

Digital Security for Telecom

*Helping you turn risk into value
across the digital landscape*

Tip: Click
the arrow
to navigate



Atos

Atos, a Trusted Partner

Our Assets

6000+

security
professionals

31 billion

security events
processed per day

15

Security Operations
Centers

15 million

vulnerability scans test cases

3.2 million

endpoints
secured by Atos

300 million

citizens
covered by our solutions

+30 million

network equipment
and secure mobile phones



Trusted identities for people
and devices



Identity and Access
Management



Data Protection at
rest and in motion



Patented AI Platform

LEADER

LEADER

NICHE PLAYER

NUMBER 3

NICHE PLAYER

LEADER

LEADER



Managed Security
Services Europe



Cyber resilience services
& EMEA
GDPR Services WW



Identity Governance
& Admin WW



Managed Security
Services WW
Market share



Access Management
WW



Identity
Provisioning
Global



IT Security
Europe





Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access management

Managed Detection and Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for Cloud

Private LTE network for IoT

What are the key challenges within your company?



Secure your company's mobile fleet [>>](#)



Secure message exchanges for 4G and 5G network [>>](#)



Manage identities and accesses for large groups [>>](#)



Detect and contain threats across network/app/IT/Telecom [>>](#)



Secure data exchanges on sensitive networks [>>](#)



Comply with regulations and internal security policies [>>](#)



Secure cloud usages and the digital workplace [>>](#)



Keep the confidentiality of information in mobile core virtualization [>>](#)



Migrate core networks in the Cloud [>>](#)



Build separate IoT networks [>>](#)



Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access
management

Managed Detection and
Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for
Cloud

Private LTE network for
IoT



PKI for mobile fleet

Integrating smartphones and tablets into the trust domain



Challenge

With remote working and the adoption of the BYOD practice, how to answer security issues imposed by personal equipment management?

What are the threats?

- ▶ Data theft
- ▶ Poor mobile management
- ▶ Lack of employee training
- ▶ Device loss or theft

How to protect?

Credential management system (CMS) acting as a registration authority to manage the lifecycle of cryptographic devices for business users



Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access
management

Managed Detection and
Response

IP security

Compliance

Cloud security

NFV security

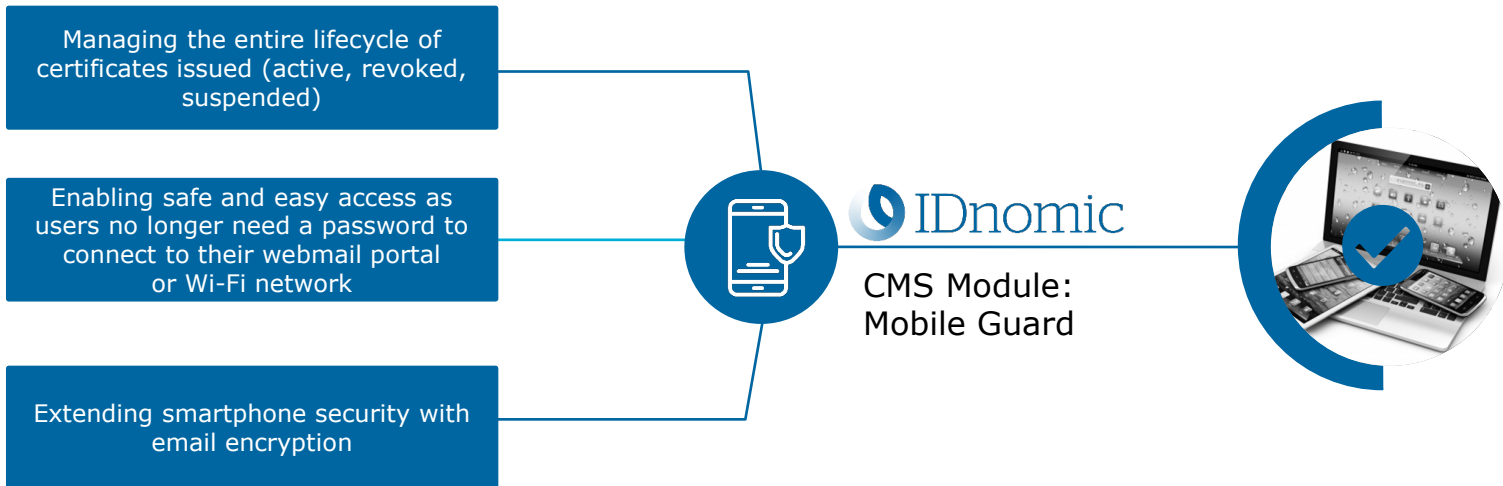
Private LTE network for
Cloud

Private LTE network for
IoT



Atos solutions

to integrate smartphones and tablets into the trust domain





Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access
management

Managed Detection and
Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for
Cloud

Private LTE network for
IoT



Secure message exchanges

for LoraWAN, 4G and 5G networks



Challenge

5G networks support a massive number of **connected devices**. They enable a huge increase of bandwidth over LTE, and create a threat landscape different from previous networks. Operators need to deploy **secure** and **scalable** IoT networks for customers.

Interoperability

More and more communication protocols are used (Wifi, bluetooth, NFC, Zigbee, LPWAN (LORA, Sigfox), Nb-IOT), they have not the same level of protection. It puts more complexity to answer an end-to-end communication protection.

How to protect?

- ▶ Embedded security
- ▶ Trust provisioning
- ▶ Secure communication



Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access
management

Managed Detection and
Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for
Cloud

Private LTE network for
IoT



Atos solutions for secure message exchanges

for LoRaWAN, 4G and 5G networks

Securing the infrastructure
(gateways, antennas...) on
which the IoT networks are
based in compliancy with the
current standards
(4G/5G/LoRaWAN networks...)



PKI solution



Ensuring data trust by
verifying the integrity of the
payload and managing the
trusted nodes lifecycle with a
scalable solution



Hardware Security
Module for IoT





Contact us:

