

Infrastructure for the Digital World

Fujitsu World Tour 2017

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#FujitsuWorldTour

Human Centric Innovation

Digital Co-creation

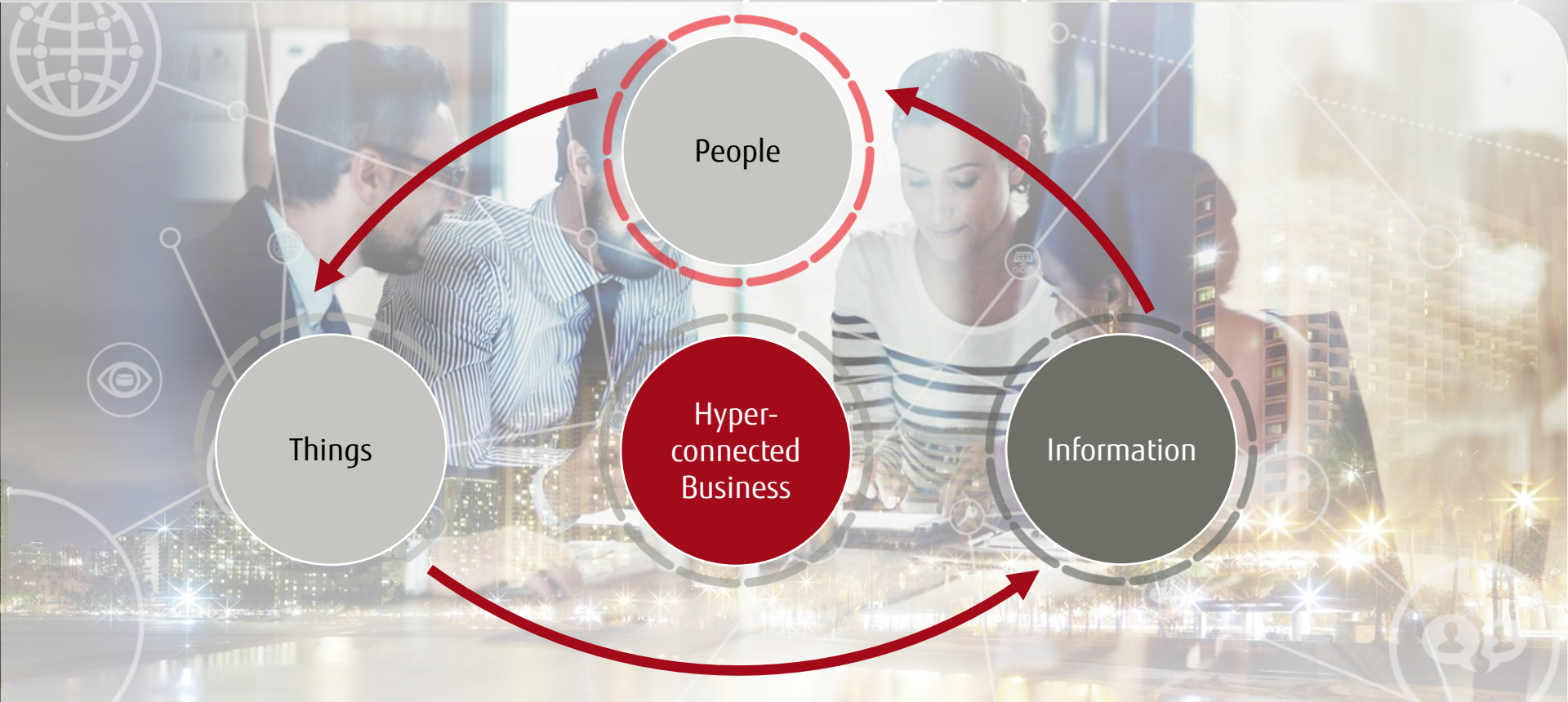
Proteggere le informazioni: dalla moderna Data Protection alle linee guida per il GDPR

