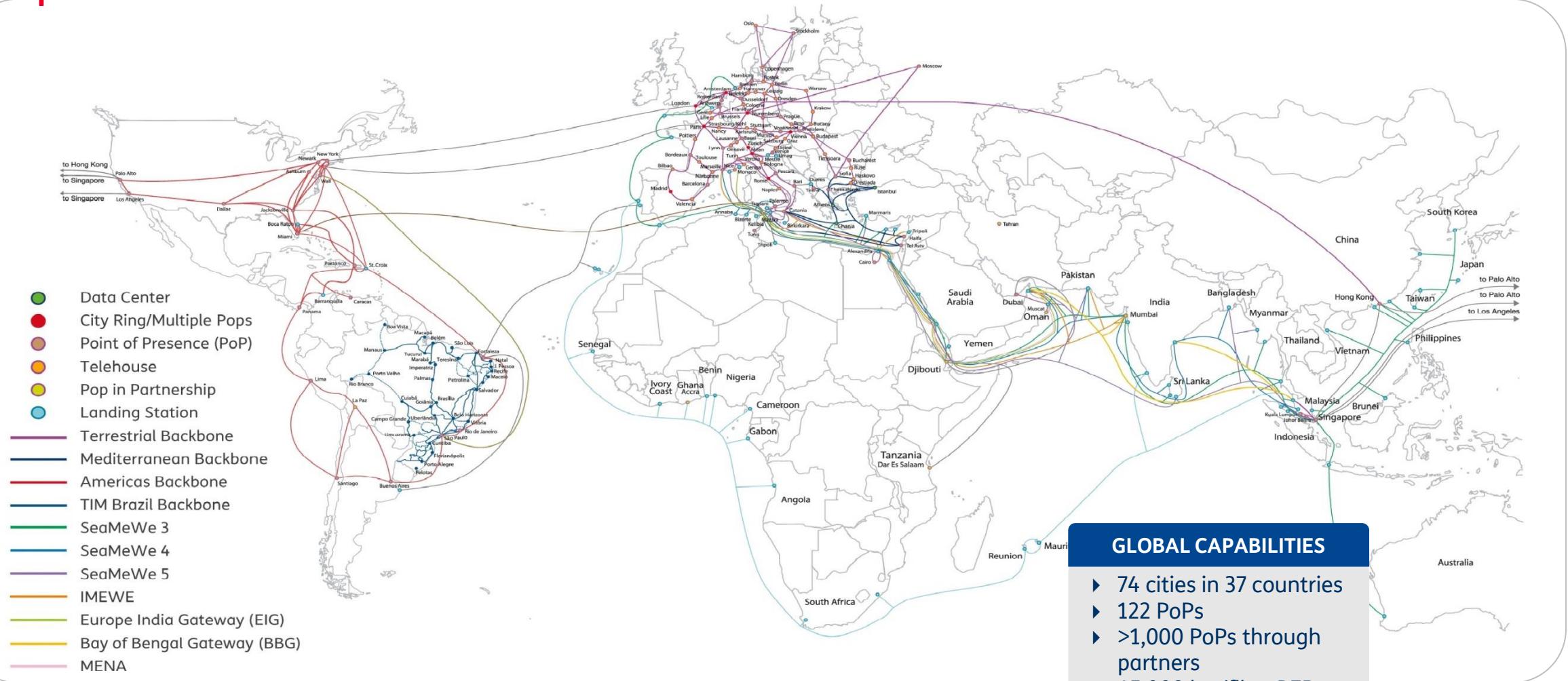
## Sparkle Key Assets



- **State-of-the-art Global Network**, with proprietary backbones in Europe, Mediterranean Basin and the Americas and ownership in submarine cables connecting Europe with South-East Asia
- **Global Services Portfolio** for Fixed and Mobile Operators, ISPs, OTTs, Media & Content Players, Application Service Providers and Multinational Corporations
- **Worldwide presence in 37** countries based on fully owned companies and offices
- **Advanced OSS, BSS and Customer Care capabilities** with multi-lingual call center

