Mediterranean Nautilus Greece S.A. Cloud Solutions

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TELECOM ITALIA SPARKLE GROUP

Who we are

- MedNautilus Greece S.A. is a daughter company of **LanMed Ltd** based in Dublin, Ireland

- LanMed Ltd is a 100% subsidiary of **Telecom Italia Sparkle**. The International part of Telecom Italia.

- Within the LanMed Group we have also MedNautilus, Israel, Turkey and Italy and Latin America Nautilus.

Group Mission

- MedNautilus Group is leading carriers' carrier in the eastern part of the Mediterranean.

- It has build the first Mediterranean ring, the MedNautilus Submarine System.

- It provides City to City connectivity between the major cities in the eastern part of the Mediterranean to the major cities Worldwide.

- It has built 8 Data Centers in the Eastern Mediterranean Region: Haifa, Tel Aviv (2) (now under new ownership), Catania, Koropi, Metamorfosi, Chania, Istanbul.

Data Center Services

- 3 Data Centers, *Metamorfosis and Koropi in Athens, Chania in Crete*
- Collocation Services
  - Rack/s, Cage, Suites
- Disaster Recovery and Business Continuity
- Special Services (tailored to customer needs)
- Cloud Services (2013)

NEW

Capacity Services

- SDH connectivity (E1, DS3, STM-1, STM-4, STM-16, …)
- Ethernet connectivity (Mbps, Gbps)
- Lambda, dark fiber
- Managed Services (MPLS platform)
- IP Services

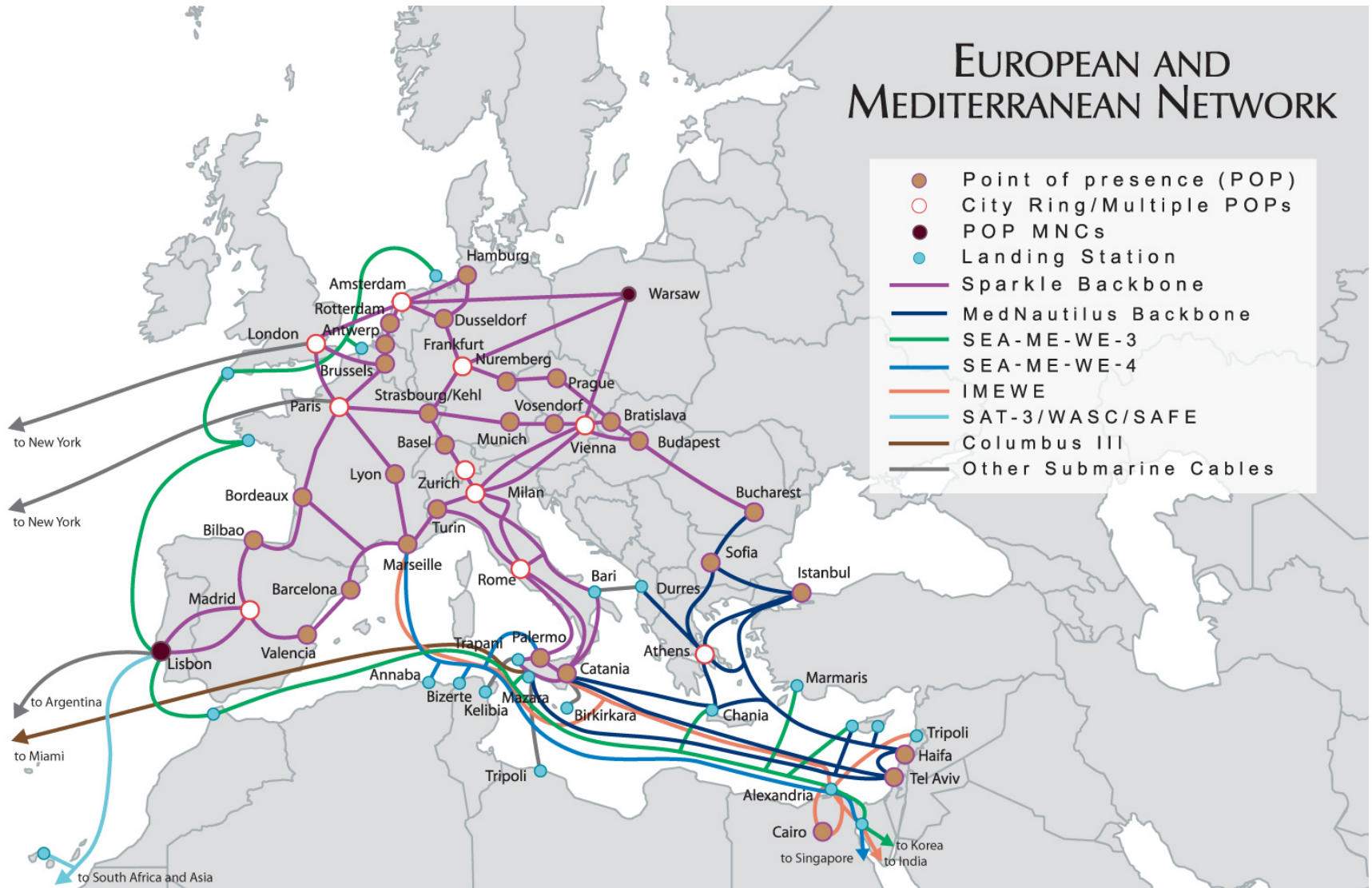**Metamorfosi** 4000 sq. m., 2500 sq. m. available for customers