Andrea Sappia

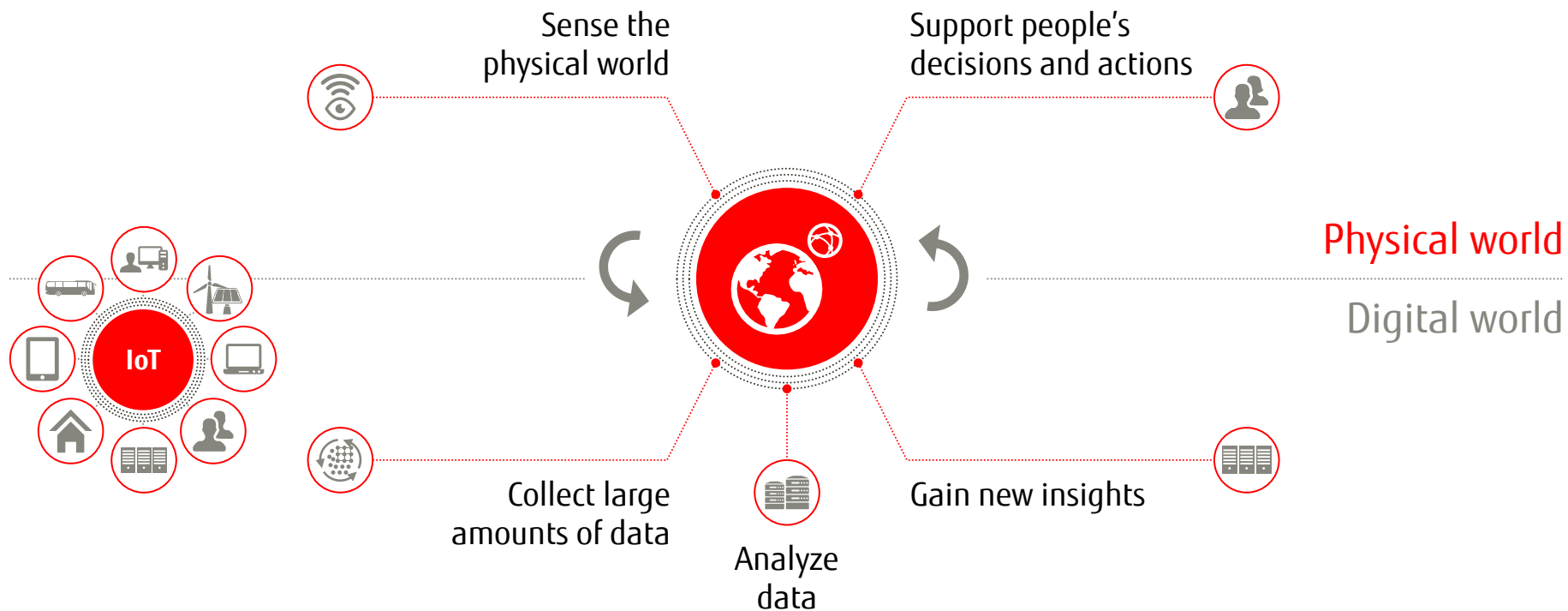
Sales Consultant Manager

Fujitsu Italia

A Hyperconnected World

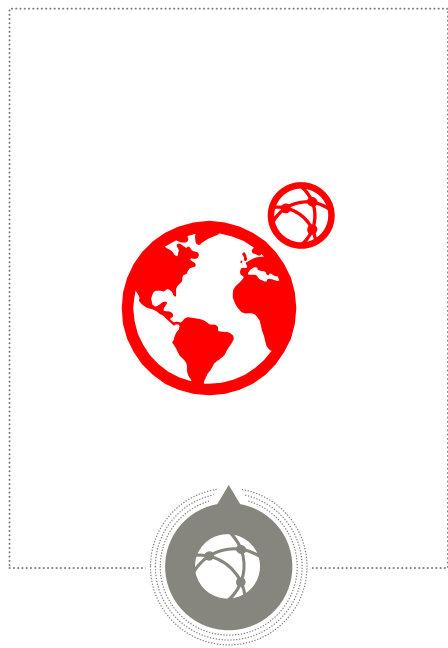


Fusion of the physical and digital worlds



The impact of a digitalized world on DC infrastructures

Digital world

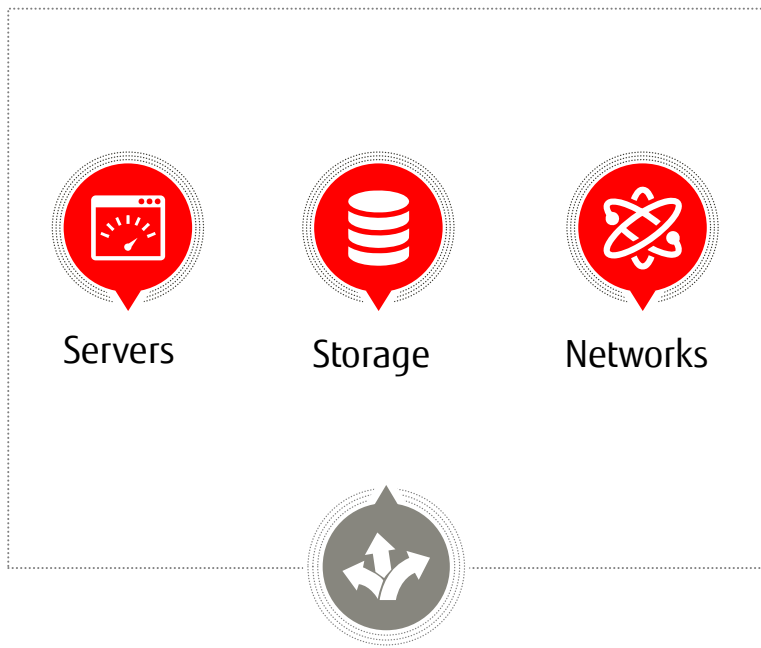


More data

- Will be gathered
- Will be transported
- Will be processed
- Will be stored



New dimensions of fast and flexible scalability are to be served



I

(Legislative acts)

REGULATIONS

**REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 27 April 2016**

**on the protection of natural persons with regard to the processing of personal data and on the free
movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)**

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 16 thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee ⁽¹⁾,Having regard to the opinion of the Committee of the Regions ⁽²⁾,Acting in accordance with the ordinary legislative procedure ⁽³⁾,

Whereas:

- (1) The protection of natural persons in relation to the processing of personal data is a fundamental right. Article 8(1) of the Charter of Fundamental Rights of the European Union (the 'Charter') and Article 16(1) of the Treaty on the Functioning of the European Union (TFEU) provide that everyone has the right to the protection of personal data concerning him or her.
- (2) The principles and rules on the protection of natural persons with regard to the processing of their personal data should be based on fundamental rights, respect for fundamental freedoms and the particular their right to the protection of personal data. This Regulation should be part of the framework of an area of freedom, security and justice and of an economic, social and sociological policy, to the strengthen and the emergence of economies within the internal market and the welfare of natural persons.
- (3) Directive 95/46/EC of the European Parliament and of the Council ⁽⁴⁾ seeks to harmonise the protection of fundamental rights and freedoms of natural persons in respect of processing activities and to ensure the free flow of personal data between Member States.

⁽¹⁾ OJ C 229, 31.7.2012, p. 90.

⁽²⁾ OJ C 391, 18.12.2012, p. 127.

⁽³⁾ Position of the European Parliament of 12 March 2014 (not yet published in the Official Journal) and position of the Council at first reading of 8 April 2016 (not yet published in the Official Journal), Council of the European Parliament of 14 April 2016.

⁽⁴⁾ Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data (OJ L 281, 23.11.1995, p. 31).