# Sparkle Global Network

Data as of December 2016



**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

# Sparkle Operations

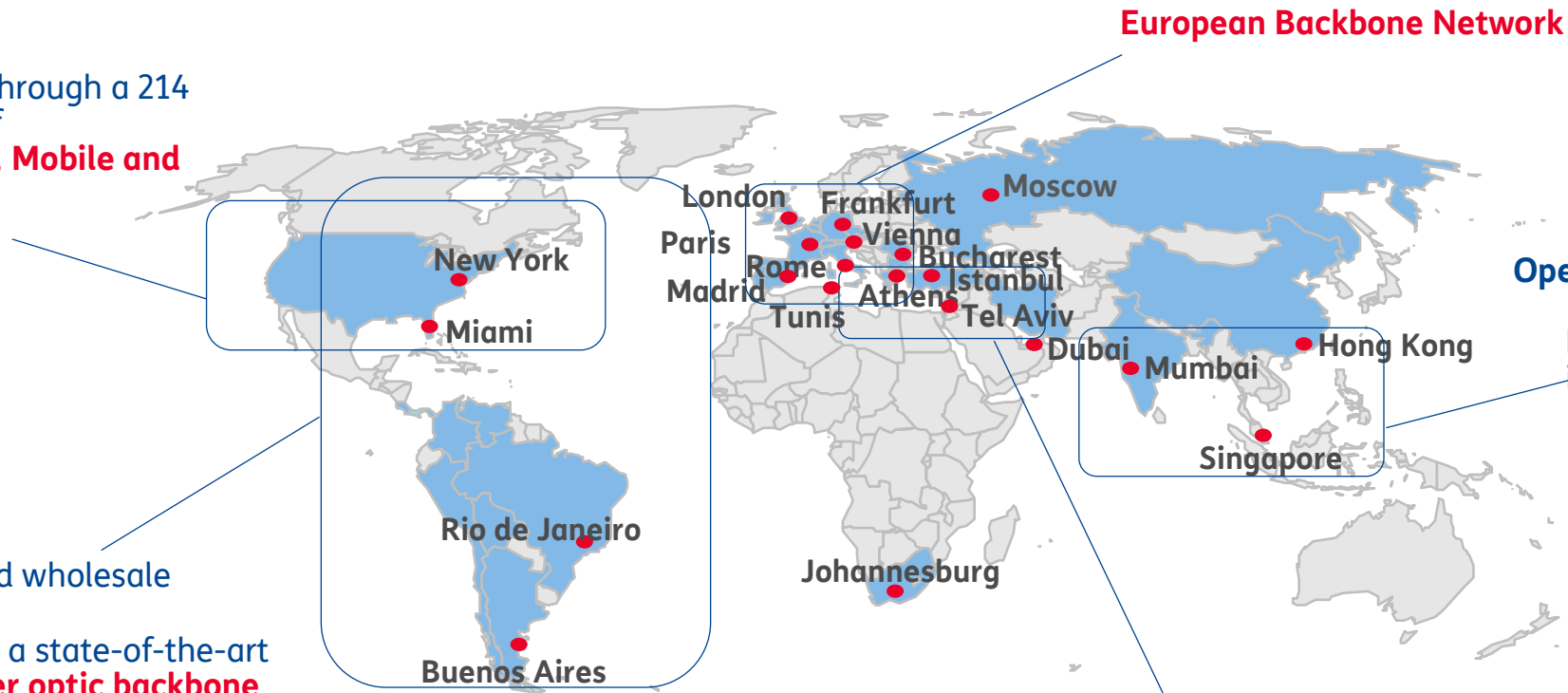
Sparkle has a **global presence** based on its fully owned companies and offices in **37 countries** and a headcount of over 800 + in Italy and abroad

Operations in the US through a 214 Licence, for the offer of **international IP&Data, Mobile and Voice solutions**

High quality, value-added wholesale service **operations in the Americas** through a state-of-the-art **regional proprietary fiber optic backbone** fully integrated with Sparkle's global network

High quality, value-added wholesale **service operations in the Mediterranean basin** through a **state-of-the-art regional proprietary fiber optic backbone** fully integrated with Sparkle's global network

Operations in the **AsiaPac Region** through a FBO Licence, for the offer of **international IP&Data, Mobile and Voice solutions**