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access management

Managed Detection and Response

IP security

Compliance

Cloud security

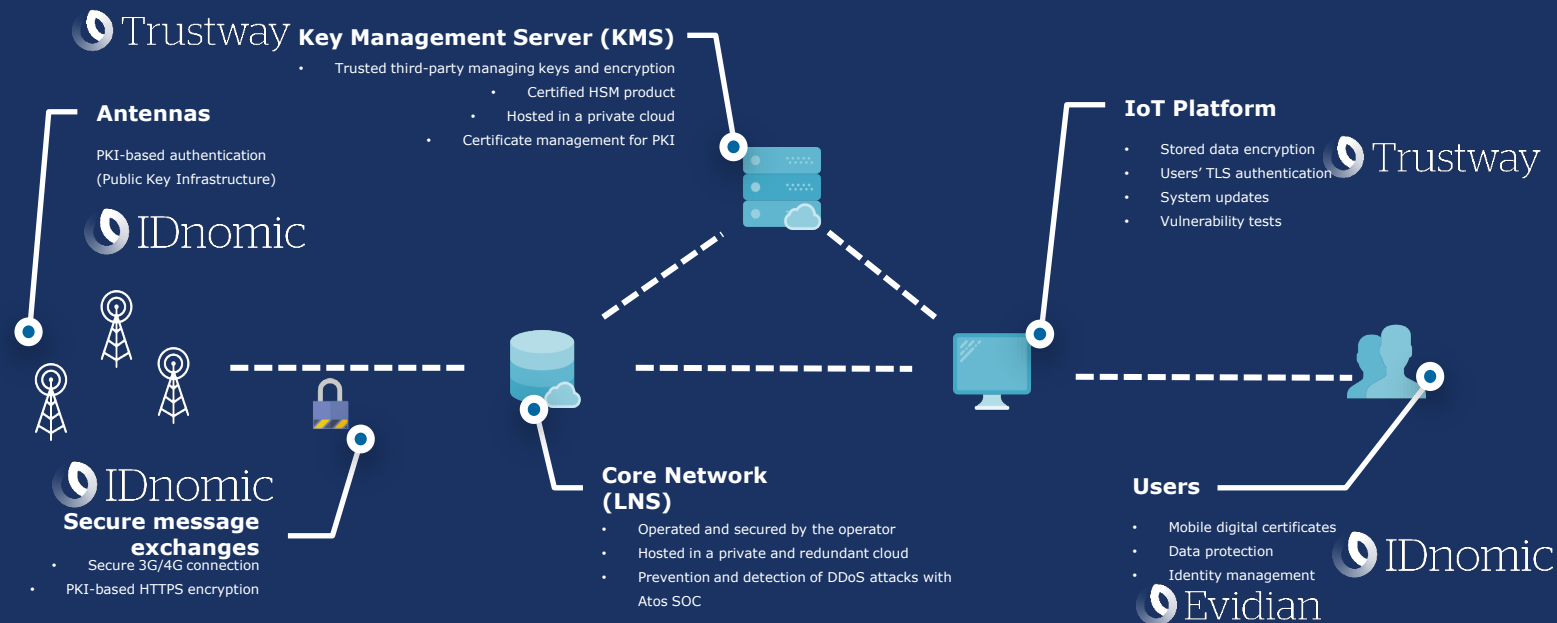
NFV security

Private LTE network for Cloud

Private LTE network for IoT

The secure architecture of an operator

How Atos solutions can apply





Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

**Identity and access
management**

Managed Detection and
Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for
Cloud

Private LTE network for
IoT



IAM and access control

Identity and access management for large Telecom groups



Challenge

With mergers and acquisitions, Telecom companies are getting bigger and bigger.

How to modernize infrastructure and rationalize costs as part of this digital challenge?

What can make this complex?

- ▶ Heterogeneous structures
- ▶ Lack of human, technical and financial resources
- ▶ Cloud challenges (sovereignty, availability, reliability...)

How to protect?

- ▶ Shared identity & access management (IAM) solutions
- ▶ Combining security and control of an on-premise solution with the adaptative approach and scalability of the cloud



Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

**Identity and access
management**

Managed Detection and
Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for
Cloud

Private LTE network for
IoT



Atos solutions

to deploy IAM in large TMT groups

Establishing a common
framework while respecting all
contracts of each establishment

Providing a common solution for
shared applications and those
locally managed in each
establishment

Enhancing the mobility of TMT
professionals and facilitating the
access to applications



 Evidian

Evidian IGA





Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

**Identity and access
management**

Managed Detection and
Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for
Cloud

Private LTE network for
IoT



Atos solutions

to control internal risks in editing platform rooms

Enabling accesses delegation to
assistants or colleagues in total
security without sharing
passwords

Auditing all accesses to the PCs
in the cluster and to applications

Providing a media cluster
solution to simplify access to
several workstations with strong
authentication



 Evidian

Evidian EAM





Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access
management

**Managed Detection
and Response**

IP security

Compliance

Cloud security

NFV security

Private LTE network for
Cloud

Private LTE network for
IoT



Managed Detection and Response

Detecting and containing threats across
network/app/IT/Telecom



Challenge

Telecom companies need to be able to detect known and unknown attack patterns on a 24/7 basis, as well as enable a faster containment to prevent breach.

Regulations

- ▶ Continuous compliances towards new standards
- ▶ Data Privacy regulations
- ▶ Avoid hefty fines

How to protect?