Koropi 2500 sq. m., 1200 sq. m. available for customers

Chania 1500 sq. m., 400 sq. m. available for customers

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EUROPEAN AND MEDITERRANEAN NETWORK

- ● Point of presence (POP)
- ○ City Ring/Multiple POPs
- ● POP MNCs
- ● Landing Station
- — Sparkle Backbone
- — MedNautilus Backbone
- — SEA-ME-WE-3
- — SEA-ME-WE-4
- — IMEWE
- — SAT-3/WASC/SAFE
- — Columbus III
- — Other Submarine Cables

Collocation Services

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As a result …

- More than 70 customers, among them
    - all telecom operators in Greece
    - PoP of important international operators such as AT&T, C&W, Telefonica etc
    - Banking Institutions
    - Google and Akamai
- OTE, Attica Telecom, Vodafone, Wind, Tellas, Vivodi, Forthnet, HOL, ON, Cyta with their own protected fiber in the Metamorfosis building
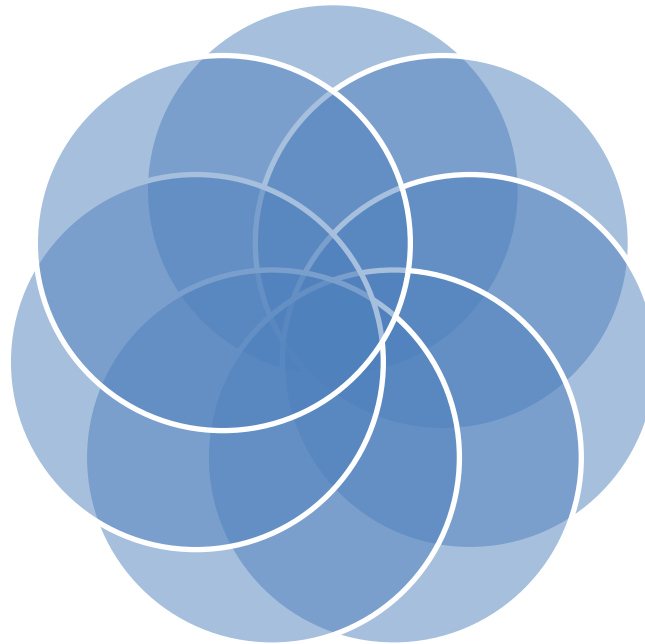- Almost full . . .

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Really <u>Neutral</u> Data Center

Open mind in collaborating and common product development

The DC functions originally developed as the telecom interconnection point (the telecom heart) in Greece.

We constantly upgrade and expand our Data Centers and services

We encourage the business among the companies

We provide solutions based on the best international standards

We provide to our customers total freedom in choosing their national and international carrier.

VOICE Solutions

MOBILE Solutions

IP&DATA Solutions

Corporate Solutions

CLOUD Solutions

A full Suite of Co-location, Physical and Virtual Hosting with a high level of management and security services.

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# Leveraging on Telecom Italia Experience...

Starting in 2008 NGDC (Next Generation Data Center) IT infrastructure consolidation and transformation program allowed to permanently reduce the IT spending which becames a business enabler.