● Office

Data as of August 2016



# 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 Center worldwide, with key assets presence in Europe.

## 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.



## Cloud offering for Géant

 **SPARKLE** | IP&DATA  
PLATFORM

 **SPARKLE** | CLOUD & DATA CENTER  
PLATFORM

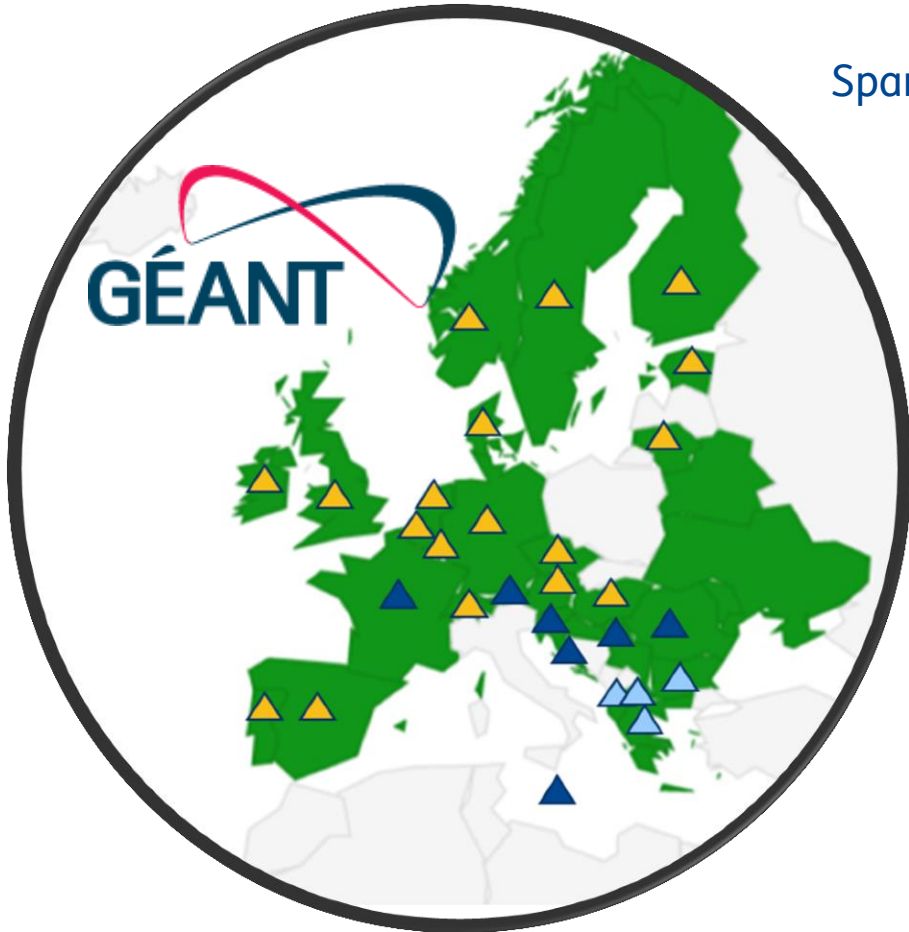
 **SPARKLE** | CORPORATE  
PLATFORM

 **SPARKLE** | MOBILE  
PLATFORM

 **SPARKLE** | VOICE  
PLATFORM

 **SPARKLE**

# GEANT Infrastructure as a Service – a Brokerage challenge



Sparkle was awarded for provisioning **Infrastructure as a service** to the **Research and Education** community in **30 countries** connected to **GEANT**



## AWS, TIM & Sparkle IaaS

- Reseller of AWS in 18 countries
- OIP TIM IaaS in 7 Countries
- OIP Sparkle GR IaaS in 5 Countries



## Sparkle Brokerage

- Provisioning of three Service Providers
- Project Management
- eduGAIN Single Sign On
- Convergent Billing
- Marketing Support

# Participating and Awarded to Sparkle Countries

7

**TIM**  
 Austria  
 Croatia  
 France  
 Malta  
 Romania  
 Serbia  
 Slovenia

**SELF DATA CENTER (VMWare vCloud Director)**

5

**SPARKLE GREECE**  
 Albania  
 Bulgaria  
 Cyprus  
 Greece  
 Macedonia

**SELF DATA CENTER (VMWare vCloud Director)**



18

**SPARKLE**

Belgium	Lithuania
Czech Republic	Luxembourg
Denmark	Norway
Estonia	Portugal
Finland	Spain
Germany	Sweden
Hungary	Switzerland
UK	The Netherlands
Ireland	Israel

*The NRENs / Countries participating to the tender are displayed in green.*

**Sparkle-AWS** ▲  
**Sparkle-TIM** ▲  
**Sparkle-GR** ▲

# Amazon EC2 - Virtual Server Hosting

- **Amazon Elastic Compute Cloud** (Amazon EC2) is a web service that provides resizable compute capacity in the cloud.
- Designed to make web-scale cloud computing easier for developers. Amazon EC2's simple **web service interface** allows you to obtain and configure capacity with minimal friction.
- Amazon EC2 provides developers the tools to build **failure resilient** applications and isolate themselves from common failure scenarios.