- ▶ Comprehensive Vulnerability Management Program
- ▶ Next generation Threat Management Program
- ▶ Continuous Compliance programs



Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access
management

**Managed Detection
and Response**

IP security

Compliance

Cloud security

NFV security

Private LTE network for
Cloud

Private LTE network for
IoT



Atos Managed detection and response

to detect and contain threats across network/app/IT/Telecom

Proactively defend against the most relevant threats and identify emerging global threats

Analyze terabytes of data in seconds and deploy 550+ AI models and use cases

Constantly monitor the risk level of the organization's assets, users, and external IPs to identify the greatest threats



Atos

AIIsaac: AI Platform
For Cyber Analytics
and Hybrid SecOps





Contact us:

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access management

Managed Detection and Response

IP security

Compliance

Cloud security

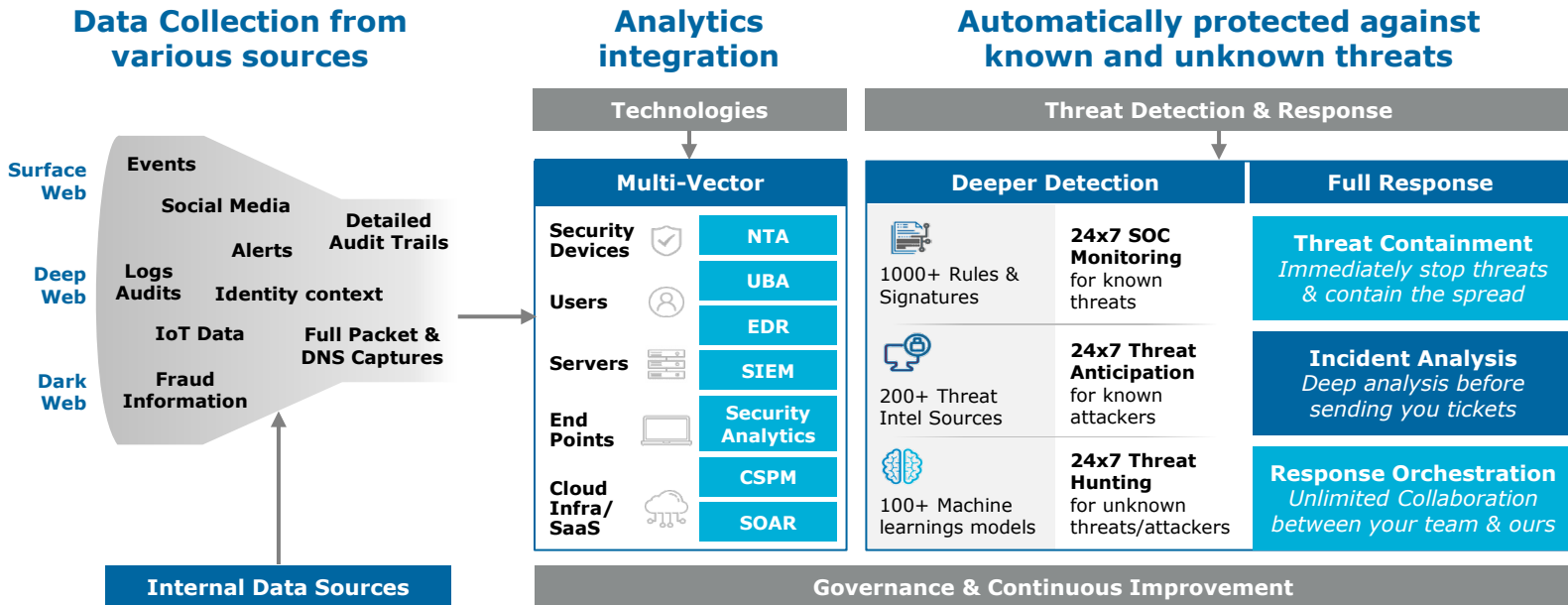
NFV security

Private LTE network for Cloud

Private LTE network for IoT



Atos for Media



Improve Detection | Learn Quickly & Extended Functionalities | Security Automation & Orchestration



Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access
management

Managed Detection and
Response

IP security

Compliance

Cloud security

NFV security

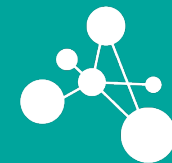
Private LTE network for
Cloud

Private LTE network for
IoT



IP Security

Security of sensitive networks



Challenge

Industrial spying,
eavesdropping,
hacking...