CAPEX expediture (%) in comparison with 2007

-70% in 4 yrs

2007 Before NGDC · **Next Generation DC** (2008, 2009, 2010)

Number of Delivered Servers in comparison with year 2007

+54% in 2 yrs

100% — 119% — 154%

2007 Before NGDC · **Next Generation DC** (2008, 2009)
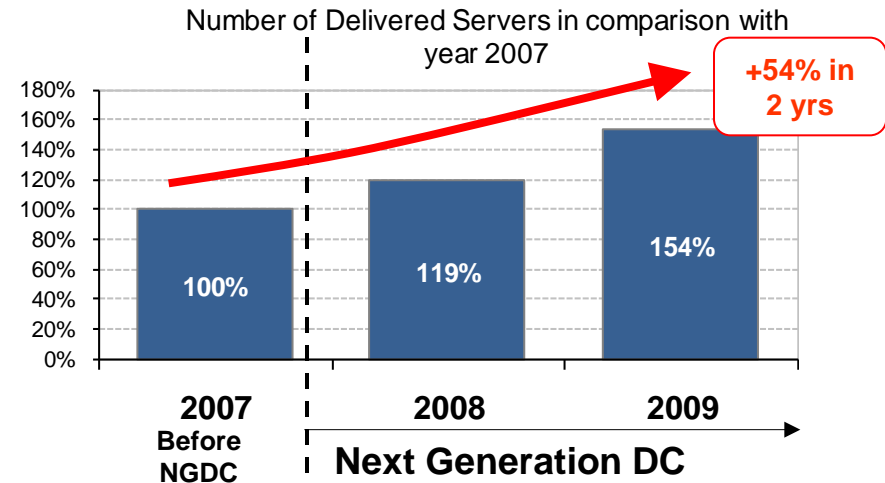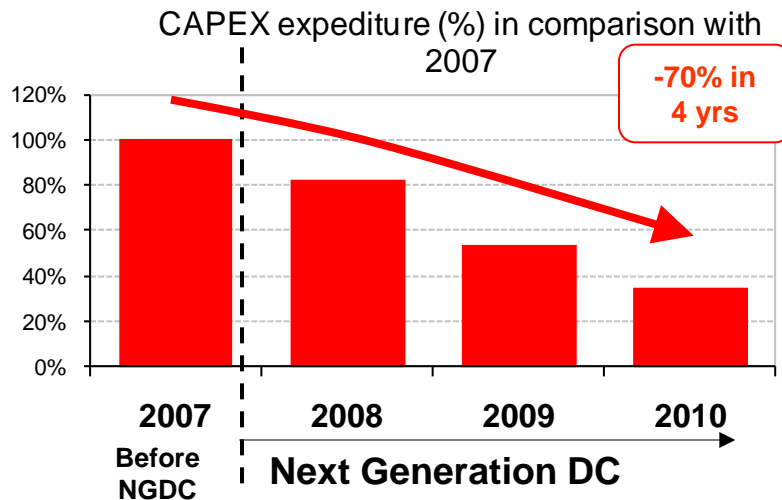
With ca. half of the 2007 costs, the NGDC now delivers 50% more applications.

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And its main goals achieved with the NGDC...
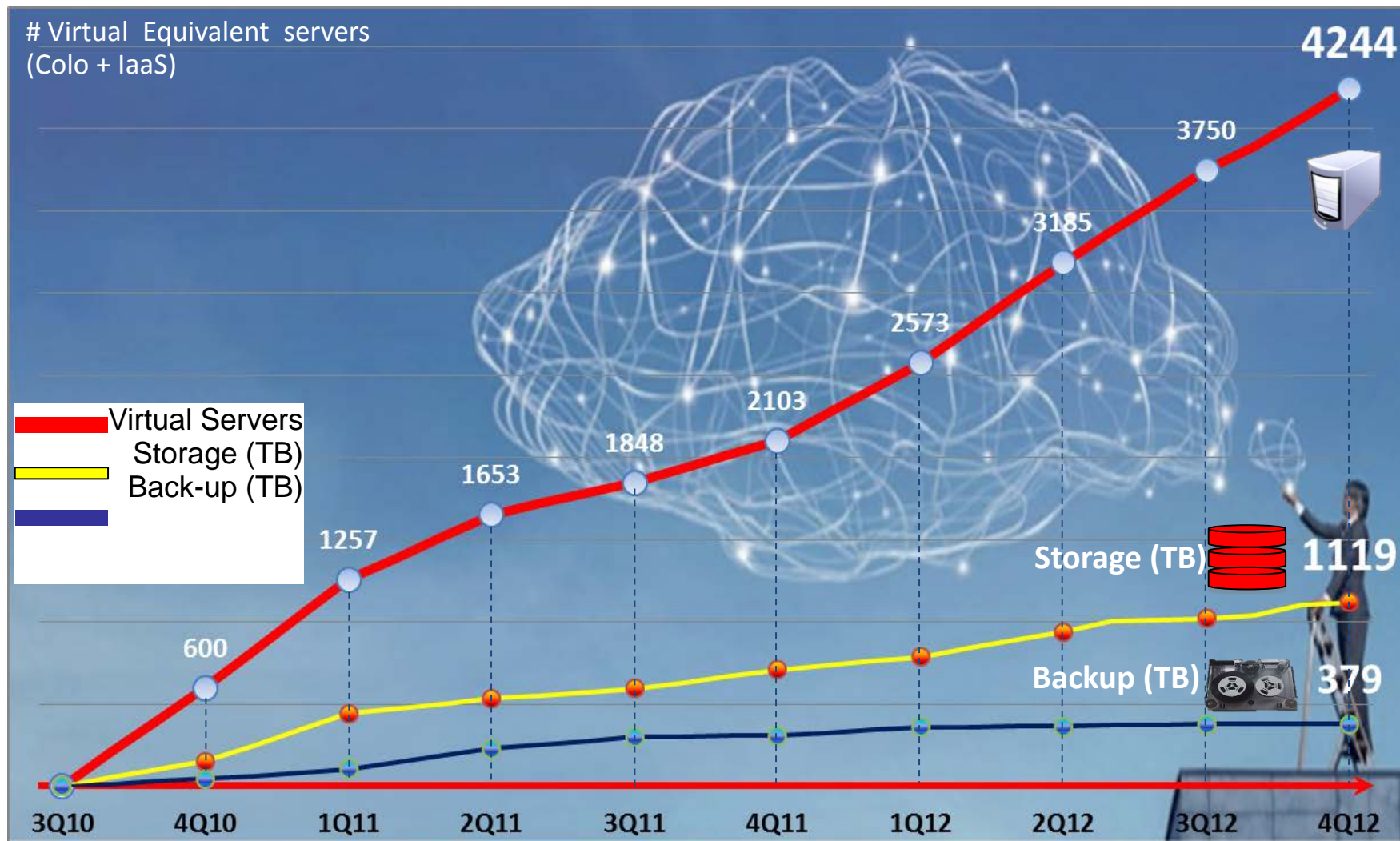