REGULATION (EU)

on the protection of
data and on the free

AMENT AND OF THE

processing of personal
ling Directive 95/46/EC
n)

25.5.2018

Some quick facts

- First draft in 2012 – 4 years in the making
- "...the most discussed, argued and lobbied legislative act of the EU..."
- Adoption by the European Parliament 14 April 2016
- Replaces current Directive 95/46/EG
- Will apply on 25 May 2018
- Has the form of a Regulation
- Directly applicable in all EU Member States
- No need for implementing national legislation

Key aspects of EU GDPR

- Broader definition of personal data
- Extraterritoriality
- Breach notification
- Proven positive consent
- "Right-to-be-forgotten"
- Privacy-by-Design
- Data Protection Impact Assessments (DPIA)

A digitized world needs high IT Security



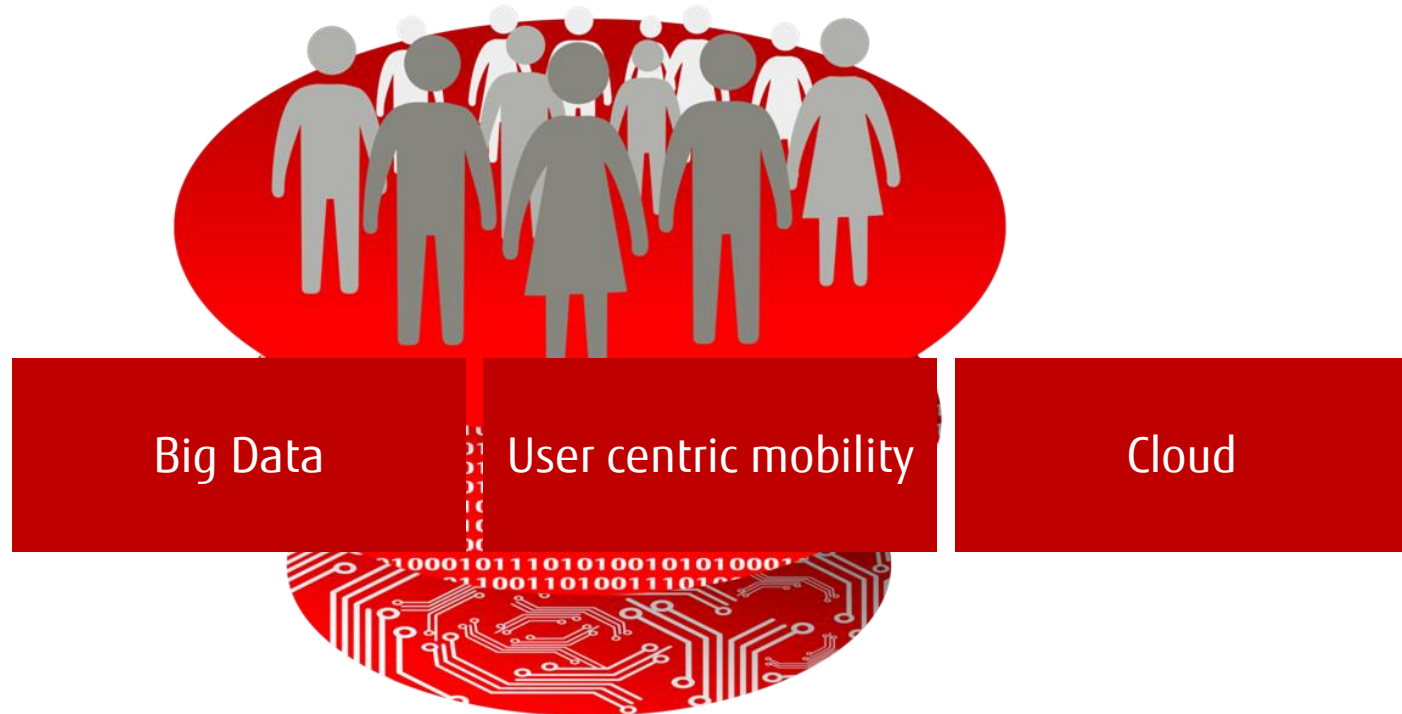
Our networked world



Enabling services



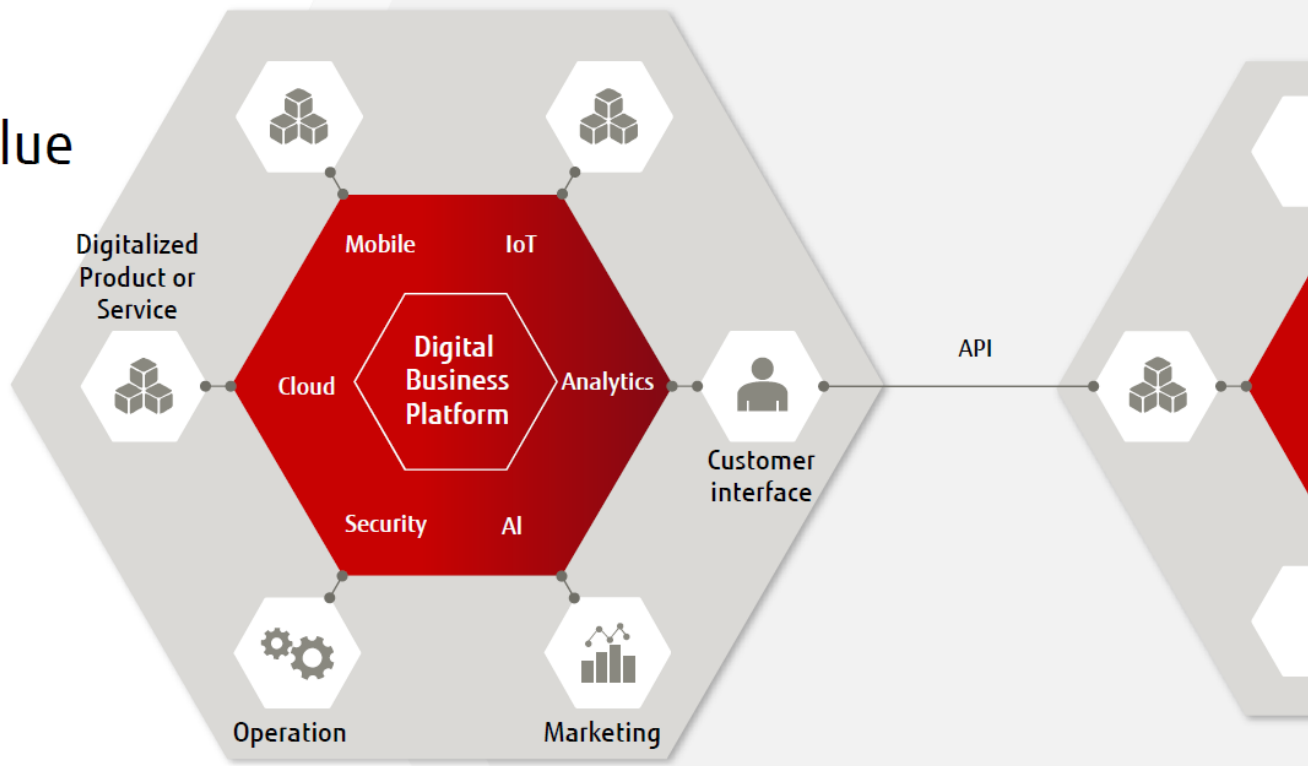
Underlying
infrastructures



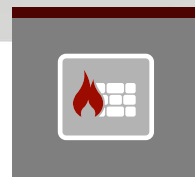
Where is the IT security in our Human Centric Intelligent Society?