How to ensure
confidentiality and
integrity of IP flows
and outsource the IT
encryption?

Compliance

Dealing with new
regulations and
European directives
on privacy protection.

- ▶ GDPR
- ▶ HIPAA
- ▶ PCI DSS
- ▶ ...

How to protect?

IPSec encryption
devices help
guaranteeing
confidentiality and
integrity for all data
exchanged.



Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access
management

Managed Detection and
Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for
Cloud

Private LTE network for
IoT



Atos solutions

to secure sensitive networks

Providing on-the-fly encryption
of IP communications

Establishing IPSec tunnels
instantaneously and managing
IP traffic priority with optimum
processing capacity



 Trustway

Trustway IP Protect





Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access
management

Managed Detection and
Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for
Cloud

Private LTE network for
IoT



Compliance

Cloud Security Posture Management



Challenge

There are a lot of data security compliance and regulations to comply within media & telecom firms. How to keep pace with new standards?

What are these regulations?

- ▶ ENISA telecom security supervision (EEEC)
- ▶ GDPR, NIS Directive
- ▶ Local data privacy laws...

How to protect?

- ▶ Asset discovery and identification
- ▶ Cloud governance and compliance
- ▶ Encryption
- ▶ Cloud data protection



Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access
management

Managed Detection and
Response

IP security

Compliance

Cloud security

NFV security

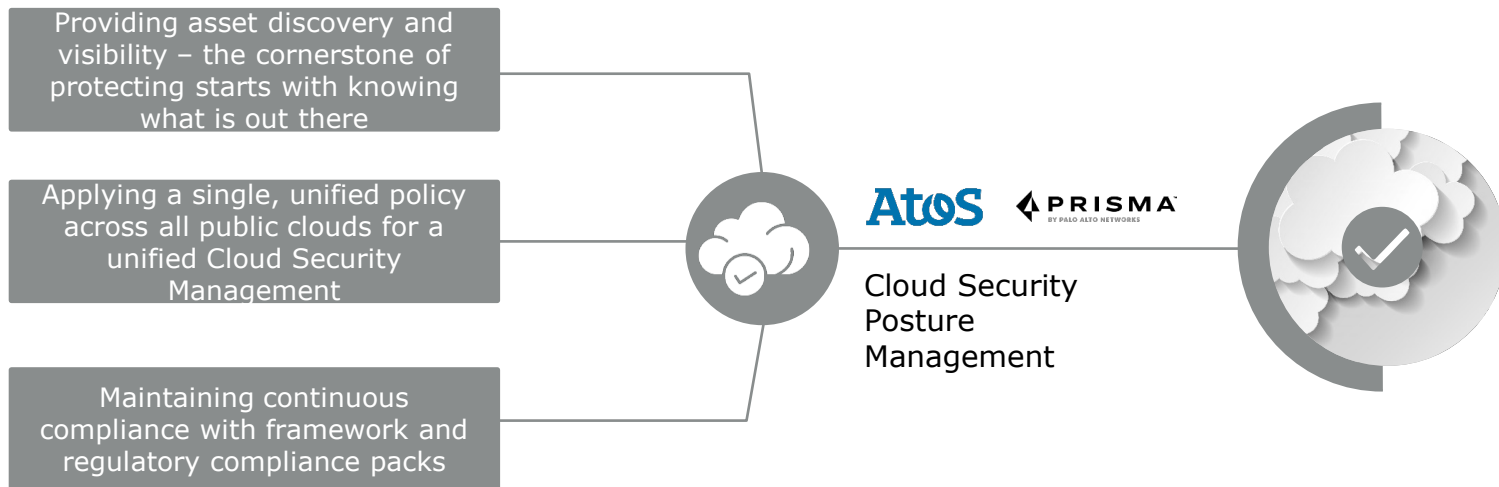
Private LTE network for
Cloud

Private LTE network for
IoT



Atos solutions

to remain compliant with Media regulations





Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access management

Managed Detection and Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for Cloud

Private LTE network for IoT



Cloud security

Securing digital workplace and collaborative environments



Challenge

Telecom organizations deal with highly sensitive data. Yet with their transition to the Cloud, they need to be able to work collaboratively while enforcing the sovereignty of the data stored there.