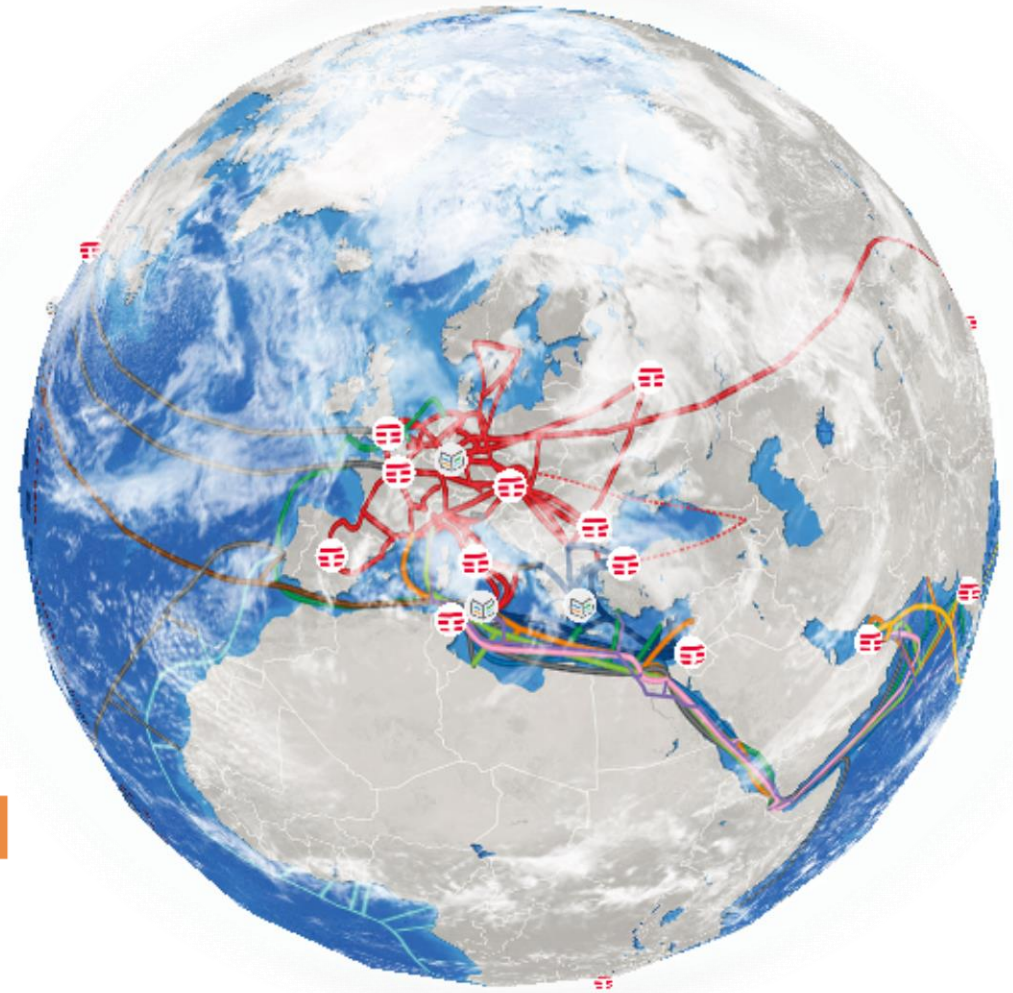
## Amazon EC2 Features

- Amazon EC2 presents a true **virtual computing environment**, allowing you to use web service interfaces to launch instances with a variety of operating systems, load them with your custom application environment, manage your network's access permissions, and run your image using as many or few systems as you desire.