Digital business

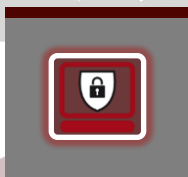
- Apply digital to the heart of business to realize innovative value
- Security is key to business success in new value networks



Fujitsu EMEA Security Offerings



Firewalls and
IDS/IPS



Web & Email
security



Endpoint
protection



SIEM and
SIEMaaS



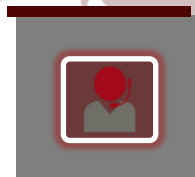
Security
Consultancy



Identity &
Access Mgmt



Continuity and
Resilience
Consultancy



Data Loss
Prevention



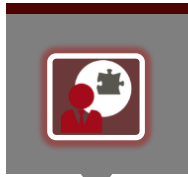
Advanced
Threat Protection



Vulnerability
Management



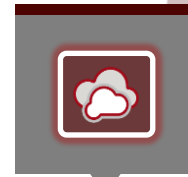
Cyber Threat
Intelligence and
Threat Response



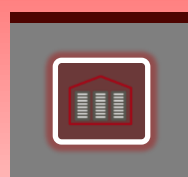
Technical Design
and Integration



Assessment
Services



Cloud and DLP
Security
Assessments



SURIENT



PalmSecure

Managed Security Services

350+ Security
professionals

Security Operations
Centres operating to
highest National
Government security
levels

R&D Capability –
developing/delivering
Fujitsu security
products, e.g.
PalmSecure and
SURIENT

Consultancy and Advisory

Operating across
Public and Private
sector, and National
Defence Businesses

Highest Strategic
Technology Partner
Accreditations

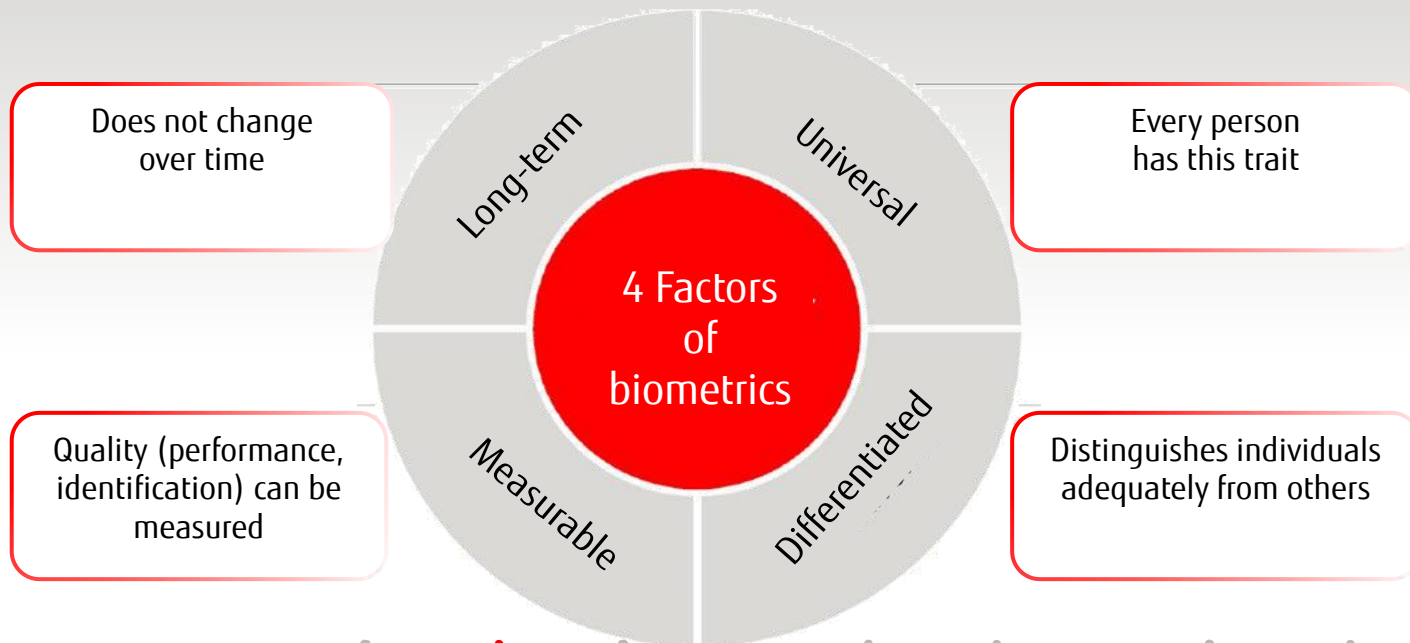
Products

40+ Year History in
design, delivery and
Integration of large
scale cyber security
services

shaping tomorrow with you

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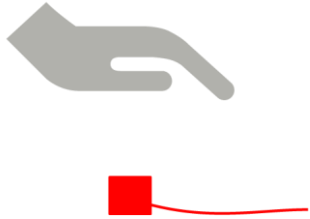
Requirements for biometric authentication