With the increase of malware attacks, endpoints also need to be protected across all environments.

How to protect?

- ▶ Solution reconciling the concepts of digital workplace + user experience and security and sovereignty of data
- ▶ Security model promoting openness, sharing and increases detections & controls
- ▶ Endpoint detection and response (EDR)

Over
30 million

network equipment
and secure mobile
phones



Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access management

Managed Detection and Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for Cloud

Private LTE network for IoT



Atos solutions

to move VIP securely to the Cloud

Enabling encryption of documents in the sanctuary while storing keys in a HSM



Data Encryption



Managing identities and enforcing strong authentication with soft tokens



Identity and Access Management

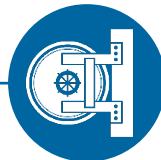


Securing emails and attachments while keeping the user's experience

Atos



Data Sanctuary





Contact us:

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access management

Managed Detection and Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for Cloud

Private LTE network for IoT



What is Cloud Access Security Broker

Why Cloud needs for a Control Point

Gartner's CASB 4 pillars

► VISIBILITY

Uncover Shadow IT usage and understand content flowing into and out of the cloud

► THREAT PROTECTION

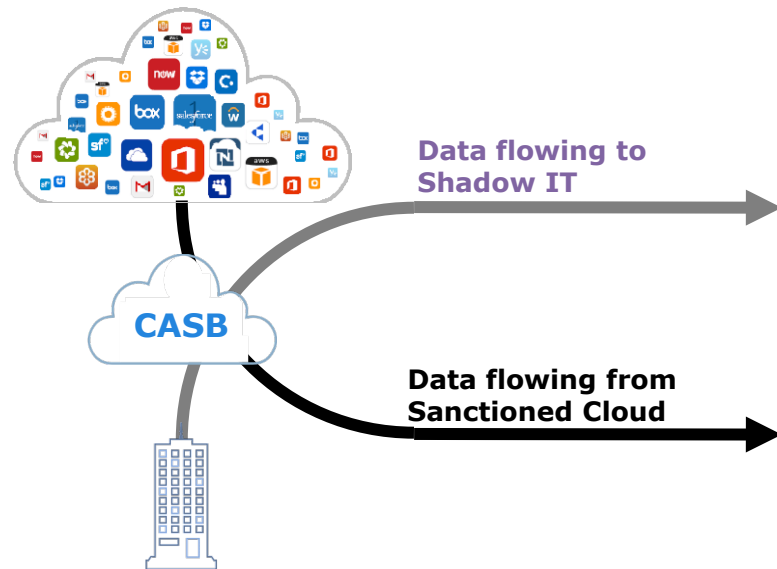
Detect and prevent data exfiltration, insider threat, compromised accounts, and malware

► COMPLIANCE

Achieve compliance with both internal policies and industry regulations

► DATA SECURITY

Protect data from unauthorized access stemming from a security breach or inadvertent disclosure





Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access management

Managed Detection and Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for Cloud

Private LTE network for IoT



Network functions virtualization

Securing NFV



Challenge

Network functions virtualization (NFV) is a way to virtualize network services, such as routers, firewalls, and load balancers. How to manage security in such a multi-layers architecture and increasing software complexity?

What does it imply?

NFV services are packaged as virtual machines (VMs) on commodity hardware.

- ▶ How to ensure isolation between tenants ?
- ▶ How to secure containers ?
- ▶ How to develop secure cloud-native applications ?