## Common for all countries

- **Sparkle Global Presence:**  
Sparkle employs an international workforce distributed worldwide
- **Sparkle Service Desk**
  - Contact Center 7x24
  - Cloud Competence Center
- **Common brokerage platform** to support all business processes for all **NRENs**: account management, reselling, ordering, billing and reporting
- **Common access to AWS or OIP** control panels using Single Sign On with **SAML2** protocol
- **Federation to eduGAIN** community



# General Framework achievements

Géant aim is to accelerate the **Cloud adoption**

- Focus on Infrastructure as a Service (**IaaS**), which provides cloud virtualized **computing resources**
- Cloud drivers:
  - Easy access
  - **Resources usage flexibility**
  - **Cost reduction**
  - Contract simplification

Framework results:

- Sparkle will support authentication provided by eduGAIN, the pan-European standard and **SAML2**-based authentication and authorization infrastructure for **single-sign on (SSO)**
- **Data egress** charges exemption
  - No charge for outbound traffic generated by AWS resources
  - Sparkle will also provide direct peering between the NRENs (National Research and Education Network), institutions and its own data centers, **eliminating data transport-related costs**

## Marketing and Cloud Adoption Support

- **Providing marketing and presales support**, Sparkle plans to proceed in more focused initiatives, tailored to address specific R&E Communities and Institutions.
- **Yearly free workshops per country per year**, at NREN's facilities, or at our local facilities
  - During the workshops: the challenges of IT cloudification, our methodology to help R&E Community to jump started in the cloud.
- **Sparkle with your designated team to accomplish:**
  - **Analysis** of the organization's goals over the next 1-3 years
  - **Assessment** about the critical applications for achieving the identified goals, and the IT infrastructure currently in use for legacy applications (hardware, software, users, cloud-based services currently in use, etc.)
  - **Training** on cloud computing methodology and best practices
  - **Support** the cloud adoption roadmap using public/private/hybrid Infrastructure-as-a-Service (IaaS) platforms.






## Partners

Sparkle will provide professional services leveraging on partners with high skill on Cloud technology and adoption together with local presence to directly support Institutions with on-site presence.

### In Spain



# Cloud Web Portal 1/2



Subscriber (Account ID: 1466714) LOGOUT  
Subscription Ready Data Center Pay As You Go:1264705

Home Hosted Domains Users Ready Data Center Help & Support Account

Screen ID: 2.21.20.01

### Service Information

Subscription Ready Data Center Pay As You Go (ID:1264705)

- All Resource Usage
- Subscription Resources

### Account

Outstanding Invoices **0.00 EUR**

- Financial Documents
- Payment Methods
- Admins
- Change Password
- Subscriptions

More -->

### Users

Create and manage users. Assign services to created users.

- Users
- Create User

### Store


Here you can buy additional services, domains and more.

- Acquista servizi TIM Digital Store
- Buy More Services
- Register New Domain
- Buy Additional Resources
- Gestisci i servizi inclusi

### Domains

Manage your domains and domain names.

- Registered Domains
- Hosted Domains



Subscriber (Account ID: 1466714) LOGOUT  
Subscription Ready Data Center Pay As You Go:1264705

Home Hosted Domains Users Ready Data Center Help & Support Account

Odin Panel > Screen ID: vdc:view

## vDC

VDC STATISTICS EDGE GATEWAY

DESCRIPTION

VDC DETAILS

HARDWARE

ORGANIZATION DETAILS

CPU Usage	0 of unlimited Unit used
Total Provisioned CPU:	2 Unit(s)
Memory Usage	0 of unlimited MB used
Total Provisioned Memory:	4096 MB(s)
Storage Profile 'TIM-OPEN-FC VM Storage Profile' Usage	55296 of unlimited MB used
NIC Usage	0 of unlimited NIC(s) used
Network Usage	0 of 100 Network used (0.00%)
Public IP Addresses:	1 Unit(s)

CHANGE ADMIN PASSWORD

Organization full name: Michele\_Alessandrini

VDC DETAILS

LOGIN TO V-CLOUD

vDC Template name: vPoint-TIMOPEN  
Allocation Model: Pay as you go  
Administrator Username: orgadministrator

# Cloud Web Portal 2/2

Subscriber (Account ID: 1466714) LOGOUT  
Subscription Ready Data Center Pay As You Go:1264705

Home Hosted Domains Users **Ready Data Center** Help & Support Account

Odin Panel > Edge Gateway Screen ID: edgeGateway.list

VDC STATISTICS EDGE GATEWAY

**EDGE GATEWAY(S)**

Edge-1466714

Interface usage  
1 Interfaces used out of 9

**EXTERNAL NETWORKS AND PUBLIC IP ADDRESSES**

External Network	IP Address	Public IP Address	External Network
INTERNET-TIMOpen-01	156.54.178.44	156.54.178.44	INTERNET-TIMOpen-01