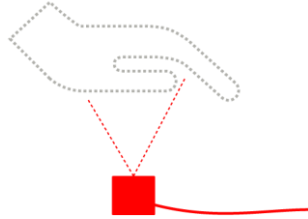
How PalmSecure functions



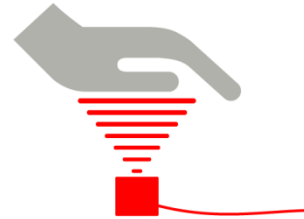
Hand positioned
over sensor



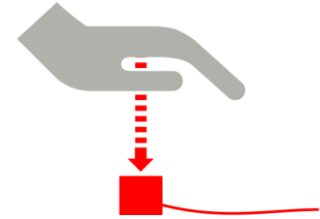
Sensor focuses &
detects live hand



Hand scanned
with infrared light



Hand veins
recorded



h3 9d j1 9f 0q o2 09 s0



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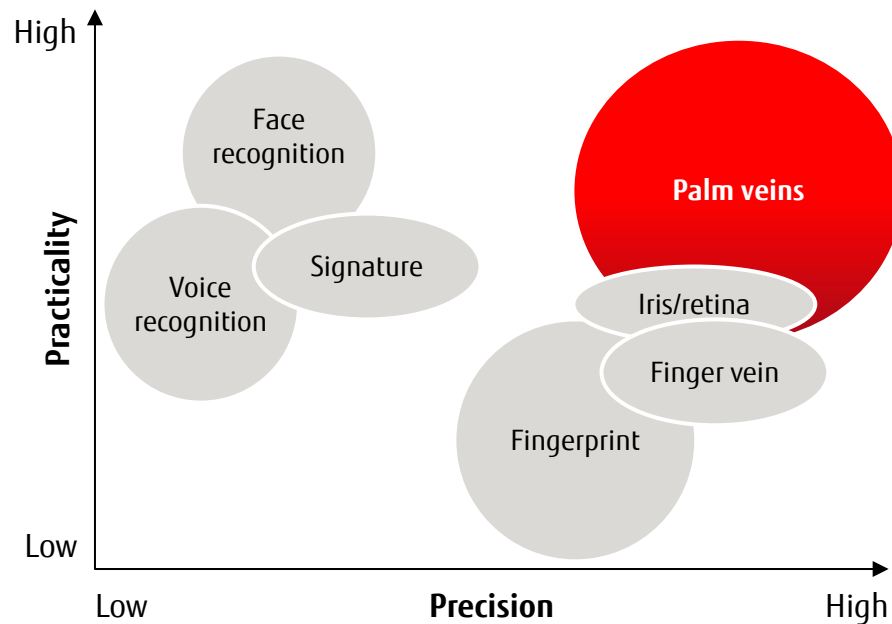
Secure biometric
template stored

Biometric template
converted individual key
assigned & 2nd AES coding

Transmitted
to PC

1st AES
coding

Precision of authentication compared



False acceptance rate (FAR) & false rejection rate (FRR) compared

Authentication method	FAR (%) =	If FRR (%) =
Face recognition	~ 1.3	~ 2.6
Voice recognition	~ 0.01	~ 0.3
Fingerprint	~ 0.001	~ 0.1
Finger vein	~ 0.0001	~ 0.01
Iris/retina	~ 0.0001	~ 0.01
Palm vein	< 0.00001	~ 0.01



Fujitsu's palm vein scanner is the most precise and practical technology.

Advantages of palm vein authentication

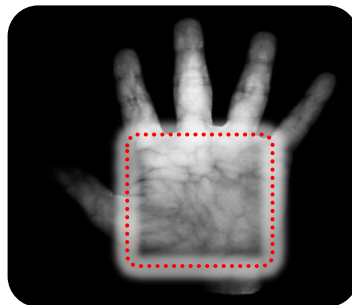
1 Highest level of security & performance

- Hidden under the skin
- Unique (even in the case of twins)
- Traits do not change for entire lifetime
- Live hand detection: only used if blood circulation detected



2 Extremely precise

- Palm veins are complex >5 million reference points
- Palm has thicker veins than fingers – easier to identify
- Palm veins are not sensitive to external factors



3 Accepted everywhere

- Very hygienic because contact-free
- Easy and intuitive operation
- High level of privacy because hidden under the skin



Access control & time recording

Portfolio elements

Secure access control

Monitoring of authorized entry

Presence of authorized staff recorded
and monitored securely

Automated processes, e.g.
for billing and social insurance



Area of application

- Data center
- Manufacturing plant (industry)
- Food industry
- Pharmaceutical industry
- Turnstiles (e.g. public transportation, casinos),
safe deposit boxes (as in banks, etc.)



- Current solutions being
developed with OEM partners

PalmSecure – Secure Biometric Identity Control



OEMs & SIs



- PS Sensor
- PS SDK
- PS U-Guide
- PS Embedded ARM Board
- PS MultiModal
- PS BioHash

State of the Art Biometrics for

- Industry
- Automotive
- Social Security

Desktop



- PS PC Mouse
- PS SGK
- PS SL
- PS Stick

Secured Log in / SSO for:

- LEs & SMEs
- Banks & Insurances
- Gov. & Public Sector

Application Platform



- PS ID Match
- PS ID Mobile
- PS ID Access
- PS ID T&A

High Level Security for:

- Gov. & Public Sector
- Retail & Banks
- Critical Infrastructures

Software



- PS truedentity
- PS bioLock for SAP
- Workplace Protect
- Cardless Payment
- PS IDaaS
- PS Mobile Apps

Solutions which fit:

- Log in / SSO / Web services
- Mobile / Payment Security
- Cloud Security

Palmsecure usage scenarios



Retail



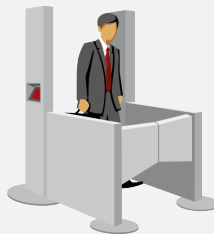
Healthcare



Finance



Enterprise



Public



Entertainment



Retail – PalmSecure in branches – customer view

Vendsafe

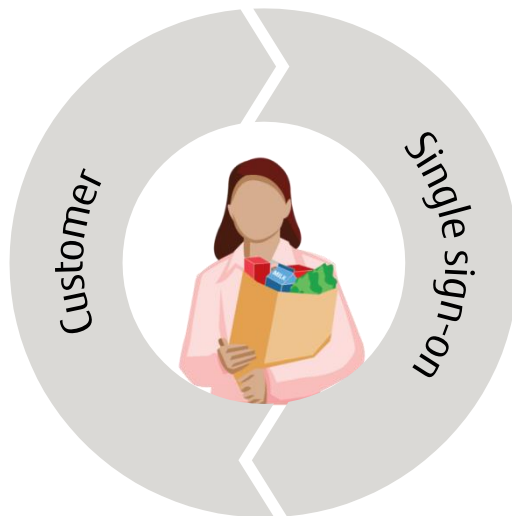


- Alternative to barcode scan
- No more receipts or gift cards
- E.g. at cigarette vending machine ...