NGDC Approach
Shared virtualized infrastructure
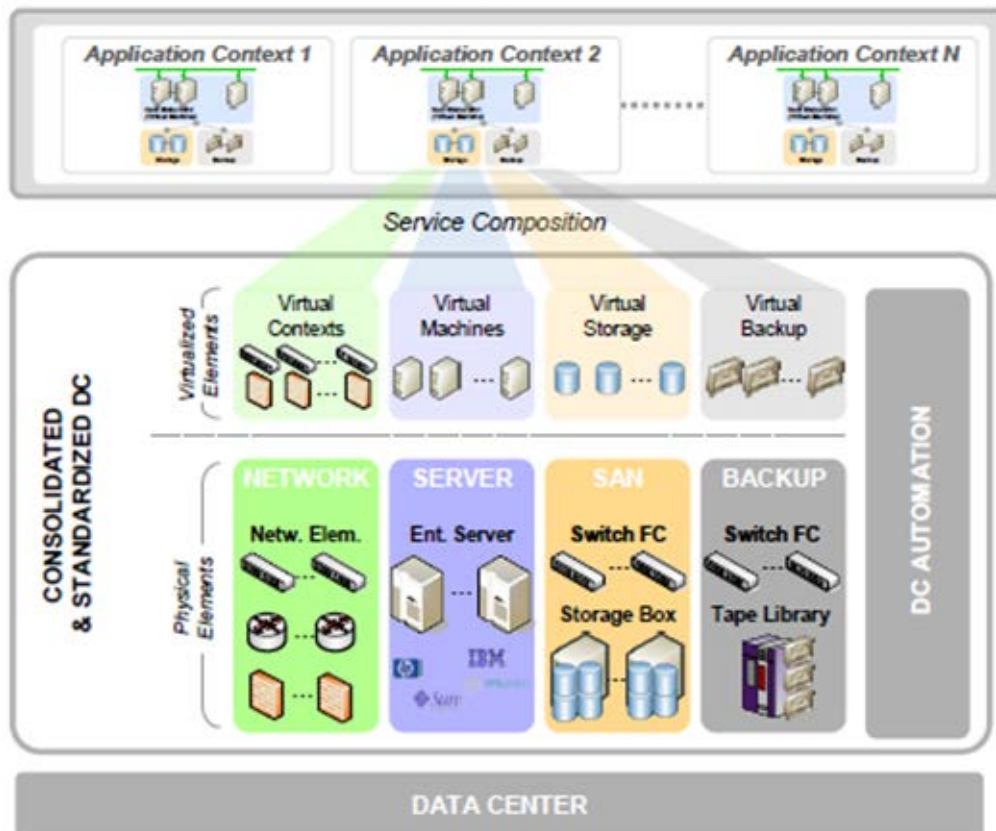
Main goals:

- **Reduce Capex and Opex** *(from 12,000 to 2,000 servers)*

- Build highly **secure, relaiable and flexible shared Server Farms**

- **Increased Computer resource usage** *from less than 30% to 90% and up*

- **Reduced delivery time** *from months to days/minutes.*

Nuvola Italiana: A Success Story

Cloud Solutions & Next Generation Data Centers in the Mediterranean

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A new suite of highly flexible and scalable IaaS Cloud Solutions

TI Sparkle Group, with the expertise of Telecom Italia Group (leading cloud provider in Europe), **now offers a new range of enhanced Cloud Solutions catering to corporate customer's needs in Greece**
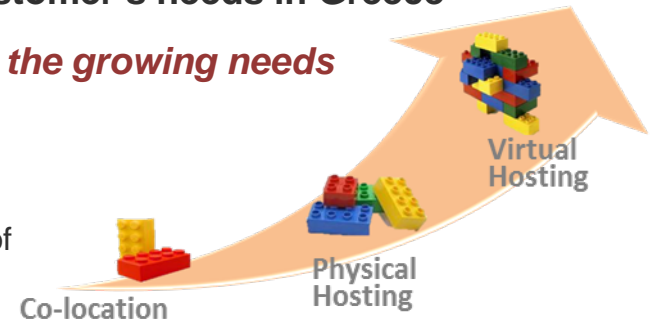
From traditional Co-location to an enhanced portfolio to cater the growing needs of the Corporate segment

Integrated IaaS services, from Co-location to Virtual Hosting

High level of scalability and flexibility with an easy-to-build combination of modular building blocks fulfilling customer's needs