Subscriber (Account ID: 1262196) LOGOUT  
Subscription Ready Data Center Pay As You Go:1262196

Home Hosted Domains Users **Ready Data Center** Help & Support Account

Odin Panel > All Resource Usage Screen ID: 2.21.05.04

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ID	Resource	Usage	Limit	Available	Last update
1001722	vPoint CPU Hour-Usage	0 unit/h	Unlimited	Unlimited	April 05, 2017 10:59
1001710	vPoint CPU Usage	0 unit	Unlimited	Unlimited	April 05, 2017 10:59
1001678	vPoint Disk	0 unit	Unlimited	Unlimited	April 05, 2017 10:59
1001687	vPoint Edge Gateway	1 unit	Unlimited	Unlimited	April 05, 2017 11:00
1001657	vPoint External Network	2 unit	Unlimited	Unlimited	April 05, 2017 11:02
1001696	vPoint Firewall Rule	0 unit	Unlimited	Unlimited	April 05, 2017 10:59
1001648	vPoint Global Settings	0 unit	Unlimited	Unlimited	April 05, 2017 10:59
1001681	vPoint IP Segment	0 unit	Unlimited	Unlimited	April 05, 2017 10:59
1001699	vPoint NAT Rule	0 unit	Unlimited	Unlimited	April 05, 2017 10:59
1001663	vPoint NetToVApp	0 unit	Unlimited	Unlimited	April 05, 2017 10:59
1001684	vPoint NetToVM	0 unit	Unlimited	Unlimited	April 05, 2017 10:59
1001672	vPoint Network	0 unit	Unlimited	Unlimited	April 05, 2017 10:59
1001651	vPoint Provider vDC	0 unit	Unlimited	Unlimited	April 05, 2017 10:59
1001693	vPoint Public IP	1 unit	Unlimited	Unlimited	April 05, 2017 11:02
1001725	vPoint Public IP Hour-Usage	1292 unit/h	Unlimited	Unlimited	May 29, 2017 08:10
1001713	vPoint Public IP Usage	2 unit	Unlimited	Unlimited	May 29, 2017 08:10
1001716	vPoint Ram Hour-Usage	0 MBh	Unlimited	Unlimited	April 05, 2017 10:59
1001704	vPoint Ram Usage	0 KB	Unlimited	Unlimited	April 05, 2017 10:59
1001731	vPoint TIM-OPEN-FC VM Storage Profile Hour Usage	0 MBh	Unlimited	Unlimited	April 05, 2017 10:59
1001737	vPoint TIM-OPEN-FC VM Storage Profile Usage	0 KB	Unlimited	Unlimited	April 05, 2017 10:59
1001669	vPoint User	0 unit	Unlimited	Unlimited	April 05, 2017 10:59
1001666	vPoint vApp	0 unit	Unlimited	Unlimited	April 05, 2017 10:59
1001660	vPoint vDC	1 unit	Unlimited	Unlimited	April 05, 2017 10:59
1001654	vPoint vDC Template - Edge	1 unit	Unlimited	Unlimited	April 05, 2017 10:59
1001728	vPoint VM	0 unit	Unlimited	Unlimited	April 05, 2017 10:59

1-25 of 25

ns309661 (Amministratore organizzazione) | Preferenze | Aiuto | Chiudi sessione

Home Cloud personale Cataloghi Amministrazione

Imposta questa organizzazione

**Accesso rapido**

Per avviare una vApp, fare clic su Avvia. Per utilizzare una vApp attivata, fare clic sulla relativa miniatura.