Shop-in-shop

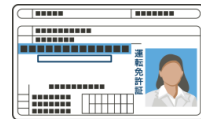


- Shopping centers or shop-in-shop systems
- Use of PalmSecure for payment
- EC card or loyalty program as payment option



Loyalty program

- Integration into loyalty program
- Alternative to customer card
- Always works, no card needed



Payment

- Self check-out
- Payment (via loyalty program)
- Faster payment process
- Payment function, e.g. by direct debit



Healthcare sector

Medical offices/healthcare centers

Patient registration



Admission to offices

Simplifies processes
for patients and staff



Office management



Single sign-on for doctors' PCs

Management of
treatment rooms



Therapy control



Simplifies processes

Tracking of
patient's status



Patient
self-service



Hygienic
and touchless



Requirements

Banco Bradesco S.A. Brazil: ATM

Fraud-proof – "zero defect" on ATM transactions

Reducing administration and fraud costs

Increase trust and safety in ATM usage

Solution

- Integration of PalmSecure technology into all ATMs
- Three-factor method (PIN, card, PalmSecure)
- Future I: no card usage at ATMs
- Future II: financial online transactions using PalmSecure ID Match

Customer benefits

- Highly secure authentication
- Not a single case of fraud
- Costs resulting from fraud reduced
- Simplified user process
- Evidence of life detection for pension payments
- Biometric data only has to be registered once in a lifetime



Requirements

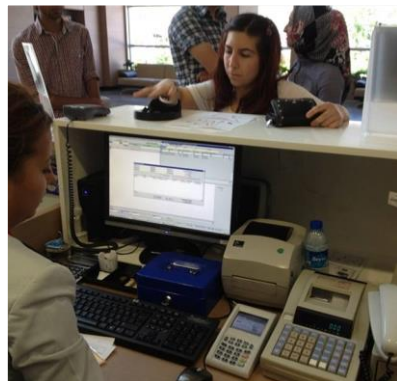
- Dining room of one of the schools in the Russian cities
- No payment with card or money
- User acceptance
- Hygienic
- Quick processing

Solution

- PalmSecure-based POS terminals
- Cardless operation using palm veins
- Accounting process running in the background
- After looking at fingerprint and iris recognition, the company turned to Fujitsu PalmSecure, a contact-less, intuitive authentication platform that captures unique palm-vein signatures. This solution has now been rolled out to 26,000 pupils across 40 schools with more to follow.

Customer benefits

- Students no longer need to carry cash, reducing the risk of it being lost or stolen.
- PalmSecure is contactless and boasts market-leading recognition rates, making it effective in a canteen environment.
- Reduces queues and ensures that everyone gets fed within a tight daily time frame.
- Sberbank generate's revenue through a minimal commission charge for topping up via other banks
- Parents have total visibility of what their children are buying and so can better manage their diets



Requirements

Healthcare in Turkey: patient identification

Eliminating fraud in invoicing

Optimizing processes

Reducing administration effort

User acceptance – easy to use

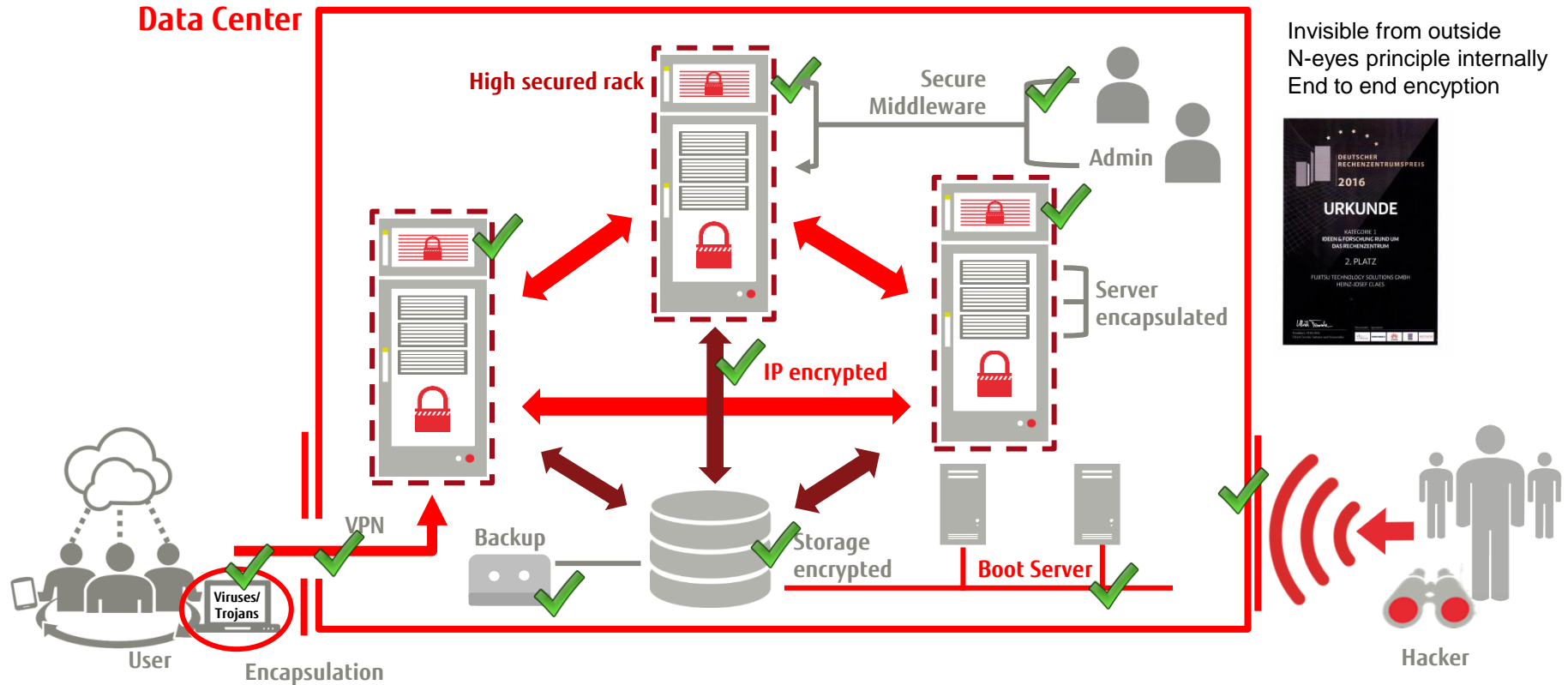
Solution

- End-to-end PalmSecure-based solution
- Secured thin client workstations in all hospitals
- Secured processes using government servers
- Combined with national ID card numbers
- Valid for each hospital and each patient