Virtual Hosting

Physical Hosting

Co-location

A Regional NGDs (Next Generation Datacenter) Network: Catania, Athens and Instabul

Leveraging on our network capabilities and a unique and protected combination of **terrestrial and submarine connectivity to Europe** we are also creating a network of Data Centers in the Mediterranean with the aim of developing a Disaster Recovery Solution

ISTANBUL
- ✓ Cloud **IaaS** Solutions
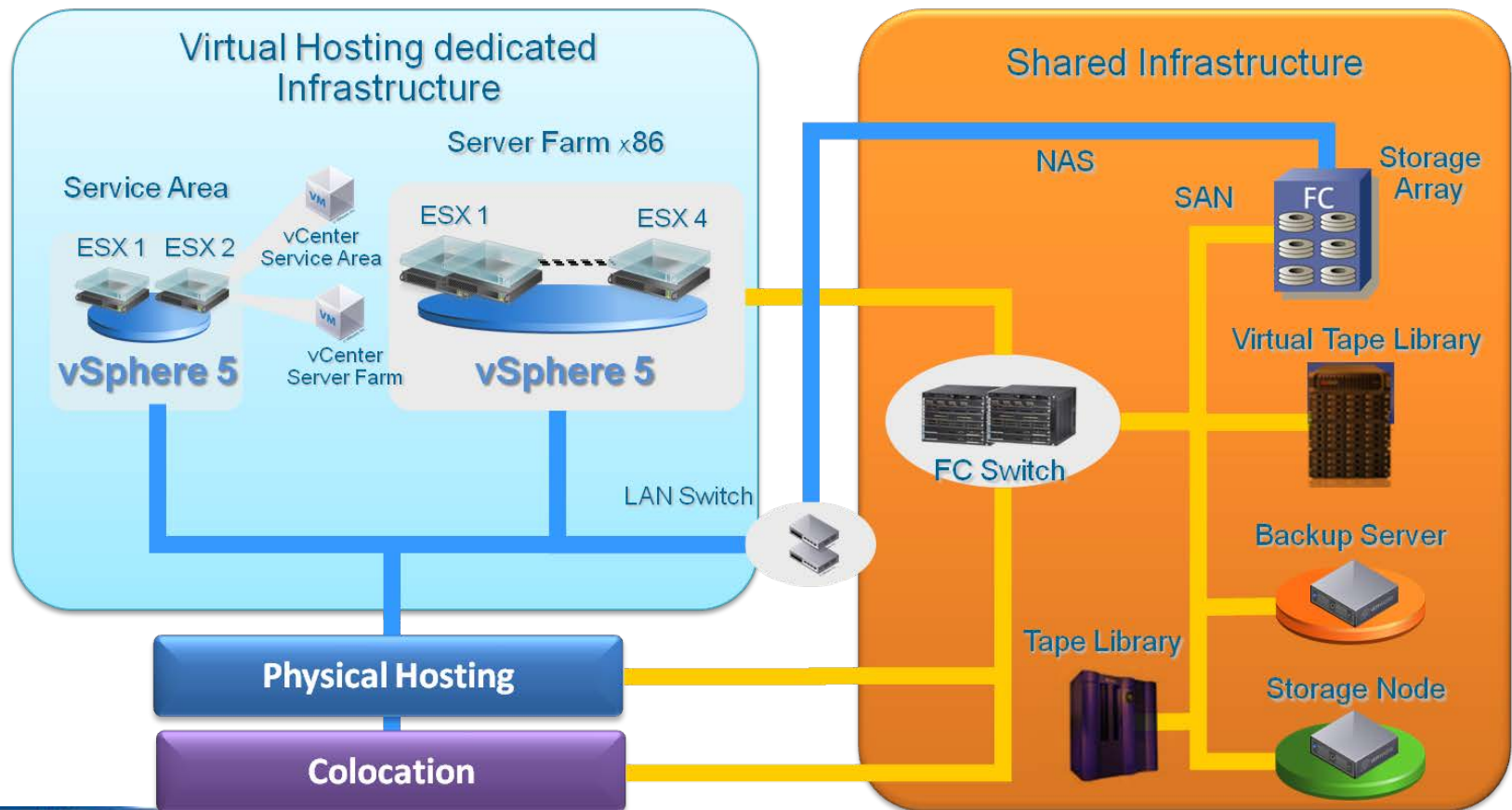- ✓ **PaaS & SaaS**
- ✓ **Disaster Recovery**