Aggiungi vApp dal catalogo Aggiungi vApp da OVF Crea nuova vApp

**TestPopso**  
Parzialmente in esecuzione  
Il lease non ha scadenza Apri

**Nutanix CE App**  
Parzialmente in esecuzione  
Il lease non ha scadenza Apri

**vApp\_SAP**  
In esecuzione  
Il lease non ha scadenza Apri

**CCIE**  
In esecuzione  
Il lease non ha scadenza Apri

**vApp\_oracle**  
Parzialmente in esecuzione  
Il lease non ha scadenza Apri

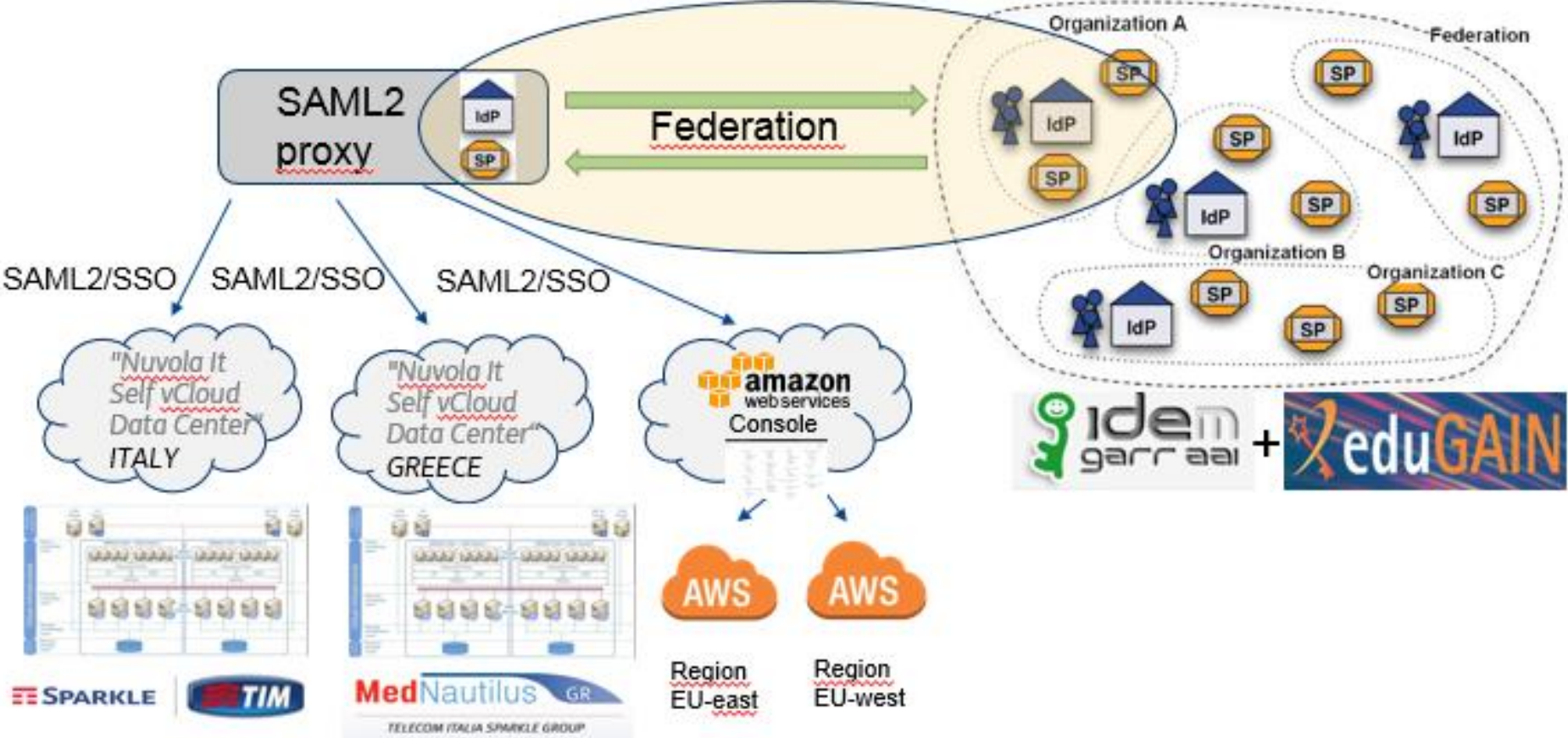
**vAPP\_monitoraggio\_NON\_SPEGNERE**  
In esecuzione  
Il lease non ha scadenza Apri

**test\_backup**  
In esecuzione  
Il lease non ha scadenza Apri

**marco.viola**  
In esecuzione  
Il lease non ha scadenza Apri

0 In esecuzione 0 Non riuscito vCloud Director Powered by VMware

# SAML2 Authentication proxy



# Contacts



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[www.cloud.tisparkle.com/](http://www.cloud.tisparkle.com/)



Thank you

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