Customer benefits

- Fraud costs significantly reduced
- Faster billing and payment
- Low clearance effort
- Used also to avoid medicine misuse
- First nationwide solution to be adopted for other sectors as well

Fujitsu SURIENT Solution Suite— Giving control of business data back to the business



Comprehensive End-to-End security: Endpoint – Transfer - Data Center



Endpoint

SURIENT Sealed Application Solution

- Security optimized end devices
- Encapsulated applications
- Permanent monitoring of the security level
- Biometric authentication with PalmSecure
- FOR PROJECTS



Transfer

SURIENT Stealth Connect Solution

- Secure and encrypted VPN-Communication with a data center
- VPN-Server is not visible to the outside (Stealth-Technology)
- Available as appliance and Software-Client



Data Center

SURIENT Managed Rack Solution

- Increased server protection against physical access
- Biometric access authorization with PalmSecure ID Match

SURIENT Sealed Rack Solution

- Best-in-Class protection against physical access

SURIENT Encrypted Boot Solution

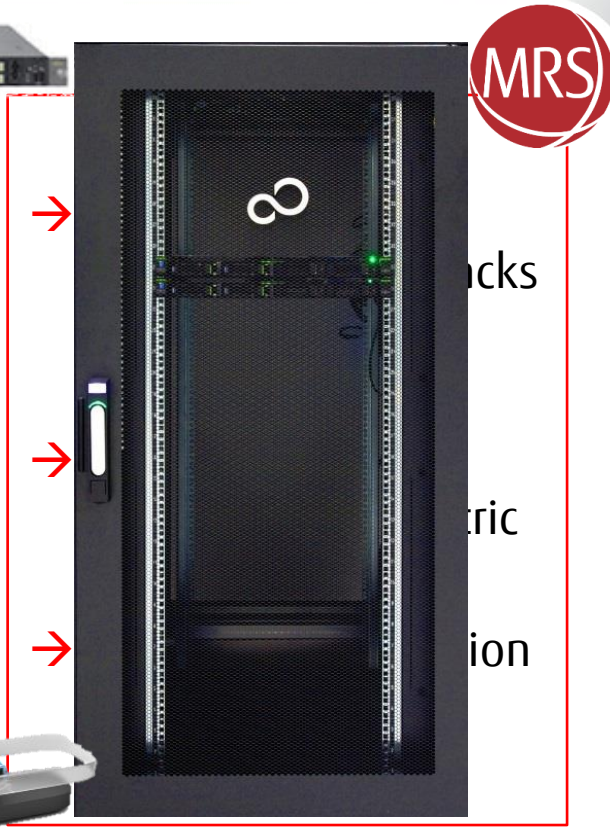
- Automatic booting of servers with encrypted disks
- FOR PROJECTS

SURIENT Managed Rack Solution (MRS)



In a nutshell

- Use of standard 19" racks with electromechanical locks and sensors
- Only authorized persons have physical access to servers and components inside the racks and cages
- User have to authenticate themselves with biometric methods. Therefore access rights can not be transferred to others
- All accesses and access attempts will be logged in an auditable fashion
- Setup, installation and training done on customer site within one day
- Money saving due to much higher flexibility and less space compared to data center with fences



Legacy Data Protection Challenges



Backup and Recovery Challenges

- Escalating backup operations cost and complexity
- Lack of flexibility and capabilities to support VMware, Hyper-V, applications backup
- Slow and failed backup jobs and recoveries

Disaster Recovery Challenges

- Downtime costs \$7900.00 a minute on average for data centers*
- Lack of ability to meet recovery SLAs
- Of the businesses that lost data for 10 days half filed for bankruptcy right away **

How much time and money are you spending on:

- End-user compliance and audit requests?
- Managing complex legacy backup systems?
- Restoring data of all types and sizes?
- Recovering from data loss, malicious attacks?

How safe is your data?

- How important is your data?
- What would it cost if you lost it all?
- What would your liability be?
- How many people would lose their jobs?
- How much would it hurt your customers?

*Source: Ponemon Institute; **Source: National Archives and Records Administration

An aerial photograph of a city skyline. In the foreground, there's a large, modern stadium with a curved, metallic roof. To the right, a tall, cylindrical glass skyscraper reflects the surrounding city and sky. The background shows a dense urban landscape with various buildings under a cloudy sky.

Archiving

Backup

Cloud

Virtualisation

Regulation

Data Protection

Convergence

Compliance

Data Insight

FUJITSU Data Protection Portfolio



Data Analysis and
Value Assessment

Cloud Backup and
Recovery Services

**Backup
Appliances that
replicate to the
cloud**

Cloud Disaster
Recovery

Long Term
Storage Solutions

Hybrid Cloud Data Protection Solutions:
Hardware + Software

Cloud Operations & Managed Services

ETERNUS CS Data Protection Appliances



Servers
(e.g. PRIMERGY)



Production storage (e.g. ETERNUS DX)



Backup software
(= backup application)

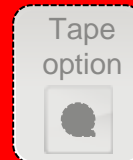
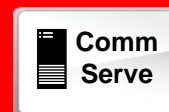


Archive software
(= archive application)

ETERNUS CS200c (start in EMEA)

Commvault Software
Backup & Archive

Storage



ETERNUS CS800



Dedup disk
(VTL/NAS)



ETERNUS CS8000



Disk
(VTL)



Tape



Dedup
disk (VTL)



Disk
(NAS)



(Cloud)

Data Protection Appliances



Integrated appliance incl. backup SW

ETERNUS CS200c S3



- Includes Commvault software and licenses
- For disk backup and file archiving
- Deduplication, replication functionality

NetBackup Appliances



- Integrated Backup appliance powered by NetBackup
- Consolidation in Veritas installed base (media/master server)
- Companies with several backup sites
- Application aware backup

Target appliance SW independent

ETERNUS CS800 S6



- Easy to use backup to disk appliances
- Deduplication, replication functionality
- Modular scalability

ETERNUS CS8000



- Unified data protection platform for disk, tape and cloud
- Complete consolidation and virtualization of backup IT
- Unmatched scale-out scalability up to 22 PB
- Leading DR and HA technology

ETERNUS CS200c Powered by Commvault



POWERED BY



- ➔ Integrated, all-in-one data protection appliance
- ➔ Powerful Fujitsu technology combined with industry leading Commvault software
- ➔ Pre-loaded, pre-configured, right-sized solution enables a fast and hassle-free setup (T-shirt sizes)
- ➔ Deduplication to storage capacity
- ➔ Simple, cost-effective expandability delivers investment protection
- ➔ Support: MS, Linux/Unix, VM, SAP, Oracle, Snapshots, Tape, Cloud, ...