ATHENS
- ✓ **Colo&Housing**
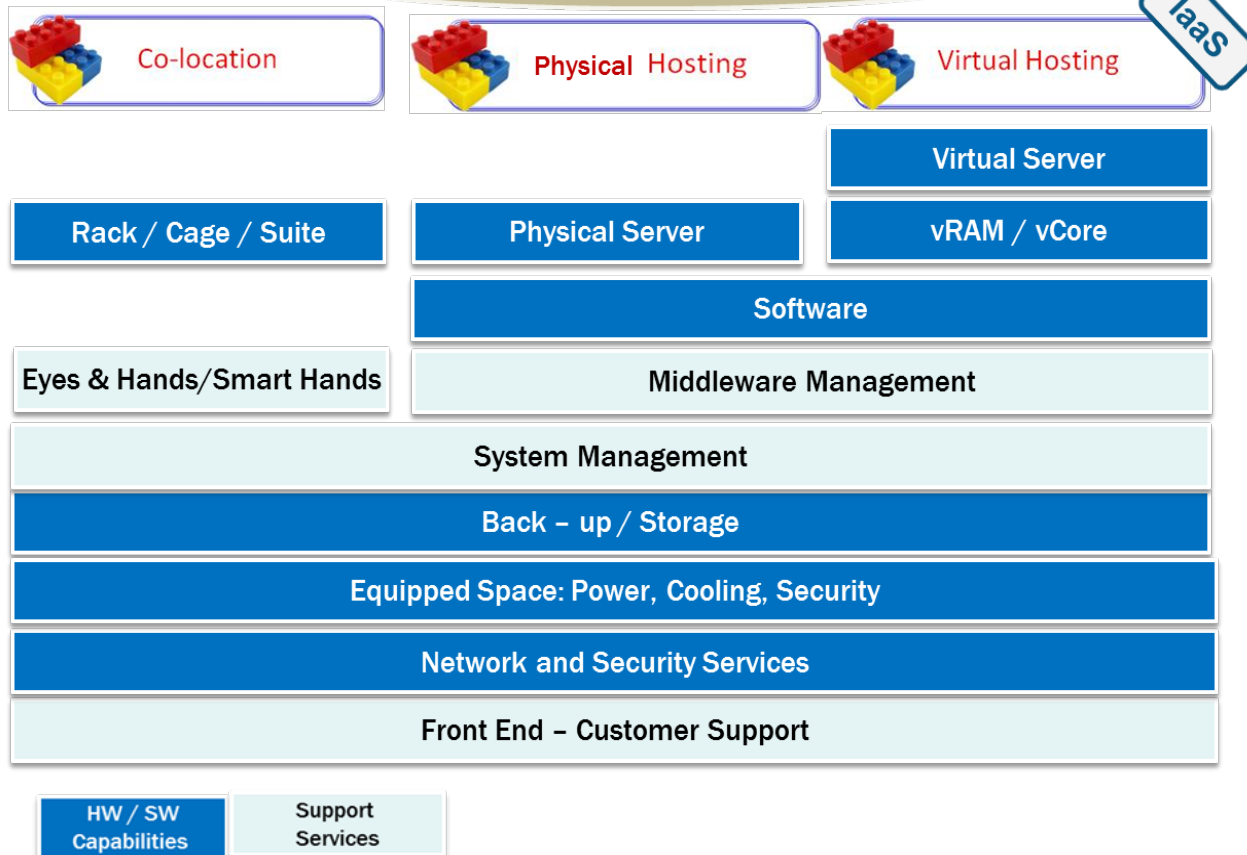- ✓ Cloud **IaaS** Solutions
- ✓ **Disaster Recovery, PaaS & SaaS** *2013*

CATANIA
- ✓ **Colo&Housing** *i*
- ✓ **Disaster Recovery** *2013*

Secure, scalable infrastructure for mission critical IT systems:

Server Farm ⟹ for customers Virtual Machines hosting

Service Area ⟹ for management tools

Med Nautilus Cloud Solutions: Flexible and Secure

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Our Solutions range from basic Co-location/hosting to a full suite of managed infrastructure services and feature secured facilities, managed services and flexible data protection.

New Cloud proposition

IaaS

Co-location | Physical Hosting | Virtual Hosting

Virtual Server

Rack / Cage / Suite | Physical Server | vRAM / vCore

Software

Eyes & Hands/Smart Hands | Middleware Management

System Management

Back – up / Storage

Equipped Space: Power, Cooling, Security

Network and Security Services

Front End – Customer Support

HW / SW Capabilities | Support Services

Best-in-class architecture and technologies!