How to protect?

- ▶ Encrypt internal communications between VMs
- ▶ Encrypt all external and internal OpenStack APIs and services
- ▶ Encrypt the storage at rest
- ▶ Verify the integrity of stored images



Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access management

Managed Detection and Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for Cloud

Private LTE network for IoT



Atos solutions

to secure NFV

Generate cryptographically strong keys and centrally manage them

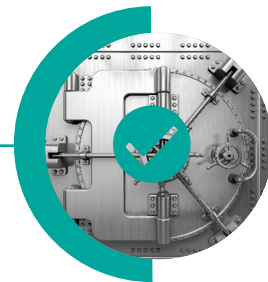
Provide a hardware root of trust for keys



 Trustway

 redhat

Data encryption solution with OpenStack Barbican





Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access
management

Managed Detection and
Response

IP security

Compliance

Cloud security

NFV security

**Private LTE network
for Cloud**

Private LTE network for
IoT

Private LTE network

Migration of core networks in the Cloud



Challenge

Cloud is already playing an important role in dealing with the new services and mass of data. This trend can save a lot of time and money, being more efficient and quicker. This makes the cloud indispensable for future telco businesses and competition with new players like WhatsApp, Google, Amazon etc.

5G will drive a quantum leap in the cloud landscape. Service providers will need to **unify multi-cloud, multi-vendor structures into more manageable systems**. These capabilities will create new opportunities for providers, who will be able to deliver services from for greater capacity, faster speeds and lower latencies.

Operational excellence

PAST: Proprietary hardware was expensive and it was only possible to buy from one vendor



NOW: A single cloud for several services allows cheaper and easier operation of the network

Revenue velocity

PAST: New features took months to integrate in the network and marketing pace was slowed down



NOW: Data in the cloud ("cloud native") means to speed up the implementation at lower cost





Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access management

Managed Detection and Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for Cloud

Private LTE network for IoT



Atos solutions for private networks

One single radio network to fit all critical needs

Creating a private 4G LTE radio network from scratch that can be easily deployed



Private LTE network



Providing end-to-end services for training, deployment, maintenance and migration to new technologies



Services





Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access management

Managed Detection and Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for Cloud

Private LTE network for IoT

Private LTE network

Building separate IoT networks



Challenge

The **Internet of Things** produces and uses information continuously. Existing networks are expensive to operate and revenue per subscription in IoT are much lower as those of residential or even business subscribers. As a result, operators are looking for separate, less complex and more efficient networks.

Most operators go for **virtual core networks**. Those networks have a very high degree of automation allowing fast introduction of new services. They only provide a limited set of features, which is fine because IoT devices are not only cheaper but also less complex (e.g. some have no mobility).

Operational excellence

PAST: One network for all use cases, too complex and expensive (high investment) for most IoT services



NOW: Dedicated IoT network saving costs for operators and allowing differentiation of offerings for vendors

Revenue velocity

PAST: New IoT offerings running on legacy network engage high operational costs



NOW: Test Cloud offerings and new vendors without affecting legacy networks serving existing subscribers



Contact us: 

Key challenges

PKI for mobile fleet

4G/5G security

Identity and access
management

Managed Detection and
Response

IP security

Compliance

Cloud security

NFV security

Private LTE network for
Cloud

**Private LTE network
for IoT**

Atos solutions for private networks

One single radio network to fit all critical needs

Creating a private 4G LTE
radio network from scratch
that can be easily deployed



Private LTE network



Compliant with broadband
LTE, NB-IoT and LTE-M in a
single network and following
3GPP standards



Digital Security for Telecom

To know more about our solutions, contact us:

Bruno Trilles, BDS Global Business Development –
bruno.trilles@atos.net

Marjolaine Lombard, Cybersecurity Product Marketing and
Offering – marjolaine.lombard@atos.net

Odessa Del Aguila, Critical Communication Systems
Marketing Product & Innovation - odessa.delaguila@atos.net