ETERNUS CS800 – Optimized Backup Storage



ETERNUS CS800

Turnkey backup to disk appliance with dedup



Fast Backups

Fast and
cost efficient
backup storage



Cost-effective



Works together
with all backup
software suites



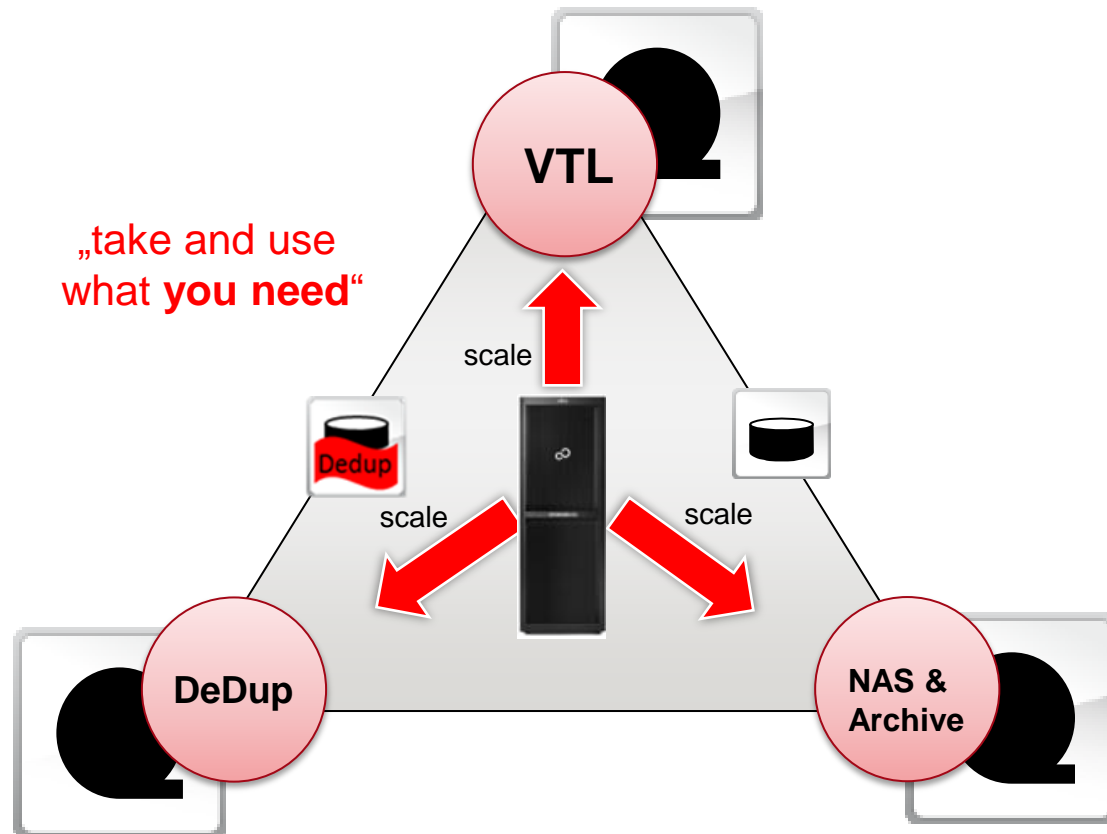
Easy to Deploy
Easy to Manage

“...reduces the amount of data to be backed up by up to 83%...”
(Right-on, Retail Industry)

“We saved around 50% on our administration costs here.”
(Gerd Neuland, Head of Datacenter, Krones AG)

ETERNUS CS8000

True Unified Data Protection Appliance



True Unified Platform

- Offers all major DP storage target functions

- Virtual Tape
- Deduplication
- NAS & Archive

- Highly customizable and flexible

- Any function mix possible
- scaling in all directions

- Tightly Integrates Tape around all functions

- Can use 2nd. level, cost effective storage for ALL data

Ready to go, right out of one box



Easy to buy, simple to deploy, easy to manage

Benefits

- Hassle-free setup: Less than 30 minutes from power up to backup
- Easy, end-to-end consistent system maintenance to reduce operational costs
- More scalability for dedup store
- Enables co-management between backup owners and Oracle database owners
- Up to 10 times faster transfer rate for site-to-site replication
- Protects the systems against digital intruders

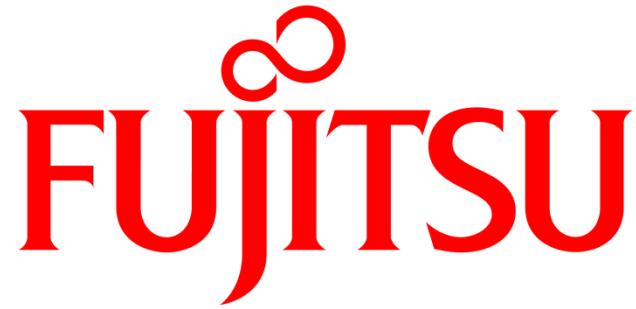


Digitalization drives transformation of data center IT towards new dimensions of fast and flexible scalability

Data protection must start with IT security and lead to a complete management and monitoring of data life cycle

Accountability is the new keyword with GDPR: processes, activities, technical and organizational measures, sanctions and obligations are addressed to the data manager

By integrating our own and our partners' innovative technologies to complete IT solutions Fujitsu supports its customers on a fast and risk-free journey to the GDPR implementation



shaping tomorrow with you



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