From Tier 1 vendors

vmware

NetApp
Platinum Partner

CISCO PARTNER
Gold Certified

EMC²

Virtual Hosting profiles

BASE	SIMPLEX	ADVANCED
Standard solutions with:	Standard solutions with:	Standard solutions with:
• **Virtual Server** : • **VCore** - best effort CoS *(up to* **25%** *CPU guaranteed)* • **vRAM** *(up to 8 GB/v Core* • **vLAN** *(Intemet, Internet with Natting, MPLS, Leased Line)*	• **Virtual Server** : • **VCore** - Silver CoS *(≥* **25%** *CPU guaranteed)* • **vRAM** *(up to 8 GB/v Core* • **vLAN** *(Intemet, Internet with Natting, MPLS, Leased Line)*	• **Virtual Server** • **VCore** - a wide range of CoS *(from* **50%** *up to* **100%** *CPU guaranteed)* • **vRAM** *(up to 8 GB/v Core* • **vLAN** *(Intemet, Internet wi Natting, MPLS, Leased Line)*
• **Storage** – NAS or SAN(Sata)	• **Storage** – NAS, SAN(Sata, **SAS**)	• **Storage** – NAS, SAN(Sata, **SA**
• **Backup** Data on Disk (Image, File, and DB)	• **Backup** Data on Disk (Image, File, and DB)	• **Backup** Data on Disk (Image File, and DB)
• **Help Desk:** • Standard **(Business Hrs)** • Optional **(24 x 7)**	• **Help Desk:** • Standard **(Business Hrs)** • Optional **(24 x 7)** • **System Management (24 x 7)**	• **Help Desk:** • Standard **(Business Hrs)** • Optional **(24 x 7)** • **System Management (24 x 7)** • **Load Balancing Platform** • **Service Reporting** • **Middleware and Package Management** (planned 2012)

Disaster Recovery as a Service

Environmental Disasters

(i.e. hurricanes, earthquakes, etc.)

Manmade Disasters and Voluntary Interruptions

(i.e. terrorist acts, wars, arsons, etc.)
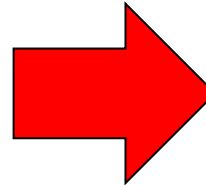
Utilities Loss

(i.e. power, gas, water interruption, etc.)

System/Hardware Failures

(i.e. cooling system interruptions, non IT HW failure, etc.)

Information Security Failures

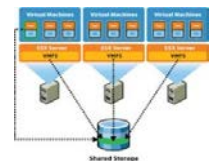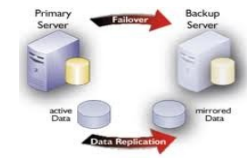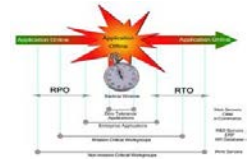(i.e. Cyber crime, data loss, IT system failure, etc.)

RPO & RTO

Storage Amount to be recovered

Primary and Secondary sites architecture

Solution for the first data tranfer

Performances degradation level

Profiling customers' subset systems

MedNautilus DaaS Offerings

Single Corporate Console
Provisioning & Management

Virtual
Desktops

Shared Desktops

Apps From
Virtual or Shared
Desktops

Windows 7
XP

Windows 7
Compatible RDS
Desktops

RemoteApp

Major Savings:
From Desktops to Thin Clients
Shared VD for Shift Workers
From Apps Farm to «Just an App Publishing»

SecureCall is a solution that allows your Cell Phone to become a physical TOKEN to enable and certify personal credentials during on line sensitive transactions (login or dispositive commands). In few words is a complete and sophisticated OOB (Out of Band) Strong Authentication solution.

SecureCall is typically adopted to:

- **Authenticate** the users while entering a restricted area
- **Authorize** online transactions
- **Activate** Mobile Payment Solutions

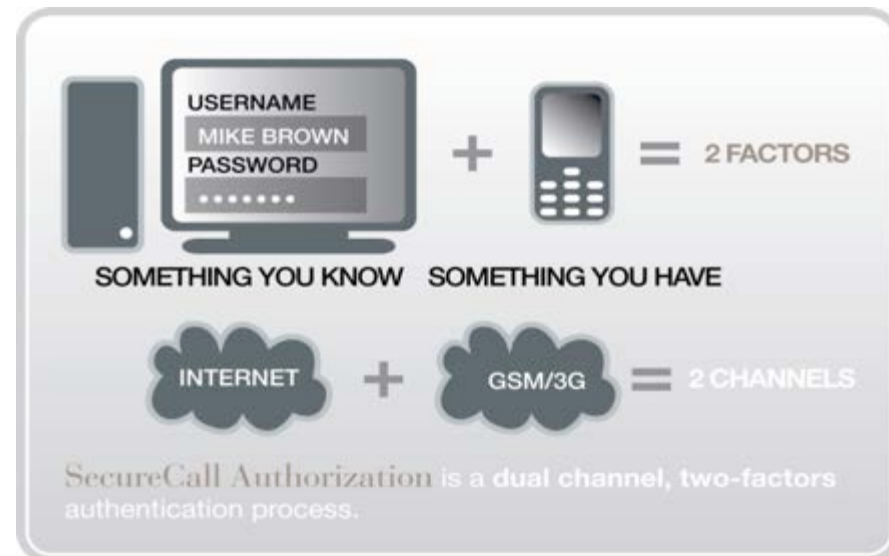**SecureCall** is a User friendly Strong Authorization process built on:

Two or more factors (e.g. PC, cell phone, PIN, OTP, Voice, etc..)

Dual channel (WEB + GSM/UMTS network)

SecureCall, by adding an additional security level, can effectively prevent the most advanced techniques for IT malicious attacks (phishing, MIM/MIB, Spoofing, etc.)

WHAT IT IS PROVIDING
1. Autentication Out-of-Band *(Secure Call)*
2. Remote eSignature *(Secure Sign Mobile, BIO, Auto)*
3. Mobile Payment *(Secure Pay)*
4. Information *(SecureCall SMS e Info)*
5. Localization *(SecureCall Localization)*

USERNAME MIKE BROWN PASSWORD + = 2 FACTORS
SOMETHING YOU KNOW   SOMETHING YOU HAVE
INTERNET + GSM/3G = 2 CHANNELS
SecureCall Authorization is a dual channel, two-factors authentication process.

MAIN FEATURES
- Simple user experience
- Carrier/handset independent
- No SIM toolkit
- No need to install any SW on the cell phone
- Compatible with all major IAM platforms (IBM, CA and Oracle)
- Compliant with IBM Worklight
- Telco signalling grade solution (IN, SS7)
- USSD compatible
- Patented solution

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Partners' success is our success.

✓ Develop differentiated, enterprise-class, **cloud-based services that incorporate our Cloud Solutions**

✓ Expand partners' **market reach** by engaging with our **sales team and partner ecosystem**

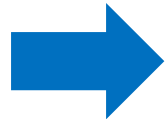✓ **Accelerate time to market** for partners' solutions with our **multi-country presence**
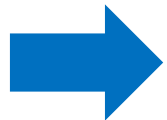
Powered by
- Connectivity Providers (local and int'l), System Integrators, Vendors, Application Providers and Software Houses
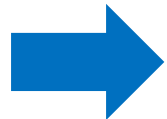
Certified with
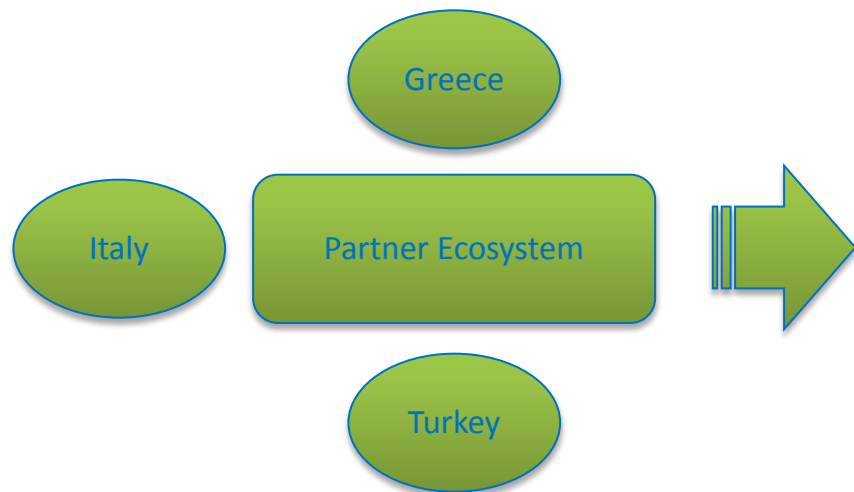- Connectivity Providers (local access), Vendors, selected Application Providers

Delivered on
- Selected Application Providers on a global scale

Evolution **from a pure IaaS offer to PaaS and SaaS** enriching the current infrastructure **with applications also introduced by Partners** *(System Integrator as well as Software Houses)*

"Grow by supporting our partners' growth"
Growth strategy based on a partner ecosystem able to draw independent sw vendors, value added resellers, system integrators, developers as well as niche application solutions providers with attractive business opportunities.

Through our partner program, we can transfer all the know-how necessary to our partners to address their customers' needs in a short time.

Greece

Italy

Partner Ecosystem

Turkey

A richer ecosystem offering a wider portfolio of integrated services
*Partners will complete our IaaS offering by adding their own application solutions in a **win-win approach** for all parties in the ecosystem.*

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① **Events for Partners** Meetings for aspiring Partners to explain content and opportunities of the partnership model.

② **"Powered by Cloud Solutions" Training Courses** Moreover, a training course for partner IT companies and a specific certification plan of the competences acquired about infrastructural services of TIS Group's "Cloud Solutions" are part of the program. Certified Partners will be constantly updated in order to propose effective solutions to the Cloud market.

③ **Discounted Price List and Customized SLA** *"Powered by"* and *"Certified with"* Partners will access to discounted price list for IaaS Solutions

④ **Reduced Time2Market, Cost Savings and Focus on Core Business** Leveraging on Cloud Solutions architecture and expertise allow partners to achieve fast time to market for innovative services, avoid upfront capital and focus on their core business.

⑤ **Co-marketing and Joint Activities Planning** Jointly work to develop marketing strategies, design and develop comprehensive marketing programs, and execute marketing activities to enhance our mutual success. Developing business, marketing, technology, and training plans tailored to partners' specific market opportunities and business model to enhance our mutual success.

⑥ **Capability to Deliver Services in Other Countries** Working with customers to solve their business challenges requires a collaborative engagement model. TI Sparkle Group maintains a global field presence to help partners develop markets and uncover opportunities to accelerate market adoption of our joint Cloud Service.

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Mediterranean Nautilus Greece
"the only Cloud with the network inside"